The winter of 1804-1805 at Fort Mandan was harsh with frequent snows, blizzards and extreme temperatures. The party experienced a variety of natural phenomena including sun dogs, mirages, northern lights, and even an eclipse of the moon. As spring neared, the party moved quickly to free the keelboat and perogues from the icy barrier of the Missouri River before breakup. By late March the ice was flowing and temperatures were warming. On April 7, 1805, the keelboat and a small party returned down-river to St. Louis carrying journal notes and specimens from the previous years journey destined for President Thomas Jefferson. The main Expeditionary force set off towards the Rocky Mountains and their ultimate goal the Pacific Ocean. The party made slow progress westward as they endured strong Spring winds which created sand storms along the Missouri.

By June 2nd, they reached a flood swollen fork in the Missouri. Most of the party believed the north fork was the true Missouri as it was muddy like the previous weeks coming up the river. To be certain, Lewis and Clark took scouting parties to locate the great falls the Minetare/Hidatsa Indians had described. After an unsuccessful try, Lewis took a second party for a further investigation and discovered the Great Falls of the Missouri on June 13. It would take over a month to portage around the falls during a cool and wet early summer. At the end of July, they reached another decision point known today as the Three Forks of the Missouri just as the weather warmed to summer norms. The Expedition moved westward up the newly
named Jefferson River in search of the Shoshone Indian Nation to obtain horses for their trek across the Continental Divide. Lewis led a small scouting party across the great divide on August 12 and found the Shoshones. Clark took a small contingent to explore “Lewis’s (today’s Salmon) River but found it unpassable. Faced with potential failure, the Captains decided they would have to use an old Indian trail to cross the mountains. After purchasing horses, their Shoshone Indian guide, Old Toby, led them over a mountain pass from Idaho back into Montana, down the Bitterroot Valley and then westward along the Lolo Trail. During this time they experience early Fall snows in the high rugged mountains. Nearly starving to death, the Expedition left the Bitterroot Mountains near the end of September and reached the Nez Perce Indian Nation east of present-day Lewiston, Idaho. Here they set up Canoe Camp to build water craft to take them down the Clearwater, Snake and Columbia Rivers to the ocean.

With the current at their back, they set off towards the ocean from near present-day Orofino, Idaho on October 7. After passing many rapids in the Clearwater and Snake Rivers, the Expedition came to great Columbia River on October 16. They proceeded down the wide Columbia passing many dangerous falls, shutes and rapids, and by early November they had reached the tidal waters of the Columbia. Rain began on November 4 and numerous late Fall storms ravaged their camps as they progressed to the ocean. Finally, Clark declared prematurely on November 7th, “Great joy in camp we are in View of the Ocean!”; however, they were in the great Columbia River estuary. After being pinned down by the intense storms, the Expedition reached the mouth of the river on November 16. The Pacific Ocean at last. Some 4,162 miles by Clark’s dead reckoning from St. Louis. Looking for winter quarters, the party moved back up the river, crossed to the south shore, and established Fort Clatsop near present-day Astoria, Oregon on December 7. They would remain at Fort Clatsop until their departure on March 23, 1806. Although mild temperatures remained for the rest of December, strong Pacific storm systems would bring daily rains, wind and sometimes thunder, lightning and hail.

The systematic entries for the Lewis and Clark Expedition daily narrative journals as well as that of the army sergeants and privates were taken every day in 1805. However, not every journalist noted weather, water or climate data each day. Different journals and notebooks were used during the Expedition. For a more detailed explanation on the journals and entry practices consult. (Cutright, 1976) and (Moulton, 1986, 2: 8-48; and 530-567)
January 1805
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

The Expedition established Fort Mandan on November 2, 1804 near present-day Washburn, North Dakota and remain here for winter quarters until they leave on April 7, 1805.

Tuesday, January 1

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Temp</td>
<td>Weather</td>
</tr>
<tr>
<td>18a</td>
<td>s</td>
<td>SE</td>
</tr>
</tbody>
</table>


2 River observations on the Missouri River were taken at sunrise for a 24-hour period.

Daily Narrative Journals

Clark The Day was warm. Themtr 34⁰ above 0. Some few Drops of rain about Sunset, at Dark it began to Snow, and Snowed the greater part of the night. (The temptr for Snow is about 0)

Gass The day was warm and pleasant.

Ordway cloudy but moderate. Rained a little in the eve.

Whitehouse the day was warm and pleasant.

Wednesday, January 2

Weather Diary
<table>
<thead>
<tr>
<th>Sunrise</th>
<th>Weather</th>
<th>Wind</th>
<th>4 PM</th>
<th>Weather</th>
<th>Wind</th>
<th>Rise/Fall</th>
<th>Feet</th>
<th>Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>4b</td>
<td>s</td>
<td>NW</td>
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<td>8b</td>
<td>f a s</td>
<td>N</td>
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</tr>
</tbody>
</table>

**Daily Narrative Journals**

**Clark**

a Snowey morning. Some Snow to Day. Verry Cold in the evening.

**Gass**

Some snow fell this morning. This day I discovered how the Indians keep their horses during the winter. In the day time they are permitted to run out and gather what they can; and at night are brought into the lodges, with the natives themselves.

**Ordway**

Snowed fast this morning.

**Whitehouse**

This morning some Snow fell. The Mandan Indians in this Second Village had a number of horses, which they keep in their lodges with them, every Cold night during the Winter.

**Thursday, January 3**

**Weather Diary**

the Snow was not considerable the ground is now covered 9 inches deep—

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>Weather</th>
<th>Wind</th>
<th>4 PM</th>
<th>Weather</th>
<th>Wind</th>
<th>Rise/Fall</th>
<th>Feet</th>
<th>Inches</th>
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<tbody>
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<td>4b</td>
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</tr>
</tbody>
</table>

**Daily Narrative Journals**

**Clark**

some Snow to day

**Gass**

The weather was generally very cold.

**Ordway**

Snowed this morning
Friday, January 4

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>28a</td>
<td>c a s</td>
<td>W</td>
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</tbody>
</table>

Daily Narrative Journals

Clark     a worm Snowey morning, the Themtr. at 28° abov 0, Cloudy. The evening the weather became cold and windey, wind from the NW.

Gass      The weather was generally very cold.

Ordway    Cloud, warm morning. The afternoon blustry.

Whitehouse This morning Clear, the weather is not as cold, the weather was moderate to what it had been some days past. In the Evening, the weather grew verry cold and the Wind blew hard from the NW all night—

Saturday, January 5

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>20b</td>
<td>c</td>
<td>NW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark     a cold day. Some Snow.

Gass      The weather was generally very cold.

Ordway    high blustry winds all last night & verry cold three of our hunters Stayed out all night. A cold morning.

Whitehouse a cloudy cold day. The weather continued verry Cold. The Weather continuing
very Cold—

Sunday, January 6

Weather Diary

at 12 oC. Today two Luminous spots appeared on either side of the sun extremely bright

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>11b</td>
<td>c a s</td>
<td>NW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark    a Cold day

Gass   The weather was generally very cold.

Ordway a clear cold morning.   The wind high & blustry.

Whitehouse Cloudy, Cold weather

Monday, January 7

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>22b</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark    a very Cold clear Day, the Thermtr Stood at 22 d below 0, wind NW.    The river fell 1 inch.

Gass   The weather was generally very cold.

Ordway a clear cold morning.   The wind high from NW
Tuesday, January 8

Weather Diary

the snow is now ten inches deep. (Lewis) accumalating by frosts (Clark)

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>20b</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  a Cold Day. Wind from the NW.

Gass  The weather was generally very cold.

Ordway  the wind blew cold from NW

Whitehouse  Cloudy, Cold weather

Wednesday, January 9

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
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<td></td>
<td></td>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>21b</td>
<td>f</td>
<td>W</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  A Cold Day, Thermometer at 21° below 0. The after part of this day verry Cold, and wind Keen.

Gass  The weather was generally very cold.

Ordway  Some Snow this morning Squally the after part of the day blustry and exceeding
cold. A number of the Savages out hunting the Buffalo [again] & came in towards evening with their horses loaded with meat and told us that two of their young men was froze to death in the prairie. Had suffered considerable with the cold. We expected nothing else but the other man had froze or would freeze this night. A young Indian came in the Garrison with his feet frost bit.

Whitehouse the day proved to be very cold & stormey, one of the them (hunters) returned to the fort about 8 oClock in the evening with one of his feet frost bit. The other Stayed out all night.

Thursday, January 10

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Temp</td>
<td>Weather</td>
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<tr>
<td>40b</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>

Clark's Journal Codex C lists this temperature as “28 b.”

Daily Narrative Journals

Clark last night was excessively cold. The murkery this morning Stood at 40\(^0\) below 0 which is 72 below the freezing point. The Indians...turned out to hunt for a man & boy who had not returned from the hunt of yesterday, and borrowed a Slay to bring them in, expecting to find them frozed to death. about 10 oClock the boy about 13 years of age Came to the fort with his feet frozed and had layed out last night without fire with only a Buffalow Robe to cover him. We had his feet put in Cold water and they are coming too— (this boy lost his Toes only) ...a man Came in who had also Stayed our without fire, and very thinly Clothed, this man was not the least injured— Customs & the habits of those people has ancered [inured them] to bare more Cold than I thought it possible for man to indure—

Gass The weather was generally very cold. A number of the natives being out hunting in a very cold day, one of them gave out on his return in the evening; and was left in the plain or prairie covered with a buffalo robe. After some time he began to recover and removed to the woods, where he broke a number of branches to lie on, and to keep his body off the snow. In the morning he came to the fort, with his feet badly frozen, and the officers undertook his cure.

Ordway a clear cold morning. It is the Same Boy that the Indians had left last night & expected that he was frozed to death in the praries.

Whitehouse This day we had severe cold weather. The weather still continued to be extremely
Cold and Stormy, the Officers had some of our party preparing to go in search of the Man, who Staid out all night, believing from the severity of the weather that he had been froze to death— but fortunately he returned to the Fort, before they had started in good health— Some of the Natives came to our Fort, bringing with them one of their Nation, that was frost bitten— His feet very much bit by the frost.

Friday, January 11

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
<tr>
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<td></td>
<td></td>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>38b</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark
verry Cold

Gass
The weather was generally very cold.

Ordway
clear cold morning. Nothing extroordnary accured.—

Whitehouse
This day the weather still continued Cold & the Air very thin;

Saturday, January 12

Weather Diary

singular appearance of three distinct Halo or luminus rings about the moon appeared this evening at half after 9 PM and continued one hour. the moon formed the center of the middle ring, the other two which lay N & S of the moon & had each of them a limb passing through the Moons Center and projecting N & S a simidiameter beyond the middle ring to which last they were equal in dimentions, each ring appearing to subtend an angle of 15 degrees of a great circle.
Sunrise | 4 PM | Missouri River
---|---|---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
---|---|---|---|---|---|----|----|----
20b | f | NW | 16 | f | NW | R | - | 1

4 “...The captains are actually seeing an atmospheric event caused by the refraction of light by ice crystals. Neiburger, Edinger, & Bonner, 426.” (Moulton, 1986, 2: 284)

5 Clark’s Journal Codex C lists this temperature as “16 b.”

**Daily Narrative Journals**

**Clark**

a very Cold Day

**Gass**

The weather was generally very cold.

**Ordway**

cloudy

**Whitehouse**

The weather still continued clear and cold;

**Sunday, January 13**

**Weather Diary**

Sunrise | 4 PM | Missouri River
---|---|---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
---|---|---|---|---|---|----|----|----
34b | f | NW | 20 | f | NW | R | - | 2

6 Clark’s Journal Codex C lists this temperature as “20 b.”

**Daily Narrative Journals**

**Clark**

a Cold Clear Day

**Gass**

A clear cold day. Two Frenchmen came by, they had their faces so badly frost bitten that the skin came off, and their guide was so badly froze that they were obliged to leave him with the Assiniboins

**Ordway**

a clear cold morning.

**Whitehouse**

The weather still continues clear & Cold. The Indians infrom’d us that the Guide who went with them, had got so bad frost bitten on their faces, that the whole of the skin came off—
Monday, January 14

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>16b</td>
<td>s</td>
<td>SE</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Lewis

Observed an Eclips of the Moon. I had no other glass to assist me in this observation but a small refracting telescope belonging to my sextant, which however was of considerable service, as it enabled me to define the edge of the moon’s immage with much more precision that I could have done with the natural eye. The commencement of the eclipes was obscured by clouds, which continued to interrupt me throughout the whole observation; to this cause is also attributable the inaccuracy of the observation of the commencement of total darkness. I do not put much confidence in the observation of the middle of the Eclips, as it is the worst point of the eclipes to distinguish with accuracy. The two last observations (i.e.) The end of total darkness, and the end of the eclipes, were more satisfactory; they are as accurate as the circumstance under which I laboured would permit me to make them—

Clark

this morning early a number of indians...passed down on the ice. Our hunters...informs that one Man (Whitehouse) is frost bit and Can’t walk home—

Gass

Some snow fell this morning. Hunters, one of men had got his feet so badly frozen that he was unable to come to the fort.

Ordway

Whitehouse had his feet frost bit & could not come in without a horse

Whitehouse

Some Snow fell this morning. I got my feet so Froze that I could not walk to the fort.

Tuesday, January 15

Weather Diary

an eclips of the moon total last night, visible here but partially obscured by the clouds.
<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>10b</td>
<td>f</td>
<td>E</td>
</tr>
</tbody>
</table>

**Daily Narrative Journals**

**Lewis**
I do not place much confidence in this observation in consequence of losing the observation of the Altitude of the Sun...was somewhat obscured by a cloud. The weather was so cool that I could not use water as the reflecting surface, and I was obliged to remove my glass horizon from its first adjustment lest the savages should pilfer it.

**Clark**
between 12 & 3 oClock this morning we had total eclips of the moon. This morning not So Cold as yesterday, wind from the SE. Wind choped around to the NW. Still temperate.

**Gass**
the weather was warm, and the snow melted fast

**Ordway**
a warm pleasant day the weather is thoughy [thawing] so that the Snow melts off the huts &.C.

**Whitehouse**
This day the weather had moderated considerable, warm to what it has been. The day kept warm & pleasant—

**Wednesday, January 16**

**Weather Diary**

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>36a</td>
<td>c</td>
<td>W</td>
</tr>
</tbody>
</table>

**Daily Narrative Journals**

**Clark**
4 men...hunting returned one frost’d (but not bad) [Whitehouse]

**Gass**
the weather was warm, and the snow melted fast

**Ordway**
cloudy & warm.
Whitehouse: quite warm weather for the time a year & pleasant and the snow melted fast— The Man that was frost bitten informed us that he felt much easier than he had done, since he was frost bitten.

Thursday, January 17

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>2b</td>
<td>c</td>
<td>W</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark: a very windey morning hard from the North. Thermometer at 0

Gass: it became cold; the wind blew hard from the north, and it began to freeze.

Ordway: a clear cold morning. The wind high from the NW

Whitehouse: This morning about 3 oClock the Wind began to blow from the North, & began to freeze. This wind continued all this day, the Weather being very Cold—

Friday, January 18

Weather Diary

at Sun rise 12⁰ below 0

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>1b⁷</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>

In Voorhis No. 4 Clark lists this temperature as “20 b.”

Daily Narrative Journals

Clark: a fine worm morning
Gass  Clear cold weather.

Ordway  moderate weather

Whitehouse  This day we had clear cold Weather

Saturday, January 19

Weather Diary

Ice now 3 feet thick on the most rapid part of the river—

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>12a</td>
<td>c</td>
<td>NE</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  a fine Day

Ordway  cloudy

Whitehouse  The weather continued Cold and Clear. Two hunters proceeded on the Ice the River being fast froze over for some time past—

Sunday, January 20

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>28a 8</td>
<td>f</td>
<td>NE</td>
</tr>
</tbody>
</table>

Clark’s Journal Codex C lists this temperature as “28 a.”

Daily Narrative Journals

Clark  a Cold fair day
Ordway  a pleasant morning

Whitehouse  We still continued to have clear cold weather.

Monday, January 21

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<td>2b</td>
<td>c</td>
<td>NE</td>
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</table>

Daily Narrative Journals

Clark  a fine day

Gass  A clear cold day.

Ordway  moderate weather.

Whitehouse  The weather still continued Clear and Cold,

Tuesday, January 22

Weather Diary

mist the afternoon observation.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>10a</td>
<td>f a h</td>
<td>NW</td>
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</table>

Daily Narrative Journals

Clark  a find warm Day. Attempted to Cut the Boat & perogues out of the Ice, found water at about 8 inches under the 1st Ice, the next thickness about 3 feet

Gass  The weather was warm. We commenced cutting ice from about our craft, in order
to get them out of the river.

**Ordway**
a pleasant morning. All hands Employed at cutting away the Ice from round the Barge & pearogues. They soon cut through the Ice in places. The water Gushed over where they had cut so they had to quit cutting with axes—

**Whitehouse**
This day all our Men who were at the fort was employed to cut the Ice in order to get the boat & Pettyaugers out of the River, in the night we had a heavy fall of Snow, which made it difficult to work in the Ice for some days—

**Wednesday, January 23**

**Weather Diary**
the snow feel about 4 inches deep last night and continues to snow

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>4 PM</th>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Missouri River</th>
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</table>

**Daily Narrative Journals**

**Clark**
a Cold Day, Snow fell 4 Inches deep, the occurrences of this day is as is common—

**Gass**
The weather was warm. The snow fell about 3 inches deep.

**Ordway**
Snowey this morning

**Whitehouse**
We had a continuation of Snow the greater part of this day, on its leaving off, it continued Cold to the 30th, all hands during this time were employed at work on the boats & Pettyaugers to get them free from the Ice, and hawled Stones on a Sled which they made warm in a fire, in order to thaw the Ice from about the said Crafts, when the Stones were put into the fire, they would not stand the heat of the fire but all of them broke, so that their labour was lost.

**Thursday, January 24**

**Weather Diary**
Sunrise 4 PM Missouri River

<table>
<thead>
<tr>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Rise/Fall</th>
<th>Feet</th>
<th>Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>12b</td>
<td>c</td>
<td>NW</td>
<td>2b</td>
<td>f</td>
<td>NW</td>
<td>R</td>
<td>-</td>
<td>1/4</td>
</tr>
</tbody>
</table>

**Daily Narrative Journals**

Clark a fine day

Gass A cold day.

Ordway colder this morning than it has ben for Several days past.

Whitehouse Cold

**Friday, January 25**

**Weather Diary**

it frequently happens that the sun rises fair and in about 15 or 20 minutes it becomes suddonly [cloudy] turbid, as if the had some chimical effect on the atmosphere.—

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>26b</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>

**Daily Narrative Journals**

Clark men employ’d in Cutting the Boat out of the ice

Gass All hands employed in cutting away the ice, which we find a tedious business.

Ordway clear & cold this morning.

Whitehouse Cold
Saturday, January 26

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
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</tr>
<tr>
<td>Sunrise</td>
<td>4 PM</td>
<td>Missouri River</td>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>12a</td>
<td>c</td>
<td>NE</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark       a verry fine worm Day
Gass        A pleasant day
Ordway      Cloudy & warm the wind from the South.
Whitehouse  Cold

Sunday, January 27

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
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<tr>
<td>Sunrise</td>
<td>4 PM</td>
<td>Missouri River</td>
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<td>Weather</td>
<td>Wind</td>
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<tr>
<td>20a</td>
<td>c</td>
<td>SE</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark       a fine day, attempt to Cut our Boat and Conoos out of the Ice, a deficuelt Task I fear as we find water between the Ice
Gass        The weather has become much more settled, warm and pleasant than it had been for some time.
Ordway      Cloudy
Whitehouse  Cold
Monday, January 28

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>2b</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Lewis  
Observed Equal altitudes...in which sperits were substituted for water, it being to could to use the later.

Clark  
warm day

Gass  
The weather warm and pleasant

Ordway  
Clear and cold.

Whitehouse  
Cold

Tuesday, January 29

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>4a</td>
<td>f</td>
<td>SW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  
we Sent & Collect Stones and put them on a large log heap to heet them with a View of warming water in the Boat and by that means, Seperate her from the Ices, our attempt appears to be defeated by the Stones all breaking & flying to peaces in the fire, a fine warm Day.

Gass  
We attempted another plan for getting our water craft disengaged from the ice: which as heated in the boast, with hot stones; but in this project we failed, as the stones we
found would not stand the fire, but broke to pieces.

Ordway
Clear & pleasant

Whitehouse
Cold

Wednesday, January 30

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
<tr>
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<td></td>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>6a</td>
<td>c</td>
<td>NW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark 
a fine morning, Clouded up at 9 oClock

Gass
I went up river and found another kind of stones, which broke in the same manner; so our batteux and periogues remained fast in the ice.

Ordway
Some Cloudy. Sergt. Gass sent up the river to an other bluff in order to look for another kind of Stone that would not Split with heat he brought one home & het it found it was the Same kind of the other as soon as it was hot it bursted asunder So we Gave up that plan—

Whitehouse
Cold

Thursday, January 31

Weather Diary

the Snow fell 2 Inches last night.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
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<td></td>
<td></td>
</tr>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>2b</td>
<td>c a s</td>
<td>NW</td>
</tr>
</tbody>
</table>
Daily Narrative Journals

Clark       Snowed last night, wind high from the NW.  Cold disagreeable

Gass        Some snow fell last night.  In the morning the wind blew and was cold, toward the middle of the day the weather became moderate, and the afternoon was pleasant.

Ordway      Snowed the greater part of last night.  The wind high from NW the Snow flew

Whitehouse  This morning we had a fresh wind from the NW, and the weather Cold,  In the afternoon it got warm & pleasant weather—
February 1805
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

The Expedition remained in winter quarters at Fort Mandan near present-day Washburn, North Dakota during February 1805.

Friday, February 1

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>6a</td>
<td>c</td>
<td>NW</td>
</tr>
</tbody>
</table>


2 River observations on the Missouri River were taken at sunrise for a 24-hour period.

Daily Narrative Journals

Clark  a cold windey Day

Gass   A cold day.

Ordway clear & cold. The weather being bad they killed nothing—

Whitehouse This morning we had pleasant weather.

Saturday, February 2

Weather Diary
<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>12b</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>

**Daily Narrative Journals**

Clark

a fine Day

Ordway

a clear morning. My hat got burnt exedantly this morning. The river raising.

**Sunday, February 3**

**Weather Diary**

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>8b</td>
<td>f</td>
<td>SW</td>
</tr>
</tbody>
</table>

**Daily Narrative Journals**

Lewis

a fine day. the situation of our boat and perogues is now allarming, they are firmly inclosed in the Ice and almost covered with snow – the ice which incloses them lyes in several stratas of unequal thickness which are seperated by streams of water. This [is] peculiarly unfortunate because so soon as we cut through the first strata of ice the water rushes up and rises as high as the upper surface of the ice and thus creates such a debth of water as renders it impracticable to cut away the lower strata which appears firmly attached to, and confining the bottom of the vessels. We then determined to attempt freeing them from the ice by means of boiling water which we purposed heating in the vessels by means of hot stones, hut this expedient proved also fruitless, as every species of stone which we could procure in the neighbourhood partook so much of the calcarius genus that they burst into small particles on being exposed to the heat of the fire.

Gass

A cold day.

Whitehouse

This day we had Clear cold weather, nothing of consequence happened at the Fort worth mentioning—
Monday, February 4

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>18b</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Lewis  This morning fair tho’ could, the thermometer stood at 18° below Naught, wind from NW.

Clark  our provisions of meat being nearly exorsted I concluded to Decend the River on the Ice & hunt

Gass   A fine day.

Ordway clear and pleasant

Whitehouse  This day we had Clear weather but cold

Tuesday, February 5

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>10a</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Lewis  Pleasent morning wind from NW, fair

Clark  the morning verry Cold & windey [entered on the 13th]

Ordway the morning clear. The River Riseing So that the water Spreads over the Ice in Sundry places near this.
Whitehouse  We had fair Weather

Wednesday, February 6

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>4b</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Lewis  Fair morning, wind from NW

Clark  Cold morning the after part of the Day worm [entered on the 13th]

Ordway  clear and pleasant

Whitehouse  This day was clear & pleasant Weather

Thursday, February 7

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>18b</td>
<td>f</td>
<td>SE</td>
</tr>
</tbody>
</table>

3 Clark’s Journal Codex C lists this temperature as “29 a.”

Daily Narrative Journals

Lewis  This morning was fair, Thermometer at 18° above naught much warmer than it has been for some days; Wind SE

Ordway  pleasant & warm

Lewis & Clark Expedition Weather Journals, 1805,   Page 25
Friday, February 8

Weather Diary

the Black & white & Speckled woodpecker has returned—

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>18a</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Lewis This morning was fair, wind SE. The weather still warm and pleasant—

Ordway moderate weather

Saturday, February 9

Weather Diary

very little snow

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>10a</td>
<td>f</td>
<td>SE</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Lewis The morning fair and pleasent, wind from SE—

Ordway Some cloudy, the water which run over the Ice in the River has froze Smoth.

Sunday, February 10

Weather Diary
Daily Narrative Journals

Lewis  This Morning was Cloudy after a slight snow which fell in the course of the night, the wind blue very hard from W.  altho’ the thermometer stood at 18° Above naught the violence of the wind caused a degree of could that was much more unpleasent than that of yesterday when thermometer stood at 10° only above the same point.

Clark  a cold Day, wind blew hard from the NW.  J. Fields got one of his ears frosed [entered on the 13th]

Ordway  high wind from NW Squawly flights of Snow.  On the river...the Ice being Smoth the horses could not Go on the Ice with out Shoes.

Monday, February 11

Weather Diary

Daily Narrative Journals

Lewis  this morning the weather was fair and could wind NW.

Clark  air keen [entered on the 13th]

Ordway  the day clear but cold—

Tuesday, February 12

Weather Diary
<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>14b</td>
<td>f</td>
<td>SE</td>
</tr>
</tbody>
</table>

**Daily Narrative Journals**

**Lewis**  
The morning was fair tho’ could, thermometer at 14° below naught wind SE

**Clark**  
The ice on the parts of the River which was very rough, as I went down, was Smothe on my return, this is owing to the rise and fall of the water, which takes place every day or two, and Caused by partial thaws, and obstructions in the passage of the water thro the Ice, which frequently attaches itself to the bottom— the water when rising forses its way thro the cracks & air holes above the old ice, & in one night becomes a Smothe Surface of ice 4 to 6 Inches thick— the river falls & the ice Sink in places with the water and attches itself to the bottom, and when it again rises to its former hite, frequently leaves a valley of Several feet to Supply with water to bring it on a leavel Surface. The water of the Missouri at this time is Clear with little Tinges. [entered on the 13th]

**Ordway**  
a clear morning

**Wednesday, February 13**

**Weather Diary**

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>2b</td>
<td>c</td>
<td>SE</td>
</tr>
</tbody>
</table>

**Daily Narrative Journals**

**Lewis**  
The morning cloudy, thermometer 2° below naught, wind from SE.

**Clark**  
I returned last Night from a hunting party much fatigued, having walked 30 miles on the ice and through Points of wood land in which the Snow was nearly Knee Deep.

**Ordway**  
Snow the later part of the day.

**Whitehouse**  
This day clear & pleasant weather—
Thursday, February 14

Weather Diary

The Snow fell 3 Inches deep last night

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>2a</td>
<td>cas</td>
<td>NW</td>
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</tbody>
</table>

Daily Narrative Journals

Clark  The Snow fell 3 inches Deep last night, a fine morning

Ordway Snowed the Greater part of last night. The day pleasant.

Whitehouse This morning we had clear weather but pleasant—

Friday, February 15

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>16b</td>
<td>f</td>
<td>SW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  the morning fine, the Thermometer Stood at 16° below 0, Noght. one Chief of the Mandans returned from Capt. Lewises Partly nearly blind— this Complaint is as I am informd. Common at this Season of the year and caused by the reflection of the Sun on the ice & Snow, it is cured by “jentilley Swetting the part affected, by throweng Snow on a hot Stone.” Verry Cold part of the night—

Ordway Some of the mens feet were sore walking 300 odd mls. on the Ice to day.

Whitehouse This morning we had fine Clear weather.
Saturday, February 16

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<td>Temp</td>
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<td>SE</td>
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</table>

Daily Narrative Journals

Clark a fine morning

Gass had a cold morning. This morning the Indians, who had come down with us and of our men whose feet had been a little frozen, returned home.

Ordway a clear cold morning.

Whitehouse We had a fine Clear day, the weather being moderate—

Sunday, February 17

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<td>Temp</td>
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<td>Wind</td>
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<td>4a</td>
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<td>SE</td>
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</tbody>
</table>

Lewis does not record rise or fall but does record “½” inch. Clark gives neither a rise or fall or depth.

Daily Narrative Journals

Clark this morning worm & a little Cloudy. The after part of the day fair

Whitehouse The weather continued Clear & moderate.
Monday, February 18

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<td>NE</td>
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</tbody>
</table>

Daily Narrative Journals

Clark
A cloudy morning, Some Snow

Ordway
Clear and pleasant

Whitehouse
The hunters...brought the Sleds loaded with the Meat up the River on the Ice, it still being froze over the Mesouri, & the Ice very thick & strong—

Tuesday, February 19

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
<tr>
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<td>SE</td>
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</table>

Daily Narrative Journals

Clark
A fine Day

Ordway
A clear pleasant morning.

Whitehouse
We had fine clear moderate weather
Wednesday, February 20

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
<tr>
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<td>Weather</td>
<td>Wind</td>
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</table>

Daily Narrative Journals

Clark       a Butifull Day
Ordway     a clear and pleasant morning.
Whitehouse We had fine clear moderate weather

Thursday, February 21

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
<tr>
<td>Temp</td>
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<td>Wind</td>
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<tr>
<td>6a</td>
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<td>S</td>
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</table>

Daily Narrative Journals

Clark       a Delightfull Day put our Clothes to Sun—
Gass       Some rain fell to day, the first that has fallen since November. In the evening, the weather became clear and pleasant.
Ordway     clear and pleasant. The Snow and Ice thoghed on the River considerable So that it was wet & Slopy halling the Sled. The men generally fatigued halling a heavy load 21 miles on the hard Ice & Snow in places which made the Sleds run hard except where the Ice was Smoth under—
Whitehouse This day the weather still continued Clear & pleasant
Friday, February 22

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<td>8a</td>
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</tbody>
</table>

Daily Narrative Journals

Clark 

a Cloudy morning, at about 12 oClock it began to rain and Continud for a fiew minits, and turned to Snow, and Continud Snowing for about one hour, and Cleared away fair

Gass 

Was a fine day and we again began to cut away the ice, and succeeded in getting out one of the perioques.

Ordway 

rained a Short time and turned to Snow.  Snowed a Short time and cleared off, the men came home last night

Whitehouse

We had still Clear, pleasant weather

Saturday, February 23

Weather Diary

got the poplar perogue out of the ice.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>18a</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark 

All hands employed in Cutting the Perogues Loose from the ice, which was nearly even with their top; we found great difficuelty in effecting this work owing to the Different deisions of Ice & water.  After Cutting as much as we Could with axes, we had all the Iron we Could get & Some axes put on long poles and picked through the ice, under the first water, which was not more the 6 to 8 inches deep—— we
disengaged one Perqogue, and nearly disingaged the 2nd in Course of this day which has been warm & pleasant

Gass  We had fine pleasant weather, and all hands were engaged in cutting the ice away from the boat and the other perioque. At 4 o’clock in the afternoon we had the good fortune to get both free from the ice

Ordway  a pleasant morning.

Whitehouse  The weather still continued fine and Clear, all our party were employ’d in cutting the Ice from round the Boat & Pettyaugers. At one oClock we got one of the Pettyaugers out of the Ice on Shore—

Sunday, February 24

Weather Diary

loosed the boat & large perogue from the ice.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>8a</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  The Day fine, we Commenced very early to day the Cutting loose the boat

Ordway  a beautiful morning. All hands employed cutting away Ice from round the Barge. Found that the Ice was verry thick clear under hir.

Whitehouse  We had pleasant weather. All our party were still employed in cutting the Ice round the Boat & pettyauger we succeeded, and got both the boat & pettyauger on the bank....clear of danger, when the Ice broke up in the River—

Monday, February 25

Weather Diary
Daily Narrative Journals

Clark  The day has been exceedingly pleasaent

Whitehouse  This day was Clear & pleasant.

Tuesday, February 26

Weather Diary

got the Boat and perogues on the bank

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>20a f</td>
<td>NE</td>
<td></td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  a fine day    Drew up the Boat & perogus, after Cutting them out of the ice with great Dificuelty— & trouble

Ordway  a pleasant morning.

Whitehouse  The weather continued still clear & fine;

Wednesday, February 27

Weather Diary

got the Boat and Perogues on the bank.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>26a f</td>
<td>SE</td>
<td></td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Lewis & Clark Expedition Weather Journals, 1805,  Page 35
Clark    a fine day. I commence a Map of the Countrey on the Missouries & its waters &c &c—

Ordway   a beautiful pleasant morning.

Whitehouse We have still fine weather;

Thursday, February 28

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
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<td></td>
<td></td>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>24a</td>
<td>f</td>
<td>E</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark    a fine morning

Whitehouse This morning the weather cold but toward Noon it moderated
March 1805
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

The Expedition remained in winter quarters at Fort Mandan near present-day Washburn, North Dakota during March 1805.

Friday, March 1

Weather Diary

the snow has disappeared in many places the river partially broken up—

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>28a</td>
<td>c</td>
<td>W</td>
</tr>
</tbody>
</table>


2 River observations on the Missouri River were taken at sunrise for a 24-hour period.

Daily Narrative Journals

Clark a fine Day

Ordway cloudy & arm this morning. The after part of the day clear and pleasant—

Whitehouse the weather continued Clear & Cold—

Saturday, March 2

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>28a</td>
<td>f</td>
<td>NE</td>
</tr>
</tbody>
</table>

Lewis & Clark Expedition Weather Journals, 1805, Page 37
Daily Narrative Journals

Clark  a fine Day. The river brake up in places

Ordway a beautiful pleasant morning

Whitehouse This day we had fine Clear weather.

Sunday, March 3

Weather Diary

a flock of ducks pased up the river this morning—

<p>| | | | | | | |</p>
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<tbody>
<tr>
<td>Sunrise</td>
<td>4 PM</td>
<td>Missouri River</td>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
<td>Rise/Fall</td>
</tr>
<tr>
<td>28a</td>
<td>c</td>
<td>E</td>
<td>39a</td>
<td>f</td>
<td>NW</td>
<td>-</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  a fine Day, wind from the W. A large flock of Ducks pass up the River—

Ordway clear & pleasant.

Whitehouse This day we had Clear Cold weather

Monday, March 4

Weather Diary

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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
<td>Rise/Fall</td>
</tr>
<tr>
<td>26a</td>
<td>f</td>
<td>NW</td>
<td>36a</td>
<td>f</td>
<td>NW</td>
<td>-</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark a Cloudy morning, wind from the NW. The after part of the day Clear
Ordway the wind high from the NW They day pleasant.

Whitehouse the weather continued Clear & pleasant

Tuesday, March 5

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>22a</td>
<td>f</td>
<td>E</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark a fine Day. Themometer at 40° abo. 0

Ordway clear and pleasant. A light Squawl of Snow fell about 4 o Clock this morning. Nothing extraordinary.

Whitehouse the weather continued Clear & pleasant

Wednesday, March 6

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>26a</td>
<td>c</td>
<td>E</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark a Cloudy morning & Smokey all Day from the burning of the plains, which was Set on fire by the Minetaries for an early crop of Grass as an endusement for the Buffalow to feed on—the river rise a little to day—

Ordway moderate weather. The wind from NE the Water has run over the Ice So that it is difficult crossing the river.
Whitehouse  the weather continued Clear & pleasant

Thursday, March 7

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>12a</td>
<td>f</td>
<td>E</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  a little Cloudy and windey NE.

Ordway  clear but Some colder than it has been for Several days past.

Whitehouse  the weather continued Clear & pleasant

Friday, March 8

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>7a</td>
<td>c</td>
<td>E</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  a fair morning, Cold and windey, wind from the East

Ordway  Some cloudy & cold.

Whitehouse  the weather continued Clear & pleasant
Saturday, March 9

Weather Diary

wind hard all day.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>2a</td>
<td>c</td>
<td>N</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  
a Cloudy Cold and windey morning, wind from the North. I walked up to see the Party that is makeing Perogues, about 5 miles above this, the wind hard and Cold

Ordway  
the wind high from the NW

Whitehouse  
the weather continued Clear & pleasant

Sunday, March 10

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>2b</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  
a Cold winday Day

Ordway  
the day clear and cold high winds—

Whitehouse  
the weather continued Clear & pleasant

Lewis & Clark Expedition Weather Journals, 1805, Page 41
Monday, March 11

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Temp</td>
<td>Weather</td>
</tr>
<tr>
<td></td>
<td>12a</td>
<td>c</td>
</tr>
</tbody>
</table>

Clark’s Journal Codex C lists this temperature as “26 a.”

Daily Narrative Journals

Clark    A Cloudy Cold windey day, Some Snow in the latter part of the day
Ordway   clear Moderate weather
Whitehouse the weather continued Clear & pleasant

Tuesday, March 12

Weather Diary

snow but slight disappeared to day

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Temp</td>
<td>Weather</td>
</tr>
<tr>
<td></td>
<td>2b</td>
<td>f a s</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark    a fine day    Some Snow last night Wind NW
Ordway   a little Snow last night.  A clear cold morning   the river raiseing fast.
Whitehouse the weather continued Clear & pleasant
Wednesday, March 13

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Rise/Fall</th>
<th>Feet</th>
<th>Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>1b</td>
<td>f</td>
<td>SE</td>
<td>28a</td>
<td>f</td>
<td>SW</td>
<td>R</td>
<td>-</td>
<td>3 1/2</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark   a fine day    The river rising a little— wind SW

Ordway  clear and cold  the wind high from the South

Whitehouse  the weather continued Clear & pleasant

Thursday, March 14

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Rise/Fall</th>
<th>Feet</th>
<th>Inches</th>
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</thead>
<tbody>
<tr>
<td>18a</td>
<td>f</td>
<td>SE</td>
<td>40a</td>
<td>f</td>
<td>W</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark   a fine day    wind Wet.  River Still rising

Ordway  clear & warm

Whitehouse  the weather continued Clear & pleasant

Friday, March 15

Weather Diary

---

Lewis & Clark Expedition Weather Journals, 1805, Page 43
### Daily Narrative Journals

**Clark**  
a fine day

**Ordway**  
clear pleasant and warm.

**Whitehouse**  
the weather continued Clear & pleasant

### Saturday, March 16

#### Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>24a</td>
<td>f</td>
<td>SE</td>
</tr>
</tbody>
</table>

#### Daily Narrative Journals

**Clark**  
a Cloudy day, wind from the SE

**Ordway**  
Cloudy & warm. The wind high from the East. Look likely for rain—

**Whitehouse**  
the weather continued Clear & pleasant

### Sunday, March 17

#### Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>30a</td>
<td>f</td>
<td>SE</td>
</tr>
</tbody>
</table>

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Lewis & Clark Expedition Weather Journals, 1805,  Page 44
Daily Narrative Journals

Clark  a windey Day. The river riseing a little and Severall places open.

Ordway  clear and pleasant.

Whitehouse  the weather continued Clear & pleasant

Monday, March 18

Weather Diary

collected Some herbs plants in order to send by the boat. particularly the root said to cure bites of the mad dog and rattlesnake.—

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>24a</td>
<td>c</td>
<td>N</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  a cold cloudy Day, wind from the N

Ordway  Cloudy

Whitehouse  the weather continued Clear & pleasant

Tuesday, March 19

Weather Diary

But little snow not enough to cover the ground

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>20a</td>
<td>c a s</td>
<td>N</td>
</tr>
</tbody>
</table>

Clark’s Journal Codex C lists this temperature as “31 a.”
Daily Narrative Journals

Clark Cold windey Day Cloudy. Some little Snow last night

Ordway cloudy a light Squawl of Snow cold air

Whitehouse the weather continued Clear & pleasant

Wednesday, March 20

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>28a</td>
<td>c</td>
<td>NW</td>
</tr>
</tbody>
</table>

Clark’s Journal Codex C lists this temperature as “28 a.”

Daily Narrative Journals

Clark cloudy, wind hard from N

Ordway a cloudy cool morning. The after part of the day pleasant.

Whitehouse the weather continued Clear & pleasant

Thursday, March 21

Weather Diary

some ducks seen to light in the river opposit the fort

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>16a</td>
<td>c</td>
<td>E</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark a Cloudy Day, Some Snow
Ordway: Cloudy the wind from the SE a little Snow fell the after part of the day—

Whitehouse: This day we had still, pleasant Weather, nothing occur’d worth mentioning

Friday, March 22

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>22a</td>
<td>f a s</td>
<td>S</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark: Some few Drops of rain this evening for the first time this Winter, a Cloudy Day

Ordway: a clear pleasant morning. The wind from the SE

Whitehouse: We had some Rain this morning, but it continued but a short time, the weather being cloudy & cold.

Saturday, March 23

Weather Diary

but little rain.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>34a</td>
<td>f</td>
<td>W</td>
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</tbody>
</table>

Daily Narrative Journals

Clark: a find Day in the fore part, in the evening a little rain & the first this winter—

Ordway: clear and pleasant. Rained a little the latter part of the day—

Whitehouse: This morning we had Snow— towards Noon it ceased, and the weather moderated
and became pleasant— in the evening it grew cold & froze during the Night.

Sunday, March 24

Weather Diary

but little Snow.

<table>
<thead>
<tr>
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<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>28a</td>
<td>c a s</td>
<td>NE</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  preparing to Set out,  A Cloudy morning, wind from the NE, the after part of the Day fair.  Saw Swans & wild Gees flying NE this evening

Ordway  cloudy

Whitehouse  We had pleasant Weather, continued to freeze in the Evenings

Monday, March 25

Weather Diary

a gang of swan return to day   the ice in the river has given way in many places and it is with some difficulty it can be passed—

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>16</td>
<td>f</td>
<td>E</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  a fine Day, wind SW.  The ice broke up in Several places in the evenig, broke away and was nearly takeing off our new Canoes, river rise a little

Ordway  clear and pleasant.
Whitehouse  We had pleasant Weather, continued to freeze in the Evenings

Tuesday, March 26

Weather Diary

the ice gave way in the river about 3 PM and came down in immense sheets very near destroying our perogues— some gees pass today.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<td></td>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>20</td>
<td>f</td>
<td>SE</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  The river choked up with ice opposit to us and broke away in the evening, raised only ½ Inch, all employed preparing to Set out

Gass  We put the canoes in the water as the river had risen there was some water between the ice and the shore. We got three of them safe to the fort; but the ice breaking before the other three were gotten down, so filled the channel, that we were obliged to carry them the rest of the way by land.

Ordway  clear and pleasant. About 2 oClock they returned with the perogues, but before they had landed the Ice Started So that we had to draw them out with Speed The ice Stoped and jammed up. Started Several times but Stoped entirely before night.

Whitehouse  This day we had moderate weather, and the Ice broke up.

Wednesday, March 27

Weather Diary

the first insect I have seen was a large black knat today— the ice drifting in large quantities.—

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<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<td>Temp</td>
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<td>SE</td>
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</table>

Lewis & Clark Expedition Weather Journals, 1805, Page 49
**Daily Narrative Journals**

**Clark**

a windey Blustering Day, wind SW. Ice running the [river] Blocked up in view for the Space of 4 hours and gave way leaving great quantity of ice on the Shallow Sand bars.

**Ordway**

clear and pleasant. The Ice kep breaking and Starting the Most of the day—

**Whitehouse**

This day we had pleasant weather

**Thursday, March 28**

**Weather Diary**

it [river] raised 13 inch and fell 12. wind hard, ice abates in quantity

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**Daily Narrative Journals**

**Clark**

the ice Stoped running owing to Some obstickle above. But few Indians visit us today, they are watching to catch the floating Buffalow which brake through the ice in Crossing

**Ordway**

the Ice run in the River all last night. A pleasant morning. The Ice continues to run.

**Whitehouse**

This day was blustering which continued the whole day—

**Friday, March 29**

**Weather Diary**

a variety of insects make their appearance, as flies bugs &c. the ice ceases to run supposed to have formed an obstruction above.—

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</tbody>
</table>
Daily Narrative Journals

Clark  The obstacle broke away above & the ice came down and is passing in great quantities, the river rose 13 inches the last 24 hours. I observed extraordinary dexterity of the Indians in jumping from one Cake of ice to another, for the purpose of Catching the buffalow as they float down. Maney of the Cakes of ice which they pass over are not two feet Square. The Plains are on fire in view of the fort on both Sides of the River, it is Said to be common for the Indians to burn the Plains near their villages every Spring for the benefit of their horse, and to induce the Buffalow to come near to them.

Ordway  clear and pleasant. The River fell 22 inches in 22 hours. We continue getting ready to Start up the River.

Whitehouse  We had all this day high winds, but the Air was not so cold, as it had been for the several days past.

Saturday, March 30

Weather Diary

ice came down in great quantities  the Mandans take Some floating Buffaloe

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Daily Narrative Journals

Clark  Cloudy Day. Several gangus of Gees and Ducks pass up the river. Not much Ice floating down today—

Ordway  clear and pleasant. The river raised 10 Inches last night the ice runs thick in the R. to day

Whitehouse  high winds, but not cold

Sunday, March 31

Weather Diary
ducks and Gees passing    ice abates in quantity

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<th>Sunrise</th>
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</table>

**Daily Narrative Journals**

**Ordway**    cloudy. Rained Some at three oclock this morning. The Ice does not run So thick in the River as it did yesterday.

**Whitehouse**    fine Clear warm weather—
April 1805
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

The Expedition remained at the winter quarters of Fort Mandan near present-day Washburn, North Dakota until they leave on April 7, 1805 into un-explored lands towards the Continental Divide and on to the Pacific Ocean.

Monday, April 1

Weather Diary

ice ceases to run    A fine refreshing shower of rain fell about 2 PM this was the first shower of rain that we had witnessed since the fifteenth of September 1804 tho’ it several times has fallen in very small quantities, and was noticed in this diary of the weather. The cloud came from the west, and was attended by hard thunder and Lightning. I have observed that all thunderclouds in the Western part of the continent, proceed from the westerly quarter, as they do in the Atlantic States. The air is remarkably dry and pure in this open country, very little rain or snow ether winter or summer. The atmosphere is more transparent than I ever observed it in any country through which I have passed.

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<td>33a³</td>
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1 Reference: Coues, Volume III, pages 1271-72, 1287-88; Moulton, Volume 4, pages 91-96; Thwaites, Volume 6, Part II, pages 185-188.
2 River observations on the Missouri River were taken at sunrise for a 24-hour period.
3 Clark’s Journal Codex C lists this temperature as “38 a.”
4 Clark’s Journal Codex C lists this weather data as “c a t c h & r.”

Daily Narrative Journals

Clark  The fore part of the day haile rain with Thunder & lightning, the rain continued by intiminations all day, it is worthy of remark that this is the 1st rain which has fallen Since we have been here or Since the 15 of October last, except a few drops at two or three different times—

Gass  A considerable quantity of rain fell this day; the first of any consequence that had fallen here for six months.
Ordway
Thunder and hail & hard rain about 8 oClock this morning for about an hour. Began to rain again about 4 ock. PM rained untill 12 oC. at night & ceased.

Whitehouse
This morning we had some rain, which lasted about 2 hours & clear’d up Cool, all our party was employed in putting the Boat & Pettaugers into the River, which they Effected—

Tuesday, April 2

Weather Diary
rained hard and without intermission last night

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<th>Sunrise</th>
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</table>

Daily Narrative Journals
Clark
a Cold cloudy rain day. Rained all last night. The river falling fast.

Gass
the weather was fair bu windy

Ordway
the wind blew high from NW all the later part of the night. A cloudy morning. The wind rises from NW the river fell 5 inches Since yesterday morning The later part of the day plsant.

Whitehouse
This day the weather was cold & in the fore part of the day it froze. The latter part we had Blustery weather—

Wednesday, April 3

Weather Diary
frost last night a white frost & Some ice on the edge of the river ....
Sunday, April 3

Weather Diary

Observed a flock of brant passing up the river today; the wind blew very hard as it dose frequently in this quarter; there is scarcely any timber to brake the wind from the river, & the country on both sides being level plains, wholly destitute of timber, the wind blows [over them] with astonishing violence. In this open country the winds form a great obstruction to the navigation of this river particularly with small vessels, which can neither ascend or descend should the wind be the least violent.—

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<th>Missouri River</th>
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<td>Weather</td>
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<td>24a</td>
<td>f</td>
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Clark’s Journal Codex I lists this wind direction as “N.”

Daily Narrative Journals

Clark     a white frost this morning, some ice on the edge of the water. A fine day.

Gass      the weather was fine and pleasant

Ordway    clear and pleasant.

Whitehouse This day was Clear, & pleasant weather.

Thursday, April 4

Weather Diary

Observed a flock of brant passing up the river today; the wind blew very hard as it dose frequently in this quarter; there is scarcely any timber to brake the wind from the river, & the country on both sides being level plains, wholly destitute of timber, the wind blows [over them] with astonishing violence. In this open country the winds form a great obstruction to the navigation of this river particularly with small vessels, which can neither ascend or descend should the wind be the least violent.—

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Daily Narrative Journals

Clark     a blustering windey Day.

Gass      A fine clear day.

Ordway    clear and pleasant. The articles for St. Louis carred on board the barge ready to Set out but the wind blew high from the NW so we did not load the perogues.

Whitehouse had fine Clear weather

Friday, April 5
Weather Diary

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<th>Sunrise</th>
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<td>30a</td>
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<td>NW</td>
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6 Clark’s Journal Codex C lists this wind direction as “NW.”

Daily Narrative Journals

Clark    the wind verry high from the NW
Gass    This was a clear day and the wind blew hard and cold from the NW
Ordway    clear and pleasant. The wind high from the NW
Whitehouse    had fine Clear weather

Saturday, April 6

Weather Diary

all the birds that we believe visit this country have now returned.—

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<th>Sunrise</th>
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<th>Missouri River</th>
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<td>19a</td>
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</table>

Daily Narrative Journals

Clark    a fine Day
Gass    The day was clear and pleasant.
Ordway    clear and pleasant. The wind Gentle from the South.
Whitehouse    had fine Clear weather

The Expedition splits into two parties. The permanent party of 33 people begins
their journey up the Missouri in two perogues and canoes, while the remaining members return the keelboat to St. Louis with journals that were written coming up the Missouri and at Fort Mandan, as well as various plant, animal and mineral specimens.

Sunday, April 7

Weather Diary

Visited by Ricara Chief wind very high. Set out on our voyage at 5 PM encampt a 4 me. S.S.

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<th>Sunrise</th>
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<td>28a</td>
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</table>

6 Clark’s Journal Codex C lists this river rise as “½.”

7 River rise and fall observations continued during the ascent of the Missouri River from Fort Mandan. Although not like previous recording episodes, the data usually is not for a 24-hour period unless they are encamped. In most cases, when the party stopped for the evening, following Lewis’ habit from previous journal entries, it is surmised that a mark was made and measured the next morning. Thus many observations were only a 8 to 10 hour long.

Daily Narrative Journals

Lewis Our vessels consisted of six small canoes, and two large perogues. This little fleet altho’ not quite so respectable as those of Columbus or Capt. Cook were still viewed by us with as much pleasure as those deservedly famed adventures ever beheld theirs; and I dare say with quite as much anxiety for their safety and preservation. We were now about to penetrate a country at least two thousand miles in width, on which the foot of civilized man had never trodden.

Clark a windey day

Ordway clear and pleasant. We went on verry well with a hard head wind wind high from NW the greater part of the night

Whitehouse This day we had fair weather—

Lewis & Clark Expedition Weather Journals, 1805, Page 57
Monday, April 8

Weather Diary

the Kilde, and large Hawk have returned. Buds of the Elm swollen and appear red— the only birds that I observed during the winter at Fort Mandan was the Missouri Magpie, a bird of the Corvus genus.

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<th>Sunrise</th>
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<tr>
<td>19a</td>
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<td>NW</td>
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</table>

Daily Narrative Journals

Lewis Set out early this morning, the wind blew hard against us from the NW. We therefore traveled very slowly.

Clark wind hard a head from the NW.

Gass had a clear day. The wind blew hard from the NW. In the afternoon we passed very high bluffs on the South side; one of which had lately been a burning vulcano. The pumice stones lay very thick around it, and there was a strong smell of sulphur.

Ordway clear and cold. The wind high from the W we saw some Snow on the NS of the hills, and thick Ice on and under the banks of the river.

Whitehouse This day we had clear weather, the Wind blowing fresh from the Northwest.

Tuesday, April 9

Weather Diary

the Crow has also returned saw the first today. & the corvus bird disappears the Musquitoes revisit us, saw several of them. Capt. Clark brought me a flower in full blo. it is a stranger to me.— the peroque [shakes with] is so unsteady that I can scarcely write.

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<th>Sunrise</th>
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<td>38a</td>
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</table>
**Daily Narrative Journals**

Clark  
Set out this morning verry early under a gentle breeze from the SE. I saw a Musquetor to day. great numbers of Brant flying up the river, the Maple, & Elm has buded & Cotton and arrow wood beginning to bud. I saw flowers in the praries to day.

Gass  
had a fine day.

Ordway  
clear and pleasant. A gentle breese from the South we set off at day light. Sailed on went Short distance further and halted for to take dinner at a bottom covered with Small cotton wood on N.S. The wind Shifted in to the West and blew Steady. We Saw a number of wild Geese on the river and brants flying over. The Musquetoes begin to Suck our blood this afternoon.

Whitehouse  
This day Clear & pleasant weather.

**Wednesday, April 10**

**Weather Diary**

The prairie lark, bald Eagle, & the large plover have returned. The grass begins to Spring, and the leaf buds of the willow to appear.— Cherry birds disappear.

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**Daily Narrative Journals**

Lewis  
The country on both sides of the missouri from the tops of the river hills, is one continued level fertile plain as far as the eye can reach, in which there is not even a solitary tree or shrub to be seen except such as from their moist situations or the steep declivities oh hills are sheltered from the ravages of the fire. About 1 ½ miles down this bluff from this point, the bluff is now on fire and throws out considerable quantities of smoke which has a strong sulphurous smell. The courant of the Missouri is but moderate, at least not greater than that of the Ohio in high tide; it’s banks are falling in but little; the navigation is therefore comparitively with it’s lower portion easy and safe—

Clark  
the morning cool and no wind. This day proved to be verry worm

Gass  
rapid water and a great many sand-bars. But a fine pleasant day.
Ordway a clear and pleasant. The current swift. The wind raised from West. One of our men Shot a bald Eagle. I took the quills to write.

Thursday, April 11

Weather Diary

the lark wood pecker, with yellow wings, and a black spot on the brest common to the U’ States has appeared, with sundry small birds.— many plants being to appear above the ground.— saw a large white gull today— the Eagle is now laying their eggs, and the gees have mated.— the Elm, large leafed, willow and the bush which bears a red berry, called by the engages greas de buff are in blume— Small leaf willows in blum.

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<td>42a</td>
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<td>NW</td>
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Daily Narrative Journals

Clark we Camped on the S.S. below a falling in bank. The river raise a little.

Gass had a fine clear pleasant day

Ordway Clear and pleasant.

Whitehouse We set off at day light, this morning, the weather being Cool

Expedition arrives at the confluence of the Missouri and Little Missouri Rivers in present-day western North Dakota.

Friday, April 12

Weather Diary

small shower from the W attended with hard wind

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<td>Wind</td>
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<td>56a</td>
<td>f</td>
<td>NW</td>
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</table>
Daily Narrative Journals

Lewis Canoes passed over the Lard side in order to avoid a bank which was rapidly falling in on the Stard. The night proved so cloudy I could make no further observations.

Clark a fine morning. Set out very early, the mercury stood 56° above 0. The wind blew very hard from the S all the after part of the day, at 3 oClock PM it became violent & flowey accompanied with thunder and a little rain. The water of the little Missouri is of the Same texture Colour & quality of that of the Big Missouri. The after part of the day so Cloudy that we lost the evening observation.

Gass Another fine day. arrived at the Little Missouri (properly named), for it exactly resembles the Missouri in colour, current and taste.

Ordway a clear and pleasant warm morning. The little River Missourie...is 120 yards wide at the mouth, but rapid and muddy like the big Missourie. About 3 oClock their came up a Squawl of very high wind and rain. Some Thunder. The wind lasted untill after Sunsed. Then clear up pleasant evening.

Whitehouse This morning we had pleasant Weather, the Little Mesouri River...its width at it mouth is 150 yards....it is Muddy, & its current runs strong

Saturday, April 13

Weather Diary

The leaves of the Choke cherry are about half grown; the Cotton wood is in blume the flower of this tree resembles that of aspen in form, and is of a deep perple colour.—

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Daily Narrative Journals

Lewis The wind was in our favour after 9 A.M. and continued favourable untill three 3. PM. we therefore hoisted both the sails in the White Perogue ....which carried her at a pretty good gate, untill about 2 in the afternoon when a suddon squall of wind struck us and turned the perogue so much on the side as to allarm Sharbono who was steering at the time....the wind however abating for an instant I ordered Drewyer to the helm and the sails to be taken in,

Clark the Missouri above the mouth of Little Missouri widens to nearly a mile
Gass      We had a pleasant day and a fair wind; but our small canoes could not bear the sail.
Ordway    clear pleasant & warm proceeded on under a fine breeze of wind from the South.
Whitehouse a fair wind from the Eastward, we sailed the greater part of this day

Sunday, April 14

Weather Diary

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<td>Temp</td>
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<tr>
<td>52a</td>
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<td>SE</td>
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</table>

Daily Narrative Journals

Clark    a fine morning.
Gass     had a fine morning
Ordway   clear & pleasant

Monday, April 15

Weather Diary

several flocks of white brant with black wings pass us today, their flight was to the NW the trees now begin to assume a green appearance, tho’ the earth at the depth of about three feet is not yet thawed, which we discovered by the banks of the river, falling in [to the river] and disclosing a strata of frozen eath.

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Daily Narrative Journals

Clark      the wind hard from the SE
Gass We had a pleasant day and a fair wind

Ordway a clear pleasant morning. Sailed under a fine breeze from the SE the river Shallow only about 8 feet deep in some places

Whitehouse We set off this Morning, having a fresh breeze from the NE, about 8 oClock it veered round to the South East, and blew moderately—

Tuesday, April 16

Weather Diary

saw the first leather winged bat. It appeared about the same size of those common to the U’ States.

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Daily Narrative Journals

Clark Wind hard from the SE. Great numbers of Gees in the river & in the Plains feeding on the Grass

Gass We had a clear pleasant day; and in the early part of it, a fair gentle wind. The wind became flawy (gusty), and the sailing bad.

Ordway a clear pleasant morning. The wind gentle from SE passed a Sand beach on the N.S. covered with Ice in Some heaps it lay 4 feet thick where the Ice was drove in. When the river broke up. The trees are putting out Green. The Grass begin to Grow in the bottoms & plains which look beautiful. We sailed some with a Southerly flawey (gusty) wind. The river crooked so that we could not sail much of the time

Whitehouse The Weather was Cool and clear; we proceeded on with all Sails set, having a fine breeze from the SE

Wednesday, April 17

Weather Diary

thunder Shower passed above us from SW to NW <no> rain where we were.
Sunrise | 4 PM | Missouri River
--- | --- | ---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
--- | --- | --- | --- | --- | --- | --- | --- | ---
56a | f | NE | 74a | c | SW | F | - | ½

**Daily Narrative Journals**

**Lewis**

A delightfull morning. There wase more appearance of birnt hills, furnishing large quantities of lave and pumice stone, of the latter some pieces were seen floating down the river. We had a fair wind today which enabled us to sail the greater part of the distance we have traveled.

**Clark**

a fine morning, wind from the SE. Pumice Stone & Lava washed down to the bottoms and some Pumice Stone floating in the river. In the evening a thunder gust passed from the SW without rain.

**Gass**

We proceeded on early as usual with a fair wind. The day was fine and we made good way.

**Ordway**

a clear beautiful morning. A fair wind. We sailed on.

**Thursday, April 18**

**Weather Diary**

Wind very violent a heavy dew this morning, which is the first and only one we have seen since we passed the council bluffs last summer. there is but little dew in this open country.— saw a flock of pillecan pass from SW to NE they appear to be on a long flight.—

Sunrise | 4 PM | Missouri River
--- | --- | ---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
--- | --- | --- | --- | --- | --- | --- | --- | ---
52a | f | NE | 64a | c | N | - | - | -

**Daily Narrative Journals**

**Lewis**

a fine morning. We were detained today from one to five PM in consequence of the wind which blew so violently from N. that it was with difficulty we could keep the canoes from filling with water altho’ they were along the shore. We came too on the Stard side under a boald well timbered bank which sheltered us from the wind which had abated but not yet ceased.

**Clark**

until near Sunset before Capt. Lewis and the party came up, they were detained by
the wind, which rose Soon after I left the boat from the NW & blew very hard until very late in the evening.

**Gass**
The morning was fine and we went on very well until 1 o’clock, when the wind blew so hard down the river, we were obliged to lie to for 3 hours, after which we continued our voyage. Encamped in a good harbour on the north on account of the wind, which blew very hard all night accompanied with some drops of rain.

**Ordway**
a clear pleasant morning. The wind shifted in to the NW and blew hard against us. The wind rose so high that we could not go with the canoes without filling them with water. Detained us about 3 hours. The river has been very crooked and bearing towards the South the most of the day. The Game is getting pleantier every day—

**Whitehouse**
This morning Clear pleasant weather. We set off Early, having the wind from the South the water in the River was at a stand in regard to its depth. In the night the dew fell, which was what we had not seen for a long time—

**Friday, April 19**

**Weather Diary**
winds violent. The trees have now put forth their leaves. The goosbury, current, servisbury, and wild plumbs are in blume.

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<th>Sunrise</th>
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<td>a 45</td>
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</table>

8 Clark’s Journal Codex I lists this temperature as “54 a.”

**Daily Narrative Journals**

**Lewis**
the wind blew So hard this morning from NW that we dared not to venture our canoes on the river— the wind detained us through the course of this day, tho’ we were fortunate in having placed ourselves in a safe harbour.

**Clark**
a blustering windey day, the wind So hard from the NW that we were fearfull of ventering our Canoes in the river. The Praries appear to green, the cotton trees begin to leave, Saw some plumb bushes in full bloom

**Gass**
A cloudy morning, with high wind.

**Ordway**
Cloudy. The wind blew high from the Northward so that we were obliged to lay at our last nights harbour all day. The evening clear blustry & cold. Winds—
This morning we had the weather dark and cloudy—the wind blowing hard from the North. The water still at a stand, we remained here this day, the wind blowing so hard that we could make no headway—

Saturday, April 20

Weather Diary

Wind violent.

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<td>40a</td>
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<td>NW</td>
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</table>

Daily Narrative Journals

Lewis

The wind continued to blow tolerably hard this morning but by no means as violently as it did yesterday; we determined to set out and accordingly departed a little before seven. The wind blew so hard that I concluded it was impossible for the pirogues and canoes to proceed and therefore returned and joined them about three in the evening. Capt. Clark informed me that soon after setting out, a part of the bank of the river fell in near one of the canoes and had very nearly filled here with water. That the wind became so hard and the waves so high that it was with infinite risk he had been able to get as far as his present station.

Clark

Wind a head from the NW. We set out at 7 oClock proceeded on, Soon after we Set out a Bank fell in near one of the canoes which like to have filled her with water, the wind became hard and waves So rough that we proceeded with our little canoes with much risque, our Situation was Such after Setting out that we were obliged to pass round th 1st Point or lay exposed to the blustering winds & waves. The wind Continued So hard that we were Compelled to delay all day. Several buffalow lodged in the drift wood which had been drowned in the winter in passing the river. This morning was verry cold, some Snow about 2 oClock from flying clouds, Some frost this morning & the mud at the edge of the water was frosed.

Gass

Had a cold disagreeable morning; rapid water and a strong wind. We were obliged again to lie too, on account of the wind

Ordway

Cloudy. The wind is not so high as it was yesterday this morning. We found it cold polling. The air chilly. The wind rose and blew same as yesterday so that we could hardly make any head way. Delayed som time the wind abated a little. We proceeded on the wind Shortly rose again and blew so hard that the canoes were near filling they took in considerable water. The Sand blew off the sand bars & beaches so that we could hardly see, it was like a thick fogg. High squawls of wind.

Lewis & Clark Expedition Weather Journals, 1805, Page 66
& flights of round Snow this day. We took in some water in the Canoe I was in. The water came up to my Box so that a part of my paper Got wet.

**Whitehouse**  wind blew so fresh from the North, that we could make no headway

**Expedition passes near present-day Williston, ND**

**Sunday, April 21**

**Weather Diary**

wind violent white frost last night— the earth friezed along the water’s edge.——

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**Daily Narrative Journals**

**Lewis**  Set out at an early hour this morning...the wind tho’ a head was not violent. The wind blew so hard this evening that we were obliged to halt several hours.

**Clark**  Set out early, the wind gentle & from the NW. The river being verry Crooked. In the evening the wind became a verry hard a head.

**Gass**  a fine clear morning, but cold; there was a sharp frost. About 12 the wind again rose and was disagreeable, but we continued our voyage.

**Ordway**  a hard white frost last night. Froze water in the buckets setting near the fire. A clear and pleasant morning, but verry chilly & cold. About 3 oClock clouded up cold the wind began blow as usal. A cool evening.

**Whitehouse**  This morning we had pleasant Weather, in the night we had a frost, we sett out early, the Wind blowing from the Northwest. The Water in the River fell one Inch. 9

9 Whitehouse had two entries labeled April 20 and one for April 21. By looking at the Lewis & Clark Weather diary’s river rise/fall records, these dates have been adjusted to the 21st and 22nd.
Monday, April 22

**Weather Diary**

wind very hard greater part of the day—

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**Daily Narrative Journals**

**Lewis**
Set out at an early hour this morning; proceeded pretty well untill breakfat, when the wind became so hard a head that we proceeded with difficulty even with the assistance of our toe lines. The white river...the water is much clearer than that of the Missouri.

**Clark**
a very cold morning some frost, we Set out...untill breakfast at which time the wind began to blow very hard ahead, and Continued hard all day. The river rising a little.

**Gass**
The wind was unfavourable to day, and the river here is very crooked.

**Ordway**
clear and cold. Delayed again on acct. of the high wind. Saw a buffaloe calf which had fell down the bank & could not git up again. We helped it up the bank and it followed us a short distance (the river raised 4 Inches last & white frost) we have Seen a great number of dead buffaloe lying on each shore all the way from the little missourie R. We suppose that they Got drowned attempting to cross on the Ice last fall before it got Strong.

**Whitehouse**
the Wind blew from the N East and the Water fell 2 Inches in the River

Tuesday, April 23

**Weather Diary**

wind very hard greater part of the day— saw the first robbin. Also the brown Curloo

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Daily Narrative Journals

Lewis  about nine AM the wind arose, and shortly after became so violent that we were unable to proceed, in short it was with much difficulty and some risk that I was enabled to get the canoes and perogues into a place of tolerably safety. We remained untill five in the evening when the wind abating in some measure, we reloaded and proceeded. These winds being so frequently repeated, become a serious source of detention to us—

Clark a cold morning, about 9 oClock the wind as usual rose from the NW and continued to blow verry hard untill late in the evening. The wind which had become violently hard, I joined Capt Lewis in the evening & after the winds falling which was late in the evening we proceeded on & encamped. The winds of this Countrey which blow with Some violence almost every day, has become a Serious obstruction in our progression onward, as we Cant move when the wind is high without great risque, and [if] there was no risque the winds is generally a head and often too violent to proceed.

Gass had a fine day; but the wind was ahead, and we were obliged to lie to about three hours.

Ordway a clear and pleasant morning. Not quite as cold as it has been for Several morning. The river verry crooked. The wind blew so hard that the large perogues Sailed in a bend where the wind came fair verry high the Small canoes took in some water. The large perogues Sailed verry fast. A short distanc we were obleged to halt the first safe place untill the wind abated which was about 3 hours. Dryed the articles which was wet. Towards evening the wind abated and we proceeded on round a point and camped

Whitehouse This morning, we had Clear weather. We proceeded on about 3 Miles, when the Wind blew so fresh, that we had to come too, it being a head Wind from the North west—

Wednesday, April 24

Weather Diary

wind very hard this morning

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Lewis & Clark Expedition Weather Journals, 1805, Page 69
Daily Narrative Journals

Lewis

The wind blew so hard during the whole of this day, that we were unable to move. Notwithstanding that we were sheltered by high timber from the effects of the wind, such was its violence that it caused the waves to rise in such manner as to wet many articles. Soar eyes is a common complaint among the party. I believe it originates from the immense quantities of sand which is driven by the wind from the sandbars of the river in such clouds that you are unable to discover the opposite bank of the river in many instances. The particles of this sand are so fine and light that they are easily supported by the air, and are carried by the wind for many miles, and at a distance exhibiting every appearance of a column of thick smoke. So penetrating is this sand that we cannot keep any article free from it; in short we are compelled to eat, drink, and breathe it very freely.

Clark

The wind rose last night and continued blowing from the N & NW, and Sometimes with great violence untill 7 oClock PM. As the wind was a head we could not move to day.

Gass

This was a clear day, but the wind blew so hard down the river we could not proceed. While we lay here some of the men went to see some water at a distance which appeared like a river or small lake. In the afternoon they returned, and had found it only the water of the Missouri, which had run up a bottom.

Ordway

Clear and cold. The wind high from the NW so that we had to delay here all this day. The woods got on fire.

Whitehouse

This day we had Clear weather; but the Wind still blowing from the North West (ahead Wind) that we lay by, at the place we encamped the last night.

Expedition sends advance party to confluence of the Missouri and Rochejhone [Yellowstone] Rivers in present-day North Dakota. Main party camps there on April 26.

Thursday, April 25

Weather Diary

wind very hard until 5 oClock PM

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<th>Sunrise</th>
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Lewis & Clark Expedition Weather Journals, 1805, Page 70
**Daily Narrative Journals**

**Lewis**  The wind was more moderate this morning, tho’ still hard; we set out at an early hour. the water friezed on the oars this morning as the men rowed. about 10 oclock AM the wind began to blow so violently that we were obliged to lye too. The wind had been so unfavourable to our progress for several days past, and seeing but little prospect of a favourable change; knowing that the river was crooked...believing that we were at no very great distance from the Yellow stone River; proceed by land...with a few men...to the entrance...and make the necessary observations. At 5 PM after I left him [Capt. Clark] the wind abated in some measure.

**Clark**  The wind was moderate & ahead this morning. The morning cold, Some flying Clouds to be Seen, the wind from the N; ice collected on the ores this morning, the wind increased and became So violent about 1 oClock we were obliged to lay by. At 5 oClock the wind lulled and we proceeded on and incamped.

**Gass**  We set out as usual and had a fine day; but about 11 were obliged to halt again the wind so strong ahead. I remarked, as a singular circumstance, that there is now dew in this Country, and very little rain. Can it be owing to the want of timber? At 5 o’clock in the afternoon, we renewed our voyage.

**Ordway**  a clear cold morning. The river rose 2 inches last night The wind blew from the N Sailed some in a bend of the river. The perogues could go no further as the wind blew them a head so that they halted for it to abate on the N.S.

**Whitehouse**  this morning, having fine clear weather; about 11 oClock AM we had to come too, on account of the Wind being a head & blowing hard. The dew at this place never falls; and it seldom Rains, this we were told, by an Indian Women that was with us.

**Friday, April 26**

**Weather Diary**

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**Daily Narrative Journals**

Lewis & Clark Expedition Weather Journals, 1805,  Page 71
Lewis
Capt. Clark measured these rivers just above their confluences; found the bed of the Missouri 520 yards wide, the water occupying 300. its channel deep. The Yellowstone river including its sandbar, 858 yds. of which the water occupied 297 yards; the deepest part 12 feet; it was falling at this time & appeared to be nearly at its summer tide. ...the water of this river is turbid tho' dose not possess as much sediment as that of the Missouri. The clouds this morning prevented my observing the moon.

Clark
last night was very Cold. The Thermometer Stood at 32 above 0 this morning. I Set out at an early hour, as it was cold I walked on the bank. The river has been rising for Several days, & 3 inches last night. Yellow Stone...it is at this time falling, the Missouri rising. I saw maney buffalow dead on the banks...those animals either drowned in attempting to Cross on the ice during the winter or Swimming across to bluff banks where they Could not get out & too weak to return. We Saw several in this Situation.

Gass
a fine day. The river Jaune is shallow, the Missouri is deep and rapid.

Ordway
a Clear pleasant morning (at the Yellowstone River) Capt. Clark measured these two rivers to day and found the Missourie to be 337 yards wide only the water but at high water mark 529 yards the River Roshjone is 297 water, high water mark is 858 yards wide. The River Roshjone is not quite as rapid as the missourie

Whitehouse
This morning we had a fine Clear weather. At 12 oClock AM...arrived at the River’s mouth called Roshjone (Yellowstone). At this junction...the River Mesouri was 337 Yards wide; and very deep; and the River Roshjone at its mouth, 97 yards wide...Shallow....Clear and its current rapid—

The Expedition passes the present-day North Dakota - Montana state line.

Saturday, April 27
Weather Diary
wind very hard from 11 to 4 oClock

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<th>Sunrise</th>
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Daily Narrative Journals
Lewis at 11 AM the wind became very hard from the NW insomuch that the perogues and canoes were unable either to proceeded or pass the river to me. The wind abated about 4 PM and the party proceeded.

Clark wind moderate & a head, at 11 oClock the wind rose and continued to blow verry hard a head from the NW untill 4 oClock PM, which blew the Sand off the Points in Such clouds as almost Covered us on the opposit bank, at 4 I Set out from my unpleasent Situation and proceeded on

Gass About 9 o’clock in the forenoon we renewed our voyage. The day was fine, but on account of a strong wind we were obliged at 1 to halt till 4

Ordway a clear and pleasant morning. About 12 oC. The wind rose so high from the NW and the Sand flew so thick from the Sand bars that we halted about 1 oClock, to wait untill the wind abates, about 4 oClock the wind abated the current swift

Whitehouse weather being clear and pleasant. Stopped at One oClock to dine....shortly after the Wind blew so hard a head, from the Westward that we were delayed from starting till 4 oClock PM. River Mesouri, having had a strong current against us

Sunday, April 28

Weather Diary

Vegetation has progressed but little since the 18th in short the change is scarcely perceptible.

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Daily Narrative Journals

Lewis Set out this morning at an early hour; the wind was favourable and we employed our sails to advantage.

Clark a fine day. River falling. Wind favourable from the SE and moderate

Gass had a fine day

Ordway clear and pleasant the wind had shifted to SE and blew gently So that we Sailed some part of the time

Whitehouse This day we had fine clear weather & pleasant The River Mesouri, was not so
high

Monday, April 29

Weather Diary
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**Daily Narrative Journals**

**Lewis**
Set out this morning as the usual hour; the wind was moderate.

**Clark**
Set out this morning as the usual hour; the wind was moderate & from the NE.

**Gass**
had a clear morning. This forenoon we passed some of the highest bluffs I had ever seen

**Ordway**
a clear pleasant morning.

**Tuesday, April 30**

**Weather Diary**

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<th>Sunrise</th>
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**Daily Narrative Journals**

**Lewis**
the wind blew hard all last night, and continued to blow pretty hard all day, but not so much, as to compell us to ly by.

**Clark**
The wind blew hard from the NE all last night, we Set out at Sunrise, the wind blew hard the greater part of the day and part of the time favourable, we did not lie by to day on account of the wind.

**Gass**
had a fine morning and went on very well

**Ordway**
clear and pleasant we sailed a little in the bends of the River this afternoon—

**Whitehouse**
this morning, having fine pleasant Weather.
May 1805
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

The Expedition camped in eastern Montana between present-day Culbertson and Wolf Point.

Wednesday, May 1

Weather Diary

wind violent form 12 OC. to 6 pM

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1 Reference: Coues, Volume III, pages 1272, 1288-1289; Moulton, Volume 4, pages 234-238; Thwaites, Volume 6, Part II, pages 189-191.

River rise and fall observations continued during the ascent of the Missouri River from Fort Mandan. The data usually is not for a 24-hour period unless they are encamped. In most cases, when the party stopped for the evening, following Lewis’ habit from previous journal entries, it is surmised that a mark was made and measured the next morning. Thus many observations were only a 8 to 10 hour long.

Daily Narrative Journals

Lewis

the wind being favourable...until about 12 Ock. when the wind became so high that the small canoes were unable to proceed. One of them which seperated from us just before the wind became so violent, is now lying on the opposite side of the river, being unable to rejoin us in consequence of the waves, which during those gusts run several feet high. Here the wind compelled us to spend the ballance of the day.

Clark

We Set out at Sun rise under a Stiff Breeze from the East, the morning Cool & Cloudy. The wind became verry Hard and we put too on the L. side, as the wind Continued with Some degree of violence and the waves too high for the Canoes we were obliged to Stay all day.

Gass

a cool morning; and went on till 12 o’clock, when the wind rose so high, that our small canoes could not stand the waves.

Ordway

a clear pleasant morning, but cold. The wind from the East. About 12 oClock the wind rose so high that the Small canoes could not go on without filling. We halted
at a bottom covered with timber on S.S. One of the canoes lay on the opposite Shore and could not cross the water ran so high. The wind continued so high that we delay and camped for the night.

**Whitehouse**  
a clear pleasant morning but cold. We set off at Sun rise, the wind from the East. We Sailed Some. About 12 oClock the wind rose So high that we were obliged to halt. I and one other stopped on the other side of the river on account of the wind and were obliged to lay out all night without any blanket. It being very cold I Suffered very much.

**Thursday, May 2**

**Weather Diary**

snow 1 inch deep the wind continued so high from 12 oClock yesterday, untill 5 this evening that we were unable to proceed. The snow which fell last night and this morning one inch deep has not yet disappeared.— it forms a singular contrast with the trees which are now in leaf.—

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**Daily Narrative Journals**

**Lewis**  
the wind continued violent all night nor did it abate much of it’s violence this morning, when at daylight it was attended with snow which continued to fall until about 10 AM being about one inch deep, it formed a singular contrast with the trees and other vegetation which was considerably advanced. Some flowers had put forth in the plains, and the leaves of the cottonwood were as large as a dooler. The [water] fritzed on the oars as they rowed. The wind dying at 5 PM we set out.

**Clark**  
The wind blew very hard all the last night, this morning about Sunrise began to Snow, (The Thermomtr. At 28 abov o) and Continued until about 10 oClock, at which time Seased, the wind Continued hard until about 2 PM. The Snow which fell to day was about 1 In deep, verry extraodernaley Climate, to behold the tree Green & flowers Spred on the plain, & Snow an inch deep.

**Gass**  
At day break it began to snow; and the wind continued so high, we could not proceed until the afternoon. The snow did not fall more than an inch deep.

**Ordway**  
at day light it began Snowing & continued Snowing & blowing so that we did not Set off. About 3 oClock it let off Snowing. The wind shifted in to the West. The Snow lay on the edge of the Sand bars & Sand beaches where the wind had blew it up one foot deep, but on the hills it was not more than half an Inch deep. The air &
wind very cold.

Whitehouse at day light it began to Snow & the wind blow hard So that we did not set off this morning. About 3 oClock PM the Wind bated, and it quit snowing. Proceeded on our Voyage—the wind shifted and blew from the West. The Snow lay on the edge of the Sand Bars, blown by the wind, it was 12 Inches deep. The air very cold during the whole day.

Friday, May 3

Weather Diary

hard frost last night. At four PM the snow has not yet entirely disappeared.— the new horns of Elk being to appear.

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<td>26a</td>
<td>f</td>
<td>W</td>
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</tbody>
</table>

Daily Narrative Journals

Lewis The morning being very could we did not set out as early as usual; ice formed on a kettle of water 1/4 of an inch thick. The snow has melted generally in the bottoms, but the hills still remain covered. The wind continued to blow hard from the West but not so strong as to compel us to ly by.

Clark we Set our reather later this morning than usial owing to weather being very cold, a frost last night and the Thermt. Stood this morning at 26 above 0 which is 6 degrees blow freezing— The ice that was on the Kettle left near the fire last night was 1/4 of an inch thick. The Snow is all or nearly all off the low bottoms, the Hills are entirely Covered. the wind Continued to blow hard from the West, altho’ not Sufficiently So to detain us. As this Creek is 2000 miles up the Missouri we Call it the 2000 miles Creek. The greater part of the Snow is melted.

Gass though very cold and disagreeable, and a severe frost. The snow and green grass on the prairies exhibited an appearance somewhat uncommon. The cotton wood leaves are as large as dollars, notwithstanding the snow and such hard frost.

Ordway clear but very cold for May. Saw the standing water froze over the Ice froze to ore poles as we poled where the sun Shined on us. A hard white frost last night. The ground covered with Snow. The wind rose high from the W about one. The wind very high & cold.

Whitehouse This morning we had Clear weather, but very Cold for the Season; We set out about 7 oClock AM the Standing water froze last night, and the Water froze to our
Setting pole. We had a severe white frost last night, and the ground covr’d with Snow— The wind rose & blew hard from the West. The wind continued Cold during the whole day. IN the Evening, the Snow had melted away.

Saturday, May 4

Weather Diary

the black martin makes it’s appearance. The snow has disappeared. Saw the first grasshoppers today.— there are great quantities of a small blue beatle feeding on the willows.—

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>38a</td>
<td>c</td>
<td>W</td>
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</table>

Daily Narrative Journals

Lewis We were detained this morning untill about 9 Ock. in order to repare the rudder....we then set out, the wind hard against us. I walked on shore this morning, the weather was more plesant, the snow has disappeared; the frost seems to have effected the vegetation much less than could have been expected. The leaves of the cottonwood the grass the box alder willow and the yellow flowering pea seem to be scarecely touched; the rosebushes and honeysuckle seem to have sustained the most considerable injury. At noon the sun so much obscured that I could not obtain his maridian Altitude.

Clark detained untill 9 oClock...the wind a head from the west. The river has been falling for Several days passed; it now begins to rise a little, the rate of rise & fall is from one to 3 inches in 24 hours.

Gass This day was more pleasant.

Ordway clear and moderate this morning the Snow is all melted off the hills.

Whitehouse This morning we had clear, pleasant weather

Sunday, May 5

Weather Diary

a few drops of rain only
<table>
<thead>
<tr>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Rise/Fall</th>
<th>Feet</th>
<th>Inches</th>
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<tr>
<td>38a</td>
<td>f</td>
<td>NW</td>
<td>62a</td>
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</table>

**Daily Narrative Journals**

**Lewis**

a fine morning. The country is as yesterday beatifull in the extreme—

**Clark**

the river riseing & Current Strong.

**Gass**

The morning was fine with some white frost.

**Ordway**

Clear and pleasant. We Sailed considerable in the course of the day with an East wind.

**Whitehouse**

Clear and pleasant weather

**Monday, May 6**

**Weather Diary**

rain very inconsiderable as usual

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<td>48a</td>
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</table>

**Daily Narrative Journals**

**Lewis**

The morning being fair and pleasant and wind favourable we set sale at and early hour. The rains in the spring of the year (in a few days) suddenly melts the snow at the same time and causes for a few days a vast quantity of water which finds it’s way to the Missouri through those channels; by reference to the diary of the weather &c it will be percieved that there is scarcely any rain during the summer Autumn and winter in this open country distant from the mountains. At noon the sun being obscured by clouds I was unable to observe Altitude; it continued cloudy the ballance of the day and prevented all further observation. ut did not last long.

t did not last long.

**Whitehouse**

clear pleasant and warm weather, a fair wind from the East, we Sailed on verry well. A light Sprinkling of rain, but did not last long.

**Lewis & Clark Expedition Weather Journals, 1805, Page 80**
it soon cleared up.

Ordway pleasant and warm. Sailed on under a gentle breeze from the East. Some Sprinkling rain, but did not last long.

Whitehouse clear pleasant and warm weather, a fair wind from the East, we Sailed on verry well. About 4 oclock, A light Sprinkling of rain, but did not last long.

Tuesday, May 7

Weather Diary

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Daily Narrative Journals

Lewis a fine morning. The drift wood begins to come down in consequence of the river’s rising; the water is somewhat clearer than usual, a circumstance I did not expect on it’s rise. At 11 AM the wind became so hard that we were compelled to ly by for several hours. vegetation appears to have advanced very little since the 28th Ult— we continue to see great number of bald Eagles.

Clark A fine morning, river rose 1 ½ inches last night, the drift wood beginning to run, the water Something Clearer than usial, the wind became verry hard,

Gass went on very well till 12 when it began to blow hard and being all under sail one of our canoes turned over. Fortunately the accident happened near the shore; and after halting three hours we were able to go again.

Ordway clear pleasant and warm. We set off eairly. The wind rose from the East. We Sailed verry fast untill about 12 oC. One of the canoes filled with water, but we got it Safe to Shore , and halted for the wind to abate.

Whitehouse weather clear & pleasant. We set off eairly. The wind rose from the East, we set out sails. Sailing till about 12 oClock AM at which time the wind rose so high, that one our canoes filled with water....stopped on shore for the wind to about. About 4 oClock PM we set out again.

Party arrives at the confluence of the Missouri and Milk Rivers southeast of
present-day Glasgow, MT.

Wednesday, May 8

Weather Diary

Rain inconsiderable a meag sprinkle the bald Eagle, of which there are great numbers, now have their young. The turtledove appears.

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Daily Narrative Journals

Lewis

Set out at an early hour under a gentle breeze from the East. A black cloud which suddenly spring up at SE, soon over shadowed the horizon; at 8 AM it gave us a slight sprinkle of rain, the wind became much stronger but not so much so as to detain us. Examined the river [Milk River] I found it generally 150 yards wide....it is deep, gentle in its courant...the water of this river possesses a peculiar whiteness, being about the colour of a cup of tea with the admixture of a tablespoonfull of milk. From the colour of it’s water we call it Milk river.

Clark

A very black Cloud to the SW. We Set out under a gentle breeze from the NW. About 8 oClock began to rain, but not sufficient to wet. The water of this river [Milk River] will justify the belief that it has its Source at a considerable distance, and waters a great extent of Countrey— we are willing to believe that this is the river the Minitarres Call the river which Scolds at all others.

Gass

We were again very early under way in a cloudy morning; about 12 some rain fell; passed the Milk River there is a good deal of water in this river which is clear, and its banks beautiful.

Ordway

It clouded up of a Sudden, and rained Some. We Sailed on under a fine breeze from the East.

Whitehouse

Clouded up and rained shortly after we set off early. We found the current of the River to run very strong against us. Set our Sails and we proceeded on under a fine breeze from the East.
Thursday, May 9

Weather Diary

The choke Cherry is now in blume.

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Daily Narrative Journals

Lewis  
Set out at an early hour; wind being favourable we used our sails and proceeded very well. The river for several days has been as wide as it is generally near it’s mouth, tho’ it is much shallower. I begin to feel extremely anxious to get in view of the rocky mountains.

Clark  
a fine day, wind from the East. Came to a river...This river did not Contain one drop of running water...Those dry Streams which are also verry wide, I think is the Conveyance of the melted Snow, & heavy rains which is Said to Probable fall in from the high mountainious Countrey which is Said to be between this river & the Yellow Sone river— The Missouri keeps its width...water not So muddy & Sand finer

Gass  
had a fine day. The river more crooked

Ordway  
Clear and pleasant. The game is gitting so pleanty and tame in this country that Some of the party clubbed them out of their way. Passed Big Dry creek, it is 220 yards wide at its high water mark, but at this time the water is So low that the water all Sinques in the quick Sand.

Whitehouse  
This morning we had Clear pleasant Weather.

Friday, May 10

Weather Diary

rain but slight a few drops

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<th>Sunrise</th>
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<th>Missouri River</th>
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</table>
Daily Narrative Journals

Lewis

Set out at sunrise and proceeded but a short distance ere the wind became so violent that we were obliged to come too, which we did on the Lard side in a sudden or short bend of the river where we were in a great measure sheltered from the effects of the wind. The wind continued violently all day, the clouds were thick and black, had a slight sprinkle of rain several times in the course of the day.

Clark

river fell 3/4 of an inch last night, wind from the NW we proceeded on but a short distance ere the wind became so violent we could not proceeded...the wind Continued all day. Several times in the course of the day We had some fiew drops of rain from verry black Clouds, no thunder or lightning latterly

Gass

We set out early in a fair morning; but having gone five miles were obliged to halt and lye by during the day, on account of hard wind. Some small showers of rain occasionally fell.

Ordway

a clear cold morning. The wind rose So high from the NW that obledged us to halt The wind rose verry high

Whitehouse

We had clear and pleasant weather, the wind rose from the NW, we went about 4 miles, and halted for the Wind to abate, it blowing fresh The wind rose considerably high, accompanied with Squalls of Rain—

Saturday, May 11

Weather Diary

frost this morning

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<th>Sunrise</th>
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<td>Temp</td>
<td>Weather</td>
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<td>44a</td>
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Daily Narrative Journals

Lewis

devant strong; and the river very crooked; the banks are falling in very fast. I sometimes wonder that some of our canoes or perogues are not swallowed up by means of these immense masses of earth which are eternally precipitating themselves into the river. The wind blue very hard the forepart of last night but abated toward morning; it again arose in the after part of this day and retarded our progress very much.
Clark  
Wind hard fore part of last night. The latter part verry Cold a white frost this morning, the river riseing a little and verry Crooked. River rose 2 In

Gass  
The morning was fine.

Ordway  
a clear cool morning & white frost

Whitehouse  
a clear cold morning, a white frost this morning.

Sunday, May 12

Weather Diary

rain but slight

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<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<td>52a</td>
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<td>SE</td>
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Daily Narrative Journals

Lewis  
Set out at an early hour; the weather clear and Calm. About 12 Oclock the wind veered about to the NW and blew so hard that we were obliged to Ly by the ballance of the day. About sunset it began to rain, and continued to fall a few drops at a time untill midnight; the wind blew violently all night—

Clark  
the morning Clear and Calm. About 12 oClock the wind becam Strong from the E. About half past one oClock the wind Shifted round to the NW and blew verry hard all the latter part of the day, which obliged us to Lay by— about Sunset it began to rain, and rained very moderately only a fiew drops at a time for about half the night, wind Continued violent all night.

Gass  
had a pleasant morning. At 1 we halted for dinner and a violent storm of wind then arose, which continued until night when some rain fell.

Ordway  
a clear pleasant & warm morning The wind rose high from the NW the detained us the remainder part of the day. Some Squawls of rain this evening—

Whitehouse  
We had a clear, pleasant warm morning The wind rose from the NW, and blew hard. The wind continuing to blow hard, detained us here the remainder of the day— In the evening we had some Squalls of Rain.

Lewis & Clark Expedition Weather Journals, 1805,  Page 85
Monday, May 13

Weather Diary

rain but slight

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<td>52a</td>
<td>c a r</td>
<td>NW</td>
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Daily Narrative Journals

Lewis
The wind continued to blow so violently this morning that we did not think it prudent to set out. At 1 PM the wind abated. The courant reather stronger than usual and the water continues to become reather clearer.

Clark
The wind Continued to blow hard untill one oClock PM to day at which time it fell a little as we Set out.

Gass
The weather continued stormy, and a few drops of rain fell.

Ordway
the wind blew verry hard all last night. Some Sprinkling rain and high wind this morning. About one oC. PM the wind abated So that we set off The afternoon pleasant.

Whitehouse
The wind blew hard all last night, and this morning some Squalls of rain and high wind, which occasioned our not setting off Early— about 2 oClock PM the weather cleared off & became pleasant, and the wind abated— The current of the River running very swift

Tuesday, May 14

Weather Diary

white frost this morning

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>32a</td>
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<td>SW</td>
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Lewis & Clark Expedition Weather Journals, 1805, Page 86
Lewis & Clark Expedition Weather Journals, 1805, Page 87

**Daily Narrative Journals**

**Lewis**
Some fog on the river this morning, which is a very rare occurrence. Surface it so say, that the Perogue was under sail when a sudon squawl of wind struck her obliquely, and turned her considerably, the steersman allarmed, in stead of puting, her before the wind, lufted her up into it, the wind was so violent that it drew the brace of the squarsail out of the hand of the man who was attending it, and instantly upset the perogue and would have turned her completely topsaturva, had it not have been from the resistance mad by the oarning against the water.

**Clark**
A very Clear Cold morning, a white frost & some fog on the river. The Thermomtr Stood at 32 above 0, wind from the SW. We proceeded on very well untill about 6 oClock a Squawl of wind Struck our Sale broad side and turned the perogue nearly over

**Gass**
There was some white frost in the morning. About 12 the day became warm. Banks of snow were seen lying on the hills on the North side. About 4...a sudden gust of wind arose, which overset one of the periogues before the sail could be got down.

**Ordway**
a hard white frost last night. Our mocassons froze near the fire. A clear and pleasant morning. It was very warm or much warmer than it has been before this Spring. We saw some banks of Snow laying in the vallies at the N.S. of the hills. About 4 oClock the white perogue of the Captains was Sailing a long, there came a violent gust of wind from the NW which was to the contrary to the course they were sailing. It took the sail and before they had time to douse it turned the perogue down on one Side So that she filled with water, and would have turned over had it not been for the awning which prevented it. With much a diew they got the sail in and got the pirogue to shore

**Whitehouse**
a hard white frost last night, so that our Mocasins froze near the fire last night. A clear and pleasant morning. Sergt. Gass who was out hunting, Saw Some banks of Snow on the N. Side of Some hills north of the river. Hoisted Sail as the wind blew fair. Shortly after we set off a Violent Storm came from a black Cloud, which lay to the Northwest, and the Wind rose and shifted suddenly to the Northwest. This wind took the sail of the Pettyauger and had it not been for the awning, and mast She would have turned up Side down. The Pettyauger filled full of Water, and with much trouble they got her to shore—

**Wednesday, May 15**

**Weather Diary**

slight shower
**Daily Narrative Journals**

**Lewis**

as soon as a slight shower of rain passed over this morning, we spread the articles to dry which had got wet yesterday in the white perogue; tho’ the day proved so cloudy and damp that they received but little benifit from the sun or air.

**Clark**

Our medisons, Instruments, merchandize, Clothes, provisions &c. &c. which was nearly all wet we had put out to air and dry. The day being Cloud & rainey those articles dried but little to day— We see Buffalow on the banks dead, others floating down dead, and others mired every day, those buffalow either drown in Swiming the river or brake thro’ the ice.

**Gass**

We remained here all day to dry our baggage that had got wet. It was cloudy and unfavourable for the purpose and some rain fell.

**Ordway**

cloudy. A Small Shower of rain about 11 oClock. Continued cloudy all day.

**Whitehouse**

This morning we had Cloudy Weather. A Shower of rain coming on, which lasted about One hour, when it cleared off—

**Thursday, May 16**

**Weather Diary**

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<th>Sunrise</th>
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<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>48</td>
<td>c</td>
<td>SW</td>
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</table>

**Daily Narrative Journals**

**Lewis**

The morning was fair and the day proved favourable to our operations; by 4 oClock in the evening our Instruments, Medicine, merchandize provision &c. were perfectly dried.

**Clark**

a morning fair, our articles all out to Dry. At 4 oClock we had everything that was
Saved dry.

**Gass**

This was a fine day.

**Ordway**

a heavy diew last night. A clear and pleasant morning.

**Whitehouse**

a heavy dew fell last night, but a pleasant clear morning.

Friday, May 17

**Weather Diary**

the Gees have their young; the Elk being to produce their young, the Antelope and deer as yet have not.— the small species of Goatsucker or whiperwill begin to cry— the blackbirds both small and large have appeared. We have had scarcely any thunder and lightning. The clouds are generally white and accompanied with wind only

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**Daily Narrative Journals**

**Lewis**

we were roused late at night by the Sergt. Of the guard, and warned of the danger we were in from a large tree that had taken fire and which leant immediately over our lodge. We had the loge removed, and few minutes after a large proportion of the top of the tree fell on the place the lodge had stood; had we been a few minutes later we should have been crushed to atoms. the wind blew so hard, that notwithstanding the lodge was fifty paces distant from the fire it sustained considerable injury from the burning coals which were thrown on it; the party were much harrassed also by this fire which communicated to a collection of fallen timber, and could not be extinguished.

**Clark**

a fine morning, wind from the NW. Mercury at 60° a 0. River falling a little. River much narrower than below from 2 to 300 yards wide. We were roused late at night and warned of the danger of fire from a tree which had Caught... the wind blew hard and the dry wood Caught & fire flew in every direction, burnt our Lodge verry much...the whole party was much disturbed by this fire, which could not be extinguished &c.

**Gass**

The morning was fine. The hills...some of them, which at a distance resembled ancient steeples.

**Ordway**

A clear pleasant morning. Verry high hills and white knobs, which are washed by
Whitehouse  a Clear pleasant morning

Saturday, May 18

Weather Diary

a good shower saw the wild rose blume  the brown thrush or mocking bird has appeared.— had a
good shower of rain today, it continued about 2 hours; this is the first shower that deserves the
appellation of rain, which we have seen since we left Fort Mandan.— no thunder or lightning

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<td>58a</td>
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Daily Narrative Journals

Lewis  the wind blew hard this morning from the West. There are now but few sandbars, the
river is narrow and current gentle.

Clark  A windey morning, wind from the West. The after part of the day was Cloudy & at
about 12 oClock it began to rain and continued moderately for about 1 ½ hours, not
Sufficient to wet a man thro’ his clothes; this is the first rain Since we Set out this
Spring

Gass  A cloudy morning. We had some showers of rain in the forenoon; hail in the
afternoon; and a fine clear evening.

Ordway  a clear warm morning. The Missourie is gitting clear and gravelly bottom & Shore a
pleasant warm afternoon

Whitehouse  a clear fine warm morning. About 10 oClock AM it clouded up and began to rain;
and we had Several Small Showers. Here the Water of the Mesouri River, that had
been muddy ever since we first entered it, began to get clear., and the bottom that was
muddy, is gravelly—

Expedition’s first sighting of the Little Rocky Mountains, MT
Sunday, May 19

Weather Diary

heavy fog this morning on the river

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Daily Narrative Journals

Lewis  This last night was disagreeably could; we were unable to set out until 8 o'clock AM in consequence of a heavy fogg, which obscured the river in such a manner that we could not see our way; this is the first we have experienced in anything like so great a degree; there was also a fall of due last evening, which is the second we have experienced since we have entered this extensive open country. On Capt. Clark's return...he saw a range of Mountains, bearing W. distant 40 or 50 miles. The NNE extremity of these mountains appeared abrupt. [The Little Rocky Mountains, MT] This afternoon the river was crooked, rappid and containing more sawyers than we have seen in the same space since we left the entrance of the river Platte.

Clark  a verrry cold night, the murckery stood at 38 at 8 oClock this morning, a heavy dew which is the 2d I have seen this spring. The fog (which was the first) was so thick this morning that we could not Set out untill the Sun was about 2 hours up, at which time a Small breeze Sprung up from the E. which Cleared off the fog & we proceeded on by means of the Cord. I also Saw a high mountain in a westerly direction, bearing SSW about 40 to 50 miles distant.

Gass  The morning was foggy and there was some dew.

Ordway  a heavy diew fell last night. We set off at 7 oC Clear and pleasant.

Whitehouse  a heavy dew fell last night, and this morning was clear and pleasant

Expedition arrives at the confluence of the Missouri and Musselshell Rivers in central Montana.
Monday, May 20

Weather Diary

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Daily Narrative Journals

Lewis  river narrow and croked. At 11 AM we arrived at the entrance of a handsome bold river [Muscleshell]...is 110 yards in width...the waters is of a greenish yellow cast. The Missouri opposite to this point is deep, gentle in it’s courant, and 222 yards in width. About 5 miles above this river...a handsome river of about fifty yards in width...we called it Sah-ca-gar-me-ah or bird woman’s River [Sacagawea River], after our interpreter the Snake woman.

Clark  a fine morning, wind from the NE. River falling a little.. Passed some verry swift water, river narrow and crooked ....the Missouri water is not so muddey as below, but retains nearly its usial cholour, and the sand principally confined to the points

Gass  had a fine morning. The water of the Missouri is becoming more clear. The water of the Musselshell is of a pale colour and the current is not rapid.

Ordway  a clear pleasant morning  the Missouri at the mouth of the (Mussel) Shell River is 222 yds wide with a small current....not so muddy as below but retains nearly the usal colour.

Whitehouse  A Clear pleasant morning

Tuesday, May 21

Weather Diary

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<td>SW</td>
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</table>
Daily Narrative Journals

Lewis

a delightfull morning.  The wind which was moderate all the fore part of the day continued to encrease in the evening, and about dark veered about to the NW and blew a storm all night, in short we found ourselves so inveloped with clouds of dust and sand that we could neither cook, eat, nor sleep; and were finally compelled to remove our lodge about eight oClock at night to the foot of an adjacent hill where we were covered in some measure from the wind by the hills.

Clark

a butifull morning, wind from the West, river falling a little.  Wind which blew moderatly all the forepart of the day increased and about Dark Shifted to the NW and Stormed all night, Several loose articles were blown over board, our lodge & Camp which was on a Sand bar on the Std. Side & opposte the lower point of the Island we were obliged to move under the hills, the dust & Sand blew in clouds.

Gass

had a fine morning; towards the middle of the day the wind blew hard

Ordway

a butiful morning.  Wind from the west.  River falling a little.  The wind which moderately all the fore part of the day increased and about dusk Shifted to the NW and blew high & Stormed all night.  Several loose articles were blown overboard the dust & Sand blew in clouds.

Whitehouse

This morning we had clear and pleasant Weather.  About 1 oClock the wind rose So high from the NW that we delayed about 2 hours and then proceeded on.  Came about 15 miles...the wind rose very high and hard, Soon after we made Camp, and made the Sand fly So that it was verry disagreeable.  The most of the part moved back towards the hills.  Some of our party that was out hunting Yesterday reported that they had seen, a high ridge of Mountains, which lay to the West, but appeared to be a very great distance from them.  (The Little Rocky Mountains)

Wednesday, May 22

Weather Diary

the wind excessively hard all night— saw some particles of snow fall today it did not lye in sufficient quantity on the ground to be perceptible.—

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Daily Narrative Journals

Lewis The wind blew so violently this morning that we did not think it prudent to set out until it had in some measure abated; this did not happen until 10 AM. The river continues about the same width from 200 to 250 yds wide.

Clark The wind continued to blow so violently hard we did not think it prudent to set out until it lulled a little, about 10 o’clock we set out the morning cold. River falls about an inch a day. Many of the Creeks which appear to have no water near their mouths have Streams of running water higher up which rise & waste in the sand or gravel. The water of those Creeks are so much impregnated with the Salt Substance that it cannot be drank with pleasure.

Gass A cloudy morning. The wind blew so hard this morning, we did not get under way until 9 o’clock. The forenoon was cold and disagreeable, but the afternoon became more pleasant.

Ordway The wind continued to blow so violently hard we did not think it prudent to set out until it lulled a little about 11 o’clock we set out the morning cold. River falls about an inch a day. Many of the creeks which appear to have no water near their mouths have Streams of running water higher up which rise & waste in the sand or gravel. The water of those creeks are so much impregnated with the Salt Substance that it cannot be drank with pleasantness—

Whitehouse The wind blew hard all last night and continues blowing this morning till about 11 o’clock AM when it abated. Cloudy. The day was chilly and cold.

Thursday, May 23

Weather Diary

Hard frost last night; ice in the eddy water along the shore, and the water friezed on the oars this morning. Strawberries in bloom. Saw the first king fisher.

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Daily Narrative Journals

Lewis The frost was severe last night, ice appeared along the edge of the water, water also friezed on the oars. The creeks...strongly impregnated with these salts that it is unfit for use; all the wild animals appear fond of this water; I have tried it by way of experiment & find it moderately pergative, but painfull to the intestens in it’s
opperation. I am astonished how this animal as it does without water [Prairie Dog], particularly in a country like this where there is scarcely any rain during 3/4 of the year and more rarely any dew...in the Autumn when the hard frosts commence they close their burrows and do not venture out again untill spring. River more rappid. The musquetoes troublesome this evening, a circumstance I did not expect from the temperature of the morning. The Gees begin to lose the feathers of their wings and are unable to fly.

**Clark**

a Severe frost last night, the Thrmotr. stood at the freesing point this morning i.e. 32 a 0. wind SW. the water freezes on the oars. Ice on the edge of the river. ....the river beginning to rise, and current more rapid than yesterday. The after part of this day was worm & the Misquitors troublesome.

**Gass**

The morning was clear with a white frost, and ice as thick as window glass

**Ordway**

a Severe frost last night. the Thurmomiter Stood at the freezing point this morning. Wind SW the water freezes on the oars. Ice on the edge of the river. The after part of the day was warm & the Musquetoes troublesome. The river begining to rise & current more rapid than yesterday.

**Whitehouse**

We had a cold frosty morning. The standing water was froze over, and cover’d with Ice

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**Expedition enters the present-day Missouri Breaks National Monument, MT.**

**Friday, May 24**

**Weather Diary**

frost last night ice 1/8 of an inch thick

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**Daily Narrative Journals**

**Lewis**

The water standing in the vessels freized during the night 1/8 of an inch thick, ice also appears along the verge of the river. The foliage of some of the cottonwood trees have been entirely distroyed by the frost and are again puting forth other buds. About 9 AM when a fine breeze sprung up from the SE and enabled us though the ballance of the day to employ our sails to advantage; we proceed at a pretty good
pace notwithstanding the current of the river was very strong. The air is so pure in this open country that mountains and other elevated objects appear much nearer than they really are; these mountains do not appear to be further than 15 m.

**Clark**

a Cold night. The water in the Small vessels froze 1/8 of an inch thick, and the thermometer stood this morning at the freezing point. At 9 oClock we had a Breeze from the SE which Continued all day. This Breeze afforded us good Sailing. The river rising fast, Current very rapid.

**Gass**

There was again some white frost this morning. The water is high, rapid and more clear.

**Ordway**

a cold night. The water in the Small vessels froze 1/8 of an inch thick & the Thermot. Stood this morning at the freezing point. At 9 oClock we had a breeze of wind from the SE which continued all day this Breeze afforded us good Sailing the River rising fast current very rapid. The cotton wood in this point is begining to put out a Second time the first being killed by the frost.

**Whitehouse**

clear & pleasant weather. After 3 oClock...The wind began to blow from the SE, and we set all Sails— At camp...the leaves of these trees were killed by the frost—

**Saturday, May 25**

**Weather Diary**

saw the kingbird, or bee martin; the grouse disappear. Killed three of the bighorned antelopes.

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**Daily Narrative Journals**

**Clark**

the morning Cool & pleasant, wind a head all day from the SW. I also think I saw a range of high mounts, at a great distance to the SSW but am not certain as the horizon was not clear enough to view it with Certianty. the Air of this quarter is pure and helthy. The water of the Missouri well tasted not quite So muddy as it is below, not withstanding the last rains has raised the river a little is less muddy than it was before the rain.

**Gass**

The forenoon was pleasant. These hills are very much washed in general; they appear like great heaps of clay, washing away with every shower; with scarcely any herbs or grass on any of them.
Ordway the morning cool & pleasant wind a head all day from the SW the air of this country is pure & healthy the water of the Missourie fine and cool.

Whitehouse clear pleasant weather. About 3 oClock the wind shifted to the Northwest and blew moderately— about 4 oClock…the current of the River running very swift—it being so for these several days past

Sunday, May 26

Weather Diary

The last night was much the warmest we have experienced, found the covering of one blanket sufficient. The air is extremely dry and pure.

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Daily Narrative Journals

Lewis ascended the river hills. As from this point I beheld the Rocky Mountains for the first time, I could only discover a few of the most elivated points above the horizon…these points of the Rocky Mountains were covered with snow and the sun shone on it in such manner as to give me the most plain and satisfactory view. While I viewed these mountains I felt a secret pleasure in finding myself so near the head of the heretofore conceived boundless Missouri; but when I reflected on the difficulties which this snowey barrier would most probably throw in my way to the Pacific, and the sufferings and hardships of myself and party in them, it in some measure is counterballanced the joy I had felt in the first moments I gazed on them; but as I have always held it a crime to anticipate evils I will believe it a good comfortable road until I am compelled to believe differently. This is truly a desert barren country and I feel myself still more convinced of it’s being a continuation of the black hills.

Clark proceeded as yesterday wind from the SW. Ascended the high country…I could plainly See the Mountains on either Side which I Saw yesterday…most S. Westerly of those Mountains there appeared to be Snow. We had a few drops of rain at dark—this Countrey may with propriety I think be termed the Deserts of America, as I do not Conceive any part can ever be Settled, as it is deficient in water, Timber & too Steep to be tilled.

Gass a fine morning

Ordway wind from SW the waves roled for Some distance below (a rapid) we ascended it by the assistance of the chord & poles we had a few drops of rain at dark. This
country may with propriety be called the Deserts of North America for I do not conceive any part of it can ever be settled as it is deficient of or in water except this river, & of timber & too steep to be tilled.

Whitehouse  a clear pleasant morning. Stream running so strong. Came to a rapid which had considerable fall.

Monday, May 27

Weather Diary

wind so hard we were unable to proceed in the early part of the day

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Daily Narrative Journals

Lewis  The wind blew so hard this morning that we did not sent out until 10 AM. Great quantities of stone also lye in the river and garnish it's borders, which appears to have tumbled from the bluffs where the water rains had washed away the sand and clay in which they were imbedded. About midday it was very warm to this the high bluffs and narrow channel of the river no doubt contributed greatly.

Clark  The wind blew hard from the SW which detained us until about 10 oClock. This day verry warm— the river is Genly about 200 yards wide and Current very Swift to day and has a verry perceptiable fall in all its Course— it rises a little.

Gass  We have now got into a country which presents little to our view, but scenes of barrenness of desolation; and see no encouraging prospects that it will terminate. The grass is generally short on these immense natural pastures, which in the proper seasons are decorated with blossoms and flowers of various colours. The day was fine, but the wind ahead. The bed of the river is rocky.

Ordway  the wind blew hard from the SW which detained us until about 10 oClock this day verry warm.

Whitehouse  This morning pleasant weather, but the wind high, from the Northwest. The current of the River running very swift. Passed verry high Steep mountains and cliffs Steep precipices. These mountains appear to be a desert part of the country. They wash by rains, but a little rain in this part. No diews like other parts but barron broken rich soil but too much of a desert to be inhabited, or cultivated. The Game became scarcer here...owing to there being no grass, or timber’d land for them to live in.
[Missouri Breaks]

Tuesday, May 28

Weather Diary

a slight thundershower; the air was turbid in the forenoon and appeared to be filled with smoke; we supposed it to proceed from the burning of the plains, which we are informed are frequently set on fire by the Snake Indians to compell the antelopes to resort to the woody and mountanous country which they inhabit.— saw a small white and black woodpecker with a red head; the same which is common to the Atlantic states.—

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Daily Narrative Journals

Lewis the weather dark and cloudy, the are smokey, had a few drops of rain. At 10 AM a few drops of rain again fell and were attended with distant thunder which is the first we have heard since we left the Mandans—

Clark a cloudy morning. Some few drops of rain and very smokey, wind from the SW. at 1 oClock we had a few drops of rain and some thunder which is the first thunder we have had since we set out from Fort Mandan.

Gass had a fine morning

Ordway a cloudy morning. Some few drops of rain & smokey wind from the SW. At 1 oClock we had a few drops of rain & some thunder which is the first thunder we have had since we set out from Fort Mandan.

Whitehouse clear and pleasant weather. We had some thunder, and small showers of rain which lasted about 2 hour. Had pleasant afternoon.

The party passes the confluence of the Missouri and Judith River in central Montana.
Wednesday, May 29

Weather Diary

rained by little, some dew this morning.

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Daily Narrative Journals

Lewis soon after we landed it began to blow & rain, and there was no appearance of even wood enough to make our fires for some distance. Passed a handsome river...100 yds wide...it appeared to contain much more water than the Muscle-Shell...the water is clear...Cap C. who assended this R. much higher tan I did has thought proper to call it Judieths River. Gave each man a small dram. Notwithstanding the allowance of sperits we issued did not exceed ½ pn. Man several of them were considerably effected by it, such is the effects of abstaining for some time from the uce of speritious liquors; they were all very merry—

Clark Soon after we Came too it began to rain & blow hard. A table Spoon full of water exposed to the air in a Saucer would avaporate in 36 hours when the mercury did not Stand higher than the temperate point [66°F or 55°F] in the heat of the day.

Gass had a fine morning. At 12 it became cloudy and began to rain. It rained a little all the afternoon.

Ordway passed a considerable rapid came to a bold running Stream. Soon after we came too it began to rain, and blew hard Some of the hunters who went out on the high land, Said it Snowed & hailed on the hills.

Whitehouse Cloudy weather this morning. About 3 oClock began to rain, the wind rose high & hard from the NW. Hunters returned & Said it Snowed and hailed on the hills back from the River. In the Evening we had rain.

Thursday, May 30

Weather Diary

the rain commenced about 4 Oclock in the evening, and continued moderately through the course of the night; more rain has now fallen than we have experienced since the 15th of September last.
The Daily Narrative Journals

**Lewis**
The rain which commenced last evening continued with little intermission until 11 this morning when we set out; the high wind which accompanied the rain rendered it impracticable to proceed earlier. More rain has now fallen than we have experienced since the 15th of September last. Many circumstances indicate our near approach to a country whose climate differs considerably from that in which we have been for many months. The air of the open country is astonishingly dry as well as pure. I found by several experiments that a tablespoon of water exposed to the air in a saucer would evaporate in 36 hours when the mercury did not stand higher than the temperate point at the greatest heat of the day; my inkstand so frequently becoming dry put me on this experiment. I also observed the well seasoned case of my sextant shrunk considerably and the joints opened. The water of the river still continues to become clearer and notwithstanding the rain which has fallen it is still much clearer than it was a few days past. The bluff were more steep than usual and were now rendered so slippery by the late rain that the men could scarcely walk. The wind was also hard against us. We had slight showers of rain through the course of the day, the air was cool and rendered more disagreeable by the rain. One of the party ascended the river hills and reported on his return that there was snow intermixed with the rain which fell on the heights.

**Clark**
The rain commenced yesterday evening, and continued moderately through the course of the night, more rain has now fallen than we have experienced since the 15th of September last, the rain continued this morning, and the wind too high for us to proceed until about 11 o’clock at which time we were set out, and proceeded on with great labour. Not with standing we proceeded on as well as we could wind hard from the NW. Some little rain at times all day. One man ascended the high country and it was raining & snowing on those hills, the day has proved to be raw and cold.

**Gass**
The forenoon was cloudy, with some rain. It rained a little all day.

**Ordway**
The rain commenced yesterday evening & continued moderately through the course of the night. More rain has now fallen than we have experienced since the 15th of September last, the rain continued this morning, and the wind too high for us to proceed, until about 11 o’clock at which time we set out the men could scarcely walk notwithstanding we proceeded as well as we could, wind hard from the NW. Some little rain at times all day. One man ascended the high country & it was raining & snowing on those high hills, the day has proved to be raw and cold back from the river is tollarably level.
Whitehouse  weather Cloudy and Rainey this morning, & the wind blowing high and hard from the NW. WE delayed setting off till 10 oClock, the weather still being very disagreeable working. The weather still continued Cold & Chilling with wind and rain just before 2 oClock.

Friday, May 31

Weather Diary

but little rain. The Antelope now bring forth their young. from the size of the young of the bighorned Antelope I suppose they bring forth their young as early at least at the Elk.

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Daily Narrative Journals

Lewis  soon after we got under way it began to rain and continued untill meridian when it ceased but still remained cloudy through the ballance of the day. The obstructions of rocky points and riffles still continue as yesterday; at those places the men are compelled to be much in the water even to their armpits, and the water is yet very cool, and so frequent are those point that they are one fourth of their time in the water. The hills and river Cliffs which we passed today exhibit a most romantic appearance...horizontal stratas of white free-stone, on which the rains or water make nor impression. The water in the course of time in decending from those hills and plains on either side of the river trickled down the soft sand clifts and worn it into a thousand grotesque figures, which with the help of a little immagination and an oblique view at a distance, are made to represent eligant ranges of lofty freestone buildings, haviing their parapets well stocked with statuary; columnus of various sculpture both grooved and plain, are also seen supporting long galleries in front of those buildings; in other places on a much nearer approach and with the help of less immagination we see the remains or ruins of eligant buildings, some columnus standing and almost entire with their pedestals and capitals. As we passed on it seemed as if those seens of visionary inchantment would never have an end...So perfect indeed are those walls that I should have thought that nature had attempted here to rival the human art of masonary had I not recollected that she had first began her work. The river today has been from 150 to 250 yds. wide.

Clark  a cloudy morning. Soon found it verry laborious as the mud Stuck to my mockersons & was verry Slippery. Soon after we got under way it began to rain and continued moderately untill about 12 oClock when it ceased, & Continued Cloudy the ballance of the day. The Hills and river Cliffs of this day exhibit a most romantick appearance...in many places this Sand Stone appears like antient ruins

Lewis & Clark Expedition Weather Journals, 1805,  Page 102
some like elegant buildings at a distance, some like Towers &c. &c. Remind us of Some of those large Stone buildings in the United States. As we passed on it Seemed as if those Seens of Visionary enchantment would never have an end; for here it is too that nature present to the view of the traveler vast ranges of walls of tolerable workmanship, so perfect indeed are those falls [walls] that I Should have thought that nature had attempted here to rival the human art of Masonry had I not recollected that She had first began her work. The river rises a little. The water is yet very cold. Little timber on the river to day. River less muddy than it was below.

Gass

da cloudy morning. About 11 o’clock it began to rain slowly, and continued raining two hours, when it cleared up. The rocky peaks...appear like the ruins of an ancient city.

Ordway

da Cloudy morning. It continued to rain moderately untill about 12 oClock when it ceased & continued cloudy. The Stones on the edges of the river continue to form very considerable rapids. We find them difficult to pass. The River rises a little it is from 150 to 250 yards wide

Whitehouse

cloudy weather this morning. About 11 oClock AM it began to rain, and rained moderately for some time. The current of the River rain very strong, the whole of this day. In the Evening, the weather cleared off, and became pleasant.
June 1805
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

The Expedition is nearing the western edge of the Missouri Breaks and approaching the confluence of the Missouri and Marias Rivers.

Saturday, June 1

Weather Diary

rained a few drops only

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2 River rise and fall observations continued during the ascent of the Missouri River from Fort Mandan. The data usually is not for a 24-hour period unless they are encamped. In most cases, when the party stopped for the evening, following Lewis’ habit from previous journal entries, it is surmised that a mark was made and measured the next morning. Thus many observations were only one 8 to 10 hour long.

Daily Narrative Journals

Lewis  the morning was cloudy and a few drops of rain. Capt. C who waked on shore today informed me....he observed large banks of pure sand which appeared to have been driven by the SW winds from the river bluffs and there deposited. A range of high Mountains appear to the SW at a considerable distance covered with snow, they appear to run Westerly [Probably the Highwood Mountains]. The river from 2 to 400 yards wide, courant more gentle and still becoming clearer. Some few drops of rain again fell this evening. The wind has been against us all day—

Clark  a Cloudy morning. Wind to day from the SW. Som fiew drops of rain in the morning and also in the evening, flying Clouds all day.

Gass  The morning was cloudy, but without rain. The water is not so rapid to day as usual, but continues high.

Ordway  a Cloudy morning. The River from 2 to 400 yards wide & current more jentle that yesterday. But fiew bad rapids points to day. The river rising a little. Wind to
day from SW Some few drops of rain in the morning and also in the evening. Flying clouds all day.

**Whitehouse** a clear pleasant morning. About 2 o'clock...the wind rose and blew from the SE.

**Expedition arrives at the confluence of the Missouri & Marias Rivers, MT.**

**Sunday, June 2**

**Weather Diary**

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**Daily Narrative Journals**

**Lewis** The wind blew violently last night and was attended by a slight shower of rain; the morning was fair and we set out at an early hour. The courant was strong tho’ regular. The wind was hard and against us yet we proceeded with infinitely more ease than the two preceding days. A small showers of rain today but it lasted only a few minutes and was very moderate. Remain here untill the morning, as the evening was favourable to make some observations.

**Clark** we had a hard wind and a little rain last night, this morning fair, we Set out at an early hour, wind from the SW. Some little rain to day wind hard a head. The Current Swift but regular. A fair night. We took Some Luner observations of moon & Stears

**Gass** a fine morning.

**Ordway** we hard a hard wind & a little rain last night. This morning fair. Wind from SW some little rain to day wind hard a head. The current swift bu regular. A fair night.

**Whitehouse** a clear pleasant morning. About 12 oClock the Wind blew hard from the NW at this place, and the Sky became Cloudy—about 1 oClock PM we had some small sprinkling of rain—the current is not So Swift yesterday & today as it has been Some time past.
Monday, June 3

Weather Diary

Cought the 1st White Chub, and a fish resembling the Hickory Shad in the Clear Stream

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>Weather</th>
<th>Wind</th>
<th>4 PM</th>
<th>Weather</th>
<th>Wind</th>
<th>Missouri River</th>
<th>Rise/Fall</th>
<th>Feet</th>
<th>Inches</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
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<tr>
<td>46a</td>
<td>f</td>
<td>SW</td>
<td>60a</td>
<td>f</td>
<td>SW</td>
<td></td>
<td>-</td>
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</tr>
</tbody>
</table>

Daily Narrative Journals

Lewis  
This morning early we passed over and formed a camp on the point formed by the junction of the two large rivers. An interesting question was now to be determined; which of these rivers was the Missouri. To mistake the stream at this period of the season, two months of the traveling season having now elapsed, and to ascend such stream to the rocky Mountain or perhaps much further before we could inform ourselves...to this end an investigation of both streams was the first thing to be done. Between the time of my AM and meridian Capt. C & myself stroled out to the hights in the fork of these rivers from whence we had an extensive and most enchanting view. The verdure perfectly clothed the ground, the weather was pleasant and fair, to the south we saw a range of lofty mountains which we supposed to be continuation of the S. Mountains, stretching themselves from SE to NW terminating abbrubtly about S. West for us; these were partially covered with snow; behind these Mountains and at a great distance, a second and more lofty range of mountains appeared...where their snowy tops lost themselves beneath the horizon. We took the width of the two rivers, found the left hand or S. fork 372 yards and the N fork 20. The north fork is deeper than the other but it’s courant not so swift; it’s water run in the same boiling and roling manner which has uniformly characterized the Missouri throughout it’s whole course so far; it’s waters are of a whitish brown colour very thick and terbid, also characteristic of the Missouri; while the South fork is perfectly transparent runs very rappid but with a smoth unriffled surface. The North fork...I am confident that this river rises in and passes a great distance through an open plain country. Convinced I am that if it penetrated the Rocky Mountains to any great distance it’s waters would be clearer unless it should run an immense distance. What astonishes us a little is that the Indians who appeared to be so well acquainted with the geography of this country should not have mentioned this river on wright hand if it be not the Missouri. I am equally astonished at their not mentioning the S fork which they must have passed in order to get to those large falls which they mention on the Missouri. The evening proved cloudy.

Clark  
the after part of the day proved Cloudy. Cloudy evening—

Gass  
The Rose (Teton) river is muddy and the current rapid.

Lewis & Clark Expedition Weather Journals, 1805,  Page 106
the after part of the day proved Cloudy. Clark measured each river & found the one to the Right hand 186 yards wide & the left had fork 372 yards wide and rapid.

Whitehouse a fine fair clear morning. Some men went towards a mountain [perhaps the Highwoods] covred with Snow to the South of this place. The afternoon of this day proved Cloudy.

**Lewis & Clark depart with scouting parties to research up each fork.**

**Tuesday, June 4**

**Weather Diary**

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>48a</td>
<td>f a c</td>
<td>NE</td>
</tr>
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</table>

**Daily Narrative Journals**

**Lewis** [Traveling up the Marias River] The Barn Mountin, a lofty mountain so called from it’s resemblance to the roof of a large Bar, is a separate Mountain [Square Butte, MT] it was not yet twelve when we arrived at the river and I was anxious to take the Meridian Altd. of the sun but the clouds prevented my obtaining the observation. The part of the river we have passed is from 40 to 60 yds. wide, is deep, has falling banks, the courant strong, the water terbind. It rained this evening and wet us to the skin; the air was extremely could.

**Clark**[Traveling up the Missouri River] Some rain all the afternoon. The river is rapid

**Gass** We saw a mountain to the South about 20 miles off, which appeared to run East and West, and some spots of it resembling snow.

**Ordway** the day proved Cloudy. A fiew drops of rain towards evening & high cold wind from the North.

**Whitehouse** remained here tody. The weather was Cloudy. A fiew drops of rain towards evening, and the Wind rose high & cold from the NE.
Wednesday, June 5

Weather Diary

rained considerably some Snow fell on them mounts. Great numbers of the sparrows larks, Curloos and other small birds common to praries are now laying their eggs and seting, their nests are in great abundance. The large batt, or night hawk appears. The Turkey buzzard appears.— first saw the mountain cock near the entrance of Maria’s river.

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>40a</td>
<td>r</td>
<td>SW</td>
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</table>

Daily Narrative Journals

Lewis

This morning was cloudy and so could that I was obleged to have recourse to a blanket coat in order to keep myself comfortable altho’ walking. The rain continued during the greater part of last night. The wind hard from NW. A large creek...some timber but not water, notwithstanding the rain; it is astonishing what a quantity of water it takes to saturate the soil of this country

Clark

Some little rain & Snow last night. the mountains to our SE covered with Snow this morning. air verry cold & raining a little. The top of which I could plainly See a mountain to the South & W. covered with Snow at a long distance, the mountains opposit to us to the SE is also Covered with Snow this morning— some few drops of rain to day, the evening fair wind hard from the NE.

Gass

Some light showers of rain fell in the night, and the morning was cloudy. About 7 we set out along the plains again, and discovered the mountain South of us covered with snow, that had fallen last night.

Ordway

the wind blew high from the North all last night A Cloudy Cold windy morning.

Whitehouse

The wind blew high during the last night from the NE, and we have a cold windy & cloudy morning.

Thursday, June 6

Weather Diary

rained hard the greater part of the day.—
Lewis & Clark Expedition Weather Journals, 1805, Page 109

<table>
<thead>
<tr>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Rise/Fall</th>
<th>Feet</th>
<th>Inches</th>
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</table>

**Daily Narrative Journals**

**Lewis**
I now became well convinced that this branch of the Missouri [Marias] had it’s direction too much to the North for our rout to the Pacific. The forepart of the last evening was fair but in the latter part of the night clouded up and continued so with short intervals of sunshine until a little before noon when the whole horizon was overcast, and I of course disappointed in making the observation which I much wished. The wind blew a storm from NE accompanied for frequent showers of rain; we were wet and very cold. We continued our rout down the river only a few miles before the abruptness of the cliffs and their near approach to the river compelled us to take the plains and once more face the storm. It continues to rain and we have no shelter, an uncomfortable nights rest is the natural consequence—

**Clark**
a Cloudy Cold raw day, wind hard from the NE. At 12 oClock...it began to rain and Continued all day. My Self and party much fatigued having walked constantly as hard as we Could march over a Dry hard plain

**Gass**
Some light rain fell this afternoon.

**Ordway**
a Cloudy Cold morning. The wind high from the North the hunters....saw a large mountain to the South of them covred with Snow A light Sprinkling of rain this afternoon.

**Whitehouse**
a cold cloudy morning. The wind still blew cold from the NE. A light sprinkling of rain this forenoon and to day.

**Friday, June 7**

**Weather Diary**
rained moderately all day

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<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>40a</td>
<td>car</td>
<td>SW</td>
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</table>

**Daily Narrative Journals**
Lewis
It continued to rain almost without intermission last night and as I expected we had a most disagreeable and wrestless night. Our camp possessing no allurements, we left our watery beads at an early hour and continued our rout down the river [Marias]. It still continues to rain the wind hard from the NE and could. the ground remarkably slipry, insomuch that we were unable to walk on the sides of the bluffs where we had passed as we ascended the river. Notwithstanding the rain that has now fallen the earth of these bluffs is not wet to a greater depth than 2 inches; in it’s present state it is precisely like walking over frozen grownd which is thawed to small debth and slips equally as bad. We continued our disagreeable march through the rain, mud and water untill late in the evening.

Clark
rained moderately all the last night and Continus this morning, the wind from the SW off the mountains, the Thermometer Stood at 40\(^0\) above 0. The rain Continue moderately all day. River falling

Gass
It rained all day.

Ordway
rained all last night. A rainy cold morning the wind NW rained moderately all day. Capt Lewis and his party did not return this evening we expect the reason is owing to the badness of the weather as it is muddy & Slippery walking

Whitehouse
rained the greater part of last night. Cloudy and wet this morning. Rained moderately all day. Capt. Lewis & his party have not returned yet. We expect the reason is owing to the badness of the weather.

Saturday, June 8

Weather Diary

cleared off at 10 AM

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<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>41</td>
<td>r a r</td>
<td>SW</td>
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</tbody>
</table>

Daily Narrative Journals

Lewis
It continued to rain moderately all last night, this morning was cloudy untill about ten oClock when it cleared off and became a fine day. When sun began to shine today these birds appeared to be very gay and sun most inchantingly. Some of the inhabitants of the praries also take refugue in these woods at night or from a storm. T he whole of my party to a man except myself were fully peswaided that this river was the Missouri. I determined to give a named in honor of Miss Maria W– d. called it Maria’s River. A noble river...one destined to become in my opinion an object of
contention between the two great powers of America and Great Britin. In adition to which it passes through a rich fertile and one of the most beatifully piteresque countries that I ever beheld.

**Clark**

rained moderately all the last night & Some this morning untill 10 oClock. Aired and dried our Stores &c. The rivers at this point has fallen 6 Inches Sinc our arrival. At 10 oClock cleared away and became fair— the wind all the morning from the SW & hard— the water of the South fork is of a redish brown colour this morning the other river of a whitish colour as usual— the mountains to the South Covered with Snow. Wind Shifted to the NE in the evening. Some rain in the evening. The left hard fork rose a little.

**Gass**

A fine cool morning. About 10 o’clock AM the water of the South river, or branch, became almost of the colour of claret (reddish brown) and remained so all day. The water of the other branch has appearance of milk. About five o’clock n the afternoon the weather became cloudy and cold, and it began to rain. At dark the rain ceased.

**Ordway**

the wind blew cold from the NW about 9 oClock AM clear off pleasant. We Saw the high Mountains to the West. Our Camp covered with Snow the greater part of which has fallen within a few days. The South fork of the Missourie is high & of a yallow coulour. The N fork is more white than common owing as we expect to the late rain which has melted the Snow on the mountains. The wind blew from the East a light Shower of rain this evening.

**Whitehouse**

This morning we had cloudy weather, and the wind blew cold from the NW. Between 7 and 9 oClock the weather cleared off, and became pleasant. We saw on the weather clearing away, a high mountain, lying to the West of us, which was covered with Snow. The South fork of the Missouri is high & of a yellow Colour today, and rose to a great height, the north fork more white and riffling than it was before, the cause of which, we expect, is owing to the Rain that fell lately, and the snow melting in the Mountains. The wind blew from the E toward evening with a light Shower of Rain—

**Sunday, June 9**

**Weather Diary**

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>50</td>
<td>f</td>
<td>SW</td>
</tr>
</tbody>
</table>

3 Clark’s Journal Codex I lists this temperature as “52 a.”

Lewis & Clark Expedition Weather Journals, 1805, Page 111
Daily Narrative Journals

Lewis

The Indian information also argued strongly in favour of the South fork. That the falls lay a little to the South of sunset from them. Cruzatte who had been an old Missouri navigator and who from his integrity knowledge and skill as a waterman...declared it as his opinion that the N fork was the true genuine Missouri and could be no other. Finding them so determined in this belief, and wishing that if we were in an error to be able to detect it and rectify it as so as possible it was agreed between Capt. C. and myself that one of us should set out with a small party by land up the South fork and continue our rout up it untill we found the falls or reached the snowy Mountains by which means we should be enabled to determine this question pretty accurately.

Clark

a fair morning, the wind hard from the SW. The river during the night fell 1 inch. Took some Luner observations.

Gass

a fine morning. The water of the Missouri changed this morning to its former colour. The day was fine, but the wind blew hard from the northwest.

Ordway

a clear pleasant morning. The wind rose high from the west all day. We had a light Shower of rain about 11 oClock at night.

Whitehouse

a clear beautiful pleasant morning. The wind towards evening rose from the West. We had a frolick. We had a light Shower of rain late in the evening.

Monday, June 10

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<td>Temp</td>
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<td></td>
<td></td>
<td>Temp</td>
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<tr>
<td>52a</td>
<td>f</td>
<td>SW</td>
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</table>

Daily Narrative Journals

Lewis

The day being fair and fine we dryed all our baggage and merchandize. We drew up the red perogue...secured and made her fast to the trees to prevent the high floods from carrying her off. Put my brand on several trees standing near her, and covered her with brush to shelter her from the effects of the sun. At 3 PM we had a hard wind from the SW which continued about an hour attended with thunder and rain. As soon as the shower had passed over we drew out our canoes. The night was cloudy with some rain.

Lewis & Clark Expedition Weather Journals, 1805, Page 112
Clark
a fine day, dry all our articles. Branded several trees to prevent the Indians injureing
her, at 3 oClock we had hard wind from the SW. Thunder and rain for about an hour
after which we repared & Corked the Canoes. The after noon or night Cloudy Some
rain. river riseing a little.

Gass
about two it began to rain and blow we were obliged to desist. The rain continued
only an hour

Ordway
a beautiful pleasant morning. About 4 oClock PM we had a light Shower of rain
which lasted about an hour. High wind. The evening pleasant.

Whitehouse
A beautiful pleasant morning. About 4 oClock PM we had a light shower of Rain, &
in the Evening it cleared up, & we had pleasant Weather—

Tuesday, June 11

Weather Diary
Capt. Lewis & 4 men Set out up the S. fork

<table>
<thead>
<tr>
<th>Sunrise</th>
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<th>Missouri River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>54a</td>
<td>f</td>
<td>SW</td>
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</tbody>
</table>

Daily Narrative Journals

Clark
a fair morning, wind from the SW hard. The evening fair and fine wind from the
NW. After night it became cold & the wind blew hard. Both rivers riseing fast.

Gass
A fine day.

Ordway
a clear pleasant morning. The wind from the S West hard. The evening fair & fine
wind from the NW after night became cold. High wind

Whitehouse
a Clear pleasant morning. Capt. Lewis & party set out for the South Snowey
Mountain.

Wednesday, June 12

Weather Diary
### Daily Narrative Journals

**Lewis**

The sun became warm, and I bore a little to the south in order to gain the river as well to obtain water to allay my thirst. From this height we had a most beatifull and picturesk view of the Rocky mountains which wer perfectly covered with Snow and reaching from SE to the N of NW— they appear to be formed of several ranges each succeeding range rising higher than the preceding one until the most distant appear to lose their snowey tops in the clouds.

**Clark**

Last night was Clear and Cold, this morning fair. Wind from the SW. The interpreters wife very Sick So much So that I move her into the back part of our Covered part of the Perogue which is Cool, her our situation being a very hot one in the bottom of the Canoe exposed to the Sun— water very swift. At 2 oClock PM a few drops of rain.

**Gass**

The morning was fine. At 1 o’clock the weather became cloudy and threatened rain; at 2 there was a light shower, and the day became clear.

**Ordway**

A clear pleasant morning. The current very rapid.

**Whitehouse**

A clear pleasant morning. The current very Rapid.

---

**Lewis’ with a second scouting party arrives at the Great Falls of the Missouri, MT**

**Thursday, June 13**

**Weather Diary**

Some dew this morng.

---

It appears observations were taken at the lower portage camp at Belt Creek, Montana until the upper portage camp at the White Bear Islands is established on June 23, 1805.
Daily Narrative Journals

Lewis I overlooked a most beatifull and level plain of great extent or at least 50 or sixty miles; in this there were infinitely more buffaloe than I had ever before witnessed at a view. I proceeded on this course...whin my ears were saluted with the agreeable sound of a fall of water and advancing a little further I saw the spray arrise above the plain like a collumn of smoke which would frequently dispeare again in an instant caused I presume by the wind which blew pretty hard from the SW...soon began to make a roaring too tremendous to be mistaken for any cause short of the great falls of the Missouri. Here I arrived about 12 OClock...to gaze on this sublimely grand specticle. Immediately at the cascade the river is about 300 yds. On my right forms the grandest sight I ever beheld...some what projecting rocks below receives the water in it’s passage down and brakes it into a perfect white foam which assumes a thousand forms in a moment sometimes flying up in jets of sparkling foam to the hight of fifteen or twenty feet and are scarcely formed before large roling bodies of the same beaten and foaming water is thrown over and conceals them. From the reflection of the sun on the spray or mist which arrises from these falls there is a beatifull rainbow produced which adds not a little to the beauty of this majestically grand senery. After wrighting this imperfect discription, I again viewed the falls and was so much disgusted with the imperfect idea which it conveyed of the scene that I determined to draw my pen across it and begin agin, but then reflected that I could not perhaps succeed better than pening the first impressions of the mind. I wished...that I might be enabled to give to the enlightened world some just idea of this truly magnifficent and sublimely grand object which has from the commencement of time been concealed from the view of civilized man.

Clark a fair morning. Some dew this morning. Small stream...heads in a mountain to the SE...which at this time covered with Snow, we call this stream Snow river [Shonkin Creek]. The river verry rapid maney Sholes great nos of large Stones

Gass a fine morning. Some dew fell last night.

Ordway a beautiful pleasant morning. A heavy diew. Small river...about 50 yards wide....muddy coulour and verry rapid.

Whitehouse we had a Clear & pleasant morning.

Friday, June 14

Weather Diary

Capt. Lewis Discover the falls & Send back Joe Fields to inform me
**Sunrise** 4 PM  **Missouri River**

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<tr>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Rise/Fall</th>
<th>Feet</th>
<th>Inches</th>
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<tbody>
<tr>
<td>60a</td>
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<td>74</td>
<td>f</td>
<td>SW</td>
<td>F</td>
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<td>3/4</td>
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</table>

**Daily Narrative Journals**

Lewis proceeded up the river about SW. I arrived at a fall of about 19 feet; the river is here about 400 yds. wide. [Crooked Falls]. I now thought that if a skillfull painter had been asked to make a beautifull cascade that he would most probably have presented the precise immage of this one; nor could I for some time determine on which of those two great cataracts to bestoe the palm, on this or that which I had discovered yesterday; at length I determine between these two great rivals for glory that this was pleasingly beautifull, while the other sublimely grand. Still pursuing the river...I arrived at another cataract of 26 feet...the river near six hundred yards wide at this place [Eagle Falls]...this fall is certainly much the greatest I ever behald except those two which I have mentioned below. It is incomparably a greater cataract and a more noble interesting object than the celibrated falls of Potomac or Soolkin &c. From hence I overlook a most beatifull and extensive plain reaching from the river to the base of the Snowclad mountains to the S and SW. I passed through the plain...to medicine river [Sun River], found it a handsome stream, about 200 yds. wide with a gentle current, apparently deep, it’s water clear...they had not the appearance of ever being overflown, a circumstance, which I did not expect so immediately in the neighbourhood of the mountains, from whence I should have supposed, that sudden and immence torrents would issue at certain seasons of the year; but the reverse is absolutely the case. I am therefore compelled to believe that the snowey mountains yeald their warters slowly, being partially effected every day by the influence of the sun only, and never suddenly melted down by haisty showers of rain—— The weather being warm I had left my leat her over shirt and had woarn only a yellow flannin one.

Clark a fine morning. The Current excesevely rapid more So as we assend  find great difficuilty in getting the Perogue & canoes up in safety

Gass the morning was pleasant.

Ordway a fare pleasant morning. The current verry rapid all day. We came 10 miles to day through a verry rapid current.

Whitehouse a fare pleasant morning. The current verry rapid all day.

Portage around the great falls to White Bear Islands begins on June 15 and they remain between the lower portage and upper portage camps until July 13 at present-day Great Falls, MT.
Saturday, June 15

Weather Diary

The deer now begin to bring forth their young the young Magpies begin to fly. The Brown or grizzly bear begin to coppolate.

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<tr>
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<tr>
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<td>Wind</td>
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<tr>
<td>60a</td>
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<td>SW</td>
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Daily Narrative Journals

Lewis       when I awoke from my sleep [nap] today I found a large rattlesnake coiled on the leaning trunk of a tree under the shade of which I had been lying at the distance of about ten feet from him. I find a very heavy due on the grass about my camp every morning which no doubt procedes from the mist of the falls, as it takes place no where in the plains nor on the hills river except here.

Clark      a fair morning and warm. Proceeded on with great difficuelty as the river is mor rapid. We can hear the falls this morning verry distinctly— river rises a little this evening.

Gass      had the most rapid water I ever saw any craft taken through.

Ordway   a clear pleasant morning. Passed through the rapidest water I ever Saw any craft taken through. The afternoon verry warm.

Whitehouse   a clear pleasant morning. Passed the rapidest water I ever Seen any crafts taken through. In the afternoon, it became very warm.

Sunday, June 16

Weather Diary

Some rain last night

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<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<td>64</td>
<td>car</td>
<td>SW</td>
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Lewis & Clark Expedition Weather Journals, 1805, Page 117
Daily Narrative Journals

Lewis  a Sulpher Spring...this spring is situated about 200 yards from the Missouri on the NE side...the water is as transparent as possible strongly impregnated with sulphur...the water to all appearance is precisely similar to that of Bowyer’s Sulpher spring in Virginia

Clark  Some rain last night, a cloudy morning, wind hard from the SW

Ordway  a Small Shower of rain and high wind from the west the fore part of last night.

Whitehouse  we had a Showers of rain & high wind the fore past of the last night.  This morning it cleared away & we had pleasant weather

Sunday, June 17

Weather Diary

the thermometer placed in the shade tree at the foot of the rappids.  Capt Clark sets out to survey the river & portage

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<td>50a</td>
<td>c</td>
<td>SW</td>
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</table>

Daily Narrative Journals

Lewis  I found the Elk skins I had prepared for my boat were insufficient to compleat her, some of them having become dammaged by the water and being frequently wet...lyed in the sun to dry.

Clark  a fine morning, wind as usial.  Proceeded up the river passing a Sucession of rapids & Cascades to the Falls, which we had herd for Several miles makeing a dedly Sound, I beheld those Cateracts with astonishment.  The whole of the water of this great river Confined in a Channel of 280 yards and pitching over a rock of 97 feet 3/4 of an, from the foot of the falls arrises a Continued mist.  We Camped for the night which was Cold.  The mountains in every derection has Snow on them.

Ordway  a clear morning.

Whitehouse  a cloudy morning.
Monday, June 18

Weather Diary

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<th>Sunrise</th>
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Daily Narrative Journals

Lewis the wind blew violently this evening, as they frequently do in this open country where there is not a tree to brake or oppose their force.

Clark arrived at the second great Cataract...this is one of the grandest views in nature and by far exceeds any thing I ever saw...the river is 473 yards wide...a continual mist quite across the fall...proceeded...to the largest fountain or Spring I ever saw, and doubt if it is not the largest in America Known, this water boils up from under the rocks near the edge of the river and falls immediately into the river 8 feet and keeps its Colour for ½ a mile which is emencely Clear and of a bluish Cast...a Considerable mist rises at this fall occasionally, dined...opposite the mouth of the Medison River...and is 137 yards wide at its mouth. The Missouri above is 800 yards wide. I Saw the bear but the bushes was So thick that I could not Shoot him and it was nearly dark, the wind from the SW & Cool.

Ordway the day pleasant. The wind high from the west.

Whitehouse a fine pleasant day. After 12 oClock...the wind rose & blew high from the West.

Tuesday, June 19

Weather Diary

wind violent all day

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Daily Narrative Journals

Lewis  The wind blew violently the greater part of the day.

Clark  the wind all this day blew violently hard from the SW off the Snowey mountains, Cool, in my last rout I lost a part of my notes which could not be found as the wind must have blown them to a great distance.

Gass  A fine day, but the wind very high.

Ordway  a clear pleasant morning. The wind verry high from NW.

Whitehouse  a clear cool morning. The wind had blown very hard during the last night. Continues veryy high from the West and whole of this day.

Thursday, June 20

Weather Diary


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Daily Narrative Journals

Clark  a Cloudy morning, a hard wind all night and this morning. Soon after we set out it began to rain and continued a short time. the wind hard from the SW. A fair after noon. The Countrey above the falls & up the Medison river is leavel, with low banks, a chain of mountains to the west some part of which particuler those to the NW & SW are Covered with Snow and appear verry high--- We had a heavy dew this morning. The Clouds near those mountains rise Suddonly and discharge their Contents partially on the neighbouring Plains; the Same Cloud discharge hail alone in one part, hail and rain in another and rain only in a third all within the Space of a fiew miles; and on the Mountains to the South & SE of us Sometimes Snow. At present there is no Snow on those mountains; that which covered them a fiew days ago has all disappeared. the Mountains to the NW and West of us are Still entirely Covered are white and glitter with the reflection of the sun. I do not believe that the Clouds that pervale at this Season of the year reach the summits of those lofty mountains; and if they do the probability is that they deposit Snow which they Contain since we first saw them. I have thought it probable that these mountains might have derived their appellatoin of Shining Mountains, from their glittering
appearance when the Sun Shines in certain directions on the Snow which Cover
them.

During the time of my being on the Plains and above the falls I as also my party
repeatedly heard a noise which proceeded from a Direction a little to the N. of West,
as loud and resembling precisely the discharge of a piece of ordnance of 6 pounds at
the distance of 5 or six miles. I was informed of it several times by the men. J.
Fields particularly before I paid any attention to it, thinking it was thunder most
probably which they had mistaken. At length walking in the plains yesterday near
the most extreme SE bend of the River above the falls I heard this noise very
distinctly, it was perfectly calm clear and not a cloud to be seen, I halted and listened
attentively about two hours during which time I heard two other discharges, and took
the direction of the Sound with my pocket compass which was as nearly West from
me as I could estimate from the sound. I have not doubt but if I had leisure I could
find from whence it issued. I have thought it probable that it might be caused by
running water in some of the caverns of those emence mountains, on the principal of
the blowing caverns [Blowing Cave, Bath County, Virginia]; but in such case the
sounds would be periodical and regular, which is not the Case with this, being
sometimes heard once only and at other times several discharges in quick
succession. It is heard also at different times of the day and night. I am at a great
loss to account for this phenomenon. I well recollect hearing the Minitarees Say that
those Rocky Mountains make a great noise, but they could not tell me the cause,
neither could they inform me of any remarkable substance or situation in these
mountains which would authorize a conjecture of a probable cause of this noise— it
is probable that the large river just above those great falls which heads in the
direction of the noise has taken it’s name Medicine River from this unaccountable
rumbling sound, which like all unaccountable thing with the Indians of the Missouri is
Called medicine. The Ricaras inform us of the black mountains making a similar
noise &c. &c. and many other wonderful tales of those Rocky mountains and those
great falls.

Gass

A cloudy morning.

Ordway

Some cloudy & cold for the Season. The wind continues high from the west off the
mountains. A light sprinkling of rain about noon. A light sprinkle of rain. The
hunters...saw a chain of Mountains to the West Some of which particular those to the
NW and SW are covered with Snow, and appear to be very high.

Whitehouse

This morning we had cloudy cold weather; and the wind continues high from the
West. We had about Noon some light squalls of rain and wind. We had small
showers of rain this afternoon. 1 mile above the fall...is the largest fountain or
spring, as they think it is the largest in America known. They saw a chain of
mountains to the west, some of which particular those to the NW & SW are covered
with Snow & appear to be very high. [probably the Lewis Range of the Rockies]
Capt. Clark lost a part of his notes which could not be found, as the wind blew high
and hard & took them off.
Friday, June 21

Weather Diary

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Daily Narrative Journals

Lewis     The wind blew violently all day.
Clark     a fine morning, wind from the SW off the mountains and hard. Cloudy afternoon.
Gass      This morning was also fine, but there was a high wind.
Ordway    a fine cool morning. the wind from the SW. off the mountains and hard.
Whitehouse a fine morning, the wind blew hard from the SW off the mountains.

Saturday, June 22

Weather Diary

wind not so violent. Thermometer removed to the head of the rappid and place in the shade of a tree.

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Daily Narrative Journals

Clark     a fine morning. Wind from the
Ordway    a clear pleasant morning. the wind as usal. ...a light Sprinkling of rain. ....we are a little South of the Mandans but have had cold weather as yet. it must of course be a healthy county.
Whitehouse a fair pleasant morning. The wind as usal. West. We are at this place a little
South of the Mandan Villages, but as yet have experienced no very warm weather—

Sunday, June 23

Weather Diary

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It appears observations were moved from the lower portage camp to the upper portage camp at the White Bear Islands and continued until the Expedition began its ascent once again up the Missouri River on July 13, 1805.

Daily Narrative Journals

Lewis during the late rains the buffaloe have troden up the prarie very much, which having now become dry the sharp points of earth as hard as frozen ground stand up in such abundance that there is no avoiding them. This is particulary severe on the feet of the men who have not only their own wight to bear in treading on those hacklelike points but have also the addition of the burthen which they draw

Clark a Cloud morning, wind from the SE.

Gass The morning was cloudy.

Ordway a cloudy morning. The wind from East. A light Sprinkling of rain. The hard ground in many places is So hard as to hurt our feet verry much. The emence numbers of buffalow after the last rain has trod the flat places in Such a manner as to leave them uneven, and dryed as hard as frozen Ground.

Whitehouse this morning the wind shifted to the east & became Cloudy an we had a light sprinkling of rain—

Monday, June 24

Weather Diary

slight rain last night & a heavy shower this evening.
**Daily Narrative Journals**

**Clark**

A Cloudy morning. Some few drops of rain in the fore part of the day, at 6 oClock a black Cloud arose to the NW, the wind shifted from the S to that point and in a Short time the earth was entirely Covered with hail, Some rain Succeeded, which Continued for about an hour very moderately on this Side of the river, without the earths being wet ½ an inch, the riveins on the opposit or NW Side discharged emence torrents of water into the river, & Showed evidently that the rain was much heavier on that Side, Some rain at different times in the night which was worm. Thunder without lightning accompanied the hail Cloudy.

**Gass**

In the evening there was a very heavy shower of rain, at night the weather cleared up

**Ordway**

a cloudy morning. A violent shower arose from the NW hard thunder caught us in a very hard rain So that in a few minutes the ground was covered with water. So that we got a hearty drink of water in the holes & puddles &.C. The rain continued about half an hour, at dusk we arrived at the upper camp all wet and much fatigued. The wind was considerable assistance to us in the course of the day, as we were drawing the canoes the wind being Sufficiently hard at times to move the canoe on the Trucks. This is Salting on dry land in every Sense of the word.

**Whitehouse**

fair weather this morning. We proceeded across the prairie, the wind blowing steady from the SE, we hoisted a Sail in the largest canoe which helped us much. Towards evening when we were within 3 miles of the upper camp, up came a sudden and Violent thunder Shower & rained amazingly hard for about 15 to 20 minutes, in which time the water stood on the ground over our mockasons. Our water being all gone & the men very thirsty, they drank heartily, out of the puddles of water that lay in the plains—

**Tuesday, June 25**

**Weather Diary**

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**Lewis & Clark Expedition Weather Journals, 1805, Page 124**
**Daily Narrative Journals**

**Lewis**

The river is about 800d yds. wide opposite to us above these islands, and has a very gentle current [White Bear Islands, upper portage camp]. It is worthy of remark that the winds are sometimes so strong in these plains that the men informed me that they hoisted a sail in the canoe and it had driven her along on the truck wheels. This is really sailing on dry land.

**Clark**

A fair worm morning, Clouded & a few drops of rain at 5 oClock AM fair. I had a little Coffee for breakfast which was to me a rarity as I had not tasted any since last winter. The wind from the NW & worm. This Countrey has a romantick appearance river inclosed between high and Steep hills. A powerfull rain fell on the party on their rout yesterday, Wet Some few articles, and Caused the rout to be So bad wet & Deep that Could with difficulty proceed. A fair after noon— it may be worthy of remark that the Sales were hoised in the Canoes as the men were drawing them and the wind was great relief to them being Sufficiently Strong to move the Canoes on the Trucks, this is Saleing on Dry land in every Sense of the word.

**Gass**

A cloudy morning.

**Ordway**

A cloudy morning. The day proved pleasant and warm the men much fatigued.

**Whitehouse**

A cloudy morning. The weather cleared up about 10 oClock AM and the day proved pleasant and warm. The evening was clear and pleasant.

**Wednesday, June 26**

**Weather Diary**

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**Daily Narrative Journals**

**Lewis**

The Musquetoes are extremly troublesome to us.

**Clark**

Some rain last night, this morning very Cloudy. The wind from the NW very worm. Flying Clouds, in the evening the wind Shifted round to the East & Blew hard, which is a fair wind for the two Canoes to Sail on the Plains across the portage.
a fine morning. Captain Lewis measured the falls, found them in a distance of 17 miles 362 feet 9 inches. The first great pitch 98 feet, the second 19 feet, the third 47 feet 8 inches, the fourth 26 feet; and the number of small pitches amounting altogether to 362 feet 9 inches.

Some rain last night. This morning cloudy. The day proved fair.

We had some rain last night, and this morning very cloudy. The weather cleared up at 9 oClock AM and the very hot Sun beat down on us as the day proved fair. I took sick this evening I expect by drinking too much water when I was hot. I got bled &c. I had an opportunity of seeing the quantity of Buffalo as related; and I can without exaggeration say, that I saw more Buffalo feeding— at one time, than all the Animals I had ever seen before in my life time put together—

Thursday, June 27

Weather Diary

at 1 PM a black cloud which arose in the SW came on accompanied with a high wind and violent Thunder and Lightning; a great quantity of hail also fell during this storm which lasted about 2 ½ hours the hail which was generally about the size of a pigeon’s egg and not unlike them in form covered the ground to the depth of 1 ½ inches.— for about 20 minutes during this storm hail fell of an innomus size driven with violence almost incredible, when they struck the ground they would bound to the height of ten to 12 feet and pass 20 or thirty before they touched again. (during the emence Storm I was with the greater part of the men on the portage the men Saved themselves, Some by getting under a Canoe others by putting Sundery articles on their heads two was kocked down & Seven with their legs & thighs much brused. - Clark’s notes) After the rain I measured and weighed many of these hail stones and found several weighing 3 ozs. and measuring 7 Inches in circumference; they were generally round and perfectly solid. I am convinced if one of those had struck a man on the neaked head it would have knocked him down, if not fractured his skull.— Young blackbirds which are abundant in these Island are now beginning to fly

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6 Clark’s Journal Codex C lists this weather data as “f a r h.”

Daily Narrative Journals

at 1 PM a cloud arose to the SW and shortly after came on attended with violent Thunder Lightning and hail &c. (see notes on diary of the weather for June). Soon after this storm was over Drewyer and J. Fields returned. They were about 4 miles above us during the storm, the hail was of no uncommon size where they were. Soon after the storm this evening the water on this side of the river became of a deep
crimson colour which I presume proceeded from some stream above and on this side. At 4 PM the party returned from the upper camp; Capt. C. gave them a drink of grog; they prepared for the labour of the next day. Soon after the party returned it began to rain accompanied by some hail and continued a short time; a second shower fell late in the evening accompanied by a high wind from the NW—

Clark

a fair warm morning, wind from the SE and moderate. The warmest day we have had this year, at 4 PM the party returned...Soon after it began to hail and rain hard and continued for a few minits & Ceased for an hour and began to rain again with a heavy wind from the NW. I refreshed the men with a drink of grog. The river beginning to rise a little the water is Coloured a reish brown, the Small Streams, discharges in great torrents, and partake of the Choler of the earth over which it passes— a great part of which is light & of a redish brown. Several Buffalow pass drowned & dashed to pices in passing over the falls. Cloudy all night, Cold.

Gass

a fine morning. In the afternoon a dreadful hail storm came on, which lasted half an hour. Some of the lumps of ice that fell weighed 3 ounces, and measured 7 inches in circumference. The ground was covered with them, as white as snow. It kept cloudy during the evening and some rain fell.

Ordway

a fair warm morning. a heavey dew last night. passed the upper falls which is a great catteract and look remarkable. passed the lower high falls which is the highest known except the falls of the Neagra. a hard Shower of rain and hail came on of a Sudden So I got under a Shelving rock on one Side of the creek where a kept dry through the hardest of it. hard thunder. large hail the creek rose So high in a fiew minutes that I had to move from the dry place and proceeded on. the wind blew So high that the hail cut verry hard against me and I could hardly keep my feet. the rain has made it So muddy and Slippery, cloudy all night.

Whitehouse

a fair clear warm morning. About 4 oClock PM we had a hard shower of rain which made the Portage so Slippery

Friday, June 28

Weather Diary

Cat fish no higher

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</table>
**Daily Narrative Journals**

**Lewis**

The river is now about nine inches higher than it was on my arrival. Portage creek had arisen considerably and the water was of crimson color and ill tasted. Soon after his arrival [Clark during the morning] at willow run he experienced a hard shower of rain which was succeeded by a violent wind from the SW off the snowy mountains, accompanied with rain; the party being cold and wet, he administered the consolation of a dram to each.

**Clark**

A fair morning, wind from the South. Set out passed the Creek which had rose a little and the water nearly red, and bad tasted [Portage Creek]. Soon after we halted we had a Shower, and at dark we experienced a most dreadful wind from off the Snow Mountains to the SW accompanied with rain which continued at intervals all night men wet. I refreshed them with a dram.

**Gass**

A fine morning.

**Ordway**

A fair morning. Wind from the South. The water is riseing and of a redish brown color. Soon after we halted, we had a Shower and at dark we experienced a most dreadful wind from off the Snow Mountains to the SW accompanied with rain which lasted nearly all night.

**Whitehouse**

A fair clear morning, wind from the South, which continued the whole of this day.

**Saturday, June 29**

**Weather Diary**

Heavy gust of rain the morning and evening.

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**Daily Narrative Journals**

**Lewis**

This morning we experienced a heavy shower of rain for about an hour after which it became fair. Not having seen the large fountain of which Cap. Clark spoke I determined to visit it today...passed through a level plain for about Six miles when I reached a brake of the river hills. Here we were overtaken by a violent gust of wind and rain from the SW attended with thunder and Liting. I expected a hail storm probably from this cloud and therefore took refuge in a little gully where there were some broad stones with which I purposed protecting my head if we should have a repetition of the scene of the 27th but fortunately we had but little hail and that not.
large; I sat very composedly for about an hour without shelter and took a copious drenching of rain; after the shower was over I continued my rout to the fountain. ...nature seems to have dealt with a liberal hand for I have scarcely experienced a day since my first arrival in this quarter without experiencing some novel occurrence among the party or witnessing the appearance of some uncommon object. I think this fountain the largest I ever beheld, and the handsome cascade which it affords over some steep and irregular rocks in it’s passage to the river adds not a little to it’s beauty...it is about 25 yds. from the river...the water of this fountain is extremely transparent and cold...very pure and pleasant. After amusing myself about 20 minutes in examining the fountain I found myself so chilled with wet clothes that I determined to return. I was astonished not to find the party yet arrived, but then concluded that probably the state of the praries had detained them, as in the west state in which they are at present the mud sticks to the wheels in such manner that they are obliged to halt frequently and cleanse them. [Lewis describes the following flash flood episode repeating it using his literary prose. It is omitted to allow the full effect from Clark’s discussion below.]

Clark

a little rain very early this morning after[wards] Clear, finding that the Praire was So wet as to render it impossible to pass on to the end of the portage determined to Send back to the top of the hill...for remaining baggage...Soon after I arrived at the falls, I perceived a cloud which appeared black and threaten immediate rain, I looked out for a Shelter but Could see no place without being in great danger of being blown into the river if the wind prove as turbelant as it is at Some times. about 1/4 of a mile above the falls I obsd [observed] a Deep riveen in which was Shelving rocks under which we took shelter near the river and placed our guns the compass &c. &c....which was very Secure from rain, the first Shower was moderate accompanied with a violent wind, the effects of which we did not feel, Soon after a torrent of rain and hail fell more violent than ever I saw before, the rain fell like one voley of water falling from the heavens and gave us time only to get out of the way of a torrent of water which was Pouring down the hill in the rivin with emence force taring everything before it taking with it large rocks & mud. I took my gun and Shot pouch in my left hand, and with the right Scrambled up the hill pushing the Interpreters wife (who had her child in her arms) before me, the Interpreter himself making attempts to pull up his wife by the and much Scared and nearly without motion— we at length retched the top of the hill Safe where I found my Servent in Serch of us greatly agitated, for our wellfar— before I got out of the bottom of the revein which was a flat dry rock when I entered it, the water was up to my waste & wet my watch, I Sercely got out before it raised 10 feet deep with a torrent which [was] turrouble to behold, and by the time I reached the top of the hill, at least 15 feet water, I directed the party to return to the Camp at the run as fast as possible to get to our lode where Cloathes Could be got to Cover the Child whose Clothes were all lost, and the woman who was but just recovering from a Severe indisposition, and was wet and Cold, I was fearfull of a relaps. I caused her as also the others of the party to take a little Spirits, which my Servent had in a Canteen, which revived verry much. On arrival a the Camp on the willow run— met the party who had returned in great Confusion to the run leaving their loads in the Plain, the hail & wind being So large and violent in the plains, and them naked, they were much brused, and Some
nearly killed one knocked down three times, and other without hats or any thing on
their heads bloodey & Complained verry much; I refreshed them with a little grog—
Soon after the run began to rise and rose 6 feet in a few minites—I lost at the river in
the torrent the large Compass, an eligant fusee [umbrella], Tomahawk Humbrallo,
Shot pouch, & horn with powder & Ball, mockersons, & the woman lost her Childs
Bear & Clothes bedding &c. — The Compass is a Series loss; as we have no other
large one. The plains are So wet that we Can do nothing this evening particlarly as
two deep reveins are between ourselves & Load

Gass
We had a very hard gust of wind and rain in the morning; but a fine forenoon after it.
In the afternoon there was another heavy shower of rain, and after it a fine evening.
Captain Lewis came to camp, but drenched with rain.

Ordway
a little rain verry eairly this morning after clear & warm. We find that the prairie is
So wet as to render it impossible to pass on the end of the portage. Saw a black
cloud rise in the west which we looked for emediate rain we made all the haste
possable but had not got half way before the Shower met us and our hind extletree
broke in too we were obledged to leave the load Standing and ran in great
confusion to Camp the hail being So large and the wind So high and violent in the
plains, and we being naked we were much bruuzed by the large hail. Some nearly
killed one knocked down three times, and others without hats or any thing about
their heads bleeding and complained verry much. [He then relates Clark’s story
above.] The plains are so wet that we could doe nothing this evening.

Whitehouse
a little rain verry eairly this morning which lasted but for a short time, when the
weather cleared off and it became pleasant. In the afternoon, there arose a storm of
hard wind & rain; accompanied with amazing large hail at the upper camp. We
cought several of the hail Stones which was measured & weighed by us, there were 7
inches in Surcumference and weighed 3 ounces— Captain Lewis made a small bowl
of punch out of one of them. As luck woul d have it, we were all...Safe...the party
that was at the upper camp, were under a good shelter, but we feel concerned about
the men on the road with the baggage from the lower Camp—

Sunday, June 30

Weather Diary

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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>49a</td>
<td>f</td>
<td>SW</td>
</tr>
</tbody>
</table>

Lewis & Clark Expedition Weather Journals, 1805,   Page 130
Daily Narrative Journals

Lewis
We had a heavy dew this morning which is a remarkable event. I being to be extremely impatient to be off as the season is now waisting a pace. Nearly three months have now elapsed since we left Fort Mandan and not yet reached the Rocky Mountains. I am therefore fully preswaded that we shall not reach Fort Mandan again this season if we even return from the ocean to the Snake Indians. The men complained much today of the bruises and wounds which they had received yesterday from the hail. Two men sent to the falls returned with the compass which they found covered in the mud...the other articles were irrecoverably lost. They found that part of the rivene in; which Capt. C. had been setting yesterday, filled with huge rocks. experienced a heavy gust of wind this evening from the SW after which it was a fair afternoon. More buffaloe than usual were seen about their camp; Capt. C. assured me that he believes he saw at least ten thousand at one view— I made several attempts to obtain Equal altitudes since my arrival here but have been uniformly defeated untill now by the flying clouds and storms in the evening—

Clark
a fair morning. At 3 oClock a Storm of wind from the SW after which we had a clear evening. Great numbers of Buffalow in every direction, I think 10,000 may be Seen in a view.

Gass
A fine day. The hail that fell on the 27th hurt some of the men very badly. Captain Clarke, the interpreter, and the squaw and child, had gone to see the spring at the falls; and when the storm began, they took shelter under a bank at the mouth of the run; but in five minutes there was seven feet water in the run; and they were very near being swept away. They lost a gun, an umbrella and a Surveyor’s compass, and barely escaped with their lives.

Ordway
a fair morning. This run has fallen a little. Last evening it was up to a mans waist at the crossing place where it was dry before the Showers, and verry riley and bad tasted at 3 oClock we had a Storm of wind from SW after which a fair evening.

Whitehouse
a fair morning & pleasant. We are at the upper camp, looking out for the arrival of Captain Clark and his party, with the baggage &c. fearing that they must have suffered much by the hail—
July 1805
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

The Expedition continued its portage around the Great Falls of the Missouri.

Monday, July 1

**Weather Diary**

wind hard during the greater part of the day.—

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>59a</td>
<td>f</td>
<td>SW</td>
</tr>
</tbody>
</table>


2 It appears observations were moved from the lower portage camp to the upper portage camp at the White Bear Islands and continued until the Expedition began its ascent once again up the Missouri River on July 13, 1805.

**Daily Narrative Journals**

**Lewis**
the day has been warm and the Musquetoes troublesome of course

**Clark**
the Day worm and party much fatigued. The wind hard from the SW— the hail which fell at Capt. Lewis Camp 27 Ins [June 27] was 7 Inches in circumference & waied 3 ounces, fortunately for us it was not so large in the plains, if it had we Should most certainly fallen victims to its rage as the men were mostly naked, and but few with hats or any covering on their heads.

**Ordway**
the day warm and party much fatigued. The wind hard from the SW. The hail which fell at Capt. Lewis Camp was 7 Inches in Surcumference and weiged 3 oucnes. Fortinately for us it was not so large in the plains where we was. If it had we Should most certainly fallen victims to its rage as the most of the men were without hats or any thing on their heads and mostly neaked.

**Whitehouse**
This morning pleasant and warm. About 3 oClock PM Captain Clarke & party arrived...they informed us that they were detained by the wet weather, and that they were out in the hail Storm but as luck would have it, the hail was not so big as that

Lewis & Clark Expedition Weather Journals, 1805, Page 132
which fell at the upper Camp. Captain Clarke was at the falls of the River, at the
time the hail fell, and hunted a shelter for himself & party from the Rain & hail—
This sheltering place, was in a deep Creek, without any Water in it, at the time it first
began raining; he mentioned that the Creek rose so fast, they had scarcely time to get
out, before the water was ten feet deep. The party that was hawling the crafts, had
nearly all lost their lives, being naked and most without hats on, or any thing to cover
them, they had no shelter & were Cut and bruised very much by the hail, and under
went, as much as Men could possibly endure; to escape with their lives—

Tuesday, July 2

Weather Diary

some rain just before sun rise

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<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>60a</td>
<td>far</td>
<td>SW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Lewis
A shower of rain fell very early this morning. The wind hard from the SW all day.
I think it possible that these almost perpetual SW winds proceede from the agency of
the Snowey Mountains and the wide level and untimbered plains which streach
themselves along their bases for an immense distance (ie) that the air comeing in
contact with the snow is suddenly chilled and condensed, thus becoming heavier than
the air beneath in the plains, where by the constant action of the sun on the face of an
untimbered country there is a partial vacuum formed for it’s reception. I have
observed that the winds from this quarter are always the coldest and most violent
which we experience, yet I am far from giving full credit to my own hypothesis on
this subject; it however I find on the opposite side of these mountains that the winds
take a contrary direction I shall then have more faith....completed my observation of
Equal Altitudes today.

Clark
Some rain at day light this morning, after which a fair morning. The Roreing of the
falls for maney miles above us. Musquetors verry troublesom to day, day worm.
Wind to day as usual from the SW and hard all the after part of the day, those winds
are also Cool and generally verry hard.

Gass
a fine morning.

Ordway
Some rain at day light this morning after which a fair morning. The day warm.

Whitehouse
Some rain at day light this morning, and it then cleared up, and we had clear pleasant
fair weather.

Wednesday, July 3

Weather Diary

slight rain in the evening.

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
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<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>58a</td>
<td>f</td>
<td>SW</td>
</tr>
</tbody>
</table>

3 Lewis’ Journal Codex P & Clark’s Codex I lists this temperature as “56.”

Daily Narrative Journals

Lewis

at 10 OCk AM we had a slight shower which scarcely wet the grass. The current of
the river looks so gentle and inviting that the men all seem anxious to be moving
upward as well as ourselves.

Clark

a fine morning. Wind from the SW. At 1 oClock began to rain. A Small Shower
at 1 oClock which did Sercely wet the grass— The water tolerably clear and Soft in
the river, Current gentle and bottoms rising from the water; no appearance of the
river rising more than a few feet above the falls, as high up as we have yet explored.
The winds has blown for Several days from the SW I think it possible that those
almost perpetual SW winds, proceed from the agency of the Snowey mountains and
the wide leavel and untimbered plains which Streach themselves along their borders
for an emence distance, that the air coming in Contact with Snow is Suddenly
chilled and condensed, thus becoming heavier than the air beneath in the plains, it
glides down the Sides of those mountains and decends to the plains, where by the
constant action of the Sun on the face of the untimbered country there is a partial
vacuom formed for it’s reception. I have observed that the winds from this quarter is
always the Coaldest and most violent and most violent which we experience, yet I am
far from giveing full credit to this hypothesis on this Subject; if I find however on the
opposit Side of these mountains that the winds take a contrary direction I Shall then
have full faith. The winds take a contrary direction in the morning or from the
mountains on the west Side.

Gass

a fine morning. We had a light shower of rain (in early afternoon)

Ordway

a clear pleasant warm morning.

Whitehouse

A clear pleasant morning. We had a light sprinkling Shower of rain in the afternoon.
Thursday, July 4

Weather Diary

heavy dew this morning. slight sprinkle of rain at 2 PM.

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<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>52a</td>
<td>f</td>
<td>Sw</td>
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</tbody>
</table>

Daily Narrative Journals

Lewis

we all believe that we are now about to enter on the most perilous and difficult part of our voyage, yet I see no one repining; all appear ready to met those difficulties which wait us with resolution and becoming fortitude. We had a heavy dew this morning. The clouds near these mountains rise suddenly and discharge their contents partially on the neighbouring plains; the same cloud will discharge hail along in one part, hail and rain in another, and rain only in a third, all within the space of a few miles; and on the Mountains to the SE of us sometimes snow. At present there is no snow on those mountains; that which covered them when we first saw them and which has fallen on them several times since has all disappeared. The Mountains to the NW & W of us are still entirely covered are white and glitter with the reflection of the sun. I do not believe that the clouds which prevail at this season of the year reach the summits of those lofty mountains; and if they do the probability is that they deposit snow only for there has been no perceptible diminution of the snow which they contain since we first saw them. I have thought it probable that these mountains might have derived their appellation of shining Mountains, from their glittering appearance when the sun shines in certain directions on the snow which covers them.

Since our arrival at the falls we have repeatedly witnessed a noise which proceeds from a direction a little to the N of West as loud and resembling precisely the discharge of a piece of ordinance of 6 pounds at a distance of three miles. I was informed of it by the men several times before I paid any attention to it, thinking it was thunder most probably which they had mistaken. At length walking in the plains the other day I heard this noise very distinctly, it was perfectly calm clear and not a cloud to be seen. I halted and listened attentively about an hour during which time I heard two other discharges and took the direction of the sound with my pocket compass. I have no doubt but if I had leisure I could find from whence it issued. I have thougt it probable that it might be caused by running water in some of the caverns of those immense mountains, on the principal of the blowing caverns; but in such case the sound would be periodical & regular, which is not the case with this, being sometimes heard once only and at other times, six or seven discharges in quick succession. It is heard also at different seasons of the day and night. I am at a loss to account for this phenomenon. Our work being at an end this evening, we gave a drink of spirits, it being the last of our stock, and some of them appeared a little sensible of it’s effects. The fiddle was plyed and they danced very merrily untill 9 in
the evening when a heavy shower of rain put an end to that part of the amusement tho’ they continued their mirth with songs and festive jokes and were extremely merry untill late at night.

Clark  
A fine morning, a heavy dew last night. A black Cloud came up from the SW and rained a few drops. I employ my Self drawing a Copy of the river to be left at this place for fear of Some accident in advance. The party amused themselves dancing untill late when a Shower of rain broke up the amusement. The climate about the falls of the Missouri appears to be Singular Cloudy every day (Since our arrival near them) which rise from defferent directions and discharge themselves partially in the plains & mountains, in some places rain other rain & hail, hail alone, and on the mountains in Some parts Snow. A rumbling like Cannon at a great distance is heard to the west if us; the Cause we Can’t account.

Gass  
A fine day. We drank the last of our spirits in celebrating the day, and amused ourselves with dancing till 9 o’clock at night, when a shower of rain fell and we retired to rest.

Ordway  
a beautiful clear pleasant warm morning. Last in the evening we had a light Shower of rain but did not last long—

Whitehouse  
This morning we had Clear weather. We amused ourselves with frolicking, dancing &ca. untill 9 of 10 oClock PM in honor of the day. About that time, we had a slight shower of Rain, but it soon cleared away & we had fine weather—

Friday, July 5

Weather Diary

heavy shower of rain and hail last evening at 9 PM. some thunder & lightning

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>49a</td>
<td>f a h &amp; r ⁴</td>
<td>SW</td>
</tr>
</tbody>
</table>

⁴ Lewis’ Journal Codex P lists this weather data as “f h & r” & Clark’s Codex I lists this as “h & r.”

Daily Narrative Journals

Clark  
a fine morning and but little wind, worm and Sultrey at 8 oClock—

Gass  
a fine morning.

Ordway  
a clear pleasant morning.
Whitehouse  a clear pleasant morning

Saturday, July 6

**Weather Diary**

wind high all day. A heavy wind from the SW attended with rain about he middle of last night. about day had a violent thunderstorm attended with Hail and rain. the Hail Covered the ground and was about the Size of Musquet balls. I have Seen only one black bird killed with the hail, and am astonished that more have not Suffered in a similar manner as they are abundant, and I Should Suppose the hail Sufficiently heavy to kill them.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>47a</td>
<td>clear, pleasant</td>
<td>SW</td>
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</tbody>
</table>

**Daily Narrative Journals**

**Lewis**

In the course of last night had several showers of hail and rain attended with thunder and lightning. About day a heavy storm came on from the SW attended with hail rain and a continued roar of thunder and some lightning. The hail was as large as musket balls and covered the ground perfectly. We had some of it collected which kept very well through the day and served to cool our water. These showers and gusts keep my boat wet in dispite of my exertions. After the hail and rain was over this morning we dispatched 4 hunters.

**Clark**

a heavy wind from the SW and Some rain about mid night last, at day light his morning a very black Cloud from the SW, with a Contained rore of thunder & Some lightning and rained and hailed tremendously for about ½ an hour, the hail was the Size of a musket ball and Covered the ground. This hail & rain was accompan. by a hard wind which lasted for a few minits. Cloudy all the foremost part of the day, after Part Clear.

**Ordway**

very hard Showers of rain and hail through the course of last night, hard Thunder & lightning, at day light this morning a hard shower came up of a Sudden attended with high wind & large hail one of the men Saved a Small tin kittle full of the hail which did not all dissolve through the day. The morning cloudy. A part of the day clear. Light Showers of rain in the afternoon. The wind high from the west.

**Whitehouse**

very hard Showers of Rain & hail, through the course of last night. Hard Thunder. At day light a hard shower of rain, thunder & large hail; one of the men gathered a Small kittle full of the hail which he kept most part of the day, without melting. The morning continued cloudy. In the afternoon it cleared up with some light showers of rain.
Sunday, July 7

**Weather Diary**

a Shower at 4 PM

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<th>Sunrise</th>
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<th>Missouri River</th>
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<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>54a</td>
<td>c a f</td>
<td>SW</td>
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</table>

**Daily Narrative Journals**

**Lewis**

The weather warm and cloudy therefore unfavourable for many operations. We have no tents; the men are therefore obliged to have recourse to the sails for shelter from the weather and we have not more skins than are sufficient to cover our baggage when stowed away in bulk on land. Many of the men are engaged in dressing leather to cloath themselves. Their leather cloathes soon become rotten as they are much exposed to the water and frequent wet. We had a light shower of rain about 4 PM attended with some thunder and lightning. The musquetoes are excessively troublesome to us. I have prepared my composition which I should have put on this evening but the rain prevented me.

**Clark**

A Warm day, wind from the SW. Cloudy as usual. Some rain in the after part of the day.

**Gass**

The morning was fine. In the evening some few drops of rain fell

**Ordway**

A clear pleasant morning. The day warm. I the afternoon Some Thunder A light shower of rain.

**Whitehouse**

A clear pleasant morning. They proved warm. Before 4 oClock PM we had some Thunder and a light Shower of Rain.

Monday, July 8

**Weather Diary**

I finish taking the hight of the falls of the Missouri
Sunrise | 4 PM | Missouri River
--- | --- | ---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
--- | --- | --- | --- | --- | --- | --- | --- | ---
60a | f | SW | 78a | far | SW | F | - | 1/4

Daily Narrative Journals

**Lewis**

Day being warm and fair. The mountains which ly before us from the South, to the NW still continue covered with snow. Slight rain this afternoon.

**Clark**

A worm morning, flying Clouds. Some rain this evening after a verry hot day— the mountains which are in view to the South & NW are Covered with Snow.

**Gass**

A fine morning.

**Ordway**

A clear pleasant morning. Some Thunder and light Showers this afternoon. The River falling.

**Whitehouse**

A clear pleasant morning. We had this Evening some Thunder and light sprinkling of rain, &c.

Tuesday, July 9

Weather Diary

Sunrise | 4 PM | Missouri River
--- | --- | ---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
--- | --- | --- | --- | --- | --- | --- | --- | ---
56a | f | SW | 76a | far | NW | F | - | 1/4

Daily Narrative Journals

**Lewis**

The morning was fair and plesant. Men loaded canoes...just at this moment a violent wind commenced and blew so hard that we were obliged to unload the canoes. again; a part of the baggage in several of them got wet before it could be taken out. The wind continued violent untill late in the evening. The buffaloe had principally deserted us, and the season was now advancing fast. I therefore relinquished all further hope of my favorite boat and ordered her to be sunk in the water. [Lewis’ experimental iron framed, Elk skin covered boat. The Iron frame being made at Harper’s Ferry and transported all the way the upper portage camp location.]
Clark

a clear worm morning, wind from the SW. This falire of our favourite boat was a great disappointment to us.

Gass

a fine morning, and heavy dew. In the afternoon a storm of wind, with some rain came on from the north west, and we had again to unload some of our canoes, the waves ran so high. After the storm we had a fine evening.

Ordway

a beautiful pleasant morning. Soon after we got the canoes loaded Thunder and high wind came on So that we had to unload again.

Whitehouse

a beautiful morning. In the afternoon, Soon after we got the canoes loaded, there came up a Violent Storm of wind & Thunder. The waves dashed over the canoes to such a height, so that all hands were employed to unload them as quick as possible—

Wednesday, July 10

Weather Diary

wind hard all day.

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<th>Sunrise</th>
<th>Missouri River</th>
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<td>Temp</td>
<td>Weather</td>
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<td>52a</td>
<td>fair</td>
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</table>

Daily Narrative Journals

Lewis

the wind blew very hard the greater part of the day. Sergt. Ordway proceeded up the river about 5 miles when the wind became so violent that he was obliged to ly by untill late in the evening when he again set out with the canoes.

Clark

a fair windey day, wind hard the most of the day from the SW— rained moderately all last night (by Showers). The Canoes did not arrive as I expected, owing to the hard wind which blew a head in maney places.

Gass

a fine cool morning.

Ordway

a clear morning. Then the wind arose So high that we were obleged to lay by untill towards evening. Late in the afternoon the wind abated a little So we proceeded on within about 3 miles of the upper camp.

Whitehouse

a clear pleasant morning. We proceeded on about 8 miles when the wind rose so Great and high that we were ob-ledged to lay by untill the evening. The wind then abated and we went on untill dark.

Thursday, July 11
Weather Diary

wind hard all day

<table>
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<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>46a</td>
<td>f</td>
<td>SW</td>
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</table>

Daily Narrative Journals

Lewis  
this evening a little before the sun set, I heared two other discharges of this unaccountable artillery of the Rock Mountains proceeding from the same quarter that I had before heard it. I now recollected the Minnetarees making mention of the nois which they had frequently heard in the Rocky Mountains like thunder; and which they said the mountains made; but I paid no attention to the information supposing it either false or the fantom of a supersticious imagination. I have also been informed by the engages that the Panis and Ricaras give the same account of the Black mountains which ly West of them. This phenomenon the philosophy of the engages readily accounts for; they state it to be the bursting of the rick mines of silver which these mountains contain. The three other canoes did not arrive untill late in the evening in consequence of the wind and the fear of wetting their loads which consisted of articles much more liable to be injured by moisture...Capt C. had the canoes unloaded and ordered them to float down in the course of the night to my camp, but the wind proved so high after the night that they were obliged to put too 8 miles above and remain untill morning.

Clark  
a fair windey morning, wind SW.

Ordway  
a clear morning. The wind verry high from the NW which obliged us to lay at Camp untill late in the afternoon. Towards evening the wind abated So that we went on and arrived at Capt. Clarks camp. We floated about 8 miles and the wind rose So high that drove us to Shore So we landed untill morning.

Whitehouse  
a clear morning, but the high wind which obliged us to lay at our Camp untill late in the afternoon. Towards evening the wind abated a little so that we went on. A party of 4 men set out to float back to the lower camp at night, but the wind rose so high, that they were forced to lay by till morning—
Friday, July 12

Weather Diary

wind violent all day.

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>50a</td>
<td>f</td>
<td>SW</td>
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Daily Narrative Journals

Lewis I feel excessively anxious to be moving on. The canoes were detained by the wind until 2 PM.

Clark a fair windey morning, wind from the SW. The wind hard all day.

Gass a fine morning.

Ordway a clear morning. The wind as usual. The wind rose so high that one canoe filled with water the other 2 took in water the waves high but with difficulty we got down to Camp about noon. The wind continues verry high all day—

Whitehouse a clear morning. The wind blew high and hard from the NW. The wind continued to blow so high and hard that one of the canoes filled and the other two took in water. The wind continued to blow high and hard during this day.

Expedition leaves the upper portage camp and continues their journey up the Missouri River.

Saturday, July 13

Weather Diary

Wind violent in the latter part of the day
River observations once again change daily as the Expedition is again moving up the Missouri River. The data usually is not for a 24-hour period unless they are encamped. In most cases, when the party stopped for the evening, following Lewis’ habit from previous journal entries, it is surmised that a mark was made and measured the next morning. Thus many observations were only a 8 to 10 hour long.

**Daily Narrative Journals**

**Lewis**
This morning being calm and Clear I had the remainder of our baggage embarked in the six small canoes and maned them with two men each. I now bid a cheerfull adue to my camp. Proceeded up the river about 5 miles when the wind became so violent that two of the canoes shiped a considerable quantity of water and they were compelled to put too...and cleanse the canoes of water. About 5 PM the wind abated. It is impossible to sleep a moment without being defended against the attacks of these most tormenting of all insects.

**Clark**
a fair Calm Morning, verry Cool before day— at 9 oClock, the wind rose and blew hard from the SE the greater part of the day.

**Gass**
A fine day, but high wind.

**Ordway**
clear and calm this morning. About 5 miles...the wind rose so high that 2 of the canoes took water.

**Whitehouse**
a clear, calm pleasant morning. Proceeded on this morning abt. 5 miles...then the wind rose so high that obledged us halt untill the middle of the afternoon. When the wind abated we went on about 7 mls further

**Sunday, July 14**

**Weather Diary**

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<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
<th>Weather</th>
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<th>Weather</th>
<th>Wind</th>
<th>Rise/Fall</th>
<th>Feet</th>
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<td>SW</td>
<td>F</td>
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**Daily Narrative Journals**

Lewis  
This morning was calm fair and warm. The grass and weeds in this bottom are about 2 feet high; which is much greater height than we have seen them elsewhere this season. Had a slight shower at 4 PM this evening.

Clark  
a fine morning, Calm and warm. Some rain this afternoon. All preparing to Set out on tomorrow.

Gass  
a fine morning. In the afternoon some rain fell but we continued to work at the canoes

Ordway  
the morning clear and pleasant. About 4 oClock PM we expencerenced a Small Shower of rain. Warm. The weeds and Grass in this bottom is as high as a mans knees but the Grass on the high plains & praries is not more than 3 Inches high not time in this Season.

Whitehouse  
the morning clear, calm and pleasant. About 4 oClock PM we had a Small Shower of rain & very warm. The weeds and grass in this bottom is as high as a mans knees, but the grass on the high land is not more than 3 inches high.

Monday, July 15

**Weather Diary**

Set out from our upper camp above the falls

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>60a</td>
<td>far</td>
<td>SW</td>
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</tbody>
</table>

**Daily Narrative Journals**

Lewis  
At 10 AM we once more saw ourselves fairly under way much to my joy and I believe that of every individual who compose the party. We have not passed Fort Mountain on our right it appears to be about ten miles distant. [Square Butte]. From it’s figure we gave it the name of fort mountain. The prickly pear is now in full blume and forms one of the beauties as well as the greatest pests of the plains. The sunflower is also in blume and is abundant. The river is from 100 to 150 yds. wide. on the banks of the river there are many large banks of sand much elivated above the plains on which they ly and apear as if they had been collected in the course of time from the river by the almost incessant SW winds; they always appear on the sides of the river opposite to those winds—
Clark rained all the last night, I was wet all night. This morning wind hard from the SW.

Gass After a night of heavy rain, we had a pleasant morning. The snow appears to have melted from all the mountains in view.

Ordway rained the greater part of last night. A clear morning. The wind high from the NW. The current very gentle & river Smooth Since we left the falls.

Whitehouse rained the greater part of last night. This morning was clear, but the wind blowing high and hard from the NW. The current very gentle since we came above the falls and clear

Tuesday, July 16

Weather Diary

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<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>53a</td>
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<td>SW</td>
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</tbody>
</table>

Daily Narrative Journals

Lewis We had a heavy dew last night. Early this morning we passed about 40 little booths formed of willow brushes to shelter them from the sun; they appeared to have been deserted about 10 days; we supposed that they were snake Indians. Came to a rappid [Probably the later Half-Breed, or Lone Pine Rapids]...the current of the Missouri below these rappids is strong for several miles, tho’ just above there is scarcely any current, the river very narrow and deep, about 70 yds. wide. The musquetoes are extremely troublesome this evening and I have left my bier, of course suffered considerably, and promised in my wrath that I never will be guilty of a similar piece of negligence while on this voyage—

Clark a fair morning after a very cold night, heavy dew the river is not so wide as below from 100 to 150 yards wide & Deep Crowded with Islands & Crooked. The current of the river from the Medison river to the Mountain is gentle, bottoms low and extensive.

Gass a fine morning. The water became more rapid; but the current not so swift as below the falls.

Ordway a clear pleasant morning. The current Swift towards evening.

Whitehouse a clear pleasant morning. The current begin to git Swifter.
Wednesday, July 17

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>58a</td>
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<td>SW</td>
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</tbody>
</table>

Daily Narrative Journals

Clark took a Medn. Altitude & we took Some Luner Observations &c. The river confined in maney places in a verry narrow Chanel from 70 to 120 yards wide.

Gass the morning was fine and pleasant.

Ordway a clear morning. Came to a verry bad rapid. The River is about 100 yards wide.

Whitehouse a clear morning. The current verry rapid, and river Crooked, and only about 100 yard wide.

Thursday, July 18

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River 6</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<td>60a</td>
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<td>SW</td>
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</table>

6 Clark Journal Codex I lists that the river fell one-half inch.

Daily Narrative Journals

Lewis passed the entrance of a considerable river...it’s current is rapid and water extreamly transparent...in honour of the Secretary of war calling it Deaborn’s River. The river [Missouri] somewhat wider than yesterday and the mountains more distant from the river and not so high.

Clark a fine morning.
The morning was fair

a clear pleasant morning.

a clear pleasant morning.

Expedition enters what Lewis names “The Gates of the Rocky Mountains,” MT.

Friday, July 19

Weather Diary

Thunder Storm ½ after 3 PM

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<thead>
<tr>
<th>Sunrise</th>
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<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>62a</td>
<td>f</td>
<td>SW</td>
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</tbody>
</table>

Daily Narrative Journals

Lewis  
the current has been strong all day. The river deep and from 100 to 150 yds., wide. This evening we entered much the most remarkable cliffs that we have yet seen. Every object here wears a dark and gloomy aspect. Several fine springs burst out at the waters edge from the interstices of the rocks. From the singular appearance of this place, I called it the gates of the rocky mountains. Mosquitoes less troublesome than usual. We had a thundershower today about 1 PM which continued about an hour and was attended with some hail.

Clark  
a fine morning.

Gass  
a fine morning. About 1 o’clock we had thunder, lightning and rain, which continued an hour or two, and then the weather became clear.

Ordway  
a clear pleasant morning. This curious looking place (we entered) we call the gates of the Rocky Mountains. About one o’clock PM we had a Thunder Shower which lasted about one hour a little hail attended it

Whitehouse  
a clear pleasant morning. The current swift and water clear. About 1 o’clock PM we had a Thunder Shower which lasted 1 hour. Shortly after we camped we had a light Sprinkling Shower of rain this evening.
Saturday, July 20

Weather Diary

<table>
<thead>
<tr>
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<td>Weather</td>
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<td>f a r</td>
<td>SW</td>
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</tbody>
</table>

Daily Narrative Journals

Lewis current strong. Having lost my post Meridian Observation for Eql. Altitudes in consequence of a cloud which obscured the sun for several minutes about that time, I had recourse to two altitudes of the sun with Sextant.

Clark a fine morning.

Gass a fine morning. About 2 o’clock came to a level plain on the north side, from which we saw a strong smoke rising. The river is very crooked in general

Ordway a clear morning

Whitehouse a clear morning. The current verry rapid.

Main party passes just east of the present-day Capitol of the State of Montana, Helena.

Sunday, July 21

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
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<td>60a</td>
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</tbody>
</table>

Daily Narrative Journals

Lewis the current strong...the river is not now so deep but reather wide and much more
rapid. The grass near the river is lofty and green that of the hill sides and high open 
grounds is perfectly dry and appears to be scorched by the heat of the sun. This 
valley is bounded by two nearly parallel ranges of high mountains which have their 
summits partially covered with snow. The musquetoes were equally as troublesome 
to them as to ourselves this evening; tho’ some hours after dark the air becomes so 
cold that these insects disappear.

Clark  a fine morning. I observed on the highest pinecals of Some of the mountains to the 
West Snow lying in Spots Some Still further North are covered with Snow and cant 
be Seen from this point. The Winds in those mountains are not Settled generally 
with the river, to day the wind blow hard from the West at the Camp.

Gass   a pleasant morning. At noon....the wind blew very hard and some drops of rain fell.

Ordway a clear morning. The grass in the valley and on the hills look dry and perched up. 
The River divides in many channels and full of Islands and Spreads about a mile 
wide. The current swift.

Whitehouse a clear morning. The wind high from the NW.

Monday, July 22

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
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<tr>
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<td>Weather</td>
<td>Wind</td>
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<td>52a</td>
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<td>NW</td>
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</table>

Daily Narrative Journals

Lewis  Onions...this appears to be a valuable plant inasmuch as it produces a large quantity 
to the squar foot and bears with ease the rigor of this climate. Killed an otter which 
sunk...The water was about 8 feet deep yet so clear that I could see it at the bottom; I 
swam in and obtained it by diving. I placed my thermometer in a good shade as was 
my custom about 4 PM and after dinner set out without it and had proceeded near a 
mile before I recollected it I sent Sergt. Ordway back for it, he found it and brought it 
on. The murcury stood at 80 a. 0. This is the warmest day except one which we 
have experienced this summer.

Clark  a fine morning, wind from the SE. The last night verry cold, my blanket being 
Small I lay on the grass & Covered with it.

Gass   We embarked early, the weather being pleasant. We saw to day several banks of
snow on a mountain west of us. (Elkhorn Mountains)

Ordway  a clear morning. Capt. Lewis forgot his Thurmometer where we dined. I went back for it. It Stood in the heat of the day at 80 degrees abo. 0, which has only been up to that point but once before this Season as yet.

Whitehouse  A clear pleasant morning. Capt, Lewis forgot his Thurmometer which he had hung in a Shade. It Stood this day at 80 degrees above 0. The current very rapid and a pleasant country.

Tuesday, July 23

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
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<tr>
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<td>54a</td>
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<td>SW</td>
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</table>

Daily Narrative Journals

Clark  a fair morning, wind from the South.

Gass  A cloudy morning.

Ordway  a little cloudy  the current swift

Whitehouse  This morning cloudy. The current very rapid.

Wednesday, July 24

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
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<td>60a</td>
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<td>SW</td>
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</tbody>
</table>
**Daily Narrative Journals**

**Lewis**

the current very strong. The mountains still continue high and seem to rise in some places like an amphitheater one rang above another as they receede from the river untill the most distant and lofty have their tops clad with snow...I fear every day that we shall meet some considerable falls or obstruction in the river notwithstanding the information of the Indian woman to the contrary who assures us that the river continues much as we see it. I can scarcely form an idea of a river runing to great extent through such a rough mountainous country without having it’s stream intersepted by some difficult and dangerous rappids or falls.

**Clark**

a fine day, wind from the NW. The river much like it was yesterday. The mountains on either Side appear like the hills had fallen half down & turned Side upwards [Lombard thrust fault crosses here] the bottoms narrow and no timber a fiew bushes only.

**Gass**

The morning was fine

**Ordway**

a clear pleasant morning. The current swift. The Swift water continues some bad rappids which it is with difficulty we passed over them.

**Whitehouse**

a clear pleasant morning. The current still very rapid and strong all day.

**Expedition spends July 25 through July 30 at the Three Forks of the Missouri.**

**Thursday, July 25**

**Weather Diary**

Snow appears on the mountains ahead.

<table>
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<tr>
<th>Sunrise</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<td>60a</td>
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<td>SW</td>
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</tbody>
</table>

**Daily Narrative Journals**

**Lewis**

two rapids near the large spring we passed this evening were the worst we have seen since that we passed on entering the rocky mountains.

**Clark**

a fine morning we proceeded on a few miles to the three forks of the Missouri. Those three forks are nearly of a Size, that North appears to have the most water and...
must be Considered as the one best calculated for us to assend. Middle fork is quit as large about 90 yds. wide. The South fork is about 70 yds wide. The forks appear to be very rapid. On the North Side the Indians have latterly Set the Prairie on fire, the Cause I Can’t account for. The day very hot. About 6 to 8 miles up the North fork a Small rapid river falls in on the Lard Side which affords a great Deel of water and appears to head in the Snow mountains to the SW. musquetors very trouble Som until the mountain breeze Sprung up, which was a little after night.

**Gass**

A fine morning.

**Ordway**

A clear pleasant morning. Discovered mountains lying ahead of us, which appear to have Snow on them, if not Snow it must be very white Clay or rocks. Several bad rockey rapids.

**Whitehouse**

A clear pleasant morning. Discovered mountains lying ahead of us which have Spots of Snow on them. Passed a large dry plain on S side. Bad rapids.

**Friday, July 26**

**Weather Diary**

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<td>Weather</td>
<td>Wind</td>
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<td>60a</td>
<td>f</td>
<td>SW</td>
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</table>

**Daily Narrative Journals**

**Lewis**

current strong with frequent rifflles on entering this open valley I saw the snow clad tops of distant mountains before us. This morning Capt. Clark...proceeded up the river about 12 miles to the top of a mountain ...The day being warm and the road unshaded by timber he [Clark] suffered excessively with heat and the want of water. He returned down the mountain...here Charbono was very near being swept away by the current and cannot swim, Capt. C. however risqued him and saved his life.

**Clark**

proceeded to top of a mountain...much fatigue...we came to a Spring of excessively Cold water, which we drank rather freely of as we were already famished; not with Standing the precautions of wetting my face, hands & feet, I Soon felt the effects of the water. We Contind. thro a Deep Vallie without a Tree to Shade us Scorching with heat. a few drops of rain this evening

**Gass**

the morning was fine. Before 4 o’clock....while we remained here it became cloudy and some rain fell

**Ordway**

a clear morning. The current very Swift. We can discover high mountains a head,
with Snow on them. The River wide and full of islands. Passed over several bad rapids.

**Whitehouse**
a clear morning. We find that we have not entered the 2nd chain of Mountains but can discover very high white topped mountains. The wind blew hard since 10 AM and at 2 oClock & a light Sprinkling of rain.

**Saturday, July 27**

**Weather Diary**
a considerable fall of rain unattended with Lightning. ....

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<td>SW</td>
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**Daily Narrative Journals**

**Lewis**
We set out at an early hour and proceeded on but slowly the current still so rapid that the men are in continual state of their utmost exertion to get on, and they begin to weaken fast from this continual state of violent exertion. The limestone appears to be of an excellent quality of deep blue colour when fractured and a light led colour when exposed to the weather. We arrived at 9 AM at the junction of the SE fork of the Missouri and the country opens suddenly to extensive and beatifull plains and meadows which appear to be surrounded in every direction with distant and lofty mountains. From the E to S between the SE and middle forks a distant range of lofty mountains rose their snow-clad tops above the irregular and broken mountains which lie adjacent to this beatifull spot. A range of high mountains at a considerable distance appear to reach from South to West and are partially covered with snow. My principal consolations are that from our present position it is impossible that the SW fork can head with the waters of any other river but the Columbia

**Gass**
had a pleasant morning. There is very little difference in the size of the 3 branches. About 9 o’clock...we halted here, it began to rain and continued 3 hours. In the evening the weather became clear and we had a fine night.

**Ordway**
a clear morning. The current Swift as usual. About 9 oClock we arived at the three forks of the Missourie, which is in open view of the high Mountains covered in Some places with Snow. We had a Shower of rain this afternoon.

**Whitehouse**
a clear morning. Current rapid as yesterday. At 9 oClock AM we arrived at the Three Forks of the Mesouri River which is in a wide valley in open view of high Mountains which has white Spots on it which has the appearance of Snow. We had
showers of rain that continued till the evening.

**Sunday, July 28**

**Weather Diary**

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<td>49a</td>
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<td>SW</td>
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</tbody>
</table>

**Daily Narrative Journals**

**Lewis**

the day proved warm...our leather lodge when exposed to the sun is excessively hot. In the evening about 4 O’Ck the wind blew hard from the South West and after some little time brought on a Cloud attended with thunder and Lightning from which we had a fine refreshing shower which cooled the air considerably; the showers continued with short intervals untill after dark.

**Clark**

a very worm day untill 4 oClock when the wind rose & blew hard from the SW, and was Cloudy, The Thermometr. Stood at 90⁰ above 0 in the evening a heavy thunder Shower from the SW which continud at intervales untill after dark

**Gass**

As this was a fine day, the men were employed in airing the baggage. From this valley we can discover a large mountain with snow on it, towards the southwest.

**Ordway**

a foggy morning, but clear after. Towards evening we had a fine Shower of rain Some Thunder attended it which cooled the air verry much.

**Whitehouse**

We has some fog early this morning, but it cleared away at Sun rise, & the weather was pleasant. In the evening we had a fine shower of rain, accompanied with Thunder, which cooled the Air, & made it very pleasant.

**Monday, July 29**

**Weather Diary**
Sunrise | 4 PM | Missouri River
--- | --- | ---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
54a | far | N | 82a | f | NE | R | - | ½

**Daily Narrative Journals**

**Lewis**
we see a great abundance of fish in the stream some of which we take to be trout, but they will not bite at any bate we can offer them.

**Clark**
a fair morning, wind from the North

**Gass**
a fine day.

**Ordway**
a clear pleasant morning. The day warm. The wind from the East. the width of the three Rivers at the forks we allow the North fork to be about 60 yards, the middle fork the Same, the South forks not so wide nor large. All appear rapid but not very deep.

**Whitehouse**
a clear pleasant morning. The day proved very warm since 9 oClock AM the wind from the East.

**Tuesday, July 30**

**Weather Diary**

Set out from 3 forks

Sunrise | 4 PM | Missouri River
--- | --- | ---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
50a | f | SE | 80a | f | SE | - | - | -

**Daily Narrative Journals**

**Lewis**
the night was cool but I felt very little inconvenience from it as I had a large fire all night.

**Clark**
the river very rapid & Sholey

**Gass**
This branch (Jefferson) is about 60 yards wide and 6 feet deep, with a rapid current.
Ordway  a fine pleasant morning.  The River crooked rapid and full of islands &.C.

Whitehouse  a clear pleasant morning.  They day warm, but verry pleasant.  The current verry swift & rapids common.

Expedition now embarks up the Jefferson River [West Fork of the Missouri River], MT.

Wednesday July 31

Weather Diary

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<th>Sunrise</th>
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<td>48a</td>
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<td>SW</td>
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</table>

Daily Narrative Journals

Lewis  Capt. Clark and party...their detention had been caused by the rapidity of the water and the circuitous route of the river.  The river...from 90 to 120 yd. wide

Clark  a fair Morning.

Gass  a fine cool morning with dew.

Ordway  a fine morning.  the current swift.  We dined under a handsom Shady grove of cotton timber under the hills of the Mountains to or left which has heaps of Snow on the tops & sides of it.  The day very warm

Whitehouse  a fine morning, the current rapid.  Wed dined about 1 oC, under a delightful Grove of cotton timber on L. Side under the mountain which has large heaps of Snow on it. The day verry warm.
The Expedition has moved up the Jefferson Fork of the Missouri River and is just east of present-day Whitehall, Montana.

Thursday, August 1

Weather Diary

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<thead>
<tr>
<th>Sunrise</th>
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<td>Wind</td>
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<td>54a</td>
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<td>SW</td>
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2 River observations were taken on the Jefferson Fork of the Missouri. The data usually is not for a 24-hour period unless they are encamped. In most cases, when the party stopped for the evening, following Lewis' habit from previous journal entries, it is surmised that a mark was made and measured the next morning. Thus many observations were only a 8 to 10 hour long.

Daily Narrative Journals

Lewis about 2 PM much exhausted by the heat of the day. Our rout lay through the steep and narrow valleys of the mountains exposed to the intense heat of the midday sun without shade and scarcely a breath of air.

Clark a fine day. The water Swift & very Sholey. The river so rapid that the greatest exertion is required by all to get the boats on. Wind SW. Murckery at sun rise 50° Ab. 0

Gass a fine morning.

Ordway a fine morning. The current swift.

Whitehouse a clear pleasant morning. We also saw Snow on the Mountains, a short distance to the South of our Camp—
Friday, August 2

**Weather Diary**

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<tr>
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<th>4 PM</th>
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<td>Wind</td>
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<td>48a</td>
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<td>NW</td>
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</table>

**Daily Narrative Journals**

**Lewis**
we resumed our march this morning at sunrise, the weather was fair and wind from NW. Found the current very rapid about 90 yards wide and wait deep, this is the first time that I ever dared to make the attempt to wade the river. The tops of these mountains are yet covered partially with snow, while we in the valley are nearly suffocated with the intense heat of the mid-day sun; the nights are so cold that two blankets are not more than sufficient covering.

**Clark**
a fine day. The wind from the SW. We proceeded on with great difficulty from the rapidity of the current & rapids.

**Gass**
The morning was fine. In the middle of the day it was very warm in the valley, and at night very cold; so much so that two blankets were scarce a sufficient covering. On each side of the valley there is a high range of mountains, which run nearly parallel, with some spots of snow on their tops.

**Ordway**
a fine pleasant morning. The River is now Small crooked Shallow and rapid. The day warm.

**Whitehouse**
a fine pleasant morning. The river is now small crooked Shallow and rapid.

Saturday, August 3

**Weather Diary**

<table>
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<tr>
<th>Sunrise</th>
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<tr>
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<td>50a</td>
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<td>NE</td>
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</table>
**Daily Narrative Journals**

**Lewis**
...they passed a handsome little stream on Lard. which is form of several large springs which rise in the bottoms and along the base of the mountains with some little rivulets form the melting snow. In the evening they passed a very bad rappid where the bed of the river is formed entirely of solid rock and encamped on an island just above.

**Clark**
a fine morning, wind from the NE. The river more rapid and Sholey than yesterday. Passed a bold Stream which heads in the mountains to our right and the drean of the minting Snow in the Montn. on that side are in View— the Greater portion of the Snow on this mountain is melted...no wood being near the Snow.

**Gass**
A fine cool morning. The night was disagreeably cold.

**Ordway**
a clear morning. Passed verry rapid water. The mountains a Short distance South of us Some Spots of Snow on it. The day pleasant and warm. Passed a large Spring run which is made by the Snow on the Mountains and runs from the foot of the Mo. through a Smooth plain.

**Whitehouse**
a clear morning. The day proved pleasant & warm.

**Sunday, August 4**

**Weather Diary**

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Jefferson River</th>
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<tbody>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>48a</td>
<td>f</td>
<td>SW</td>
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</tbody>
</table>

**Daily Narrative Journals**

**Lewis**
passed a bould runing creek about 12 yard wide and the water could and remarkably clear. The middle fork...its water is much warmer than that of the rappid fork and somewhat turbid, from which I concluded that it had it’s source at a greater distance in the mountains and passed through an opener country than the other. [Forks of the Jefferson River]

**Clark**
a fine morning cool. Murcury at Sun rise 39 a. 0

**Gass**
a fine morning.

**Ordway**
a clear morning. The rapids continue. Some of the mountains near the River has
been burned by the natives some time ago. The pine timber killed. The cotton timber in some of the river bottoms killed and dry also.

Whitehouse

a clear cool morning. Some of the mountains on the South side of the River has had the Grass burned off from them & the Timber killed on them, some time ago.

Monday, August 5

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Jefferson River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>49a</td>
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<td>SE</td>
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</tbody>
</table>

3 This is the last entry in the Weather Diary for Missouri River rise and fall. No explanation is given as to why they stopped. They are located at the Big Hole River near present-day town of Twin Bridges. They had followed up that river a short distance before returning to the Jefferson River. Since the river was becoming so shallow and observation changes were so minimal, it could be assumed that they decided that the remarks were no longer necessary.

Daily Narrative Journals

Lewis
the mountains put in close on both sides and arose to great height, partially covered with snow.

Clark
a Cold Clear morning, the wind from the SE. The river Streight & much more rapid than yesterday. 4 oClock PM Murcury 49 ab 0

Ordway
a clear cool morning. passd. rapids as usual. the wind cold from the South. Passed over rapids covred with Slippery Small Stone and gravel. Passed over rapids worse than ever it is with difficulty & hard fatigue we git up them Some of which are allmost perpinticular 3 or 4 feet in a Short distance. About 7 oC. PM cloud up high wind it appears this little Stream is verry high, but has been high by the Snow melting off the Mountains. It is now falling a little.

Whitehouse
a clear cool morning. The wind blew cold from the South. At 1 PM clouded up. Wind high. We expect this little Stream is high from the Snow melting on the mountains. It appears it has lately been higher, but is now falling a little.

Tuesday, August 6

Weather Diary

Lewis & Clark Expedition Weather Journals, 1805, Page 160
### Sunrise

<table>
<thead>
<tr>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>4 PM</th>
<th>Weather</th>
<th>Wind</th>
<th>River</th>
</tr>
</thead>
<tbody>
<tr>
<td>52a</td>
<td>f</td>
<td>SW</td>
<td>71a</td>
<td>c</td>
<td>SW</td>
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</tbody>
</table>

### Daily Narrative Journals

**Lewis**

We believe that the NW or rapid fork is the dane (drain) of the melting snows of the mountains.

**Clark**

a Clear morning, Cool, wind from the SW. This evening Cool...a Violent wind from the NW accompanied with rain which lasted half an hour. Wind NW.

**Ordway**

a clear morning.

**Whitehouse**

a clear morning. After 4 oClock PM...and some time after we had a small Shower of rain.

---

### Wednesday, August 7

#### Weather Diary

Thunder shower last evening form the NW. The river which we are now ascending is so inconsiderable and the curant So much on a Stand that I relinquished paying further attention to it’s State.

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<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
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<tr>
<td>54a</td>
<td>c a r</td>
<td>SW</td>
</tr>
</tbody>
</table>

#### Daily Narrative Journals

**Lewis**

the morning being fair we spread our stores to dry at an early hour. We had a shower of rain which continued about 40 minutes attended with thunder and lightning. This shower wet me perfectly before I reached the camp. The clouds continued during the night in such manner that I was unable to obtain any lunar observations.

**Clark**

a fine morning. At 5 oClock a thunder Storm from the NW accompanied with rain which lasted about 40 minits—
Gass  We remained here during the forenoon, which was fair and clear. In the evening a heavy cloud came up, and we had hard thunder with lightening and rain. The weather cleared (early evening), and we had a fine night.

Ordway  a clear morning. The morning cool, but the day warm. We had Thunder Showers this afternoon, attended with high winds.

Whitehouse  a clear cool morning. This day was very warm & the party was much troubled with large horse flies— the rapids not So bad. We had Thunder Showers & high winds this afternoon.

Thursday, August 8

Weather Diary

a thunder Shower last evening.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>54a</td>
<td>f a r</td>
<td>SW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Lewis  We had a heavy dew this morning. The evening again proved cloudy much to my mortification and prevented my making any lunar observations. The Indian woman recognized the point of a high plain to our right...this hill she says here nation calls the beaver’s head from a conceived remblance of it’s figure to the head of that animal.

Clark  wind from the SW. The Thermometer at 52 a 0 at Sunrise.

Gass  a pleasant morning. The river is very crooked in this valley.

Ordway  a clear cold morning. A heavy diew. The prarie is covred with grass which is high in places. The day warm. On the River, which is verry crooked but not So rapid as below, and only 25 yards wide, and verrry crooked

Whitehouse  a clear cold morning. Saw a little Snow on the knobs & mountains which lay but a short distance from us. The day proved warm & pleasant.
Friday, August 9

**Weather Diary**

Encamped below the Forks Jeffersons River     Set out on a part of discovery

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<td>Temp</td>
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<td>58a</td>
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<td>NE</td>
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</tbody>
</table>

**Daily Narrative Journals**

**Lewis**

the morning was fair and fine. The current of the river increasing in rapidity towards evening. In the evening it clouded up and we experienced a slight rain attended with some thunder and lightning. The musquetoes very troublesome this evening.

**Clark**

a fine morning, wind from the NE. in the evening Clouded up and a few drops of rain

**Gass**

a fine morning with some dew. The river is narrow and very crooked

**Ordway**

a clear cool morning. The wind high from SE. Some Thunder. Saw Snow on the Mountains Some distance a head. Some showers passed over.

**Whitehouse**

a clear cool morning. The wind high from the SE. Some Thunder in the afternoon. Saw Snow on the Mountains Some distance a head. In the evening we had some Showers of rain accompanied with Thunder with passed round or over. We all expect that we are near the head Waters or source of the Mesouri River, as the River, here is growing much narrower that it was.

**Expedition passes present-day Dillon, MT.**

Saturday, August 10

**Weather Diary**

rain Commenced at 6 PM and continued Showery through out the night. Musqueters bad.
Sunrise                      4 PM                        River
Temp  Weather  Wind       Temp  Weather  Wind  Rise/Fall  Feet  Inches
60a   c a r f & l  SW    68a   t l & r  SW      -       -     -

Daily Narrative Journals

Lewis                        The mountains do not appear very high in any direction tho’ the tops of some of them are partially covered with snow. This convinces me that we have ascended to a great hight since we have entered the rocky Mountains, yet the ascent has been so gradual along the vallies that it was scarcely perceptable by land. I do not believe that the world can furnish an example of a river runing to the extent which the Missouri and Jefferson’s rivers do through such a mountainous country and at the same time so navigable as they are.

Clark                          Some rain this morning at Sun rise and Cloudy. At 4 oClock a hard rain from the SW accompanied with Hail Continued half an hour, all wet, the men Sheltered themselves from the hail with bushes. River narrow, & Shooley but not rapid.

Gass                           a fine morning. At 1 o’clock we halte d t dine, when a shower of rain came on with thunder and lightening, and continued an hour, during which some hail fell.

Ordway                        a clear pleasant morning. A hard Thunder Show arose of rain and large hail which lasted nearly an hour.

Whitehouse                    a clear pleasant morning. About 1 oClock...had a hard Thunder Shower of large hail and rain.

Tuesday, August 11

Weather Diary

heavy Dew last evening

Sunrise                      4 PM                        River
Temp  Weather  Wind       Temp  Weather  Wind  Rise/Fall  Feet  Inches
58a   c a r j  NE        70a   f   SW       -       -     -

Daily Narrative Journals

Lewis                         Discovered an Indian on horseback...he suddenly turned his horse about, gave him a
whip leaped the creek and disapeared....we now set out on the track of the horse...halted...cooked breakfast....before we had finised our meal, a heavy shower of rain came on with some hail which continued about 20 minutes and wet us to the skin, after this shower we pursued the track of the horse but as the rain had raised the grass which he had trodden down it was with difficult that we follow it.

Clark A Shower of rain this morning at Sun rise, Cloudy all the morning wind from the SW. the river shallow and rapid. Passed a large Island which I call the 3000 miles Island.

Gass This morning was cloudy and we did not set out untill after breakfast. About 2 some rain fell.

Ordway a wet rainy morning. The day warm. We Saw high Mountains a head some distance large Spots of Snow on them.

Whitehouse a cool cloudy morning & some Rain. They turned warm & large flies became very troublesome. We see mountains, lying a head of us some Short distance; which appear very high, and large spots of snow on them.

Lewis’ advanced party crosses the Continental Divide at Lemhi Pass, Montana-Idaho state line.

Monday, August 12

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<td>Temp</td>
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Daily Narrative Journals

Lewis two miles below McNeal had exultingly stood with a foot on each side of this little rivulet and thanked his god that he had lived to bestride the mighty & heretofore deemed endless Missouri. After refreshing ourselves we proceeded on to the top of the dividing ridge from which I discovered immence ranges of high mountains still to the West of us with their tops partially covered with snow. Here I first tasted the water of the great Columbia river.

Clark We Set out early (Wind NE). The weather Cool.
Gass
A few drops of rain fell to day.

Ordway
a clear morning. The current very rapid. Some of these rapids is deep and dangerous to pass up. We had a hard Thunder Shower rained some time.

Whitehouse
A clear morning. The current very rapid. About 2 oClock PM a hard Thunder Shower arose rained hard a Short time.

Tuesday, August 13

Weather Diary

very cold last night. Passed the dividing ridge to the waters of the Columbia river.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>52a</td>
<td>c a f</td>
<td>NW</td>
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</tbody>
</table>

Daily Narrative Journals

Lewis
[Meets the Shoshones] the sun was very warm and no water at hand. This was the first salmon I had seen and perfectly convinced me that we were on the waters of the Pacific Ocean.

Clark
a very Cool morning. The Thermometer Stood at 52 a 0. All the fore part of the day Cloudy. At 8 oClock a mist of rain

Gass
A cloudy morning. The weather was cold during the whole of this day.

Ordway
Cloudy. The current rapid. In the afternoon the current more gentle.

Whitehouse
Cloudy. The current of the river running very rapid

Wednesday, August 14

Weather Diary
Daily Narrative Journals

Lewis  
[Indian Chief describes route to Clearwater River, Lewis notes the following] the next part of the journey of the rout was about 10 days through a dry and parched sandy desert...the sun had now dryed up the little pools of water which exist through this desert plain in the spring season and had also scorched all the grass.

Clark  
a Cold morning, wind from the SW. Thermometer Stood at 51° a 0, at Sunrise the morning being cold and men Stiff. I deturmind to dealy & take brackfast...we set out at 7 oClock. River verry Crooked and rapid. Stream on the Stard. Side which head in a mountain to the North on which there is Snow.

Gass  
The morning was clear and cold.

Ordway  
a clear cold morning. The water is verry cold. The wind high from SW the current continued rapid all day.

Whitehouse  
a clear cold morning. Water in the river is clear and Cold.

Thursday, August 15

Weather Diary

remarkably cold this morning

Daily Narrative Journals

Lewis  
[on Horse Prairie Creek near present-day Grant, MT] the Cove is called Shoshone Cove. The grass being birned on the North side of the river we passed over...as I came up this cove.

Clark  
a Cool windey morning, wind from the SW.

Lewis & Clark Expedition Weather Journals, 1805,  Page 167
Gass  
a fine morning. The river meanders. The water is very cold and severe and disagreeable to the men, who are frequently obliged to wade and drag the canoes.

Ordway  
clear & cold this morning. We passed several bad rapids.

Whitehouse  
a cold clear morning. The river shallow.

Main Party establishes Camp Fortunate at present-day Clark Reservoir, MT.

Friday, August 16

Weather Diary

Capt Lewis Join with the Snake Indians at the forks.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<td>48a</td>
<td>f</td>
<td>SW</td>
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</tbody>
</table>

Daily Narrative Journals

Clark  
as this morning was cold and the men fatigued stiff and chilled...detained till 7 oClock. The Thmtr. Stood at 48° a 0 at Sunrise, wind SW. The water excessively cold.

Gass  
we proceed through rapid water, the river is very narrow, crooked and shallow.

Ordway  
a clear morning but very cold. The Thurmometer Stood at 47°. The water so cold that we delayed untill after we took breakfast. We find the current Swift the river Shallow. The water not so Swift above the bad rapid.

Whitehouse  
a clear but very cold morning. The thermometer stood at 47° the river water so cold that we delayed untill after breakfast

Saturday, August 17

Weather Diary

Lewis & Clark Expedition Weather Journals, 1805, Page 168
**Daily Narrative Journals**

**Lewis**

> the nights are very cold and the sun excessively hot in the day.

**Clark**

> a fair Cold morning, wind SW. The Thermometer at 42 a. 0 at Sunrise, set out at 7 oClock

**Gass**

> a fine morning. The water so shallow

**Ordway**

> a clear cold morning. We have been cold this Several nights under 2 blankets or Robes, over us. A little white frost. The air chilley & cold.

**Whitehouse**

> a clear cold morning. The weather was so cold last night, that our party had to lay under 2 buffalo robes each in order to keep themselves warm. Some frost this morning.

**Sunday, August 18**

**Weather Diary**

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<td>Temp</td>
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<td>45a</td>
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<td>SW</td>
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</table>

Clark takes at least twelve men in an advanced party to the Salmon River to view if it is navigatable and build canoes if it is between August 18, 1805 through August 29, 1805 when the return back up the Salmon and meet the main party near Tendoy, Idaho. It appears he copied the Weather Diary information when he returned from the scouting trip. But his daily narrative remarks as well as Sergeant Gass’ are separated from Lewis and the main group.

**Daily Narrative Journals**

**Lewis**

> [his birthday] ...resolved in future, to redouble my exertions and at least indeavour to promote those two primary objects of human existence, by giving them the aid of that portion of talents which nature and fortune have bestoed on me; or in future, to live for mankind, as I have heretofore lived for myself—
Ordway a clear morning. We had Showers of Rain this afternoon.
Whitehouse a clear morning. We had some Showers of rain this afternoon—

**Daily Narrative Journals - Clark Scouting Party**

Clark the fore part of the day worm, at 12 oClock it became hasey with a mist of rain, wind hard from the SW and Cold which increased untill night. The rain Seased in about two hours.

Gass a fine morning. At three o’clock this afternoon there was a violent gust of wind, and some rain fell. In about an hour the weather became clear, and very cold, and continued cold all night.

**Monday, August 19**

**Weather Diary**

ice on Standing water 1/8 of an inch thick.

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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**Daily Narrative Journals**

Lewis the frost which perfectly whitened the grass this morning had a singular appearance to me at this season.

Ordway a clear cold morning. A white frost & the grass Stiff with frost it being disagreeably cold. The day pleasant & warm. Light showers of rain this evening.

Whitehouse a cold morning. A white frost this morning. A clear pleasant day. We had a shower of rain about 3 oClock PM which lasted but a few minutes.

**Daily Narrative Journals - Clark Scouting Party**

Clark A verry Cold morning, Frost to be seen

Gass A fine morning, but cold. At 1 o’clock we dined at the head spring of the Missouri and Jefferson river. About 5 miles south of us we saw snow on top of a mountain, and in the morning there was a severe white frost, but the sun shines very warm
where we now are. It is not more than a mile from the head spring of the Missouri to the head of one of the branches of the Columbia.

**Tuesday, August 20**

**Weather Diary**

hard frost last night.

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>32a</td>
<td>f a r ⁶</td>
<td>SW</td>
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</tbody>
</table>

Clark’s Journal Codex C list this weather data as “f.”

**Daily Narrative Journals**

**Ordway**

a clear cold morning.

**Whitehouse**

a clear cold morning. A white frost.

**Daily Narrative Journals - Clark Scouting Party**

**Clark**

Frost last night

**Gass**

A fine cool frosty morning.

**Wednesday, August 21**

**Weather Diary**

ice ½ an inch thick on standing water. Most astonishing difference between the hight of the Mercury at Sunrise and at 4 PM today there was 59° and this in the Space of 8 hours, yet we experience this wonderfull transition without feeling it near so Sensibly as I should have expected.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<td>Weather</td>
<td>Wind</td>
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<tr>
<td>19a</td>
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<td>SE</td>
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</table>
**Daily Narrative Journals**

**Lewis**
This morning was very cold. The ice 1/4 of an inch thick on the water which stood in the vessels exposed to the air. Some wet deerskins that had been spread on the grass last evening are stiffly frozen. The ink feizes in my pen. The bottoms are perfectly covered with frost, insomuch that they appear to be covered with snow. notwithstanding the coldness of the last night the day has proved excessively warm.

**Ordway**
the ground is covered with a hard white frost. The water which stood in the Small vessels froze 1/4 of an Inch thick, a little. Some Deer Skins which was spread out we last night are froze Stiff this morning. The Ink freezes in my pen now the Sun just arising clear and pleasant this morning

**Whitehouse**
We had a hard white frost this morning. The water that stood in small Vessells froze, and some Deer Skins which was spread out wet last night, froze Stiff this morning, & the Ink froze in the pen at Sun rise; the morning was clear & got pleasant. At 8 oClock AM some of the party found Ice in some standing water 1/4 of an inch thick

**Daily Narrative Journals - Clark Scouting Party**

**Clark**
Frost last night. I shall in justice to Capt. Lewis who was the first white man ever on this fork of the Columbia Call this Louis’s river [Salmon River]. The Westerley fork of the Columbia River is double the Size of the Easterley fork & below those forks the river is about the Size Jeffersons River near its mouth or 100 yards wide, it is verry rapid & clear

**Gass**
at this place the river is about 70 yard wide (Salmon River near Carmen, ID)

**Thursday, August 22**

**Weather Diary**

Snow yet appears on the summits of the mountains.

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<tr>
<th>Sunrise</th>
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<td>Weather</td>
<td>Wind</td>
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<td>22a</td>
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</table>

**Daily Narrative Journals**

**Ordway**
a white frost and cold as usal.
Whitehouse  a white frost & cold as usual in the morning. The morning clear and got pleasant.

Daily Narrative Journals - Clark Scouting Party

Clark  mountains verry Steap high & rockey, the asent of three was So Steap that it is incrediable to describe the rocks in maney places.

Gass  The morning was fine, with a great white frost. We proceeded down the river; but with a great deal of difficultly; the mountains being so close, steep and rocky. The river here is about 80 yards wide, and a continual rapid but not deep (Salmon River above Shoup, Idaho)

Friday, August 23

Weather Diary

white frost this morning

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<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<td>Wind</td>
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</table>

Daily Narrative Journals

Lewis  the season is now far advanced to remain in these mountains as the Indians inform us we shall shortly have snow; the salmon have so far declined that they are themselves hastening from the country. The bends of the river are short and the currant beats from side to side against the rocks with great violence. The river is about 100 yds. wide and so deep that it cannot be foar ded but in a few places. The sides of the mountains are very steep, and the torrents of water which roll down their sides at certain seasons appear to carry with them vast quantities of the loose stone into the river. This view was terminated by one of the most lofty mountains, Capt. C. informed me, he had ever seen which was perfectly covered with snow.

Ordway  a clear pleasant morning.

Whitehouse  a clear pleasant morning.

Daily Narrative Journals - Clark Scouting Party

Clark  [Salmon River] Current So Strong that is dangerous crossing the river. 100 yards wide. The mountains Cloe and is perpendicular Clift on each Side, and Continues
for a great distance and that the water runs with great violence from one rock to the other on each side foaming & roreing thro rocks in every direction, So as to render the passage of any thing impossible. The Hills or mountains were not like those I had Seen but like the Side of a tree Streight up— The Torrents of water which came down after a rain carries with it emence numbers of those Stone into the river.

Gass  
We proceeded down the river through dreadful narrows, where the rocks were in some places breast high, and no path or trial of any kind.

Saturday, August 24

Weather Diary

Set out with the Indians and pack horses for the Columbia river

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>40a</td>
<td>f</td>
<td>SE</td>
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</tbody>
</table>

Daily Narrative Journals

Lewis  
I had now the inexpressible satisfaction to find myself once more under way with all my baggage and party. after we encamped we had a slight shower of rain.

Ordway  
a clear cold morning. We had a Small Shower of rain

Whitehouse  
a clear cold morning.

Daily Narrative Journals - Clark Scouting Party

Clark  
marked my name on a pine Tree. Every man appeared disheartened from the prospects of the river.

Gass  
had a pleasant morning. The river at this place is so confined by the mountains that it is not more than 20 yard wide and very rapid. The water is so rapid and the bed of the river so rocky, that going by water appeared impracticable; and the mountains so amazingly high, steep and rocky, that it seemed impossible to go along the river by land.
Sunday, August 25

Weather Diary

white frost this morning,

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
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<th>Wind</th>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Rise/Fall</th>
<th>Feet</th>
<th>Inches</th>
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</thead>
<tbody>
<tr>
<td>32a</td>
<td>65a</td>
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</tbody>
</table>

Daily Narrative Journals

Lewis

This morning while passing through the Shone cove Frazier fired his musquet at some ducks in a little pond at the distance of about 60 yards from me; the ball rebounded from the water and passed within a very few feet of me. This part of the cove on the NE side of the Creek has lately been burned by the Indians as a signal on some occasion.

Ordway

a clear morning. Some frost.

Whitehouse

a clear morning a little light frost last night.

Daily Narrative Journals - Clark Scouting Party

Clark

Mountain to our right...Pine timber which is thick on that side

Gass

a fine morning.

Main party crosses the continental divide at Lemhi Pass, Montana-Idaho state line and proceeds down the Lemhi and Salmon Rivers and then starts up the north fork of the Salmon River.

Monday, August 26

Weather Diary

hard white frost and some ice on standing water this morning arrived with baggage and party on the Columbia river at 5 PM
<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
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<tr>
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<td>Wind</td>
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<tr>
<td>31a</td>
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<td>SE</td>
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</tbody>
</table>

**Daily Narrative Journals**

**Lewis**
This morning was excessively cold; there was ice on the vessels of water which stood exposed to the air nearly a quarter of an inch thick. We soon arrived at the extreme source of the Missouri; here I halted a few minutes, the men drank of the water and consoled themselves with the idea of having at length arrived at this long wished for point. From hence we proceeded to a fine spring on the side of the mountain [west side]...here I halted to dine and graize our horses, there being fine green grass on that part of the hillside which was moistened by the water of the spring while the grass on the other parts was perfectly dry and parched with the sun. [Lewis ponders Indian women birthing process] — if a pure and dry air, an elevated and cold country is unfavourable to childbirth, we might expect every difficult incident to that operation of nature in this part of the continent. — The tops of the high and irregular mountains which present themselves to our view on the opposite side of this branch of the Columbia are yet perfectly covered with snow; the air which proceeds from those mountains has an agreeable coolness and renders these parched and South hillsides much more supportable at this time of the day it being now about noon.

**Ordway**
a clear cold morning. The water in the Small vessels froze. We Set out at Sunrise and proceeded on with out big coats on and our fingers ackd with the Cold. Saw considerable of Snow on the mountain near us which appear but little higher than we are. It lies in heaps and a cold breeze always comes from these mountains.

**Whitehouse**
a clear morning, we find it verry cold and a heavy frost every morning. The water froze a little in the Small Vessells. Crossed a high ridge between the Mesourii and Calumbian River. Saw high mountains to the SW with Some Spots of Snow on them.

**Daily Narrative Journals - Clark Scouting Party**

**Clark**
a fine morning.

**Gass**
a pleasant morning.
Tuesday, August 27

Weather Diary

hard frost white this morning. on the Columbian waters (Clark).

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<th>Sunrise</th>
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<td>Weather</td>
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<td>32a</td>
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<td>SE</td>
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</tbody>
</table>

Daily Narrative Journals

Ordway a beautiful pleasant morning. Snow now lying a Short distance to the South of us on the broken mountains.

Whitehouse a beautiful pleasant morning.

Daily Narrative Journals - Clark Scouting Party

Clark Some frost this morning.

Gass A fine morning with frost

Wednesday, August 28

Weather Diary

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<th>Sunrise</th>
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<td>Temp</td>
<td>Weather</td>
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<tr>
<td>35a</td>
<td>f</td>
<td>SW</td>
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</tbody>
</table>

Daily Narrative Journals

Ordway a clear pleasant morning.

Whitehouse a clear pleasant morning. Some Spots of Snow continues to lay on the mountains a few miles to the South of us.
Daily Narrative Journals - Clark Scouting Party

Clark  a frost this morning.

Gass  The morning again was pleasant.  I found the weather very cold for the season.

Thursday, August 29

Weather Diary

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<th>Sunrise</th>
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<td>32a</td>
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<td>SW</td>
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</tbody>
</table>

Daily Narrative Journals

Ordway  a clear pleasant morning.  They find that the mountains are So bad that we cannot follow the river by land and the river So rapid and full of rocks that it is impossible for crafts to pass down.

Whitehouse  a clear pleasant morning.

Daily Narrative Journals - Clark Scouting Party

Clark  a Cold morning Some frost.  The Wind from the South.

Gass  There was a severe white frost this morning.

Friday, August 30

Weather Diary

Set out with the party by land at 2 PM.

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
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<td>Temp</td>
<td>Weather</td>
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<td>34a</td>
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</table>
Daily Narrative Journals

Clark       a fine Morning.
Ordway      a fine morning.
Whitehouse  a clear pleasant morning.

Saturday, August 31

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<tr>
<td>58a</td>
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</table>

Daily Narrative Journals

Clark       A fine morning. The wind hard from the SW. This day warm and Sultrey. Praries or open Valies on fire in Several places—The Countrey is Set on fire for the purpose of Collecting the different bands
Ordway      a fare morning. The River bottoms narrow and verry much dried up.
Whitehouse  a fine morning
September 1805
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

The Expedition starts towards the Lost Trail Pass along the North Fork of the Salmon River near a future mining called named Gibbonsville, Idaho.

Sunday, September 1

Weather Diary

Service berries dried on the bushes abundant and very fine. black colour.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>Weather</th>
<th>Wind</th>
<th>4 PM</th>
<th>Weather</th>
<th>Wind</th>
<th>River</th>
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<td>NW</td>
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<td>67a</td>
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</table>


2 There is no record of river rise or fall during this month.

Daily Narrative Journals

Clark a fine morning. Some rain to day at 12 and in the evening which obliges us to Continu all night.

Gass a fine morning. At noon some rain fell, and the day continued cloudy. At 3 o’clock....we halted the weather became cloudy, and considerable quantity of rain fell.

Ordway Cloudy. In the afternoon we had Several Shower of rain and a little hail. Several Small Showers of rain this evening—

Whitehouse a fine clear morning. We stopped and camped about 3 hours before night on account of its raining. We passed across several large Creeks, the water of which was very Cold. During this afternoon we had several small Showers of rain—
Monday, September 2

**Weather Diary**

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<th>Sunrise</th>
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<td>Weather</td>
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<td>36a</td>
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</tbody>
</table>

**Daily Narrative Journals**

Clark  a Cloudy Morning, rained Some last night. Camped. Some rain at night

Gass  The morning was cloudy. In the afternoon we had a good deal of rain, and the worst road (if road it can be called) that was ever travelled.

Ordway  a cloudy wet morning. This is a verry lonesome place.

Whitehouse  a wet cloudy morning.

Expedition crosses over the Lost Trail Pass, Idaho-Montana state line.

Tuesday, September 3

**Weather Diary**

Choke Cherries ripe and abundant.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<td>Temp</td>
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<td>34a</td>
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<td>NE</td>
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</tbody>
</table>

3 The Daily Narrative Journals note that the Expedition’s last thermometer was broken during an accident this day as they proceeded up the Lost Trail pass. However, the Weather Diary does not record this until September 6, 1805 in the remarks section which appears to be after the fact. Temperature observations are noted for two additional days in the Weather Diary, but the readings may be suspect. No further temperature observations are recorded for the rest of the journey.

**Daily Narrative Journals**

Clark  a Cloudy morning. we assended after crossing Several Steep points & one
mountain, but little to eat at dusk it began to snow, at 3 oClock some rain. The last mountains we had passed to the East covered with snow. We met with a great misfortune, in having our last thermometer broken by accident. This day we passed over immense hills and some of the worst roads that ever horses passed, our horses frequently fell. Snow about 2 inches deep when it began to rain which terminated in a sleet.

**Gass**

The morning of this day was cloudy and cool. We halted for dinner,...we staid here about two hours, during which time some rain fell, and the weather was extremely cold for the season. This was not the creek our guide wished to have come upon; and to add to our misfortunes we had a cold evening with rain.

**Ordway**

Several small showers of rain. So we lay down wet, hungry and cold.

**Whitehouse**

We had a cloudy morning & set out as usual. We crossed a dividing ridge [Lost Trail Pass]. At dark it began to rain hard, We lay down to sleep being wet, hungry & cold. Saw snow on the tops of some of these mountains this day.

**Wednesday, September 4**

**Weather Diary**

ice one inch thick.

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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</table>

**Daily Narrative Journals**

**Clark**

a very cold morning every thing wet and frosted, we detained until 8 oClock to thaw the covering for the baggage &c &c. Ground covered with snow. I was the first white man who ever were on the water of this river [The Bitterroot River]

**Gass**

A considerable quantity of snow fell last night, and the morning was cloudy.

**Ordway**

the morning clear, but very cold. The ground covered with frost. Our moccasins froze. The mountains covered with snow. The snow over our moccasins in places. The air on the mountains very chilly and cold. Our fingers ached with the cold.

**Whitehouse**

the morning clear but very cold. Our moccasins froze hard. The mountains covered with snow. The snow lay on the mountain So that it stuck to our moccasins. The air very cold our fingers ached with the cold.
Thursday, September 5

**Weather Diary**

Ground Covered with Snow.

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<tr>
<td>Temp</td>
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<td>Wind</td>
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<td>17a</td>
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<td>NE</td>
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</table>

**Daily Narrative Journals**

Clark     a Cloudy morning
Gass      This was a fine morning with a great white frost.
Ordway    a clear cold morning. The Standing water froze a little. A hard white frost this morning.
Whitehouse a clear cold morning. The Standing water we had in our small Vessells froze a little last night.

Friday, September 6

**Weather Diary**

Thermometer broke by the Box strikeing against a tree in the Rocky Mountains

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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</table>

**Daily Narrative Journals**

Clark     Some little rain. Rained contd. untill 12 oClock. rained this evening
Gass      A cloudy morning. About 12 o’clock some rain fell
Ordway    a clear cold morning. Light Sprinkling of rain, through the course of this day—
**Whitehouse**  a clear cold morning.  Light Sprinklings of rain through the course of the day.

**Saturday, September 7**

### Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<td><strong>Temp</strong></td>
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</table>

### Daily Narrative Journals

**Clark**  A Cloudy & rainie Day.  The Vallie from 1 to 3 miles wide the Snow top mountains to our left, open hilley Countrey on the right.

**Gass**  We set out early in a cloudy cool morning.  12 o’clock...some rain fell.  Some rain fell in the afternoon

**Ordway**  a cloudy cold morning.  High mountains a little to the Lard. Side which is covred thick with Snow.  We had Several Showers of rain.

**Whitehouse**  a cloudy cold morning.  The high mountains...Several Small Showers of rain in the course of the day.

**Sunday, September 8**

### Weather Diary

Mountains Covered with Snow to the SW a singular kind of Prickly Pears.

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<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
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<td><strong>Temp</strong></td>
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### Daily Narrative Journals

**Clark**  a Cloudy morning.  The wind from the NW & Cold.  The foot of the Snow mountains approach the River on the left Side.  Some Snow on the mountain to the
right also. A hard rain all the evening we are all Cold and wet.

Gass The morning was wet had a cold, wet disagreeable afternoon

Ordway cloudy and cold. Saw Snow on the mount to our left. High barron hills to our right. The wind cold from the NW & Showers of rain, and a little hail. The mountains are rough on each side and are covred with pin and on the tops of which are covred with Snow.

Whitehouse cloudy and verry chilley and cold. Saw Snow on the Mountains to our left. The wind from NW & the Air chilley and cold. The Snow lays thick on the mountains a little to our left....the tops of which are covered with Snow and at places appear to lay thick.

Party arrives at Travelers Rest, near present-day Lolo, MT.

Monday, September 9

Weather Diary

arrived at travelers rest Creek

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<th>Sunrise</th>
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Daily Narrative Journals

Lewis as our guide informes that we should leave the river at this place and the weather appearing settled and fair I determined to halt the next day rest our horses and take some scelestial Observations. We called this Creek Travellers rest.

Clark a fair morning. Day fair, wind NW. The foot of the Snow toped mountains approach near the river.

Gass The morning was fair, but cool. The nigh snow-topped mountains are still in view on our left. The Flathead River (Bitterroot River) is 100 yards wide.

Ordway Cloudy. The Snow continues on the Mont. each side of this valley.

Whitehouse a cloudy cold morning, wind blew from the NW. The Snow continues on the Mountains on both sides of the valley. The afternoon pleasant, but the Snow Still continues on the Mountains as usul.
Tuesday, September 10

Weather Diary

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<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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</table>

Daily Narrative Journals

Lewis  
The morning being fair I sent out all the hunters

Clark  
a fair morning. The day proved fair

Gass  
We remained here all this day, which was clear and pleasant.

Ordway  
a fair morning. The day warm.

Whitehouse  
a clear pleasant morning, and the weather moderate, not So cold as usual. As our road [next] leads over a mountain to our left, our Captains conclude to Stay here this day to take observations, and for the hunters to kill meat to last us across the mountains and for our horses to rest, etc....the day continued to grow warm, but the Snow does not melt on the mt. a Short distance from us...The snow on the Mountains have the appearance of the Middle of winter.

Expedition starts over the Bitterroot Mountains on the Lolo Trail from September 11 until the 22.

Wednesday, September 11

Weather Diary

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<th>Sunrise</th>
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</table>

Lewis & Clark Expedition Weather Journals, 1805, Page 186
Daily Narrative Journals

Clark a fair morning, wind from the NW. nothing killed this evening hills on the right high & rugged, the mountains on the left high & Covered with Snow. The day Verry worm.

Gass This was a fine morning.

Ordway a clear pleasant morning.

Whitehouse a beautiful pleasant morning. The snow on the mountains about 1 miles to the SW of us does not melt but verry little.

Thursday, September 12

Weather Diary

Mounts to our left Covered with Snow

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<th>Sunrise</th>
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</table>

Daily Narrative Journals

Clark a white frost, Set out at 7 oClock. Creek of fine clear water. The road through this hilley Countrey is verry bad passing over hills & thro’ Steep hollows, over falling timber &c &c.

Gass a fine morning.

Ordway a fair morning.

Whitehouse a white frost, and clear pleasant morning. Saw high Mountains to the South of us covred with Snow, which appears to lay their all the year round.

Party passes across the Lolo Pass, Montana-Idaho state line.
Friday, September 13

Weather Diary

a hot Spring

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  a cloudy morning. The after part of the day Cloudy. Passed Several Springs [Lolo Hot Springs]. I tasted this water and found it hot & not bad tasted. I found this water nearly boiling hot at the places it Spouted from rocks. I put my finger in the water, at first could not bare it in a Second— Those springs come out in maney places. Some mountains in view to the SE & SW Coverd with Snow.

Gass  A cloudy morning. We came to a most beautiful warm spring, the water of which is considerably above blood-heat; and I could not bear my hand in it without uneasiness. (At Lolo Hot Springs, Montana)

Ordway  cloudy.

Whitehouse  Cloudy weather. The day proved very pleasant.

Saturday, September 14

Weather Diary

killed and eat a colt, Snowed rained & hailed to day.

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<th>Sunrise</th>
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⁴ Lewis’ Journal Codex P & Clark’s Codex I lists this weather data as “c a r.”

Daily Narrative Journals

Clark  a Cloudy day in the Valies it rained and hailed, on the top of the mountains Some
Snow fell. Rained, Snowed & hailed the greater part of the day all wet and Cold. Crossed a very high Steep mountain for 9 miles to a large fork from the left which appears to head in the Snow toped mountains Southerly and SE. Camped. The rain

Gass We set out early in a cloudy morning. I saw service-berry bushes hanging full of fruit; but not yet ripe, owing to the coldness of the climate on these mountains. Encamped for the night, as it rained and was disagreeable travelling.

Ordway a little Thunder hail and rain. Saw high Mountains covred with Snow and timber—

Whitehouse A cloudy morning. We had towards evening Several light small Showers of rain and a little hail. Several severe claps of Thunder. Saw high mountains. A little to the South of us, which are covred with Snow.

Sunday, September 15

Weather Diary

no water we are obliged to Substitute the coald Snow to boil our Colt.

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<td>SW</td>
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</tbody>
</table>

⁵ Lewis’ Journal Codex P & Clark’s Codex I lists this weather data as “c a s.”

Daily Narrative Journals

Clark ....here the road leaves the river to the left and assends a mountain winding in every direction to get up the Steep assents & to pass the emence quantity of falling timber which had [been] falling from diff. Causes I e fire & wind and has deprived the greater part of the Southerly Sides of this mountain of its green timber. Several horses slip...my portable desk broken...Some others verry much hurt, from this point I observed a range of high mountains Covered with Snow from SE to SW with Their top bald or void of timber. We could find no water and Concluded to Camp and make use of the Snow e found on the top to cook the remns. Of our Colt & make our Supe. evening verry Cold and Cloudy. From this mountain I could observe high rugged mountains in every direction as far as I could see. Encamped on the top of the mountain near a Bank of old Snow about 3 feet deep lying on the Northern side of the mountain. We melted the Snow to drink

Gass Encamped on a high mountain...there was no water, but a bank of snow answered as a substitute.
Ordway

cloudy. We found Some Spots of Snow so we camped on the top of the Mountain and melted Some Snow. This Snow appears to lay all year on this Mount.

Whitehouse

This morning we had Cold weather & cloudy. We followed on the ridge of the Mountain & went over several high knobs on it, where the Wind had blown down most of the timber on them. On top of the mountain...some Spots of Snow. We encamped on a top ridge of the Mountain, where we found plenty of Snow, which appear to have lain here all year.

Monday, September 16

Weather Diary

Snow commenced about 4 oClock AM and continued untill night. It is about 7 inches deep. Ice one inch thick. The Snow fell on the old Snow 4 inches deep last night.

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<thead>
<tr>
<th>Sunrise</th>
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</table>

Daily Narrative Journals

Clark

began to Snow about 3 hours before Day and continued all day. The Snow in the morning 4 inches deep on the old Snow, and by night we found it from 6 to 8 inches deep. I walked in front to keep the road and found great difficulety in keeping maney places the Snow had entirely filled up the track and obliged me to hunt Several minits for the track. As 12 oClock we halted on the top of the mountain to worm & dry our Selves. The pine, which are So covered with Snow, that is passing thro them we are continually covered with Snow, I have been wet and as cold in every part as I ever was in my life; indeed I was at one time fearfull my feet would freeze in the thin Mockirsons which I wore. Men all wet cold and hungary. To describe the road of this day would be a repetition of yesterday expt the Snow which made it much wors to proseed as we had in maney places to derect our Selves by the appearence of the rubbings of the Packs against the trees which have limbs quiet low and bending downwards

Gass

Last night about 12 o’clock it began to snow. We renewed our march early, though the morning was very disagreeable, and proceed over the most terrible mountains I ever beheld. It continued snowing untill 3’oclock PM. The snow fell so thick, and the day was so dark, that a person could not see to a distance of 200 yards. In the night and during the day the snow fell about 10 inches deep.

Ordway

when we a woke this morning to our great Surpize we were covred with Snow, which had fell about 2 Inches deep the later part of last night, & continues a cold Snowey
morning. Could Scarcely keep the old trail for the Snow. About one oClock finding no water we halted and melted Some snow and eat or drank a little more soup. Saw considerable of old snow The Snow is now about 4 inches deep on a levl. The clouds So low on the Mount that we could not See any distance no way. It appeared as if we have been in the clouds all this day.

**Whitehouse**

When we awoke this morning to our great Surprize we were covred with Snow, which had fallen about 2 Inches the latter part of last night, & [it] continues a verry cold Snow Storm. Could hardly See the old trail for the Snow. The Snow fell so fast that it is now in common 5 or 6 Inches deep & where old Snow remained it was considerably deeper. We mended up our mockasons. Some of the men without Socks, wrapped rags on their feet, and loaded up our horses and Set out without anything to eat, and proceeded on. It has quit Snowing this evening, but continues very chilley and cold.

**Tuesday, September 17**

**Weather Diary**

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<th>Sunrise</th>
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</table>

**Daily Narrative Journals**

**Clark**

Cloudy morning. One oClock PM at which time we Set out the falling Snow & snow falling from the trees which kept us wet all the after noon. Snow on the Knobs, no Snow in the vallies. The after part of the day fare. Road emencely bad as usial, no Snow in the hollers all the high knobs of the mounts Covered.

**Gass**

It was a fine day with warm sunshine, which melted the snow very fast on the south sides of the hills, and made the travelling very fatiguing and uncomfortable. We continued over high desert mountains.

**Ordway**

Cloudy and cold. The afternoon clear and pleasant & warm. The Snow melted fast.

**Whitehouse**

cloudy and cold. Set out about Noon, the Snow lay heavy on the timber. In the afternoon the weather cleared away & then it became clear & warm. The snow melted so that the water Stood in the trail over our mockasons in Some places & in some places it was very Slippy

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*Lewis & Clark Expedition Weather Journals, 1805, Page 191*
Wednesday, September 18

**Weather Diary**

hard black frost this morning

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<th>Sunrise</th>
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</table>

**Daily Narrative Journals**

**Lewis**

used the snow for cooking—

**Clark**

The want of provisions together with the dificuely of passing those emence mountains damped the Spirits of the party which induced us to resort to Some plan of reviving ther Sperits. A fair morning, cold. From the top of a high part of the mountain at 20 miles I had a view of an emence Plain and leavel Countrey to the SW & West at a great distance [on top of Sherman Peak looking at prairies towards Grangeville & Lewiston ID]

**Gass**

This was a clear cold frosty morning. About 12 we passed a part where the snow was off, and no appearance that much had lately fallen. At 3 we came to snow again, and halted to take some soup, which we made with snow water, as no other could be found. We see now prospect of getting off these desert mountains yet, except the appearance of a deep cove on each side of the ridge we are passing along.

**Ordway**

a clear pleasant morning.

**Whitehouse**

a clear pleasant morning. Melt a little Snow as we found not water to make a little Port. Soup. The weather moderated, & the snow melted a little. The Mountains appear a head of us as far as we can see & continue much further than we expected—

Thursday, September 19

**Weather Diary**

rose raspberry ripe and abundant. Snow is about 4 Inches deep.

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<th>Sunrise</th>
<th>4 PM</th>
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</table>

Lewis & Clark Expedition Weather Journals, 1805, Page 192
**Daily Narrative Journals**

**Lewis**
this plain appeared to be about 60 miles distant.

**Clark**
passed...two high mountains, ridges and through much falling timber. As we decedn the mountain the heat becomes more prosetable every mile.

**Gass**
last night was disagreeably cold. About 8 this morning...the sun shining warm and pleasant. The snow is chiefly gone except on the north points of the high mountains.

**Ordway**
a clear morning.

**Whitehouse**
a clear pleasant morning. The ground was covered with Snow & froze.

**Friday, September 20**

**Weather Diary**

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<tr>
<th>Sunrise</th>
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**Daily Narrative Journals**

**Lewis**
our road was much obstructed by fallen timber particularly in the evening. Saw the hucklebury.

**Gass**
day was fine

**Ordway**
a cold frosty morning

**Whitehouse**
a cold frosty morning.

**Saturday, September 21**

**Weather Diary**

I arrive at the Flat head Camp of 200 lodges in a Small prarie
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<th>Sunrise</th>
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**Daily Narrative Journals**

**Clark**

A fine morning. The day proved warm. The weather very warm after descending into the low Countrey—

**Gass**

The morning was pleasant

**Ordway**

A clear pleasant morning.

**Whitehouse**

A clear pleasant morning. On some of the ridges the timber has been killed by fire and fell across the trail so that we had some difficulty to get along the trail.

**Expedition leaves the Bitterroot Mountains down onto the Weippe Prairie, ID.**

**Sunday, September 22**

**Weather Diary**

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<tr>
<th>Sunrise</th>
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</table>

**Daily Narrative Journals**

**Clark**

A fine morning. A very warm day. Some few drops of rain this evening.

**Gass**

This was a fine warm day. In the evening arrived in a fine large valley

**Ordway**

A clear pleasant morning. And white frost.

**Whitehouse**

A clear pleasant morning. A white frost.
Monday, September 23

Weather Diary

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<tr>
<th>Sunrise</th>
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</table>

Daily Narrative Journals

Clark       Hot day. At dark a hard wind from the SW accompanied with rain which lasted half an hour.

Gass       The morning was warm and pleasant. About dark a shower of rain fell.

Ordway    a fair morning. Had a Thunder Shower this evening.

Whitehouse a clear pleasant morning. We had a Shower of rain attended with Thunder this evening.

Tuesday, September 24

Weather Diary

a thunder cloud last evening.

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<tr>
<th>Sunrise</th>
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</table>

  6 Lewis’ Journal Codex P lists this weather data as “f.”
  7 Lewis’ Journal Codex P & Clark’s Codex I lists this weather data as “f.”

Daily Narrative Journals

Clark       a fine morning. Hot day.

Gass       The morning was fine. In the evening we arrived at the camp of our hunters on a river about 100 yards broad, a branch of the Columbia River (Clearwater River).
Ordway  a clear morning.  We Set out and proceeded on the day warm.  Towards evening we came down on a fork of Columbia River. (Clearwater)

Whitehouse  a clear pleasant morning.  The day warm.

Wednesday, September 25

Weather Diary

I proceed to the forks  worm day

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<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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Daily Narrative Journals

Clark  a verry hot day.  Calculated to build Canoes, as we had previously deturmined to proceed on by water.

Gass  A fine, pleasant warm morning.  The climate here is warm; and the heat to day was as great as we had experienced at any time during the summer.  The water also is soft and warm, and perhaps causes our indisposition more than any thing else.

Ordway  a fair morning.  This river is about 60 yards wide.

Whitehouse  a fine morning.  The fork of the Columbia we are now one is about 60 yards wide, and generally very deep.

Expedition stops to build canoes for their journey to the Pacific Ocean and establishes Canoe Camp, near Orofino, ID.

Thursday, September 26

Weather Diary

Form a Camp at the forks
Sunrise | 4 PM | River
--- | --- | ---
 Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
--- | --- | --- | --- | --- | --- | --- | --- | ---
- | f | E | - | f | SW | - | - | -

**Daily Narrative Journals**

**Clark**  this day proved very hot.

**Gass**  The morning was fine.

**Ordway**  a clear pleasant morning. Several of the party sick with a relax by a sudden change of diet and water as well as the change of climate also.

**Whitehouse**  clear and pleasant morning. Several of the men sick with the relax, caused by a sudden change of diet and water as well as the climate changed a little also.

Friday, September 27

**Weather Diary**

day very warm

Sunrise | 4 PM | River
--- | --- | ---
 Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
--- | --- | --- | --- | --- | --- | --- | --- | ---
- | f | E | - | f | SW | - | - | -

**Daily Narrative Journals**

**Clark**  the day very hot.

**Gass**  A fine warm morning. The river below the fork is about 200 yards wide, the water is clear as crystal, from 2 to 5 feet deep, and abounding with salmon of an excellent quality.

**Ordway**  a fair morning.

**Whitehouse**  a fine fair pleasant morning.
Saturday, September 28

Weather Diary

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<th>Sunrise</th>
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</table>

Daily Narrative Journals

Clark this day proved verry worm and Sulterry

Gass We had a pleasant morning

Ordway a clear morning.

Whitehouse This morning we had clear fine pleasant weather.

Sunday, September 29

Weather Diary

3/4 of the party Sick. Day very hot

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<tr>
<th>Sunrise</th>
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Daily Narrative Journals

Clark a Cool morning, wind from the SW. The after part of the day worm.

Gass A fine day

Ordway a fair morning.

Whitehouse A fair and pleasant morning.
Monday, September 30

**Weather Diary**

Great numbers of Small Ducks pass down the river.  hot day

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<th>Sunrise</th>
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**Daily Narrative Journals**

Clark a fine morning.  Cool

Gass The weather continued pleasant.

Ordway a fair morning.

Whitehouse Fair and pleasant weather this morning.
October 1805
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

The Expedition is at Canoe Camp on the Clearwater near present-day Orofino, Idaho.

Tuesday, October 1

Weather Diary 1, 2

*Note* from the 1st to 7th of octo. we were at the month of the Chopunnuish river makeing Canoes to Decend the Kooskooske.

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<th>Sunrise 3</th>
<th>4 PM</th>
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2 Lewis kept no weather data for this month. Clark wrote a combined table for October, November and December of 1805.

3 Although not stated, when looking through the daily journal entries, it looks like the weather record entered into the table above was conducted generally in the morning.

4 No river observations were made during the month of October.

Daily Narrative Journals

Clark a cool morning, wind from the NE and East. Worm evening

Gass This was a fine pleasant warm day.

Ordway a clear pleasant morning.

Whitehouse a fair fine clear morning.
Wednesday, October 2

Weather Diary

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  day excessively hot in the river bottom, wind North

Ordway a fair morning.

Whitehouse a fair and pleasant morning.

Thursday, October 3

Weather Diary

The easterly winds which blow immediately off the mountains are very cool until 10 a.m. when the day becomes very warm and the winds shift about

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  a fair cool morning, wind from the East.

Ordway a clear morning.

Whitehouse a fair and very pleasant morning.
Friday, October 4

Weather Diary

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  This morning is a little cool, wind from off the Eastern mountains. The after part of this day very warm.

Gass   a white frost, afterwards a fine day.

Ordway a fair morning.

Whitehouse a fair morning.

---

Saturday, October 5

Weather Diary

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Daily Narrative Journals

Clark  a cool morning, wind East for a short time, wind is always a Cool wind

Ordway a clear cool morning. A little white frost.

Whitehouse a fair clear cool frosty morning.
Sunday, October 6

Weather Diary

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  a cool Easterly wind which Spring up in the latter part of the night Continues untill about 7 or 8 oClock AM. The winds blow cold from a little before day untill the Suns gets to Some hight from the Mountains East as they did from the mountains at the time we lay at the falls of the Missouri from the West. The river below this forks is Called Kos kos kee, it is Clear rapid with Shoals or Swift places—

Ordway  a pleasant morning.

Whitehouse  a clear pleasant morning. A raft Seen floating down the River with Several Indians on it.

Expedition resumes its journey and uses canoes to proceed via the river system, the first of which is the Kooskooskee River [present-day Clearwater River], ID.

Monday, October 7

Weather Diary

Note  from the 7th to the 16th octr. We were decending Kooskooske & Lewises river, the 17th 18 at the mouth of Lewis River.

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Daily Narrative Journals

Clark  The after part of the day cloudy
Gass  a pleasant morning. About 3 o’clock in the afternoon we began our voyage down
the river, and found the rapids in some places very dangerous.

Ordway  a clear morning. Some part of the River is deep and current gentle & C.

Whitehouse  a fair clear weather and a pleasant morning. Some places the water is deep & and
the current is gentle. The Evening proved cloudy.

Tuesday, October 8

Weather Diary

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<th>Sunrise</th>
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</table>

Daily Narrative Journals

Clark  a Cloudy morning

Gass  a fine morning. Several rapids. Water was not more than waist-deep.

Ordway  a fair morning. Passed Some cliffs of rocks and barron hills on each side. The
waves roared over the rocks.

Whitehouse  a fair day. The day proved warm.

Wednesday, October 9

Weather Diary

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<th>Sunrise</th>
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</table>
**Daily Narrative Journals**

Clark  The morning Cool as usual the greater part of the day proved to be Cloudy, which was unfavourable for drying our things &c. which got wet yesterday. The wet articles not sufficiently dried to pack up obliged us to delay another night.

Gass  We stayed here during the whole of this day, which was very pleasant.

Ordway  a fair morning, and warm.

Whitehouse  a fair and pleasant morning.

---

**Expedition arrives at the confluence of the Kooskooskee and Lewis’s River [today known as the Clearwater and Snake Rivers], at present-day Clarkston, WA / Lewiston, ID. They also cross the state line from Idaho into Washington.**

---

**Thursday, October 10**

**Weather Diary**

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<th>Sunrise</th>
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<td>Weather</td>
<td>Wind</td>
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<td>NW</td>
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</table>

**Daily Narrative Journals**

Clark  a fine morning. a very worm day. Worm night— I think Lewis’s [Snake] River is about 205 yards wide, the Koos koos ke River about 150 yards wide and the river below the forks about 300 yards wide. The water of the South fork is a greenish blue, the north as clear as cristial. We came to on the Stard. Side below with a view to make some luner observations, the night proved Cloudy and we were disapointed— . The Indians...winter hunting the dear on Snow Shoes in the plains.

Gass  We had a fine morning. the southwest branch very large, and of a goslin-green colour. The wind blew so hard we could not proceed.

Ordway  a clear morning. We Set out eairly and proceed on down passed over a number of bad rapids. About 4 oClock PM we came to the Columbia River this great Columbia River is about 400 yards wide and affords a large body of water and of a greenish coulour. We went down it a short distance and the wind blew so high from NW.
Whitehouse  a fair and pleasant morning. About 5 oClock PM we arived at the forks of the Columbian river. The wind blew So high from the west that we Camped on the north side. This river is about 400 yards wide, and a greenish coulour.

Friday, October 11

Weather Diary

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<th>Sunrise</th>
<th>4 PM</th>
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Daily Narrative Journals

Clark a cloudy morning, wind from the East. The after part of the day the wind from the SW and hard. The day worm.

Gass a fine morning; proceeded on

Ordway a clear morning. The country is barron and broken. Some high plains. No timber. Passed over Some rapids where the waves roled high.

Whitehouse fair and clear weather a pleasant morning. Some rapid water but the current mostly gentle.

Saturday, October 12

Weather Diary

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<th>Sunrise</th>
<th>4 PM</th>
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<td>E &amp; SW</td>
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</tbody>
</table>
Daily Narrative Journals

Clark a fair cool morning, wind from the East. In the afternoon the wind Shifted to the SW and blew hard. the wind blew hard this evening—

Gass a fine morning.

Ordway a fair morning. Bad rockey rapid.

Whitehouse a clear pleasant morning. The current swift in Some places, but gently in general. After 12 oClock...the wind rose hard and blew from the west.

Sunday, October 13

Weather Diary

rained moderately from 4 to 11 AM to day.

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<th>Sunrise</th>
<th>Weather</th>
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<th>4 PM</th>
<th>Weather</th>
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</table>

Daily Narrative Journals

Clark rained a little before day. A windey dark raney all the morning, a hard wind from the SW untill 9 oclock, rain continued moderately untill near 12 oClock. the rained Seased & wind luled. This must be a verry bad place in high water. Wind hard from the SW in the evening and not very cold.

Gass This was a cloudy wet morning, and we did not set out till 11 o’clock. In the afternoon the weather cleared and we had a fine evening.

Ordway a rainy morning. High wind. Rapids The current swift

Whitehouse a rainy wet morning which delayed us untill about 10 oClock AM. The wind hard a head. Between 2 and 3 oClock PM the weather became clear and pleasant.

Monday, October 14

Weather Diary
Lewis & Clark Expedition Weather Journals, 1805,  Page 208

### Sunrise

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### Daily Narrative Journals

**Clark**

A very cold morning, Set out at 8 oClock, wind from the West and Cool untill about 12 oClock. When it Shifted to the SW. All wet we had every articles exposed the Sun to dry on the Island, our loss in provisions is very Considerable. The wind this after noon from the SW as usual and hard.

**Gass**

A fine clear cool morning.

**Ordway**

A clear cold morning. The wind high NW the current rapid. Bad rockey rapid. The country continues barron and broken in places &.

**Whitehouse**

A clear cold morning, the wind blowing hard and high ahead of us from the West. Very bad Rockey rapid, it being the worst rapid that we had passed in this River.

### Tuesday, October 15

#### Weather Diary

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<th>Sunrise</th>
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</table>

### Daily Narrative Journals

**Clark**

A fair morning after a Cold night. Some frost this morning and Ice. A high point to the west. Plain wavering.

**Gass**

This day was fine, clear and pleasant. This river in general is very handsome, except at the rapids, where it is risking both life and property to pass; and these rapids, when the bare view or prospect is considered distinct from advantages of navigation, may add to its beauty, by interposing variety and scenes of romantick grandeur where there is so much uniformity in the appearance of the county.

**Ordway**

A clear cold morning. The current very rapid.

**Whitehouse**

Clear cool weather this morning.

*Lewis & Clark Expedition Weather Journals, 1805, Page 208*
Expedition arrives at the confluence of the Lewis’s River [present-day Snake River] & Columbia Rivers, near present-day Pasco [Tri-Cities], WA.

Wednesday, October 16

Weather Diary

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<th>Sunrise</th>
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</table>

Daily Narrative Journals

Clark  a cool morning. having taken Diner Set out and proceeded on Seven miles to the junction of this river and the Columbia which joins from the NW.

Gass  a fine morning. Having gone 21 miles we arrived at the great Columbia river, which comes in from the northwest.

Ordway towards evening we arived at the big forks. The large River which is wider than the Columbia River comes in from a northerly direction. No timber. Not a tree to be Seen as far as our Eyes could extend.

Whitehouse a pleasant morning. Towards evening we arived at the forks of the river, which came from a northly direction and is larger than this Columa. R.

Thursday, October 17

Weather Diary

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Daily Narrative Journals

Lewis & Clark Expedition Weather Journals, 1805, Page 209
Clark  This morning after the Luner observations, the old chief came down. This river is remarkably Clear and Crouded with Salmon in maney places. The number of dead Salmon on the Shores & floating in the river is incrediable to say. The Cause of the emence numbers of dead Salmon I can’t account for. – at this Season they have only to collect the fish Split them open and dry them on their Scaffolds on which they have great numbers. No wood to be Seen in any direction— Those people as also those of the flat heads which we had passed on the koskoske and Lewis’s rivers are Subject to Sore eyes, and maney are blind of one and some of both eyes. This misfortune must be owing to the reflections of the Sun &c. on the waters in which they are continually fishing during the Spring Summer & fall, & the Snows dureing the, winter Seasons, in this open countrey where the eye has no rest. The roughfs are nearly flat, which proves to me that rains are not common in this open countrey.

Gass  The Columbia here is 860 yards wide, the Kimooeenum (Snake River) is 475 yards wide at the junction.

Ordway  a clear pleasant morning. Saw a great quantity of sammon....a great number lay dead on the Shores which the Indians had giged.

Whitehouse  We had a clear and pleasant morning. The columbia River is more Smooth and the current gentle

Expedition starts its final leg of the journey as they proceed down the Columbia River from the confluence of the Snake River. During this day they begin their parallel journey along the border of present-day Oregon and Washington state line [which is the Columbia River].

Friday, October 18

Weather Diary

Note from the eighteenth to the twenty-second of October descending the Great Columbia to the falls.

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</table>
**Daily Narrative Journals**

**Clark**  
a cold morning faire & wind from SE. Distance across the Columbia 960 3/4 yrd...Ki-moo-e im 575 yrd... At 4 Oclock we Set out down the Great Columbia. No timber in view. Saw a mountain bearing SW Conocal form, Covered with Snow [probably Mount Hood]

**Gass**  
a fine day. At one we proceeded on down the Great Columbia, which is a very beautiful river.

**Ordway**  
a clear pleasant morning. Capt. Clark measured Columbian River and the Ki mo e nem (Snake) Rivers and found the Columbia to be 860 yards wide, and the (Snake) to be 475 yard wide at the forks. Proceeded down the Columbia...we passed over Several rapids.

**Whitehouse**  
a clear pleasant morning. Columbia 860 yards wide and ki-moo-e-nem River 475 yards wide at the forks. Columbia...very wide from a half a mile to three forths wide and very Smooth & pleasant.

**Saturday, October 19**

**Weather Diary**

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<th>Sunrise</th>
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</table>

**Daily Narrative Journals**

**Clark**  
I assended a high clift about 200 feet above the water...from this place I discovered a high mountain of emence hight covered with Snow, this must be one of the mountains laid down by Vancouver, as seen from the mouth of the Columbia River, from the Course which it bears which is West I take it to be Mt. St. Helens [probably Mt. Adams], distant about 156 miles, a range of mountains in the Derection crossing a conical mountain SW toped with snow.

**Gass**  
The morning was clear and pleasant, with some white frost.

**Ordway**  
a clear cold morning. We discovered a very high round mountain a long distance down the River which appears to have Snow on the top of it.

**Whitehouse**  
A clear cold morning. We discovered a high hill or mountn a long distance down the River which appears to have Snow on it. We found the day pleasant.
Sunday, October 20

Weather Diary

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  a very cold morning, wind SW. The river to day is about 1/4 of a mile in width. The current much more uniform than yesterday or the day before.

Gass   A fine clear frosty morning.

Ordway a clear frosty morning. The River Smooth. Passed many rapid places of water.

Whitehouse a clear frosty morning.

Monday, October 21

Weather Diary

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<th>Sunrise</th>
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</table>

Daily Narrative Journals

Clark  a very Cold morning, we Set out early, wind from the SW. The Conocil mountain is SW...high and the top covered with Snow.

Gass   a fine morning.

Ordway a clear cold morning. Passed a number of bad rockey rapids where the River is nearly filled with high dark couloured rocks

Lewis & Clark Expedition Weather Journals, 1805, Page 212
Whitehouse  A clear cold morning.

Party portages around the Great Falls of the Columbia, Celilo Falls, near Wishram, OR/WA state line.

Tuesday, October 22

Weather Diary

*Note*  from the twenty-second to the twenty-ninth about the Great Falls of the Columbia river.

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  a fine morning, calm and fare.  Portage of 457 yards & down a Slide...of the Great falls...of the Columbia

Gass  The morning was fine.  came to the first falls or great rapids

Ordway  a fair morning.  A short distance (from a large river) below we came to the first falls of the Columbia River.

Whitehouse  A clear pleasant morning.  A mist rises continuually from the falls...the first falls of the Columbia River.  the water falling in such an immense quantity, makes a roaring that can be heard several miles below it.

Wednesday, October 23

Weather Diary

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<th>Sunrise</th>
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</table>
Daily Narrative Journals

Clark     a fine morning.

Gass      A pleasant day. The high water mark below the falls is 48 feet. The reason of this rise in the water below the falls is, that for three miles down, the river is so confined by rocks (being not more than 70 yards wide) that it cannot discharge the water, as fast as it comes over the falls,

Ordway    a clear pleasant morning. The height of these falls...in all is 37 feet eight Inches

Whitehouse a clear pleasant morning.

Expedition portages by the Long and Short Narrows at the present-day The Dalles, OR.

Thursday, October 24

Weather Diary

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<th>Sunrise</th>
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Daily Narrative Journals

Clark     a fine fare morning, after a beautiful night. Below those falls are Salmon trout and great numbers of the heads of a Species of trout Smaller than the Salmon. Narrow chanel of 45 yards wide. Those narrows the water was agitated in a most Shocking manner boils Swell & whorl pools, we passed with great risque... Those narrows was the whorls and Swills arising from the Compression of th water...notwithstanding the horrid appearance of this agitated gut Swelling, boiling & whorling in every direction.

Gass      a fine morning.

Ordway    a clear pleasant morning. The current rapid

Whitehouse a clear cool morning. The current verry rapid.
Friday, October 25

Weather Diary

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  A Cold morning.  Came to...a Creek which falls in on the Lard Side and head up towards the high Snow mountain to the SW.

Ordway a fair morning.  The River gitting Smoth.  The country timbred back a little from the River.

Whitehouse a clear & pleasant morning.

Saturday, October 26

Weather Diary

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  a fine morning.  The river has rose nearly 8 Inches to day and has every appearance of a tide, from what Cause I can’t say— as the tides cannot effect the river here as there is a falls below, I conjecture that the rise is owing to the wind which has Set up the river for 24 hours past.  All our articles we have exposed to the Sun to Dry

Gass  a fine morning.

Ordway  a clear pleasant morning.  the River raised considerable this afternoon.
Whitehouse a clear pleasant morning. The river began to raise about 4 oClock PM and raised Several Inches, the cause of which we think that the tide Swels a little up to this place. Called the long narrows of Columbia River.

Sunday, October 27

Weather Diary

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<th>Sunrise</th>
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Daily Narrative Journals

Clark a verry windy night and morning from the west and hard. The wind verry high. The wind increased in the evening and blew verry hard from the Same point W. Day fair and Cold—

Gass This was a fine clear morning, but the wind blew very hard up the river, and we remained here all day. The wind blew hard all this day.

Ordway fair morning. The wind high from the west. The waves roled verry high—

Whitehouse a clear morning, but the wind blew high from the west., which continued so the whole of this day.

Monday, October 28

Weather Diary

a Violent wind a moderate rain commenced at 4 oClock PM and continued untill 8 PM.

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</table>
Daily Narrative Journals

Clark  A cool windey morning. Wind from the West. Set out at 9 oClock AM. The wind rose and we were obliged to lie by about 1 mile below. The wind which is the cause of our delay, does not retard the motions of those people at all, as their canoes are calculated to ride the highest waves. Wind blew hard accompanied with rain all the evening, our Situation not very good one for an encampment, but such as it is we are obliged to put up with, the harbor is a Safe one, we encamped on the Sand, wet and disagreeable.

Gass  Just before day light there was a shower of rain; but at sunrise the morning was fine and clear. Went about 4 miles...here we stayed about an hour and proceeded again for about a mile, when we were compelled to stop on account if the wind, which blew so hard ahead that we were unable to continue our voyage. In the course of the day there were some showers of rain.

Ordway  rained hard the later part of last night. Cleared up this morning. We then went on a Short distance further the wind rose so high NW that obliged us to halt on the Lard. Side under Some clifts of rocks. A little rain this evening.

Whitehouse  the wind Seased the later part of last night; when it began to rain and rained moderately untill morning, then cleared off. About 9 oClock AM the wind rose again & blew westward. We continued on our way a short distance further down the river, when the Wind rose so high from the Westward, & the waves ran also so high, that our officers thought it dangerous and not safe to proceed. We had Several Squalls of wind which were high during this day.

Tuesday, October 29

Weather Diary

rained moderately all day. Saw the first large Buzzard or Voultur of the Columbia.

Note  from the 29th of Octr. to the 3rd of Novr. in passing through the western mountains below falls.

Note  the balance of Novr. and December between the Mountains & Pacific Ocean.

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**Daily Narrative Journals**

**Clark**

A Cloudy morning wind from the West but not hard. A good Situation for winter quarters if game can be had is just below Sepulchar rock on the Lard Side. The falls mountain [Mount Hood] covered with Snow is South. Here the mountains are high on each Side, those to the Lard Side has Some Snow on them at this time, more timber than above and of greater variety.

**Gass**

We embarked early in a cloudy morning. In the evening we discovered a high mountain to the south, not more than five miles off, covered with snow (Mt. Hood). We have here still water; and the breadth of the river is from three quarters to a mile.

**Ordway**

A cloudy morning. The current gentle. Saw Snow on a mountain on the Lard Side—

**Whitehouse**

A cloudy cool morning. We proceeded on in the gentle current. We saw mountains lying on the South side of the River; a distance back from it; Covered with timber, which had Snow lying on them.

**Wednesday, October 30**

**Weather Diary**

rained moderately all day. arrived at the Grand rapids. Saw a different Species of ash.

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**Daily Narrative Journals**

**Clark**

A cool Cloudy morning. moderate rain all the last night. Rained moderately all day we are wet and cold. The day proved Cloudy dark and disagreeable with Some rain all day which kept us wet. Rained all the evening, a wet disagreeable evening. This part of the river resembles a pond partly dreaned leaving many Stumps bare both in & out of the water, current about 1 mil pr. Hour. Saw 4 Cascades caused by Small Stream falling from the mountains on the Lard Side, a remarkable circumstance in this part of the river is, the Stumps of pine trees are in maney places are at some distance in the river, and gives every appearance of the rivers bing damned up below from Some cause which I am not at this time acquainted with, the current of the river is also verry jentle and about 3/4 of a mile in width. Examine the Shute and river below.

**Gass**

The morning was cloudy. It rained hard all day.
Ordway
a cloudy morning. The River wide and Strait the current gentle. The after part of the day rainy and foggy. A number of the Savages came to our Camp and Signed to us that they were Surprized to See us they thought we had rained down out of the clouds.

Whitehouse
cool and cloudy morning. The river verry Strait and wide current gentle. The after part of the day rainy and foggy. These savages were Surprized to See us they Signed to us that they thought we had rained down out of the clouds. Continued raining. The rain continued the greater part of this night—

Expedition portages past the Cascades of the Columbia (the “Great Shute” “Great Rapids of the Columbia”) just above present-day Bonneville Dam.

Thursday, October 31

Weather Diary

Som rain last night and this morning.

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<th>Sunrise</th>
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Daily Narrative Journals

Clark
A cloudy rainy disagreeable morning. At a mile lower is a verry Considerable rapid at which place the waves are remarkably high. I could not See any rapids below for in the extent of my view which was for a long distance down the river, which from the last rapids widened and had everry appearance of being effected by the tide— This great Shute or falls is about ½ mile with the water of this great river Compressed within the Space of 150 paces...water passing with great velocity forming & boiling in the most horriable manner. The Shute, must be the Cause of the rivers daming up to Such a distance above, where it Shows Such evidant marks of the Common current of the river being much lower than at the present day.

Gass
The morning was cloudy.

Ordway
Cloudy. This Shoote is full of rocks and roles verry high waves &.C. The after part of the day pleasant.

Whitehouse
This morning was cool & Cloudy. About 9 oClock AM the weather cleared off and
became pleasant.
The Expedition camped near the Cascades of the Columbia River (The Great Shute) near present-day Bonneville Dam.

Friday, November 1

**Weather Diary** ¹, ²

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2 Lewis kept no weather data for this month. Clark wrote a combined table for October, November and December of 1805.

3 Although not stated, when looking through the daily journal entries, it looks like the weather record entered into the table above was conducted generally in the morning.

4 No river observations were made during the month of November.

**Daily Narrative Journals**

**Clark**
A very Cool morning, wind hard from the NE

**Gass**
We had a cool frosty morning. We carried down our baggage...we could not go into the water, without uneasiness on account of the cold.

**Ordway**
a fair morning. The wind high from the NE and cold.

**Whitehouse**
a clear morning. The wind rose high from the NE and cold.

Expedition proceeds into the initial tidal water of the lower Columbia River system.

Saturday, November 2
Weather Diary

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  The river wider and bottoms more extensive. River about 2 miles wide. The ebb tide rose here about 9 Inches, the flood tide must rise here much higher.

Ordway  a fair morning. The river got more Smooth the current gentle wide and Strait. Saw a number of Spring runs flowing from the high cliffs and Mountains. Some of which falls off about 100 feet perpendicular.

Whitehouse  a clear morning but cool. The Riv. got Smooth the current very gentle &c. The river wide and Strait the remdr. of the day. Great number of springs runs, and Springs flowing from the high cliffs and mountains and fell off down 100 feet or more.⁵

⁵ Mention of these falls may be the Multnomah and other falls in Multnomah County, Oregon.

On November 3 and 4 the party moves by present-day Portland, OR, but does not see the confluence of the present-day Willamette and Columbia Rivers.

Sunday, November 3

Weather Diary

a thick fog which continued until meridian cleared off and was fair the remainder of the day.

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<th>Sunrise</th>
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</table>
**Daily Narrative Journals**

**Clark**
The fog so thick this morning we did not think it prudent to Set out...we could not see a man 50 Steps off, this fog detained us untill 10 oClock at which time we Set out. The water rose 2 Inches last night the effects of tide. The water Shallow for a great distance from shore. The fog continued thick untill 12 o'clock

**Gass**
The morning was foggy. At 9 we proceed on ,but could not see the country we were passing, on account of the fog, which was very thick till noon when it disappeared, and we had a beautiful day. We see the high point of a mountain covered with snow, in about a southeast direction from us. (Mt. Hood)

**Ordway**
a foggy morning. We perceive the tide rise and fall a little at this place. We saw the round mountain some distance a head which we expect is the Same which was discovred by Lieut. Hood and is called Hoods Mountain.

**Whitehouse**
a foggy morning & we delayed setting out till about 9 oClock AM. The fog So thick this morning that we cannot See more than one hundred yards distance. Agreeable to all calculations it cannot be more than two hundred miles from this to the ocean. We then set out abt. 9oC. and proceeded on the fog continued So thick that we could Scarsely See the Shores or Islands. We Saw a high round mountain on the Lard Side which we expect is the Same we Saw abo. the great falls and the Same that Lieut. Hood gave an account off. ( it is nearly c ovd. with Snow). River verry wide better than a mile in general. About 2 oClock PM...the weather now got clear & pleasant.

**Monday, November 4**

**Weather Diary**

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**Daily Narrative Journals**

**Clark**
A cloudy cool morning, wind from the west. Tide rose last night 18 inches perpndicular at Camp. High tide at 6 o’clock pm. Verry worm. Saw Mount Hellen (Mt. St. Helens)...it is emensely high and covered with Snow, rising in a kind of Cone perhaps the highest pinecal from the common leavel in america. The river here is 1 ½ miles wide, and current jentle.

**Gass**
a fine morning. The tide raised the water last night 2 feet. In the evening we saw Mount Rainy (Mt. St. Helens) It is a handsome point of a mountain, with little or

**Lewis & Clark Expedition Weather Journals, 1805, Page 223**
no timber on it, very high, and a considerable distance off this place.

Ordway cloudy. The tide Ebbs and floes abt. 3 feet at this place discovered a high round mountain some distance back from the River on the Stard side which is called mount rainy— (probably Mt. St. Helens)

Whitehouse This morning was cold, foggy & cloudy. We are now tide way, the tide fell during last night 2 feet perpendicular, and is on the rise this morning. The river wider.

Tuesday, November 5

Weather Diary

Commenced raining at 2 PM and continued to rain with intervals throughout the day. Saw 14 Garter Snakes.

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Daily Narrative Journals

Clark Rained all the after part of the last night, rain continues this morning. We are all wet Cold and disagreeable, rain Continues & encreases. My feet and legs cold. I saw 17 Snakes to day on a Island, but little appearance of Frost at this place. Here the river is about one and a half miles wide The day proved Cloudy with rain the greater part of it, we are all wet cold and disagreeable. I Saw but little appearance of frost in this valley which we call Wap-pa-too Columbia

Gass Some rain fell last night about 2 o’clock, and the morning was cloudy. We proceed on in the afternoon, during which some rain and a little hail fell. Here the tide rises and falls 4 feet.

Ordway hard rain the later part of last night. We had several small showers of rain

Whitehouse it began to rain about one oClock last night and continued to rain till day light. This morning was Cloudy. Found the river run very strait, & grew wider. We had frequent small showers of rain. This evening continued Rainey. The river was about 1 miles wide at this place.
Wednesday, November 6

Weather Diary

rained the greater part of the day moderately.

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Daily Narrative Journals

Clark  a cold (cool) wet rany morning.  Wind high a head. Cloudy with rain all day, we are all wet and disagreeable

Gass  We set out early in a cloudy morning after a disagreeable night of rain.

Ordway  Several Showers of rain in the course of last night.  The wind rose from the west towards evening so that the waves run high.

Whitehouse  Several Showers of rain in the course of last night.  The tide Ebbs & flows abt. 3 feet pertular. This morning was cloudy & wet. We also passed several small springs. Towards evening we had the Wind blowing hard from the Westward & the Waves ran very high.

Expedition moves into the Columbia River estuary and proceeds to the mouth and interface with the Pacific Ocean between November 7 and December 6, 1805.

Thursday, November 7

Weather Diary

Thick fog this morning which Continued untill 11 AM.  Cleared off and was fair until meridian, Several havy Showers dureing the evening

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Clark’s Journal Codex I lists this weather data as “r a r  fog.”

Lewis & Clark Expedition Weather Journals, 1805,  Page 225
Daily Narrative Journals

Clark

A cloudy foggy morning, a little rain. We delayed 1 ½ hour & set out the tide being up one of our canoes separated from us this morning in the fog. The rain continued until 9 o'clock moderately. Several marshy islands towards the land side the shape of them I can't see as the river is wide and day foggy. The fog so thick we could not see across the river. Rain continued moderately all day our small canoe which got separated in the fog this morning joined us this evening. We are in view of the opening of the ocean, which creates great joy. Some high mountains to the S.W. on the top of one is Snow. Ocean in View! O! The joy. Great joy in camp we are in view of the ocean, this great Pacific Ocean which we been so long anxious to see. And the roaring or noise made by the waves breaking on the rocky showers (as I suppose) may be heard distinctly

Gass

A foggy morning. At this place the river is about 3 miles wide

Ordway

A foggy cool morning.

Whitehouse

A cool foggy morning. These islands were marshy & were covered with grass, & had water laying in different parts of them.

Friday, November 8

Weather Diary

Rained moderately

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<th>Sunrise</th>
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Daily Narrative Journals

Clark

A cloudy morning. Some rain and wind. Cloudy and disagreeable all the day. After dinner we took the advantage of the returning tide & proceeded on to the 2nd point, at which place we found the swells too high to proceed. The swells continued high all the evening. River wide & at this place too salty to be used for drink. Here we found the swells or waves so high that we thought it imprudent to proceed; we landed unloaded and drew up our canoes. Some fine rain all day at intervals, we are all wet and disagreeable, as we have been for several days past, and our present situation a very disagreeable one in as much as we have not leavel land sufficient for an encampment and for our baggage to lie clear of the tide. The seas...
roled and tossed the Canoes in such a manner this evening that Several of our party were Sea sick. Oceian 4142 Miles from the Mouth of Missouri R.

**Gass**

The morning was cloudy, and there was a hard wind from the east. We had to coast round (a bay), as the wind raised the waves so high we could go no other way. The waves ran so high we were obliged to lie to, and let the tide leave our canoes on dry ground. In crossing the bay when the tide was out, some of our men got sea sick, the swells were so great. The whole of this day was wet and disagreeable

**Ordway**

a Cloudy morning. The waves high tossed us abt. We can see along distance a head. We expect we can See the mo. of the Columbian River. We bet it appears a long distance off. The waves roled So high that we were obledged to land on the Same Shower Stard. Side and took great pains to keep the canoes from filling with water. The river water is getting so brackish that we cannot drink of it at full tide. The evening rainy—

**Whitehouse**

This morning we had cool cloudy weather. Shortly after the wind rose & blew from the SE very hard, & the River got so rough, that we were tossed very much in our Canoes. Entered into a Bay, or wide place about 7 Miles wide, which continued as far as our Eyes could discern. Found the waves running so high, that we were obliged to land about 3 oClock. We found the River water at this place brackish.

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**Saturday, November 9**

**Weather Diary**

rained all day with wind

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**Daily Narrative Journals**

**Clark**

The tide of last night did not rise Sufficiently high to come into our camp, but the Canoes which was exposed to the mercy of the waves &c. which accompanined the returning tide, they all filled and with great attention we Saved them untill the tide left them dry. wind Hard from the South, and rained hard all the fore part of the day, at 2 oClock P M the flood tide came in accompanied with emence waves and heavy winds, floated the tree and Drift which was on the point on which we Camped and tossed them about in such a manner as to endanger the canoes very much. Our camp entirely under water dureing the hight of the tide, every man as wet as water could make them all the last night and to day all day as the rain continued all day, at 4 oClock P M the wind Shifted about to the SW and blew with great violence
immediately from the Ocean for about two hours, notwithstanding the disagreeable Situation of our party all wet and cold (and one which they have experienced for Several days past) they are chearfull and anxious to See further into the Ocian, The water of the river being too Salt to use we are obliged to make use of rain water. At this dismal point we must Spend another night as the wind & waves are too high to proceed. The rain Continud all day—

**Gass**
The morning was windy, rainy and disagreeable, and we were obliged to remain at Cape Swell (Grays Bay) all day. We had no fresh water, except what rain we caught by the putting out our vessels. We remained here all night, and the rain continued.

**Ordway**
rained hard the greater part of last night, and the wind rose so high NW that we had to unload the canoes in the night. This morning wet rained the most part of the day and the wind So high up the River that Caused the tide to raise much higher than common So we had to move our loads and some of the Camps further from Shore.

**Whitehouse**
It rained the greater part of last night, & the Wind blew very hard from the SE, which caused the Waves to run so very high, that all hands...employed unloading canoes...The morning we had wet weather & rainey, & it rained the most part of this day— The wind continued high, which caused the tide to rise, much higher than a common tides.

**Sunday, November 10**

**Weather Diary**
rained all day with wind

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**Daily Narrative Journals**

**Clark**
rained verry hard the greater part of the last night & continues this morning, the wind has lulled and the waves are not high. We loaded our canoes and proceeded on. About 12 o’clock the wind rose from the NW and the swells become so high, we were compelled to return about 2 miles to a place where we could unload our canoes. We are all wet also our bedding and maney other articles. We are all employed untill late drying our bedding. We are all wet the rain haveing continued all day

**Gass**
We had a rainy morning, but the wind was not so high as it had been yesterday. Proceeded on....where we found swells so high, the wind having risen, that we could not proceed any further. After we had been here about 2 hours, it became calm, and
we loaded our canoes again, but could not get around the point, the swells were still so high. It rained hard all night, and was very disagreeable. The water is become very salt.

**Ordway**  
Considerable of rain fell last night. A rainy morning. The waves not so high as yesterday. Continued raining hard. Abt. noon the wind rose so high that obliged us to turn back from a point of rocks and roe about 2 miles back into a cove. The wind contind. So high that we could not proceed.

**Whitehouse**  
We had rain the greater part of last night & a wet rainey morning, but the Waves did not run so high as they did yesterday. We continued on our way, it raining hard on us, ‘till about noon; when it ceased. The wave then ran so high that we had to turn back and went up river about 2 miles.

**Monday, November 11**

**Weather Diary**

Rained all day with wind

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<th>Sunrise</th>
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**Daily Narrative Journals**

**Clark**  
A hard rain all the last night, dureing the last tide the logs on which we lay was all on float, ....about 12 o'Clock 5 Indians came down in a canoe, the wind verry high from the SW with most tremendous waves brakeing with great violence against the Shores, rain falling in torrents, we are all wet as usial – and our Situation is truly disagreeable one; the great quantities of rain which has loosened the Stones on the hill Sides and the Small ones fall on us. Rained all day.. The tide was 3 hours later to day than yesterday and rose much higher.

**Gass**  
The morning was wet and the wind still blowing, so that we could not proceed. still had enough, as we have not tents, or coverings to defend us, except our blankets and some mats we got from the Indians, which we punt on poles to keep off the rain. It continued raining and blowing all day; and at 4 o’clock in the afternoon the tide was so high that we had to leave our lodges, until it got lower in the evening.

**Ordway**  
Rained hard the greater part of last night. A rainy wet morning. Our Robes all wet as we have no Shelter that will keep the rain from us. The wind continued so high that we did not attempt to move this day. These Savages went in their canoe across the River in the high waves.
Whitehouse  It rained hard the greater part of last night, which made it very disagreeable to us all. The greater part of our Men had nothing to Shelter them from the rain, & were obliged to lay down in it, & their Cloathes were wet through. This morning continued wet & rainey, the wind was high, & the swell in the river ran verry high, & we did not attempt to move from this place—

Tuesday, November 12

Weather Diary

violent wind from the SW acompanied with Hail thunder and lightning, the Claps of Thunder excessively loud and Continued form 3 to 6 AM. Cleared off a Short time & raind untill 12 oClock Cleared off an hour and rained again. (Lewis) the rain has been pretty generally falling Since the 7th inst. (Clark)

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Daily Narrative Journals

Clark  A Tremendious wind from the SW about 3 oClock this morning with Lightineng and hard claps of Thunder, and Hail which Continued untill 6 oClock a.m. in intervals when it became light for a Short time, then the heavens became sudenly darkened by a black cloud from the SW and rained with great violence untill 12 oClock, the waves tremendous brakeing with great fury against the rocks and trees on which we are encamped. our Situation became Seriously dangerous.

It would be distessing to a feeling person to See our Situation, at this time all wet and colde with our bedding &c. also wet, in a Cove Sercely large enough to Contain us, our Baggage in a Small holler about ½ mile from us, and Canoes at the mercey of the waves & drift wood. It was clear at 12 for a short time, I observed the Mountains on the opposit Side was covered with snow— I observe great numbers of Sea guls, flying in every direction— Rain Continued

Gass  A cloudy wet morning, after a terrible night of rain, hail, thunder and lightning. The rain still continued, and the river remained very rough.

Ordway  a hard Storm continued all last night, and hard Thunder lightning and hail this morning. We Saw a mountain on opposite Shore covered with Snow. The rain continued hard all day.

Whitehouse  We had a hard storm the greater part of last night, & hard thunder, lightning, & hail

Lewis & Clark Expedition Weather Journals, 1805,  Page 230
this morning. We saw a high mountain which lay on the opposite to where we were encamped covered with snow. The rain continued hard during the most part of this day.

**Wednesday, November 13**

**Weather Diary**

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**Daily Narrative Journals**

**Clark**

Some intervals of fair weather last night, rain and wind continue this morning. ...trees verry high & thick Cannot determine the precise course of the winds. Rain all day moderately, I am wet &c.&c. The Hail which fell 2 nights past is yet to be Seen on the mountains. The rain continuing and weather proved So cloudy that I could not See any distance. The rain continue all day. The tides at every flud come in with great swells brakeing against the rocks & drift trees with great fury—— if we were to have cold weather to accompanny the rain which we have had for this 6 or 8 days passed we must eneviatilbly Suffer verry much as Clothes are Scerce with us.

**Gass**

This was another disagreeable rainy day  at 9 o’clock in the forenoon it became a little more calm than usual

**Ordway**

hard rain continued all last night a rainy morning.  As the wind continues So high that obledges us to stay——

**Whitehouse**

The storm continued & hard rain during last night, and this morning rainey disagreeable weather. Our Buffalo robes are getting rotten, and the most part of our baggage were wet. We have a very disagreeable time of it, the most part of our Men having slept in the rain, ever since this storm began, & are continually wet. The waves continued high & the Storm continued during the whole of this day.

**Thursday, November 14**

**Weather Diary**

a blustery rainey day
Daily Narrative Journals

Clark  rained all the last night without intermission, and this morning wind blows very hard, but our Situation is such that we cannot tell from what point it comes. one of our canoes is much broken by the waves dashing it against the rocks in high tide. The rain &c. which has continued without a longer intermission than 2 hours at a time for ten days past has destroyed the robes and rotted nearly half of the few clothes the party has, particular the leather clothes if we have cold weather before we can kill & Dress Skins for clothing the bulk of the party will suffer very much. The rain continues all day. Rained as usual all the evening, all wet and disagreeable Situated.

Gass  We expected last night to have been able to proceed on this morning, but the rain continued, and the river still remained rough, and we are therefore obliged to lie by. 3 men returned...as the swells ran so high that they could not possibly get the canoe along. The weather continued wet, and the most disagreeable I had ever seen.

Ordway  the Storm continues, and obliges us to stay in this disagreeable harbour with nothing but pounded Sammon to eat.

Whitehouse  We had considerable quantity of rain during last night, & this morning we had wet rainy weather. About 10 oClock AM the weather cleared off, & in the afternoon it became tolerable calm weather.

Friday, November 15

Weather Diary

The after part of this day fair and calm for the first time since the 5th instant. and no rain move our encampment.
Daily Narrative Journals

Clark
Rained all the last night at intervals of sometimes of 2 hours, This morning it became calm & fair, I prepared to set out at which time the wind sprung up from the SE and blew down the River & in a few minutes raised such swells and waves brakeing on the Rocks at the Point as to render it unsafe to proceed. The sun shown until 1 oClock P.M. which gave an opportunity for use to dry some of our bedding & examine our baggage.

The rainy weather continued without a longer intermission than 2 hours at a time, from the 5th in the morn. until the 16th is eleven days rains, and the most disagreeable time I have experienced confined on a tempest coast wet, Scerce Provisions, and torrents of rain poreing on us all the time— , where I can neither git out to hunt, return to a better situation, or proceed on; in this situation have we been for Six days past, fortunately the wind lulled and the river became calm about 3 oClock we loaded in great haste and set out passed the blustering Point below which is a sand beech. The waves became very high Evening fare & pleasant.

Gass
This morning the weather appeared to settle and clear off, but the river remained still rough. About 1 o’clock when the water became more calm we loaded and set out from our disagreeable camp. Went about 3 miles into a bay and halted on a sand beach, in full view of the ocean, at this time more raging than pacific.

Ordway
a wet morning. About 10 oClock AM cleared off the after part of the day calm and pleasant.

Saturday, November 16

Weather Diary

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<th>Sunrise</th>
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Daily Narrative Journals

Clark
Cool the latter part of the last night this morning Clear and butifull. The Sea is fomeing and looks truly dismal to day, from the wind which blew hard to day from the SW. The evening proved Cloudy and I could not take any Luner observations. On the Lard side...a pinical of which is now covered with Snow or hail,

Gass
This was a clear morning and the wind pretty high. We could see the waves, like small mountains, rolling out in the ocean, and pretty bard in the bay. We are now at

Lewis & Clark Expedition Weather Journals, 1805, Page 233
the end of our voyage, which has been completely accomplished according to the intention of the expedition, the object of which was to discover a passage by the way of the Missouri and Columbia rivers to the Pacific Ocean; notwithstanding the difficulties, privations and dangers, which we had to encounter, endure and surmount. The day being clear we got our baggage dried

Ordway a clear cool morning.

Whitehouse A clear cool morning. We are now in plain view of the Pacific Ocean. The waves rolling, & the surf roaring very loud. We are now of opinion that we cannot go any further with our Canoes, & think that we are at an end of our Voyage to the Pacific Ocean, and as soon as discoveries necessary are made, that we shall return a short distance up the River & provide our Selves with Winter Quarters.

Sunday, November 17

Weather Diary

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<th>Sunrise</th>
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Daily Narrative Journals

Clark A fair cool morning wind from the East. The tides rises at this place 8 feet 6 inches and comes in with great wave brakeing on the Sand beech on which we lay with great fury

Gass We had a fine pleasant clear morning.

Ordway a clear morning.

Whitehouse This morning we had clear pleasant weather.

Monday, November 18

Weather Diary

Cloudy .... (Lewis) I proceed the Ocean. (Clark)
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<tr>
<th>Temp</th>
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Daily Narrative Journals

Clark A little Cloudy this morning. here I found Capt. Lewis name on a tree, I also engraved my name, & by land the day of the month and year, as also Several of the men. Some rain in the after part of the night. Men appear much Satisfied with their trip beholding with astonishment the high waves dashing against the rocks & this emence Ocian.

Gass The morning was cloudy.

Ordway Cloudy. Set out in order to go down and see the passiffic ocean. —towards evening we arrived at the Cape disappointement on the Sea Shore. Went over a bald hill where we had a handsom view of the ocean.

Whitehouse We had a cloudy morning.

Tuesday, November 19

Weather Diary

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<th>Sunrise</th>
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Daily Narrative Journals

Clark I arose early this morning from under a Wet blanket caused by a Shower of rain which fell in the latter part of the the last night. raind. ...it Comenced raining and continued moderately untill 11 oClock A M.

Gass We had a cloudy, rainy morning

Ordway cloudy a light Sprinkling of rain the later part of last night

Whitehouse A cloudy morning.

Wednesday, November 20
Weather Diary

rained moderately from 6 AM. (Lewis) On the 20th untill 1 PM the 21st after which it became Cloudy without rain (Clark)

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Daily Narrative Journals

Clark Some rain last night. The Morning Cleared up fare and we proceeded on. The tide being out we walked home on the beech—

Gass We had a fine clear morning. This day continued clear and pleasant throughout.

Ordway a fair morning.

Whitehouse A clear pleasant morning.

Thursday, November 21

Weather Diary

rained all last night untill 1 PM and Cleared away and was Cloudy without rain

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Daily Narrative Journals

Clark A cloud morning. the Wind blew hard from the SE which with the addition of the flood tide raised verry high waves which broke with great violence against the shore throwing water into our camp the fore part of this day Cloudy Morng. dark & Disagreeable, a Supriseing Climent. We have not had One cold day Since we passed below the last falls or great Shute & Some time before. The Climent is temperate, and the only change we have experienced is from fair weather to rainey windey weather— at 12 oClock it began to rain and continud all day moderately. Some
wind from the SE Waves too high for us to proceed on our homeward bound journey.

Gass A cloudy morning. The wind blew so violent to day, and the waves ran so high, that we could not set out on our return, which it is our intention to do as soon as the weather and water will permit. The season being so far advanced, we wish to establish our winter quarters as soon as possible. The night was very wet and disagreeable.

Ordway a cloudy and a little rain.

Whitehouse A cloudy morning, and a light sprinkling of rain fell. The swell in the River rain so high that it detain’d us, at our Camp from going up the River again, to look our for Winter Quarters, which our officers intended as soon as the Weather would permit, and the Season of the Year advancing made it absolutely necessary that it should be the case— The Season of the Year, is generally cold at this place, but at the present time it was very pleasant. The evening was rainey

Friday, November 22

Weather Diary

rained all day wind violent from the SE (Lewis) The wind violent from the SSE throwing water of the R over our Camp and rain continued all day. (Clark)

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Daily Narrative Journals

Clark A moderate rain all the last night with wind, a little before Day light the wind which was from the SSE blew with Such Violence that we wer almost overwhelmed with water blown from the river, this Storm did not sease at day but blew with nearly equal violence throughout the whole day accompanied with rain. O! how horribable is the day— waves brakeing with great violence against the Shore throwing the Water into our Camp &c. all wet and Confind to our Shelters. The Storm Continued all day with equal violence accompanied with rain.

Gass This was a rainy and stormy morning. The wind blew very hard from the south, and the river was rougher than it has been since we came here. At noon the tide was higher than common. The rain and wind continued all day violent.

Ordway a hard Storm arose the later part of last night and continues raining and the wind high
from the SW the waves rolled so high and the tide raised much higher than common. Dashed one of our canoes against the logs and was near Splitting it before we got it out. Damaged it and obledged us to move some of our Camps—

**Whitehouse**

A hard Storm arose in the course of last night accompanied with Rain, & it continued raining very hard & the wind High from the So West. This caused the tide of flood to rise much higher, than it commonly did at this place. The Swell ran also to an amazing height. We had also to move some of our Camps, the water being all round them & a rising. It continued raining hard all day—

**Saturday, November 23**

**Weather Diary**

rained all last night to day Cloudy

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**Daily Narrative Journals**

**Clark**

A calm Cloudy morning, a moderate rain the greater part of the last night. Rained at intervales all day. I marked my name the day & year on a Alder tree.

**Gass**

The weather was somewhat cloudy but more calm. In the evening the weather cleared and we had a fine night.

**Ordway**

Still continues rainy and high wind

**Whitehouse**

We had a hard wind blowing the greater part of last night, & it rained powerfully. This morning it moderated, both with regard to Wind & Rain. The evening was pleasant

**Sunday, November 24**

**Weather Diary**

rained moderately for a Short time this morning
Daily Narrative Journals

Clark  A fare morning. This day proved to be fair which gave us an oppertunity of drying our wet articles. ....advantages of being near the Sea Coast one most Striking one occurs to me i’e, the Climate which must be from every appearance much milder than that above the 1\textsuperscript{st} range of mountains (where the climate must be more Severe— ). The Indians are Slightly Clothed and give an account of but little Snow, and the weather which we have experienced Since we arrived in the neighbourhood of the Sea Coast has been very warm, and maney of the fiew days past disagreeably So. if this Should be the Case it will most Certainly be the best Situation of our naked party dressed as they are altogether in leather.

Gass  The morning was fine with some white frost. As this was a fine clear day, it was thought proper to remain here in order to make some observations, which the bad weather had before rendered impossible. At the head of the bay the river is 3 miles and 660 yards wide. At night, the party were consulted by the Commanding Officers, as to the place most proper for winter quarters; and the most of them were of opinion, that it would be best, in the first place, to go over to the south side of the river, and ascertain whether good hunting ground could be found there.

Ordway  a clear pleasant morning. A white frost. The Calumbian River at this place is three miles 660 yards wide. Our officers conclude with the opinion of the party to cross the River and look out a place for winter quarters

Whitehouse  A white frost this morning, & the weather clear & pleasant. The river Columbia at this place is 3 miles from the Sea & 660 Yards wide. Our officers went out and took down Notes on several remarkable points &ca. which they could not before have done, on account of the badness of the weather. In the evening our Officers had the whole party assembled in order to consult which place would be the best, for us to take up Winter Quarter at. The greater part of our Men were of opinion; that it would be best, to cross the River...

Monday, November 25

Weather Diary

Some Showers of rain last night
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**Daily Narrative Journals**

Clark  
A fine day. The Swells too high to cross the river. The evening Cloudy the Winds of to day is generally ESE  Mt. St. Hiliians Can be Seen from the mouth of this river.

Gass  
The morning was pleasant, though cloudy, with a white frost.

Ordway  
a clear pleasant morning. Attempt to cross the river but the waves so high that the canoes were near filling. So we turned back to Shore again.

Whitehouse  
We had a clear pleasant morning. Up river 9 miles...attempted to cross it, but the Waves ran so high that we found it impracticable.

**Tuesday, November 26**

**Weather Diary**

rained all day with Some hard Showers. the wind not so violent as it has been for Sevral days past. (Lewis) Some rain on the morning of the 23rd and night of the 24th instant. (Clark)

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**Daily Narrative Journals**

Clark  
Cloudy and some rain this morning from 6 oClock. Wind from the ENE. We had rain all the day all wet and disagreeable. We found much difficulty in procureing wood to burn, as it was raining hard, as it had been the greater part of the day.

Gass  
The morning of this day was cloudy and wet. The whole of the day was wet and unpleasant

Ordway  
a Cloudy wet morning. The day rainy and cold.

Whitehouse  
A cloudy wet morning, & we set out early. We continued on still down the River;
the day being wet, cold and very disagreeable.

Wednesday, November 27

Weather Diary

violent wind and hard all day. Campd. At Pt. William (Lewis) rained moderately all day a hard wind from the SW which compelled us to lie by on the isthmus of point William on the South Side. (Clark)

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  
Rain all the last night and this morning it Continues moderately— The Swells became high and rained so hard we Concluded to halt and dry our Selves, Soon after our landing the wind rose from the East and blew hard accompanied with rain, this rain obliged us to unload & draw up our Canoes. The water at our Camp Salt that above the isthmus fresh and fine—

Gass  
a wet morning; coasted round, and turned a sharp cape (Tongue Point) about a mile; when we found swells running so high that we had to halt. Had a very wet night.

Ordway  
rained all last night. We could perceive a considerable of current in the River. The waves ran So high that obledged us to halt at an old fishery. Hard rain.

Whitehouse  
A rainey wet morning & cold. The Rain continued hard all this day—

Thursday, November 28

Weather Diary

a tremendous Storm from the NW in the after part of the day. rained all last night and to daye. (Lewis) The wind which was from the SW Shifted in the after part of the day to the NW and blew a Storm which was tremendous. rained all the last night and to day without intermission. (Clark)
### Daily Narrative Journals

**Clark**

Wind Shifted about to the SW and blew hard accompanied with hard rain. Rained all the last night. Wind to high to go either back or forward. This is our present Situation, truly disagreeable. About 12 oClock the wind Shifted about to the NW and blew with great violence for the remainder of the day at maney times it blew for 15 ro 20 minits with Such violence that I expected every moment to See trees taken up by the roots. Many were blown down. Those Squals were Suckceeded by rain, O how Tremendious is the day. This dredfull wind and rain Continued with intervales of fair weather all the latter part of the night. O! How disagreeable is our Situation dureing this dredfull weather.

**Gass**

We had a wet windy morning. It rained all day; an we had here no fresh water, but what was taken out of the canoes as the rain fell.

**Ordway**

a hard Storm. The wind high from the N. West. Hard rain all day—

**Whitehouse**

We had a very heavy Storm during the whole of last night, & the wind blowing hard from the Westward this morning. It rained the greater part of this day. The Wind rose from the North West & became a perfect storm

**Friday, November 29**

**Weather Diary**

rained all last night hard, and to day moderately I decend with 5 men in a canoe to examine the Country.

### Daily Narrative Journals

**Lewis**

The wind being so high the party were unable to proceed with the perogues. It rained upon us by showers all day. Encamped at an old Indian hunting lodge...
which afforded us a tolerable shelter from rain, which continued by intervales throughout the night—

**Clark**  
Blew hard and rained the greater part of the last night and this morning much more moderate. The waves Still high and rain Continues. The Swells and waves being too high for us to proceed down in our large Canoes, in Safty— The winds are from Such points that we cannot form our Camp So as to provevent the Smoke which is emencely disagreeable, and painfull to the eyes.

**Gass**  
The weather continues cloudy and wet. There were some showers of rain and hail during the day.

**Ordway**  
Showery and Some hail in the course of the day.

**Whitehouse**  
It rained very hard all last night, & continued showery this morning. The weather continued showery & some hail fell during this day—

**Saturday, November 30**

**Weather Diary**

rained and hailed with short intervales throughout the last night, Some thunder and lightninge.

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**Daily Narrative Journals**

**Lewis**  
cloudy morning. It rained but little on us today tho’ it was cloudy generally—Wind from the NE.

**Clark**  
Some rain and hail with intervales of fair weather for the Space of one or two hours at a time dureing the night untill 9 oClock this morning, at which time it Cleared up fair and the Sun Shown.

**Gass**  
This was a fair day. The whole of the day was fair, pleasant and warm for the season.

**Ordway**  
the after part of the day clear.

**Whitehouse**  
We had several hard showers of rain, & some hail fell during last night, and this morning after day light it cleared off.
December 1805
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

The Expedition is at the mouth of the Columbia River near Astoria, Oregon searching for a location to establish winter camp.

Sunday, December 1

Weather Diary ¹, ²

rained last night and Some this morning.

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² Lewis kept no weather data for this month. Clark wrote a combined table for October, November and December of 1805.

³ Although not stated, when looking through the daily journal entries, it looks like the weather record entered into the table above was conducted generally in the morning.

⁴ No river observations were made during the month of December.

Daily Narrative Journals

Lewis
Cloudy morning wind from the SE.

Clark
Cloudy windey morning wind from the East. The Wind rose so high that I could not proceed. Began to rain hard at Sun Set and Continud. The Sea which is imedately in front roars like a repeated roling thunder. The emence Seas and waves which breake on the rocks & Coasts to the SW & NW roars like an emence fall at a distance, and this roaring has continued ever Since our arrival in the neighbourhood of the Sea Coast which has been 24 days Since we arrived in Sight of the Great Western; (for I cannot Say Pacific) Ocian as I have not Seen one pacific day Since my arrival in its vicinity, and its waters are formning and petially (perpetually) breake with emenc waves on the Sands and rockey Coasts, tempestous and horiable.

Gass
The whole of this day was cloudy.

Lewis & Clark Expedition Weather Journals, 1805, Page 244
Ordway  a cloudy morning.

Whitehouse  A dark cloudy morning. We had in the course of this day a little rain, & all anxiously waiting for the arrival of Captain Lewis.

Monday, December 2

Weather Diary

rained all the last night and untill meridian  cloudy the remained of the day.

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Daily Narrative Journals

Clark  Cloudy with some little rain this morning. The evening....fair moon Shining night—

Gass  The day was agin cloudy and wet. In the evening the weather became clear, and we had a fine night.

Ordway  a Cloudy wet morning.

Whitehouse  A cloudy wet morning.

Tuesday, December 3

Weather Diary

rained all the last night & to day untill meridian and became fair &c. (Lewis)  fair from 12 to 2 PM rained all the last night & this morning.  Rained the night of the 1st and morning of the 2 and Cloudy the remainder of the day. rained at intervales the night of the 2d instant with constant hard and Sometimes violent winds.  (Clark)

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**Daily Narrative Journals**

**Clark**  
a fair windey morning wind from the East. Wind Continues to blow. I marked my name on a large pine tree immediately on the isthmus William Clark December 3rd 1805. By Land from the U. States in 1804 & 1805— Some rain this afternoon and evening.

**Gass**  
The morning was foggy. The greater part of the day was fair, but in the evening it clouded over and rained again.

**Ordway**  
Cloudy

**Whitehouse**  
This morning cloudy.

**Wednesday, December 4**

**Weather Diary**

rained all day

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**Daily Narrative Journals**

**Clark**  
Some little rain all the last night, this morning the rain and wind increased from the SE. a Spring tide to day rose 2 feet higher than Common flood tides and high water at 11 oClock. Hard wind from the SE this afternoon Hard wind from the South this evening. Rained moderately all day and the waves too high for me to proceed in Safety to the bay as I intended.

**Gass**  
We had a cloudy rainy morning. The river was so rough we could not set with the canoes. The rain continued all day.

**Ordway**  
a rainy wet morning. Continued Storming & high wind all day—

**Whitehouse**  
A rainey wet morning. The day continued Rainey, the Wind blew hard & the weather was stormy.
Thursday, December 5

Weather Diary

rained all last night and today I return to Capt Clark (Lewis) rained yesterday, last night, and moderately to day; all day wind violent in the after part of the day. .... (Clark)

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<th>Sunrise</th>
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Daily Narrative Journals

Clark

Some hard showers of rain last night, this morning Cloudy and drisley, in the bay the Shower appear harder. High water to day at 12 oClock this tide is 2 inches higher than that of yesterday. All our Stores again wet by the hard Showers of last night. Capt. Lewis’s long delay below has been the cause of no little uneasiness on my part for him, 1000 conjectures has crowded into my mind respecting his probably Situation & Safity— rained hard. The repeated rains and hard winds which blows from the SW renders it impossible for me to move with loaded Canoes along an unknown Coast we are all wet & disagreeable; Rain continued all the after pt. of the day accompanied with hard wind from the SW which prevents our moving from this Camp.

Gass

Again we had a wet stormy day, so the men were unable to proceed with the canoes. There is more wet weather on this coast, than I ever knew in any other place; during a month, we had three fair days’ and there is no prospect of a change.

Ordway

rainy disagreeable weather.

Whitehouse

We had hard rain & stormy weather; which was very disagreeable. It continued raining the whole of this day—

Friday, December 6

Weather Diary

rained last night and all day to day wind no violent in the after part of the day fair in the eving. (Lewis) rained all last night and to day untill 6 oClock at which time it Clear’d away and became far. the winds also Seased to blow violent. (Clark)
Sunrise  |  4 PM  |  River
---|---|---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
---|---|---|---|---|---|---|---|---
- | r | SW | - | - | - | - | - | -

**Daily Narrative Journals**

**Clark**

The wind blew hard all the last night with moderate rain, the waves very high. This morning the wind which is still from the SW increased and rain continued all day, about Dusk the wind shifted to the North and it cleared up and became fair weather. The high tide of today at 12 o’clock is 13 inches higher than yesterday.

**Gass**

We had another wet morning. At noon it rained very hard, and the tide flowed so high, that in some part of our camp the water was a foot deep; we had therefore to remove to higher ground. In the afternoon it still continued it still to rain hard.

**Ordway**

About noon the storm arose and the tide raised about 2 feet higher than common so that the water came in to our camp so that we moved our camps to higher ground. The storm continued all day.

**Whitehouse**

A rainy disagreeable morning, & the wind continued high. About 1 o’clock PM it blew a storm, and the tide rose about 2 feet perpendicular higher, than it had been, since we are at this place, & over flowed some of our camps, which obliged us to move them to higher ground, than they were first at; the storm still continued, & the rain extinguish’d our fires, & made it exceedingly disagreeable to us. Towards evening the weather cleared up, & it became a little more pleasant.

After traveling back up river, the party crosses and searches for a suitable location for winter quarters. The Expedition established Fort Clatsop on December 7, 1805 and remain here for winter quarters until they leave on March 23, 1806. This site is near present-day Astoria, OR. Calculated milage by William Clark using dead reckoning place the distance from St. Louis to the mouth of the Columbia River at 4,162 miles. He was within 40 miles of the actual distance. (Duncan and Burns, 1997, 159; Ambrose, 1998, 175)

Saturday, December 7

**Weather Diary**

rained from 10 to 12 and at 2 PM leave Pt. William (Lewis) last night fair day leave Point William a hard wind from the NW and a shower of rain at 2 PM. (Clark)
Sunrise  |  4 PM  |  River
---|---|---
Temp  |  Weather  |  Wind  |  Temp  |  Weather  |  Wind  |  Rise/Fall  |  Feet  |  Inches
-  |  f a r  |  NE  | -  | -  | -  | -  | -  | -

Daily Narrative Journals

Clark  some rain from 10 to 12 last night, this morning fair. We proceeded on against the tide the waves verry high. This day fair except about 12 oClock the wind became hard from the NE and some rain which lasted 2 hours and cleared away.

Gass  About 12 last night the rain ceased and we had a fine clear morning. The swells being too high here to land we went two miles further

Ordway  the morning clear. The waves ran verry high. The hunters...no meat....the distance so great and the weather so bad that they brought no meat. The waves roled verry high. The River [Lewis and Clark River] is about 100 yds wide at this place but the tide water extends further up.

Whitehouse  This morning clear & cold. The wind rose, & the wind caused the Waves to rise also. The Waves ran so high, that we could not land. Wet set off, the Waves running verry high—

Sunday, December 8

Weather Diary

Cloudy after a moderate rain last night.

Daily Narrative Journals

Clark  a Cloudy morning. Some rain this evening. We made a Camp of the Elk Skin to keep off the rain which Continued to fall

Gass  We had a fine fair morning, with some white frost. In the evening, it began to rain again. The country towards the south is mountainous at some distance off, and there is some snow on the mountains.

Lewis & Clark Expedition Weather Journals, 1805,  Page 249
Ordway  one canoe taken away from the landing by the tide last night. A hard white frost this morning and cold.

Whitehouse  We had a hard white frost & cold, & windy morning. The latter part of the day was cold & cloudy, & in the Evening we had a little Rain & high Wind from the North East—

Monday, December 9

Weather Diary

cloudy and rained moderately untill 3 PM.

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Daily Narrative Journals

Clark  rained all the last night we are all wet. In the evening it began to rain with a tremendous storm and Continud accompanied with a Violent wind from the SW until 10 oClock PM—

Gass  The morning was cloudy and wet. It continues cloudy and wet all day.

Ordway  rained the greater part of last night rained hard all day found the canoe which the tide took off the other night.

Whitehouse  We had rain the greater part of last night, & it continued raining this morning.

Tuesday, December 10

Weather Diary

a violent wind last night 6 to 9 PM. river fast with rain. rained all day. (Lewis) rained all day and the air cool I return from the Ocean a violent wind last night from the SW rained the greater part of the night of the 8th and all day the 9th int. (Clark)

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Daily Narrative Journals

Clark a Cloudey rainey morning. I proceeded on to my Camp thro a heavy Cold rain. The day was Cloudy I could not See distinctly— rained nearly all day

Gass We had another wet cloudy morning; and all hands were employed at work notwithstanding the rain.

Ordway rained hard the most of the day

Whitehouse It rain’d the most part of this day.

Wednesday, December 11

Weather Diary

rained moderately all last night and to day

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Daily Narrative Journals

Clark rained all the last night moderately. The rain continued moderately all day.

Gass This day was so cloudy and wet.

Ordway rained the greater part of the day.

Whitehouse A wet morning & the party continued cutting logs... It continued raining the greater part of this day—

Thursday, December 12

Weather Diary

rained moderately all last night and to day
Sunrise | 4 PM | River
---|---|---
| Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches |
---|---|---|---|---|---|---|---|---|
- | r | SW | - | - | - | - | - | -

**Daily Narrative Journals**

**Clark**  
Some moderate showers of rain at intervals all last night and to day.

**Gass**  
This morning was cloudy without rain. Some rain fell in the evening.

**Whitehouse**  
It was cloudy the whole of this day.

**Friday, December 13**

**Weather Diary**

rained moderately all last night and to day

Sunrise | 4 PM | River
---|---|---
| Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches |
---|---|---|---|---|---|---|---|---|
- | r | SW | - | - | - | - | - | -

**Daily Narrative Journals**

**Clark**  
Some showers of light rain last night, and to day several very hard Showers.

**Gass**  
We had a cloudy, but fine morning. The day continued cloudy and some rain fell in the evening.

**Ordway**  
cloudy & rain

**Whitehouse**  
We had rain & Cloudy weather, during the whole of this day.
Saturday, December 14

Weather Diary

rained moderately all last night and to day

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<th>Sunrise</th>
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Daily Narrative Journals

Clark

a cloudy day & rained moderately. All our last supply of Elk has Spoiled in the repeated rains which has been fallen ever Since our arrival at this place, and for a long time before, Scerce one man in Camp can bost of being one day dry Since we landed at this point

Gass

In the course of the day a good deal of rain fell; the weather here still continues warm, and there has been no freezing, except a little white frost.

Ordway

continues wet and rainy.

Whitehouse

This day we had moderate Rain.

Sunday, December 15

Weather Diary

rained all last night and untill 8 AM to day after which it was Cloudy all day. (Lewis) rained at Short intervales from the 10th instant untill 8 AM to day I with 16 men Set out after meat. (Clark)

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Daily Narrative Journals

Clark

Cloudy all Day. Some rain in the evening. Serjt. Ordway, Colter, Colins, Whitehouse & McNeal Staid out all night without fire and in the rain—
Gass  The morning was cloudy. Some light showers fell during the day.

Whitehouse  We had cloudy weather. We were obliged to say out during the Night. It rained all that night & the wind blew very cold & being without fire, we suffered considerably both from the Rain & wind.

Monday, December 16

Weather Diary

rained all the last night. air Cold wind violent from the SW accompanied with rain.—

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| Daily Narrative Journals |

Clark  Rained all the last night. We covered our selves as well as we could with elk skins & set up the greater part of the night, all wet, I lay in water verry cold, a most dreadfull night the rain continues, with Tremendious gusts of wind. The winds violent from the SE. With some risque proceeded on thro high waves in the river, a tempestious disagreeable day. Trees falling in every direction, whorl winds, with gusts of rain Hail & Thunder, this kind of weather lasted all day, Certainly one of the worst days that ever was!

Gass  This was a wet morning with high wind. The men who were out...had a very bad night, as the weather was stormy and a great deal of rain fell. Notwithstanding this, a serjeant and four men, who had got lost, lay out all night without fire. The whole of the day was stormy and wet.

Ordway  rained hard all last night and cold we Suffered with wet & cold all last night. Hard rain and high wind.

Whitehouse   It rained very hard during this day. We had hard Rain & some hail in the afternoon also.

Tuesday, December 17

Weather Diary

rained all last night and to day untill 9 AM when we had a Shower of hail for an hour and Cleared off.
Sunrise | 4 PM | River
--- | --- | ---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
- | far & h | SW | - | - | - | - | - | -

**Daily Narrative Journals**

**Clark**

Some rain last night and a continuation of it this morning. The fore part of this day rained hailed and blew hard, the after part of the day fair & Cool. The mountain which lies SE about 10 miles distant is covered with Snow on its top which is ruged and uneavin.

**Gass**

This was another cloudy day, with some light showers of rain and hail.

**Ordway**

A little Snow and hail fell last night and continues this morning.

**Whitehouse**

We had during last night some Snow & hail & it continued the same this morning. A little snow remained on the pine trees the whole of this day.

**Wednesday, December 18**

**Weather Diary**

rained Snowed and hailed at intervals all the last night and to day untill meridian.

**Daily Narrative Journals**

**Clark**

rained and Snowed alternetly all the last night, and Spurts (gusts) of Snow and Hail Continued untill 12 oClock, which has chilled the air. Cold disagreeable Dreadfull day, the wind hard and unsettled. At 12 the Hail and Snow Seased, and the after part of the day was Cloudy with Some rain.

**Gass**

Snow fell last night about an inch deep, and the morning was stormy. In the middle of the day the weather became clear, and we had a fine afternoon.

**Ordway**

cloudy and rain. A little hail and frozen rain & cold—
Whitehouse  This day was cloudy with some Rain.  The day grew very cold, & some hail fell.

Thursday, December 19

Weather Diary

rained [and hailed] last night and Several Showers of Hail and rain to day.  the air Cool.

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Daily Narrative Journals

Clark      Some rain with intervales of fair weather last night, this morning Clear & the wind from the SW.  The after part of the Day Cloudy with Hail and rain.

Gass       This was a fine clear cool morning; and we expected to have some fair pleasant weather, but at noon it became cloudy again and began to rain.

Ordway     rained all last night, and continues hard this morng.

Whitehouse It rained hard all last night, & continued the same this morning.

Friday, December 20

Weather Diary

Some rain and hail last Night  the rain Contd. untill 10 AM

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Daily Narrative Journals

Clark      Some rain and hail last night and this morning it rained hard untill 10 oClock.  The after part of the day Cloudy with Several Showers of rain—
Gass  The morning was cloudy and wet—about 10 o’clock the weather became clear; but
before night it rained as fast as before.

Ordway  cloudy and rain. About 10 o’Clock cleared off, but rained again before evening—

Whitehouse  A Cloudy wet morning, & continued so the whole of this day. We continued on
building our huts, notwithstanding the badness of the weather—

Saturday, December 21

Weather Diary

rained last night and to day

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Daily Narrative Journals

Clark  rained as useal all the last night and contd. moderately all day to day without any
intermition.

Gass  had occasional rain and high winds but the weather continued warm

Ordway  Still continues raining by we Still kept at work finishing our huts to make ourselves
comfortable &C—

Whitehouse  A cloudy wet dy as usual, but rather warm.

Sunday, December 22

Weather Diary

rained last night and to day

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Lewis & Clark Expedition Weather Journals, 1805,  Page 257
Daily Narrative Journals

Clark  rained Continued all the last night and to day without much intermition. We discover that part of our last Supply of meat is Spoiling from the womph [warmth] of the weather not withstanding a constant Smoke kept under it day and night.

Gass  had occasional rain and high winds but the weather continued warm

Ordway  high wind all last night. The weather rainy warm & wet.

Whitehouse  Cloudy & wet weather, the Air Warm & Wind blowing from the Southwest

Monday, December 23

Weather Diary

rained all last night and moderately to day with Several Showers of Hail accompanied with hard Claps of Thunder and Sharp Lightning. (Lewis)   rained 21 & 22 all day & night (Clark)

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Daily Narrative Journals

Clark  rained without intermition all the last night and to day with Thunder and some Hail the morning and evening with rain this day.

Gass  had occasional rain and high winds but the weather continued warm

Ordway  nothing extraordinary hapened more than common this day—

Whitehouse  Cloudy & wet weather, the Air Warm & Wind blowing from the Southwest

Tuesday, December 24

Weather Diary

rained at intervals last night and to day.
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**Daily Narrative Journals**

**Clark**
Some hard rain at Different times last night, and moderately this morning and the rest of the day without intermition. A hard rain in the evening.

**Gass**
had occasional rain and high winds but the weather continued warm

**Ordway**
hard rain as usual.

**Whitehouse**
Cloudy & wet weather, the Air Warm & Wind blowing from the Southwest

**Wednesday, December 25**

**Weather Diary**
rained at intervales last night and to day.

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**Daily Narrative Journals**

**Clark**
Some rain at different times last night and Showers of hail with intervales of fair Starr light. worm Day. The day proved Shouerey wet and disagreeable.

**Gass**
Was another cloudy wet day. had occasional rain and high winds but the weather continued warm

**Ordway**
rainy & wet. Disagreeable weather. We all moved in to our new Fort. We expect this to be the last winter that we will have to pass in this way—

**Whitehouse**
We had hard rain & Cloud weather as usual.
Thursday, December 26

Weather Diary

raind with violent wind all last night and to day with Hard Claps of thunder & Sharp Lightning.

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Daily Narrative Journals

Clark  
rained and blew hard with great violence SE last night, some hard claps of Thunder, The rain continued as usual all day and wind blew hard from the SE.

Gass  
cloudy with rain

Ordway  
we found that our huts Smoaked by the high winds and hard Storms hard rain continues as usual—

Whitehouse  
We had Stormy weather the whole of this day. It rain’d most part of this day—

Friday, December 27

Weather Diary

rained moderately last night and to day

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  
rained last night as usual and the greater part of this day. worm weather. Elk meet nearly Spoiled; & this accident of Spoiled meet, is owing to wormth & the repeated rains, which cause the meet to tante before we Can get it from the woods. Musquestors troublesom

Gass  
cloudy with rain

Lewis & Clark Expedition Weather Journals, 1805,  Page 260
Ordway  hard rain all day—

Whitehouse  It continued raining hard during the whole of this day. ...a large fish was drove by the Wind & waves on the shore near to where their lodges were...

Saturday, December 28

Weather Diary

rained moderately last night and to day

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Daily Narrative Journals

Clark  rained as usial the greater part of the last night, and this morning rained and the wind blew hard from the SE. This day is verry worm, and rained all day without intermition.

Gass  cloudy with rain

Ordway  Capt. Lewis...three men got ready to go with a canoe to See the whail as we expect it is, but the wind and Storm arose So high that they could not go.

Whitehouse  This morning it rained & the wind was so high, that it prevented us from going to see the Whale.

Sunday, December 29

Weather Diary

rained moderately last night and to day untill 7 AM after Cloudy the remained of the day wind hard from the SE (Lewis) rained moderately without much intermition from the 26th untill 7 AM this morning hard wind from the SE. (Clark)

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<tr>
<th>Sunrise</th>
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Lewis & Clark Expedition Weather Journals, 1805,   Page 261
Daily Narrative Journals

Clark  
rained last night as usual, this morning cloudy without rain, a hard wind from the SE. The wind has proved too high as yet for him to Set out in Safety. I have the Satisfaction to Say that we had but little rain in the Course of this day, only not as much as would wet a person. But hard wind and Cloudy all day but very light rain.

Gass  
This was a cloudy morning, but a fair day succeeded

Ordway  
a fair day.

Whitehouse  
This day was fine clear pleasant weather, the first fair day we had for a long time past.

Monday, December 30

Weather Diary

Hard wind & rain last night. to day tolerably fair.

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  
Hard wind and Some rain last night. This morning fair and the Sun Shown for a Short time. This day proved the fairest and best we have had Since our arrival at this place, only 3 Showers of rain this whole day, Wind the fore part of the day. Cloudy nearly all day, in the evening the wind lulled and the fore part of the night fair and clear.

Gass  
Heavy shower of rain fell last night, but the morning was fair, and we had some sunshine, which happens very seldom; light showers of rain fell during the day.

Ordway  
a fair morning and a little Sun shine which is very uncommon at this place.

Whitehouse  
We had several showers of Rain during last night, and this morning was fair; and the Sun shone a little which was very uncommon to us—
Tuesday, December 31

Weather Diary

rained last night and moderately all day to day.

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<th>Sunrise</th>
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<td>Temp</td>
<td>Weather</td>
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<td>SW</td>
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</tbody>
</table>

Daily Narrative Journals

Clark    A fair night. Last night was Cloudy and Some rain, this day proved cloudy and Some Showers of rain to day. The fore part of this night fair and clear.

Gass     Another cloudy morning

Ordway   a cloudy morning. We built a box for the centinel to Stand in out of the rain

Whitehouse A cloudy morning.
The winter of 1804-1805 at Fort Mandan was harsh with frequent snows, blizzards and extreme temperatures. The party experienced a variety of natural phenomena including sun dogs, mirages, northern lights, and even an eclipse of the moon. As spring neared, the party moved quickly to free the keelboat and perogues from the icy barrier of the Missouri River before breakup. By late March the ice was flowing and temperatures were warming. On April 7, 1805, the keelboat and a small party returned down-river to St. Louis carrying journal notes and specimens from the previous year's journey destined for President Thomas Jefferson. The main Expeditionary force set off towards the Rocky Mountains and their ultimate goal the Pacific Ocean. The party made slow progress westward as they endured strong Spring winds which created sand storms along the Missouri.

By June 2nd, they reached a flood swollen fork in the Missouri. Most of the party believed the north fork was the true Missouri as it was muddy like the previous weeks coming up the river. To be certain, Lewis and Clark took scouting parties to locate the great falls the Minetare/Hidatsa Indians had described. After an unsuccessful try, Lewis took a second party for a further investigation and discovered the Great Falls of the Missouri on June 13. It would take over a month to portage around the falls during a cool and wet early summer. At the end of July, they reached another decision point known today as the Three Forks of the Missouri just as the weather warmed to summer norms. The Expedition moved westward up the newly
named Jefferson River in search of the Shoshone Indian Nation to obtain horses for their trek across the Continental Divide. Lewis led a small scouting party across the great divide on August 12 and found the Shoshones. Clark took a small contingent to explore “Lewis’s (today’s Salmon) River but found it unpassable. Faced with potential failure, the Captains decided they would have to use an old Indian trail to cross the mountains. After purchasing horses, their Shoshone Indian guide, Old Toby, led them over a mountain pass from Idaho back into Montana, down the Bitterroot Valley and then westward along the Lolo Trail. During this time they experience early Fall snows in the high rugged mountains. Nearly starving to death, the Expedition left the Bitterroot Mountains near the end of September and reached the Nez Perce Indian Nation east of present-day Lewiston, Idaho. Here they set up Canoe Camp to build water craft to take them down the Clearwater, Snake and Columbia Rivers to the ocean.

With the current at their back, they set off towards the ocean from near present-day Orofino, Idaho on October 7. After passing many rapids in the Clearwater and Snake Rivers, the Expedition came to great Columbia River on October 16. They proceeded down the wide Columbia passing many dangerous falls, shutes and rapids, and by early November they had reached the tidal waters of the Columbia. Rain began on November 4 and numerous late Fall storms ravaged their camps as they progressed to the ocean. Finally, Clark declared prematurely on November 7th, “Great joy in camp we are in View of the Ocean!”; however, they were in the great Columbia River estuary. After being pinned down by the intense storms, the Expedition reached the mouth of the river on November 16. The Pacific Ocean at last. Some 4,162 miles by Clark’s dead reckoning from St. Louis. Looking for winter quarters, the party moved back up the river, crossed to the south shore, and established Fort Clatsop near present-day Astoria, Oregon on December 7. They would remain at Fort Clatsop until their departure on March 23, 1806. Although mild temperatures remained for the rest of December, strong Pacific storm systems would bring daily rains, wind and sometimes thunder, lightning and hail.

The systematic entries for the Lewis and Clark Expedition daily narrative journals as well as that of the army sergeants and privates were taken every day in 1805. However, not every journalist noted weather, water or climate data each day. Different journals and notebooks were used during the Expedition. For a more detailed explanation on the journals and entry practices consult. (Cutright, 1976) and (Moulton, 1986, 2: 8-48; and 530-567)
January 1805
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

The Expedition established Fort Mandan on November 2, 1804 near present-day Washburn, North Dakota and remain here for winter quarters until they leave on April 7, 1805.

Tuesday, January 1

Weather Diary

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<td>18a</td>
<td>s</td>
<td>SE</td>
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</table>


2 River observations on the Missouri River were taken at sunrise for a 24-hour period.

Daily Narrative Journals

Clark The Day was warm. Themtr 34\(^0\) above 0. Some few Drops of rain about Sunset, at Dark it began to Snow, and Snowed the greater part of the night. (The temptr for Snow is about 0)

Gass The day was warm and pleasant.

Ordway cloudy but moderate. Rained a little in the eve.

Whitehouse the day was warm and pleasant.

Wednesday, January 2

Weather Diary

Lewis & Clark Expedition Weather Journals, 1805, Page 3
<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>4b</td>
<td>s</td>
<td>NW</td>
</tr>
</tbody>
</table>

**Daily Narrative Journals**

**Clark**  
a Snowey morning. Some Snow to Day. Verry Cold in the evening.

**Gass**  
Some snow fell this morning. This day I discovered how the Indians keep their horses during the winter. In the day time they are permitted to run out and gather what they can; and at night are brought into the lodges, with the natives themselves

**Ordway**  
Snowed fast this morning.

**Whitehouse**  
This morning some Snow fell. The Mandan Indians in this Second Village had a number of horses, which they keep in their lodges with them, every Cold night during the Winter.

**Thursday, January 3**

**Weather Diary**

the Snow was not considerable the ground is now covered 9 inches deep—

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<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<td>Temp</td>
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<tr>
<td>14b</td>
<td>c</td>
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</table>

**Daily Narrative Journals**

**Clark**  
some Snow to day

**Gass**  
The weather was generally very cold.

**Ordway**  
Snowed this morning
Friday, January 4

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>28a c a s</td>
<td>W</td>
<td>4b c</td>
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</tbody>
</table>

Daily Narrative Journals

Clark a worm Snowey morning, the Themtr. at 28° abov 0, Cloudy. The evening the weather became cold and windey, wind from the NW.

Gass The weather was generally very cold.

Ordway Cloud, warm morning. The afternoon blustry.

Whitehouse This morning Clear, the weather is not as cold, the weather was moderate to what it had been some days past. In the Evening, the weather grew verry cold and the Wind blew hard from the NW all night—

Saturday, January 5

Weather Diary

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<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>20b c</td>
<td>NW</td>
<td>18b s</td>
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</tbody>
</table>

Daily Narrative Journals

Clark a cold day. Some Snow.

Gass The weather was generally very cold.

Ordway high blustry winds all last night & verry cold three of our hunters Stayed out all night. A cold morning.

Whitehouse a cloudy cold day. The weather continued verry Cold. The Weather continuing
very Cold—

Sunday, January 6

**Weather Diary**

at 12 oC. Today two Luminous spots appeared on either side of the sun extremely bright

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>11b</td>
<td>c a s</td>
<td>NW</td>
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</table>

**Daily Narrative Journals**

Clark  a Cold day

Gass  The weather was generally very cold.

Ordway  a clear cold morning.   The wind high & blustry.

Whitehouse  Cloudy, Cold weather

Monday, January 7

**Weather Diary**

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>22b</td>
<td>f</td>
<td>NW</td>
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</table>

**Daily Narrative Journals**

Clark  a very Cold clear Day, the Thermtr Stood at 22 d below 0, wind NW.  The river fell 1 inch.

Gass  The weather was generally very cold.

Ordway  a clear cold morning.   The wind high from NW

Lewis & Clark Expedition Weather Journals, 1805,
Whitehouse  Cloudy, Cold weather

Tuesday, January 8

Weather Diary

the snow is now ten inches deep. (Lewis) accumulateing by frosts (Clark)

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>20b</td>
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<td>NW</td>
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</table>

Daily Narrative Journals

Clark  a Cold Day.  Wind from the NW.
Gass  The weather was generally very cold.
Ordway  the wind blew cold from NW
Whitehouse  Cloudy, Cold weather

Wednesday, January 9

Weather Diary

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<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<td>21b</td>
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Daily Narrative Journals

Clark  A Cold Day, Thermometer at 21° below 0.  The after part of this day verry Cold, and wind Keen.
Gass  The weather was generally very cold.
Ordway  Some Snow this morning  Squally the after part of the day  blustry and exceeding
cold. A number of the Savages out hunting the Buffalo [again] & came in towards evening with their horses loaded with meat and told us that two of their young men was froze to death in the prairie. Had Suffered considerable with the cold. We expected nothing else but the other man had froze or would freeze this night. A young Indian came in the Garrison with his feet frost bit.

Whitehouse the day proved to be very cold & Stormey, one of the them (hunters) returned to the fort about 8 oClock in the evening with one of his feet frost bit. The other Stayed out all night.

Thursday, January 10

**Weather Diary**

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<th>Sunrise</th>
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<th>Missouri River</th>
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<td>40b</td>
<td>f</td>
<td>NW</td>
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</table>

Clark’s Journal Codex C lists this temperature as “28 b.”

**Daily Narrative Journals**

Clark last night was excessively Cold. The murkery this morning Stood at 40° below 0 which is 72 below the freezing point. The Indians...turned out to hunt for a man & boy who had not returned from the hunt of yesterday, and borrowed a Slay to bring them in, expecting to find them frozed to death. about 10 oClock the boy about 13 years of age Came to the fort with his feet frozed and had layed out last night without fire with only a Buffalow Robe to cover him. We had his feet put in Cold water and they are Comeing too— (this boy lost his Toes only) ...a man Came in who had also Stayed our without fire, and very thinly Clothed, this man was not the least injured— Customs & the habits of those people has ancered [inured them] to bare more Cold than I thought it possible for man to indure—

Gass The weather was generally very cold. A number of the natives being out hunting in a very cold day, one of them gave out on his return in the evening; and was left in the plain or prairie covered with a buffalow robe. After some time he began to recover and removed to the woods, where he broke a number of branches to lie on, and to keep his body off the snow. In the morning he came to the fort, with his feet badly frozen, and the officers undertook his cure.

Ordway a clear cold morning. It is the Same Boy that the Indians had left last night & expected that he was froze to death in the prairies.

Whitehouse This day we had severe cold weather. The weather still continued to be extremely
Cold and Stormy, the Officers had some of our party preparing to go in search of the Man, who Staid out all night, believing from the severity of the weather that he had been froze to death— but fortunately he returned to the Fort, before they had started in good health— Some of the Natives came to our Fort, bringing with them one of their Nation, that was frost bitten— His feet very much bit by the frost.

Friday, January 11

Weather Diary

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<th>Sunrise</th>
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<td>38b</td>
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Daily Narrative Journals

Clark verry Cold

Gass The weather was generally very cold.

Ordway clear cold morning. Nothing extraordinary accured.—

Whitehouse This day the weather still continued Cold & the Air very thin;

Saturday, January 12

Weather Diary

singular appearance of three distinct Halo or luminus rings about the moon appeared this evening at half after 9 PM and continued one hour. the moon formed the center of the middle ring, the other two which lay N & S of the moon & had each of them a limb passing through the Moons Center and projecting N & S a simidiameter beyond the middle ring to which last they were equal in dimensions, each ring appearing to subtend an angle of 15 degrees of a great circle.
4 "...The captains are actually seeing an atmospheric event caused by the refraction of light by ice crystals. Neiburger, Edinger, & Bonner, 426." (Moulton, 1986, 2: 284)

Clark’s Journal Codex C lists this temperature as “16 b.”

Daily Narrative Journals

Clark a verry Cold Day

Gass The weather was generally very cold.

Ordway cloudy

Whitehouse The weather still continued clear and cold;

Sunday, January 13

Weather Diary

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<th>Sunrise</th>
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<td>Wind</td>
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<td>NW</td>
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</table>

6 Clark’s Journal Codex C lists this temperature as “20 b.”

Daily Narrative Journals

Clark a Cold Clear Day

Gass A clear cold day. Two frenchmen came by, they had their faces so badly frost bitten that the skin came off, and their guide was so badly froze that they were obliged to leave him with the Assiniboins

Ordway a clear cold morning.

Whitehouse The weather still continues clear & Cold. The Indians infrom’d us that the Guide who went with them, had got so bad frost bitten on their faces, that the whole of the skin came off—
Monday, January 14

Weather Diary

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<th>Sunrise</th>
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Daily Narrative Journals

Lewis  Observed an Eclips of the Moon. I had no other glass to assist me in this observation but a small refracting telescope belonging to my sextant, which however was of considerable service, as it enabled me to define the edge of the moon’s immage with much more precision that I could have done with the natural eye. The commencement of the eclips was obscured by clouds, which continued to interrupt me throughout the whole observation; to this cause is also attributable the inaccuracy of the observation of the commencement of total darkness. I do not put much confidence in the observation of the middle of the Eclips, as it is the worst point of the eclips to distinguish with accuracy. The two last observations (i.e.) The end of total darkness, and the end of the eclips, were more satisfactory; they are as accurate as the circumstance under which I laboured would permit me to make them—

Clark this morning early a number of indians...passed down on the ice. Our hunters...informs that one Man (Whitehouse) is frost bit and Can’t walk home—

Gass Some snow fell this morning. Hunters, one of men had got his feet so badly frozen that he was unable to come to the fort.

Ordway Whitehouse had his feet frost bit & could not come in without a horse

Whitehouse Some Snow fell this morning. I got my feet so Froze that I could not walk to the fort.

Tuesday, January 15

Weather Diary

an eclips of the moon total last night, visible here but partially obscured by the clouds.
Lewis & Clark Expedition Weather Journals, 1805, Page 12

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**Daily Narrative Journals**

**Lewis**
I do not place much confidence in this observation in consequence of loosing the observation of the Altitude of the Sun...was somewhat obscured by a cloud. The weather was so could that I could not use water as the reflecting surface, and I was obliged to remove my glass horizon from it’s first adjustment lest the savages should pilfer it.

**Clark**
between 12 & 3 oClock this morning we had total eclips of the moon. This morning not So Cold as yesterday, wind from the SE. Wind choped around to the NW. Still temperate.

**Gass**
the weather was warm, and the snow melted fast

**Ordway**
a warm pleasant day the weather is thoughy [thawing] so that the Snow melts off the huts & C.

**Whitehouse**
This day the weather had moderated considerable, warm to what it has been. The day kept warm & pleasant—

**Wednesday, January 16**

**Weather Diary**

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<th>Sunrise</th>
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<td>Wind</td>
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<td>36a</td>
<td>c</td>
<td>W</td>
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**Daily Narrative Journals**

**Clark**
4 men...hunting returned one frost’d (but not bad) [Whitehouse]

**Gass**
the weather was warm, and the snow melted fast

**Ordway**
cloudy & warm.
**Whitehouse**

quite warm weather for the time a year & pleasant and the snow melted fast— The Man that was frost bitten informed us that he felt much easier than he had done, since he was frost bitten.

**Thursday, January 17**

**Weather Diary**

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<td>Weather</td>
<td>Wind</td>
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<tr>
<td>2b</td>
<td>c</td>
<td>W</td>
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**Daily Narrative Journals**

**Clark**

a very windy morning hard from the North. Thermometer at 0

**Gass**

it became cold; the wind blew hard from the north, and it began to freeze.

**Ordway**

a clear cold morning. The wind high from the NW

**Whitehouse**

This morning about 3 oClock the Wind began to blow from the North, & began to freeze. This wind continued all this day, the Weather being very Cold—

**Friday, January 18**

**Weather Diary**

at Sun rise 12\(^{\circ}\) below 0

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<th>Sunrise</th>
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<th>Missouri River</th>
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<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>1b(^{7})</td>
<td>f</td>
<td>NW</td>
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</table>

\(^{7}\) In Voorhis No. 4 Clark lists this temperature as “20 b.”

**Daily Narrative Journals**

**Clark**

a fine worm morning
Gass        Clear cold weather.
Ordway      moderate weather
Whitehouse  This day we had clear cold Weather

Saturday, January 19

Weather Diary

Ice now 3 feet thick on the most rapid part of the river—

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<th>Sunrise</th>
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<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<td>12a</td>
<td>c</td>
<td>NE</td>
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</table>

Daily Narrative Journals

Clark        a fine Day
Ordway      cloudy
Whitehouse  The weather continued Cold and Clear. Two hunters proceeded on the Ice the River being fast froze over for some time past—

Sunday, January 20

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>28a 8</td>
<td>f</td>
<td>NE</td>
</tr>
</tbody>
</table>

Clark        a Cold fair day

Clark’s Journal Codex C lists this temperature as “28 a.”
Ordway    a pleasant morning

Whitehouse   We still continued to have clear cold weather.

Monday, January 21

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>2b</td>
<td>c</td>
<td>NE</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark    a fine day

Gass    A clear cold day.

Ordway    moderate weather.

Whitehouse    The weather still continued Clear and Cold,

Tuesday, January 22

Weather Diary

mist the afternoon observation.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>10a</td>
<td>f a h</td>
<td>NW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark    a find warm Day.  Attempted to Cut the Boat & perogues out of the Ice, found water at about 8 inches under the 1st Ice, the next thickness about 3 feet

Gass    The weather was warm.  We commenced cutting ice from about our craft, in order
to get them out of the river.

**Ordway**
a pleasant morning. All hands Employed at cutting away the Ice from round the Barge & pearogues. They soon cut through the Ice in places. The water Gushed over where they had cut so they had to quit cutting with axes—

**Whitehouse**
This day all our Men who were at the fort was employed to cut the Ice in order to get the boat & Pettyaugers out of the River, in the night we had a heavy fall of Snow, which made it difficult to work in the Ice for some days—

**Wednesday, January 23**

**Weather Diary**

the snow feel about 4 inches deep last night and continues to snow

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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</tr>
</tbody>
</table>

**Daily Narrative Journals**

**Clark**
a Cold Day, Snow fell 4 Inches deep, the occurrences of this day is as is common—

**Gass**
The weather was warm. The snow fell about 3 inches deep.

**Ordway**
Snowey this morning

**Whitehouse**
We had a continuation of Snow the greater part of this day, on its leaving off, it continued Cold to the 30th, all hands during this time were employed at work on the boats & Pettyaugers to get them free from the Ice, and hawled Stones on a Sled which they made warm in a fire, in order to thaw the Ice from about the said Crafts, when the Stones were put into the fire, they would not stand the heat of the fire but all of them broke, so that their labour was lost.

**Thursday, January 24**

**Weather Diary**
<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</tbody>
</table>

**Daily Narrative Journals**

- **Clark**: a fine day
- **Gass**: A cold day.
- **Ordway**: colder this morning than it has ben for Several days past.
- **Whitehouse**: Cold

**Friday, January 25**

**Weather Diary**

it frequently happens that the sun rises fair and in about 15 or 20 minutes it becomes suddenly [cloudy] turbid, as if the had some chimical effect on the atmosphere.—

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
<tr>
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<td>26b</td>
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<tr>
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<td>4b</td>
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</tbody>
</table>

**Daily Narrative Journals**

- **Clark**: men employ’d in Cutting the Boat out of the ice
- **Gass**: All hands employed in cutting away the ice, which we find a tedious business.
- **Ordway**: clear & cold this morning.
- **Whitehouse**: Cold
Saturday, January 26

**Weather Diary**

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>12a</td>
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<td>NE</td>
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</tbody>
</table>

**Daily Narrative Journals**

Clark a verry fine worm Day

Gass A pleasant day

Ordway Cloudy & warm the wind from the South.

Whitehouse Cold

Sunday, January 27

**Weather Diary**

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>20a</td>
<td>c</td>
<td>SE</td>
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</tbody>
</table>

**Daily Narrative Journals**

Clark a fine day, attempt to Cut our Boat and Conoos out of the Ice, a deficuelt Task I fear as we find water between the Ice

Gass The weather has become much more settled, warm and pleasant than it had been for some time.

Ordway Cloudy

Whitehouse Cold
Monday, January 28

Weather Diary

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<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<td>2b</td>
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<td>NW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Lewis Observed Equal altitudes...in which sperits were substituted for water, it being to could to use the later.

Clark warm day

Gass The weather warm and pleasant

Ordway Clear and cold.

Whitehouse Cold

Tuesday, January 29

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<td>4a</td>
<td>f</td>
<td>SW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark we Sent & Collect Stones and put them on a large log heap to heet them with a View of warming water in the Boat and by that means, Seperate her from the Ices, our attempt appears to be defeated by the Stones all breaking & flying to peaces in the fire, a fine warm Day.

Gass We attempted another plan for getting our water craft disengaged from the ice: which as heated in the boast, with hot stones; but in this project we failed, as the stones we
found would not stand the fire, but broke to pieces.

Ordway Clear & pleasant

Whitehouse Cold

Wednesday, January 30

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>6a</td>
<td>c</td>
<td>NW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark a fine morning, Clouded up at 9 oClock

Gass I went up river and found another kind of stones, which broke in the same manner; so our batteux and periogues remained fast in the ice.

Ordway Some Cloudy. Sergt. Gass sent up the river to an other bluff in order to look for another kind of Stone that would not Split with heat he brought one home & het it found it was the Same kind of the other as soon as it was hot it bursted asunder So we Gave up that plan—

Whitehouse Cold

Thursday, January 31

Weather Diary

the Snow fell 2 Inches last night.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>2b</td>
<td>c a s</td>
<td>NW</td>
</tr>
</tbody>
</table>
### Daily Narrative Journals

**Clark**  
Snowed last night, wind high from the NW. Cold disagreeable

**Gass**  
Some snow fell last night. In the morning the wind blew and was cold, toward the middle of the day the weather became moderate, and the afternoon was pleasant.

**Ordway**  
Snowed the greater part of last night. The wind high from NW the Snow flew

**Whitehouse**  
This morning we had a fresh wind from the NW, and the weather Cold, In the afternoon it got warm & pleasant weather—
February 1805
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

The Expedition remained in winter quarters at Fort Mandan near present-day Washburn, North Dakota during February 1805.

Friday, February 1

Weather Diary 1

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River 2</th>
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</thead>
<tbody>
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<tr>
<td>6a</td>
<td>c</td>
<td>NW</td>
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<tr>
<td>16a</td>
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<td>NW</td>
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</table>


2 River observations on the Missouri River were taken at sunrise for a 24-hour period.

Daily Narrative Journals

Clark a cold windey Day

Gass A cold day.

Ordway clear & cold. The weather being bad they killed nothing—

Whitehouse This morning we had pleasant weather.

Saturday, February 2

Weather Diary
Daily Narrative Journals

Clark  a fine Day

Ordway  a clear morning. My hat got burnt exedantly this morning. The river raiseing.

Sunday, February 3

Weather Diary

Lewis  a fine day. the situation of our boat and perogues is now allarming, they are firmly inclosed in the Ice and almost covered with snow – the ice which incloses them lyes in several stratas of unequal thickness which are seperated by streams of water. This [is] peculiarly unfortunate because so soon as we cut through the first strata of ice the water rushes up and rises as high as the upper surface of the ice and thus creates such a debth of water as renders it impracticable to cut away the lower strata which appears firmly attached to, and confining the bottom of the vessels. We then determined to attempt freeing them from the ice by means of boiling water which we purposed heating in the vessels by means of hot stones, hut this expedient proved also fruitless, as every species of stone which we could procure in the neighbourhood partook so much of the calcarious genus that they burst into small particles on being exposed to the heat of the fire.

Gass  A cold day.

Whitehouse  This day we had Clear cold weather, nothing of consequence happened at the Fort worth mentioning—
Monday, February 4

**Weather Diary**

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>18b</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>

**Daily Narrative Journals**

**Lewis**
This morning fair tho’ could, the thermometer stood at 18° below Naught, wind from NW.

**Clark**
our provisions of meat being nearly exorsted I concluded to Decend the River on the Ice & hunt

**Gass**
A fine day.

**Ordway**
clear and pleasant

**Whitehouse**
This day we had Clear weather but cold

---

Tuesday, February 5

**Weather Diary**

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>10a</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>

**Daily Narrative Journals**

**Lewis**
Pleasant morning wind from NW, fair

**Clark**
the morning verry Cold & windey [entered on the 13th]

**Ordway**
the morning clear. The River Riseing So that the water Spreads over the Ice in Sundry places near this.
Whitehouse  We had fair Weather

Wednesday, February 6

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>4b</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Lewis  Fair morning, wind from NW
Clark  Cold morning the after part of the Day worm [entered on the 13th]
Ordway  clear and pleasant
Whitehouse  This day was clear & pleasant Weather

Thursday, February 7

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>18b</td>
<td>f</td>
<td>SE</td>
</tr>
</tbody>
</table>

³ Clark’s Journal Codex C lists this temperature as “29 a.”

Daily Narrative Journals

Lewis  This morning was fair, Thermometer at 18⁰ above naught much warmer than it has been for some days; Wind SE
Ordway  pleasant & warm

Lewis & Clark Expedition Weather Journals, 1805,  Page 25
Friday, February 8

Weather Diary

the Black & white & Speckled woodpecker has returned—

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>18a</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Lewis         This morning was fair, wind SE. The weather still warm and pleasant—

Ordway       moderate weather

Saturday, February 9

Weather Diary

very little snow

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<td>10a</td>
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<td>SE</td>
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</tbody>
</table>

Daily Narrative Journals

Lewis         The morning fair and pleasant, wind from SE—

Ordway       Some cloudy, the water which run over the Ice in the River has froze Smoth.

Sunday, February 10

Weather Diary
<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>18a</td>
<td>c a s</td>
<td>NW</td>
</tr>
</tbody>
</table>

**Daily Narrative Journals**

**Lewis**
This Morning was Cloudy after a slight snow which fell in the course of the night, the wind blue very hard from W. altho’ the thermometer stood at 18° Above naught the violence of the wind caused a degree of could that was much more unpleasant than that of yesterday when thermometer stood at 10° only above the same point.

**Clark**
a cold Day, wind blew hard from the NW. J. Fields got one of his ears frosed [entered on the 13th]

**Ordway**
high wind from NW Squawly flights of Snow. On the river...the Ice being Smoth the horses could not Go on the Ice with out Shoes.

**Monday, February 11**

**Weather Diary**

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<td>8b</td>
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<td>NW</td>
</tr>
</tbody>
</table>

**Daily Narrative Journals**

**Lewis**
this morning the weather was fair and could wind NW.

**Clark**
air keen [entered on the 13th]

**Ordway**
the day clear but cold—

**Tuesday, February 12**

**Weather Diary**
<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>14b</td>
<td>f</td>
<td>SE</td>
</tr>
</tbody>
</table>

**Daily Narrative Journals**

**Lewis**
The morning was fair tho’ could, thermometer at 14° below naught wind SE

**Clark**
The ice on the parts of the River which was very rough, as I went down, was Smothe on my return, this is owing to the rise and fall of the water, which takes place every day or two, and Caused by partial thaws, and obstructions in the passage of the water thro the Ice, which frequently attaches itself to the bottom— the water when rising forses its way thro the cracks & air holes above the old ice, & in one night becomes a Smothe Surface of ice 4 to 6 Inches thick— the river falls & the ice Sink in places with the water and attaches itself to the bottom, and when it again rises to its former hite, frequently leaves a valley of Several feet to Supply with water to bring it on a leavel Surface. The water of the Missouri at this time is Clear with little Tinges.

[entered on the 13th]

**Ordway**
a clear morning

**Wednesday, February 13**

**Weather Diary**

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>2b</td>
<td>c</td>
<td>SE</td>
</tr>
</tbody>
</table>

**Daily Narrative Journals**

**Lewis**
The morning cloudy, thermometer 2° below naught, wind from SE.

**Clark**
I returned last Night from a hunting party much fatigued, having walked 30 miles on the ice and through Points of wood land in which the Snow was nearly Knee Deep.

**Ordway**
Snow the later part of the day.

**Whitehouse**
This day clear & pleasant weather—
Thursday, February 14

Weather Diary

The Snow fell 3 Inches deep last night

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<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<td>Temp</td>
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<td>Wind</td>
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<tr>
<td>2a</td>
<td>c a s</td>
<td>NW</td>
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</tbody>
</table>

Daily Narrative Journals

Clark The Snow fell 3 inches Deep last night, a fine morning

Ordway Snowed the Greater part of last night. The day pleasant.

Whitehouse This morning we had clear weather but pleasant—

Friday, February 15

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>16b</td>
<td>f</td>
<td>SW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark the morning fine, the Thermometer Stood at 16° below 0, Noght. one Chief of the Mandans returned from Capt. Lewises Partly nearly blind— this Complaint is as I am informd. Common at this Season of the year and caused by the reflection of the Sun on the ice & Snow, it is cured by “jentilley Swetting the part affected, by throweng Snow on a hot Stone.” Verry Cold part of the night—

Ordway Some of the mens feet were sore walking 300 odd mls. on the Ice to day.

Whitehouse This morning we had fine Clear weather.
Saturday, February 16

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
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<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>2a</td>
<td>f</td>
<td>SE</td>
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</tbody>
</table>

Daily Narrative Journals

Clark a fine morning

Gass had a cold morning. This morning the Indians, who had come down with us and of our men whose feet had been a little frozen, returned home.

Ordway a clear cold morning.

Whitehouse We had a fine Clear day, the weather being moderate—

Sunday, February 17

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>4a</td>
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<td>SE</td>
</tr>
</tbody>
</table>

4 Lewis does not record rise or fall but does record “½” inch. Clark gives neither a rise or fall or depth.

Daily Narrative Journals

Clark this morning worm & a little Cloudy. The after part of the day fair

Whitehouse The weather continued Clear & moderate.
Monday, February 18

**Weather Diary**

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
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<td>NE</td>
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</tbody>
</table>

**Daily Narrative Journals**

Clark: a cloudy morning, Some Snow

Ordway: clear and pleasant

Whitehouse: The hunters...brought the Sleds loaded with the Meat up the River on the Ice, it still being froze over the Mesouri, & the Ice very thick & strong—

Tuesday, February 19

**Weather Diary**

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>4a</td>
<td>f</td>
<td>SE</td>
</tr>
</tbody>
</table>

**Daily Narrative Journals**

Clark: a fine Day

Ordway: a clear pleasant morning.

Whitehouse: We had fine clear moderate weather
Wednesday, February 20

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>2a</td>
<td>f</td>
<td>S</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark   a Butifull Day
Ordway a clear and pleasant morning.
Whitehouse We had fine clear moderate weather

Thursday, February 21

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>6a</td>
<td>f</td>
<td>S</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark   a Delightfull Day put our Clothes to Sun—
Gass    Some rain fell to day, the first that has fallen since November. In the evening, the weather became clear and pleasant.
Ordway clear and pleasant. The Snow and Ice throught on the River considerable So that it was wet & Slopy halling the Sled. The men generally fatigued halling a heavy load 21 miles on the hard Ice & Snow in places which made the Sleds run hard except where the Ice was Smoth under—
Whitehouse This day the weather still continued Clear & pleasant
Friday, February 22

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>8a</td>
<td>c</td>
<td>N</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  a Cloudy morning, at about 12 oClock it began to rain and Continud for a fiew minits, and turned to Snow, and Continud Snowing for about one hour, and Cleared away fair

Gass  Was a fine day and we again began to cut away the ice, and succeeded in getting out one of the periogues.

Ordway rained a Short time and turned to Snow. Snowed a Short time and cleared off, the men came home last night

Whitehouse  We had still Clear, pleasant weather

Saturday, February 23

Weather Diary

got the poplar perogue out of the ice.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>18a</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  All hands employed in Cutting the Perogues Loose from the ice, which was nearly even with their top; we found great difficuelty in effecting this work owing to the Different devisions of Ice & water. After Cutting as much as we Could with axes, we had all the Iron we Could get & Some axes put on long poles and picked through the ice, under the first water, which was not more the 6 to 8 inches deep— we
disengaged one Perqogue, and nearly disingaged the 2\textsuperscript{nd} in Course of this day which has been warm & pleasant

\textbf{Gass}  
We had fine pleasant weather, and all hands were engaged in cutting the ice away from the boat and the other perioque. At 4 o’clock in the afternoon we had the good fortune to get both free from the ice

\textbf{Ordway}  
a pleasant morning.

\textbf{Whitehouse}  
The weather still continued fine and Clear, all our party were employ’d in cutting the ice from round the Boat & Pettyaugers. At one oClock we got one of the Pettyaugers out of the Ice on Shore—

\textbf{Sunday, February 24}  
\textbf{Weather Diary}  
loosed the boat & large perogue from the ice.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>8a</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>

\textbf{Daily Narrative Journals}  
\textbf{Clark}  
The Day fine, we Commenced very early to day the Cutting loose the boat

\textbf{Ordway}  
a beautiful morning. All hands employed cutting away Ice from round the Barge. Found that the Ice was verry thick clear under hir.

\textbf{Whitehouse}  
We had pleasant weather. All our party were still employed in cutting the Ice round the Boat & pettyauger we succeeded, and got both the boat & pettyauger on the bank....clear of danger, when the Ice broke up in the River—

\textbf{Monday, February 25}  
\textbf{Weather Diary}  

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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</tr>
</tbody>
</table>
16a  f  W  38a  f  NW  -  -  -  -

**Daily Narrative Journals**

Clark  The day has been exceedingly pleasant

Whitehouse  This day was Clear & pleasant.

**Tuesday, February 26**

**Weather Diary**

got the Boat and perogues on the bank

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>20a</td>
<td>f</td>
<td>NE</td>
</tr>
</tbody>
</table>

**Daily Narrative Journals**

Clark  a fine day    Drew up the Boat & perogus, after Cutting them out of the ice with great Difficulty— & trouble

Ordway  a pleasant morning.

Whitehouse  The weather continued still clear & fine;

**Wednesday, February 27**

**Weather Diary**

got the Boat and Perogues on the bank.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>26a</td>
<td>f</td>
<td>SE</td>
</tr>
</tbody>
</table>

**Daily Narrative Journals**

Lewis & Clark Expedition Weather Journals, 1805,  Page 35
Clark  a fine day. I commence a Map of the Countrey on the Missouries & its waters &c &c—

Ordway  a beautiful pleasant morning.

Whitehouse  We have still fine weather;

Thursday, February 28

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>24a</td>
<td>f</td>
<td>E</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  a fine morning

Whitehouse  This morning the weather cold but toward Noon it moderated
March 1805
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

The Expedition remained in winter quarters at Fort Mandan near present-day Washburn, North Dakota during March 1805.

Friday, March 1

Weather Diary ¹

the snow has disappeared in many place the river partially broken up—

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River ²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>28a</td>
<td>c</td>
<td>W</td>
</tr>
</tbody>
</table>


² River observations on the Missouri River were taken at sunrise for a 24-hour period.

Daily Narrative Journals

Clark a fine Day

Ordway cloudy & arm this morning. The after part of the day clear and pleasant—

Whitehouse the weather continued Clear & Cold—

Saturday, March 2

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>28a</td>
<td>f</td>
<td>NE</td>
</tr>
</tbody>
</table>

Lewis & Clark Expedition Weather Journals, 1805, Page 37
Daily Narrative Journals

Clark  
a fine Day. The river brake up in places

Ordway  
a beautiful pleasant morning

Whitehouse  
This day we had fine Clear weather.

Sunday, March 3

Weather Diary

a flock of ducks pased up the river this morning—

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>28a</td>
<td>c</td>
<td>E</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  
a Cloudy morning, wind from the NW. A large flock of Ducks pass up the River—

Ordway  
clear & pleasant.

Whitehouse  
This day we had Clear Cold weather

Monday, March 4

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>26a</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>
Ordway  the wind high from the NW  They day pleasant.

Whitehouse  the weather continued Clear & pleasant

Tuesday, March 5

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>22a</td>
<td>f</td>
<td>E</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  a fine Day.  Themometer at 40° abo. 0

Ordway  clear and pleasant.  A light Squawl of Snow fell about 4 oClock this morning.  Nothing extraordinary.

Whitehouse  the weather continued Clear & pleasant

Wednesday, March 6

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>26a</td>
<td>c</td>
<td>E</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  a Cloudy morning & Smokey all Day from the burning of the plains, which was Set on fire by the Minetarries for an early crop of Grass as an endusement for the Buffalow to feed on— the river rise a little to day—

Ordway  moderate weather.  The wind from NE  the Water has run over the Ice So that it is difficult crossing the river.
Whitehouse  the weather continued Clear & pleasant

Thursday, March 7

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>12a</td>
<td>f</td>
<td>E</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  a little Cloudy and windey NE.
Ordway clear but Some colder than it has been for Several days past.
Whitehouse the weather continued Clear & pleasant

Friday, March 8

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>7a</td>
<td>c</td>
<td>E</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  a fair morning, Cold and windey, wind from the East
Ordway Some cloudy & cold.
Whitehouse the weather continued Clear & pleasant
Saturday, March 9

Weather Diary

wind hard all day.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>2a</td>
<td>c</td>
<td>N</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark a Cloudy Cold and windey morning, wind from the North. I walked up to see the Party that is makeing Perogues, about 5 miles above this, the wind hard and Cold

Ordway the wind high from the NW

Whitehouse the weather continued Clear & pleasant

Sunday, March 10

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>2b</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark a Cold winday Day

Ordway the day clear and cold high winds—

Whitehouse the weather continued Clear & pleasant
Monday, March 11

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>12a</td>
<td>c</td>
<td>SE</td>
</tr>
</tbody>
</table>

Clark’s Journal Codex C lists this temperature as “26 a.”

Daily Narrative Journals

Clark A Cloudy Cold windey day, Some Snow in the latter part of the day

Ordway clear Moderate weather

Whitehouse the weather continued Clear & pleasant

Tuesday, March 12

Weather Diary

snow but slight disappeared to day

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>2b</td>
<td>f a s</td>
<td>N</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark a fine day Some Snow last night Wind NW

Ordway a little Snow last night. A clear cold morning the river raiseing fast.

Whitehouse the weather continued Clear & pleasant
Wednesday, March 13

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>1b</td>
<td>f</td>
<td>SE</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  
a fine day  
The river riseing a little— wind SW

Ordway  
clear and cold  
the wind high from the South

Whitehouse  
the weather continued Clear & pleasant

Thursday, March 14

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>18a</td>
<td>f</td>
<td>SE</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  
a fine day  
wind Wet.  
River Still riseing

Ordway  
clear & warm

Whitehouse  
the weather continued Clear & pleasant

Friday, March 15

Weather Diary
Sunrise  |  4 PM  |  Missouri River
---|---|---
| Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches |
| 24a | f | SE | 38a | f | W | F | - | 1 |

**Daily Narrative Journals**

**Clark**  a fine day

**Ordway**  clear pleasant and warm.

**Whitehouse**  the weather continued Clear & pleasant

**Saturday, March 16**

**Weather Diary**

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Temp</td>
<td>Weather</td>
</tr>
<tr>
<td></td>
<td>32a</td>
<td>c</td>
</tr>
</tbody>
</table>

**Daily Narrative Journals**

**Clark**  a Cloudy day, wind from the SE

**Ordway**  Cloudy & warm. The wind high from the East. Look likely for rain—

**Whitehouse**  the weather continued Clear & pleasant

**Sunday, March 17**

**Weather Diary**

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Temp</td>
<td>Weather</td>
</tr>
<tr>
<td></td>
<td>30a</td>
<td>f</td>
</tr>
</tbody>
</table>
**Daily Narrative Journals**

**Clark**  
a windey Day. The river riseing a little and Severall places open.

**Ordway**  
clear and pleasant.

**Whitehouse**  
the weather continued Clear & pleasant

**Monday, March 18**

**Weather Diary**

collected Some herbs plants in order to send by the boat.  particularly the root said to cure bites of the mad dog and rattlesnake.—

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>24a c</td>
<td>N</td>
<td>34a c</td>
</tr>
</tbody>
</table>

**Daily Narrative Journals**

**Clark**  
a cold cloudy Day, wind from the N

**Ordway**  
Cloudy

**Whitehouse**  
the weather continued Clear & pleasant

**Tuesday, March 19**

**Weather Diary**

But little snow not enough to cover the ground

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>20a c a s</td>
<td>N</td>
<td>31 4</td>
</tr>
</tbody>
</table>

4 Clark’s Journal Codex C lists this temperature as “31 a.”
**Daily Narrative Journals**

Clark  
Cold windey Day Cloudy. Some little Snow last night

Ordway  
cloudy a light Sqawul of Snow cold air

Whitehouse  
the weather continued Clear & pleasant

---

**Wednesday, March 20**

**Weather Diary**

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>28a</td>
<td>c</td>
<td>NW</td>
</tr>
</tbody>
</table>

Clark’s Journal Codex C lists this temperature as “28 a.”

---

**Daily Narrative Journals**

Clark  
cloudy, wind hard from N

Ordway  
a cloudy cool morning. The after part of the day pleasant.

Whitehouse  
the weather continued Clear & pleasant

---

**Thursday, March 21**

**Weather Diary**

some ducks seen to light in the river opposit the fort

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>16a</td>
<td>c</td>
<td>E</td>
</tr>
</tbody>
</table>

---

**Daily Narrative Journals**

Clark  
a Cloudy Day, Some Snow

---

*Lewis & Clark Expedition Weather Journals, 1805, Page 46*
Ordway
Cloudy the wind from the SE a little Snow fell the after part of the day—

Whitehouse
This day we had still, pleasant Weather, nothing occur’d worth mentioning

Friday, March 22

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>22a</td>
<td>f a s</td>
<td>S</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark
Some few Drops of rain this evening for the first time this Winter, a Cloudy Day

Ordway
a clear pleasant morning. The wind from the SE

Whitehouse
We had some Rain this morning, but it continued but a short time, the weather being cloudy & cold.

Saturday, March 23

Weather Diary

but little rain.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>34a</td>
<td>f</td>
<td>W</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark
a find Day in the fore part, in the evening a little rain & the first this winter—

Ordway
clear and pleasant. Rained a little the latter part of the day—

Whitehouse
This morning we had Snow— towards Noon it ceased, and the weather moderated
and became pleasant— in the evening it grew cold & froze during the Night.

**Sunday, March 24**

**Weather Diary**

but little Snow.

<table>
<thead>
<tr>
<th>Sunrise</th>
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</table>

**Daily Narrative Journals**

Clark 
preparing to Set out, A Cloudy morning, wind from the NE, the after part of the Day fair. Saw Swans & wild Gees flying NE this evening

Ordway cloudy

Whitehouse We had pleasant Weather, continued to freeze in the Evenings

**Monday, March 25**

**Weather Diary**

a gang of swan return to day the ice in the river has given way in many places and it is with some difficulty it can be passed—

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**Daily Narrative Journals**

Clark a fine Day, wind SW. The ice broke up in Several places in the evenig, broke away and was nearly takeing off our new Canoes, river rise a little

Ordway clear and pleasant.
Whitehouse  We had pleasant Weather, continued to freeze in the Evenings

Tuesday, March 26

Weather Diary

the ice gave way in the river about 3 PM and came down in immense sheets very near distroying our perogues— some gees pass today.

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</table>

Daily Narrative Journals

Clark  The river choked up with ice opposit to us and broke away in the evening, raised only ½ Inch, all employed preparing to Set out

Gass  We put the canoes in the water as the river had risen there was some water between the ice and the shore. We got three of them safe to the fort; but the ice breaking before the other three were gotten down, so filled the channel, that we were obliged to carry them the rest of the way by land.

Ordway  clear and pleasant. About 2 oClock they returned with the perogues, but before they had landed the Ice Started So that we had to draw them out with Speed The ice Stoped and jammed up. Started Several times but Stoped entirely before night.

Whitehouse  This day we had moderate weather, and the Ice broke up.

Wednesday, March 27

Weather Diary

the first insect I have seen was a large black knat today— the ice drifting in large quantities.—

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</table>
**Daily Narrative Journals**

**Clark**  
a windey Blustering Day, wind SW.  Ice running the [river] Blocked up in view for the Space of 4 hours and gave way leaveing great quantity of ice on the Shallow Sand bars.

**Ordway**  
clear and pleasant.  The Ice kep breaking and Starting the Most of the day—

**Whitehouse**  
This day we had pleasant weather

**Thursday, March 28**

**Weather Diary**

it [river] raised 13 inch and fell 12.  wind hard, ice abates in quantity

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**Daily Narrative Journals**

**Clark**  
the ice Stoped running owing to Some obstickle above.  But few Indians visit us today, they are watching to catch the floating Buffalow which brake through the ice in Crossing

**Ordway**  
the Ice run in the River all last night.  A pleasant morning.  The Ice continues to run.

**Whitehouse**  
This day was blustering which continued the whole day—

**Friday, March 29**

**Weather Diary**

a variety of insects make their appearance, as flies bugs &c.  the ice ceases to run  supposed to have formed an obstruction above.—

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</table>
The obsticle broke away above & the ice came down and is passing in great quantities, the river rose 13 inches the last 24 hours. I observed extrodanary dexterity of the Indians in jumping from one Cake of ice to another, for the purpose of Catching the buffalow as they float down. Maney of the Cakes of ice which they pass over are not two feet Square. The Plains are on fire in view of the fort on both Sides of the River, it is Said to be common for the Indians to burn the Plains near their villages every Spring for the benifit of ther horse, and to induce the Buffalow to come near to them.

Ordway clear and pleasant. The River fell 22 inches in 22 hours. We continue gitting ready to Start up the River.

Whitehouse We had all this day high winds, but the Air was not so cold, as it had been for the several days past.

Saturday, March 30

Weather Diary

ice came down in great quantities the Mandans take Some floating Buffaloe

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Daily Narrative Journals

Clark Cloudy Day. Several gangus of Gees and Ducks pass up the river. Not much Ice floating down today—

Ordway clear and pleasant. The river raised 10 Inches last night the ice runs thick in the R. to day

Whitehouse high winds, but not cold

Sunday, March 31

Weather Diary
ducks and Gees passing    ice abates in quantity

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**Daily Narrative Journals**

**Ordway**  cloudy. Rained Some at three o’clock this morning. The Ice does not run So thick in the River as it did yesterday.

**Whitehouse**  fine Clear warm weather—
April 1805
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

The Expedition remained at the winter quarters of Fort Mandan near present-day Washburn, North Dakota until they leave on April 7, 1805 into un-explored lands towards the Continental Divide and on to the Pacific Ocean.

Monday, April 1

Weather Diary ¹

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<td>33a</td>
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<td>NW</td>
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¹ Reference: Coues, Volume III, pages 1271-72, 1287-88; Moulton, Volume 4, pages 91-96; Thwaites, Volume 6, Part II, pages 185-188.

² River observations on the Missouri River were taken at sunrise for a 24-hour period.

³ Clark’s Journal Codex C lists this temperature as “38 a.”

⁴ Clark’s Journal Codex C lists this weather data as “c a t c h & r.”

Daily Narrative Journals

Clark

The fore part of the day haile rain with Thunder & lightning, the rain continued by intimitions all day, it is worthy of remark that this is the 1st rain which has fallen since we have been here or since the 15 of October last, except a few drops at two or three different times—

Gass

A considerable quantity of rain fell this day; the first of any consequence that had fallen here for six months.

Lewis & Clark Expedition Weather Journals, 1805, Page 53
Ordway  Thunder and hail & hard rain about 8 oClock this morning for about an hour. Began to rain again about 4 ock. PM rained untill 12 oC. at night & ceased.

Whitehouse  This morning we had some rain, which lasted about 2 hours & clear’d up Cool, all our party was employed in putting the Boat & Pettaugers into the River, which they Effected—

Tuesday, April 2

Weather Diary

rained hard and without intermission last night

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Daily Narrative Journals

Clark  a Cold cloudy rain day.  Rained all last night.  The river falling fast.

Gass  the weather was fair bu windy

Ordway  the wind blew high from NW all the later part of the night.  A cloudy morning. The wind rises from NW the river fell 5 inches Since yesterday morning The later part of the day plsant.

Whitehouse  This day the weather was cold & in the fore part of the day it froze.  The latter part we had Blustery weather—

Wednesday, April 3

Weather Diary

frost last night  a white frost & Some ice on the edge of the river ....
Clark’s Journal Codex I lists this wind direction as “N.”

Daily Narrative Journals

Clark  a white frost this morning, some ice on the edge of the water.  A fine day.

Gass  the weather was fine and pleasant

Ordway  clear and pleasant.

Whitehouse  This day was Clear, & pleasant weather.

Thursday, April 4

Weather Diary

Observed a flock of brant passing up the river today; the wind blew very hard as it dose frequently in this quarter; there is sarcelly any timber to brake the wind from the river, & the country on both sides being level plains, wholly destitute of timber, the wind blows [over them] with astonishing violence. In this open country the winds form a great obstruction to the navigation of this river particularly with small vessels, which can neither ascend or descend should the wind be the least violent.—

Daily Narrative Journals

Clark  a blustering windey Day.

Gass  A fine clear day.

Ordway  clear and pleasant.  The articles for St. Louis carred on board the barge ready to Set out but the wind blew high from the NW so we did not load the perogues.

Whitehouse  had fine Clear weather

Friday, April 5
Weather Diary

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</table>

Clark’s Journal Codex C lists this wind direction as “NW.”

Daily Narrative Journals

Clark the wind verry high from the NW

Gass This was a clear day and the wind blew hard and cold from the NW

Ordway clear and pleasant. The wind high from the NW

Whitehouse had fine Clear weather

Saturday, April 6

Weather Diary

all the birds that we believe visit this country have now returned.—

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<td>Wind</td>
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<td>19a</td>
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</table>

Daily Narrative Journals

Clark a fine Day

Gass The day was clear and pleasant.

Ordway clear and pleasant. The wind Gentle from the South.

Whitehouse had fine Clear weather

The Expedition splits into two parties. The permanent party of 33 people begins
their journey up the Missouri in two perogues and canoes, while the remaining members return the keelboat to St. Louis with journals that were written coming up the Missouri and at Fort Mandan, as well as various plant, animal and mineral specimens.

Sunday, April 7

Weather Diary

Visited by Ricara Chief wind very high. Set out on our voyage at 5 PM encampt a 4 me. S.S.

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<td>28a</td>
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6 Clark’s Journal Codex C lists this river rise as “½.”

7 River rise and fall observations continued during the ascent of the Missouri River from Fort Mandan. Although not like previous recording episodes, the data usually is not for a 24-hour period unless they are encamped. In most cases, when the party stopped for the evening, following Lewis’ habit from previous journal entries, it is surmised that a mark was made and measured the next morning. Thus many observations were only a 8 to 10 hour long.

Daily Narrative Journals

Lewis Our vessels consisted of six small canoes, and two large perogues. This little fleet altho’ not quite so respectable as those of Columbus or Capt. Cook were still viewed by us with as much pleasure as those deservedly famed adventures ever beheld theirs; and I dare say with quite as much anxiety for their safety and preservation. We were now about to penetrate a country at least two thousand miles in width, on which the foot of civillized man had never trodden.

Clark a windey day

Ordway clear and pleasant. We went on verry well with a hard head wind wind high from NW the greater part of the night

Whitehouse This day we had fair weather—
Monday, April 8

Weather Diary

the Kilde, and large Hawk have returned. Buds of the Elm swolen and appear red— the only birds that I obseved during the winter at Fort Mandan was the Missouri Magpie, a bird of the Corvus genus.

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<td>19a</td>
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</table>

Daily Narrative Journals

Lewis

Set out early this morning, the wind blew hard against us from the NW. We therefore traveled very slowly.

Clark

wind hard a head from the NW.

Gass

had a clear day. The wind blew hard from the NW. In the afternoon we passed very high bluffs on the South side; one of which had lately been a burning vulcano. The pumice stones lay very thick around it, and there was a strong smell of sulphur.

Ordway

clear and cold. The wind high from the W we saw some Snow on the NS of the hills, and thick Ice on and under the banks of the river.

Whitehouse

This day we had clear weather, the Wind blowing fresh from the Northwest.

Tuesday, April 9

Weather Diary

the Crow has also returned saw the first today. & the corvus bird disappears the Musquitoes revisit us, saw several of them. Capt. Clark broght me a flower in full blo. it is a stranger to me.— the peroque [shakes with] is so unsteady that I can scarcely write

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</table>
Daily Narrative Journals

Clark Set out this morning very early under a gentle breeze from the SE. I saw a Musquetor to day. great numbers of Brant flying up the river, the Maple, & Elm has buded & Cotton and arrow wood beginning to bud. I saw flowers in the praries to day

Gass had a fine day.

Ordway clear and pleasant. A gentle breeze from the South we set off at day light. Sailed on went Short distance further and halted for to take dinner at a bottom covered with Small cotton wood on N.S. The wind Shifted in to the West and blew Steady. We Saw a number of wild Geese on the river and brants flying over. The Musquetoes begin to Suck our blood this afternoon.

Whitehouse This day Clear & pleasant weather.

Wednesday, April 10

Weather Diary

The prairie lark, bald Eagle, & the large plover have returned. The grass begins to Spring, and the leaf buds of the willow to appear.— Cherry birds disappear.

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Daily Narrative Journals

Lewis The country on both sides of the missouri from the tops of the river hills, is one continued level fertile plain as far as the eye can reach, in which there is not even a solitary tree or shrub to be seen except such as from their moist situations or the steep declivities oh hills are sheltered from the ravages of the fire. About 1 ½ miles down this bluff from this point, the bluff is now on fire and throws out considerable quantities of smoke which has a strong sulphurous smell. The courant of the Missouri is but moderate, at least not greater than that of the Ohio in high tide; it’s banks are falling in but little; the navigation is therefore comparitively with it’s lower portion easy and safe—

Clark the morning cool and no wind. This day proved to be very warm

Gass rapid water and a great many sand-bars. But a fine pleasant day.
Ordway

a clear and pleasant. The current swift. The wind raised from West. One of our men Shot a bald Eagle. I took the quills to write.

Thursday, April 11

Weather Diary

the lark wood pecker, with yellow wings, and a black spot on the brest common to the U’ States has appeared, with sundry small birds.— many plants being to appear above the ground.— saw a large white gull today— the Eagle is now laying their eggs, and the gees have mated.— the Elm, large leafed, willow and the bush which bears a red berry, called by the engages greas de buff are in blume— Small leaf willows in blum.

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Daily Narrative Journals

Clark
we Camped on the S.S. below a falling in bank. The river raise a little.

Gass
had a fine clear pleasant day

Ordway
Clear and pleasant.

Whitehouse
We set off at day light, this morning, the weather being Cool

Expedition arrives at the confluence of the Missouri and Little Missouri Rivers in present-day western North Dakota.

Friday, April 12

Weather Diary

small shower from the W attended with hard wind

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<td>56a</td>
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Lewis & Clark Expedition Weather Journals, 1805, Page 60
Daily Narrative Journals

Lewis  Canoes passed over the Lard side in order to avoid a bank which was rapidly falling in on the Stard. The night proved so cloudy I could make no further observations.

Clark  a fine morning. Set out very early, the mercury Stood 56° above 0. The wind blew very hard from the S all the after part of the day, at 3 oClock PM it became violent & flowey accompanied with thunder and a little rain. The water of the little Missouri is of the Same texture Colour & quality of that of the Big Missouri. The after part of the day so Cloudy that we lost the evening observation.

Gass  Another fine day. arrived at the Little Missouri (properly named), for it exactly resembles the Missouri in colour, current and taste.

Ordway  a clear and pleasant warm morning. The little River Missourie...is 120 yards wide at the mouth, but rapid and muddy like the big Missourie. About 3 oClock their came up a Squawl of very high wind and rain. Some Thunder. The wind lasted untill after Sunsed. Then clear up pleasant evening.

Whitehouse  This morning we had pleasant Weather, the Little Mesouri River...its width at it mouth is 150 yards....it is Muddy, & its current runs strong

Saturday, April 13

Weather Diary

The leaves of the Choke cherry are about half grown; the Cotton wood is in blume the flower of this tree resembles that of aspen in form, and is of a deep perple colour.—

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Daily Narrative Journals

Lewis  The wind was in our favour after 9 A.M. and continued favourable untill three 3. PM. we therefore hoisted both the sails in the White Perogue ....which carried her at a pretty good gate, untill about 2 in the afternoon when a sudden squall of wind struck us and turned the perogue so much on the side as to allarm Sharbono who was steering at the time....the wind however abating for an instant I ordered Drewyer to the helm and the sails to be taken in,

Clark  the Missouri above the mouth of Little Missouri widens to nearly a mile
Gass  We had a pleasant day and a fair wind; but our small canoes could not bear the sail.

Ordway  clear pleasant & warm proceeded on under a fine breeze of wind from the South.

Whitehouse  a fair wind from the Eastward, we sailed the greater part of this day

Sunday, April 14

Weather Diary

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<td>SE</td>
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Daily Narrative Journals

Clark  a fine morning.

Gass  had a fine morning

Ordway  clear & pleasant

Monday, April 15

Weather Diary

several flocks of white brant with black wings pass us today, their flight was to the NW the trees now begin to assume a green appearance, tho’ the earth at the depth of about three feet is not yet thawed, which we discovered by the banks of the river, falling in [to the river] and disclosing a strata of frozen eath.—

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Daily Narrative Journals

Clark  the wind hard from the SE
Gass       We had a pleasant day and a fair wind

Ordway    a clear pleasant morning. Sailed under a fine breeze from the SE the river
          Shallow only about 8 feet deep in some places

Whitehouse We set off this Morning, having a fresh breeze from the NE, about 8 oClock it veered
          round to the South East, and blew moderately—

Tuesday, April 16

Weather Diary

saw the first leather winged bat. It appeared about the same size of those common to the U’ States.

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Daily Narrative Journals

Clark     Wind hard from the SE. Great numbers of Gees in the river & in the Plains feeding
          on the Grass

Gass      We had a clear pleasant day; and in the early part of it, a fair gentle wind. The wind
          became flawy (gusty), and the sailing bad.

Ordway    a clear pleasant morning. The wind gentle from SE passed a Sand beach on the
          N.S. covered with Ice in Some heaps it lay 4 feet thick where the Ice was drove in
          When the river broke up. The trees are putting out Green. The Grass begin to
          Grow in the bottoms & plains which look beautiful. We sailed some with a
          Southerly flawey (gusty) wind. The river crooked so that we could not sail much of
          the time

Whitehouse The Weather was Cool and clear; we proceeded on with all Sails set, having a fine
          breeze from the SE

Wednesday, April 17

Weather Diary

thunder Shower passed above us from SW to NW <no> rain where we were.
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</tbody>
</table>

**Daily Narrative Journals**

**Lewis**
A delightfull morning. There wase more appearance of birnt hills, furnishing large quantities of lave and pumice stone, of the latter some pieces were seen floating down the river. We had a fair wind today which enabled us to sail the greater part of the distance we have traveled

**Clark**
a fine morning, wind from the SE. Pumice Stone & Lava washed down to the bottoms and some Pumice Stone floating in the river. In the evening a thunder gust passed from the SW without rain

**Gass**
We proceeded on early as usual with a fair wind. The day was fine and we made good way.

**Ordway**
a clear beautiful morning. A fair wind. We sailed on

**Thursday, April 18**

**Weather Diary**

Wind very violent a heavy dew this morning, which is the first and only one we have seen since we passed the council bluffs last summer. there is but little dew in this open country.— saw a flock of pilecan pass from SW to NE they appear to be on a long flight.—

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<th>Sunrise</th>
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<th>Missouri River</th>
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**Daily Narrative Journals**

**Lewis**
a fine morning. We were detained today from one to five PM in consequence of the wind which blew so violently from N. that it was with difficulty we could keep the canoes from filling with water altho’ they were along the shore. We came too on the Stard side under a boald well timbered bank which sheltered us from the wind which had abated but not yet ceased.

**Clark**
until near Sunset before Capt. Lewis and the party came up, they were detained by
the wind, which rose soon after I left the boat from the NW & blew very hard until very late in the evening.

**Gass**
The morning was fine and we went on very well until 1 o’clock, when the wind blew so hard down the river, we were obliged to lie to for 3 hours, after which we continued our voyage. Encamped in a good harbour on the north on account of the wind, which blew very hard all night accompanied with some drops of rain.

**Ordway**
a clear pleasant morning. The wind shifted in to the NW and blew hard against us. The wind rose so high that we could not go with the canoes without filling them with water. Detained us about 3 hours. The river has been very crooked and bearing towards the South the most of the day. The game is getting pleantier every day—

**Whitehouse**
This morning Clear pleasant weather. We set off Early, having the wind from the South the water in the River was at a stand in regard to its depth. In the night the dew fell, which was what we had not seen for a long time—

**Friday, April 19**

**Weather Diary**

wind violent. The trees have now put forth their leaves. The goosbury, current, servisbury, and wild plumbs are in blume.

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<td>NW</td>
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</table>

8 Clark’s Journal Codex I lists this temperature as “54 a.”

**Daily Narrative Journals**

**Lewis**
the wind blew so hard this morning from NW that we dared not to venture our canoes on the river—the wind detained us through the course of this day, tho’ we were fortunate in having placed ourselves in a safe harbour.

**Clark**
a blustering windey day, the wind so hard from the NW that we were fearfull of ventering our Canoes in the river. The Praries appear to green, the cotton trees begin to leave, Saw some plumb bushes in full bloom

**Gass**
A cloudy morning, with high wind.

**Ordway**
Cloudy. The wind blew high from the Northward so that we were obliged to lay at our last nights harbour all day. The evening clear blustry & cold. Winds—

**Lewis & Clark Expedition Weather Journals, 1805, Page 65**
Whitehouse  This morning we had the Weather dark and Cloudy— the Wind blowing hard from the North. The water still at a stand, we remained here this day, the wind blowing so hard that we could make no headway—

Saturday, April 20

Weather Diary

wind violent.

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<th>Sunrise</th>
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Daily Narrative Journals

Lewis  the wind continued to blow tolerably hard this morning but by no means as violently as it did yesterday; we determined to set out and accordingly departed a little before seven. The wind blew so hard that I concluded it was impossible for the perogues and canoes to proceed and therefore returned and joined them about three in the evening. Capt. Clark informed me that soon after setting out, a part of the bank of the river fell in near one of the canoes and had very nearly filled here with water. That the wind became so hard and the waves so high that it was with infinite risk he had been able to get as far as his present station.

Clark  wind a head from the NW. we set out at 7 oClock proceeded on, Soon after we Set out a Bank fell in near one of the canoes which like to have filled her with water, the wind became hard and waves So rough that we proceeded with our little canoes with much risque, our Situation was Such after Setting out that we were obliged to pass round th 1st Point or lay exposed to the blustering winds & waves. The wind Continued So hard that we were Compelled to delay all day. Several buffalow lodged in the drift wood which had been drowned in the winter in passing the river. This morning was verry cold, some Snow about 2 oClock from flying clouds, Some frost this morning & the mud at the edge of the water was frosed.

Gass  had a cold disagreeable morning; rapid water and a strong wind. We were obliged again to lie too, on account of the wind

Ordway  cloudy. The wind is not so high as it was yesterday this morning. We found it cold polling. The air chilley. The wind rose and blew same as yesterday so that we could hardly make any head way. Delayed som time the wind abated a little. We proceeded on the wind Shortly rose again and blew so hard that the canoes were near filling they took in considerable water. The Sand blew off the sand bars & beaches so that we could hardly see, it was like a thick fogg. High squawls of wind
& flights of round Snow this day. We took in some water in the Canoe I was in. The water came up to my Box so that a part of my paper Got wet.

Whitehouse wind blew so fresh from the North, that we could make no headway

Expedition passes near present-day Williston, ND

Sunday, April 21

Weather Diary

wind violent white frost last night— the earth friezed along the water’s edge.—

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Daily Narrative Journals

Lewis Set out at an early hour this morning...the wind tho’ a head was not violent. The wind blew so hard this evening that we were obliged to halt several hours.

Clark Se out early, the wind gentle & from the NW. The river being verry Crooked. In the evening the wind became a verry hard a head.

Gass a fine clear morning, but cold; there was a sharp frost. About 12 the wind again rose and was disagreeable, but we continued our voyage.

Ordway a hard white frost last night. Froze water in the buckets setting near the fire. A clear and pleasant morning, but verry chilly & cold. About 3 oClock clouded up cold the wind began blow as usal. A cool evening.

Whitehouse This morning we had pleasant Weather, in the night we had a frost, we sett out early, the Wind blowing from the Northwest. The Water in the River fell one Inch.9

9 Whitehouse had two entries labeled April 20 and one for April 21. By looking at the Lewis & Clark Weather diary’s river rise/fall records, these dates have been adjusted to the 21st and 22nd.
Monday, April 22

Weather Diary

wind very hard greater part of the day—

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Daily Narrative Journals

Lewis
Set out at an early hour this morning; proceeded pretty well until breakfast, when the wind became so hard a head that we proceeded with difficulty even with the assistance of our toe lines. The white river...the water is much clearer than that of the Missouri.

Clark
a very cold morning some frost, we Set out...until breakfast at which time the wind began to blow very hard ahead, and Continued hard all day. The river rising a little.

Gass
The wind was unfavourable to day, and the river here is very crooked.

Ordway
clear and cold. Delayed again on acct. of the high wind. Saw a buffaloe calf which had fell down the bank & could not git up again. We helped it up the bank and it followed us a short distance (the river raised 4 Inches last & white frost) we have seen a great number of dead buffaloe lying on each shore all the way from the little missourie R. We suppose that they Got drowned attempting to cross on the Ice last fall before it got Strong.

Whitehouse
the Wind blew from the N East and the Water fell 2 Inches in the River ¹

Tuesday, April 23

Weather Diary

wind very hard greater part of the day— saw the first robbin. Also the brown Curloo
**Daily Narrative Journals**

**Lewis**

about nine AM the wind arose, and shortly after became so violent that we were unable to proceed, in short it was with much difficulty and some risk that I was enabled to get the canoes and perogues into a place of tolerably safety. We remained untill five in the evening when the wind abating in some measure, we reloaded and proceeded. These winds being so frequently repeated, become a serious source of detention to us—

**Clark**

a cold morning, about 9 oClock the wind as usial rose from the NW and continued to blow verry hard untill late in the evening. The wind which had become violently hard, I joined Capt Lewis in the evening & after the winds falling which was late in the evening we proceeded on & encamped. The winds of this Countrey which blow with Some violence almost every day, has become a Serious obstruction in our progression onward, as we Cant move when the wind is high without great risque, and [if] there was no risque the winds is generally a head and often too violent to proceed.

**Gass**

had a fine day; but the wind was ahead, and we were obliged to lie to about three hours.

**Ordway**

a clear and pleasant morning. Not quite as cold as it has been for Several morning. The river verry crooked. The wind blew so hard that the large perogues Sailed in a bend where the wind came fair verry high the Small canoes took in some water. The large perogues Sailed verry fast. A short distanc we were obliged to halt the first safe place until the wind abated which was about 3 hours. Dryed the articles which was wet. Towards evening the wind abated and we proceeded on round a point and camped

**Whitehouse**

This morning, we had Clear weather. We proceeded on about 3 Miles, when the Wind blew so fresh, that we had to come too, it being a head Wind from the North west—

**Wednesday, April 24**

**Weather Diary**

wind very hard this morning

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`Lewis & Clark Expedition Weather Journals, 1805,   Page 69`
Daily Narrative Journals

Lewis
The wind blew so hard during the whole of this day, that we were unable to move. Notwithstanding that we were sheltered by high timber from the effects of the wind, such was it’s violence that it caused the waves to rise in such manner as to wet many articles. Soar eyes is a common complaint among the party. I believe it origenates from the immense quantities of sand which is driven by the wind from the sandbars of the river in such clouds that you are unable to discover the opposite bank of the river in many instances. The particles of this sand are so fine and light that they are easily supported by the air, and are carried by the wind for many miles, and at a distance exhibiting every appearance of a column of thick smoke. So penitrating is this sand that we cannot keep any article free from it; in short we are compelled to eat, drink, and breath it very freely.

Clark
The wind rose last night and continued blowing from the N & NW, and Sometimes with great violence untill 7 oClock PM. As the wind was a head we could not move to day.

Gass
This was a clear day, but the wind blew so hard down the river we could not proceed. While we lay here some of the men went to see some water at a distance which appeared like a river or small lake. In the afternoon they returned, and had found it only the water of the Missouri, which had run up a bottom.

Ordway
Clear and cold. The wind high from the NW so that we had to delay here all this day. The woods got on fire.

Whitehouse
This day we had Clear weather; but the Wind still blowing from the North West (ahead Wind) that we lay by, at the place we encamped the last night.

Expedition sends advance party to confluence of the Missouri and Rochejhone [Yellowstone] Rivers in present-day North Dakota. Main party camps there on April 26.

Thursday, April 25

Weather Diary

wind very hard until 5 oClock PM

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Lewis & Clark Expedition Weather Journals, 1805, Page 70
The wind was more moderate this morning, tho’ still hard; we set out at an early hour. the water friezed on the oars this morning as the men rowed. about 10 oclock AM the wind began to blow so violently that we were obliged to lye too. The wind had been so unfavourable to our progress for several days past, and seeing but little prospect of a favourable change; knowing that the river was crooked...believing that we were at no very great distance from the Yellow stone River; proceed by land...with a few men...to the entrance...and make the necessary observations.  At 5 PM after I left him [Capt. Clark] the wind abated in some measure.

The wind was moderate & ahead this morning. The morning cold, Some flying Clouds to be Seen, the wind from the N; ice collected on the ores this morning, the wind increased and became So violent about 1 oClock we were obliged to lay by. At 5 oClock the wind lulled and we proceeded on and incamped.

We set out as usual and had a fine day; but about 11 were obliged to halt again the wind so strong ahead. I remarked, as a singular circumstance, that there is now dew in this Country, and very little rain. Can it be owing to the want of timber? At 5 o’clock in the afternoon, we renewed our voyage

a clear cold morning. The river rose 2 inches last night The wind blew from the N Sailed some in a bend of the river. The perogues could go no further as the wind blew them a head so that they halted for it to abate on the N.S.

this morning, having fine clear weather; about 11 oClock AM we had to come too, on account of the Wind being a head & blowing hard. The dew at this place never falls; and it seldom Rains, this we were told, by an Indian Women that was with us

Weather Diary

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Daily Narrative Journals
Lewis Capt. Clark measured these rivers just above their confluences; found the bed of the Missouri 520 yards wide, the water occupying 300. it’s channel deep. The Yellowstone river including it’s sandbar, 858 yds. of which the water occupied 297 yards; the depest part 12 feet; it was falling at this time & appeared to be nearly at it’s summer tide. ...the water of this river is turbid tho’ dose not possess as much sediment as that of the Missouri. The clouds this morning prevented my observing the moon.

Clark last night was very cold. The Thermometer Stood at 32 above 0 this morning. I Set out at an early hour, as it was cold I walked on the bank. The river has been rising for Several days, & 3 inches last night. Yellow Stone...it is at this time falling, the Missouri rising. I saw many buffalo dead on the banks...those animals either drowned in attempting to cross on the ice during the winter or swimming across to bluff banks where they could not get out & too weak to return. We saw several in this situation.

Gass a fine day. The river Jaune is shallow, the Missouri is deep and rapid.

Ordway a Clear pleasant morning (at the Yellowstone River) Capt. Clark measured these two rivers to day and found the Missouri to be 337 yards wide only the water but at high water mark 529 yards the River Roshjone is 297 water, high water mark is 858 yards wide. The River Roshjone is not quite as rapid as the Missouri.

Whitehouse This morning we had a fine Clear weather. At 12 oClock AM...arrived at the River’s mouth called Roshjone (Yellowstone). At this junction...the River Missouri was 337 Yards wide; and very deep; and the River Roshjone at its mouth, 97 yards wide...Shallow....Clear and its current rapid—

The Expedition passes the present-day North Dakota - Montana state line.

Saturday, April 27

Weather Diary

wind very hard from 11 to 4 oClock

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<th>Sunrise</th>
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Daily Narrative Journals
Lewis at 11 AM the wind became very hard from the NW insomuch that the perogues and canoes were unable either to proceeded or pass the river to me. The wind abated about 4 PM and the party proceeded.

Clark wind moderate & a head, at 11 oClock the wind rose and continued to blow verry hard a head from the NW untill 4 oClock PM, which blew the Sand off the Points in Such clouds as almost Covered us on the opposit bank, at 4 I Set out from my unpleasent Situation and proceeded on

Gass About 9 o’clock in the forenoon we renewed our voyage. The day was fine, but on account of a strong wind we were obliged at 1 to halt till 4

Ordway a clear and pleasant morning. About 12 oC. The wind rose so high from the NW and the Sand flew so thick from the Sand bars that we halted about 1 oClock, to wait untill the wind abates, about 4 oClock the wind abated the current swift

Whitehouse weather being clear and pleasant. Stopped at One oClock to dine....shortly after the Wind blew so hard a head, from the Westward that we were delayed from starting till 4 oClock PM. River Mesouri, having had a strong current against us

Sunday, April 28

Weather Diary

Vegetation has progressed but little since the 18th in short the change is scarcely perceptible.

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Daily Narrative Journals

Lewis Set out this morning at an early hour; the wind was favourable and we employed our sails to advantage.

Clark a fine day. River falling. Wind favourable from the SE and moderate

Gass had a fine day

Ordway clear and pleasant the wind had shifted to SE and blew gently So that we Sailed some part of the time

Whitehouse This day we had fine clear weather & pleasant The River Mesouri, was not so
Monday, April 29

Weather Diary

high
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<th>Sunrise</th>
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Daily Narrative Journals

**Lewis**
Set out this morning as the usual hour; the wind was moderate.

**Clark**
Set out this morning as the usual hour; the wind was moderate & from the NE.

**Gass**
had a clear morning. This forenoon we passed some of the highest bluffs I had ever seen

**Ordway**
a clear pleasant morning.

Tuesday, April 30

Weather Diary

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Daily Narrative Journals

**Lewis**
the wind blew hard all last night, and continued to blow pretty hard all day, but not so much, as to compell us to ly by.

**Clark**
The wind blew hard from the NE all last night, we Set out at Sunrise, the wind blew hard the greater part of the day and part of the time favourable, we did not lie by to day on account of the wind.

**Gass**
had a fine morning and went on very well

**Ordway**
clear and pleasant we sailed a little in the bends of the River this afternoon—

**Whitehouse**
this morning, having fine pleasant Weather.
May 1805
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

The Expedition camped in eastern Montana between present-day Culbertson and Wolf Point.

Wednesday, May 1

Weather Diary ¹

wind violent form 12 OC. to 6 pM

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¹ Reference: Coues, Volume III, pages 1272, 1288-1289; Moulton, Volume 4, pages 234-238; Thwaites, Volume 6, Part II, pages 189-191.

² River rise and fall observations continued during the ascent of the Missouri River from Fort Mandan. The data usually is not for a 24-hour period unless they are encamped. In most cases, when the party stopped for the evening, following Lewis’ habit from previous journal entries, it is surmised that a mark was made and measured the next morning. Thus many observations were only a 8 to 10 hour long.

Daily Narrative Journals

Lewis the wind being favourable...untill about 12 Ock. when the wind became so high that the small canoes were unable to proceed. One of them which seperated from us just before the wind became so violent, is now lying on the opposite side of the river, being unable to rejoin us in consequence of the waves, which during those gusts run several feet high. Here the wind compelled us to spend the ballance of the day.

Clark We Set out at Sun rise under a Stiff Breeze from the East, the morning Cool & Cloudy. The wind became verry Hard and we put too on the L. side, as the wind Continued with Some degree of violence and the waves too high for the Canoes we were obliged to Stay all day.

Gass a cool morning; and went on till 12 o’clock, when the wind rose so high, that our small canoes could not stand the waves.

Ordway a clear pleasant morning, but cold. The wind from the East. About 12 oClock the wind rose so high that the Small canoes could not go on without filling. We halted

Lewis & Clark Expedition Weather Journals, 1805, Page 76
at a bottom covered with timber on S.S. One of the canoes lay on the opposite Shore and could not cross the water ran so high. The wind continued so high that we delay and camped for the night.

**Whitehouse**  a clear pleasant morning but cold. We set off at Sun rise, the wind from the East. We Sailed Some. About 12 oClock the wind rose So high that we were obliged to halt. I and one other stopped on the other side of the river on account of the wind and ware obliged to lay out all night without any blanket. It being verry cold I Suffered verry much.

**Thursday, May 2**

**Weather Diary**

snow 1 inch deep the wind continued so high from 12 oClock yesterday, untill 5 this evening that we were unable to proceed. The snow which fell last night and this morning one inch deep has not yet disappeared.— it forms a singular contrast with the trees which are now in leaf.—

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**Daily Narrative Journals**

**Lewis**  the wind continued violent all night nor did it abate much of it’s violence this morning, when at daylight it was attended with snow which continued to fall untill about 10 AM being about one inch deep, it formed a singular contrast with the trees and other vegitation which was considerably advanced. Some flowers had put forth in the plains, and the leaves of the cottonwood were as large as a dooler. The [water] friezed on the oars as they rowed. The wind dying at 5 PM we set out.

**Clark**  The wind blew verry hard all the last night, this morning about Sunrise began to Snow, (The Thermomtr. At 28 abov o) and Continued untill about 10 oClock, at which time Seased, the wind Continued hard untill about 2 PM . The Snow which fell to day was about 1 In deep, verry extroadernaley Climate, to behold the tree Green & flowers Spred on the plain, & Snow an inch deep.

**Gass**  At day break it began to snow; and the wind continued so high, we could not proceed until the afternoon. The snow did not fall more than an inch deep.

**Ordway**  at day light it began Snowing & continued Snowing & blowing so that we did not Set off. About 3 oClock it let off Snowing. The wind shifted in to the West. The Snow lay on the edge of the Sand bars & Sand beaches where the wind had blew it up one foot deep, but on the hills it was not more than half an Inch deep. The air &
wind very cold.

**Whitehouse**

at day light it began to Snow & the wind blow hard So that we did not set off this morning. About 3 oClock PM the Wind bated, and it quit snowing. Proceeded on our Voyage—the wind shifted and blew from the West. The Snow lay on the edge of the Sand Bars, blown by the wind, it was 12 Inches deep. The air very cold during the whole day.

**Friday, May 3**

**Weather Diary**

hard frost last night. At four PM the snow has not yet entirely disappeared.— the new horns of Elk being to appear.

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**Daily Narrative Journals**

**Lewis**

The morning being very could we did not set out as early as usual; ice formed on a kettle of water 1/4 of an inch thick. The snow has melted generally in the bottoms, but the hills still remain covered. The wind continued to blow hard from the West but not so strong as to compel us to ly by.

**Clark**

we Set our reather later this morning than usial owing to weather being very cold, a frost last night and the Thermt. Stood this morning at 26 above 0 which is 6 degrees blow freezing— The ice that was on the Kettle left near the fire last night was 1/4 of an inch thick. The Snow is all or nearly all off the low bottoms, the Hills are entirely Covered. the wind Continued to blow hard from the West, altho’ not Sufficiently So to detain us. As this Creek is 2000 miles up the Missouri we Call it the 2000 miles Creek. The greater part of the Snow is melted.

**Gass**

though very cold and disagreeable, and a severe frost. The snow and green grass on the prairies exhibited an appearance somewhat uncommon. The cotton wood leaves are as large as dollars, notwithstanding the snow and such hard frost.

**Ordway**

clear but very cold for May. Saw the standing water froze over the Ice froze to ore poles as we poled where the sun Shined on us. A hard white frost last night. The ground covered with Snow. The wind rose high from the W about one. The wind very high & cold.

**Whitehouse**

This morning we had Clear weather, but very Cold for the Season; We set out about 7 oClock AM the Standing water froze last night, and the Water froze to our
Setting pole. We had a severe white frost last night, and the ground covr’d with Snow— The wind rose & blew hard from the West. The wind continued Cold during the whole day. IN the Evening, the Snow had melted away.

Saturday, May 4

**Weather Diary**

the black martin makes it’s appearance. The snow has disappeared. Saw the first grasshoppers today.— there are great quantities of a small blue beatle feeding on the willows.—

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**Daily Narrative Journals**

**Lewis**  
We were detained this morning untill about 9 Ock. in order to repare the rudder....we then set out, the wind hard against us. I walked on shore this morning, the weather was more plesant, the snow has disappeared; the frost seems to have effected the vegetation much less than could have been expected. The leaves of the cottonwood the grass the box alder willow and the yellow flowering pea seem to be scarecely touched; the rosebushes and honeysuckle seem to have sustained the most considerable injury. At noon the sun so much obscured that I could not obtain his maridian Altitude.

**Clark**  
detained untill 9 oClock...the wind a head from the west. The river has been falling for Several days passed; it now begins to rise a little, the rate of rise & fall is from one to 3 inches in 24 hours.

**Gass**  
This day was more pleasant.

**Ordway**  
clear and moderate this morning the Snow is all melted off the hills.

**Whitehouse**  
This morning we had clear, pleasant weather

Sunday, May 5

**Weather Diary**

a few drops of rain only

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38a | f | NW | 62a | far | SE | R | - | 1

**Daily Narrative Journals**

**Lewis**
A fine morning. The country is as yesterday beatifull in the extreme—

**Clark**
The river riseing & Current Strong.

**Gass**
The morning was fine with some white frost.

**Ordway**
Clear and pleasant. We Sailed considerable in the course of the day with an East wind.

**Whitehouse**
Clear and pleasant weather

**Monday, May 6**

**Weather Diary**

Rain very inconsiderable as usual

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**Daily Narrative Journals**

**Lewis**
The morning being fair and pleasant and wind favourable we set sale at and early hour. The rains in the spring of the year (in a few days) suddenly melts the snow at the same time and causes for a few days a vast quantity of water which finds it’s way to the Missouri through those channels; by reference to the diary of the weather &c it will be percieved that there is scarcely any rain during the summer Autumn and winter in this open country distant from the mountains. At noon the sun being obscured by clouds I was unable to observe Altitude; it continued cloudy the ballance of the day and prevented all further observation.

**Clark**
a fine morning, wind from the NE. I believe those Streams to be Conveyance of the water of the heavy rains & melting Snows in the Countrey back &c. &c.

**Gass**
We set sail with a fair wind and pleasant weather. At 12 a few drops of rain fell, but
it soon cleared up.

**Ordway**
pleasant and warm. Sailed on under a gentle breeze from the East. Some Sprinkling rain, but did not last long.

**Whitehouse**
clear pleasant and warm weather, a fair wind from the East, we Sailed on verry well. About 4 o'clock, A light Sprinkling of rain, but did not last long.

**Tuesday, May 7**

**Weather Diary**

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**Daily Narrative Journals**

**Lewis**
a fine morning. The drift wood begins to come down in consequence of the river’s rising; the water is somewhat clearer than usual, a circumstance I did not expect on it’s rise. At 11 AM the wind became so hard that we were compelled to ly by for several hours. Vegotation appears to have advanced very little since the 28th Ulto—we continue to see great number of bald Eagles.

**Clark**
A fine morning, river rose 1 ½ inches last night, the drift wood beginning to run, the water Something Clearer than usual, the wind became verry hard,

**Gass**
gone on very well till 12 when it began to blow hard and being all under sail one of our canoes turned over. Fortunately the accident happened near the shore; and after halting three hours we were able to go again.

**Ordway**
clear pleasant and warm. We set off eairly. The wind rose from the East. We Sailed verry fast untill about 12 oC. One of the canoes filled with water, but we got it Safe to Shore , and halted for the wind to abate

**Whitehouse**
weather clear & pleasant. We set off eairly. The wind rose from the East, we set out sails. Sailing till about 12 oClock AM at which time the wind rose so high, that one our canoes filled with water....stopped on shore for the wind to about. About 4 oClock PM we set out again.

**Party arrives at the confluence of the Missouri and Milk Rivers southeast of**
present-day Glasgow, MT.

Wednesday, May 8

Weather Diary

Rain inconsiderable a meager sprinkle the bald Eagle, of which there are great numbers, now have their young. The turtledove appears.

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Daily Narrative Journals

Lewis
Set out at an early hour under a gentle breeze from the East. A black cloud which suddenly spring up at SE, soon overshadowed the horizon; at 8 AM it gave us a slight sprinkle of rain, the wind became much stronger but not so much so as to detain us. Examined the river [Milk River] I found it generally 150 yards wide....it is deep, gentle in its courant...the water of this river possesses a peculiar whiteness, being about the colour of a cup of tea with the admixture of a tablespoonfull of milk. From the colour of its water we call it Milk river.

Clark
A very black Cloud to the SW. We Set out under a gentle breeze from the NW. About 8 oClock began to rain, but not sufficient to wet. The water of this river [Milk River] will justify the belief that it has its Source at a considerable distance, and waters a great extent of Countrie—we are willing to believe that this is the river the Minitarres Call the river which Scolds at all others.

Gass
We were again very early under way in a cloudy morning; about 12 some rain fell; passed the Milk River there is a good deal of water in this river which is clear, and its banks beautiful.

Ordway
It clouded up of a Sudden, and rained Some. We Sailed on under a fine breeze from the East.

Whitehouse
Clouded up and rained shortly after we set off early. We found the current of the River to run very strong against us. Set our Sails and we proceeded on under a fine breeze from the East.
Thursday, May 9

Weather Diary

The choke Cherry is now in bloom.

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Daily Narrative Journals

Lewis  
Set out at an early hour; wind being favourable we used our sails and proceeded very well. The river for several days has been as wide as it is generally near it’s mouth, tho’ it is much shallower. I begin to feel extremely anxious to get in view of the rocky mountains.

Clark  
a fine day, wind from the East. Came to a river...This river did not Contain one drop of running water...Those dry Streams which are also very wide, I think is the Conveyance of the melted Snow, & heavy rains which is Said to Probable fall in from the high mountainious Countrey which is Said to be between this river & the Yellow Sone river— The Missouri keeps its width...water not So muddy & Sand finer

Gass  
had a fine day. The river more crooked

Ordway  
Clear and pleasant. The game is getting so pleanty and tame in this country that Some of the party clubbed them out of their way. Passed Big Dry creek, it is 220 yards wide at its high water mark, but at this time the water is So low that the water all Sinques in the quick Sand.

Whitehouse  
This morning we had Clear pleasant Weather.

Friday, May 10

Weather Diary

rain but slight a few drops

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Daily Narrative Journals

Lewis

Set out at sunrise and proceeded but a short distance ere the wind became so violent that we were obliged to come too, which we did on the Lard side in a sudden or short bend of the river where we were in a great measure sheltered from the effects of the wind. The wind continued violently all day, the clouds were thick and black, had a slight sprinkle of rain several times in the course of the day.

Clark

river fell 3/4 of an inch last night, wind from the NW we proceeded on but a short distance ere the wind became so violent we could not proceeded...the wind Continued all day. Several times in the course of the day We had some few drops of rain from verry black Clouds, no thunder or lightning latterly

Gass

We set out early in a fair morning; but having gone five miles were obliged to halt and lye by during the day, on account of hard wind. Some small showers of rain occasionally fell.

Ordway

a clear cold morning. The wind rose So high from the NW that obledged us to halt The wind rose verry high

Whitehouse

We had clear and pleasant weather, the wind rose from the NW, we went about 4 miles, and halted for the Wind to abate, it blowing fresh The wind rose considerably high, accompanied with Squalls of Rain—

Saturday, May 11

Weather Diary

frost this morning

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<th>Sunrise</th>
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Daily Narrative Journals

Lewis

the courant strong; and the river very crooked; the banks are falling in very fast. I sometimes wonder that some of our canoes or perogues are not swallowed up by means of these immense masses of earth which are eternally precipitating themselves into the river. The wind blue very hard the forepart of last night but abated toward morning; it again arose in the after part of this day and retarded our progress very much.
Clark  Wind hard fore part of last night.  The latter part verry Cold a white frost this morning, the river riseing a little and verry Crooked.  River rose 2 In

Gass  The morning was fine.

Ordway  a clear cool morning & white frost

Whitehouse  a clear cold morning, a white frost this morning.

Sunday, May 12

Weather Diary

rain but slight

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<th>Sunrise</th>
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Daily Narrative Journals

Lewis  Set out at an early hour; the weather clear and Calm.  About 12 oClock the wind veered about to the NW and blew so hard that we were obliged to Ly by the ballance of the day. About sunset it began to rain, and continued to fall a few drops at a time untill midnight; the wind blew violently all night—

Clark  the morning Clear and Calm.  About 12 oClock the wind becam Strong from the E. About half past one oClock the wind Shifted round to the NW and blew verry hard all the latter part of the day, which obliged us to Lay by— about Sunset it began to rain, and rained very moderately only a few drops at a time for about half the night, wind Continued violent all night.

Gass  had a pleasant morning.  At 1 we halted for dinner and a violent storm of wind then arose, which continued until night when some rain fell.

Ordway  a clear pleasant & warm morning    The wind rose high from the NW  the detained us the remainder part of the day.  Some Squawls of rain this evening—

Whitehouse  We had a clear, pleasant warm morning    The wind rose from the NW, and blew hard.  The wind continuing to blow hard, detained us here the remainder of the day—    In the evening we had some Squalls of Rain.
Monday, May 13

**Weather Diary**

rain but slight

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**Daily Narrative Journals**

**Lewis**

The wind continued to blow so violently this morning that we did not think it prudent to set out. At 1 PM the wind abated. The courant reather stronger than usual and the water continues to become reather clearer.

**Clark**

The wind Continued to blow hard untill one oClock PM to day at which time it fell a little as we Set out.

**Gass**

The weather continued stormy, and a few drops of rain fell.

**Ordway**

the wind blew verry hard all last night. Some Sprinkling rain and high wind this morning. About one oC. PM the wind abated So that we set off The afternoon pleasant.

**Whitehouse**

The wind blew hard all last night, and this morning some Squalls of rain and high wind, which occasioned our not setting off Early— about 2 oClock PM the weather cleared off & became pleasant, and the wind abated— The current of the River running very swift

Tuesday, May 14

**Weather Diary**

white frost this morning

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Daily Narrative Journals

Lewis
Some fog on the river this morning, which is a very rare occurrence. Surface it so say, that the Perogue was under sail when a sudon squawl of wind struck her obliquely, and turned her considerably, the steersman allarmed, in stead of puting, her before the wind, lufted her up into it, the wind was so violent that it drew the brace of the sqursail out of the hand of the man who was attending it, and instantly upset the perogue and would have turned her completely topsaturva, had it not have been from the resistance mad by the oarnig against the water.

Clark
A verry Clear Cold morning, a white frost & some fog on the river. The Thermomtr Stood at 32 above 0, wind from the SW. We proceeded on verry well untill about 6 oClock a Squawl of wind Struck our Sale broad side and turned the perogue nearly over

Gass
There was some white frost in the morning. About 12 the day became warm. Banks of snow were seen lying on the hills on the North side. About 4...a sudden gust of wind arose, which overset one of the periogues before the sail could be got down.

Ordway
a hard white frost last night. Our mocassons froze near the fire. A clear and pleasant morning. It was verry warm or much warmer than it has been before this Spring. We saw some banks of Snow laying in the vallies at the N.S. of the hills. About 4 oClock the white peroque of the Captains was Sailing a long, there came a violent gust of wind from the NW which was to the contrary to the course they were sailing. It took the sail and before they had time to douse it turned the perogue down on one Side So that she filled with water, and would have turned over had it not been for the awning which prevented it. With much a diew they got the sail in and got the pirogue to shore

Whitehouse
a hard white frost last night, so that our Mocasins froze near the fire last night. A clear and pleasant morning. Sergt. Gass who was out hunting, Saw Some banks of Snow on the N. Side of Some hills north of the river. Hoisted Sail as the wind blew fair. Shortly after we set off a Violent Storm came from a black Cloud, which lay to the Northwest, and the Wind rose and shifted suddenly to the Northwest. This wind took the sail of the Pettyauger and had it not been for the awning, and mast She would have turned up Side down. The Pettyauger filled full of Water, and with much trouble they got her to shore—

Wednesday, May 15

Weather Diary

slight shower

Lewis & Clark Expedition Weather Journals, 1805, Page 87
Daily Narrative Journals

Lewis
as soon as a slight shower of rain passed over this morning, we spread the articles to
dry which had got wet yesterday in the white perogue; tho’ the day proved so cloudy
and damp that they received but little benefit from the sun or air.

Clark
Our medisons, Instruments, merchandize, Clothes, provisions &c. &c. which was
nearly all wet we had put out to air and dry. The day being Cloud & rainy those
articles dried but little to day— We see Buffalow on the banks dead, others floating
down dead, and others mired every day, those buffalow either drown in Swimming the
river or brake thro’ the ice.

Gass
We remained here all day to dry our baggage that had got wet. It was cloudy and
unfavourable for the purpose and some rain fell.

Ordway
cloudy. A Small Shower of rain about 11 oClock. Continued cloudy all day.

Whitehouse
This morning we had Cloudy Weather. A Shower of rain coming on, which lasted
about One hour, when it cleared off—

Thursday, May 16

Weather Diary

Daily Narrative Journals

Lewis
The morning was fair and the day proved favourable to our operations; by 4 oClock
in the evening our Instruments, Medicine, merchandize provision &c. were perfectly
dried.

Clark
a morning fair, our articles all out to Dry. At 4 oClock we had everything that was
Saved dry.

Gass  This was a fine day.

Ordway  a heavy diew last night. A clear and pleasant morning.

Whitehouse  a heavy dew fell last night, but a pleasant clear morning.

Friday, May 17

Weather Diary

the Gees have their young; the Elk being to produce their young, the Antelope and deer as yet have not.— the small species of Goatsucker or whiperwill begin to cry— the blackbirds both small and large have appeared. We have had scarcely any thunder and lightning. The clouds are generally white and accompanied with wind only

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Daily Narrative Journals

Lewis  we were roused late at night by the Sergt. Of the guard, and warned of the danger we were in from a large tree that had taken fire and which leant immediately over our lodge. We had the loge removed, and few minutes after a large proportion of the top of the tree fell on the place the lodge had stood; had we been a few minutes later we should have been crushed to attons. the wind blew so hard, that notwithstanding the lodge was fifty paces distant from the fire it sustained considerable injury from the burning coals which were thrown on it; the party were much harrassed also by this fire which communicated to a collection of fallen timber, and could not be extinguished.

Clark  a fine morning, wind from the NW. Mercury at $60^\circ$ a 0. River falling a little. River much narrower than below from 2 to 300 yards wide. We were roused late at night and warned of the danger of fire from a tree which had Caught... the wind blew hard and the dry wood Caught & fire flew in every direction, burnt our Lodge verry much...the whole party was much disturbed by this fire, which could not be extinguished &c.

Gass  The morning was fine. The hills...some of them, which at a distance resembled ancient steeples.

Ordway  A clear pleasant morning. Verry high hills and white knobs, which are washed by
Whitehouse  a Clear pleasant morning

Saturday, May 18

Weather Diary

a good shower saw the wild rose blume the brown thrush or mocking bird has appeared.— had a good shower of rain today, it continued about 2 hours; this is the first shower that deserves the appellation of rain, which we have seen since we left Fort Mandan.— no thunder or lightning

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Daily Narrative Journals

Lewis  the wind blew hard this morning from the West. There are now but few sandbars, the river is narrow and current gentle.

Clark  A windey morning, wind from the West. The after part of the day was Cloudy & at about 12 oClock it began to rain and continued moderately for about 1 ½ hours, not Sufficient to wet a man thro’ his clothes; this is the first rain Since we Set out this Spring

Gass  A cloudy morning. We had some showers of rain in the forenoon; hail in the afternoon; and a fine clear evening.

Ordway  a clear warm morning. The Missourie is gitting clear and gravelly bottom & Shore a pleasant warm afternoon

Whitehouse  a clear fine warm morning. About 10 oClock AM it clouded up and began to rain; and we had Several Small Showers. Here the Water of the Mesouri River, that had been muddy ever since we first entered it, began to get clear,, and the bottom that was muddy, is gravelly—

Expedition’s first sighting of the Little Rocky Mountains, MT
Sunday, May 19

Weather Diary

heavy fog this morning on the river

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Daily Narrative Journals

Lewis
This last night was disagreeably cold; we were unable to set out until 8 o'clock AM in consequence of a heavy fog, which obscured the river in such a manner that we could not see our way; this is the first we have experienced in anything like so great a degree; there was also a fall of due last evening, which is the second we have experienced since we have entered this extensive open country. On Capt. Clark's return...he saw a range of Mountains, bearing W. distant 40 or 50 miles. The NNE extremity of these mountains appeared abrupt. [The Little Rocky Mountains, MT] This afternoon the river was crooked, rappid and containing more sawyers than we have seen in the same space since we left the entrance of the river Platte.

Clark
a very cold night, the murrkery stood at 38 at 8 oClock this morning, a heavy dew which is the 2d I have seen this spring. The fog (which was the first) was so thick this morning that we could not set out until the Sun was above 2 hours high, at which time a small breeze sprung up from the E. which cleared off the fog & we proceeded on by means of the Cord. I also saw a high mountain in a westerly direction, bearing SSW about 40 to 50 miles distant.

Gass
The morning was foggy and there was some dew.

Ordway
a heavy diew fell last night. We set off at 7 oC Clear and pleasant.

Whitehouse
a heavy dew fell last night, and this morning was clear and pleasant

Expedition arrives at the confluence of the Missouri and Musselshell Rivers in central Montana.
Monday, May 20

Weather Diary

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Daily Narrative Journals

Lewis river narrow and crooked. At 11 AM we arrived at the entrance of a handsome bold river [Muscleshell]...is 110 yards in width...the waters is of a greenish yellow cast. The Missouri opposite to this point is deep, gentle in it’s courant, and 222 yards in width. About 5 miles above this river...a handsome river of about fifty yards in width...we called it Sah-ca-gar-me-ah or bird woman’s River [Sacagawea River], after our interpreter the Snake woman.

Clark a fine morning, wind from the NE. River falling a little.. Passed some verry swift water, river narrow and crooked ....the Missouri water is not so muddey as below, but retains nearly its usial choller, and the sand principally confined to the points

Gass had a fine morning. The water of the Missouri is becoming more clear. The water of the Musselshell is of a pale colour and the current is not rapid.

Ordway a clear pleasant morning the Missouri at the mouth of the (Mussel) Shell River is 222 yds wide with a small current....not so muddy as below but retains nearly the usal colour.

Whitehouse A Clear pleasant morning

Tuesday, May 21

Weather Diary

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<th>Sunrise</th>
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<td>Temp</td>
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Lewis & Clark Expedition Weather Journals, 1805, Page 92
**Daily Narrative Journals**

**Lewis**
a delightfull morning. The wind which was moderate all the fore part of the day continued to encrease in the evening, and about dark veered about to the NW and blew a storm all night, in short we found ourselves so invelloped with clouds of dust and sand that we could neither cook, eat, nor sleep; and were finally compelled to remove our lodge about eight oClock at night to the foot of an adjacent hill where we were covered in some measure from the wind by the hills.

**Clark**
a butifull morning, wind from the West, river falling a little. Wind which blew moderatly all the forepart of the day increased and about Dark Shifted to the NW and Stormed all night, Several loose articles were blown over board, our lodge & Camp which was on a Sand bar on the Std. Side & opposte the lower point of the Island we were obliged to move under the hills, the dust & Sand blew in clouds.

**Gass**
had a fine morning; towards the middle of the day the wind blew hard

**Ordway**
a butiful morning. Wind from the west. River falling a little. The wind which moderately all the fore part of the day increased and about dusk Shifted to the NW and blew high & Stormed all night. Several loose articles were blown overboard the dust & Sand blew in clouds.

**Whitehouse**
This morning we had clear and pleasant Weather. About 1 oClock the wind rose So high from the NW that we delayed about 2 hours and then proceeded on. Came about 15 miles...the wind rose very high and hard, Soon after we made Camp, and made the Sand fly So that it was verry disagreeable. The most of the part moved back towards the hills. Some of our party that was out hunting Yesterday reported that they had seen, a high ridge of Mountains, which lay to the West, but appeared to be a very great distance from them. (The Little Rocky Mountains)

**Wednesday, May 22**

**Weather Diary**

the wind excessively hard all night— saw some particles of snow fall today it did not lye in sufficient quantity on the ground to be perceptible.—

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The wind blew so violently this morning that we did not think it prudent to set out until it had in some measure abated; this did not happen until 10 AM. The river continues about the same width from 200 to 250 yds wide.

The wind continued to blow so violently that we did not think it prudent to set out until it lulled a little, about 10 o’clock we set out the morning cold. River falls about an inch a day. Many of the creeks which appear to have no water near their mouths have streams of running water higher up which rise & waste in the sand or gravel. The water of those creeks are so much impregnated with the Salt Substance that it cannot be drunk with pleasure.

A cloudy morning. The wind blew so hard this morning, we did not get under way until 9 o’clock. The forenoon was cold and disagreeable, but the afternoon became more pleasant.

the wind continued to blow so violently hard we did not think it prudent to set out until it lulled a little about 11 o’clock we set out the morning cold. River falls about an Inch a day. Many of the creeks which appear to have no water near their mouths have Streams of running water high up which rise & waste in the sand or gravel the water of those creeks are so much impregnated with the Salt Substance that it cannot be drank with pleasantness—

The wind blew hard all last night and continues blowing this morning till about 11 o’clock AM when it abated. Cloudy. The day was chilly and Cold.

Thursday, May 23

Weather Diary

hard frost last night; ice in the eddy water along the shore, and the water froze on the oars this morning. Strawberries in bloom. Saw the first king fisher.

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Daily Narrative Journals

the frost was severe last night, ice appeared along the edge of the water, water also froze on the oars. The creeks...strongly impregnated with these salts that it is unfit for use; all the wild animals appear fond of this water; I have tried it by way of experiment & find it moderately perservative, but painful to the intestines in it’s
operation. I am astonished how this animal as it does without water [Prairie Dog], particularly in a country like this where there is scarcely any rain during 3/4 of the year and more rarely any due [dew]...in the Autumn when the hard frosts commence they close their burrows and do not venture out again untill spring. River more rappid. The musquetoes troublesome this evening, a circumstance I did not expect from the temperature of the morning. The Gees begin to lose the feathers of their wings and are unable to fly.

Clark

a Severe frost last night, the Thrmotr. stood at the freezing point this morning i.e. 32 a 0. wind SW. the water freezes on the oars. Ice on the edge of the river. ....the river beginning to rise, and current more rapid than yesterday. The after part of this day was worm & the Misquitors troublesome.

Gass

The morning was clear with a white frost, and ice as thick as window glass

Ordway

da Severe frost last night. the Thurmomiter Stood at the freezng point this morning. Wind SW the water freezes on the oars. Ice on the edge of the river. The after part of the day was warm & the Musquetoes troublesome. The river begining to rise & current more rapid than yesterday.

Whitehouse

We had a cold frosty morning. The standing water was froze over, and cover’d with ice

Expediton enters the present-day Missouri Breaks National Monument, MT.

Friday, May 24

Weather Diary

frost last night ice 1/8 of an inch thick

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Daily Narrative Journals

Lewis

The water standing in the vessels freized during the night 1/8 of an inch thick, ice also appears along the verge of the river. The foliage of some of the cottonwood trees have been entirely distroyed by the frost and are again puting forth other buds. About 9 AM when a fine breeze sprung up from the SE and enabled us though the ballance of the day to employ our sails to advantage; we proceed at a pretty good
pace notwithstanding the courant of the river was very strong. The air is so pure in this open country that mountains and other elevated objects appear much nearer than they really are; these mountains do not appear to be further than 15 m.

Clark a Cold night. The water in the Small vessels froze 1/8 of an inch thick, and the thermometer stood this morning at the freezing point. At 9 oClock we had a Breeze from the SE which Continued all day. This Breeze afforded us good Sailing. The river rising fast, Current very rapid.

Gass There was again some white frost this morning. The water is high, rapid and more clear.

Ordway a cold night. The water in the Small vessels froze 1/8 of an inch thick & the Thermot. Stood this morning at the freezing point. At 9 oClock we had a breeze of wind from the SE which continued all day this Breeze afforded us good Sailing the River rising fast current very rapid The cotton wood in this point is beginning to put out a Second time the first being killed by the frost.

Whitehouse clear & pleasant weather. After 3 oClock...The wind began to blow from the SE, and we set all Sails— At camp...the leaves of these trees were killed by the frost—

Saturday, May 25

Weather Diary

saw the kingbird, or bee martin; the grouse disappear. Killed three of the bighorned antelopes.

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Daily Narrative Journals

Clark the morning Cool & pleasant, wind a head all day from the SW. I also think I saw a range of high mounts, at a great distance to the SSW but am not certain as the horizon was not clear enough to view it with Certainty. the Air of this quarter is pure and helthy. The water of the Missouri well tasted not quite So muddy as it is below, not withstanding the last rains has raised the river a little is less muddy than it was before the rain.

Gass The forenoon was pleasant. These hills are very much washed in general; they appear like great heaps of clay, washing away with every shower; with scarcely any herbs or grass on any of them.

Lewis & Clark Expedition Weather Journals, 1805, Page 96
**Ordway**

the morning cool & pleasant wind a head all day from the SW the air of this country is pure & healthy the water of the Missourie fine and cool.

**Whitehouse**

clear pleasant weather. About 3 oClock the wind shifted to the Northwest and blew moderately— about 4 oClock...the current of the River running very swift— it being so for these several days past

**Sunday, May 26**

**Weather Diary**

The last night was much the warmest we have experienced, found the covering of one blanket sufficient. The air is extremly dry and pure.

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**Daily Narrative Journals**

**Lewis**

ascended the river hills. As from this point I beheld the Rocky Mountains for the first time, I could only discover a few of the most elivated points above the horizon...these points of the Rocky Mountains were covered with snow and the sun shone on it in such manner as to give me the most plain and satisfactory view. while I viewed these mountains I felt a secret pleasure in finding myself so near the head of the heretofore conceived boundless Missouri; but when I reflected on the difficulties which this snowy barrier would most probably throw in my way to the Pacific, and the sufferings and hardships of myself and party in them, it in some measure is counterballanced the joy I had felt in the first moments I gazed on them; but as I have always held it a crime to anticipate evils I will believe it a good comfortable road untill I am compelled to believe differently. This is truly a desert barren country and I feel myself still more convinced of it’s being a continuation of the black hills.

**Clark**

proceeded as yesterday wind from the SW. Ascended the high countrey...I could plainly See the Mountains on either Side which I Saw yesterday...most S. Westerly of those Mountains there appeared to be Snow. We had a few drops of rain at dark—this Countrey may with propriety I think be termed the Deserts of America, as I do not Conceive any part can ever be Settled, as it is deficient in water, Timber & too Steep to be tilled.

**Gass**

a fine morning

**Ordway**

wind from SW the waves roled for Some distance below (a rapid) we ascended it by the assistance of the chord & poles we had a few drops of rain at dark. This
country may with propriety be called the Deserts of North America for I do not conceive any part of it can ever be settled as it is deficient of or in water except this river, & of timber & too steep to be tilled.

Whitehouse

a clear pleasant morning. Stream running so strong. Came to a rapid which had considerable fall.

Monday, May 27

Weather Diary

wind so hard we were unable to proceed in the early part of the day

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Daily Narrative Journals

Lewis

The wind blew so hard this morning that we did not set out until 10 AM. Great quantities of stone also lay in the river and garnish it's borders, which appears to have tumbled from the bluffs where the water rains had washed away the sand and clay in which they were imbedded. About midday it was very warm to this the high bluffs and narrow channel of the river no doubt contributed greatly.

Clark

The wind blew hard from the SW which detained us until about 10 oClock. This day very warm— the river is Genly about 200 yards wide and Current very Swift to day and has a verry perceptible fall in all its Course— it rises a little.

Gass

We have now got into a country which presents little to our view, but scenes of barrenness of desolation; and see no encouraging prospects that it will terminate. The grass is generally short on these immense natural pastures, which in the proper seasons are decorated with blossoms and flowers of various colours. The day was fine, but the wind ahead. The bed of the river is rocky.

Ordway

the wind blew hard from the SW which detained us until about 10 oClock this day very warm.

Whitehouse

This morning pleasant weather, but the wind high, from the Northwest. The current of the River running very swift. Passed verry high Steep mountains and clifts Steep precipices. These mountains appear to be a desert part of the country. They wash by rains, but a little rain in this part. No diews like other parts but barron broken rich soil but too much of a desert to be inhabited, or cultivated. The Game became scarcer here...owing to there being no grass, or timber’d land for them to live in.
Tuesday, May 28

Weather Diary

a slight thundershower; the air was turbid in the forenoon and appeared to be filled with smoke; we supposed it to proceed from the burning of the plains, which we are informed are frequently set on fire by the Snake Indians to compell the antelopes to resort to the woody and mountanous country which they inhabit.— saw a small white and black woodpecker with a red head; the same which is common to the Atlantic states.—

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Daily Narrative Journals

Lewis the weather dark and cloudy, the air smokey, had a few drops of rain. At 10 AM a few drops of rain again fell and were attended with distant thunder which is the first we have heard since we left the Mandans—

Clark a Cloudy morning Some few drops of rain and very smokey, wind from the SW. at 1 oClock we had a few drops of rain and Some thunder which is the first thunder we have had since we Set out from Fort Mandan.

Gass had a fine morning

Ordway a cloudy morning. Some few drops of rain & Smokey wind from the SW. At 1 oClock we had a few drops of rain & Some Thunder which is the first Thunder we have had Since we Set out, from Fort Mandans

Whitehouse clear and pleasant weather. We had some thunder, and small showers of rain which lasted about 2 hour. Had pleasant afternoon.

The party passes the confluence of the Missouri and Judith River in central Montana.
Wednesday, May 29

**Weather Diary**

rained by little, some dew this morning.

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**Daily Narrative Journals**

Lewis soon after we landed it began to blow & rain, and there was no appearance of even wood enough to make our fires for some distance. Passed a handsome river...100 yds wide...it appeared to contain much more water than the Muscle-Shell...the water is clear...Cap C. who assended this R. much higher tan I did has thought proper to call it Judieths River. Gave each man a small dram. Notwithstanding the allowance of sperits we issued did not exceed ½ pn. Man several of them were considerably effected by it, such is the effects of abstaining for some time from the uce of sperituous liquors; they were all very merry—

Clark Soon after we Came too it began to rain & blow hard. A table Spoon full of water exposed to the air in a Saucer would evaporate in 36 hours when the mercury did not Stand higher than the temperate point [66°F or 55°F] in the heat of the day.

Gass had a fine morning. At 12 it became cloudy and began to rain. It rained a little all the afternoon.

Ordway passed a considerable rapid came to a bold running Stream. Soon after we came too it began to rain, and blew hard Some of the hunters who went out on the high land, Said it Snowed & hailed on the hills.

Whitehouse Cloudy weather this morning. About 3 oClock began to rain, the wind rose high & hard from the NW. Hunters returned & Said it Snowed and hailed on the hills back from the River. In the Evening we had rain.

Thursday, May 30

**Weather Diary**

the rain commenced about 4 Oclock in the evening, and continued moderately through the course of the night; more rain has now fallen than we have experienced since the 15th of September last.
Sunrise  |  4 PM | Missouri River
---|---|---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
---|---|---|---|---|---|---|---|---
56a | c a r | SW | 50a | r | SW | R | - | 5

**Daily Narrative Journals**

**Lewis**
The rain which commenced last evening continued with little intermission until 11 this morning when we set out; the high wind which accompanied the rain rendered it impracticable to proceed earlier. More rain has now fallen than we have experienced since the 15th of September last. Many circumstances indicate our near approach to a country whose climate differs considerably from that in which we have been for many months. The air of the open country is astonishingly dry as well as pure. I found by several experiments that a tablespoon of water exposed to the air in a saucer would evaporate in 36 hours when the mercury did not stand higher than the temperate point at the greatest heat of the day; my inkstand so frequently becoming dry put me on this experiment. I also observed the well seasoned case of my sextant shrank considerably and the joints opened. The water of the river still continues to become clearer and notwithstanding the rain which has fallen it is still much clearer than it was a few days past. The bluff were more steep than usual and were now rendered so slippery by the late rain that the men could scarcely walk. The wind was also hard against us. We had slight showers of rain through the course of the day, the air was cold and rendered more disagreeable by the rain. One of the party ascended the river hills and reported on his return that there was snow intermixed with the rain which fell on the heights.

**Clark**
The rain commenced yesterday evening, and continued moderately through the course of the night, more rain has now fallen than we have experienced since the 15th of September last, the rain continued this morning, and the wind too high for us to proceed until about 11 o’clock at which time we were set out, and proceeded on with great labour. Not with standing we proceeded on as well as we could wind hard from the NW. Some little rain at times all day. One man ascended the high country and it was raining & snowing on those hills, the day has proved to be raw and cold.

**Gass**
The forenoon was cloudy, with some rain. It rained a little all day.

**Ordway**
The rain commenced yesterday evening & continued moderately through the course of the night. More rain has now fallen than we have experienced since the 15th of September last, the rain continued this morning, and the wind too high for us to proceed, until about 11 o’clock at which time we set out the men could scarcely walk notwithstanding we proceeded as well as we could, wind hard from the NW. Some little rain at times all day. One man ascended the high country & it was raining & snowing on those high hills, the day has proved to be raw and cold back from the river is tolerably level.
Whitehouse

weather Cloudy and Rainey this morning, & the wind blowing high and hard from the NW. WE delayed setting off till 10 oClock, the weather still being very disagreeable working. The weather still continued Cold & Chilling with wind and rain just before 2 oClock.

Friday, May 31

Weather Diary

but little rain. The Antelope now bring forth their young. from the size of the young of the bighorned Antelope I suppose they bring forth their young as early at least at the Elk.

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Daily Narrative Journals

Lewis

soon after we got under way it began to rain and continued untill meridian when it ceased but still remained cloudy through the ballance of the day. The obstructions of rocky points and riffles still continue as yesterday; at those places the men are compelled to be much in the water even to their armpits, and the water is yet very could, and so frequent are those point that they are one fourth of their time in the water. The hills and river Cliffs which we passed today exhibit a most romantic appearance...horizontal stratas of white free-stone, on which the rains or water make nor impression. The water in the course of time in decending from those hills and plains on either side of the river trickled down the soft sand clifts and warn it into a thousand grotesque figures, which with the help of a little immagination and an oblique view at a distance, are made to represent elignant ranges of lofty freestone buildings, having their pararpets well stocked with statuary; collumns of various sculpture both grooved and plain, are also seen supporting long galleries in front of those buildings; in other places on a much nearer approach and with the help of less immagination we see the remains or ruins of elignant buildings, some collumns standing and almost entire with their pedestals and capitals. As we passed on it seemed as if those seens of visionary inchantment would never have an end...So perfect indeed are those walls that I should have thought that nature had attempted here to rival the human art of masonary had I not recollected that she had first began her work. The river today has been from 150 to 250 yds. wide.

Clark

a cloudy morning. Soon found it verry laborious as the mud Stuck to my mockersons & was verry Slippery. Soon after we got under way it began to rain and continued moderately untill about 12 oClock when it ceased, & Continued Cloudy the ballance of the day. The Hills and river Cliffs of this day exhibit a most romantick appearance...in many places this Sand Stone appears like antient ruins
some like elegant buildings at a distance, some like Towers &c. &c. Remind us of Some of those large Stone buildings in the United States. As we passed on it Seemed as if those Seens of Visionary enchantment would never have an end; for here it is too that nature present to the view of the traveler vast ranges of walls of tolerable workmanship, so perfect indeed are those falls [walls] that I Should have thought that nature had attempted here to rival the human art of Masonry had I not recollected that She had first began her work. The river rises a little. The water is yet very cold. Little timber on the river to day. River less muddy than it was below.

Gass a cloudy morning. About 11 o’clock it began to rain slowly, and continued raining two hours, when it cleared up. The rocky peaks...appear like the ruins of an ancient city.

Ordway a Cloudy morning. It continued to rain moderately untill about 12 oClock when it ceased & continued cloudy. The Stones on the edges of the river continue to form very considerable rapids. We find them difficult to pass. The River rises a little it is from 150 to 250 yards wide

Whitehouse cloudy weather this morning. About 11 oClock AM it began to rain, and rained moderately for some time. The current of the River rain very strong, the whole of this day. In the Evening, the weather cleared off, and became pleasant.
June 1805
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

The Expedition is nearing the western edge of the Missouri Breaks and approaching the confluence of the Missouri and Marias Rivers.

Saturday, June 1

Weather Diary ¹

rained a few drops only

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² River rise and fall observations continued during the ascent of the Missouri River from Fort Mandan. The data usually is not for a 24-hour period unless they are encamped. In most cases, when the party stopped for the evening, following Lewis’ habit from previous journal entries, it is surmised that a mark was made and measured the next morning. Thus many observations were only a 8 to 10 hour long.

Daily Narrative Journals

Lewis the morning was cloudy and a few drops of rain. Capt. C who waked on shore today informed me...he observed large banks of pure sand which appeared to have been driven by the SW winds from the river bluffs and there deposited. A range of high Mountains appear to the SW at a considerable distance covered with snow, they appear to run Westerly [Probably the Highwood Mountains]. The river from 2 to 400 yards wide, courant more gentle and still becoming clearer. Some few drops of rain again fell this evening. The wind has been against us all day—

Clark a Cloudy morning. Wind to day from the SW. Som fiew drops of rain in the morning and also in the evening, flying Clouds all day.

Gass The morning was cloudy, but without rain. The water is not so rapid to day as usual, but continues high.

Ordway a Cloudy morning. The River from 2 to 400 yards wide & current more jentle that yesterday. But fiew bad rapids points to day. The river rising a little. Wind to
day from SW    Some fiew drops of rain in the morning and also in the evening. Flying clouds all day.

Whitehouse    a clear pleasant morning. About 2 oclock...the wind rose and blew from the SE.

Expedition arrives at the confluence of the Missouri & Marias Rivers, MT.

Sunday, June 2

Weather Diary

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Daily Narrative Journals

Lewis    The wind blew violently last night and was attended by a slight shower of rain; the morning was fair and we set out at an early hour. The courant was strong tho’ regular. The wind was hard and against us yet we proceeded with infinitely more ease than the two preceding days. A small showers of rain today but it lasted only a few minutes and was very moderate. Remain here untill the morning, as the evening was favourable to make some observations.

Clark    we had a hard wind and a little rain last night, this morning fair, we Set out at an early hour, wind from the SW. Some little rain to day wind hard a head. The Current Swift but regular. A fair night. We took Some Luner observations of moon & Stears

Gass    a fine morning.

Ordway  we hard a hard wind & a little rain last night. This morning fair. Wind from SW some little rain to day wind hard a head. The current swift bu regular. A fair night.

Whitehouse    a clear pleasant morning. About 12 oClock the Wind blew hard from the NW at this place, and the Sky became Cloudy— about 1 oClock PM we had some small sprinkling of rain— the current is not So Swift yesterday & today as it has been Some time past.
Monday, June 3

Weather Diary

Cought the 1st White Chub, and a fish resembling the Hickory Shad in the Clear Stream

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<td>Weather</td>
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<tr>
<td>46a</td>
<td>f</td>
<td>SW</td>
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</table>

Daily Narrative Journals

Lewis  This morning early we passed over and formed a camp on the point formed by the junction of the two large rivers. An interesting question was now to be determined; which of these rivers was the Missouri. To mistake the stream at this period of the season, two months of the traveling season having now elapsed, and to ascend such stream to the Rocky Mountain or perhaps much further before we could inform ourselves...to this end an investigation of both streams was the first thing to be done. Between the time of my AM and meridian Capt. C & myself strolled out to the heights in the fork of these rivers from whence we had an extensive and most enchanting view. The verdure perfectly clothed the ground, the weather was pleasant and fair, to the south we saw a range of lofty mountains which we supposed to be continuation of the S. Mountains, stretching themselves from SE to NW terminating abruptly about S. West for us; these were partially covered with snow; behind these Mountains and at a great distance, a second and more lofty range of mountains appeared...where their snowy tops lost themselves beneath the horizon. We took the width of the two rivers, found the left hand or S. fork 372 yards and the N fork 20. The north fork is deeper than the other but it’s courant not so swift; it’s water run in the same boiling and roling manner which has uniformly characterized the Missouri throughout it’s whole course so far; it’s waters are of a whitish brown colour very thick and terbid, also characteristic of the Missouri; while the South fork is perfectly transparent runs very rappid but with a smoth unriffled surface. The North fork...I am confident that this river rises in and passes a great distance through an open plain country. Convinced I am that if it penetrated the Rocky Mountains to any great distance it’s waters would be clearer unless it should run an immense distance. What astonishes us a little is that the Indians who appeared to be so well acquainted with the geography of this country should not have mentioned this river on wright hand if it be not the Missouri. I am equally astonished at their not mentioning the S fork which they must have passed in order to get to those large falls which they mention on the Missouri. The evening proved cloudy.

Clark the after part of the day proved Cloudy. Cloudy evening—

Gass The Rose (Teton) river is muddy and the current rapid.
Ordway  the after part of the day proved Cloudy. Clark measured each river & found the one to the Right hand 186 yards wide & the left had fork 372 yards wide and rapid.

Whitehouse  a fine fair clear morning. Some men went towards a mountain [perhaps the Highwoods] covered with Snow to the South of this place. The afternoon of this day proved Cloudy.

**Lewis & Clark depart with scouting parties to research up each fork.**

**Tuesday, June 4**

**Weather Diary**

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<td>48a</td>
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**Daily Narrative Journals**

**Lewis**  [Traveling up the Marias River]  The Barn Mountain, a lofty mountain so called from its resemblance to the roof of a large Bar, is a separate Mountain [Square Butte, MT] it was not yet twelve when we arrived at the river and I was anxious to take the Meridian Alt. of the sun but the clouds prevented my obtaining the observation. The part of the river we have passed is from 40 to 60 yds. wide, is deep, has falling banks, the current strong, the water terbind. It rained this evening and wet us to the skin; the air was extremely cold.

**Clark**  [Traveling up the Missouri River]  Some rain all the afternoon. The river is rapid

**Gass**  We saw a mountain to the South about 20 miles off, which appeared to run East and West, and some spots of it resembling snow.

**Ordway**  the day proved Cloudy. A few drops of rain towards evening & high cold wind from the North.

**Whitehouse**  remained here today. The weather was Cloudy. A few drops of rain towards evening, and the Wind rose high & cold from the NE.
Wednesday, June 5

Weather Diary

rained considerably some Snow fell on them mounts. Great numbers of the sparrows larks, Curloos and other small birds common to prairies are now laying their eggs and setting, their nests are in great abundance. The large batt, or night hawk appears. The Turkey buzzard appears.— first saw the mountain cock near the entrance of Maria’s river.

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<tr>
<th>Sunrise</th>
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<th>Missouri River</th>
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<td>SW</td>
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Daily Narrative Journals

Lewis  This morning was cloudy and so could that I was obleged to have recourse to a blanket coat in order to keep myself comfortable altho’ walking. The rain continued during the greater part of last night. The wind hard from NW. A large creek...some timber but not water, notwithstanding the rain; it is astonishing what a quantity of water it takes to saturate the soil of this country

Clark  Some little rain & Snow last night. the mountains to our SE covered with Snow this morning. air verry cold & raining a little. The top of which I could plainly See a mountain to the South & W. covered with Snow at a long distance, the mountains opposit to us to the SE is also Covered with Snow this morning— some few drops of rain to day, the evening fair wind hard from the NE.

Gass  Some light showers of rain fell in the night, and the morning was cloudy. About 7 we set out along the plains again, and discovered the mountain South of us covered with snow, that had fallen last night.

Ordway  the wind blew high from the North all last night   A Cloudy Cold windy morning.

Whitehouse  The wind blew high during the last night from the NE, and we have a cold windy & cloudy morning.

Thursday, June 6

Weather Diary

rained hard the greater part of the day.—
Lewis & Clark Expedition Weather Journals, 1805, Page 109

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<thead>
<tr>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
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<th>Inches</th>
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Daily Narrative Journals

Lewis  
I now became well convinced that this branch of the Missouri [Marias] had it’s direction too much to the North for our rout to the Pacific. The forepart of the last evening was fair but in the latter part of the night clouded up and continued so with short intervals of sunshine untill a little before noon when the whole horizon was overcast, and I of course disappointed in making the observation which I much wished. The wind blew a storm from NE accompanied for frequent showers of rain; we were wet and very could. We continued our rout down the river only a few miles before the abbruptness of the cliffs and their near approach to the river compelled us to take the plains and once more face the storm. It continues to rain and we have no shelter, an uncomfortable nights rest is the natural consequence—

Clark  
a Cloudy Cold raw day, wind hard from the NE. At 12 oClock...it began to rain and Continued all day. My Self and party much fatigued haveing walked constantly as hard as we Could march over a Dry hard plain

Gass  
Some light rain fell this afternoon.

Ordway  
a Cloudy Cold morning. The wind high from the North the hunters....saw a large mountain to the South of them covred with Snow A light Sprinkling of rain this afternoon.

Whitehouse  
a cold cloudy morning. The wind still blew cold from the NE. A light sprinkling of rain this forenoon and to day.

**Friday, June 7**

Weather Diary

rained moderately all day

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<th>Sunrise</th>
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Daily Narrative Journals
Lewis  It continued to rain almost without intermission last night and as I expected we had a most disagreeable and restless night. Our camp possessing no allurements, we left our watery beads at an early hour and continued our rout down the river [Marias]. It still continues to rain the wind hard from the NE and could the ground remarkably slippery, insomuch that we were unable to walk on the sides of the bluffs where we had passed as we ascended the river. Notwithstanding the rain that has now fallen the earth of these bluffs is not wet to a greater depth than 2 inches; in its present state it is precisely like walking over frozen ground which is thawed to small depth and slips equally as bad. We continued our disagreeable march through the rain, mud and water until late in the evening.

Clark  rained moderately all the last night and Continus this morning, the wind from the SW off the mountains, the Thermometer Stood at 40\(^0\) above 0. The rain Continue moderately all day. River falling

Gass  It rained all day.

Ordway  rained all last night. A rainy cold morning the wind NW rained moderately all day. Capt Lewis and his party did not return this evening we expect the reason is owing to the badness of the weather as it is muddy & Slippery walking

Whitehouse  rained the greater part of last night. Cloudy and wet this morning. Rained moderately all day. Capt. Lewis & his party have not returned yet. We expect the reason is owing to the badness of the weather.

Saturday, June 8

Weather Diary

cleared off at 10 AM

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<th>Sunrise</th>
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<td>41</td>
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<td>SW</td>
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</tbody>
</table>

Daily Narrative Journals

Lewis  It continued to rain moderately all last night, this morning was cloudy until about ten oClock when it cleared off and became a fine day. When sun began to shine today these birds appeared to be very gay and sun most enchantingly. Some of the inhabitants of the prairies also take refuge in these woods at night or from a storm. The whole of my party to a man except myself were fully peswaided that this river was the Missouri. I determined to give a named in honor of Miss Maria W–d. called it Maria’s River. A noble river...one destined to become in my opinion an object of
contention between the two great powers of America and Great Britin. In addition to which it passes through a rich fertile and one of the most beautifuly picturesque countries that I ever beheld.

Clark

rained moderately all the last night & Some this morning untill 10 oClock. Aired and dried our Stores &c. The rivers at this point has fallen 6 Inches Sinc our arrival. At 10 oClock cleared away and became fair— the wind all the morning from the SW & hard— the water of the South fork is of a redish brown colour this morning the other river of a whitish colour as usual— the mountains to the South Covered with Snow. Wind Shifted to the NE in the evening. Some rain in the evening. The left hard fork rose a little.

Gass

A fine cool morning. About 10 o’clock AM the water of the South river, or branch, became almost of the colour of claret (reddish brown) and remained so all day. The water of the other branch has appearance of milk. About five o’clock in the afternoon the weather became cloudy and cold, and it began to rain. At dark the rain ceased.

Ordway

the wind blew cold from the NW about 9 oClock AM clear off pleasant. We Saw the high Mountains to the West. Our Camp covered with Snow the greater part of which has fallen within a few days. The South fork of the Missourie is high & of a yallow coulour. The N fork is more white than common owing as we expect to the late rain which has melted the Snow on the mountains. The wind blew from the East a light Shower of rain this evening.

Whitehouse

This morning we had cloudy weather, and the wind blew cold from the NW. Between 7 and 9 oClock the weather cleared off, and became pleasant. We saw on the weather clearing away, a high mountain, lying to the West of us, which was covered with Snow. The South fork of the Missouri is high & of a yellow Colour today, and rose to a great height, the north fork more white and riffling than it was before, the cause of which, we expect, is owing to the Rain that fell lately, and the snow melting in the Mountains. The wind blew from the E toward evening with a light Shower of rain—

Sunday, June 9

Weather Diary

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<th>Sunrise</th>
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<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Wind</td>
<td>Temp</td>
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<tr>
<td>50</td>
<td>f</td>
<td>62</td>
</tr>
</tbody>
</table>

3 Clark’s Journal Codex I lists this temperature as “52 a.”
**Daily Narrative Journals**

**Lewis**

The Indian information also argued strongly in favour of the South fork. That the falls lay a little to the South of sunset from them. Cruzatte who had been an old Missouri navigator and who from his integrity knowledge and skill as a waterman...declared it as his opinion that the N fork was the true genuine Missouri and could be no other. Finding them so determined in this belief, and wishing that if we were in an error to be able to detect it and rectify it as so as possible it was agreed between Capt. C. and myself that one of us should set out with a small party by land up the South fork and continue our rout up it untill we found the falls or reached the snowy Mountains by which means we should be enabled to determine this question prety accurately.

**Clark**

a fair morning, the wind hard from the SW. The river during the night fell 1 inch. Took some Luner observations.

**Gass**

a fine morning. The water of the Missouri changed this morning to its former colour. The day was fine, but the wind blew hard from the northwest.

**Ordway**

a clear pleasant morning. The wind rose high from the west all day. We had a light Shower of rain about 11 oClock at night.

**Whitehouse**

a clear beautiful pleasant morning. The wind towards evening rose from the West. We had a frolick. We had a light Shower of rain late in the evening.

**Monday, June 10**

**Weather Diary**

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<tr>
<th>Sunrise</th>
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<td>Temp</td>
<td>Weather</td>
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<td>52a</td>
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<td>SW</td>
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**Daily Narrative Journals**

**Lewis**

The day being fair and fine we dryed all our baggage and merchandize. We drew up the red perogue...secured and made her fast to the trees to prevent the high floods from carrying her off. Put my brand on several trees standing near her, and covered her with brush to shelter her from the effects of the sun. At 3 PM we had a hard wind from the SW which continued about an hour attended with thunder and rain. As soon as the shower had passed over we drew out our canoes. The night was cloudy with some rain.

**Lewis & Clark Expedition Weather Journals, 1805, Page 112**
Clark: a fine day, dry all our articles. Branded several trees to prevent the Indians injuring her, at 3 oClock we had hard wind from the SW. Thunder and rain for about an hour after which we repaired & Corked the Canoes. The after noon or night Cloudy Some rain. river rising a little.

Gass: about two it began to rain and blow we were obliged to desist. The rain continued only an hour

Ordway: a beautiful pleasant morning. About 4 oClock PM we had a light Shower of rain which lasted about an hour. High wind. The evening pleasant.

Whitehouse: A beautiful pleasant morning. About 4 oClock PM we had a light shower of Rain, & in the Evening it cleared up, & we had pleasant Weather—

Tuesday, June 11

Weather Diary

Capt. Lewis & 4 men Set out up the S. fork

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<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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Daily Narrative Journals

Clark: a fair morning, wind from the SW hard. The evening fair and fine wind from the NW. After night it became cold & the wind blew hard. Both rivers rising fast.

Gass: A fine day.

Ordway: a clear pleasant morning. The wind from the S West hard. The evening fair & fine wind from the NW after night became cold. High wind


Wednesday, June 12

Weather Diary
### Daily Narrative Journals

**Lewis**

The sun became warm, and I bore a little to the south in order to gain the river as well to obtain water to allay my thirst. From this height we had a most beatiful and picturesque view of the Rocky mountains which were perfectly covered with Snow and reaching from SE to the N of NW— they appear to be formed of several ranges each succeeding range rising higher than the preceding one until the most distant appear to loose their snowey tops in the clouds.

**Clark**

Last night was Clear and Cold, this morning fair. Wind from the SW. The interpreters wife very Sick So much So that I move her into the back part of our Covered part of the Perogue which is Cool, her our situation being a very hot one in the bottom of the Canoe exposed to the Sun— water very swift. At 2 oClock PM a few drops of rain.

**Gass**

The morning was fine. At 1 o’clock the weather became cloudy and threatened rain; at 2 there was a light shower, and the day became clear.

**Ordway**

A clear pleasant morning. The current very rapid.

**Whitehouse**

A clear pleasant morning. The current very Rapid.

#### Lewis’ with a second scouting party arrives at the Great Falls of the Missouri, MT

**Thursday, June 13**

**Weather Diary**

Some dew this morng.

### Weather Diary

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4 It appears observations were taken at the lower portage camp at Belt Creek, Montana until the upper portage camp at the White Bear Islands is established on June 23, 1805.
Daily Narrative Journals

Lewis       I overlooked a most beatifull and level plain of great extent or at least 50 or sixty miles; in this there were infinitely more buffaloe than I had ever before witnessed at a view. I proceeded on this course...whin my ears were saluted with the agreeable sound of a fall of water and advancing a little further I saw the spray arrise above the plain like a collumn of smoke which would frequently dispear again in an instant caused I presume by the wind which blew pretty hard from the SW...soon began to make a roaring too tremendious to be mistaken for any cause short of the great falls of the Missouri. Here I arrived about 12 OClock...to gaze on this sublimely grand specticle. Immediately at the cascade the river is about 300 yds. On my right formes the grandest sight I ever beheld...some what projecting rocks below receives the water in it’s passage down and brakes it into a perfect white foam which assumes a thousand forms in a moment sometimes flying up in jets of sparkling foam to the hight of fifteen or twenty feet and are scarcely formed before large roling bodies of the same beaten and foaming water is thrown over and conceals them. From the reflection of the sun on the spray or mist which arries from these falls there is a beatifull rainbow produced which adds not a little to the beauty of this majestically grand senery. After wrighting this imperfect discription, I again viewed the falls and was so much disgusted with the imperfect idea which it conveyed of the scene that I determined to draw my pen across it and begin agin, but then reflected that I could not perhaps succeed better than pening the first impressions of the mind. I wished...that I might be enabled to give to the enlightened world some just idea of this truly magnifficent and sublimely grand object which has from the commencement of time been concealed from the view of civilized man.

Clark      a fair morning. Some dew this morning. Small stream...heads in a mountain to the SE...which at this time covered with Snow, we call this stream Snow river [Shonkin Creek]. The river verry rapid maney Sholes great nos of large Stones

Gass       a fine morning. Some dew fell last night.

Ordway     a beautiful pleasant morning. A heavy diew. Small river...about 50 yards wide....muddy coulour and verry rapid.

Whitehouse we had a Clear & pleasant morning.

Friday, June 14

Weather Diary

Capt. Lewis Discover the falls & Send back Joe Fields to inform me
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<th>Sunrise</th>
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**Daily Narrative Journals**

**Lewis**

proceeded up the river about SW. I arrived at a fall of about 19 feet; the river is here about 400 yds. wide. [Crooked Falls]. I now thought that if a skillful painter had been asked to make a beautiful cascade that he would most probably have presented the precise image of this one; nor could I for some time determine on which of those two great cataracts to bestow the palm, on this or that which I had discovered yesterday; at length I determine between these two great rivals for glory that this was pleasingly beautiful, while the other sublimely grand. Still pursuing the river...I arrived at another cataract of 26 feet...the river near six hundred yards wide at this place [Eagle Falls]...this fall is certainly much the greatest I ever beheld except those two which I have mentioned below. It is incomparably a greater cataract and a more noble interesting object than the celebrated falls of Potomac or Soolkin &c. From hence I overlook a most beautifull and extensive plain reaching from the river to the base of the Snowclad mountains to the S and SW. I passed through the plain...to medicine river [Sun River], found it a handsome stream, about 200 yds. wide with a gentle current, apparently deep, it’s water clear...they had not the appearance of ever being overflown, a circumstance, which I did not expect so immediately in the neighbourhood of the mountains, from whence I should have supposed, that sudden and immense torrents would issue at certain seasons of the year; but the reverse is absolutely the case. I am therefore compelled to believe that the snowey mountains yeald their warters slowly, being partially effected every day by the influence of the sun only, and never suddenly melted down by haisty showers of rain— The weather being warm I had left my leather over shirt and had worn only a yellow flannin one.

**Clark**

a fine morning. The Current excesevely rapid more So as we assend find great difficulutly in getting the Perogue & canoes up in safety

**Gass**

the morning was pleasant.

**Ordway**

a fare pleasant morning. The current verry rapid all day. We came 10 miles to day through a verry rapid current.

**Whitehouse**

a fare pleasant morning. The current verry rapid all day.

Portage around the great falls to White Bear Islands begins on June 15 and they remain between the lower portage and upper portage camps until July 13 at present-day Great Falls, MT.
Saturday, June 15

Weather Diary

The deer now begin to bring forth their young the young Magpies begin to fly. The Brown or grizzly bear begin to coppolate.

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Daily Narrative Journals

Lewis when I awoke from my sleep [nap] today I found a large rattlesnake coiled on the leaning trunk of a tree under the shade of which I had been lying at the distance of about ten feet from him. I find a very heavy due on the grass about my camp every morning which no doubt procedes from the mist of the falls, as it takes place no where in the plains nor on the hills river except here.

Clark a fair morning and warm. Proceeded on with great dificuelt as the river is mor rapid. We can hear the falls this morning verry distinctly— river rises a little this evening.

Gass had the most rapid water I ever saw any craft taken through.

Ordway a clear pleasant morning. Passed through the rapidest water I ever Saw any craft taken through. The afternoon verry warm.

Whitehouse a clear pleasant morning. Passed the rapidest water I ever Seen any crafts taken through. In the afternoon, it became very warm.

Sunday, June 16

Weather Diary

Some rain last night

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<th>Sunrise</th>
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<td>SW</td>
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Lewis & Clark Expedition Weather Journals, 1805, Page 117
**Daily Narrative Journals**

**Lewis**

a Sulpher Spring...this spring is situated about 200 yards from the Missouri on the NE side...the water is as transparent as possible strongly impregnated with sulphur...the water to all appearance is precisely similar to that of Bowyer’s Sulpher spring in Virginia

**Clark**

Some rain last night, a cloudy morning, wind hard from the SW

**Ordway**

a Small Shower of rain and high wind from the west the fore part of last night.

**Whitehouse**

we had a Showers of rain & high wind the fore past of the last night. This morning it cleared away & we had pleasant weather

**Sunday, June 17**

**Weather Diary**

the thermometer placed in the shade tree at the foot of the rappids. Capt Clark sets out to survey the river & portage

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**Daily Narrative Journals**

**Lewis**

I found the Elk skins I had prepared for my boat were insufficient to compleat her, some of them having become dammaged by the water and being frequently wet...lyed in the sun to dry.

**Clark**

a fine morning, wind as usial. Proceeded up the river passing a Sucession of rapids & Cascades to the Falls, which we had herd for Several miles makeing a dedly Sound, I beheld those Cateracts with astonishment. The whole of the water of this great river Confined in a Channel of 280 yards and pitching over a rock of 97 feet 3/4 of an, from the foot of the falls arrises a Continued mist. We Camped for the night which was Cold. The mountains in every derection has Snow on them.

**Ordway**

a clear morning.

**Whitehouse**

a cloudy morning.
Monday, June 18

Weather Diary

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<th>Sunrise</th>
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<td>Temp</td>
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<td>48a</td>
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<td>SW</td>
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Daily Narrative Journals

Lewis
the wind blew violently this evening, as they frequently do in this open country where there is not a tree to brake or oppose their force.

Clark
arrived at the second great Cataract...this is one of the grandest views in nature and by far exceeds any thing I ever saw...the river is 473 yards wide...a continual mist quite across the fall...proceeded...to the largest fountain or Spring I ever Saw, and doubt if it is not the largest in America Known, this water boils up from under the rocks near the edge of the river and falls immediately into the river 8 feet and keeps its Colour for ½ a mile which is emencely Clear and of a bluish Cast...a Considerable mist rises at this fall occasionally, dined...opposite the mouth of the Medison River...and is 137 yards wide at its mouth. The Missouri above is 800 yards wide. I Saw the bear but the bushes was So thick that I could not Shoot him and it was nearly dark, the wind from the SW & Cool.

Ordway
the day pleasant. The wind high from the west.

Whitehouse
a fine pleasant day. After 12 oClock...the wind rose & blew high from the West.

Tuesday, June 19

Weather Diary

wind violent all day

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<th>Sunrise</th>
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<td>52a</td>
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<td>SW</td>
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Lewis & Clark Expedition Weather Journals, 1805,  Page 119
Daily Narrative Journals

Lewis The wind blew violently the greater part of the day.

Clark the wind all this day blew violently hard from the SW off the Snowey mountains, Cool, in my last rout I lost a part of my notes which could not be found as the wind must have blown them to a great distance.

Gass A fine day, but the wind very high.

Ordway a clear pleasant morning. The wind verry high from NW.

Whitehouse a clear cool morning. The wind had blown very hard during the last night. Continues veryy high from the West and whole of this day.

Thursday, June 20

Weather Diary


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Daily Narrative Journals

Clark a Cloudy morning, a hard wind all night and this morning. Soon after we set out it began to rain and continued a short time. the wind hard from the SW. A fair after noon. The Countrey above the falls & up the Medison river is leavel, with low banks, a chain of mountains to the west some part of which particular those to the NW & SW are Covered with Snow and appear very high--- We had a heavy dew this morning. The Clouds near those mountains rise Suddonly and discharge their Contents partially on the neighbouring Plains; the Same Cloud discharge hail alone in one part, hail and rain in another and rain only in a third all within the Space of a fiew miles; and on the Mountains to the South & SE of us Sometimes Snow. At present there is no Snow on those mountains; that which covered them a fiew days ago has all disappeared. the Mountains to the NW and West of us are Still entirely Covered are white and glitter with the reflection of the sun. I do not believe that the Clouds that pervale at this Season of the year reach the summits of those lofty mountains; and if they do the probability is that they deposit Snow which they Contain since we first saw them. I have thought it probable that these mountains might have derived their appellatoin of Shining Mountains, from their glittering
appearance when the Sun Shines in certain directions on the Snow which Cover
them.

During the time of my being on the Plains and above the falls I as also my party
repeatedly heard a nois which proceeded from a Direction a little to the N. of West,
as loud and resembling precisely the discharge of a piece of ordinance of 6 pounds at
the distance of 5 or six miles. I was informed of it Several times by the men. J.
Fields particularly before I paid any attention to it, thinking it was thunder most
probably which they had mistaken. At length walking in the plains yesterday near
the most extreme SE bend of the River above the falls I heard this nois very
distinctly, it was perfectly calm clear and not a Cloud to be Seen, I halted and listend
attentively about two hour during which time I heard two other discharges, and took
the direction of the Sound with my pocket Compass which was as nearly West from
me as I could estimate from the Sound. I have not doubt but if I had leasure I could
find from whence it issued. I have thought it probable that it might be caused by
running water in Some of the caverns of those emence mountains, on the principal of
the blowing caverns [Blowing Cave, Bath County, Virginia]; but in such case the
Sounds would be periodical and regular, which is not the Case with this, being
Sometimes heard once only and at other times Several discharges in quick
Succession. It is heard also at different times of the day and night. I am at a great
loss to account for this Phenomenon. I well recollect hereing the Minitarees Say that
those Rocky Mountains make a great noise, but they could not tell me the Cause,
neither Could they inform me of any remarkable substance or situation in these
mountains which would aurtherise a conjecture of a probable cause of this noise— it
is probable that the large river just above those Great falls which heads in the
direction of the noise has taken it’s name Medicine River from this unaccountable
rumbling Sound, which like all unaccountable thing with the Indians of the Missouri is
Called Medicine. The Ricaras inform us of the black mountains making a Simalar
noise &c. &c. and maney other wonderfull tales of those Rocky mountains and those
great falls.

Gass

A cloudy morning.

Ordway

Some cloudy & cold for the Season. The wind continues high from the west off the
mountains. A light Sprinkling of rain about noon. A light sprinkle of rain. The
hunters...saw a chain of Mountains to the West Some of which particular those to the
NW and SW are covered with Snow, and appear to be very high.

Whitehouse

This morning we had Cloudy cold weather; and the wind continues high from the
West. We had about Noon some light Squalls of rain and wind. We had small
Showers of rain this afternoon. 1 mile above the fall...is the largest fountain or
Spring, as they think it is the largest in america known. They Saw a chain of
mountains to the west, some of which particular those to the NW & SW are covered
with Snow & appear to be very high. [probably the Lewis Range of the Rockies]
Capt, Clark lost a part of his notes which could not be found, as the wind blew high
and hard & took them off.
Friday, June 21

Weather Diary

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<td><strong>Weather</strong></td>
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<td>49a</td>
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<td>SW</td>
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</table>

Daily Narrative Journals

Lewis  The wind blew violently all day.

Clark  a fine morning, wind from the SW off the mountains and hard. Cloudy afternoon.

Gass  This morning was also fine, but there was a high wind.

Ordway  a fine cool morning. the wind from the SW. off the mountains and hard.

Whitehouse  a fine morning, the wind blew hard from the SW off the mountains.

Saturday, June 22

Weather Diary

wind not so violent. Thermometer removed to the head of the rappid and place in the shade of a tree.

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<td>45a</td>
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<td>SW</td>
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</tbody>
</table>

Daily Narrative Journals

Clark  a fine morning. Wind from the

Ordway  a clear pleasant morning. the wind as usal. ...a light Sprinkling of rain. ...we are a little South of the Mandans but have had cold weather as yet. it must of course be a healthy county.

Whitehouse  a fair pleasant morning. The wind as usal. West. We are at this place a little
South of the Mandan Villages, but as yet have experienced no very warm weather—

Sunday, June 23

Weather Diary

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<td>Wind</td>
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<td>48a</td>
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<td>SE</td>
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</table>

It appears observations were moved from the lower portage camp to the upper portage camp at the White Bear Islands and continued until the Expedition began its ascent once again up the Missouri River on July 13, 1805.

Daily Narrative Journals

Lewis  
during the late rains the buffaloe have troden up the prarie very much, which having now become dry the sharp points of earth as hard as frozen ground stand up in such abundance that there is no avoiding them. This is particulary severe on the feet of the men who have not only their own wight to bear in treading on those hacklelike points but have also the addition of the burthen which they draw

Clark  
a Cloud morning, wind from the SE.

Gass  
The morning was cloudy.

Ordway  
a cloudy morning. The wind from East. A light Sprinkling of rain. The hard ground in many places is So hard as to hurt our feet very much. The emence numbers of buffalow after the last rain has trod the flat places in Such a manner as to leave them uneaven, and dryed as hard as frozen Ground.

Whitehouse  
this morning the wind shifted to the east & became Cloudy an we had a light sprinkling of rain—

Monday, June 24

Weather Diary

slight rain last night & a heavy shower this evening.
Sunrise | 4 PM | Missouri River
--- | --- | ---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
49a | car | SE | 74a | f a c | SW | F | - | -

Daily Narrative Journals

Clark

a Cloudy morning. Some few drops of rain in the fore part of the day, at 6 oClock a black Cloud arose to the NW, the wind shifted from the S to that point and in a Short time the earth was entirely Covered with hail, Some rain Succeeded, which Continued for about an hour very moderately on this Side of the river, without the earths being wet ½ an inch, the riveins on the opposit or NW Side discharged emence torrents of water into the river, & Showed evidently that the rain was much heavier on that Side, Some rain at different times in the night which was worm. Thunder without lightning accompanied the hail Cloudy.

Gass

In the evening there was a very heavy shower of rain, at night the weather cleared up

Ordway

a cloudy morning. A violent shower arose from the NW hard thunder caught us in a verry hard rain So that in a few minutes the ground was covered with water. So that we got a hearty drink of water in the holes & puddles &.C. The rain continued about half an hour, at dusk we arived at the upper camp all wet and much fatigued. The wind was considerable assistance to us in the course of the day, as we were drawing the canoes the wind being Sufficiently hard at times to move the canoe on the Trucks. This is Saleing on dry land in every Since of the word.

Whitehouse

fair weather this morning. We proceeded across the prairie, the wind blowing steady from the SE, we hoisted a Sail in the largest canoe which helped us much. Towards evening when we were within 3 miles of the upper camp, up came a sudden and Violent thunder Shower & rained amazingly hard for about 15 to 20 minutes, in which time the water stood on the ground over our mockasons. Our water being all gone & the men very thirsty, they drank heartily, out of the puddles of water that lay in the plains—

Tuesday, June 25

Weather Diary

Sunrise | 4 PM | Missouri River
--- | --- | ---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
47a | car | SW | 72a | f | SW | - | - | -

Lewis & Clark Expedition Weather Journals, 1805, Page 124
Daily Narrative Journals

Lewis  the river is about 800d yds. wide opposite to us above these islands, and has a very gentle current [White Bear Islands, upper portage camp]. It is worthy of remark that the winds are sometimes so strong in these plains that the men informed me that they hoisted a sail in the canoe and it had driven her along on the truck wheels. This is really sailing on dry land.

Clark  a fair worm morning, Clouded & a few drops of rain at 5 oClock AM fair. I had a little Coffee for brackfast which was to me a rarity as I had not tasted any Since last winter. The wind from the NW & worm. This Countrey has a romantick appearance river inclosed between high and Steep hills. A powerfull rain fell on the party on their rout yesterday, Wet Some fiew articles, and Caused the rout to be So bad wet & Deep thay Could with dificulty proceed. A fair after noon— it may be worthy of remark that the Sales were hoised in the Canoes as the men were drawing them and the wind was great relief to them being Sufficiently Strong to move the Canoes on the Trucks, this is Saleing on Dry land in every Sence of the word

Gass  A cloudy morning.

Ordway  a cloudy morning. The day proved pleasant and warm the men much fatigued.

Whitehouse  a cloudy morning. The weather cleared up about 10 oClock AM and the day proved pleasant and warm. The evening was clear and pleasant.

Wednesday, June 26

Weather Diary

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<th>Missouri River</th>
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<tr>
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<td>SW</td>
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Daily Narrative Journals

Lewis  The Musquetoes are extremly troublesome to us.

Clark  Some rain last night, this morning verry Cloudy. The wind from the NW verry worm. Flying Clouds, in the evening the wind Shifted round to the East & Blew hard, which is a fair wind for the two Canoes to Sail on the Plains across the portage.
Gass

a fine morning. Captain Lewis measured the falls, found them in a distance of 17 miles 362 feet 9 inches. The first great pitch 98 feet, the second 19 feet, the third 47 feet 8 inches, the fourth 26 feet; and the number of small pitches amounting altogether to 362 feet 9 inches.

Ordway

Some rain last night. This morning cloudy. The day proved fair.

Whitehouse

We had some rain last night, and this morning very cloudy. The weather cleared up at 9 oClock AM and the very hot Sun beat down on us as the day proved fair. I took sick this evening I expect by drinking too much water when I was hot. I got bled &c. I had an opportunity of seeing the quantity of Buffalo as related; and I can without exaggeration say, that I saw more Buffalo feeding— at one time, than all the Animals I had ever seen before in my life time put together—

Thursday, June 27

Weather Diary

at 1 PM a black cloud which arose in the SW came on accompanied with a high wind and violent Thunder and Lightning; a great quantity of hail also fell during this storm which lasted about 2 ½ hours the hail which was generally about the size of a pigeon’s egg and not unlike them in form covered the ground to the depth of 1 ½ inches.— for about 20 minutes during this storm hail fell of an innomus size driven with violence almost incredible, when they struck the ground they would bound to the height of ten to 12 feet and pass 20 or thirty before they touched again. (during the emence Storm I was with the greater part of the men on the portage the men Saved themselves, Some by getting under a Canoe others by putting Sundery articles on their heads two was kocked down & Seven with their legs & thighs much brused. - Clark’s notes) After the rain I measured and weighed many of these hail stones and found several weighing 3 ozs. and measuring 7 Inches in circumference; they were generally round and perfectly solid. I am convinced if one of those had struck a man on the neaked head it would have knocked him down, if not fractured his skull.— Young blackbirds which are abundant in these Island are now beginning to fly

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</table>

6 Clark’s Journal Codex C lists this weather data as “f a r h.”

Daily Narrative Journals

Lewis

at 1 PM a cloud arrose to the SW and shortly after came on attended with violent Thunder Lightning and hail &c. (see notes on diary of the weather for June). Soon after this storm was over Drewyer and J. Fields returned. They were about 4 miles above us during the storm, the hail was of no uncommon size where they were. Soon after the storm this evening the water on this side of the river became of a deep
crimson colour which I presume proceeded from some stream above and on this side. At 4 PM the party returned from the upper camp; Capt. C. gave them a drink of grog; they prepared for the labour of the next day. Soon after the party returned it began to rain accompanied by some hail and continued a short time; a second shower fell late in the evening accompanied by a high wind from the NW—

Clark

a fair warm morning, wind from the SE and moderate. The warmest day we have had this year, at 4 PM the party returned...Soon after it began to hail and rain hard and continued for a few minits & Ceased for an hour and began to rain again with a heavy wind from the NW. I refreshed the men with a drink of grog. The river beginning to rise a little the water is Coloured a reish brown, the Small Streams, discharges in great torrents, and partake of the Choler of the earth over which it passes— a great part of which is light & of a redish brown. Several Buffalow pass drowned & dashed to pices in passing over the falls. Cloudy all night, Cold.

Gass

a fine morning. In the afternoon a dreadful hail storm came on, which lasted half an hour. Some of the lumps of ice that fell weighed 3 ounces, and measured 7 inches in circumference. The ground was covered with them, as white as snow. It kept cloudy during the evening and some rain fell.

Ordway

a fair warm morning. a heavey dew last night. passed the upper falls which is a great catteract and looks remarkable. passed the lower high falls which is the highest known except the falls of the Neagra. a hard Shower of rain and hail came on of a Sudden So I got under a Shelving rock on one Side of the creek where a kept dry through the hardest of it. hard thunder. large hail the creek rose So high in a few minutes that I had to move from the dry place and proceeded on. the wind blew So high that the hail cut verry hard against me and I could hardly keep my feet. the rain has made it So muddy and Slippery, cloudy all night.

Whitehouse

a fair clear warm morning. About 4 oClock PM we had a hard shower of rain which made the Portage so Slippery

Friday, June 28

Weather Diary

Cat fish no higher

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</table>
Daily Narrative Journals

Lewis  the river is now about nine inches higher than is was on my arrival. Portage creek had arisen considerably and the water was of crimson colour and illy tasted. Soon after his arrival [Clark during the morning] at willow run he experienced a hard shower of rain which was succeeded by a violent wind from the SW off the snowy mountains, accompanied with rain; the party being cold and wet, he administered the consolation of a dram to each.

Clark  a fair morning, wind from the South. Set out passed the Creek which had rose a little and the water nearly red, and bad tasted [Portage Creek]. Soon after we halted we had a Shower, and at dark we experience a most dreedful wind from off the Snow Mountains to the SW accompd. with rain which continued at intervales all night men wet. I refreshed them with a dram.

Gass  a fine morning.

Ordway  a fair morning. Wind from the South. The water is riseing and of a redish brown cholour. Soon after we halted, we had a Shower and at dark we experienced a most dreedful wind from off the Snow Mountains to the SW accompanied with rain which lasted nearly all night.

Whitehouse  a fair clear morning, wind from the South, which continued the whole of this day

Saturday, June 29

Weather Diary

heavy gust of rain the morning and evening

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Daily Narrative Journals

Lewis  This morning we experienced a heavy shower of rain for about an hour after which it became fair. Not having seen the large fountain of which Cap. Clark spoke I determined to visit it today...passed through a level plain for about Six miles when I reached a brake of the river hills. Here we were overtaken by a violent gust of wind and rain from the SW attended with thunder and Litning. I expected a hail storm probably from this cloud and therefore took refuge in a little gully wher there were some broad stones with which I purposed protecting my head if we should have a repetition of the seene of the 27th but fortunately we had but little hail and that not
large; I sat very composedly for about an hour without shelter and took a copious drenching of rain; after the shower was over I continued my route to the fountain. ...nature seems to have dealt with a liberal hand for I have scarcely experienced a day since my first arrival in this quarter without experiencing some novel occurrence among the party or witnessing the appearance of some uncommon object. I think this fountain the largest I ever beheld, and the handsome cascade which it affords over some steep and irregular rocks in it’s passage to the river adds not a little to it’s beauty...it is about 25 yds. from the river...the water of this fountain is extremely transparent and cold...very pure and pleasant. After amusing myself about 20 minutes in examining the fountain I found myself so chilled with wet cloaths that I determined to return. I was astonished not to find the party yet arrived, but then concluded that probably the state of the praries had detained them, as in the west state in which they are at present the mud sticks to the wheels in such manner that they are obliged to halt frequently and clense them. [Lewis describes the following flash flood episode repeating it using his literary prose. It is omitted to allow the full effect from Clark’s discussion below.]

Clark

a little rain verry early this morning after[wards] Clear, finding that the Prairie was So wet as to render it impossible to pass on to the end of the portage determined to Send back to the top of the hill...for remaining baggage...Soon after I arrived at the falls, I perceived a cloud which appeared black and threaten immediate rain, I looked out for a Shelter but Could see no place without being in great danger of being blown into the river if the wind proved as turlble as it is at Some times. about 1/4 of a mile above the falls I obsd [observed] a Deep riveen in which was Shelving rocks under which we took shelter near the river and placed our guns the compass &c. &c....which was verry Secure from rain, the first Shower was moderate accompanied with a violent wind, the effects of which we did not feel, Soon after a torrent of rain and hail fell more violent than ever I saw before, the rain fell like one voley of water falling from the heavens and gave us time only to get out of the way of a torrent of water which was Pouring down the hill in the rivin with emence force tareing everything before it takiing with it large rocks & mud. I took my gun and Shot pouch in my left hand, and with the right Scrambled up the hill pushing the Interpreters wife (who had her child in her arms) before me, the Interpreter himself making attempts to pull up his wife by the and much Scared and nearly without motion— we at length retched the top of the hill Safe where I found my Servent in Serch of us greatly agitated, for our wellfar— before I got out of the bottom of the revin which was a flat dry rock when I entered it, the water was up to my waste & wet my watch, I Sercely got out before it raised 10 feet deep with a torrent which [was] turlrouble to behold, and by the time I reached the top of the hill, at least 15 feet water, I directed the party to return to the Camp at the run as fast as possible to get to our lode where Cloathes Could be got to Cover the Child whose Clothes were all lost, and the woman who was but just recovering from a Severe indisposition, and was wet and Cold, I was fearfull of a relaps. I caused her as also the others of the party to take a little Spirits, which my Servent had in a Canteen, which revived verry much. On arrival a the Camp on the willow run— met the party who had returned in great Confusion to the run leaving their loads in the Plain, the hail & wind being So large and violent in the plains, and them naked, they were much brused, and Some
nearly killed one knocked down three times, and other without hats or any thing on
their heads bloodey & Complained very much; I refreshed them with a little grog—
Soon after the run began to rise and rose 6 feet in a few minutes—I lost at the river in
the torrent the large Compass, an eloquent fusee [umbrella], Tomahawk Humbrallo,
Shot pouch, & horn with powder & Ball, mockersons, & the woman lost her Childs
Bear & Clothes bedding &c. — The Compass is a Series loss; as we have no other
large one. The plains are So wet that we Can do nothing this evening particularly as
two deep reveins are between ourselves & Load

Gass

We had a very hard gust of wind and rain in the morning; but a fine forenoon after it.
In the afternoon there was another heavy shower of rain, and after it a fine evening.
Captain Lewis came to camp, but drenched with rain.

Ordway

a little rain very airily this morning after clear & warm. We find that the prairie is
So wet as to render it impassable to pass on the end of the portage. Saw a black
cloud rise in the west which we looked for emediate rain we made all the haste
possible but had not half way before the Shower met us and our hind extletree
broke in too we were obliged to leave the load Standing and ran in great
confusion to Camp the hail being So large and the wind So high and violent in the
plains, and we being naked we were much bruized by the large hail. Some nearly
killed one knocked down three times, and others without hats or any thing about
their heads bleeding and complained very much. [He then relates Clark’s story
above.] The plains are so wet that we could do nothing this evening.

Whitehouse

a little rain very airily this morning which lasted but for a short time, when the
weather cleared off and it became pleasant. In the afternoon, there arose a storm of
hard wind & rain; accompanied with amazing large hail at the upper camp. We
cought several of the hail Stones which was measured & weighed by us, there were 7
inches in Surcumference and weighed 3 ounces— Captain Lewis made a small bowl
of punch out of one of them. As luck woul d have it, we were all...Safe...the party
that was at the upper camp, were under a good shelter, but we feel concerned about
the men on the road with the baggage from the lower Camp—

Sunday, June 30

Weather Diary

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<td>SW</td>
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Daily Narrative Journals

Lewis We had a heavy dew this morning which is a remarkable event. I being to be extremely impatient to be off as the season is now waisting a pace. Nearly three months have now elapsed since we left Fort Mandan and not yet reached the Rocky Mountains. I am therefore fully preswaded that we shall not reach Fort Mandan again this season if we even return from the ocean to the Snake Indians. The men complained much today of the bruises and wounds which they had received yesterday from the hail. Two men sent to the falls returned with the compass which they found covered in the mud...the other articles were irrecoverably lost. They found that part of the rivene in; which Capt. C. had been setting yesterday, filled with huge rocks. experienced a heavy gust of wind this evening from the SW after which it was a fair afternoon. More buffaloe than usual were seen about their camp; Capt. C. assured me that he believes he saw at least ten thousand at one view— I made several attempts to obtain Equal altitudes since my arrival here but have been uniformly defeated untill now by the flying clouds and storms in the evening—

Clark a fair morning. At 3 oClock a Storm of wind from the SW after which we had a clear evening. Great numbers of Buffalow in every direction, I think 10,000 may be Seen in a view.

Gass A fine day. The hail that fell on the 27th hurt some of the men very badly. Captain Clarke, the interpreter, and the squaw and child, had gone to see the spring at the falls; and when the storm began, they took shelter under a bank at the mouth of the run; but in five minutes there was seven feet water in the run; and they were very near being swept away. They lost a gun, an umbrella and a Surveyor’s compass, and barely escaped with their lives.

Ordway a fair morning. This run has fallen a little. Last evening it was up to a mans waist at the crossing place where it was dry before the Showers, and verry riley and bad tasted at 3 oClock we had a Storm of wind from SW after which a fair evening.

Whitehouse a fair morning & pleasant. We are at the upper camp, looking out for the arrival of Captain Clark and his party, with the baggage &c. fearing that they must have suffered much by the hail—
July 1805  
Lewis and Clark Expedition  
Weather Diary & Daily Narrative Journals

The Expedition continued its portage around the Great Falls of the Missouri.

Monday, July 1

Weather Diary

wind hard during the greater part of the day.—

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<th></th>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
<td>Temp</td>
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<tr>
<td>59a</td>
<td>f</td>
<td>SW</td>
<td>74a</td>
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</tbody>
</table>


2 It appears observations were moved from the lower portage camp to the upper portage camp at the White Bear Islands and continued until the Expedition began its ascent once again up the Missouri River on July 13, 1805.

Daily Narrative Journals

Lewis the day has been warm and the Musquetoes troublesome of course

Clark the Day worm and party much fatigued. The wind hard from the SW— the hail which fell at Capt. Lewis Camp 27 Ins [June 27] was 7 Inches in circumfrance & waied 3 onions. fortunately for us it was not so large in the plains, if it had we Should most certainly fallen victims to its rage as the men were mostly naked, and but few with hats or any covering on their heads.

Ordway the day warm and party much fatigued. The wind hard from the SW. The hail which fell at Capt. Lewis Camp was 7 Inches in Surcumference and weighed 3 ouenes. Fortinately for us it was not so large in the plains where we was. If it had we Should most certainly fallen victims to its rage as the most of the men were without hats or any thing on their heads and mostly neaked.

Whitehouse This morning pleasant and warm. About 3 oClock PM Captain Clarke & party arrived...they informed us that they were detained by the wet weather, and that they were out in the hail Storm but as luck would have it, the hail was not So big as that
which fell at the upper Camp. Captain Clarke was at the falls of the River, at the
time the hail fell, and hunted a shelter for himself & party from the Rain & hail—
This sheltering place, was in a deep Creek, without any Water in it, at the time it first
began raining; he mentioned that the Creek rose so fast, they had scarcely time to get
out, before the water was ten feet deep. The party that was hawling the crafts, had
nearly all lost their lives, being naked and most without hats on, or any thing to cover
them, they had no shelter & were Cut and bruised very much by the hail, and under
went, as much as Men could possibly endure; to escape with their lives—

Tuesday, July 2

Weather Diary

some rain just before sun rise

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<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Rise/Fall</th>
<th>Feet</th>
<th>Inches</th>
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<td>60a</td>
<td>f a r</td>
<td>SW</td>
<td>78a</td>
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<td>SW</td>
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</table>

Daily Narrative Journals

Lewis

A shower of rain fell very early this morning. The wind hard from the SW all day. I
think it possible that these almost perpetual SW winds proceede from the agency of
the Snowey Mountains and the wide level and untimbered plains which streach
themselves along their bases for an immense distance (ie) that the air coming in
contact with the snow is suddenly chilled and condensed, thus becoming heavier than
the air beneath in the plains, where by the constant action of the sun on the face of an
untimbered country there is a partial vacuum formed for it’s reception. I have
observed that the winds from this quarter are always the coldest and most violent
which we experience, yet I am far from giving full credit to my own hypothesis on
this subject; it hoever I find on the opposite side of these mountains that the winds
take a contrary direction I shall then have more faith....completed my observation of
Equal Altitudes today.

Clark

Some rain at day light this morning, after which a fair morning. The Roreing of the
falls for maney miles above us. Musquetors verry troublesom to day, day worm.
Wind to day as usial from the SW and hard all the after part of the day, those winds
are also Cool and generally verry hard.

Gass

a fine morning.

Ordway

Some rain at day light this morning after which a fair morning. The day warm.

Whitehouse

Some rain at day light this morning, and it then cleared up, and we had clear pleasant
Wednesday, July 3

Weather Diary

slight rain in the evening.

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<tr>
<th>Sunrise</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>58a</td>
<td>f</td>
<td>SW</td>
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</tbody>
</table>

3 Lewis’ Journal Codex P & Clark’s Codex I lists this temperature as “56.”

Daily Narrative Journals

Lewis at 10 OClock AM we had a slight shower which scarcely wet the grass. The current of the river looks so gentle and inviting that the men all seem anxious to be moving upward as well as ourselves.

Clark a fine morning. Wind from the SW. At 1 oClock began to rain. A Small Shower at 1 oClock which did Sercely wet the grass— The water tolerably clear and Soft in the river, Current Jentle and bottoms rising from the water; no appearance of the river rising more than a few feet above the falls, as high up as we have yet explored.

The winds has blown for Several days from the SW I think it possible that those almost perpetual SW winds, proceed from the agency of the Snowey mountains and the wide leavel and untimbered plains which Streach themselves along their borders for an emence distance, that the air coming in Contact with Snow is Suddenly chilled and condensed, thus becoming heaveyer than the air beneath in the plains, it glides down the Sides of those mountains and decends to the plains, where by the constant action of the Sun on the face of the untimbered country there is a partial vacuom formed for it’s reception. I have observed that the winds from this quarter is always the Coaldest and most violent and most violent which we experience, yet I am far from giveing full credit to this hypothesis on this Subject; if I find however on the opposit Side of these mountains that the winds take a contrary direction I Shall then have full faith. The winds take a contrary direction in the morning or from the mountains on the west Side.

Gass a fine morning. We had a light shower of rain (in early afternoon)

Ordway a clear pleasant warm morning.

Whitehouse A clear pleasant morning. We had a light sprinkling Shower of rain in the afternoon.
Thursday, July 4

Weather Diary

heavy dew this morning. slight sprinkle of rain at 2 PM.

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<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<td>52a</td>
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<td>Sw</td>
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</table>

Daily Narrative Journals

Lewis we all believe that we are now about to enter on the most perilous and difficult part of our voyage, yet I see no one repining; all appear ready to meet those difficulties which wait us with resolution and becoming fortitude. We had a heavy dew this morning. The clouds near these mountains rise suddenly and discharge their contents partially on the neighbouring plains; the same cloud will discharge hail along in one part, hail and rain in another, and rain only in a third, all within the space of a few miles; and on the Mountains to the SE of us sometimes snow. At present there is no snow on those mountains; that which covered them when we first saw them and which has fallen on them several times since has all disappeared. The Mountains to the NW & W of us are still entirely covered are white and glitter with the reflection of the sun. I do not believe that the clouds which prevail at this season of the year reach the summits of those lofty mountains; and if they do the probability is that they deposit snow only for there has been no preceptible diminution of the snow which they contain since we first saw them. I have thought it probable that these mountains might have derived their appellation of shining Mountains, from their glittering appearance when the sun shines in certain directions on the snow which covers them. Since our arrival at the falls we have repeatedly witnessed a noise which proceeds from a direction a little to the N of West as loud and resembling precisely the discharge of a piece of ordinance of 6 pounds at a distance of three miles. I was informed of it by the men several times before I paid any attention to it, thinking it was thunder most probably which they had mistaken. At length walking in the plains the other day I heard this noise very distinctly, it was perfectly calm clear and not a cloud to be seen. I halted and listened attentively about an hour during which time I heard two other discharges and took the direction of the sound with my pocket compass. I have no doubt but if I had leisure I could find from whence it issued. I have thought it probable that it might be caused by running water in some of the caverns of those immense mountains, on the principal of the blowing caverns; but in such case the sound would be periodical & regular, which is not the case with this, being sometimes heard once only and at other times, six or seven discharges in quick succession. It is heard also at different seasons of the day and night. I am at a loss to account for this phenomenon. Our work being at an end this evening, we gave a drink of spirits, it being the last of our stock, and some of them appeared a little sensible of it’s effects. The fiddle was pleyed and they danced very merrily untill 9 in
the evening when a heavy shower of rain put an end to that part of the amusement tho’ they continued their mirth with songs and festive jokes and were extremely merry until late at night.

Clark

A fine morning, a heavy dew last night. A black cloud came up from the SW and rained a few drops. I employ myself drawing a copy of the river to be left at this place for fear of some accident in advance. The party amused themselves dancing until late when a shower of rain broke up the amusement. The climate about the falls of the Missouri appears to be singular cloudy every day (since our arrival near them) which rise from different directions and discharge themselves partially in the plains & mountains, in some places rain other rain & hail, hail alone, and on the mountains in some parts snow. A rumbling like cannon at a great distance is heard to the west if us; the cause we can’t account.

Gass

A fine day. We drank the last of our spirits in celebrating the day, and amused ourselves with dancing till 9 o’clock at night, when a shower of rain fell and we retired to rest.

Ordway

A beautiful clear pleasant warm morning. Last in the evening we had a light shower of rain but did not last long—

Whitehouse

This morning we had clear weather. We amused ourselves with frolicking, dancing & ca. until 9 of 10 o’clock PM in honor of the day. About that time, we had a slight shower of rain, but it soon cleared away & we had fine weather—

Friday, July 5

Weather Diary

heavy shower of rain and hail last evening at 9 PM. some thunder & lightning

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<tr>
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<td>Temp</td>
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<td>Wind</td>
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<tr>
<td>49a</td>
<td>f a h &amp; r*</td>
<td>SW</td>
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</tbody>
</table>

Lewis’ Journal Codex P lists this weather data as “f a h & r” & Clark’s Codex I lists this as “h & r.”

Daily Narrative Journals

Clark

A fine morning and but little wind, worm and Sultrey at 8 o’clock—

Gass

A fine morning.

Ordway

A clear pleasant morning.
Whitehouse  a clear pleasant morning

Saturday, July 6

**Weather Diary**

wind high all day. A heavy wind from the SW attended with rain about the middle of last night. about day had a violent thunderstorm attended with Hail and rain. the Hail Covered the ground and was about the Size of Musquet balls. I have Seen only one black bird killed with the hail, and am astonished that more have not Suffered in a similar manner as they are abundant, and I Should Suppose the hail Sufficiently heavy to kill them.

<table>
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<tr>
<th>Sunrise</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>47a</td>
<td>c a h r t &amp; l</td>
<td>SW</td>
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</table>

**Daily Narrative Journals**

**Lewis**

In the course of last night had several showers of hail and rain attended with thunder and lightning. About day a heavy storm came on from the SW attended with hail rain and a continued roar of thunder and some lightning. The hail was as large as musket balls and covered the ground perfectly. We had some of it collected which kept very well through the day and served to cool our water. These showers and gusts keep my boat wet in dispite of my exertions. After the hail and rain was over this morning we dispatched 4 hunters

**Clark**

a heavy wind from the SW and Some rain about mid night last, at day light his morning a verry black Cloud from the SW, with a Contained rore of thunder & Some lightning and rained and hailed tremendously for about ½ an hour, the hail was the Size of a musket ball and Covered the ground. This hail & rain was accompand. by a hard wind which lasted for a fiew minits. Cloudy all the forepart of the day, after Part Clear.

**Ordway**

verry hard Showers of rain and hail through the course of last night, hard Thunder & lightning, at day light this morning a hard shower came up of a Sudden attended with high wind & large hail one of the men Saved a Small tin kittle full of the hail which did not all disolve through the day. The morning cloudy. A part of the day clear. Light Showers of rain in the afternoon. The wind high from the west.

**Whitehouse**

verry hard Showers of Rain & hail, through the course of last night. Hard Thunder. At day light a hard shower of rain, thunder & large hail; one of the men gathered a Small kittle full of the hail which he kept most part of the day, without melting. The morning continued cloudy. In the afternoon it cleared up with some light showers of rain.
Sunday, July 7

**Weather Diary**

a Shower at 4 PM

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<tr>
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<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>54a</td>
<td>c a f</td>
<td>SW</td>
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**Daily Narrative Journals**

**Lewis**

The weather warm and cloudy therefore unfavourable for many operations. We have no tents; the men are therefore obliged to have recourse to the sails for shelter from the weather and we have not more skins than are sufficient to cover our baggage when stoed away in bulk on land. Many of the men are engaged in dressing leather to cloath themselves. Ther leather cloathes soon become rotten as they are much exposed to the water and frequent wet. We had a light shower of rain about 4 PM attended with some thunder and lightning. The musquetoes are excessively troublesome to us. I have prepared my composition which I should have put on this evening but the rain prevented me.

**Clark**

A Warm day, wind from the SW. Cloudy as usial. Some rain in the after part of the day.

**Gass**

The morning was fine. In the evening some few drops of rain fell

**Ordway**

a clear pleasant morning. The day warm. I the afternoon Some Thunder A light shower of rain.

**Whitehouse**

A clear pleasant morning. They proved warm. Before 4 oClock PM we had some Thunder and a light Shower of Rain.

Monday, July 8

**Weather Diary**

I finish taking the hight of the falls of the Missouri
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<tr>
<th>Sunrise</th>
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<td>Wind</td>
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<tr>
<td>60a</td>
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<td>SW</td>
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</table>

**Daily Narrative Journals**

**Lewis**

day being warm and fair. The mountains which ly before us from the South, to the NW still continue covered with snow. Slight rain this afternoon.

**Clark**

A worm morning, flying Clouds. Some rain this evening after a verry hot day— the mountains which are in view to the South & NW are Covered with Snow.

**Gass**

a fine morning.

**Ordway**

a clear pleasant morning. Some Thunder and light Showers this afternoon. The River falling.

**Whitehouse**

A clear pleasant morning. We had this Evening some Thunder and light sprinkling of rain, &c.

**Tuesday, July 9**

**Weather Diary**

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<tr>
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<td>Wind</td>
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<tr>
<td>56a</td>
<td>f</td>
<td>SW</td>
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</table>

**Daily Narrative Journals**

**Lewis**

The morning was fair and plesant. Men loaded canoes...just at this moment a violent wind commenced and blew so hard that we were obliged to unload the canoes. again; a part of the baggage in several of them got wet before it could be taken out. The wind continued violent untill late in the evening. The buffaloe had principally deserted us, and the season was now advancing fast. I therefore relinquished all further hope of my favorite boat and ordered her to be sunk in the water. [Lewis’ experimental iron framed, Elk skin covered boat. The Iron frame being made at Harper’s Ferry and transported all the way the upper portage camp location.]
Clark a clear worm morning, wind from the SW. This failure of our favourite boat was a great disappointment to us.

Gass a fine morning, and heavy dew. In the afternoon a storm of wind, with some rain came on from the north west, and we had again to unload some of our canoes, the waves ran so high. After the storm we had a fine evening.

Ordway a beautiful pleasant morning. Soon after we got the canoes loaded Thunder and high wind came on So that we had to unload again.

Whitehouse a beautiful morning. In the afternoon, Soon after we got the canoes loaded, there came up a Violent Storm of wind & Thunder. The waves dashed over the canoes to such a height, so that all hands were employed to unload them as quick as possible—

Wednesday, July 10

Weather Diary
wind hard all day.

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
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<tr>
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<td>Weather</td>
<td>Wind</td>
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<td>52a</td>
<td>far</td>
<td>SW</td>
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</table>

Daily Narrative Journals

Lewis the wind blew very hard the greater part of the day. Sergt. Ordway proceeded up the river about 5 miles when the wind became so violent that he was obliged to ly by untill late in the evening when he again set out with the canoes.

Clark a fair windey day, wind hard the most of the day from the SW— rained moderately all last night (by Showers). The Canoes did not arrive as I expected, owing to the hard wind which blew a head in maney places.

Gass a fine cool morning.

Ordway a clear morning. Then the wind arose So high that we were obleged to lay by untill towards evening. Late in the afternoon the wind abated a little So we proceed on within about 3 miles of the upper camp.

Whitehouse a clear pleasant morning. We proceeded on about 8 miles when the wind rose so Great and high that we were obleged to lay by untill the evening. The wind then abated and we went on untill dark.

Thursday, July 11
Weather Diary

wind hard all day

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<tr>
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<td>Weather</td>
<td>Wind</td>
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<td>46a</td>
<td>f</td>
<td>SW</td>
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Daily Narrative Journals

Lewis
this evening a little before the sun set, I heard two other discharges of this unaccountable artillery of the Rock Mountains proceeding from the same quarter that I had before heard it. I now recollected the Minnetarees making mention of the noise which they had frequently heard in the Rocky Mountains like thunder; and which they said the mountains made; but I paid no attention to the information supposing it either false or the fantom of a superstitious imagination. I have also been informed by the engages that the Panis and Ricaras give the same account of the Black mountains which lie West of them. This phenomenon the philosophy of the engages readily accounts for; they state it to be the bursting of the rick mines of silver which these mountains contain. The three other canoes did not arrive until late in the evening in consequence of the wind and the fear of wetting their loads which consisted of articles much more liable to be injured by moisture...Capt C. had the canoes unloaded and ordered them to float down in the course of the night to my camp, but the wind proved so high after the night that they were obliged to put too 8 miles above and remain until morning.

Clark
a fair windey morning, wind SW.

Ordway
a clear morning. The wind very high from the NW which obliged us to lay at Camp until late in the afternoon. Towards evening the wind abated so that we went on and arrived at Capt. Clark’s camp. We floated about 8 miles and the wind rose so high that drove us to Shore so we landed until morning.

Whitehouse
a clear morning, but the high wind which obliged us to lay at our Camp until late in the afternoon. Towards evening the wind abated a little so that we went on. A party of 4 men set out to float back to the lower camp at night, but the wind rose so high, that they were forced to lay by till morning—
Friday, July 12

Weather Diary

wind violent all day.

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<td>SW</td>
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Daily Narrative Journals

Lewis  I feel excessively anxious to be moving on. The canoes were detained by the wind untill 2 PM.

Clark  a fair windey morning, wind from the SW. The wind hard all day.

Gass  a fine morning.

Ordway  a clear morning. The wind as usual. The wind rose So high that one canoe filled with water the other 2 took in water the waves high but with difficulty we got down to Camp about noon. The wind continues verry high all day—

Whitehouse  a clear morning. The wind blew high and hard from the NW. The wind continued to blow so high and hard that one of the canoes filled and the other two took in water. The wind continued to blow high and hard during this day.

Expedition leaves the upper portage camp and continues their journey up the Missouri River.

Saturday, July 13

Weather Diary

Wind violent in the latter part of the day
River observations once again change daily as the Expedition is again moving up the Missouri River. The data usually is not for a 24-hour period unless they are encamped. In most cases, when the party stopped for the evening, following Lewis’ habit from previous journal entries, it is surmised that a mark was made and measured the next morning. Thus many observations were only a 8 to 10 hour long.

Daily Narrative Journals

Lewis
This morning being calm and Clear I had the remainder of our baggage embarked in the six small canoes and maned them with two men each. I now bid a cheerful adieu to my camp. Proceeded up the river about 5 miles when the wind became so violent that two of the canoes shipped a considerable quantity of water and they were compelled to put too...and cleanse the canoes of water. About 5 PM the wind abated. It is impossible to sleep a moment without being defended against the attacks of these most tormenting of all insects.

Clark
a fair Calm Morning, verry Cool before day— at 9 oClock, the wind rose and blew hard from the SE the greater part of the day.

Gass
A fine day, but high wind.

Ordway
clear and calm this morning. About 5 miles...the wind rose so high that 2 of the canoes took water.

Whitehouse
a clear, calm pleasant morning. Proceeded on this morning abt. 5 miles...then the wind rose so high that obliged us halt until the middle of the afternoon. When the wind abated we went on about 7 mls further

Sunday, July 14

Weather Diary

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<td>42a</td>
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<td>SW</td>
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</tbody>
</table>

Lewis & Clark Expedition Weather Journals, 1805, Page 143
**Daily Narrative Journals**

**Lewis**

This morning was calm fair and warm. The grass and weeds in this bottom are about 2 feet high; which is much greater height than we have seen them elsewhere this season. Had a slight shower at 4 PM this evening.

**Clark**

a fine morning, Calm and warm. Some rain this afternoon. All preparing to Set out on tomorrow.

**Gass**

a fine morning. In the afternoon some rain fell but we continued to work at the canoes

**Ordway**

the morning clear and pleasant. About 4 oClock PM we expecerenced a Small Shower of rain. Warm. The weeds and Grass in this bottom is as high as a mans knees but the Grass on the high plains & praries is not more than 3 Inches high not time in this Season.

**Whitehouse**

the morning clear, calm and pleasant. About 4 oClock PM we had a Small Shower of rain & very warm. The weeds and grass in this bottom is as high as a mans knees, but the grass on the high land is not more than 3 inches high.

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**Monday, July 15**

**Weather Diary**

Set out from our upper camp above the falls

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<td>60a</td>
<td>far</td>
<td>SW</td>
</tr>
</tbody>
</table>

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**Daily Narrative Journals**

**Lewis**

At 10 AM we once more saw ourselves fairly under way much to my joy and I believe that of every individual who compose the party. We have not passed Fort Mountain on our right it appears to be about ten miles distant. [Square Butte]. From it’s figure we gave it the name of fort mountain. The prickly pear is now in full blume and forms one of the beauties as well as the greatest pests of the plains. The sunflower is also in blume and is abundant. The river is from 100 to 150 yds. wide. on the banks of the river there are many large banks of sand much elivated above the plains on which they ly and appear as if they had been collected in the course of time from the river by the almost incessant SW winds; they always appear on the sides of the river opposite to those winds—
Clark

rained all the last night, I was wet all night. This morning wind hard from the SW.

Gass

After a night of heavy rain, we had a pleasant morning. The snow appears to have melted from all the mountains in view.

Ordway

rained the greater part of last night. A clear morning. The wind high from the NW. The current verry gentle & river Smoth Since we left the falls.

Whitehouse

rained the greater part of last night. This morning was clear, but the wind blowing high and hard from the NW. The current verry gentle since we came above the falls and clear.

Tuesday, July 16

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>53a</td>
<td>f</td>
<td>SW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Lewis

We had a heavy dew last night. Early this morning we passed about 40 little booths formed of willow brushes to shelter them from the sun; they appeared to have been deserted about 10 days; we supposed that they were snake Indians. Came to a rappid [Probably the later Half-Breed, or Lone Pine Rapids]...the current of the missouri below these rapps is strong for several miles, tho’ just above there is scarcely any current, the river very narrow and deep, about 70 yds. wide. The musquetoes are extreamly troublesome this evening and I have left my bier, of course suffered considerably, and promised in my wrath that I never will be guily of a similar peice of negligence while on this voyage—

Clark

a fair morning after a verry cold night, heavy dew the river is not So wide as below from 100 to 150 yards wide & Deep Crouded with Islands & Crooked. the current of the river from the Medison river to the Mountain is gentle, bottoms low and extensive.

Gass

a fine morning. The water became more rapid; but the current not so swift as below the falls.

Ordway

a clear pleasant morning. The current Swift towards evening.

Whitehouse

a clear pleasant morning. The current begin to git Swifter.
Wednesday, July 17

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>58a</td>
<td>f</td>
<td>SW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark took a Medn. Altitude & we took Some Luner Observations &c. The river confined in maney places in a verry narrow Chanel from 70 to 120 yards wide.

Gass the morning was fine and pleasant.

Ordway a clear morning. Came to a verry bad rapid. The River is about 100 yards wide.

Whitehouse a clear morning. The current verry rapid, and river Crooked, and only about 100 yard wide.

Thursday, July 18

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>60a</td>
<td>f</td>
<td>SW</td>
</tr>
</tbody>
</table>

6 Clark Journal Codex I lists that the river fell one-half inch.

Daily Narrative Journals

Lewis passed the entrance of a considerable river...it’s current is rapid and water extreamly transparent...in honour of the Secretary of war calling it Deaborn’s River. The river [Missouri] somewhat wider than yesterday and the mountains more distant from the river and not so high.

Clark a fine morning.
Gass    The morning was fair

Ordway a clear pleasant morning.

Whitehouse a clear pleasant morning.

Expedition enters what Lewis names “The Gates of the Rocky Mountains,” MT.

Friday, July 19

Weather Diary

Thunder Storm ½ after 3 PM

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>62a</td>
<td>f</td>
<td>SW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Lewis the current has been strong all day. The river deep and from 100 to 150 yds., wide. This evening we entered much the most remarkable cliffs that we have yet seen. Every object here wears a dark and gloomy aspect. Several fine springs burst out at the waters edge from the interstices of the rocks. From the singular appearance of this place, I called it the gates of the rocky mountains. Musquetoes less troublesome than usual. We had a thundershower today about 1 PM which continued about an hour and was attended with some hail.

Clark a fine morning.

Gass a fine morning. About 1 o’clock we had thunder, lightning and rain, which continued an hour or two, and then the weather became clear.

Ordway a clear pleasant morning. This curious looking place (we entered) we call the gates of the Rocky Mountains. About one o’Clock PM we had a Thunder Shower which lasted about one hour a little hail attended it

Whitehouse a clear pleasant morning. The current swift and water clear. About 1 o’Clock PM we had a Thunder Shower which lasted 1 hour. Shortly after we camped we had a light Sprinkling Shower of rain this evening.

Lewis & Clark Expedition Weather Journals, 1805,   Page 147
Saturday, July 20

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
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<td></td>
<td></td>
</tr>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>59a</td>
<td>far</td>
<td>SW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Lewis currant strong. Having lost my post Meridian Observation for Eql. Altitudes in consequence of a cloud which obscured the sun for several minutes about that time, I had recourse to two altitudes of the sun with Sextant.

Clark a fine morning.

Gass a fine morning. About 2 o’clock came to a level plain on the north side, from which we saw a strong smoke rising. The river is very crooked in general

Ordway a clear morning

Whitehouse a clear morning. The current very rapid.

Main party passes just east of the present-day Capitol of the State of Montana, Helena.

Sunday, July 21

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>60a</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Lewis the current strong...the river is not now so deep but rather wide and much more
rapid. The grass near the river is lofty and green that of the hill sides and high open grounds is perfectly dry and appears to be scorched by the heat of the sun. This valley is bounded by two nearly parallel ranges of high mountains which have their summits partially covered with snow. The musquitoes were equally as troublesome to them as to ourselves this evening; tho’ some hours after dark the air becomes so cold that these insects disappear.

Clark a fine morning. I observed on the highest pinecals of Some of the mountains to the West Snow lying in Spots Some Still further North are covered with Snow and cant be Seen from this point. The Winds in those mountains are not Settled generally with the river, to day the wind blow hard from the West at the Camp.

Gass a pleasant morning. At noon....the wind blew very hard and some drops of rain fell.

Ordway a clear morning. The grass in the valley and on the hills look dry and pearched up. The River divides in many channels and full of Islands and Spreads about a mile wide. The current swift.

Whitehouse a clear morning. The wind high from the NW.

Monday, July 22

**Weather Diary**

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
</tr>
<tr>
<td>52a</td>
<td>f</td>
</tr>
</tbody>
</table>

**Daily Narrative Journals**

Lewis Onions...this appears to be a valuable plant inasmuch as it produces a large quantity to the squar foot and bears with ease the rigor of this climate. Killed an otter which sunk...The water was about 8 feet deep yet so clear that I could see it at the bottom; I swam in and obtained it by diving. I placed my thermometer in a good shade as was my custom about 4 PM and after dinner set out without it and had proceeded near a mile before I recollected it I sent Sergt. Ordway back for it, he found it and brought it on. The mercury stood at 80 a. 0. This is the warmest day except one which we have experienced this summer.

Clark a fine morning, wind from the SE. The last night verry cold, my blanket being Small I lay on the grass & Covered with it.

Gass We embarked early, the weather being pleasant. We saw to day several banks of
snow on a mountain west of us. (Elkhorn Mountains)

Ordway a clear morning. Capt. Lewis forgot his Thurmometer where we dined. I went back for it. It Stood in the heat of the day at 80 degrees abo. 0, which has only been up to that point but once before this Season as yet.

Whitehouse A clear pleasant morning. Capt, Lewis forgot his Thurmometer which he had hung in a Shade. It Stood this day at 80 degrees above 0. The current very rapid and a pleasant country.

Tuesday, July 23

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
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<tr>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Rise/Fall</th>
<th>Feet</th>
<th>Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>54a</td>
<td>f</td>
<td>SW</td>
<td>80a</td>
<td>c</td>
<td>SW</td>
<td>F</td>
<td>-</td>
<td>½</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark a fair morning, wind from the South.

Gass A cloudy morning.

Ordway a little cloudy the current swift

Whitehouse This morning cloudy. The current very rapid.

Wednesday, July 24

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
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<table>
<thead>
<tr>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Rise/Fall</th>
<th>Feet</th>
<th>Inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>60a</td>
<td>f</td>
<td>SW</td>
<td>90a</td>
<td>f</td>
<td>SW</td>
<td>F</td>
<td>-</td>
<td>3/4</td>
</tr>
</tbody>
</table>
**Daily Narrative Journals**

**Lewis**

the current very strong. The mountains still continue high and seem to rise in some places like an amphitheater one rang above another as they recede from the river untill the most distant and lofty have their tops clad with snow...I fear every day that we shall meet some considerable falls or obstruction in the river notwithstanding the information of the Indian woman to the contrary who assures us that the river continues much as we see it. I can scarcely form an idea of a river running to great extent through such a rough mountainous country without having it’s stream intercepted by some difficult and dangerous rapids or falls.

**Clark**

a fine day, wind from the NW. The river much like it was yesterday. The mountains on either Side appear like the hills had fallen half down & turned Side upwards [Lombard thrust fault crosses here] the bottoms narrow and no timber a few bushes only.

**Gass**

The morning was fine

**Ordway**

a clear pleasant morning. The current swift. The Swift water continues some bad rapids which it is with difficulty we passed over them.

**Whitehouse**

a clear pleasant morning. The current still very rapid and strong all day.

**Expedition spends July 25 through July 30 at the Three Forks of the Missouri.**

**Thursday, July 25**

**Weather Diary**

Snow appears on the mountains ahead.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>60a</td>
<td>f</td>
<td>SW</td>
</tr>
</tbody>
</table>

**Daily Narrative Journals**

**Lewis**

two rapids near the large spring we passed this evening were the worst we have seen since that we passed on entering the rocky mountains.

**Clark**

a fine morning we proceeded on a few miles to the three forks of the Missouri. Those three forks are nearly of a Size, that North appears to have the most water and
must be Considered as the one best calculated for us to assend. Middle fork is quit as large about 90 yds. wide. The South fork is about 70 yds wide. The forks appear to be very rapid. On the North Side the Indians have latterly Set the Prairie on fire, the Cause I Can’t account for. The day very hot. About 6 to 8 miles up the North fork a Small rapid river falls in on the Lard Side which affords a great Deal of water and appears to head in the Snow mountains to the SW. musquetors very trouble Som until the mountain breeze Sprung up, which was a little after night.

Gass
a fine morning.

Ordway
a clear morning. We discover Mountains a head which have Spots of Snow on them. Passed a large dry plain on S side. Bad rapids.

Whitehouse
A clear pleasant morning. Discovered mountains lying ahead of us, which appear to have Snow on them, if not Snow it must be very white Clay or rocks. Several bad rocky rapids.

Friday, July 26

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>60a</td>
<td>f</td>
<td>SW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Lewis
current strong with frequent riffles on entering this open valley I saw the snowclad tops of distant mountains before us. This morning Capt. Clark...proceeded up the river about 12 miles to the top of a mountain ...The day being warm and the road unshaded by timber he [Clark] suffered excessively with heat and the want of water. He returned down the mountain...here Charbono was very near being swept away by the current and cannot swim, Capt. C. however risued him and saved his life.

Clark
proceeded to top of a mountain...much fatigue...we came to a Spring of excessively Cold water, which we drank rather freely of as we were already famished; not with Standing the precautions of wetting my face, hands & feet, I Soon felt the effects of the water. We Contind. thro a Deep Vallie without a Tree to Shade us Scorching with heat. a few drops of rain this evening

Gass
the morning was fine. Before 4 o’clock....while we remained here it became cloudy and some rain fell

Ordway
a clear morning. The current very Swift. We can discover high mountains a head,
with Snow on them. The River wide and full of islands. Passed over several bad rapids.

Whitehouse  a clear morning. We find that we have not entered the 2rd chain of Mountains but can discover very high white topped mountains. The wind blew hard since 10 AM and at 2 oClock & a light Sprinkling of rain.

Saturday, July 27

Weather Diary

a considerable fall of rain unattended with Lightning. ....

| Sunrise | 4 PM |  | Missouri River |
|---------|------| |                |
|        |      | |                  |
| Temp   | Weather | Wind   | Temp | Weather | Wind | Rise/Fall | Feet | Inches |
| 52a    | c      | SW     | 80a  | c a r    | SW   | F         | -    | 3/4     |

Daily Narrative Journals

Lewis  We set out at an early hour and proceeded on but slowly the current still so rapid that the men are in continual state of their utmost exertion to get on, and they begin to weaken fast from this continual state of violent exertion. The limestone appears to be of an excellent quality of deep blue colour when fractured and a light led color when exposed to the weather. We arrived at 9 AM at the junction of the SE fork of the Missouri and the country opens suddenly to extensive and beatifull plains and meadows which appear to be surrounded in every direction with distant and lofty mountains. From the E to S between the SE and middle forks a distant range of lofty mountains rose their snow-clad tops above the irregular and broken mountains which lie adjacent to this beatifull spot. A range of high mountains at a considerable distance appear to reach from South to West and are partially covered with snow. My principal consolations are that from our present position it is impossible that the SW fork can head with the waters of any other river but the Columbia

Gass  had a pleasant morning. There is very little difference in the size of the 3 branches. About 9 o’clock...we halted here, it began to rain and continued 3 hours. In the evening the weather became clear and we had a fine night.

Ordway  a clear morning. The current Swift as usal. About 9 oClock we arived at the three forks of the Missourie, which is in open view of the high Mountains covered in Some places with Snow. We had a Shower of rain this afternoon.

Whitehouse  a clear morning. Current rapid as yesterday. At 9 oClock AM we arrived at the Three Forks of the Mesouri River which is in a wide valley in open view of high Mountains which has white Spots on it which has the appearance of Snow. We had
showers of rain that continued till the evening.

Sunday, July 28

**Weather Diary**

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>49a</td>
<td>f a r</td>
<td>SW</td>
</tr>
</tbody>
</table>

**Daily Narrative Journals**

**Lewis**

the day proved warm...our leather lodge when exposed to the sun is excessively hot. In the evening about 4 O’Ck the wind blew hard from the South West and after some little time brought on a Cloud attended with thunder and Lightning from which we had a fine refreshing shower which cooled the air considerably; the showers continued with short intervals untill after dark.

**Clark**

a very worm day untill 4 oClock when the wind rose & blew hard from the SW, and was Cloudy, The Thermometr. Stood at 90° above 0 in the evening a heavy thunder Shower from the SW which continuad at intervales untill after dark.

**Gass**

As this was a fine day, the men were employed in airing the baggage. From this valley we can discover a large mountain with snow on it, towards the southwest.

**Ordway**

a foggy morning, but clear after. Towards evening we had a fine Shower of rain Some Thunder attended it which cooled the air verry much.

**Whitehouse**

We has some fog early this morning, but it cleared away at Sun rise, & the weather was pleasant. In the evening we had a fine shower of rain, accompanied with Thunder, which cooled the Air, & made it very pleasant.

Monday, July 29

**Weather Diary**
<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>54°</td>
<td>f a r</td>
<td>N</td>
</tr>
</tbody>
</table>

**Daily Narrative Journals**

**Lewis**
we see a great abundance of fish in the stream some of which we take to be trout, but they will not bite at any bate we can offer them.

**Clark**
a fair morning, wind from the North

**Gass**
a fine day.

**Ordway**
a clear pleasant morning. The day warm. The wind from the East. the width of the three Rivers at the forks we alow the North fork to be about 60 yards, the middle fork the Same, the South forks not So wide nor large. All appear rapid but not verry deep.

**Whitehouse**
a clear pleasant morning. The day proved verry warm since 9 oClock AM the wind from the East.

**Tuesday, July 30**

**Weather Diary**

Set out from 3 forks

<table>
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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>50°</td>
<td>f</td>
<td>SE</td>
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</tbody>
</table>

**Daily Narrative Journals**

**Lewis**
the night was cool but I felt very little inconvenience from it as I had a large fire all night.

**Clark**
the river very rapid & Sholey

**Gass**
This branch (Jefferson) is about 60 yards wide and 6 feet deep, with a rapid current.
Ordway  a fine pleasant morning. The River crooked rapid and full of islands &c.
Whitehouse a clear pleasant morning. They day warm, but verry pleasant. The current verry swift & rapids common.

Expedition now embarks up the Jefferson River [West Fork of the Missouri River], MT.

Wednesday July 31

Weather Diary

<table>
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<th>Sunrise</th>
<th>4 PM</th>
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<td>Temp</td>
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<td>Wind</td>
<td>Wind</td>
</tr>
<tr>
<td>Rise/Fall</td>
<td>Feet</td>
</tr>
</tbody>
</table>

| 48a | f | SW | 92a | f | SW | - | - | - |

Daily Narrative Journals

Lewis  Capt. Clark and party...their detention had been caused by the rapidity of the water and the circuitous route of the river. The river...from 90 to 120 yd. wide
Clark  a fair Morning.
Gass  a fine cool morning with dew.
Ordway  a fine morning. the current swift. We dined under a handsom Shady grove of cotton timber under the hills of the Mountains to or left which has heaps of Snow on the tops & sides of it. The day very warm
Whitehouse  a fine morning, the current rapid. Wed dined about 1 oC, under a delightful Grove of cotton timber on L. Side under the mountain which has large heaps of Snow on it. The day verry warm.
Lewis & Clark Expedition Weather Journals, 1805, Page 157

August 1805
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

The Expedition has moved up the Jefferson Fork of the Missouri River and is just east of present-day Whitehall, Montana.

Thursday, August 1

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Jefferson River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>54a</td>
<td>f</td>
<td>SW</td>
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</table>


2 River observations were taken on the Jefferson Fork of the Missouri. The data usually is not for a 24-hour period unless they are encamped. In most cases, when the party stopped for the evening, following Lewis’ habit from previous journal entries, it is surmised that a mark was made and measured the next morning. Thus many observations were only a 8 to 10 hour long.

Daily Narrative Journals

Lewis about 2 PM much exhausted by the heat of the day. Our rout lay through the steep and narrow valleys of the mountains exposed to the intense heat of the midday sun without shade and scarcely a breath of air.

Clark a fine day. The water Swift & very Sholey. The river so rapid that the greatest exertion is required by all to get the boats on. Wind SW. Murckery at sun rise 50° Ab. 0

Gass a fine morning.

Ordway a fine morning. The current swift.

Whitehouse a clear pleasant morning. We also saw Snow on the Mountains, a short distance to the South of our Camp—
Friday, August 2

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Jefferson River</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>48a</td>
<td>f</td>
<td>NW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Lewis we resumed our march this morning at sunrise, the weather was fair and wind from NW. Found the current very rapid about 90 yards wide and wait deep, this is the first time that I ever dared to make the attempt to wade the river. The tops of these mountains are yet covered partially with snow, while we in the valley are nearly suffocated with the intense heat of the mid-day sun; the nights are so cold that two blankets are not more than sufficient covering.

Clark a fine day. The wind from the SW. We proceeded on with great difficulty from the rapidity of the current & rapids.

Gass The morning was fine. In the middle of the day it was very warm in the valley, and at night very cold; so much so that two blankets were scarce a sufficient covering. On each side of the valley there is a high range of mountains, which run nearly parallel, with some spots of snow on their tops.

Ordway a fine pleasant morning. The River is now Small crooked Shallow and rapid. The day warm.

Whitehouse a fine pleasant morning. The river is now small crooked Shallow and rapid.

Saturday, August 3

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Jefferson River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>50a</td>
<td>f</td>
<td>NE</td>
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</tbody>
</table>
Daily Narrative Journals

Lewis  ...they passed a handsome little stream on Lard. which is form of several large springs which rise in the bottoms and along the base of the mountains with some little rivulets form the melting snow. In the evening they passed a very bad rappid where the bed of the river is formed entirely of solid rock and encamped on an island just above.

Clark  a fine morning, wind from the NE. The river more rapid and Sholey than yesterday. Passed a bold Stream which heads in the mountains to our right and the drean of the minting Snow in the Montn. on that side are in View— the Greater portion of the Snow on this mountain is melted...no wood being near the Snow.

Gass  A fine cool morning. The night was disagreeably cold.

Ordway  a clear morning. Passed verry rapid water. The mountains a Short distance South of us Some Spots of Snow on it. The day pleasant and warm. Passed a large Spring run which is made by the Snow on the Mountains and runs from the foot of the Mo. through a Smooth plain.

Whitehouse  a clear morning. The day proved pleasant & warm.

Sunday, August 4

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Jefferson River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>48a</td>
<td>f</td>
<td>SW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Lewis  passed a bould runing creek about 12 yard wide and the water could and remarkably clear. The middle fork...its water is much warmer than that of the rappid fork and somewhat turbid, from which I concluded that it had it’s source at a greater distance in the mountains and passed through an opener country than the other. [Forks of the Jefferson River]

Clark  a fine morning cool. Murcury at Sun rise 39 a. 0

Gass  a fine morning.

Ordway  a clear morning. The rapids continue. Some of the mountains near the River has
been burned by the natives some time ago. The pine timber killed. The cotton timber in some of the bottoms killed & dry also.

Whitehouse a clear cool morning. Some of the mountains on the South side of the River has had the Grass burned off from them & the Timber killed on them, some time ago.

Monday, August 5

Weather Diary

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>49a</td>
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<td>SE</td>
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</tbody>
</table>

This is the last entry in the Weather Diary for Missouri River rise and fall. No explanation is given as to why they stopped. They are located at the Big Hole River near present-day town of Twin Bridges. They had followed up that river a short distance before returning to the Jefferson River. Since the river was becoming so shallow and observation changes were so minimal, it could be assumed that they decided that the remarks were no longer necessary.

Daily Narrative Journals

Lewis  the mountains put in close on both sides and arrose to great hight, partically covered with snow.

Clark  a Cold Clear morning, the wind from the SE. The river Streight & much more rapid than yesterday. 4 oClock PM Murcury 49 ab. 0

Ordway a clear cool morning. passd. rapids as usal. the wind cold from the South. Passed over rapids covered with Slippery Small Stone and gravel. Passed over rapids worse than ever it is with difficulty & hard fatigue we git up them Some of which are allmost perpinticular 3 or 4 feet in a Short distance. About 7 oC. PM cloud up high wind it appears this little Stream is verry high, but has been high by the Snow melting off the Mountains. It is now falling a little.

Whitehouse a clear cool morning. The wind blew cold from the South. At 1 PM clouded up. Wind high. We expect this little Stream is high from the Snow melting on the mountains. It appears it has lately been higher, but is now falling a little.

Tuesday, August 6

Weather Diary
**Sunrise**  |  **4 PM**  |  **River**
---|---|---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
---|---|---|---|---|---|---|---|---
52a | f | SW | 71a | c | SW | - | - | -

**Daily Narrative Journals**

**Lewis**
We believe that the NW or rapid fork is the dane (drain) of the melting snows of the mountains.

**Clark**
a Clear morning, Cool, wind from the SW. This evening Cool...a Violent wind from the NW accompanied with rain which lasted half an hour. Wind NW.

**Ordway**
a clear morning.

**Whitehouse**
a clear morning. After 4 oClock PM...and some time after we had a small Shower of rain.

**Wednesday, August 7**

**Weather Diary**

Thunder shower last evening form the NW. The river which we are now ascending is so inconsiderable and the curant So much on a Stand that I relinquished paying further attention to it’s State.

**Sunrise**  |  **4 PM**  |  **River**
---|---|---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
---|---|---|---|---|---|---|---|---
54a | c a r | SW | 80a | c | SW | - | - | -

**Daily Narrative Journals**

**Lewis**
the morning being fair we spread our stores to dry at an early hour. We had a shower of rain which continued about 40 minutes attended with thunder and lightning. This shower wet me perfectly before I reached the camp. The clouds continued during the night in such manner that I was unable to obtain any lunar observations.

**Clark**
a fine morning. At 5 oClock a thunder Storm from the NW accompanied with rain which lasted about 40 minits——
Gass  
We remained here during the forenoon, which was fair and clear. In the evening a heavy cloud came up, and we had hard thunder with lightening and rain. The weather cleared (early evening), and we had a fine night.

Ordway  
a clear morning. The morning cool, but the day warm. We had Thunder Showers this afternoon, attended with high winds.

Whitehouse  
a clear cool morning. This day was very warm & the party was much troubled with large horse flies— the rapids not So bad. We had Thunder Showers & high winds this afternoon.

Thursday, August 8

Weather Diary

a thunder Shower last evening.

<table>
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<tr>
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<td>Wind</td>
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<tr>
<td>54a</td>
<td>f a r</td>
<td>SW</td>
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</tbody>
</table>

Daily Narrative Journals

Lewis  
We had a heavy dew this morning. The evening again proved cloudy much to my mortification and prevented my making any lunar observations. The Indian woman recognized the point of a high plain to our right...this hill she says here nation calls the beaver’s head from a conceived resemblance of it’s figure to the head of that animal.

Clark  
wind from the SW. The Thermometer at 52 a 0 at Sunrise.

Gass  
a pleasant morning. The river is very crooked in this valley.

Ordway  
a clear cold morning. A heavy diew. The prairie is covred with grass which is high in places. The day warm. On the River, which is verry crooked but not So rapid as below, and only 25 yards wide, and verry crooked

Whitehouse  
a clear cold morning. Saw a little Snow on the knobs & mountains which lay but a short distance from us. The day proved warm & pleasant.
Friday, August 9

Weather Diary

Encamped below the Forks Jeffersons River  Set out on a part of discovery

<table>
<thead>
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<tbody>
<tr>
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<td>Wind</td>
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<tr>
<td>58a</td>
<td>f</td>
<td>NE</td>
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</tbody>
</table>

Daily Narrative Journals

Lewis  the morning was fair and fine. The current of the river increasing in rapidity towards evening. In the evening it clouded up and we experienced a slight rain attended with some thunder and lightning. The musquetoes very troublesome this evening.

Clark  a fine morning, wind from the NE. in the evening Clouded up and a fiew drops of rain

Gass  a fine morning with some dew. The river is narrow and very crooked

Ordway  a clear cool morning. The wind high from SE. Some Thunder. Saw Snow on the Mountains Some distance a head. Some showers passed over.

Whitehouse  a clear cool morning. The wind high from the SE. Some Thunder in the afternoon. Saw Snow on the Mountains Some distance a head. In the evening we had some Showers of rain accompanied with Thunder with passed round or over. We all expect that we are near the head Waters or source of the Mesouri River, as the River, here is growing much narrower that it was.

Expedition passes present-day Dillon, MT.

Saturday, August 10

Weather Diary

rain Commenced at 6 PM and continued Showery through out the night. Musquetes bad.
Sunrise | 4 PM | River
---|---|---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
60a | c a r f & l | SW | 68a | t l & r | SW | - | - | -

**Daily Narrative Journals**

**Lewis**

The mountains do not appear very high in any direction tho' the tops of some of them are partially covered with snow. This convinces me that we have ascended to a great height since we have entered the rocky Mountains, yet the ascent has been so gradual along the vallies that it was scarcely perceptable by land. I do not believe that the world can furnish an example of a river running to the extent which the Missouri and Jefferson’s rivers do through such a mountainous country and at the same time so navigable as they are.

**Clark**

Some rain this morning at Sun rise and Cloudy. At 4 oClock a hard rain from the SW accompanied with Hail Continued half an hour, all wet, the men Sheltered themselves from the hail with bushes. River narrow, & Sholey but not rapid.

**Gass**

a fine morning. At 1 o’clock we halted t dine, when a shower of rain came on with thunder and lightening, and continued an hour, during which some hail fell.

**Ordway**

a clear pleasant morning. A hard Thunder Show arose of rain and large hail which lasted nearly an hour.

**Whitehouse**

a clear pleasant morning. About 1 oClock...had a hard Thunder Shower of large hail and rain.

**Tuesday, August 11**

**Weather Diary**

heavy Dew last evening

Sunrise | 4 PM | River
---|---|---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
58a | c a r j | NE | 70a | f | SW | - | - | -

**Daily Narrative Journals**

**Lewis**

Discovered an Indian on horseback...he suddenly turned his horse about, gave him a
whip leaped the creek and disapeared....we now set out on the track of the horse...halted...cooked breakfast....before we had finised our meal, a heavy shower of rain came on with some hail which continued about 20 minutes and wet us to the skin, after this shower we pursued the track of the horse but as the rain had raised the grass which he had trodden down it was with difficult that we follow it.

Clark

A Shower of rain this morning at Sun rise, Cloudy all the morning wind from the SW. the river shallow and rapid. Passed a large Island which I call the 3000 miles Island.

Gass

This morning was cloudy and we did not set out untill after breakfast. About 2 some rain fell.

Ordway

a wet rainy morning. The day warm. We Saw high Mountains a head some distance large Spots of Snow on them.

Whitehouse

a cool cloudy morning & some Rain. They turned warm & large flies became very troublesome. We see mountains, lying a head of us some Short distance; which appear very high, and large spots of snow on them.

Lewis’ advanced party crosses the Continental Divide at Lemhi Pass, Montana-Idaho state line.

Monday, August 12

Weather Diary

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>58a</td>
<td>far &amp; j</td>
<td>W</td>
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</tbody>
</table>

Daily Narrative Journals

Lewis
two miles below McNeal had exultingly stood with a foot on each side of this little rivulet and thanked his god that he had lived to bestride the mighty & heretofore deemed endless Missouri. After refreshing ourselves we proceeded on to the top of the dividing ridge from which I discovered immence ranges of high mountains still to the West of us with their tops partially covered with snow. Here I first tasted the water of the great Columbia river.

Clark

We Set out early (Wind NE). The weather Cool.
Gass
A few drops of rain fell to day.

Ordway
a clear morning. The current very rapid. Some of these rapids is deep and dangerous to pass up. We had a hard Thunder Shower rained some time.

Whitehouse
A clear morning. The current very rapid. About 2 oClock PM a hard Thunder Shower arose rained hard a Short time.

Tuesday, August 13

Weather Diary

very cold last night. Passed the dividing ridge to the waters of the Columbia river.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>52a</td>
<td>c a f</td>
<td>NW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Lewis
[Meets the Shoshones] the sun was verry warm and no water at hand. This was the first salmon I had seen and perfectly convinced me that we were on the waters of the Pacific Ocean.

Clark
a verry Cool morning. The Thermometer Stood at 52 a 0. All the fore part of the day Cloudy. At 8 oClock a mist of rain

Gass
A cloudy morning. The weather was cold during the whole of this day.

Ordway
Cloudy. The current rapid. In the afternoon the current more gentle.

Whitehouse
Cloudy. The current of the river running very rapid

Wednesday, August 14

Weather Diary
Sunrise | 4 PM | River
---|---|---
**Temp** | **Weather** | **Wind** | **Temp** | **Weather** | **Wind** | **Rise/Fall** | **Feet** | **Inches**
51a | far | NW | 76a | f | NW | - | - | -

**Daily Narrative Journals**

**Lewis**

[Indian Chief describes route to Clearwater River, Lewis notes the following] the next part of the journey of the rout was about 10 days through a dry and parched sandy desert...the sun had now dryed up the little pools of water which exist through this desert plain in the spring season and had also scorched all the grass.

**Clark**

a Cold morning, wind from the SW. Thermometer Stood at 51° a 0, at Sunrise the morning being cold and men Stiff. I deturmind to dealy & take brackfast...we set out at 7 oClock. River verry Crooked and rapid. Stream on the Stard. Side which head in a mountain to the North on which there is Snow.

**Gass**

The morning was clear and cold.

**Ordway**

a clear cold morning. The water is verry cold. The wind high from SW the current continued rapid all day.

**Whitehouse**

a clear cold morning. Water in the river is clear and Cold.

**Thursday, August 15**

**Weather Diary**

remarkably cold this morning

Sunrise | 4 PM | River
---|---|---
**Temp** | **Weather** | **Wind** | **Temp** | **Weather** | **Wind** | **Rise/Fall** | **Feet** | **Inches**
43a 4 | f | SE | 74a | f | SW | - | - | -

4 Clark’s Journal Codex I lists this temperature as “52 a.”

**Daily Narrative Journals**

**Lewis**

[on Horse Prairie Creek near present-day Grant, MT] the Cove is called Shoshone Cove. The grass being birned on the North side of the river we passed over...as I came up this cove.

**Clark**

a Cool windey morning, wind from the SW.

Lewis & Clark Expedition Weather Journals, 1805, Page 167
Gass  a fine morning. The river meanders. The water is very cold and severe and disagreeable to the men, who are frequently obliged to wade and drag the canoes.

Ordway  clear & cold this morning. We passed several bad rapids.

Whitehouse  a cold clear morning. The river shallow.

Main Party establishes Camp Fortunate at present-day Clark Reservoir, MT.

Friday, August 16

Weather Diary

Capt Lewis join with the Snake Indians at the forks.

<table>
<thead>
<tr>
<th>Sunrise</th>
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<th>River</th>
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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
</tr>
<tr>
<td>48a</td>
<td>f</td>
<td>SW</td>
</tr>
</tbody>
</table>

Daily Narrative Journals

Clark  as this morning was cold and the men fatigued stiff and chilled...detained till 7 oClock. The Thmtr. Stood at 48° a 0 at Sunrise, wind SW. The water excessively cold.

Gass  we proceed through rapid water, the river is very narrow, crooked and shallow.

Ordway  a clear morning but very cold. The Thurmometer Stood at 47°. The water so cold that we delayed untill after we took breakfast. We find the current swift the river shallow. The water not so swift above the bad rapid.

Whitehouse  a clear but very cold morning. The thermometer stood at 47° the river water so cold that we delayed untill after breakfast.

Saturday, August 17

Weather Diary
Sunrise | 4 PM | River
--- | --- | ---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
42a | f | NE | 76a | f | SW | - | - | -

**Daily Narrative Journals**

**Lewis** the nights are very cold and the sun excessively hot in the day.

**Clark** a fair Cold morning, wind SW. The Thermometer at 42 a. 0 at Sunrise, set out at 7 oClock

**Gass** a fine morning. The water so shallow

**Ordway** a clear cold morning. We have been cold this Several nights under 2 blankets or Robes, over us. A little white frost. The air chilley & cold.

**Whitehouse** a clear cold morning. The weather was so cold last night, that our party had to lay under 2 buffalo robes each in order to keep themselves warm. Some frost this morning.

**Sunday, August 18**

**Weather Diary**

Sunrise | 4 PM | River
--- | --- | ---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
45a | c | SW | 78a | r | SW | - | - | -

---

5 Clark takes at least twelve men in an advanced party to the Salmon River to view if it is navigatable and build canoes if it is between August 18, 1805 through August 29, 1805 when the return back up the Salmon and meet the main party near Tendoy, Idaho. It appears he copied the Weather Diary information when he returned from the scouting trip. But his daily narrative remarks as well as Sergeant Gass’ are separated from Lewis and the main group.

**Daily Narrative Journals**

**Lewis** [his birthday] ...resolved in future, to redouble my exertions and at least indeavour to promote those two primary objects of human existence, by giving them the aid of that portion of talents which nature and fortune have bestoed on me; or in future, to live for mankind, as I have heretofore lived for myself—
Ordway  a clear morning.  We had Showers of Rain this afternoon.

Whitehouse a clear morning.  We had some Showers of rain this afternoon—

**Daily Narrative Journals - Clark Scouting Party**

Clark  the fore part of the day worm, at 12 oClock it became hasey with a mist of rain, wind hard from the SW and Cold which increased untill night.  The rain Seased in about two hours.

Gass  a fine morning.  At three o’clock this afternoon there was a violent gust of wind, and some rain fell.  In about an hour the weather became clear, and very cold, and continued cold all night.

**Monday, August 19**

**Weather Diary**

ice on Standing water 1/8 of an inch thick.

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<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>30a</td>
<td>far</td>
<td>SW</td>
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</tbody>
</table>

**Daily Narrative Journals**

Lewis  the frost which perfectly whitened the grass this morning had a singular appearance to me at this season.

Ordway  a clear cold morning.  A white frost & the grass Stiff with frost it being disagreeably cold.  The day pleasant & warm.  Light showers of rain this evening.

Whitehouse a cold morning.  A white frost this morning.  A clear pleasant day.  We had a shower of rain about 3 oClock PM which lasted but a few minutes.

**Daily Narrative Journals - Clark Scouting Party**

Clark  A verry Cold morning, Frost to be seen

Gass  A fine morning, but cold.  At 1 o’clock we dined at the head spring of the Missouri and Jefferson river.  A bout 5 miles south of us we saw snow on top of a mountain, and in the morning there was a severe white frost, but the sun shines very warm

**Lewis & Clark Expedition Weather Journals, 1805,**  Page 170
where we now are. It is not more than a mile from the head spring of the Missouri to the head of one of the branches of the Columbia.

Tuesday, August 20

Weather Diary

hard frost last night.

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<td>Wind</td>
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<tr>
<td>32a</td>
<td>f a r 6</td>
<td>SW</td>
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</tbody>
</table>

Clark’s Journal Codex C list this weather data as “F.”

Daily Narrative Journals

Ordway       a clear cold morning.
Whitehouse  a clear cold morning.  A white frost.

Daily Narrative Journals - Clark Scouting Party

Clark        Frost last night
Gass         A fine cool frosty morning.

Wednesday, August 21

Weather Diary

ice ½ an inch thick on standing water. Most astonishing difference between the hight of the Murcury at Sunrise and at 4 PM today there was 59° and this in the Space of 8 hours, yet we experience this wonderfull transicion without feeling it near so Sensibly as I should have expected.

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<td>Wind</td>
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<tr>
<td>19a</td>
<td>f</td>
<td>SE</td>
</tr>
</tbody>
</table>
Daily Narrative Journals

Lewis
This morning was very cold. The ice 1/4 of an inch thick on the water which stood in the vessels exposed to the air. Some wet deerskins that had been spread on the grass last evening are stiffly frozen. The ink feizes in my pen. The bottoms are perfectly covered with frost, insomuch that they appear to be covered with snow. notwithstanding the coldness of the last night the day has proved excessively warm.

Ordway
the ground is covered with a hard white frost. The water which stood in the Small vessels froze 1/4 of an Inch thick, a little. Some Deer Skins which was spread out we last night are froze Stiff this morning. The Ink freezies in my pen now the Sun just ariseing clear and pleasant this morning

Whitehouse
We had a hard white frost this morning. The water that stood in small Vessells froze, and some Deer Skins which was spread out wet last night, froze Stiff this morning, & the Ink froze in the pen at Sun rise; the morning was clear & got pleasant. At 8 oClock AM some of the party found Ice in some standing water 1/4 of an inch thick

Daily Narrative Journals - Clark Scouting Party

Clark
Frost last night. I shall in justice to Capt. Lewis who was the first white man ever on this fork of the Columbia Call this Louis’s river [Salmon River]. The Westerley fork of the Columbia River is double the Size of the Easterley fork & below those forks the river is about the Size Jeffersons River near its mouth or 100 yards wide, it is very rapid & clear

Gass
at this place the river is about 70 yard wide (Salmon River near Carmen, ID)

Thursday, August 22

Weather Diary

Snow yet appears on the summits of the mountains.

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<tr>
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<td></td>
<td>Temp</td>
<td>Weather</td>
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<tr>
<td>22a</td>
<td>70a</td>
<td>f</td>
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</tbody>
</table>

Daily Narrative Journals

Ordway
a white frost and cold as usal.
Whitehouse  a white frost & cold as usual in the morning. The morning clear and got pleasant.

**Daily Narrative Journals - Clark Scouting Party**

Clark  mountains verry Steap high & rockey, the assent of three was So Steap that it is incrediable to describe the rocks in maney places.

Gass  The morning was fine, with a great white frost. We proceeded down the river; but with a great deal of difficultly; the mountains being so close, steep and rocky. The river here is about 80 yards wide, and a continual rapid but not deep (Salmon River above Shoup, Idaho)

Friday, August 23

**Weather Diary**

white frost this morning

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<td>35a</td>
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</table>

**Daily Narrative Journals**

Lewis  the season is now far advanced to remain in these mountains as the Indians inform us we shall shortly have snow; the salmon have so far declined that they are themselves haistening from the country. The bends of the river are short and the currant beats from side to side against the rocks with great violence. The river is about 100 yds. wide and so deep that it cannot be foar ded but in a few places. The sides of the mountains are very steep, and the torrents of water which roll down their sides at certain seasons appear to carry with them vast quantities of the loose stone into the river. This view was terminated by one of the most lofty mountains, Capt. C. informed me, he had ever seen which was perfectly covered with snow.

Ordway  a clear pleasant morning.

Whitehouse  a clear pleasant morning.

**Daily Narrative Journals - Clark Scouting Party**

Clark  [Salmon River] Current So Strong that is dangerous crossing the river. 100 yards wide. The mountains Cloe and is perpendicular Clift on each Side, and Continues
for a great distance and that the water runs with great violence from one rock to the other on each side foaming & roreing thro rocks in every direction, So as to render the passage of any thing impossible. The Hills or mountains were not like those I had Seen but like the Side of a tree Streight up— The Torrents of water which came down after a rain carries with it emence numbers of those Stone into the river.

Gass We proceeded down the river through dreadful narrows, where the rocks were in some places breast high, and no path or trial of any kind.

Saturday, August 24

Weather Diary

Set out with the Indians and pack horses for the Columbia river

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>40a</td>
<td>f</td>
<td>SE</td>
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</tbody>
</table>

Daily Narrative Journals

Lewis I had now the inexpressible satisfaction to find myself once more under way with all my baggage and party. after we encamped we had a slight shower of rain.

Ordway a clear cold morning. We had a Small Shower of rain

Whitehouse a clear cold morning.

Daily Narrative Journals - Clark Scouting Party

Clark marked my name on a pine Tree. Every man appeared disheartened from the prospects of the river.

Gass had a pleasant morning. The river at this place is so confined by the mountains that it is not more than 20 yard wide and very rapid. The water is so rapid and the bed of the river so rocky, that going by water appeared impracticable; and the mountains so amazingly high, steep and rocky, that it seemed impossible to go along the river by land.
Sunday, August 25

**Weather Diary**

white frost this morning,

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<th>Sunrise</th>
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<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Rise/Fall</th>
<th>Feet</th>
<th>Inches</th>
</tr>
</thead>
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<tr>
<td>32a</td>
<td>f a r</td>
<td>SE</td>
<td>65a</td>
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</table>

**Daily Narrative Journals**

**Lewis**

This morning while passing through the Shone cove Frazier fired his musquet at some ducks in a little pond at the distance of about 60 yards from me; the ball rebounded from the water and passed within a very few feet of me. This part of the cove on the NE side of the Creek has lately been burned by the Indians as a signal on some occasion.

**Ordway**

a clear morning. Some frost.

**Whitehouse**

a clear morning a little light frost last night.

**Daily Narrative Journals - Clark Scouting Party**

**Clark**

Mountain to our right...Pine timber which is thick on that side

**Gass**

a fine morning.

Main party crosses the continental divide at Lemhi Pass, Montana-Idaho state line and proceeds down the Lemhi and Salmon Rivers and then starts up the north fork of the Salmon River.

Monday, August 26

**Weather Diary**

hard white frost and some ice on standing water this morning arrived with baggage and party on the Columbia river at 5 PM
<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>31a</td>
<td>f</td>
<td>SE</td>
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</tbody>
</table>

**Daily Narrative Journals**

**Lewis**
This morning was excessively cold; there was ice on the vessels of water which stood exposed to the air nearly a quarter of an inch thick. We soon arrived at the extremest source of the Missouri; here I halted a few minutes, the men drank of the water and consoled themselves with the idea of having at length arrived at this long wished for point. From hence we proceeded to a fine spring on the side of the mountain [west side]...here I halted to dine and graze our horses, there being fine green grass on that part of the hillside which was moistened by the water of the spring while the grass on the other parts was perfectly dry and parched with the sun. [Lewis ponders Indian women birthing process] — if a pure and dry air, an elivated and cold country is unfavourable to childbirth, we might expect every difficult incident to that operation of nature in this part of the continent. — The tops of the high and irregular mountains which present themselves to our view on the opposite side of this branch of the Columbia are yet perfectly covered with snow; the air which proceeds from those mountains has an agreeable coolness and renders these parched and South hillsides much more supportable at this time of the day it being now about noon.

**Ordway**
a clear cold morning. The water in the Small vessels froze. We Set out at Sunrise and proceeded on with out big coats on and our fingers ackd with the Cold. Saw considerable of Snow on the mountain near us which appear but little higher than we are. It lies in heaps and a cold breeze always comes from these mountains.

**Whitehouse**
a clear morning, we find it verry cold and a heavy frost every morning. The water froze a little in the Small Vessells. Crossed a high ridge between the Mesouri and Calumbian River. Saw high mountains to the SW with Some Spots of Snow on them.

**Daily Narrative Journals - Clark Scouting Party**

**Clark**
a fine morning.

**Gass**
a pleasant morning.
Tuesday, August 27

Weather Diary

hard frost white this morning. on the Columbian waters (Clark).

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<th>Sunrise</th>
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</table>

Daily Narrative Journals

Ordway a beautiful pleasant morning. Snow now lying a Short distance to the South of us on the broken mountains.

Whitehouse a beautiful pleasant morning.

Daily Narrative Journals - Clark Scouting Party

Clark Some frost this morning.

Gass A fine morning with frost

Wednesday, August 28

Weather Diary

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<th>Sunrise</th>
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<td><strong>Wind</strong></td>
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<tr>
<td>35a</td>
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<td>SW</td>
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</tbody>
</table>

Daily Narrative Journals

Ordway a clear pleasant morning.

Whitehouse a clear pleasant morning. Some Spots of Snow continues to lay on the mountains a few miles to the South of us.
Daily Narrative Journals - Clark Scouting Party

Clark a frost this morning.

Gass The morning again was pleasant. I found the weather very cold for the season.

Thursday, August 29

Weather Diary

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<tr>
<th>Sunrise</th>
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<td>32a</td>
<td>f</td>
<td>SW</td>
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</tbody>
</table>

Daily Narrative Journals

Ordway a clear pleasant morning. They find that the mountains are so bad that we cannot follow the river by land and the river so rapid and full of rocks that it is impossible for crafts to pass down.

Whitehouse a clear pleasant morning.

Daily Narrative Journals - Clark Scouting Party

Clark a Cold morning Some frost. The Wind from the South.

Gass There was a severe white frost this morning.

Friday, August 30

Weather Diary

Set out with the party by land at 2 PM.

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<tr>
<th>Sunrise</th>
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</table>
Daily Narrative Journals

Clark  a fine Morning.

Ordway  a fine morning.

Whitehouse  a clear pleasant morning.

Saturday, August 31

Weather Diary

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<td>38a</td>
<td>c a r</td>
<td>NE</td>
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</table>

Daily Narrative Journals

Clark  A fine morning.  The wind hard from the SW.  This day warm and Sultrey.  Praries or open Valies on fire in Several places— The Countrey is Set on fire for the purpose of Collecting the different bands

Ordway  a fare morning.  The River bottoms narrow and verry much dried up.

Whitehouse  a fine morning
September 1805
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

The Expedition starts towards the Lost Trail Pass along the North Fork of the Salmon River near a future mining called named Gibbonsville, Idaho.

Sunday, September 1

Weather Diary ¹

Service berries dried on the bushes abundant and very fine. black colour.

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River ²</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<tr>
<td>38a</td>
<td>c</td>
<td>NW</td>
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</tbody>
</table>


² There is no record of river rise or fall during this month.

Daily Narrative Journals

Clark a fine morning. Some rain to day at 12 and in the evening which obliges us to Continu all night.

Gass a fine morning. At noon some rain fell, and the day continued cloudy. At 3 o’clock....we halted the weather became cloudy, and considerable quantity of rain fell.

Ordway Cloudy. In the afternoon we had Several Shower of rain and a little hail. Several Small Showers of rain this evening—

Whitehouse a fine clear morning. We stopped and camped about 3 hours before night on account of its raining. We passed across several large Creeks, the water of which was very Cold. During this afternoon we had several small Showers of rain—
Monday, September 2

Weather Diary

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<tr>
<th>Sunrise</th>
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<td>Weather</td>
<td>Wind</td>
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<td>36a</td>
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</table>

Daily Narrative Journals

Clark  
a Cloudy Morning, rained Some last night. Camped. Some rain at night

Gass  
The morning was cloudy. In the afternoon we had a good deal of rain, and the worst road (if road it can be called) that was ever travelled.

Ordway  
a cloudy wet morning. This is a verry lonesome place.

Whitehouse  
a wet cloudy morning.

Expedition crosses over the Lost Trail Pass, Idaho-Montana state line.

Tuesday, September 3

Weather Diary

Choke Cherries ripe and abundant.

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<thead>
<tr>
<th>Sunrise 3</th>
<th>4 PM</th>
<th>River</th>
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</thead>
<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
<td>Wind</td>
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<td>34a</td>
<td>c a r</td>
<td>NE</td>
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</tbody>
</table>

3 The Daily Narrative Journals note that the Expedition’s last thermometer was broken during an accident this day as they proceeded up the Lost Trail pass. However, the Weather Diary does not record this until September 6, 1805 in the remarks section which appears to be after the fact. Temperature observations are noted for two additional days in the Weather Diary, but the readings may be suspect. No further temperature observations are recorded for the rest of the journey.

Daily Narrative Journals

Clark  
a Cloudy morning. we assended after crossing Several Steep points & one
mountain, but little to eate at dusk it began to Snow, at 3 oClock Some Rain. The last mountains we had passed to the East Covered with Snow. We met with a great misfortune, in haveing our last Th[er]mometer broken by accident. This day we passed over emence hils and Some of the worst roads that ever horses passed, our horses frequently fell. Snow about 2 inches deep when it began to rain which termended in a Sleet

Gass
The morning of this day was cloudy and cool. We halted for dinner....we staid here about two hours, during which time some rain fell, and the weather was extremely cold for the season. This was not the creek our guide wished to have come upon; and to add to our misfortunes we had a cold evening with rain.

Ordway
Several Small Showers of rain. So we lay down wet hungry and cold.

Whitehouse
We had a cloudy morning & set out as usual. We crossed a dividing ridge [Lost Trail Pass]. At dark it began to rain hard, We lay down to sleep being wet, hungry & Cold. Saw Snow on the tops of Some of these mountains this day.

Wednesday, September 4

Weather Diary

ice one inch thick.

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<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<td>Temp</td>
<td>Weather</td>
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</table>

Daily Narrative Journals

Clark
a verry cold morning every thing wet and frosed, we detained untill 8 oClock to thaw the covering for the baggage &c &e. Ground covered with Snow. I was the first white man who ever wer on the water of this river [The Bitterroot River]

Gass
A considerable quantity of snow fell last night, and the morning was cloudy.

Ordway
the morning clear, but very cold. The ground covred with frost. Our moccasins froze. The mountains covred with Snow. the Snow over our mockasons in places. The air on the mountains verry chilley and cold. Our fingers aked with the cold.

Whitehouse
the morning clear but verry cold. Our mockersons froze hard. The mountains covred with Snow. The Snow lay on the mountain So that it stuck to our mockisons. The air verry cold our fingers aked with the cold.
Thursday, September 5

**Weather Diary**

Ground Covered with Snow.

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<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<td>Temp</td>
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<td>17a</td>
<td>c a s</td>
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</table>

**Daily Narrative Journals**

Clark  a Cloudy morning

Gass   This was a fine morning with a great white frost.

Ordway a clear cold morning. The Standing water froze a little. A hard white frost this morning.

Whitehouse a clear cold morning. The Standing water we had in our small Vessells froze a little last night.

Friday, September 6

**Weather Diary**

Thermometer broke by the Box strikeing against a tree in the Rocky Mountains

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<th>Sunrise</th>
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</table>

**Daily Narrative Journals**

Clark  Some little rain. Rained contd. untill 12 oClock. rained this evening

Gass   A cloudy morning. About 12 o’clock some rain fell

Ordway a clear cold morning. Light Sprinkling of rain, through the course of this day—
Whitehouse  a clear cold morning. Light Sprinklings of rain through the course of the day.

Saturday, September 7

Weather Diary

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<tr>
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</table>

Daily Narrative Journals

Clark  A Cloudy & rainie Day. The Vallie from 1 to 3 miles wide the Snow top mountains to our left, open hilley Countrey on the right.

Gass  We set out early in a cloudy cool morning. 12 o’clock...some rain fell. Some rain fell in the afternoon

Ordway  a cloudy cold morning. High mountains a little to the Lard. Side which is covred thick with Snow. We had Several Showers of rain.

Whitehouse  a cloudy cold morning. The high mountains...Several Small Showers of rain in the course of the day.

Sunday, September 8

Weather Diary

Mountains Covered with Snow to the SW a singular kind of Prickly Pears.

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<tr>
<th>Sunrise</th>
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<th>River</th>
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</table>

Daily Narrative Journals

Clark  a Cloudy morning. The wind from the NW & Cold. The foot of the Snow mountains approach the River on the left Side. Some Snow on the mountain to the
right also. A hard rain all the evening we are all Cold and wet.

Gass: The morning was wet had a cold, wet disagreeable afternoon.

Ordway: cloudy and cold. Saw Snow on the mount to our left. High barron hills to our right. The wind cold from the NW & Showers of rain, and a little hail. The mountains are rough on each side and are covred with pin and on the tops of which are covred with Snow.

Whitehouse: cloudy and verry chilley and cold. Saw Snow on the Mountains to our left. The wind from NW & the Air chilley and cold. The Snow lays thick on the mountains a little to our left....the tops of which are covered with Snow and at places appear to lay thick.

Party arrives at Travelers Rest, near present-day Lolo, MT.

Monday, September 9

Weather Diary

arrived at travelers rest Creek

<table>
<thead>
<tr>
<th>Sunrise</th>
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Daily Narrative Journals

Lewis: as our guide informs that we should leave the river at this place and the weather appearing settled and fair I determined to halt the next day rest our horses and take some scelestial Observations. We called this Creek Travellers rest.

Clark: a fair morning. Day fair, wind NW. The foot of the Snow toped mountains approach near the river.

Gass: The morning was fair, but cool. The nigh snow-topped mountains are still in view on our left. The Flathead River (Bitterroot River) is 100 yards wide.

Ordway: Cloudy. The Snow continues on the Mont. each side of this valley.

Whitehouse: a cloudy cold morning, wind blew from the NW. The Snow continues on the Mountains on both sides of the valley. The afternoon pleasant, but the Snow Still continues on the Mountains as usul.
Tuesday, September 10

Weather Diary

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<tr>
<th>Sunrise</th>
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<th>River</th>
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<td>Temp</td>
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<td>NW</td>
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</table>

Daily Narrative Journals

Lewis
The morning being fair I sent out all the hunters

Clark
a fair morning. The day proved fair

Gass
We remained here all this day, which was clear and pleasant.

Ordway
a fair morning. The day warm.

Whitehouse
a clear pleasant morning, and the weather moderate, not So cold as usal. As our road [next] leads over a mountain to our left, our Captains conclude to Stay here this day to take observations, and for the hunters to kill meat to last us across the mountains and for our horses to rest, etc....the day continued to grow warm, but the Snow does not melt on the mt. a Short distance from us...The snow on the Mountains have the appearance of the Middle of winter.

Expedition starts over the Bitterroot Mountains on the Lolo Trail from September 11 until the 22.

Wednesday, September 11

Weather Diary

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<th>Sunrise</th>
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</table>
Daily Narrative Journals

Clark  a fair morning, wind from the NW. nothing killed this evening hills on the right high & rugged, the mountains on the left high & Covered with Snow. The day Verry worm.

Gass  This was a fine morning.

Ordway  a clear pleasant morning.

Whitehouse  a beautiful pleasant morning. The snow on the mountains about 1 miles to the SW of us does not melt but verry little.

Thursday, September 12

Weather Diary

Mounts to our left Covered with Snow

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<th>Sunrise</th>
<th>4 PM</th>
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</table>

Daily Narrative Journals

Clark  a white frost, Set out at 7 oClock. Creek of fine clear water. The road through this hilley Countrey is verry bad passing over hills & thro’ Steep hollows, over falling timber &c &c.

Gass  a fine morning.

Ordway  a fair morning.

Whitehouse  a white frost, and clear pleasant morning. Saw high Mountains to the South of us covered with Snow, which appears to lay their all the year round.

Party passes across the Lolo Pass, Montana-Idaho state line.
Friday, September 13

Weather Diary

a hot Spring

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  
a cloudy morning. The after part of the day Cloudy. Passed Several Springs [Lolo Hot Springs]...I tasted this water and found it hot & not bad tasted. I found this water nearly boiling hot at the places it Spouted from rocks. I put my finger in the water, at first could not bare it in a Second— Those springs come out in maney places. Some mountains in view to the SE & SW Coverd with Snow.

Gass  
A cloudy morning. We came to a most beautiful warm spring, the water of which is considerably above blood-heat; and I could not bear my hand in it without uneasiness. (At Lolo Hot Springs, Montana)

Ordway  
cloudy.

Whitehouse  
Cloudy weather. The day proved very pleasant.

Saturday, September 14

Weather Diary

killed and eat a colt, Snowed rained & hailed to day.

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<th>Sunrise</th>
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<td>SW</td>
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</tbody>
</table>

4 Lewis’ Journal Codex P & Clark’s Codex I lists this weather data as “c a r.”

Daily Narrative Journals

Clark  
a Cloudy day in the Valies it rained and hailed, on the top of the mountains Some
Snow fell. Rained, Snowed & hailed the greater part of the day all wet and Cold. Crossed a very high Steep mountain for 9 miles to a large fork from the left which appears to head in the Snow toped mountains Southerly and SE. Camped. The rain

Gass

We set out early in a cloudy morning. I saw service-berry bushes hanging full of fruit; but not yet ripe, owing to the coldness of the climate on these mountains. Encamped for the night, as it rained and was disagreeable travelling.

Ordway

a little Thunder hail and rain. Saw high Mountains covred with Snow and timber—

Whitehouse

A cloudy morning. We had towards evening Several light small Showers of rain and a little hail. Several severe claps of Thunder. Saw high mountains. A little to the South of us, which are covred with Snow.

Sunday, September 15

Weather Diary

no water we are obliged to Substitute the coald Snow to boil our Colt.

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<th>Sunrise</th>
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<td>SW</td>
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</table>

5 Lewis’ Journal Codex P & Clark’s Codex I lists this weather data as “c a s.”

Daily Narrative Journals

Clark

....here the road leaves the river to the left and assends a mountain winding in every direction to get up the Steep assents & to pass the emence quantity of falling timber which had [been] falling from diff. Causes I e fire & wind and has deprived the greater part of the Southerly Sides of this mountain of its green timber. Several horses slip...my portable desk broken...Some others very much hurt, from this point I observed a range of high mountains Covered with Snow from SE to SW with Their top bald or void of timber. We could find no water and Concluded to Camp and make use of the Snow e found on the top to cook the remns. Of our Colt & make our Supe. evening very Cold and Cloudy. From this mountain I could observe high rugged mountains in every direction as far as I could see. Encamped on the top of the mountain near a Bank of old Snow about 3 feet deep lying on the Northern side of the mountain. We melted the Snow to drink

Gass

Encamped on a high mountain...there was no water, but a bank of snow answered as a substitute.
Ordway clouded. We found some spots of snow so we camped on the top of the mountain and melted some snow. This snow appears to lay all year on this Mount.

Whitehouse This morning we had cold weather & cloudy. We followed on the ridge of the mountain & went over several high knobs on it, where the wind had blown down most of the timber on them. On top of the mountain...some spots of snow. We encamped on a top ridge of the mountain, where we found plenty of snow, which appear to have lain here all year.

Monday, September 16

Weather Diary

Snow commenced about 4 o’clock AM and continued until night. It is about 7 inches deep. Ice one inch thick. The snow fell on the old snow 4 inches deep last night.

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Daily Narrative Journals

Clark began to snow about 3 hours before Day and continued all day. The snow in the morning 4 inches deep on the old snow, and by night we found it from 6 to 8 inches deep. I walked in front to keep the road and found great difficulty in keeping maney places the snow had entirely filled up the track and obliged me to hunt several minutes for the track. As 12 o’clock we halted on the top of the mountain to warm & dry our Selves. The pine, which are so covered with snow, that is passing thro them we are continually covered with snow, I have been wet and as cold in every part as I ever was in my life; indeed I was at one time fearfull my feet would freeze in the thin Mockirsons which I wore. Men all wet cold and hungary. To describe the road of this day would be a repetition of yesterday expt the snow which made it much wors to proceed as we had in maney places to direct our Selves by the apperance of the rubbings of the packs against the trees which have limbs quiet low and bending downwards.

Gass Last night about 12 o’clock it began to snow. We renewed our march early, though the morning was very disagreeable, and proceed over the most terrible mountains I ever beheld. It continued snowing untill 3’oclock PM. The snow fell so thick, and the day was so dark, that a person could not see to a distance of 200 yards. In the night and during the day the snow fell about 10 inches deep.

Ordway when we awoke this morning to our great Surpize we were covred with snow, which had fell about 2 Inches deep the later part of last night, & continues a cold Snowey
morning. Could Scarcely keep the old trail for the Snow. About one oClock finding no water we halted and melted Some snow and eat or drank a little more soup. Saw considerable of old snow The Snow is now about 4 inches deep on a lev'l. The clouds So low on the Mount that we could not See any distance no way. It appeared as if we have been in the clouds all this day.

**Whitehouse** When we awoke this morning to our great Surprize we were covred with Snow, which had fallen about 2 Inches the latter part of last night, & [it] continues a verry cold Snow Storm. Could hardly See the old trail for the Snow. The Snow fell so fast that it is now in common 5 or 6 Inches deep & where old Snow remained it was considerably deeper. We mended up our mockasons. Some of the men without Socks, wrapped rags on their feet, and loaded up our horses and Set out without anything to eat, and proceeded on. It has quit Snowing this evening, but continues very chilley and cold.

**Tuesday, September 17**

**Weather Diary**

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**Daily Narrative Journals**

**Clark** Cloudy morning. One oClock PM at which time we Set out the falling Snow & snow falling from the trees which kept us wet all the after noon. Snow on the Knobs, no Snow in the vallies. The after part of the day fare. Road emencely bad as usial, no Snow in the hollers all the high knobs of the mounts Covered.

**Gass** It was a fine day with warm sunshine, which melted the snow very fast on the south sides of the hills, and made the travelling very fatiguing and uncomfortable. We continued over high desert mountains.

**Ordway** Cloudy and cold. The afternoon clear and pleasant & warm. The Snow melted fast.

**Whitehouse** cloudy and cold. Set out about Noon, the Snow lay heavy on the timber. In the afternoon the weather cleared away & then it became clear & warm. The snow melted so that the water Stood in the trail over our mockasons in Some places & in some places it was very Slippy
Wednesday, September 18

**Weather Diary**

hard black frost this morning

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**Daily Narrative Journals**

**Lewis** used the snow for cooking—

**Clark** The want of provisions together with the difficuly of passing those emence mountains damped the Spirits of the party which induced us to resort to Some plan of reviving ther Sperits. A fair morning, cold. From the top of a high part of the mountain at 20 miles I had a view of an emence Plain and leavel Countrey to the SW & West at a great distance [on top of Sherman Peak looking at prairies towards Grangeville & Lewiston ID]

**Gass** This was a clear cold frosty morning. About 12 we passed a part where the snow was off, and no appearance that much had lately fallen. At 3 we came to snow again, and halted to take some soup, which we made with snow water, as no other could be found. We see now prospect of getting off these desert mountains yet, except the appearance of a deep cove on each side of the ridge we are passing along.

**Ordway** a clear pleasant morning.

**Whitehouse** a clear pleasant morning. Melt a little Snow as we found not water to make a little Port. Soup. The weather moderated, & the snow melted a little. The Mountains appear a head of us as far as we can see & continue much further than we expected—

Thursday, September 19

**Weather Diary**

rose raspberry ripe and abundant. Snow is about 4 Inches deep.

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</table>
**Daily Narrative Journals**

**Lewis**
this plain appeared to be about 60 miles distant.

**Clark**
passed...two high mountains, ridges and through much falling timber. As we decend the mountain the heat becomes more prosetable every mile.

**Gass**
last night was disagreeably cold. About 8 this morning....the sun shining warm and pleasant. The snow is chiefly gone except on the north points of the high mountains.

**Ordway**
a clear morning.

**Whitehouse**
a clear pleasant morning. The ground was covered with Snow & froze.

**Friday, September 20**

**Weather Diary**

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**Daily Narrative Journals**

**Lewis**
our road was much obstructed by fallen timber particularly in the evening. Saw the hucklebury.

**Gass**
day was fine

**Ordway**
a cold frosty morning

**Whitehouse**
a cold frosty morning.

**Saturday, September 21**

**Weather Diary**

I arrive at the Flat head Camp of 200 lodges in a Small prarie
Sunrise  |  4 PM  |  River
---|---|---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
- | f | SE | - | f | SW | - | - | -

**Daily Narrative Journals**

**Clark**  
a fine morning. The day proved warm. The weather verry worm after decending into the low Countrey—

**Gass**  
The morning was pleasant

**Ordway**  
a clear pleasant morning.

**Whitehouse**  
a Clear pleasant morning. On Some of the ridges the timber has been killed by fire and fell across the trail So that we had Some difficulty to git a long the trail.

**Expedition leaves the Bitterroot Mountains down onto the Weippe Prairie, ID.**

**Sunday, September 22**

**Weather Diary**

Sunrise  |  4 PM  |  River
---|---|---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
- | f | SW | - | f | SW | - | - | -

**Daily Narrative Journals**

**Clark**  
a fine morning. A verry worm day. Some few drops of rain this evening.

**Gass**  
This was a fine warm day. in the evening arrived in a fine large valley

**Ordway**  
a clear pleasant morning. and white frost.

**Whitehouse**  
a clear pleasant morning. A white frost.
Monday, September 23

**Weather Diary**

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**Daily Narrative Journals**

**Clark**

Hot day. At dark a hard wind from the SW accompanied with rain which lasted half an hour.

**Gass**

The morning was warm and pleasant. About dark a shower of rain fell.

**Ordway**

a fair morning. Had a Thunder Shower this evening.

**Whitehouse**

a clear pleasant morning. We had a Shower of rain attended with Thunder this evening.

Tuesday, September 24

**Weather Diary**

a thunder cloud last evening.

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6 Lewis’ Journal Codex P lists this weather data as “f.”

7 Lewis’ Journal Codex P & Clark’s Codex I lists this weather data as “f.”

**Daily Narrative Journals**

**Clark**

a fine morning. Hot day.

**Gass**

The morning was fine. In the evening we arrived at the camp of our hunters on a river about 100 yards broad, a branch of the Columbia River (Clearwater River).
Ordway  a clear morning.  We Set out and proceeded on the day warm.  Towards evening we came down on a fork of Columbia River. (Clearwater)

Whitehouse  a clear pleasant morning.  The day warm.

Wednesday, September 25

Weather Diary

I proceed to the forks  worm day

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Daily Narrative Journals

Clark  a verry hot day.  Calculated to build Canoes, as we had previously deturmined to proceed on by water.

Gass  A fine, pleasant warm morning.  The climate here is warm; and the heat to day was as great as we had experienced at any time during the summer.  The water also is soft and warm, and perhaps causes our indisposition more than any thing else.

Ordway  a fair morning.  This river is about 60 yards wide.

Whitehouse  a fine morning.  The fork of the Columbia we are now one is about 60 yards wide, and generally very deep.

Expedition stops to build canoes for their journey to the Pacific Ocean and establishes Canoe Camp, near Orofino, ID.

Thursday, September 26

Weather Diary

Form a Camp at the forks
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### Daily Narrative Journals

**Clark**  
this day proved verry hot.

**Gass**  
The morning was fine.

**Ordway**  
a clear pleasant morning. Several of the party Sick with a relax by a Sudden change of diet and water as well as the change of climate also.

**Whitehouse**  
clear and pleasant morning. Several of the men Sick with the relax, caused by a Suddin change of diet and water as well as the Climate Changed a little also.

### Friday, September 27

**Weather Diary**

day very warm

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### Daily Narrative Journals

**Clark**  
the day verry hot.

**Gass**  
a fine warm morning. The river below the fork is about 200 yards wide, the water is clear as crystal, from 2 to 5 feet deep, and abounding with salmon of an excellent quality.

**Ordway**  
a fair morning.

**Whitehouse**  
a fine fair pleasant morning.
Saturday, September 28

Weather Diary

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Daily Narrative Journals

Clark this day proved verry worm and Sultery

Gass We had a pleasant morning

Ordway a clear morning.

Whitehouse This morning we had clear fine pleasant weather.

Sunday, September 29

Weather Diary

3/4 of the party Sick. Day very hot

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Daily Narrative Journals

Clark a Cool morning, wind from the SW. The after part of the day worm.

Gass A fine day

Ordway a fair morning.

Whitehouse A fair and pleasant morning.
Monday, September 30

Weather Diary

Great numbers of Small Ducks pass down the river.  hot day

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Daily Narrative Journals

Clark    a fine morning.  Cool

Gass     The weather continued pleasant.

Ordway   a fair morning.

Whitehouse Fair and pleasant weather this morning.
October 1805
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

The Expedition is at Canoe Camp on the Clearwater near present-day Orofino, Idaho.

Tuesday, October 1

Weather Diary ¹, ²

Note from the 1st to 7th of Oct. we were at the month of the Chopunnuish river making Canoes to Descend the Kooskooske.

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² Lewis kept no weather data for this month. Clark wrote a combined table for October, November and December of 1805.

³ Although not stated, when looking through the daily journal entries, it looks like the weather record entered into the table above was conducted generally in the morning.

⁴ No river observations were made during the month of October.

Daily Narrative Journals

Clark a cool morning, wind from the NE and East. Worm evening

Gass This was a fine pleasant warm day.

Ordway a clear pleasant morning.

Whitehouse a fair fine clear morning.
Wednesday, October 2

Weather Diary

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Daily Narrative Journals

Clark    day excessively hot in the river bottom, wind North

Ordway  a fair morning.

Whitehouse a fair and pleasant morning.

Thursday, October 3

Weather Diary

The easterly winds which blow immediately off the mountains are very cool until 10 a.m. when the day becomes very warm and the winds shift about.

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Daily Narrative Journals

Clark    a fair cool morning, wind from the East.

Ordway  a clear morning.

Whitehouse a fair and very pleasant morning.
Friday, October 4

**Weather Diary**

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**Daily Narrative Journals**

**Clark**
This morning is a little cool, wind from off the Eastern mountains. The after part of this day very warm.

**Gass**
a white frost, afterwards a fine day.

**Ordway**
a fair morning.

**Whitehouse**
a fair morning.

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Saturday, October 5

**Weather Diary**

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**Daily Narrative Journals**

**Clark**
a cool morning, wind East for a short time, wind is always a Cool wind

**Ordway**
a clear cool morning. A little white frost.

**Whitehouse**
a fair clear cool frosty morning.
Sunday, October 6

**Weather Diary**

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**Daily Narrative Journals**

Clark  a cool Easterly wind which Spring up in the latter part of the night Continues untill about 7 or 8 oClock AM. The winds blow cold from a little before day untill the Suns gets to Some hight from the Mountains East as they did from the mountains at the time we lay at the falls of the Missouri from the West. The river below this forks is Called Kos kos kee, it is Clear rapid with Shoals or Swift places—

Ordway a pleasant morning.

Whitehouse a clear pleasant morning. A raft Seen floating down the River with Several Indians on it.

Expedition resumes its journey and uses canoes to proceed via the river system, the first of which is the Kooskooskee River [present-day Clearwater River], ID.

Monday, October 7

**Weather Diary**

*Note* from the 7th to the 16th octr. We were decending Kooskooske & Lewises river, the 17th 18 at the mouth of Lewis River.

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**Daily Narrative Journals**

Clark The after part of the day cloudy
Gass  a pleasant morning. About 3 o’clock in the afternoon we began our voyage down the river, and found the rapids in some places very dangerous.

Ordway  a clear morning. Some part of the River is deep and current gentle &C.

Whitehouse  a fair clear weather and a pleasant morning. Some places the water is deep & and the current is gentle. The Evening proved cloudy.

Tuesday, October 8

Weather Diary

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Daily Narrative Journals

Clark  a Cloudy morning

Gass  a fine morning. Several rapids. Water was not more than waist-deep.

Ordway  a fair morning. Passed Some clifts of rocks and barron hills on each side. The waves roared over the rocks.

Whitehouse  a fair day. The day proved warm.

Wednesday, October 9

Weather Diary

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</table>
Daily Narrative Journals

Clark  The morning Cool as usual the greater part of the day proved to be Cloudy, which was unfavourable for drying our things &c. which got wet yesterday. The wet articles not Sufficiently dried to pack up obliged us to delay another night

Gass  We stayed here during the whole of this day, which was very pleasant.

Ordway  a fair morning, and warm.

Whitehouse  a fair and pleasant morning.

Expedition arrives at the confluence of the Kooskooskee and Lewis’s River [today known as the Clearwater and Snake Rivers], at present-day Clarkston, WA / Lewiston, ID. They also cross the state line from Idaho into Washington.

Thursday, October 10

Weather Diary

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Daily Narrative Journals

Clark  a fine morning. a verry worm day. Worm night— I think Lewis’s [Snake] River is about 205 yards wide, the Koos koos ke River about 150 yards wide and the river below the forks about 300 yards wide. The water of the South fork is a greenish blue, the north as clear as cristial. We came to on the Stard. Side below with a view to make some luner observations, the night proved Cloudy and we were disapointed—. The Indians...winter hunting the dear on Snow Shoes in the plains

Gass  We had a fine morning. the southwest branch very large, and of a goslin-green colour. The wind blew so hard we could not proceed.

Ordway  a clear morning. We Set out eairly and proceed on down passed over a number of bad rapids. About 4 oClock PM we came to the Columbia River this great Columbia River is about 400 yards wide and afords a large body of water and of a greenish coulour. We went down it a short distance and the wind blew so high from NW
Whitehouse  a fair and pleasant morning. About 5 oClock PM we arived at the forks of the
Columbian river. The wind blew So high from the west that we Camped on the
north side. This river is about 400 yards wide, and a greenish coulour.

Friday, October 11

Weather Diary

<table>
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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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</tbody>
</table>

Daily Narrative Journals

Clark  a cloudy morning, wind from the East. The after part of the day the wind from the
SW and hard. The day worm.

Gass  a fine morning; proceeded on

Ordway a clear morning. The country is barron and broken. Some high plains. No
timber. Passed over Some rapids where the waves roled high.

Whitehouse  fair and clear weather a pleasant morning. Some rapid water but the current mostly
gentle.

Saturday, October 12

Weather Diary

<table>
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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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</tbody>
</table>
**Daily Narrative Journals**

Clark  a fair cool morning, wind from the East. In the afternoon the wind Shifted to the SW and blew hard. the wind blew hard this evening—

Gass  a fine morning.

Ordway  a fair morning. Bad rockey rapid.

Whitehouse  a clear pleasant morning. The current swift in Some places, but gentle in general. After 12 oClock...the wind rose hard and blew from the west.

**Sunday, October 13**

**Weather Diary**

rained moderately from 4 to 11 AM to day.

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<th>Sunrise</th>
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<th>River</th>
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</table>

**Daily Narrative Journals**

Clark  rained a little before day. A windey dark raney all the morning, a hard wind from the SW untill 9 oclock, rain continued moderately untill near 12 oClock. the rained Seased & wind luled. This must be a verry bad place in high water. Wind hard from the SW in the evening and not very cold.

Gass  This was a cloudy wet morning, and we did not set out till 11 o’clock. In the afternoon the weather cleared and we had a fine evening.

Ordway  a rainy morning. High wind. Rapids The current swift

Whitehouse  a rainy wet morning which delayed us untill about 10 oClock AM. The wind hard a head. Between 2 and 3 oClock PM the weather became clear and pleasant.

**Monday, October 14**

**Weather Diary**

---

Lewis & Clark Expedition Weather Journals, 1805, Page 207
### Daily Narrative Journals

**Clark**

a very cold morning. Set out at 8 o’clock, wind from the West and cool until about 12 o’clock when it shifted to the SW. All wet we had every article exposed the sun to dry on the Island, our loss in provisions is very considerable. The wind this afternoon from the SW as usual and hard.

**Gass**

a fine clear cool morning.

**Ordway**

a clear cold morning. The wind high NW the current rapid. Bad rocky rapid. The country continues baron and broken in places & c.

**Whitehouse**

A clear cold morning, the wind blowing hard and high ahead of us from the West. Very bad Rocky rapid, it being the worst rapid that we had passed in this River.

---

#### Tuesday, October 15

**Weather Diary**

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### Daily Narrative Journals

**Clark**

a fair morning after a cold night. Some frost this morning and ice. A high point to the west. Plain wavering.

**Gass**

This day was fine, clear and pleasant. This river in general is very handsome, except at the rapids, where it is risking both life and property to pass; and these rapids, when the bare view or prospect is considered distinct from advantages of navigation, may add to its beauty, by interposing variety and scenes of romantick grandeur where there is so much uniformity in the appearance of the country.

**Ordway**

a clear cold morning. The current very rapid.

**Whitehouse**

clear cool weather this morning.
Expedition arrives at the confluence of the Lewis’s River [present-day Snake River] & Columbia Rivers, near present-day Pasco [Tri-Cities], WA.

Wednesday, October 16

Weather Diary

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<th>Sunrise</th>
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</table>

Daily Narrative Journals

Clark  a cool morning. Having taken Diner Set out and proceeded on Seven miles to the junction of this river and the Columbia which joins from the NW.

Gass  a fine morning. Having gone 21 miles we arrived at the great Columbia river, which comes in from the northwest.

Ordway  towards evening we arived at the big forks. The large River which is wider than the Columbia River comes in from a northerly direction. No timber. Not a tree to be Seen as far as our Eyes could extend.

Whitehouse  a pleasant morning. Towards evening we arived at the forks of the river, which came from a northly direction and is larger than this Columbia R.

Thursday, October 17

Weather Diary

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  a cool morning. Having taken Diner Set out and proceeded on Seven miles to the junction of this river and the Columbia which joins from the NW.

Gass  a fine morning. Having gone 21 miles we arrived at the great Columbia river, which comes in from the northwest.

Ordway  towards evening we arived at the big forks. The large River which is wider than the Columbia River comes in from a northerly direction. No timber. Not a tree to be Seen as far as our Eyes could extend.

Whitehouse  a pleasant morning. Towards evening we arived at the forks of the river, which came from a northly direction and is larger than this Columbia R.
Clark

This morning after the Luner observations, the old chief came down. This river is remarkably Clear and Crouded with Salmon in maney places. The number of dead Salmon on the Shores & floating in the river is incrediable to say. The Cause of the emence numbers of dead Salmon I can’t account for. — at this Season they have only to collect the fish Split them open and dry them on their Scaffolds on which they have great numbers. No wood to be Seen in any direction— Those people as also those of the flat heads which we had passed on the koskoske and Lewis’s rivers are Subject to Sore eyes, and maney are blind of one and some of both eyes. This misfortune must be owing to the reflections of the Sun &c. on the waters in which they are continually fishing during the Spring Summer & fall, & the Snows dureing the, winter Seasons, in this open countrey where the eye has no rest. The roughfs are nearly flat, which proves to me that rains are not common in this open countrey.

Gass

The Columbia here is 860 yards wide, the Kimooecenum (Snake River) is 475 yards wide at the junction.

Ordway

a clear pleasant morning. Saw a great quantity of sammon....a great number lay dead on the Shores which the Indians had giged.

Whitehouse

We had a clear and pleasant morning. The columbia River is more Smooth and the current gentle

Expedition starts its final leg of the journey as they proceed down the Columbia River from the confluence of the Snake River. During this day they begin their parallel journey along the border of present-day Oregon and Washington state line [which is the Columbia River].

Friday, October 18

Weather Diary

Note from the eighteenth to the twenty-second of October descending the Great Columbia to the falls.

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Lewis & Clark Expedition Weather Journals, 1805, Page 210
**Daily Narrative Journals**

**Clark**

A cold morning faire & wind from SE. Distance across the Columbia 960 3/4 yrd...Ki-moo-e im 575 yrd. At 4 Oclock we Set out down the Great Columbia. No timber in view. Saw a mountain bearing SW Conocal form, Covered with Snow [probably Mount Hood]

**Gass**

A fine day. At one we proceeded on down the Great Columbia, which is a very beautiful river.

**Ordway**

A clear pleasant morning. Capt. Clark measured Columbian River and the Ki mo e nem (Snake) Rivers and found the Columbia to be 860 yards wide, and the (Snake) to be 475 yard wide at the forks. Proceeded down the Columbia...we passed over Several rapids.

**Whitehouse**

A clear pleasant morning. Columbia 860 yards wide and ki-moo-e-nem River 475 yards wide at the forks. Columbia...very wide from a half a mile to three forths wide and very Smooth & pleasant.

**Saturday, October 19**

**Weather Diary**

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<th>Sunrise</th>
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**Daily Narrative Journals**

**Clark**

I assended a high clift about 200 feet above the water...from this place I discovered a high mountain of emence hight covered with Snow, this must be one of the mountains laid down by Vancouver, as seen from the mouth of the Columbia River, from the Course which it bears which is West I take it to be Mt. St. Helens [probably Mt. Adams], distant about 156 miles, a range of mountains in the Derection crossing a conical mountain SW toped with snow.

**Gass**

The morning was clear and pleasant, with some white frost.

**Ordway**

A clear cold morning. We discovered a verry high round mountain a long distance down the River which appears to have Snow on the top of it.

**Whitehouse**

A clear cold morning. We discovered a high hill or moutn a long distance down the River which appears to have Snow on it. We found the day pleasant
Sunday, October 20

Weather Diary

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  a very cold morning, wind SW. The river to day is about 1/4 of a mile in width. The current much more uniform than yesterday or the day before.

Gass  A fine clear frosty morning.

Ordway a clear frosty morning. The River Smooth. Passed many rapid places of water.

Whitehouse  a clear frosty morning.

Monday, October 21

Weather Diary

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<th>Sunrise</th>
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</table>

Daily Narrative Journals

Clark  a very Cold morning, we Set out early, wind from the SW. The Conocil mountain is SW....high and the top covered with Snow.

Gass  a fine morning.

Ordway  a clear cold morning. Passed a number of bad rockey rapids where the River is nearly filled with high dark couloured rocks

Lewis & Clark Expedition Weather Journals, 1805,  Page 212
Whitehouse  A clear cold morning.

Party portages around the Great Falls of the Columbia, Celilo Falls, near Wishram, OR/WA state line.

Tuesday, October 22

Weather Diary

Note from the twenty-second to the twenty-ninth about the Great Falls of the Columbia river.

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  a fine morning, calm and fare. Portage of 457 yards & down a Slide...of the Great falls...of the Columbia

Gass  The morning was fine. came to the first falls or great rapids

Ordway  a fair morning. A short distance (from a large river) below we came to the first falls of the Columbia River.

Whitehouse  A clear pleasant morning. A mist rises continually from the falls...the first falls of the Columbia River. the water falling in such an immense quantity, makes a roaring that can be heard several miles below it.

Wednesday, October 23

Weather Diary

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<th>Sunrise</th>
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</tbody>
</table>
Daily Narrative Journals

Clark  

a fine morning.

Gass  

A pleasant day. The high water mark below the falls is 48 feet. The reason of this rise in the water below the falls is, that for three miles down, the river is so confined by rocks (being not more than 70 yards wide) that it cannot discharge the water, as fast as it comes over the falls,

Ordway  

a clear pleasant morning. The height of these falls...in all is 37 feet eight Inches

Whitehouse  

a clear pleasant morning.

Expedition portages by the Long and Short Narrows at the present-day The Dalles, OR.

Thursday, October 24

Weather Diary

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  

a fine fare morning, after a beautiful night. Below those falls are Salmon trout and great numbers of the heads of a Species of trout Smaller than the Salmon. Narrow chanel of 45 yards wide. Those narrows the water was agitated in a most Shocking manner boils Swell & whorl pools, we passed with great risque... Those narrows was the whorls and Swills arriseing from the Compression of th water...notwithstanding the horrid appearance of this agitated gut Swelling, boiling & whorling in every direction.

Gass  

a fine morning.

Ordway  

a clear pleasant morning. The current rapid

Whitehouse  

a clear cool morning. The current verry rapid.
Friday, October 25

Weather Diary

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  
A Cold morning. Came to...a Creek which falls in on the Lard Side and head up towards the high Snow mountain to the SW.

Ordway  
a fair morning. The River gitting Smoth. The country timbred back a little from the River.

Whitehouse  
a clear & pleasant morning.

Saturday, October 26

Weather Diary

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<th>Sunrise</th>
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</table>

Daily Narrative Journals

Clark  
a fine morning. The river has rose nearly 8 Inches to day and has every appearance of a tide, from what Cause I can’t say— as the tides cannot effect the river here as there is a falls below, I conjecture that the rise is owing to the wind which has Set up the river for 24 hours past. All our articles we have exposed to the Sun to Dry

Gass  
a fine morning.

Ordway  
a clear pleasant morning. the River raised considerable this afternoon.
Whitehouse  a clear pleasant morning. The river began to raise about 4 oClock PM and raised Several Inches, the cause of which we think that the tide Swels a little up to this place. Called the long narrows of Columbia River.

Sunday, October 27

Weather Diary

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  a verry windy night and morning from the west and hard. The wind verry high. The wind increased in the evening and blew verry hard from the Same point W. Day fair and Cold—

Gass  This was a fine clear morning, but the wind blew very hard up the river, and we remained here all day. The wind blew hard all this day.

Ordway  fair morning. The wind high from the west. The waves roled verry high—

Whitehouse  a clear morning, but the wind blew high from the west., which continued so the whole of this day.

Monday, October 28

Weather Diary

a Violent wind  a moderate rain commenced at 4 oClock PM and continued untill 8 PM.

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  A cool windey morning. Wind from the West. Set out at 9 oClock AM. The wind rose and we were obliged to lie by about 1 mile below. The wind which is the cause of our delay, does not retard the motions of those people at all, as their canoes are calculated to ride the highest waves. Wind blew hard accompanied with rain all the evening, our Situation not very good one for an encampment, but such as it is we are obliged to put up with, the harbor is a Safe one, we encamped on the Sand, wet and disagreeable.

Gass  Just before day light there was a shower of ran; but at sunrise the morning was fine and clear. Went about 4 miles...here we stayed about an hour and proceeded again for about a mile, when we were compelled to stop on account if the wind, which blew so hard ahead that we were unable to continue our voyage. In the course of the day there were some showers of rain.

Ordway  rained hard the later part of last night. Cleared up this morning. We then went on a Short distance further the wind rose so high NW that obliged us to halt on the Lard. Side under Some clifts of rocks. A little rain this evening.

Whitehouse  the wind Seased the later part of last night; when it began to rain and rained moderately untill morning, then cleared off. About 9 oClock AM the wind rose again & blew westward. We continued on our way a short distance further down the river, when the Wind rose so high from the Westward, & the waves ran also so high, that our officers thought it dangerous and not safe to proceed. We had Several Squalls of wind which were high during this day.

Tuesday, October 29

Weather Diary

rained moderately all day. Saw the first large Buzzard or Voultur of the Columbia.

Note from the 29th of Octr. to the 3rd of Novr. in passing through the western mountains below falls.

Note the balance of Novr. and December between the Mountains & Pacific Ocean.

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Lewis & Clark Expedition Weather Journals, 1805, Page 217
Daily Narrative Journals

Clark

a Cloudy morning wind from the West but not hard. A good Situation for winter quarters if game can be had is just below Sepulchar rock on the Lard Side. The falls mountain [Mount Hood] covered with Snow is South. Here the mountains are high on each Side, those to the Lard. Side has Some Snow on them at this time, more timber than above and of greater variety.

Gass

We embarked early in a cloudy morning. In the evening we discovered a high mountain to the south, not more than five miles off, covered with snow (Mt. Hood). We have here still water; and the breadth of the river is from three quarters to a mile.

Ordway

a cloudy morning. The current gentle. Saw Snow on a mountain on the Lard Side—

Whitehouse

a cloudy cool morning. We proceeded on in the gentle current. We saw mountains lying on the South side of the River; a distance back from it; Covered with timber, which had Snow lying on them.

Wednesday, October 30

Weather Diary

rained moderately all day. arrived at the Grand rapids. Saw a different Species of ash.

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Daily Narrative Journals

Clark

A cool Cloudy morning. moderate rain all the last night. Rained moderately all day we are wet and cold. The day proved Cloudy dark and disagreeable with Some rain all day which kept us wet. Rained all the evening, a wet disagreeable evening. This part of the river resembles a pond partly dreaned leaving many Stumps bare both in & out of the water, current about 1 mil pr. Hour. Saw 4 Cascades caused by Small Stream falling from the mountains on the Lard. Side, a remarkable circumstance in this part of the river is, the Stumps of pine trees are in maney places are at some distance in the river, and gives every appearance of the rivers bing damned up below from Some cause which I am not at this time acquainted with, the current of the river is also verry jentle and about 3/4 of a mile in width. Examine the Shute and river below.

Gass

The morning was cloudy. It rained hard all day.
Ordway a cloudy morning. The River wide and Strait the current gentle. The after part of the day rainy and foggy. A number of the Savages came to our Camp and Signed to us that they were Surprized to See us they thought we had rained down out of the clouds.

Whitehouse cool and cloudy morning. The river verry Strait and wide current gentle. The after part of the day rainy and foggy. These savages were Surprized to See us they Signed to us that they thought we had rained down out of the clouds. Continued raining. The rain continued the greater part of this night—

Expedition portages past the Cascades of the Columbia (the “Great Shute” “Great Rapids of the Columbia”) just above present-day Bonneville Dam.

Thursday, October 31

Weather Diary

Som rain last night and this morning.

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Daily Narrative Journals

Clark  A cloudy rainy disagreeable morning. At a mile lower is a verry Considerable rapid at which place the waves are remarkably high. I could not See any rapids below for in the extent of my view which was for a long distance down the river, which from the last rapids widened and had everry appearance of being effected by the tide— This great Shute or falls is about ½ mile with the water of this great river Compressed within the Space of 150 paces...water passing with great velocity forming & boiling in the most horriable manner. The Shute, must be the Cause of the rivers daming up to Such a distance above, where it Shows Such evidant marks of the Common current of the river being much lower than at the present day.

Gass The morning was cloudy.

Ordway Cloudy. This Shoote is full of rocks and roles verry high waves &.C. The after part of the day pleasant.

Whitehouse This morning was cool & Cloudy. About 9 oClock AM the weather cleared off and
became pleasant.
**November 1805**  
Lewis and Clark Expedition  
Weather Diary & Daily Narrative Journals

The Expedition camped near the Cascades of the Columbia River (The Great Shute) near present-day Bonneville Dam.

Friday, November 1

**Weather Diary**

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2 Lewis kept no weather data for this month. Clark wrote a combined table for October, November and December of 1805.

3 Although not stated, when looking through the daily journal entries, it looks like the weather record entered into the table above was conducted generally in the morning.

4 No river observations were made during the month of November.

**Daily Narrative Journals**

**Clark**  
A verry Cool morning, wind hard from the NE

**Gass**  
We had a cool frosty morning. We carried down our baggage...we could not go into the water, without uneasiness on account of the cold.

**Ordway**  
a fair morning. The wind high from the NE and cold.

**Whitehouse**  
a clear morning. The wind rose high from the NE and cold.

**Expedition proceeds into the initial tidal water of the lower Columbia River system.**

Saturday, November 2
Weather Diary

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Daily Narrative Journals

Clark  The river wider and bottoms more extencive. River about 2 miles wide. The ebb tide rose here about 9 Inches, the flood tide must rise here much higher.

Ordway  a fair morning. The river got more Smooth the current gentle wide and Strait. Saw a number of Spring runs flowing from the high clifts and Mountains. Some of which falls off about 100 feet perpinticular.

Whitehouse  a clear morning but cool. The Riv. got Smooth the current verry gentle &c. The river wide and Strait the remdr. of the day. Great number of springs runs, and Springs flowing from the high clifts and mountains and fell off down 100 feet or more.  

5 Mention of these falls may be the Multnomah and other falls in Multnomah County, Oregon.

On November 3 and 4 the party moves by present-day Portland, OR, but does not see the confluence of the present-day Willamette and Columbia Rivers.

Sunday, November 3

Weather Diary

a thick fog which continud untill meridian cleared off and was fair the remainder of the day.

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  The fog so thick this morning we did not think it prudent to Set out...we could not see a man 50 Steps off, this fog detained us untill 10 oClock at which time we Set out. The water rose 2 Inches last night the effects of tide. The water Shallow for a great distance from shore. The fog continued thick untill 12 o’clock

Gass  The morning was foggy. At 9 we proceed on ,but could not see the country we were passing, on account of the fog, which was very thick till noon when it disappeared, and we had a beautiful day. We see the high point of a mountain covered with snow, in about a southeast direction from us. (Mt. Hood)

Ordway  a foggy morning. We perceive the tide rise and fall a little at this place. We saw the round mountain some distance a head which we expect is the Same which was discovred by Lieut. Hood and is called Hoods Mountain.

Whitehouse  a foggy morning & we delayed setting out till about 9 oClock AM. The fog So thick this morning that we cannot See more than one hundred yards distance. Agreeable to all calculations it cannot be more than two hundred miles from this to the ocean. We then set out abt. 9oC. and proceeded on the fog continued So thick that we could Scarsely See the Shores or Islands. We Saw a high round mountain on the Lard Side which we expect is the Same we Saw abo. the great falls and the Same that Lieut. Hood gave an account off. ( it is nearly coved. with Snow). River verry wide better than a mile in general. About 2 oClock PM...the weather now got clear & pleasant.

Monday, November 4

Weather Diary

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Daily Narrative Journals

Clark  A cloudy cool morning, wind from the west. Tide rose last night 18 inches perpndicular at Camp. High tide at 6 o’clock pm. Verry worm. Saw Mount Hellen (Mt. St. Helens)...it is emensely high and covered with Snow, riseing in a kind of Cone perhaps the highest pinecal from the common leavel in america. The river here is 1 ½ miles wide, and current jentle.

Gass  a fine morning. The tide raised the water last night 2 feet. In the evening we saw Mount Rainy (Mt. St. Helens) It is a handsome point of a mountain, with little or

Lewis & Clark Expedition Weather Journals, 1805,  Page 223
no timber on it, very high, and a considerable distance off this place.

Ordway cloudy. The tide Ebbs and floes abt. 3 feet at this place discovered a high round mountain some distance back from the River on the Stard side which is called mount rainy— (probably Mt. St. Helens)

Whitehouse This morning was cold, foggy & cloudy. We are now tide way, the tide fell during last night 2 feet perpendicular, and is on the rise this morning. The river wider.

Tuesday, November 5

Weather Diary

Commenced raining at 2 PM and continued to rain with intervale throughout the day. Saw 14 Garter Snakes.

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Daily Narrative Journals

Clark Rained all the after part of the last night, rain continues this morning. We are all wet Cold and disagreeable, rain Continues & encreases. My feet and legs cold. I saw 17 Snakes to day on a Island, but little appearance of Frost at this place. Here the river is about one and a half miles wide The day proved Cloudy with rain the greater part of it, we are all wet cold and disagreeable. I Saw but little appearance of frost in this valley which we call Wap-pa-too Columbia

Gass Some rain fell last night about 2 o’clock, and the morning was cloudy. We proceed on in the afternoon, during which some rain and a little hail fell. Here the tide rises and falls 4 feet.

Ordway hard rain the later part of last night. We had several small showers of rain

Whitehouse it began to rain about one oClock last night and continued to rain till day light. This morning was Cloudy. Found the river run very strait, & grew wider. We had frequent small showers of rain. This evening continued Rainey. The river was about 1 miles wide at this place.
Wednesday, November 6

Weather Diary

rained the greater part of the day moderately.

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Daily Narrative Journals

Clark  a cold (cool) wet rany morning.  Wind high a head. Cloudy with rain all day, we are all wet and disagreeable

Gass  We set out early in a cloudy morning after a disagreeable night of rain.

Ordway  Several Showers of rain in the course of last night.   The wind rose from the west towards evening so that the waves run high.

Whitehouse  Several Showers of rain in the course of last night.  The tide Ebbs & flows abst. 3 feet pertular.  This morning was cloudy & wet.  We also passed several small springs.  Towards evening we had the Wind blowing hard from the Westward & the Waves ran very high.

Expedition moves into the Columbia River estuary and proceeds to the mouth and interface with the Pacific Ocean between November 7  and December 6, 1805.

Thursday, November 7

Weather Diary

Thick fog this morning which Continued untill 11 AM.  Cleared off and was fair until meridian, Several havy Showers dureing the evening

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Clark’s Journal Codex I lists this weather data as “ra r  fog.”
Daily Narrative Journals

Clark  
a Cloudy fogey morning, a little rain. We delayed 1 ½ hour & set out the tide being up one of our Canoes Seperated from us this morning in the fog. The rain continued untill 9 oclock moderated. Several marshey Islands towards the Lard Side the Shape of them I can’t See as the river is wide and day foggy. The fog So thick we could not See across the river. rain Continued moderately all day our Small Canoe which got Seperated in the fog this morning joined us this evening. We are in view of the opening of the Ocian, which Creates great joy. Some high mountains to the S.W. on the top of one is Snow. Ociain in View! O! The joy. Great joy in camp we are in View of the Ocian, this great Pacific Octean which we been So long anxious to See. and the roreing or noise made by the waves brakeing on the rockey Showers (as I Suppose) may be heard distinctly

Gass  
a foggy morning. At this place the river is about 3 miles wide

Ordway  
a foggy cool morning.

Whitehouse  
a cool foggy morning. These Islands were Marshy & were covered with Grass, & had Water laying in different parts of them.

Friday, November 8

Weather Diary

rained moderately

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Daily Narrative Journals

Clark  
a cloudy morning Some rain and wind Cloudy and disagreeable all the day. After dinner we took the advantage of the returning tide & proceeded on to the 2nd point, at which place we found the Swells too high to proceed. The Swells Continued high all the evening river wide & at this place too Salt to be used for drink. here we found the Swells or Waves so high that we thought it imprudent to proceed; we landed unloaded and drew up our Canoes. Some fine rain all day at intervals, we are all wet and disagreeable, as we have been for Several days past, and our present Situation a very disagreeable one in as much as we have not leavel land Sufficent for an encampment and for our baggage to lie cleare of the tide. The Seas

Lewis & Clark Expedition Weather Journals, 1805, Page 226
roled and tossed the Canoes in such a manner this evening that Several of our party were Sea sick. Ocean 4142 Miles from the Mouth of Missouri R.

Gass  The morning was cloudy, and there was a hard wind from the east. We had to coast round (a bay), as the wind raised the waves so high we could go no other way. The waves ran so high we were obliged to lie to, and let the tide leave our canoes on dry ground. In crossing the bay when the tide was out, some of our men got sea sick, the swells were so great. The whole of this day was wet and disagreeable

Ordway  a Cloudy morning. The waves high tossed us abt. We can see along distance a head. We expect we can See the mo. of the Columbian River. We bet it appears a long distance off. The waves roled So high that we were obliged to land on the Same Shower Stard. Side and took great pains to keep the canoes from filling with water. The river water is getting so brackish that we cannot drink of it at full tide. The evening rainy—

Whitehouse  This morning we had cool cloudy weather. Shortly after the wind rose & blew from the SE very hard, & the River got so rough, that we were tossed very much in our Canoes. Entered into a Bay, or wide place about 7 Miles wide, which continued as far as our Eyes could discern. Found the waves running so high, that we were obliged to land about 3 oClock. We found the River water at this place brackish.

Saturday, November 9

Weather Diary

rained all day with wind

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Daily Narrative Journals

Clark  The tide of last night did not rise Sufficiently high to come into our camp, but the Canoes which was exposed to the mercy of the waves &c. which accompanied the returning tide, they all filled and with great attention we Saved them untill the tide left them dry. wind Hard from the South, and rained hard all the fore part of the day, at 2 oClock P M the flood tide came in accompanied with emence waves and heavy winds, floated the tree and Drift which was on the point on which we Camped and tossed them about in such a manner as to endanger the canoes very much. Our camp entirely under water dureing the hight of the tide, every man as wet as water could make them all the last night and to day all day as the rain continued all day, at 4 oClock P M the wind Shifted about to the SW and blew with great violence
immediately from the Ocean for about two hours, notwithstanding the disagreeable Situation of our party all wet and cold (and one which they have experienced for Several days past) they are chearfull and anxious to See further into the Ocean, The water of the river being too Salt to use we are obliged to make use of rain water. At this dismal point we must Spend another night as the wind & waves are too high to proceed. The rain Continud all day—

Gass

The morning was windy, rainy and disagreeable, and we were obliged to remain at Cape Swell (Grays Bay) all day. We had no fresh water, except what rain we caught by the putting out our vessels. We remained here all night, and the rain continued.

Ordway

rained hard the greater part of last night, and the wind rose so high NW that we had to unload the canoes in the night. This morning wet rained the most part of the day and the wind so high up the River that Caused the tide to raise much higher than common So we had to move our loads and some of the Camps further from Shore.

Whitehouse

It rained the greater part of last night, & the Wind blew very hard from the SE, which caused the Waves to run so very high, that all hands...employed unloading canoes...The morning we had wet weather & rainey, & it rained the most part of this day— The wind continued high, which caused the tide to rise, much higher than a common tides.

Sunday, November 10

Weather Diary

rained all day with wind

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Daily Narrative Journals

Clark

rained very hard the greater part of the last night & continues this morning, the wind has lulued and the waves are not high. We loaded our canoes and proceeded on. About 12 o’clock the wind rose from the NW and the swells become so high, we were compelled to return about 2 miles to a place where we could unload our canoes. We are all wet also our bedding and maney other articles. We are all employed untill late drying our bedding. We are all wet the rain haveing continued all day

Gass

We had a rainy morning, but the wind was not so high as it had been yesterday. Proceeded on....where we found swells so high, the wind having risen, that we could not proceed any further. After we had been here about 2 hours, it became calm, and...
we loaded our canoes again, but could not get around the point, the swells were still so high. It rained hard all night, and was very disagreeable. The water is become very salt.

**Ordway**

considerable of rain fell last night. A rainy morning. The waves not So high as yesterday. Continued raining hard abt. noon the wind rose So high that obledged us to turn back from a point of rocks and roe about 2 miles back into a cove. The wind contind.So high that we could not proceed.

**Whitehouse**

We had rain the greater part of last night & a wet rainey morning, but the Waves did not run so high as they did Yesterday. We continued on our way, it raining hard on us, ‘till about noon; when it ceased. The wave then ran so high that we had to turn back and went up river about 2 miles.

**Monday, November 11**

**Weather Diary**

rained all day with wind

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**Daily Narrative Journals**

**Clark**

A hard rain all the last night, dureing the last tide the logs on which we lay was all on float, ....about 12 oClock 5 Indians came down in a canoe, the wind verry high from the SW with most tremendous waves brakeing with great violence against the Shores, rain falling in torrents, we are all wet as usial – and our Situation is truly disagreeable one; the great quantities of rain which has loosened the Stones on the hill Sides and the Small ones fall on us. Rained all day.. The tide was 3 hours later to day than yesterday and rose much higher.

**Gass**

The morning was wet and the wind still blowing, so that we could not proceed. still had enough, as we have not tents, or coverings to defend us, except our blankets and some mats we got from the Indians, which we punt on poles to keep off the rain. It continued raining and blowing all day; and at 4 o’clock in the afternoon the tide was so high that we had to leave our lodges, until it got lower in the evening.

**Ordway**

rained hard the greater part of last night. A rainy wet morning. Our Robes all wet as we have no Shelter that will keep the rain from us. The wind continued so high that we did not attempt to move this day. These Savages went in their canoe across the River in the high waves.

Lewis & Clark Expedition Weather Journals, 1805, Page 229
Whitehouse  It rained hard the greater part of last night, which made it very disagreeable to us all. The greater part of our Men had nothing to Shelter them from the rain, & were obliged to lay down in it, & their Cloathes were wet through. This morning continued wet & rainey, the wind was high, & the swell in the river ran verry high, & we did not attempt to move from this place—

Tuesday, November 12

Weather Diary

violent wind from the SW acompanied with Hail thunder and lightning, the Claps of Thunder excessively loud and Continued form 3 to 6 AM. Cleared off a Short time & raind untill 12 oClock Cleared off an hour and rained again. (Lewis) the rain has been pretty generally falling Since the 7th inst. (Clark)

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Daily Narrative Journals

Clark  A Tremendious wind from the SW about 3 oClock this morning with Lightineng and hard claps of Thunder, and Hail which Continued untill 6 oClock a.m. in intervals when it became light for a Short time, then the heavens became sudenly darkened by a black cloud from the SW and rained with great violence untill 12 oClock, the waves tremendous brakeing with great fury against the rocks and trees on which we are encamped. our Situation became Seriously dangerous.

It would be distressing to a feeling person to See our Situation, at this time all wet and colde with our bedding &c. also wet, in a Cove Sercely large enough to Contain us, our Baggage in a Small holler about ½ mile from us, and Canoes at the mercey of the waves & drift wood. It was clear at 12 for a short time, I observed the Mountains on the opposit Side was covered with snow— I observe great numbers of Sea guls, flying in every direction— Rain Continued

Gass  A cloudy wet morning, after a terrible night of rain, hail, thunder and lightning. The rain still continued, and the river remained very rough.

Ordway  a hard Storm continued all last night, and hard Thunder lightning and hail this morning. We Saw a mountain on opposite Shore covered with Snow. The rain continued hard all day.

Whitehouse  We had a hard storm the greater part of last night, & hard thunder, lightning, & hail
this morning. We saw a high mountain which lay on the opposite to where we were encamped covered with snow. The rain continued hard during the most part of this day.

**Wednesday, November 13**

**Weather Diary**

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**Daily Narrative Journals**

**Clark**

Some intervales of fair weather last night, rain and wind continue this morning. ...trees verry high & thick Cannot determine the precise course of the winds. Rain all day moderately, I am wet &c.&c. The Hail which fell 2 nights past is yet to be Seen on the mountains. The rain continuing and weather proved So cloudy that I could not See any distance. The rain continue all day. The tides at every flud come in with great swells brakeing against the rocks & drift trees with great fury— if we were to have cold weather to accompany the rain which we have had for this 6 or 8 days passed we must eneviatibly Suffer verry much as Clothes are Scerce with us.

**Gass**

This was another disagreeable rainy day at 9 o’clock in the forenoon it became a little more calm than usual

**Ordway**

hard rain continued all last night a rainy morning. As the wind continues So high that obledges us to stay—

**Whitehouse**

The storm continued & hard rain during last night, and this morning rainey disagreeable weather. Our Buffalo robes are getting rotten, and the most part of our baggage were wet. We have a very disagreeable time of it, the most part of our Men having slept in the rain, ever since this storm began, & are continually wet. The waves continued high & the Storm continued during the whole of this day.

**Thursday, November 14**

**Weather Diary**

a blustery rainey day
**Daily Narrative Journals**

**Clark**

rained all the last night without intermission, and this morning wind blows verry hard, but our Situation is Such that we cannot tell from what point it comes. one of our canoes is much broken by the waves dashing it against the rocks in high tide. The rain &c. which has continued without a longer intermition than 2 hours at a time for ten days past has distroyd. the robes and rotted nearly one half of the fiew clothes the party has, particularley the leather clothes if we have cold weather before we can kill & Dress Skins for clothing the bulk of the party will Suffer verry much. The rain Continue all day. Rained as usial all the evening, all wet and disagreeable Situated.

**Gass**

We expected last night to have been able to proceed on this morning, but the rain continued, and the river still remained rough, and we are therefore obliged to lie by. 3 men returned...as the swells ran so high that they could not possibly get the canoe along. The weather continued wet, and the most disagreeable I had ever seen.

**Ordway**

the Storm continues, and obledges us to Stay in this disagreeable harbour with nothing but pounded Sammon to Eat.

**Whitehouse**

We had considerable quantity of rain during last night, & this morning we had wet rainey weather. About 10 oClock AM the weather cleared off, & in the afternoon it became tolerable calm weather.

**Friday, November 15**

**Weather Diary**

The after part of this day fair and calm for the first time since the 5th instant. and no rain move our encampment.

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Lewis & Clark Expedition Weather Journals, 1805, Page 232
Daily Narrative Journals

Clark  
Rained all the last night at intervales of sometimes of 2 hours, This morning it became calm & fair, I prepared to set out at which time the wind sprung up from the SE and blew down the River & in a fiew minits raised such swells and waves brakeing on the Rocks at the Point as to render it unsafe to proceed. The sun shown untill 1 oClock P.M. which gave an oppertunity for use to dry some of our bedding & examine our baggage.

The rainey weather continued without a longer intermition than 2 hours at a time, from the 5th in the morn. untill the 16th is eleven days rains, and the most disagreeable time I have experenced confined on a tempiest coast wet, Scerce Provisions, and torrents of rain poreing on us all the time— , where I can neither git out to hunt, return to a better situation, or proceed on; in this situation have we been for Six days past, fortunately the wind luled and the river became calm about 3 oClock we loaded in great haste and set out passed the blustering Point below which is a sand beech. The waves became very high Evening fare & pleasent.

Gass  
This morning the weather appeared to settle and clear off, but the river remained still rough. About 1 o’clock when the water became more calm we loaded and set out from our disagreeable camp. Went about 3 miles into a bay and halted on a sand beach, in full view of the ocean, at this time more raging than pacific.

Ordway  
a wet morning. About 10 oClock AM cleared off the after part of the day calm and pleasant.

Saturday, November 16

Weather Diary

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  
Cool the latter part of the last night this morning Clear and butifull. The Sea is fomeing and looks truly dismal to day, from the wind which blew hard to day from the SW. The evening proved Cloudy and I could not take any Luner observations. On the Lard side...a pinical of which is now covered with Snow or hail,

Gass  
This was a clear morning and the wind pretty high. We could see the waves, like small mountains, rolling out in the ocean, and pretty bard in the bay. We are now at
the end of our voyage, which has been completely accomplished according to the intention of the expedition, the object of which was to discover a passage by the way of the Missouri and Columbia rivers to the Pacific Ocean; notwithstanding the difficulties, privations and dangers, which we had to encounter, endure and surmount. The day being clear we got our baggage dried

Ordway a clear cool morning.

Whitehouse A clear cool morning. We are now in plain view of the Pacific Ocean. The waves rolling, & the surf roaring very loud. We are now of opinion that we cannot go any further with our Canoes, & think that we are at an end of our Voyage to the Pacific Ocean, and as soon as discoveries necessary are made, that we shall return a short distance up the River & provide our Selves with Winter Quarters.

Sunday, November 17

Weather Diary

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<th>Sunrise</th>
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Daily Narrative Journals

Clark A fair cool morning wind from the East. The tides rises at this place 8 feet 6 inches and comes in with great wave brakeing on the Sand beech on which we lay with great fury

Gass We had a fine pleasant clear morning.

Ordway a clear morning.

Whitehouse This morning we had clear pleasant weather.

Monday, November 18

Weather Diary

Cloudy .... (Lewis) I proceed the Ocean. (Clark)

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<tr>
<th>Sunrise</th>
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Lewis & Clark Expedition Weather Journals, 1805, Page 234
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**Daily Narrative Journals**

**Clark**
A little Cloudy this morning. here I found Capt. Lewis name on a tree, I also engraved my name, & by land the day of the month and year, as also Several of the men. Some rain in the after part of the night. Men appear much Satisfied with their trip beholding with astonishment the high waves dashing against the rocks & this emence Ocian.

**Gass**
The morning was cloudy.

**Ordway**
Cloudy. Set out in order to go down and see the passific ocean. —towards evening we arived at the Cape disapointment on the Sea Shore. Went over a bald hill where we had a handsom view of the ocean.

**Whitehouse**
We had a cloudy morning.

**Tuesday, November 19**

**Weather Diary**

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<th>Sunrise</th>
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**Daily Narrative Journals**

**Clark**
I arose early this morning from under a Wet blanket caused by a Shower of rain which fell in the latter part of the the last night. raind. …it Comenced raining and continued moderately unill 11 oClock A M.

**Gass**
We had a cloudy, rainy morning

**Ordway**
cloudy a light Sprinkling of rain the later part of last night

**Whitehouse**
A cloudy morning.

**Wednesday, November 20**
Weather Diary

rained moderately from 6 AM.  (Lewis)  On the 20th untill 1 PM the 21st after which it became Cloudy without rain (Clark)

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<th>Sunrise</th>
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Daily Narrative Journals

Clark     Some rain last night. The Morning Cleared up fare and we proceeded on. The tide being out we walked home on the beech—

Gass     We had a fine clear morning. This day continued clear and pleasant throughout.

Ordway   a fair morning.

Whitehouse A clear pleasant morning.

Thursday, November 21

Weather Diary

rained all last night untill 1 PM and Cleared away and was Cloudy without rain

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<th>Sunrise</th>
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Daily Narrative Journals

Clark     A cloud morning. the Wind blew hard from the SE which with the addition of the flood tide raised verry high waves which broke with great violence against the shore throwing water into our camp the fore part of this day Cloudy Morng. dark & Disagreeable, a Supriseing Climent. We have not had One cold day Since we passed below the last falls or great Shute & Some time before. The Climent is temperate, and the only change we have experienced is from fair weather to rainey windey weather— at 12 oClock it began to rain and continud all day moderately. Some
wind from the SE   Waves too high for us to proceed on our homeward bound journey.

Gass A cloudy morning. The wind blew so violent to day, and the waves ran so high, that we could not set out on our return, which it is our intention to do as soon as the weather and water will permit. The season being so far advanced, we wish to establish our winter quarters as soon as possible. The night was very wet and disagreeable.

Ordway a cloudy and a little rain.

Whitehouse A cloudy morning, and a light sprinkling of rain fell. The swell in the River rain so high that it detain’d us, at our Camp from going up the River again, to look our for Winter Quarters, which our officers intended as soon as the Weather would permit, and the Season of the Year advancing made it absolutely necessary that it should be the case— The Season of the Year, is generally cold at this place, but at the present time it was very pleasant. The evening was rainey

Friday, November 22

Weather Diary

rained all day   wind violent from the SE (Lewis) The wind violent from the SSE throwing water of the R over our Camp and rain continued all day. (Clark)

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<th>Sunrise</th>
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Daily Narrative Journals

Clark A moderate rain all the last night with wind, a little before Day light the wind which was from the SSE blew with Such Violence that we wer almost overwhelmed with water blown from the river, this Storm did not sease at day but blew with nearly equal violence throughout the whole day accompaned with rain. O! how horriable is the day— waves brakeing with great violence against the Shore throwing the Water into our Camp &c. all wet and Confind to our Shelters. The Storm Continued all day with equal violence accompanied with rain.

Gass This was a rainy and stormy morning. The wind blew very hard from the south, and the river was rougher than it has been since we came here. At noon the tide was higher than common. The rain and wind continued all day violent.

Ordway a hard Storm arose the later part of last night and continues raining and the wind high
from the SW the waves rolled so high and the tide raised much higher than common. Dashed one of our canoes against the logs and was near Splitting it before we got it out. Damaged it and obliged us to move some of our Camps—

**Whitehouse**

A hard Storm arose in the course of last night accompanied with Rain, & it continued raining very hard & the wind High from the So West. This caused the tide of flood to rise much higher, than it commonly did at this place. The Swell ran also to an amazing height. We had also to move some of our Camps, the water being all round them & a rising. It continued raining hard all day—

**Saturday, November 23**

**Weather Diary**

rained all last night to day Cloudy

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**Daily Narrative Journals**

**Clark**

A calm Cloudy morning, a moderate rain the greater part of the last night. Rained at intervales all day. I marked my name the day & year on a Alder tree.

**Gass**

The weather was somewhat cloudy but more calm. In the evening the weather cleared and we had a fine night.

**Ordway**

Still continues rainy and high wind

**Whitehouse**

We had a hard wind blowing the greater part of last night, & it rained powerfully. This morning it moderated, both with regard to Wind & Rain. The evening was pleasant

**Sunday, November 24**

**Weather Diary**

rained moderately for a Short time this morning
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<th>Sunrise</th>
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**Daily Narrative Journals**

**Clark**
A fare morning. This day proved to be fair which gave us an opportunity of drying our wet articles. ...advantages of being near the Sea Coast one most striking one occurs to me i.e., the Climate which must be from every appearance much milder than that above the 1st range of mountains (where the climate must be more severe—). The Indians are slightly clothed and give an account of but little snow, and the weather which we have experienced since we arrived in the neighbourhood of the Sea Coast has been very warm, and many of the few days past disagreeably so. If this should be the case it will most certainly be the best situation of our naked party dressed as they are altogether in leather.

**Gass**
The morning was fine with some white frost. As this was a fine clear day, it was thought proper to remain here in order to make some observations, which the bad weather had before rendered impossible. At the head of the bay the river is 3 miles and 660 yards wide. At night, the party were consulted by the Commanding Officers, as to the place most proper for winter quarters; and the most of them were of opinion, that it would be best, in the first place, to go over to the south side of the river, and ascertain whether good hunting ground could be found there.

**Ordway**
a clear pleasant morning. A white frost. The Calumbian River at this place is three miles 660 yards wide. Our officers conclude with the opinion of the party to cross the River and look out a place for winter quarters.

**Whitehouse**
A white frost this morning, & the weather clear & pleasant. The river Columbia at this place is 3 miles from the Sea & 660 Yards wide. Our officers went out and took down Notes on several remarkable points &ca. which they could not before have done, on account of the badness of the weather. In the evening our Officers had the whole party assembled in order to consult which place would be the best, for us to take up Winter Quarter at. The greater part of our Men were of opinion; that it would be best, to cross the River...

**Monday, November 25**

**Weather Diary**

Some Showers of rain last night
Temporary Weather Journals, 1805, Page 240

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<tr>
<th>Temp</th>
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**Daily Narrative Journals**

**Clark**
A fine day. The Swells too high to cross the river. The evening Cloudy the Winds of to day is generally ESE    Mt. St. Hilians Can be Seen from the mouth of this river.

**Gass**
The morning was pleasant, though cloudy, with a white frost.

**Ordway**
a clear pleasant morning. Attempt to cross the river but the waves so high that the canoes were near filling. So we turned back to Shore again.

**Whitehouse**
We had a clear pleasant morning. Up river 9 miles...attempted to cross it, but the Waves ran so high that we found it impracticable.

**Tuesday, November 26**

**Weather Diary**

rained all day with Some hard Showers. the wind not so violent as it has been for Scveral days past. (Lewis) Some rain on the morning of the 23rd and night of the 24th instant. (Clark)

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**Daily Narrative Journals**

**Clark**
Cloudy and some rain this morning from 6 oClock. Wind from the ENE. We had rain all the day all wet and disagreeable. We found much difficulty in procureing wood to burn, as it was raining hard, as it had been the greater part of the day.

**Gass**
The morning of this day was cloudy and wet. The whole of the day was wet and unpleasant

**Ordway**
a Cloudy wet morning. The day rainy and cold.

**Whitehouse**
A cloudy wet morning, & we set out early. We continued on still down the River;
the day being wet, cold and very disagreeable.

Wednesday, November 27

**Weather Diary**

violent wind and hard all day. Campd. At Pt. William (Lewis) rained moderately all day a hard wind from the SW which compelled us to lie by on the isthmus of point William on the South Side. (Clark)

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<th>Sunrise</th>
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**Daily Narrative Journals**

Clark

Rain all the last night and this morning it Continues moderately— The Swells became high and rained so hard we Concluded to halt and dry our Selves, Soon after our landing the wind rose from the East and blew hard accompanied with rain, this rain obliged us to unload & draw up our Canoes. The water at our Camp Salt that above the isthmus fresh and fine—

Gass

a wet morning; coasted round, and turned a sharp cape (Tongue Point) about a mile; when we found swells running so high that we had to halt. Had a very wet night.

Ordway

rained all last night. We could perceive a considerable of current in the River. The waves ran So high that obledged us to halt at an old fishery. Hard rain.

Whitehouse

A rainey wet morning & cold. The Rain continued hard all this day—

Thursday, November 28

**Weather Diary**

a tremendous Storm from the NW in the after part of the day. rained all last night and to daye. (Lewis) The wind which was from the SW Shifted in the after part of the day to the NW and blew a Storm which was tremendous. rained all the last night and to day without intermission. (Clark)
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<th>Sunrise</th>
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**Daily Narrative Journals**

**Clark**  
Wind Shifted about to the SW and blew hard accompanied with hard rain. Rained all the last night. Wind so high to go either back or forward. This is our present situation, truly disagreeable. About 12 oClock the wind Shifted about to the NW and blew with great violence for the remainder of the day at many times it blew for 15 to 20 minits with such violence that I expected every moment to see trees taken up by the roots. Many were blown down. Those Squalls were Succeeded by rain, O! how Tremendious is the day. This dreadfull wind and rain Continued with intervals of fair weather all the latter part of the night. O! How disagreeable is our situation during this dreadfull weather.

**Gass**  
We had a wet windy morning. It rained all day; an we had here no fresh water, but what was taken out of the canoes as the rain fell.

**Ordway**  
a hard Storm. The wind high from the N. West. Hard rain all day—

**Whitehouse**  
We had a very heavy Storm during the whole of last night, & the wind blowing hard from the Westward this morning. It rained the greater part of this day. The Wind rose from the North West & became a perfect storm

**Friday, November 29**

**Weather Diary**

rained all last night hard, and to day moderately I descend with 5 men in a canoe to examine the Country.

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**Daily Narrative Journals**

**Lewis**  
The wind being so high the party were unable to proceed with the perogues. It rained upon us by showers all day. Encamped at an old Indian hunting lodge
which afforded us a tolerable shelter from rain, which continued by intervales throughout the night—

Clark

Blew hard and rained the greater part of the last night and this morning much more moderate. The waves Still high and rain Continues. The Swells and waves being too high for us to proceed down in our large Canoes, in Safty— The winds are from Such points that we cannot form our Camp So as to prevent the Smoke which is emencely disagreeable, and painfull to the eyes.

Gass

The weather continues cloudy and wet. There were some showers of rain and hail during the day.

Ordway

Showery and Some hail in the course of the day.

Whitehouse

It rained very hard all last night, & continued showery this morning. The weather continued showery & some hail fell during this day—

Saturday, November 30

Weather Diary

rained and hailed with short intervales throughout the last night, Some thunder and lightninge.

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Daily Narrative Journals

Lewis

cloudy morning. It rained but little on us today tho’ it was cloudy generally— Wind from the NE.

Clark

Some rain and hail with intervales of fair weather for the Space of one or two hours at a time during the night until 9 oClock this morning, at which time it Cleared up fair and the Sun Shown.

Gass

This was a fair day. The whole of the day was fair, pleasant and warm for the season.

Ordway

the after part of the day clear.

Whitehouse

We had several hard showers of rain, & some hail fell during last night, and this morning after day light it cleared off.
December 1805
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

The Expedition is at the mouth of the Columbia River near Astoria, Oregon searching for a location to establish winter camp.

Sunday, December 1

*Weather Diary* ¹, ²

rained last night and Some this morning.

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2 Lewis kept no weather data for this month. Clark wrote a combined table for October, November and December of 1805.

3 Although not stated, when looking through the daily journal entries, it looks like the weather record entered into the table above was conducted generally in the morning.

4 No river observations were made during the month of December.

*Daily Narrative Journals*

**Lewis**

Cloudy morning wind from the SE.

**Clark**

Cloudy windey morning wind from the East. The Wind rose so high that I could not proceed. Began to rain hard at Sun Set and Continud. The Sea which is imedeately in front roars like a repeated roling thunder. The emence Seas and waves which breake on the rocks & Coasts to the SW & NW roars like an emence fall at a distance, and this roaring has continued ever Since our arrival in the neighbourhood of the Sea Coast which has been 24 days Since we arrived in Sight of the Great Western; (for I cannot Say Pacific) Ocian as I have not Seen one pacific day Since my arrival in its vicinity, and its waters are forming and petially (perpetually) breake with emenc waves on the Sands and rockey Coasts, tempestous and horiable.

**Gass**

The whole of this day was cloudy.
Ordway a cloudy morning.

Whitehouse A dark cloudy morning. We had in the course of this day a little rain, & all anxiously waiting for the arrival of Captain Lewis.

Monday, December 2

Weather Diary

rained all the last night and untill meridian cloudy the remained of the day.

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Daily Narrative Journals

Clark Cloudy with some little rain this morning. The evening...fair moon Shineing night—

Gass The day was agin cloudy and wet. In the evening the weather became clear, and we had a fine night.

Ordway a Cloudy wet morning.

Whitehouse A cloudy wet morning.

Tuesday, December 3

Weather Diary

rained all the last night & to day untill meridian and became fair &c. (Lewis) fair from 12 to 2 PM rained all the last night & this morning. Rained the night of the 1st and morning of the 2 and Cloudy the remainder of the day. rained at intervales the night of the 2d instant with constant hard and Sometimes violent winds. (Clark)

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Daily Narrative Journals

Clark    a fair windey morning wind from the East. Wind Continues to blow. I marked my name on a large pine tree immediately on the isthmus William Clark December 3rd 1805. By Land from the U. States in 1804 & 1805— Some rain this afternoon and evening.

Gass    The morning was foggy. The greater part of the day was fair, but in the evening it clouded over and rained again.

Ordway   Cloudy

Whitehouse    This morning cloudy.

Wednesday, December 4

Weather Diary

rained all day

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Daily Narrative Journals

Clark    Some little rain all the last night, this morning the rain and wind increased from the SE. a Spring tide to day rose 2 feet higher than Common flood tides and high water at 11 oClock. Hard wind from the SE this afternoon Hard wind from the South this evening. Rained moderately all day and the waves too high for me to proceed in Safety to the bay as I intended.

Gass    We had a cloudy rainy morning. The river was so rough we could not set with the canoes. The rain continued all day.

Ordway   a rainy wet morning. Continued Storming & high wind all day—

Whitehouse    A rainey wet morning. The day continued Rainey, the Wind blew hard & the weather was stormy.

Lewis & Clark Expedition Weather Journals, 1805, Page 246
Thursday, December 5

Weather Diary

rained all last night and today I return to Capt Clark (Lewis) rained yesterday, last night, and moderately to day; all day wind violent in the after part of the day. .... (Clark)

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<th>Sunrise</th>
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<th>River</th>
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Daily Narrative Journals

Clark  
Some hard showers of rain last night, this morning Cloudy and drisley, in the bay the Shower appear harder. High water to day at 12 oClock this tide is 2 inches higher than that of yesterday. All our Stores again wet by the hard Showers of last night. Capt. Lewis’s long delay below has been the cause of no little uneasiness on my part for him, 1000 conjectures has crowded into my mind respecting his probably Situation & Safty— rained hard. The repeated rains and hard winds which blows from the SW renders it impossible for me to move with loaded Canoes along an unknown Coast we are all wet & disagreeable; Rain continued all the after pt. of the day accompanied with hard wind from the SW which prevents our moveing from this Camp.

Gass  
Again we had a wet stormy day, so the men were unable to proceed with the canoes. There is more wet weather on this coast, than I ever new in any other place; during a month, we had three fair days’ and there is no prospect of a change.

Ordway  
rainy dissagreeable weather.

Whitehouse  
We had hard rain & stormy weather; which was very disagreeable. It continued raining the whole of this day—

Friday, December 6

Weather Diary

rained last night and all day to day wind no violent in the after part of the day fair in the eving. (Lewis) rained all last night and to day untill 6 oClock at which time it Clear’d away and became far. the winds also Seased to blow violent. (Clark)
Sunset

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</table>

Daily Narrative Journals

Clark
The wind blew hard all the last night with moderate rain, the waves verry high. This morning the wind which is Still from the SW increased and rain continued all day, about Dusk the wind Shifted to the North and it Cleared up and became fair weather. The high tide of today at 12 oClock is 13 inches higher than yesterday.

Gass
We had another wet morning At noon it rained very hard, and the tide flowed so high, that in some part of our camp the water was a foot deep; we had therefore to remove to higher ground. In the afternoon it still continued it still to rain hard.

Ordway
about noon the Storm arose and the tide raised about 2 feet higher than common so that the water came in to our Camp So that we moved our Camps to higher ground. The Storm cont. all day.

Whitehouse
A rainey disagreeable morning, & the Wind continued high. About 1 oClock PM it blew a storm, and the tide rose about 2 feet perpendicular higher, than it had been, since we are at this place, & over flowed some of our Camps, which obliged us to move them to higher ground, than they were first at; the Storm still continued, & the Rain extinguish’d our fires, & made it exceedingly disagreeable to us. Towards evening the Weather cleared up, & it became a little more pleasant,

After traveling back up river, the party crosses and searches for a suitable location for winter quarters. The Expedition established Fort Clatsop on December 7, 1805 and remain here for winter quarters until they leave on March 23, 1806. This site is near present-day Astoria, OR. Calculated milage by William Clark using dead reckoning place the distance from St. Louis to the mouth of the Columbia River at 4, 162 miles. He was within 40 miles of the actual distance. (Duncan and Burns, 1997, 159; Ambrose, 1998, 175)

Saturday, December 7

Weather Diary

rained from 10 to 12 and at 2 PM leave Pt. William (Lewis) last night fair day leave Point William a hard wind from the NW and a Shower of rain at 2 PM. (Clark)
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### Daily Narrative Journals

**Clark**

Some rain from 10 to 12 last night, this morning fair. We proceeded on against the tide the waves very high. This day fair except about 12 oClock the wind became hard from the NE and some rain which lasted 2 hours and cleared away.

**Gass**

About 12 last night the rain ceased and we had a fine clear morning. The swells being too high here to land we went two miles further.

**Ordway**

The morning clear. The waves ran very high. The hunters...no meat....the distance so great and the weather so bad that they brought no meat. The waves rolled very high. The River [Lewis and Clark River] is about 100 yds wide at this place but the tide water extends further up.

**Whitehouse**

This morning clear & cold. The wind rose, & the wind caused the Waves to rise also. The Waves ran so high, that we could not land. Wet set off, the Waves running very high—

### Sunday, December 8

**Weather Diary**

Cloudy after a moderate rain last night.

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5 Clark’s Journal Codex I lists this weather data as “c.”

### Daily Narrative Journals

**Clark**

A Cloudy morning. Some rain this evening. We made a Camp of the Elk Skin to keep off the rain which Continued to fall.

**Gass**

We had a fine fair morning, with some white frost. In the evening, it began to rain again. The country towards the south is mountainous at some distance off, and there is some snow on the mountains.
Ordway  one canoe taken away from the landing by the tide last night.  A hard white frost this morning and cold.

Whitehouse  We had a hard white frost & cold, & windy morning.  The latter part of the day was cold & cloudy, & in the Evening we had a little Rain & high Wind from the North East—

Monday, December 9

Weather Diary

cloudy and rained moderately untill 3 PM.

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Daily Narrative Journals

Clark  rained all the last night  we are all wet.  In the evening it began to rain with a tremendous storm and Continud accompanied with a Violent wind from the SW until 10 oClock PM—

Gass  The morning was cloudy and wet.  It continues cloudy and wet all day.

Ordway  rained the greater part of last night  rained hard all day  found the canoe which the tide took off the other night.

Whitehouse  We had rain the greater part of last night, & it continued raining this morning.

Tuesday, December 10

Weather Diary

a violent wind last night 6 to 9 PM.  river fast with rain.  rained all day. (Lewis)  rained all day and the air cool I return from the Ocean a violent wind last night from the SW rained the greater part of the night of the 8th and all day the 9th int.  (Clark)

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</table>
Daily Narrative Journals

Clark  a Cloudey rainey morning. I proceeded on to my Camp thro a heavy Cold rain. The day was Cloudy I could not See distinctly— rained nearly all day

Gass  We had another wet cloudy morning; and all hands were employed at work notwithstanding the rain.

Ordway  rained hard the most of the day

Whitehouse  It rain’d the most part of this day.

Wednesday, December 11

Weather Diary

rained moderately all last night and to day

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  rained all the last night moderately. The rain continued moderately all day.

Gass  This day was so cloudy and wet.

Ordway  rained the greater part of the day.

Whitehouse  A wet morning & the party continued cutting logs... It continued raining the greater part of this day—

Thursday, December 12

Weather Diary

rained moderately all last night and to day
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<th>Sunrise</th>
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Daily Narrative Journals

Clark Some moderate showers of rain at intervals all last night and to day.

Gass This morning was cloudy without rain. Some rain fell in the evening.

Whitehouse It was cloudy the whole of this day.

Friday, December 13

Weather Diary

rained moderately all last night and to day

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Daily Narrative Journals

Clark Some showers of light rain last night, and to day several very hard Showers.

Gass We had a cloudy, but fine morning. The day continued cloudy and some rain fell in the evening.

Ordway cloudy & rain

Whitehouse We had rain & Cloudy weather, during the whole of this day.
Saturday, December 14

Weather Diary

rained moderately all last night and to day

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<th>Sunrise</th>
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Daily Narrative Journals

Clark a cloudy day & rained moderately. All our last supply of Elk has Spoiled in the repeated rains which has been fallen ever Since our arrival at this place, and for a long time before, S cere one man in Camp can b ost of being one day dry Since we landed at this point

Gass In the course of the day a good deal of rain fell; the weather here still continues warm, and there has been no freezing, except a little white frost.

Ordway continues wet and rainy.

Whitehouse This day we had moderate Rain.

Sunday, December 15

Weather Diary

rained all last night and until 8 AM to day after which it was Cloudy all day. (Lewis) rained at Short intervales from the 10th instant until 8 AM to day I with 16 men Set out after meat. (Clark)

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<th>Sunrise</th>
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Daily Narrative Journals

Clark Cloudy all Day. Some rain in the evening. Serjt. Ordway, Colter, Colins, Whitehouse & McNeal Staid out all night without fire and in the rain—
Gass  The morning was cloudy. Some light showers fell during the day.

Whitehouse  We had cloudy weather. We were obliged to say out during the Night. It rained all that night & the wind blew very cold & being without fire, we suffered considerably both from the Rain & wind.

Monday, December 16

Weather Diary

rained all the last night. air Cold wind violent from the SW accompanied with rain.—

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  Rained all the last night. We covered our selves as well as we could with elk skins & set up the greater part of the night, all wet, I lay in water very cold, a most dreadful night the rain continues, with Tremendious gusts of wind. The winds violent from the SE. With some risque proceeded on thro high waves in the river, a tempestious disagreeable day. Trees falling in every direction, whorl winds, with gusts of rain Hail & Thunder, this kind of weather lasted all day, Certainly one of the worst days that ever was!

Gass  This was a wet morning with high wind. The men who were out...had a very bad night, as the weather was stormy and a great deal of rain fell. Notwithstanding this, a serjeant and four men, who had got lost, lay out all night without fire. The whole of the day was stormy and wet.

Ordway  rained hard all last night and cold we Suffered with wet & cold all last night. Hard rain and high wind.

Whitehouse  It rained very hard during this day. We had hard Rain & some hail in the afternoon also.

Tuesday, December 17

Weather Diary

rained all last night and to day untill 9 AM when we had a Shower of hail for an hour and Cleared off.
**Sunrise** | **4 PM** | **River**
---|---|---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
---|---|---|---|---|---|---|---|---
- | far & h | SW | - | - | - | - | - | -

**Daily Narrative Journals**

**Clark**

Sunset: 4 PM

Some rain last night and a continuation of it this morning. The fore part of this day rained hailed and blew hard, the after part of the day fair & Cool. The mountain which lies SE about 10 miles distant is covered with Snow on its top which is ruged and uneavin.

**Gass**

This was another cloudy day, with some light showers of rain and hail.

**Ordway**

a little Snow and hail fell last night and continues this morning.

**Whitehouse**

We had during last night some Snow & hail & it continued the same this morning. A little snow remained on the pine trees the whole of this day.

**Wednesday, December 18**

**Weather Diary**

rained Snowed and hailed at intervales all the last night and to day untill meridian.

**Sunrise** | **4 PM** | **River**
---|---|---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
---|---|---|---|---|---|---|---|---
- | carsh | SE | - | - | - | - | - | -

**Daily Narrative Journals**

**Clark**

rained and Snowed alternetly all the last night, and Spurts (gusts) of Snow and Hail Continued untill 12 oClock, which has chilled the air, Cold disagreeable Dreadfull day, the wind hard and unsettled. At 12 the Hail and Snow Seased, and the after part of the day was Cloudy with Some rain.

**Gass**

Snow fell last night about an inch deep, and the morning was stormy. In the middle of the day the weather became clear, and we had a fine afternoon.

**Ordway**

cloudy and rain. A little hail and frozen rain & cold—
Whitehouse  This day was cloudy with some Rain.  The day grew very cold, & some hail fell.

Thursday, December 19

Weather Diary

rained [and hailed] last night and Several Showers of Hail and rain to day.  the air Cool.

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Daily Narrative Journals

Clark  Some rain with intervales of fair weather last night, this morning Clear & the wind from the SW.  The after part of the Day Cloudy with Hail and rain.

Gass  This was a fine clear cool morning; and we expected to have some fair pleasant weather, but at noon it became cloudy again and began to rain.

Ordway  rained all last night, and continues hard this morng.

Whitehouse  It rained hard all last night, & continued the same this morning.

Friday, December 20

Weather Diary

Some rain and hail last Night  the rain Contd. untill 10 AM

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Daily Narrative Journals

Clark  Some rain and hail last night and this morning it rained hard untill 10 oClock.  The after part of the day Cloudy with Several Showers of rain—
The morning was cloudy and wet—about 10 o’clock the weather became clear; but before night it rained as fast as before.

cloudy and rain. About 10 o’Clock cleared off, but rained again before evening—

A Cloudy wet morning, & continued so the whole of this day. We continued on building our huts, notwithstanding the badness of the weather—

Saturday, December 21

Weather Diary

rained last night and to day

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Daily Narrative Journals

Clark rained as usual all the last night and contd. moderately all day to day without any intermition.

Gass had occasional rain and high winds but the weather continued warm

Ordway Still continues raining by we Still kept at work finishing our huts to make ourselves comfortable &C—

Whitehouse A cloudy wet dy as usual, but rather warm.

Sunday, December 22

Weather Diary

rained last night and to day

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Daily Narrative Journals

Clark  rained Continued all the last night and to day without much intermition. We discover that part of our last Supply of meat is Spoiling from the womph [warmth] of the weather not withstanding a constant Smoke kept under it day and night.

Gass  had occasional rain and high winds but the weather continued warm

Ordway  high wind all last night. The weather rainy warm & wet.

Whitehouse  Cloudy & wet weather, the Air Warm & Wind blowing from the Southwest

Monday, December 23

Weather Diary

rained all last night and moderately to day with Several Showers of Hail accompanied with hard Claps of Thunder and Sharp Lightning. (Lewis)  rained 21 & 22 all day & night (Clark)

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Daily Narrative Journals

Clark  rained without intermition all the last night and to day with Thunder and some Hail the morning and evening with rain this day.

Gass  had occasional rain and high winds but the weather continued warm

Ordway  nothing extraordinary hapened more than common this day—

Whitehouse  Cloudy & wet weather, the Air Warm & Wind blowing from the Southwest

Tuesday, December 24

Weather Diary

rained at intervales last night and to day.
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**Daily Narrative Journals**

**Clark**  
Some hard rain at Different times last night, and moderately this morning and the rest of the day without intermition. A hard rain in the evening.

**Gass**  
had occasional rain and high winds but the weather continued warm

**Ordway**  
hard rain as usual.

**Whitehouse**  
Cloudy & wet weather, the Air Warm & Wind blowing from the Southwest

**Wednesday, December 25**

**Weather Diary**

rained at intervales last night and to day.

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**Daily Narrative Journals**

**Clark**  
Some rain at different times last night and Showers of hail with intervales of fair Starr light. worm Day. The day proved Showerey wet and disagreeable.

**Gass**  
Was another cloudy wet day. had occasional rain and high winds but the weather continued warm

**Ordway**  
rainy & wet. Disagreeable weather. We all moved in to our new Fort. We expect this to be the last winter that we will have to pass in this way—

**Whitehouse**  
We had hard rain & Cloud weather as usual.
Thursday, December 26

Weather Diary

rained with violent wind all last night and to day with Hard Claps of thunder & Sharp Lightning.

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Daily Narrative Journals

Clark  rained and blew hard with great violence SE last night, some hard claps of Thunder, The rain continued as usual all day and wind blew hard from the SE.

Gass  cloudy with rain

Ordway  we found that our huts Smoaked by the high winds and hard Storms hard rain continues as usual—

Whitehouse  We had Stormy weather the whole of this day. It rain’d most part of this day—

Friday, December 27

Weather Diary

rained moderately last night and to day

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Daily Narrative Journals

Clark  rained last night as usual and the greater part of this day. worm weather. Elk meet nearly Spoiled; & this accident of Spoiled meet, is owing to wormth & the repeated rains, which cause the meet to tante before we Can get it from the woods. Musquestors troublesom

Gass  cloudy with rain

Lewis & Clark Expedition Weather Journals, 1805,  Page 260
**Ordway**

hard rain all day—

**Whitehouse**

It continued raining hard during the whole of this day. ...a large fish was drove by the Wind & waves on the shore near to where their lodges were...

**Saturday, December 28**

**Weather Diary**

rained moderately last night and to day

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**Daily Narrative Journals**

**Clark**
nained as usual the greater part of the last night, and this morning rained and the wind blew hard from the SE. This day is very warm, and rained all day without intermition.

**Gass**

cloudy with rain

**Ordway**

Capt. Lewis...three men got ready to go with a canoe to See the whail as we expect it is, but the wind and Storm arose So high that they could not go.

**Whitehouse**

This morning it rained & the wind was so high, that it prevented us from going to see the Whale.

**Sunday, December 29**

**Weather Diary**

rained moderately last night and to day until 7 AM after Cloudy the remained of the day wind hard from the SE (Lewis) rained moderately without much intermition from the 26th until 7 AM this morning hard wind from the SE. (Clark)
Clark rained last night as usual, this morning cloudy without rain, a hard wind from the SE. The wind has proved too high as yet for him to set out in safety. I have the satisfaction to say that we had but little rain in the course of this day, only not as much as would wet a person. But hard wind and cloudy all day but very light rain.

Gass This was a cloudy morning, but a fair day succeeded.

Ordway a fair day.

Whitehouse This day was fine clear pleasant weather, the first fair day we had for a long time past.

Monday, December 30

Weather Diary

Hard wind & rain last night. to day tolerably fair.

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<th>Sunrise</th>
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Daily Narrative Journals

Clark Hard wind and some rain last night. This morning fair and the sun shown for a short time. This day proved the fairest and best we have had since our arrival at this place, only 3 showers of rain this whole day, wind the fore part of the day. Cloudy nearly all day, in the evening the wind lulled and the fore part of the night fair and clear.

Gass Heavy shower of rain fell last night, but the morning was fair, and we had some sunshine, which happens very seldom; light showers of rain fell during the day.

Ordway a fair morning and a little sun shine which is very uncommon at this place.

Whitehouse We had several showers of rain during last night, and this morning was fair; and the sun shone a little which was very uncommon to us—
Tuesday, December 31

Weather Diary

rained last night and moderately all day to day.

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Daily Narrative Journals

Clark       A fair night. Last night was Cloudy and Some rain, this day proved cloudy and Some Showers of rain to day. The fore part of this night fair and clear.

Gass        Another cloudy morning

Ordway      a cloudy morning. We built a box for the centinel to Stand in out of the rain

Whitehouse  A cloudy morning.
January 1, 1806 to September, 30 1806

Wet and disagreeable were the motto of the Corps of Discovery during the winter of 1805-1806 at Fort Clatsop. Endless days of mist, drizzle, rain, thunder and lightning punctuated by three weeks of snow and freezing temperatures resulted in a dreary stay along the Oregon coast. The party occupied their time hunting and boiling ocean water to obtain much needed salt. The Captains spent the hours translating journal entries, visiting neighboring Indian nations and Clark led a small contingent to the Ocean to view a whale. Anxiously wanting to return home with news of their exploits, the Corps set out from Fort Clatsop on March 23, 1806 and proceeded up the flood swollen Columbia River. Missed during their foggy, rainy descent, Clark toured up the Multnomah (Willamette) River reaching a point near modern-day Portland, Oregon. The rapid early Spring waters and strong Columbia River Gorge winds created difficulties for the Corps. Near the Dalles, Oregon, the party purchased horses and traveled by land to the confluence of the Columbia and Walla Walla Rivers. Instead of returning up the Snake River, they followed an overland Indian trail along the Walla Walla River to the confluence of the Snake and Clearwater Rivers.

The Expedition proceeded overland past present-day Lewiston/Clarkston, and Canoe Camp into the heart of the Nez Perce Nation. Finding deep snow in the Bitterroot Mountains, the Indian Chiefs explained that the earliest attempt at the Lolo Trail would be after the flood waters of the Clearwater reduced for at least five days. On June 10 they moved out of the
Clearwater Valley and started up the Lolo Trail. Excessive snowpack from the numerous winter storms produced depths between 10 to 18 feet. The party retreated and made a second attempt on June 25. Safely over the Bitterroots by the end of June, the Expedition split into two parties. Lewis led one group back to the Great Falls of the Missouri and then a smaller party to scout the Marias River. Lewis’ party rejoined the larger group below the falls near the end of July and proceeded down the Missouri to rendezvous with Clark at the confluence of the Yellowstone River. Clark took the other party back to the supplies left at the headwaters of the Missouri (Jefferson River) and then proceeded to the Yellowstone River and followed it back to the Missouri. Rainy and thunderstorm laden afternoons plagued the Corps during the summer of 1806. Both parties re-united east of Williston, ND on August 12 and reached the Mandan Villages on August 14. Staying only a couple of days, the party said goodbye to Interpreter Charbonneau, his wife Sacagawea and son ‘little Pomp” and Expedition member John Colter, and proceeded down the Missouri. Moving at times 60, 70 and 80 miles a day, the Expedition passed Souix City, Iowa on September 4 and paid respects to the only Expedition member to die, Sergeant Charles Floyd. Returning to the sultry mid-section of America, the Corps passed Kansas City on September 15. Just as it had bid them farewell in May of 1804, the rains greeted their return to the confluence of the Missouri and Mississippi and on to St. Louis that last travel day of September 23, 1806.

The systematic entries for the Lewis and Clark Expedition daily narrative journals as well as that of the army sergeants and privates were taken every day in 1806. However, not every journalist noted weather, water or climate data each day. Different journals and notebooks were used during the Expedition. For a more detailed explanation on the journals and entry practices consult. (Cutright, 1976) and (Moulton, 1986, 2: 8-48; and 530-567)
January 1806
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

The Expedition established Fort Clatsop on December 7, 1805 near present-day Astoria, Oregon and remain here for winter quarters until they leave on March 23, 1806 on their return trip back to St. Louis and the United States of America.

Wednesday, January 1

**Weather Diary**

sun visible for a few minutes about 11 AM. the changes of the weather are exceedingly sudden. sometimes tho’ seldom the sun is visible for a few moments the next it hails & rains, then ceases, and remains cloudy the wind blows and it again rains; the wind blows by squalls most generally and is almost invariably from SW these visicitudes of the weather happen tow three or more times half a day. Snake seen 25th Decembr.

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1 Reference: Coues, Volume III, pages 1276, 1291-92; Moulton, Volume 6, pages 258-262; Thwaites, Volume 6, Part II, pages 202-205.

2 No data for rivers was recorded while the party was camped at Fort Clatsop.

**Daily Narrative Journals**

Clark This morning proved cloudy with moderate rain, after a pleasant worm night during which there fell but little rain— Some fiew Showers of rain in the Course of this day. Cloudy all the day.

Gass The year commenced with a wet day; but the weather still continues warm; and the ticks, flies and other insects are in abundance, which appears to us very extraordinary at this season of the year, in a latitude so far north.

Ordway a pleasant morning.

Whitehouse The Morning was pleasant. The Winters here are not very Cold, & the ground has not as yet been cover’d with Snow this Winter.

Lewis & Clark Expedition Weather Journals, 1806, Page 3
Thursday, January 2

Weather Diary

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Daily Narrative Journals

Clark
A cloudy rainy morning after a wet night. The day proved Cloudy and wet.

Gass
This was a cloudy wet day

Ordway
rained the greater part of last night and continues this morning.

Whitehouse
It rained the greater part of last night, and continued to rain hard this morning. We had hard Showers of rain during this whole day.

Friday, January 3

Weather Diary

the sun visible for a few minutes only. The thunder and lightning of the last evening was violent. a Singular occurrence for the time of year. the loss of my Thermometer I most sincerely regret. I am confident that the climate here is much warmer than in the same parallel of Latitude on the Atlantic Ocean tho’ how many degrees is now out of my power to determine. Since our arrival in this neighbourhood on the 7th of November, we have experienced one slight white frost only which happened on the morning of the 16th of that month. we have yet seen no ice, and the weather so warm that we are obliged cure our meat with smoke and fire to save it. we lost two parcels by depending on the air to preserve it, tho’ it was cut in very thin slices and sufficiently exposed to the air.

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Daily Narrative Journals

Lewis & Clark Expedition Weather Journals, 1806, Page 4
Clark
The Sun rose fair this morning for the first time for Six weeks past, the Clouds Soon obscure it from our view, and a Shower of rain Suckceeded— last night we had Sharp lightening a hard thunder Suckceeded with heavy Showers of hail, and rain, which Continud with intervales of fair moon Shine dureing the night.

Gass
The weather is still cloudy and wet. Rain still continued

Ordway
hard Thunder hail and rain the greater part of last night.

Whitehouse
We had hard thunder, hail & Rain the greater part of last night, & light showers of rain this morning.

Saturday, January 4

Weather Diary

the sun visible about 2hours

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Daily Narrative Journals

Gass
The morning was wet.

Ordway
Small Showers of rain and hail as usual.

Whitehouse
We had small showers of rain & some hail this morning. The Rain continued the greater part of this day—

Sunday, January 5

Weather Diary

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</table>
**Daily Narrative Journals**

**Gass**
This was a very wet day. I, however, notwithstanding the cold, stript and swam to the raft, brought it over and then crossed on it in safety. The rain and wind continued so violent that we agreed to stay at these camps all night.

**Ordway**
a wet rainy morning.

**Whitehouse**
A wet rainey morning.

**Monday, January 6**

**Weather Diary**

the sun shown about 5 hours this evening & it continued fare during the night.

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**Daily Narrative Journals**

**Lewis**
The humidity of the air has been so excessively great.

**Clark**
all last night rained without intermition, & the morning. Soon after I arrived in the Bay the wind Sprung up from the NW and blew So hard and raised waves so high that we were obliged to put into a Small Creek Short of the village. The evening a butifull Clear moon Shiney night, and the 1st fair night which we have had for 2 months

**Gass**
We had a fair morning and the weather cleared up, after two months of rain, except 4 days.

**Ordway**
about 9 oClock AM cleared off pleasant and warm.

**Whitehouse**
About 7 oClock the Weather cleared off, & became warm & pleasant which continued during the whole of this day—
Tuesday, January 7

Weather Diary

it clouded up just about sunset, but shortly after became fair.

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3 Clark’s Journal Codex I lists this weather data as “c a f.”

Daily Narrative Journals

Lewis this is the first day during which we have had no rain since we arrived at this place. Nothing extraordinary happened today—

Clark Some frost this morning. I hesitated a moment & view this emence mountain the top of which (apd) was obscured in the clouds.

Gass Another fine day.

Ordway clear and pleasant. Contn. Clear all day which is a very uncommon thing at this place.

Whitehouse We had a clear pleasant night, & still continues so this morning; which is rare to be met with at this place at this Season of the Year.

Wednesday, January 8

Weather Diary

lost my PM obstn. for Equal Altitudes.

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Daily Narrative Journals

Lewis In the consequence of the clouds this evening I lost my PM observation for Equal
Altitudes, and from the same cause have not been able to take a single observation since we have been at this place.

**Clark**  
The last night proved fair and Cold wind hard from the SE. a fine morning wind hard from the SE. The high tide obliged me to delay untill late before the tide put out. A fair night wind blew from the SE.

**Gass**  
Another fine day.

**Ordway**  
a clear warm morning–

**Whitehouse**  
A fine warm morning.

**Thursday, January 9**

**Weather Diary**

began to rain at 10 PM and continued all night.

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**Daily Narrative Journals**

**Clark**  
a fine morning wind NE. Day Clouded up. Day proved fine. Rained the greater part of the night.

**Gass**  
fair and pleasant. during the night some rain fell.

**Ordway**  
rained the greater part of lat night but cleared off pleasant this morning, and continues warm

**Whitehouse**  
It rained the greater part of last night The Weather cleared off this morning & became warm & pleasant.

**Friday, January 10**

**Weather Diary**

Various flies and insects now alive and in motion.
**Daily Narrative Journals**

**Clark**  
arrived at the fort, wet and Cold at 9 oClock PM. I arrived at the Canoes about Sunset, the tides was Comeing in.

**Gass**  
The morning was fine

**Ordway**  
a clear pleasant day.

**Whitehouse**  
A Clear pleasant day. ...several small Indian Villages...which lived on the Whales that were thrown ashore by the Waves, in tempestuous Weather.

**Saturday, January 11**

**Weather Diary**

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**Daily Narrative Journals**

**Lewis & Clark**  
this morning the Sergt. Of the guard reported the absence of our Indian Canoe, on enquiry we found that those who came in it last evening had been negligent in securing her and the tide in the course of the night had taken her off.

**Gass**  
Pleasant

**Whitehouse**  
And this morning, we had pleasant weather. We had rain towards night—
Sunday, January 12

Weather Diary

cool this morning but no ice nor frost at miday sand flies and insects in motion the wind from any quarter off the land or along the NW Coast causes the air to become much cooler. every species of waterfowl common to this country at any season of the year still continues with us.

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Daily Narrative Journals

Ordway a fair morning.

Whitehouse A Clear pleasant Morning.

Monday, January 13

Weather Diary

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Daily Narrative Journals

Lewis The bay in which this trade is carried on is spacious and commodious, and perfectly secure from all except the S and SE winds, these however are the most prevalent and strong winds in the Winter season.

Clark The Bay in which this trade is Carried on is Spacious and Commodious, and perfectly Secure from all except the S and SE winds and those blow but Seldom the most prevalent & Strong winds are from the SW and NW in the winter season.

Gass The weather changed and we had a cloudy wet day

Ordway rained hard all last night and continues this morning.

Lewis & Clark Expedition Weather Journals, 1806, Page 10
Whitehouse  It rained during the whole of last night and continues Raining this morning.

Tuesday, January 14

Weather Diary

weather perfectly temperate  I never experienced a winter so warm as the present has been.

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^4 Clark’s Journal Codex I lists this wind direction as “NW.”

Daily Narrative Journals

Lewis & Clark  This morning the Sergt. of the Guard reported the absence of one of the large peroques, it had broken the chord by which it was attached and the tide had taken it off....found her.  We now directed three of the peroques to be drawn up out of reach of the tide.

Gass  The morning was pleasant

Ordway  the tide water took away one of our canoes but we Soon found it again

Whitehouse  A fine pleasant morning.

Wednesday, January 15

Weather Diary

Saw several insects, weather warm, we could do very well without fire, I am satsifyed that the murcury would stand at 55 a 0.

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Daily Narrative Journals
Lewis we had determined to send out two hunting parties today but it rained so incessantly that we postponed it.

Clark rained hard all day.

Gass wet throughout

Ordway rained hard the greater part of the day.

Whitehouse It rained hard, & we had stormey weather

Thursday, January 16

Weather Diary

wind hard this morning rained incessently all night.

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Daily Narrative Journals

Lewis ....every one appears content with his situation and his fare. It is true that we could even travel now on our return as far as the timbered country reaches, or to the falls of the river; but further it would be madness for us to attempt to precede untill April, as the indians inform us that the snows lye knee deep in the plains of Columbia during the winter, and in the these plains we could scarceley get as much fuel as would cook our provision as we descended the river; and even were we happyly over the plains and again in the woody country at the foot of the Rocky Mountains we could not possibly pass that immense barrier of mountains on which the snows ly in winter to the debth in many places of 20 feet; in short the Indians inform us that they are impracticable untill about the 1st of June, at which time even there is an abundance of snow but a scanty subsistence may be obtained for the horses. We should not therefore forward ourselves on our homeward journey be reaching the rocky mountains. Early than the 1st of June, which we can easily effect by setting out from hence on the 1st of April.

Gass wet throughout

Ordway the rain & Storm high wind continues as usal.

Whitehouse It rained hard, & we had stormey weather
Friday, January 17

Weather Diary

rained incessently all night, insect in motion

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Daily Narrative Journals

Gass some cloudy, but about 10 o’clock they disappeared and we had a fine day

Whitehouse It continued stormy all last night, and this morning Wet & rainy.

Saturday, January 18

Weather Diary

rained very hard last night

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Daily Narrative Journals

Gass Last night was very dark; and early in it rain came on and continued all night. This day is also wet.

Ordway hard rain all last night, and continues as usual.

Whitehouse It rained hard all last night, & still continued the same this morning. It continued Raining during the whole of this day.
Sunday, January 19

**Weather Diary**

rained the greater part of last night.

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**Daily Narrative Journals**

**Gass**

morning was fair with flying clouds; but in the evening it began to rain again.

**Ordway**

moderate Showers of rain.

**Whitehouse**

This morning we had moderate showers of rain

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Monday, January 20

**Weather Diary**

rained greater part of night  wind hard

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**Daily Narrative Journals**

**Gass**

It rained hard all day.  The evening was so wet and stormy.

**Ordway**

rainy and wet.

**Whitehouse**

Wet & rainey weather during the whole of this day.  Nothing material occured worth mentioning.
Tuesday, January 21

**Weather Diary**

wind hard this morning   continued all day

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</tbody>
</table>

**Daily Narrative Journals**

**Gass**

rain

**Ordway**

Cloudy and rain.

**Whitehouse**

A Cold cloudy day with Rain.

Wednesday, January 22

**Weather Diary**

wind violent last night & this morning

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<th>Sunrise</th>
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**Daily Narrative Journals**

**Clark**

Some rain this day at intervals—

**Gass**

rain. I saw some amazingly large trees of the fir kind; they are from 12 to 15 feet in diameter.

**Ordway**

a hard Storm of rain and very high wind. We had a disagreeable time of it.

**Whitehouse**

A hard storm of Wind & Rain. A very disagreeable time of it.
Thursday, January 23

Weather Diary

the sun shown about 2 h in the fore noon   when the sun is said to shine ore the weather fair it is to be understood that it bearly casts a shaddow, and that the atmosphere is haizy of a milkey white colour.

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<th>Sunrise</th>
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</table>

<sup>5</sup> Clark’s Journal Codex I lists this weather data as “c a r t & l.”

Daily Narrative Journals

Gass  We had a fine clear cool morning   the day continued pleasant until about 4 o’clock in the afternoon, when the weather became cloudy, and it began to rain.

Ordway  a little Thunder and hail in the course of last night   high wind &C—

Whitehouse  We had during last night thunder & some hail Showers.  It rained & we had high wind during this day—

Friday, January 24

Weather Diary

this morning the snow covered the ground and was cooler than any wether we have had, but no ice

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</table>

Daily Narrative Journals

Clark  The nativs of this neighbourhood ware no further Covering than a light roabe, their feet legs & every other part exposed to the frost Snow & ice &c.

Gass  At daylight some snow fell, and there were several snow showers during the day.  The Indians were barefooted notwithstanding the snow on the ground; and the
evening was so bad we permitted them to stay in the fort all night.

**Ordway**
a light Snow fell the later part of last night. Several Showers of rain and hail this morning.

**Whitehouse**
Last night we had a light snow, which hardly made the ground white, & some showers of rain & hail fell during this day.

**Saturday, January 25**

**Weather Diary**

the ground covered with snow this morning ½ inch deep ice on the water in the canoes 1/4 of an inch thick. it is now perceptibly colder than it has been this winter.—

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**Daily Narrative Journals**

**Gass**
The morning was cloudy and some showers of snow fell in the course of the day; and in the night it fell to the depth of 8 inches.

**Ordway**
froze a little last night, and a little more Snow fell intermixet with hail. Continues Squawly this morning.

**Whitehouse**
We had snow during last night & it continued snowing lightly this morning. The ground had froze a little.

**Sunday, January 26**

**Weather Diary**

at 4 PM last evening the snow was one Inch deep at sunrise this morning 4 ½ (Clark has 4 3/4 written down) inches deep icesickles of 18 Inches in length hanging to the eves of the houses. colder than it has been the snow this evening is 4 3/4 inches deep, the icesickles of 18 inches in length continued suspended from the eves of the houses during the day. it now appears something like winter for the first time this season.
### Daily Narrative Journals

**Lewis & Clark**

(evergreen huckleberry) this shrub retains its virdure very perfectly during the winter and is a beautifull shrub.

**Gass**

some light showers during the day, but the evening the weather cleared up and it began to free hard. This is the first freezing weather of any consequence we have had during the winter.

**Ordway**

considerable of Snow fell in the course of last night and continues this morning, and cold freezing weather the Snow is this evening about 5 Inches deep on a level—

**Whitehouse**

During last night we had considerable Snow & it continued snowing this morning. The weather was cold & freezing & the Snow lay on the ground during this day 5 Inches deep on a level It continued Snowing ‘till the Evening.

### Monday, January 27

**Weather Diary**

the sun shone more bright this morning than it has done since our arrival at this place. the snow since 4 PM yesterday has increased to the debth of 6 Inches, and this morning is perceptibly the cooldest that we have had. I suspect the Murcery would stand at about 20° above naught’ the breath is perceptible in our room by the fire.

### Daily Narrative Journals

**Lewis & Clark**

a county almost inaccessible from the fallen timber, brush and sink-holes, which were now disguised by the snow.

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</table>
This was a clear cold frosty morning, and the snow about 9 inches deep. Where the sun shone on it during the day, a considerable quantity melted; but these places were few as the whole face of the country near this is closely covered with fire timber.

froze hard last night  a clear cold morning

It froze hard during last night, & this morning was clear & cold.

Tuesday, January 28

Weather Diary

last night exposed a vessel of water to the air with a view to discover the depth to which it would freeze in the course of the night, but unfortunately the vessel was only 2 inches deep and it froze the whole thickness; how much more it might have frozen had the vessel been deeper is therefore out of my power to decide. it is the coldest night that we have had, and I suppose the mercury this morning would have stood as low as 15° above 0.—

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Daily Narrative Journals

the badness of the weather and the difficulty of the road had caused their delay. The Elk had been killed just before the snow fell which had covered them and so altered the apparent face of the county that the hunters could not find the Elk

A clear cold morning, and the weather continued cold all day. About half of our men were employed in bringing home meat; and it was found a very cold uncomfortable business.

a clear cold morning, and freezing hard.

A Clear cold morning, & freezing weather. I got during this day my feet severely frost bit—
Wednesday, January 29

Weather Diary

not so could, water in a vessel exposed to the [air] during the night freized 3/8ths of an inch only.

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Daily Narrative Journals

Lewis & Clark  _Sac a commis_ - this shrub is an evergreen, the leaves retain their virdure most perfectly through the winter even in the most rigid climate as on lake Winnipic. The frost appears to take no effect on it.

Gass We had a cold clear morning; and the day continued clear throughout.

Ordway froze hard last night a clear cold morning. We do nothing except git wood for our fires &C.

Whitehouse It froze very hard during last night, & this morning was clear cold weather.

Thursday, January 30

Weather Diary

the weather by no means as could as it has been snow feell about one inch deep

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Daily Narrative Journals

Lewis & Clark the Clatsops - they never wear leggins or mockersons which the mildness of this climate I presume has rendered in a great measure unnecessary
Gass
the weather was cloudy and not so cold as the day before; and some snow fell.

Ordway
Cloudy and cold. Some fine Snow fell this morning. The evening clear and cold—

Whitehouse
This day Cold & Cloudy, & some Snow fell, in the fore part of this day. In the Evening we had clear cold weather.

Friday, January 31

**Weather Diary**

this morning is plesant, the night was clear and cold. notwithstanding the could weather the Swan white Brant geese & ducks still continue with us; the sandhill crain also continues.— the brown or speckled brant are mostly gone some few are still to be seen the Cormorant loon and a variety of other waterfowls still remain. The Winds from the Land brings us could and clear weather while those obliquely along either coast or off the Oceans bring us warm damp cloudy and rain weather. the hardest winds are always from the SW.

The blue crested Corvus bird has already began to build it’s nest. their nests are formed of small sticks; usually in a pine tree.—

Great numbers of Ravens, and a Small black Crow are continually about us. The pale yellow Streiked and dove coloured robin is about, also the little brown ren or fly-catsch which is a little larger than the humming bird.

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**Daily Narrative Journals**

**Lewis & Clark**
Sent a party of eight men up the river this morning to renew their surch for Elk and also to hunt; they proceded but a few miles before they found the river so obstructed with ice that they were obliged to return.

**Gass**
This was a clear cold morning.

**Ordway**
a clear cold freezeing morning. Six men set out a hunting took a canoe found Ice in the River so that they turned back.

**Whitehouse**
A Clear cold morning with frost. Sergt. Gass & party returned, & informed us that the River was froze across a short distance up it & that the could not proceed—
February 1806  
Lewis and Clark Expedition  
Weather Diary & Daily Narrative Journals

The Expedition remained at their winter quarters at Fort Clatsop near present-day Astoria, Oregon during February 1806.

Saturday, February 1

Weather Diary

the weather by no means as could as it was tho’ it freized last night

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2  No data for rivers was recorded while the party was camped at Fort Clatsop.

Daily Narrative Journals

Lewis & Clark  
This morning 5 went to find the Elk which had been killed some day since, and which could not be found in consequence of the snow.

Gass  
We had a fine clear cold morning.

Ordway  
a clear cold morning.

Whitehouse  
A clear cold morning.

Sunday, February 2

Weather Diary

the bald Eagle still remains.
### Daily Narrative Journals

**Gass**

The morning was pleasant and the weather more moderate. About the middle of the day it began to thaw and in the evening rain.

**Ordway**

the weather moderate. In the afternoon cloudy & a little Snow— but not any worth mentioning.

**Whitehouse**

We had a clear morning, & the day was moderate. In the evening it was cloudy & a little Snow fell—

### Monday, February 3

**Weather Diary**

the snow fell about half an inch, but the rain which succeeded soon melted it at 9 AM the sun shone. the rain which fell in the latter part of the night freized and formed a slight incrustation on the snow which fell some days past, and also on the boughs of the trees &c. yesterday it continued fair until 11 AM when the wind vered about to SW and the horizon was immediately overcast with clouds, which uniformly takes place when the wind is from that point.

### Daily Narrative Journals

**Lewis & Clark**

the winds was so high that they were unable to set out untill a little before sunset, when they departed; at 10 PM they return excessively could and informed us that they could not make land on this side of the bay nor get into the creek in consequence of the tide being out and much lower than usual.

**Gass**

Some light showers of rain fell in the course of the night; and this day is still somewhat wet and cloudy.
Lewis & Clark Expedition Weather Journals, 1806, Page 24

**Ordway**

a little frozen rain. Six men set out with a canoe after the meat, but the wind So high that obledged them to return.

**Whitehouse**

We had a little frost, & the weather has moderated since Yesterday. Six men went out...but soon returned the wind being too high for them to proceed. In the evening they attempted it again, but the tide was so low that they could not get near the Shore.

**Tuesday, February 4**

**Weather Diary**

the last night clear and could the Netul frozen over in several places. all the waterfowls before innumerated still continue with us. the bird which resembles the robbin have now visited us in small numbers saw two of them yesterday about the fort; they are gentle.

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**Daily Narrative Journals**

**Gass**

This was a fine clear morning. This day continued throughout clear and pleasant.

**Ordway**

a clear pleasant morning. Tide high—

**Whitehouse**

A Clear pleasant morning. We had a very high tide this day.

**Wednesday, February 5**

**Weather Diary**

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**Daily Narrative Journals**

**Lewis & Clark**
I sent sergt. Gass and party of men over; the tide being in, they took advantage of a little creek...recovered our Indian Canoe, so long lost and much lamented.

**Gass**
clear cool day

**Ordway**
a beautiful pleasant morning.

**Whitehouse**
We had a beautiful pleasant cool morning.

**Thursday, February 6**

**Weather Diary**

very cold last night  
think it reather the coldest night that we have had.  
cloudy at 9 AM

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</table>

³ Clark’s Journal Voorhis No. 2 lists this wind direction as “NW.”

**Daily Narrative Journals**

**Gass**
We had a cool fair morning. 10 of us had to camp out, with the assistance of the elk skins and our blankets, we lodged pretty comfortable, though the snow was 4 or 5 inches deep.

**Whitehouse**
This morning we had pleasant weather.

**Friday, February 7**

**Weather Diary**

continued cloudy all night  
a little snow at 10 AM.
Sunrise | 4 PM | River
---|---|---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
- | c | SW | - | c | SW | - | - | -

**Daily Narrative Journals**

**Gass**
The morning was fair. It rained hard and we had a disagreeable night.

**Ordway**
hard rain &C—

**Whitehouse**
The weather continued pleasant. A short time after dark we had a hard Rain—

**Saturday, February 8**

**Weather Diary**

it was principally rain which fell since 4 PM yesterday, it has caused the snow to disappear the rain of the last night has melted down the snow which has continued to cover ground since the 24th of January; the feeling of the air and other appearances seem to indicate, that the rigor of the winter have passed; it is so warm that we are apprehensive that our meat will spoil, we therefore cut it in small pieces and hang it separately on sticks. Saw a number of insects flying about. the small brown flycatch continues with us. this is the smallest of all the American birds except the humming bird.

Sunrise | 4 PM | River
---|---|---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
- | c a s r & h | SW | - | c a f r h & s | SW | - | - | -

**Daily Narrative Journals**

**Gass**
About noon there were showers of rain and hail

**Ordway**
rained verry hard all last night we had several showers of hail this evening.

**Whitehouse**
It rained very hard the greater part of last night; the Men that went after the meat had a very disagreeable time of it. We had several small showers of rain & hail in the Evening.
Sunday, February 9

Weather Diary

principally rain which has fallen

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Daily Narrative Journals

Gass  We had a fine morning; but in the course of the day we had sometimes sunshine, and sometimes showers of rain.

Ordway  Several Showers of hail in course of the day.

Whitehouse  We had small showers of rain during this day

Monday, February 10

Weather Diary

Snow covered the ground this morning disappeared before evening.  sun shown 2 hours

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Daily Narrative Journals

Gass  A light snow fell last night, the morning was pleasant

Ordway  a fair morning.  A little Snow fell last night.

Whitehouse  We had some Snow fell during last night and this morning the weather was clear & pleasant.
Tuesday, February 11

Weather Diary

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Daily Narrative Journals

Gass This was a fine morning. We went out to hunt and remained out until the 17th during which time there was a great deal of heavy rain, and the weather changeable and disagreeable—During one of the most disagreeable nights, myself and another lay out in our shirts and overalls, with only one elk-skin to defend us from a violent night’s rain. Our shirts and overalls being all of leather made it the more disagreeable

Ordway the after part of the day rainy.

Whitehouse We had a fine clear day. The latter part of the day was rainey—

Wednesday, February 12

Weather Diary

it rained the greater part of last night.

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Daily Narrative Journals

Ordway continues raining.

Whitehouse This day was rainey & wet.
Thursday, February 13

Weather Diary

Wind very hard last evening and all night

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Daily Narrative Journals

Ordway cloudy and rain.

Whitehouse It rained the greater part of last night, and this morning was cloudy.

Friday, February 14

Weather Diary

very small quantity of snow fell last night not enough to cover the ground somewhat colder this morning the sun shown only a few moments.

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Daily Narrative Journals

Lewis &
Clark I completed a map of the Countrey through which we have been passing from the Mississippi at the Mouth of Missouri to this place. We now discover that we have found the most practicable and navigable passage across the Continent of North America. We discovered that there were no salmon in the Flathead river.

Ordway the morning warm and Showers of rain through the course of this day—

Whitehouse This morning was warm, & we had showers of rain during the whole of this day—
Saturday, February 15

Weather Diary

fair most of last night    hard frost this morning. the ground white with it. The robbin returned and were singing which reminded me of spring. some other small birds passed on their flight from the South, but were so high that we would not distinguish of what kind they were. the robbin had left this place before our arrival in November.

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Daily Narrative Journals

Lewis & Clark
Bratton informed that the cause of Sergt. Pryor’s delay was attributeable to the winds which had been so violent for several days as to render it impossible to get a canoe up the creek. The SW winds are frequently very violent on the coast when we are but little sensible of them at Fort Clatsop. (Eastern Columbia Valley) no rain scarcely ever falls in these plains and the grass is short and but thin.

Ordway
a fair day.

Whitehouse
A clear morning.

Sunday, February 16

Weather Diary

but a small quantity of snow nearly all disolved by morning with the succeeding rain. at 11 AM it became fair and the insects were flying about. at ½ after 12 O’Ck it again clouded up and began to rain.

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Daily Narrative Journals

Lewis & Clark Expedition Weather Journals, 1806, Page 30
Monday, February 17

Weather Diary

the hail and snow covered the ground this morning

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Daily Narrative Journals

Gass  The day was stormy

Ordway  a little Snow fell this afternoon.

Whitehouse  during last night some Snow fell.  This Morning the weather clear.

Tuesday, February 18

Weather Diary

wind violent greater part of the day and all night

<table>
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<tr>
<th>Sunrise</th>
<th>4 PM</th>
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Daily Narrative Journals

Lewis & Clark  Sergt. Gass returned and reported that the waves ran so high in the bay that he could not pass to the entrance of the creek.

Gass  The morning of this day war cloudy.  The weather was so stormy, we could not get round the bay, and we all returned to the fort.
Ordway

we found the wind so high at the bay that we hat to return to the Fort. Had Several Squawls of wind & rain.

Whitehouse

This morning clear & pleasant weather. The party that were going to the Salt Camp on arriving at the bay, found the wind blowing so hard, that they returned to the fort— We had several squalls of wind attended with rain in the course of this day—

Wednesday, February 19

Weather Diary

wind violent all day.

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<th>Sunrise</th>
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</table>

Daily Narrative Journals

Gass

The day was very wet and stormy

Ordway


Whitehouse

We had a hard Storm of Rain & high Wind, blowing from the SW. We proceeded on about half way, when the Storm was so high in the Priari, & on the Coast, that we could not proceed without suffering by the Sand blowing in our faces— and the Rain that fell froze & cut our faces likewise. We crossed a Creek, which took us middle deep, which benumbed & Chilled the party very much. We came to an Old deserted Indian hut, in which we made a fire. We staid at this place all night in expectation of the weather being better by morning—

Thursday, February 20

Weather Diary

wind violent all night and the greater part of the day.
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**Daily Narrative Journals**

**Gass**
This was a cloudy morning. The Indians hats are made of cedar bark and silk grass...they keep the rain out. But little rain fell to day.

**Ordway**
The wind continued very high from the SW we Set out eairly and proced. on along the coast facing the wind the Sand cut our faces waided a creek rapid current the waves roles very high and white froth flying &C. (At the Salt Works, near Seaside, Oregon)

**Whitehouse**
The wind still continued very high, blowing from the SW. The wind fell a little.

**Friday, February 21**

**Weather Diary**

the wind continues high this morning & untill evening.

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**Daily Narrative Journals**

**Lewis & Clark**
Drewyer and Collins went in pursuit of some Elk, the tracks of which Collins had discovered yesterday; but it rained so hard that they could not pursue them by their tracks and returned unsuccessfull.

**Gass**
had a very unpleasant day, as it rained hard during the whole of it

**Ordway**
when we got half way Set in to Storming & rained very hard & the wind blew so high that we could not cross the creek in a canoe and waided across and got to the fort about half past 12 oClock the day very disagreeable and Stormey &C.

**Whitehouse**
A Cloudy morning. The party from the Salt works...had come about half way, when
it set in to raining very hard, and the wind blew so hard, that they could not cross the Creek in the Canoe. This party had to wade this Creek. It continued raining very hard which occasioned that party to hurry on & they walked very fast till the arrived at the fort, which was half past 12 oClock AM.

Saturday, February 22

**Weather Diary**

the wind scarcely perceptable

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**Daily Narrative Journals**

Gass This was a fine clear day.

Ordway a fair morning.

Whitehouse We had a pleasant morning, but cool.

Sunday, February 23

**Weather Diary**

heavy frost this morning. at eleven AM it clouded up and continued so all day.

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**Daily Narrative Journals**

Gass clear and pleasant

Ordway a fair morning.
Whitehouse  A pleasant morning.
Monday, February 24

**Weather Diary**

the wind became hard this evening. much warmer this morning than usual. the aquatic and other birds heretofore enumerated continue with us still. the Sturgeon and a small fish like the Anchovy begins to run. they are taken in the Columbia about 40 mils. above us. the anchovy is exquisitely fine.—

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**Daily Narrative Journals**

**Lewis & Clark** we purchased all the articles which these people brought us; we suffered these people to remain all night as it rained, the wind blew most violently and they had their women and children with them.

**Gass** the morning was cloudy and at 10 o’clock it began to rain hard. The rain continued with high stormy wind; and we suffered the Indians to remain in the fort all night.

**Ordway** Cloudy

**Whitehouse** This morning we had Cloudy weather.

Tuesday, February 25

**Weather Diary**

the wind violent all night and this morning continued untill late in the evening when it ceased.

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**Daily Narrative Journals**

**Lewis &**

Lewis & Clark Expedition Weather Journals, 1806, Page 36
Clark  It continued to rain and blow so violently that there were no movement of the party today. I am mortified at not having it in my power to make more celestial observations since we have been at Fort Clatsop, but such has been the state of the weather that I have found it utterly impracticable—

Gass  The rain continued and the weather was story. About 10 o’clock the natives went away, though it continued to rain very fast.

Ordway  a hard Storm of wind and rain. I feel a little better. The Storm contnd’ thro the course of the day—

Whitehouse  This morning a hard Storm of wind arose accompanied with Rain. The storm continued during the whole of this day—

Wednesday, February 26

Weather Diary

at 9 AM it clouded up again

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Daily Narrative Journals

Gass  had a fair morning

Ordway  the morning fair.

Whitehouse  A pleasant morning & Clear weather.

Thursday, February 27

Weather Diary

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Lewis & Clark Expedition Weather Journals, 1806,  Page 37
Daily Narrative Journals

Gass    cloudy wet day

Ordway   a rainy wet morning.

Whitehouse We had a rainey wet morning.

Friday, February 28

Weather Diary

it rained constantly during the last night. the sun shown about 9 AM partially a few minutes saw a variety of insects in motion this morning some small bugs as well as flies. A brown fly with long legs about half the size of the common house fly was the most common. this has been the first insect that appeared it is generally about the sinks or filth of any kind. The yellow and brown flycatch has returned. It is a very small bird with a tail as long proportiably as a Sparrow.

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Daily Narrative Journals

Gass    This was a foggy morning, and the afternoon cloudy. The greater part of this day was fair and pleasant.

Ordway rained very hard the greater part of last night.

Whitehouse It rained the greater part of last night & this day proved wet & Rainey.
March 1806
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

The Expedition remained at the winter quarters of Fort Clatsop near present-day Astoria, Oregon until they leave on March 23, 1806 on their return trip back to St. Louis and the United States of America.

Saturday, March 1

Weather Diary ¹

The clouds interfered in such manner that no observations could be made this morning.— a great part of this day was so warm that fire was unnecessary, notwithstanding it’s being cloudy and raining.

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<th>Sunrise</th>
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² No data for rivers was recorded while the party was camped at Fort Clatsop.

Daily Narrative Journals

Gass had a cloudy wet morning.

Ordway a fair morning. The day Showery and wet.

Whitehouse A pleasant morning. The afternoon proved Showery & wet.
Sunday, March 2

**Weather Diary**

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<th>Sunrise</th>
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**Daily Narrative Journals**

**Gass**  This day was also wet.

**Ordway**  a rainy morning.

**Whitehouse**  This morning rainey & Wet.

---

Monday, March 3

**Weather Diary**

rained and the wind blew hard all night.  Air perfectly temperate.

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**Daily Narrative Journals**

**Gass**  It rained all this day

**Ordway**  hard rain all last night.  A rainy wet day.

**Whitehouse**  We had hard rain all last night, & this morning it sill continued the same, & lasted during the whole of this day.
Tuesday, March 4

Weather Diary

rained constantly most of the night. Saw a Snail, this morning, they are very large.

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Daily Narrative Journals

Gass  It rained all this day

Ordway  rained hard all last night and continues all this day.

Whitehouse  It rained hard all last night, & continued the same during the whole of this day.

Wednesday, March 5

Weather Diary

the air is considerably colder this morng but nothing like freizing.—

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  a high mountain [Saddle Mountain] is Situated S 60° W about 18 miles from Fort Clatsop on which there has been Snow Since Nov.

Gass  About 12 o’clock last night, the rain ceased, and we had a fine morning.

Ordway  a fair morning.

Whitehouse  a pleasant morning.
Thursday, March 6

Weather Diary

altho’ it is stated to be fair this morning the sun is so dim that no observations can be made  
Saw a spider this morning, tho’ the air ir perceptably colder than it has been since the 1\textsuperscript{st} inst.  
— at 9 AM it clouded up and continued so the balance of the day.  
Even the Easterly winds which have heretofore given us the only fair weather which we have enjoyed seem now to have lost their influence in this respect.—

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Daily Narrative Journals

Gass  
This day continued fair throughout.

Ordway  
a fair morning

Whitehouse  
We had a pleasant morning

Friday, March 7

Weather Diary

Sudden changes & frequent, during the day, scarcely any two hours of the same discription.  
the Elk now being to shed their horns.  
a bird of a scarlet colour as large as a common pheasant with a long tail has returned, one of them was seen today near the fort by Capt. Clark’s black man, I could not obtain a view of it myself.

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Daily Narrative Journals

Lewis & Clark  
The wind was so high that Comowol did not leave us untill late this evening.
This was a wet morning, and some shower fell occasionally during the day.

a little hail last night and Showers of hail and rain this morning.

A Rainey wet morning

Saturday, March 8

Weather Diary

the ground covered with hail and snow this morning, air cool but not freizing.—

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Daily Narrative Journals

Some snow fell last night, and the morning was stormy and disagreeable.

we had Showers of hail and rain last night and continues this morning the day cold and Showery—

We had showers of hail during last night; and we have Showers of Rain & hail this morning.

Sunday, March 9

Weather Diary

Snow and hail 1 inch deep this morning air Still cold more so than yesterday but not freizing

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**Daily Narrative Journals**

**Lewis & Clark**
Sergt. Pryor and the fishing party not yet arrived, suppose they are detained by the winds.

**Gass**
There were some light showers of snow this afternoon, but during the greater part of it, the sun shone clear and warm.

**Ordway**
a little snow & hail this morning and cold.

**Whitehouse**
This morning we had Snow & hail

**Monday, March 10**

**Weather Diary**

Snow nearly disappeared by this morning. the air considerably warmer.

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**Daily Narrative Journals**

**Lewis & Clark**
About 1 PM it became fair and we sent out two parties of hunters. It blew hard all day.

**Gass**
changeable weather with snow showers

**Ordway**
Showers of hail and a little Snow intermixed High winds &C.

**Whitehouse**
We had Showers or rain, with Snow and hail. The wind blew hard this day.

**Tuesday, March 11**

**Weather Diary**

snow 1 inch deep this morning air cold but no ice. some insects seen in the evening in motion I attempted to make an observation for Equal Altitudes but the PM obsevtn. was lost in consequence of clouds. it became cloudy at 1 AM and rained attended with some hail at six PM it became fair and
the wind changing to NE it continued fair during the night. the snow had all disappeared by 4 PM this evening.—

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Daily Narrative Journals

Lewis & Clark
Sergt. Pryor...the wind had prevented his going to the fishery on the opposite side of the river.

Gass
The weather was nearly the same as yesterday

Ordway
a little Snow fell last night.

Whitehouse
We had during last night some Snow & this morning we have fair Weather.

Wednesday, March 12

Weather Diary

white frost this morning and ice on the pools of standing water.— it being fair in the morning I again attempted Equal Altitudes but it became cloudy 3 PM and continued so during the day. (Lewis) without any rain (Clark)

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Daily Narrative Journals

Lewis & Clark
The Whale...tho I believe it is much more frequently killed by running on the rocks of the Coast to the SSW in violent Storms, and thrown on different parts of the Coast by the winds and tide—

Gass
the morning was pleasant; but towards the evening the day became cloudy.
Thursday, March 13

Weather Diary

Slight frost this morning. A little rain fell in the latter part of the night. Saw a number of insects in motion; among others saw for the first time this spring and winter a downey black fly about the size of the common house fly. The plants begin to appear above the ground, among others the rush of which the natives eat the root, and the plant, the root of which resembles in flavor the sweet potato also eaten by the natives.

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Daily Narrative Journals

Lewis & Clark took equal altitudes to day this being the only fair day for Sometime past.

Gass the morning was fine.

Ordway a fair cold morning. High winds.

Whitehouse A Clear cold morning. I took two Men & a canoe...to purchase fish...the wind blew so hard that I was forced to return with them to the fort.

Friday, March 14

Weather Diary

Yesterday and last night were the most perfectly fair weather we have seen at this place.

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</table>
**Daily Narrative Journals**

**Lewis & Clark**

The Indians tell us that the Salmon begin to run early in the next month.

**Gass**

We had a fine morning. While out to day I saw a number of musquitoes flying about.

**Ordway**

Cloudy

**Whitehouse**

This morning was Cloudy.

---

**Saturday, March 15**

**Weather Diary**

the temperature of the air is perfectly pleasant without fire.— became fair at 8 AM.— the sorrel with an oval, obtuse and ternate leaf has now put forth it’s leaves. some of them have nearly obtained their growth already. The birds were singing very agreeably this morning particularly the common robin.—

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**Daily Narrative Journals**

**Gass**

There was a fine plesant morning.

**Ordway**

a fair morning.

**Whitehouse**

A pleasant morning

---

**Sunday, March 16**

**Weather Diary**

wind hard greater part of the day. Theanchovy has ceased to run; the white salmon trout have succeeded them. The weather so warm that the insects of various speceis are every day in motion.—
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**Daily Narrative Journals**

**Lewis & Clark**
Drewyer and party did not return...we suppose he was detained by the hard winds of today.

**Gass**
Last night it became cloudy and began to rain; and the rain has continued all day—

**Ordway**
a rainy wet morning. Rained the greater part of the day.

**Whitehouse**
A Rainey wet morning.

**Monday, March 17**

**Weather Diary**

rained all night. Air somewhat colder this morning. frequent and sudden changes (“showers” - Clark) in the course of the day.—

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Clark’s Journal Codex J lists this weather data as “r a f h s & r.”

**Daily Narrative Journals**

**Lewis & Clark**
we have had our perogues prepared for our departure, and shal set out as soon as the weather will permit. The weather is so precarious that we fear by waiting untill the first of April that we might be detained several days longer before we could get from this to the Cathlahmahs as it must be calm of we cannot accomplish that part of our rout.

**Gass**
it rained occasionally during the whole of the day.

**Ordway**
Showers of rain intermixed with Snow. Showery all day.
Whitehouse  A Cloudy day, and showery.

Tuesday, March 18

Weather Diary

frequent showers through the day

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Daily Narrative Journals

Lewis & Clark  the frequent showers rain in the course of the day prevented the Canoes drying sufficient to pay them even with the assistance of fire—

Gass  The weather was much like that of yesterday, and some hail fell in the course of the day.

Ordway  a Showery morning of rain and hail.

Whitehouse  We had showers of rain, some hail & thunder this morning

Wednesday, March 19

Weather Diary

frequent and sudden changes during the day wind not so hard as usual.

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Daily Narrative Journals

Lewis &
Clark  It continued to rain and hail today in such a manner that nothing further could be
done to the canoes. ...the dress of the man (indian) consists of a small robe ...a
mat is sometimes temperarily thrown over the sholders to protect them from rain.
They have no other article of cloathing whatever neither winter nor summer. It
continued to rain so constantly today that Sergt. Pryor could not pitch his canoes—

Gass  the morning was stormy, some hard showers of hail fell and it continued cloudy
through the day.

Ordway  hard Showers of rain intermixed with Snow and hail.

Whitehouse  We had a fair morning. In the afternoon we had showery disagreeable weather.

Thursday, March 20

Weather Diary

rained all day without intermission.

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Daily Narrative Journals

Lewis & Clark  It continued to rain and blow so violently today that nothing could be done towards
forwarding our departure. ...but the rain rendered our departure so uncertain that
we declined this measure for the present. nothing remarkable happened during the
day. We have yet Several days provisions on hand, which we hope will be
Sufficient to Serve us dureing the time we are we are compell’d by the weather to
remain at this place—

Gass  The whole of this day was wet and disagreeable. We intended to have set out today
on our return, but the weather was too bad.

Ordway  rained hard the grater part of last night and continues this morning. So we are only
waiting for good weather to Start.

Whitehouse  A Rainey wet day. We are now waiting for fair weather in Order to make a Start to
the United States.
Friday, March 21

Weather Diary

rained all night at 9 AM wind changed to NE and the rain ceased (“a short time” - Clark). Cloudy the ballance of the day.

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Daily Narrative Journals

Gass We had a cloudy wet morning.

Ordway rained hard all last night, and continues this morning.

Whitehouse It rained hard all last night & contined the same this morning.

Saturday, March 22

Weather Diary

rain continued without intermission greater part of the night. Air temperate. The leaves and petals of the flowers of the green Huckleburry have appeared. Some of the leaves have already obtained 1/4 of their size.

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Daily Narrative Journals

Lewis & Clark the air is perfectly temperate, but it continues to rain in such a manner that there is no possibility of getting our canoes completed in order to Set out on our homeward journey.

Gass We had a cloudy wet morning.
Ordway continues rainy.

Whitehouse It continued raining. We are all getting in readiness so start which we expect if the weather permits will be tomorrow—

The Expedition leaves Fort Clatsop, the Pacific Ocean and the mouth of the Columbia River on March 23, 1806 and begins their long journey back to St. Louis, Louisiana Territory, United States of America.

Sunday, March 23

Weather Diary

it became fair at 12 Ock. and continued cloudy and fair by intervales without rain till night

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Daily Narrative Journals

Lewis the wind is pretty high but it seems to be the common opinion that we can pass point William—at 1 PM we bid a final adieu to Fort Clatsop. The wind was not very hard—

Clark This morning proved So raney and uncerat ain that we were undetermined for Some time whether we had best set out & risque the river which appeared to be rising or not. the rained seased and it became fair about Meridian, at which time we loaded our canoes & at 1 P.M. left Fort Clatsop. not withstanding the repeated fall of rain which has fallen almost Constantly Since we passed the long narrows...indeed we have had only days fair weather since that time. and proceeded on, thro’ Meriwethers Bay, there was a Stiff breese from the SW which raised Considerable Swells around Meriwethers point which was as much as our canoes could ride.

Gass There was a cloudy wet morning— The afternoon was fair.

Ordway this morning proved so rainy and uncertain that our officers were undetermined for Some time whether they had best Set out & risque the (wind) which appeared to be rising or not. The rained Seased and it became fair about meridian at which time we loaded our canoes & at 1 PM left Fort Clatsop on our homeward bound journey. Notwithstanding the reputed fall of rain which has fallen continually Since we passed
the long narrows on the Novr last, indeed we have had only days fair weather since that time. There was a stiff breeze from the SW which raised considerable Swells around Merewethers Point.

Whitehouse It rained very hard, during the whole of last night. This morning it still continued raining, & the Weather appeared very uncertain. About 12 oClock AM it ceased raining; & the weather became Clear & pleasant, & we loaded our Canoes, & got every thing in readiness to ascend the Columbia River. At 1 oClock we embarked...we went around a point of land called by our officers Merryweather point (Astoria, OR) when the wind rose & blew hard from the South West, & the waves ran very high.. We proceeded on, & passed another point of land called point William (Tongue Point).

Monday, March 24

Weather Diary

at 9 AM it became fair and continued fair all day and greater pt. of the night. The brown bryery shrub with a broad pinnate leaf has began to put forth it’s leaves. The pole-cat Colwort, is in blume. Saw the blue crested fisher. Birds are singing this morning. The black Alder is in blume.

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Daily Narrative Journals

Lewis the tide being out this morning we found some difficulty in passing through the day below the Cathlahmah village. The night was cold tho’ wood was abundant

Gass After a bad night’s rest, on account of the rain, 15 men went out to hunt. The morning was fair

Tuesday, March 25

Weather Diary

cold this morning, but no ice nor frost. The Elder, Gooseberry, & honeysuckle are not putting fourth their leaves. The nettle and a variety of other plants are now springing up. The flower of the broad leafed thorn is nearly blown. Several small plants in blume.
Daily Narrative Journals

Lewis  The morning being disagreeably cold. Continued on the south coast of the river against the wind and strong current, our progress was of course but slow. I observe that the green bryer ...retains its leaves all winter— the wind in the evening was very hard.

Clark  Last night and this morning are cool wind hard a head and tide going out. The winds in the evening was verry hard, it was with some dificuelty that we Could find a Spot proper for an encampment.

Gass  had a fair morning. Around 12 o’clock halted, the wind and tide being both against us. When the tide began to rise we went on again. Later in the afternoon the wind rose and blew very hard accompanied with rain, notwithstanding we proceeded on till night

Ordway  the winds hard a head and tide against us so we delayed untill 1 oClock PM at which time we set out

Whitehouse  the wind & tide being against us, We had to delay at our encampment, untill 1 oClock PM

Wednesday, March 26

Weather Diary

cold and rainy last night. Wind hard this morning fair at 9 AM  Cloudy at 1 PM (“and cleared off at 1 PM” - Clark)  The huming bird has appeared. Killed one of them and found it the same with those common to the United States.
**Daily Narrative Journals**

**Lewis & Clark**

The wind blew so hard this morning that we delayed until 8 AM.

**Gass**

After a disagreeable night’s rain, and wind, we continued on our voyage.

**Ordway**

The wind ran high last night and the tide rose higher than common and came in under my blankets before I awoke and obliged me to move twice.

**Whitehouse**

The wind & tide rose very high during last night. The water raised so much that it obliged several of our party to move their Camps.

---

**Thursday, March 27**

**Weather Diary**

blew hard about noon. Rained greater part of the day. The small or bank martin appeared today, saw one large flock of them. Waterfowl very scarce, a few Comorant, geese, and the redheaded fishing duck are all that are to be seen. The red flowering currant are in blume, this I take to be the same species I first saw in the <waters of the columbia>, Rocky Mountains; the fruit is a deep purple berry covered with a gummy substance and not agreeably flavoured. There is another species uncovered with gum which I first found on the waters of the Columbia about the 12th of August last.

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**Daily Narrative Journals**

**Lewis**

But as the weather would not permit us to dry our canoes in order to pitch them we declined their friendly invitation, and resumed our voyage at 12 Ock. The Coweliskee is 150 yards wide, is deep The night as well as the day proved cold wet and excessively disagreeable.

**Clark**

a rainey disagreeable night rained the greater part of the night. Proceeded on...the wind rose and the rain became very hard Soon after we landed The night as well as the day proved Cold wet and excessively disagreeable.

**Gass**

There was a cloudy wet morning.

**Ordway**

rain commenced this morning and continued thro the day.

**Whitehouse**

This morning early it commenced raining, which continued during the whole of this...
Friday, March 28

Weather Diary

rained by showers greater part of last night   frequent showers in the course of the day. This evening we saw many swan passing to the North as if on a long flight.  vegitation is not by several days as forward here as at Fort Clatsop when we left that place.  The river rising fast, the water is turbed; the tide only swells the water a little, it does not stop the current.  It is now within 2 feet of it’s greatest hight. (Lewis)   which appears to increas as we assend.  (Clark)

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Daily Narrative Journals

Lewis & Clark   at ½ after ten AM it became fair.  Pitched our canoes.  We determined to remain this evening and dry our bedding baggage &c.  the weather being fair.

Gass   The morning was cloudy.  It rained at intervals during the day.  The Columbia river is now very high, which makes it more difficult to ascend.

Ordway   rained the greater part of last night.  They day proved Squawley   high winds &C.

Whitehouse   It continued raining the greater part of last night.  The remainder of this day was Squally & the wind high.

Saturday, March 29

Weather Diary

frequent showers through the night.  Very cold this morning.—
**Daily Narrative Journals**

**Lewis**  
the river rising fast

**Clark**  
the morning was very cold wind Sharp, and keen off the rainge of Mountains to the East Covered with snow. The river is now rising very fast and retards our progress very much. Crossed the mouth of the Chah-wa-nahi-ooks River which about 200 yards wide and a great portion of water into the Columbia at this time it being high.

**Gass**  
The morning was pleasant with some white frost

**Whitehouse**  
We set out early this morning & proceeded on, the Columbia River being very high & the current running very swift.

---

**Between March 30 and April 6 the party stays in the vicinity of present-day Portland, OR. Captain Clark leads a small party up the Multnomah River [present-day Willamette River].**

---

**Sunday, March 30**

**Weather Diary**

at 10 AM (Clark lists this as PM) it became fair and continued so weather moderately warm. Saw a leather winged bat the grass is about 16 Inches high in the river bottoms. The frogs are now abundant and are crying in the swamps and marshes.—

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**Daily Narrative Journals**

**Lewis**  
we had a view of mount St. helines and Mount Hood. The 1st is the most noble looking object of it’s kind in nature. Both of these mountains are perfectly covered with snow; at least the parts of them which are visible.

**Clark**  
we made 22 miles only to day the wind and a Strong current being against us all day, with rain. Discovered a high mountain SE Covered with Snow which we call Mt. Jefferson.

**Gass**  
The morning was fair with some dew. The river is very high, overflowing all its banks.
Ordway

The river still rising & is now So high that the tide has no effect to be perceived at this time considerable of drift wood floating down the river. Saw mount rainey (Mt. St. Helens) and Mount Hood which is very white with Snow &C.

Whitehouse

The River still continuing rising, and is so high, that the tide has no Effect, as high up the River as where we now are. We saw a considerable quantity of drift wood floating down the River. We say this day Mount Rainey [probably Mt. St. Helens] & Mount hood; they appeared white & was covered with Snow—

Monday, March 31

Weather Diary

The Summer or wood duck has returned. Butterflies and Several Species of insects appear. Musquitoes are troublesome this evening Encamp opposit quick San River The Summer Dick has returned I saw Several to day in a small pond. This evening the Musquetors were very troublesome this evening, it is the first time they have been so this Spring. The waterfowls are much plentier about the enterance of quick Sand river than they were below. Observed a species of small wild onion growing among the moss of the rocks, they resemble the Shives of our gardens and grow remarkably close together forming a perfect tuft; they are quite as agreeably flavoured as the Shives.

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Daily Narrative Journals

Lewis

the water is very clear. Saw a summer duck or wood duck...this is the same with those of our country and is the first I have seen since I entered the rocky mountains last summer—

Clark

the Columbia is at present on a Stand.

Gass

This was a beautiful clear morning

Ordway

a clear pleasant morning. The wind rose from the Southward. The waves high.

Whitehouse

A clear pleasant morning.
April 1806
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

The Expedition is camped near the Sandy River east of present-day Portland, OR.

Tuesday, April 1

Weather Diary

at 6 PM last evening it became cloudy. Cottonwood in blume. From the best opinion I could form of the State of the Columbia on the 1st of April it was about 9 feet higher than when we decended it in the beginning of November last. The rising and falling of the river as set down in the diary is that only which took place from sunseting to sunrise or thereabouts it being the time that we usually remain at our encampments.—

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2 River rise and fall observations begin again during the trip up the Columbia River. Although not like previous recording episodes, the data usually is not for a 24-hour period unless they are encamped. In most cases, when the party stopped for the evening, following Lewis’ habit from previous journal entries, it is surmised that a mark was made and measured the next morning. Thus many observations were only a 8 to 10 hour long.

Daily Narrative Journals

Lewis & Clark
The last evening and this morning were so cloudy that I could neither obtain any Lunar observations nor equal altitudes— it was so cloudy at the time of this observation that cannot vouch for any great accuracy—

Gass
We had a cloudy morning

Ordway
we discovred yesterday the top of a high white Mountain some distance to the Southward our officers name it Mount Jefferson.
Whitehouse  we saw a high mountain laying a great distance off to the Southward of us, which appeared to be covered with snow. Our Officers named this Mountain Jefferson Mountain.

Wednesday, April 2

Weather Diary

heavy dew last night. Cloudy all night.

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Daily Narrative Journals

Lewis  the night and morning being cloudy I was again disappointed in making the observations I wished

Clark  Multnomah had fallen 18 inches from it’s greatest annual height. from the enterance of this river, I can plainly See Mt. Jefferson which is high and covered with snow SE Mt. Hood East, Mt. St. Helians a high humped Mountain [Mount Adams] to the East of Mt. St. Helians. The current of the Multnomar is jentle as that of the Columbia glides Smoothly with an eavin surface, and appears to be Sufficiently deep for the largest Ship.

Ordway  the after part of the day clear and pleasant.

Whitehouse  The great River is called by the natives the Mult-no-mack...it is 500 yard wide at its mouth. The Indian guide that was with us, told us that it heads Near the head Waters of the California. The guide also mentioned...that the Tide water runs up it to a falls which is 40 feet high. 

3  This is the final entry of the known journal writings of Joseph Whitehouse.

Thursday, April 3

Weather Diary

a slight rain about day light this morng.
Sunrise | 4 PM | Columbia River
---|---|---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
---|---|---|---|---|---|---|---|---
- | c a r | SW | - | c a r | W | F | - | 3 ½

**Daily Narrative Journals**

**Clark**
The water had fallen in the course of last night five inches [Multnomah River]. I set out and proceeded up a short distance and attempted a second time to fathom the river with my cord of 5 fathom but could find no bottom. the mist was so thick that I could see but a short distance up this river.

**Gass**
it rained so hard we could not dry the meat

**Ordway**
a foggy morning. Slight Showers of rain in the course of the day. Indians inform us of a very large River & is 500 yd wide and is supposed to head with the waters of the California (Willamette)

**Friday, April 4**

**Weather Diary**

the rains have been very slight.

Sunrise | 4 PM | Columbia River
---|---|---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
---|---|---|---|---|---|---|---|---
- | c a r | SW | - | c a r | SW | F | - | 4 ½

**Daily Narrative Journals**

**Lewis & Clark**

this evening being fair I observed time and distance

**Gass**
a cloudy morning. Captain Clarke found a large river (Willamette River), 500 yards wide; and its source supposed to be near the head waters of some of the rivers, which fall into the gulf of California.

**Ordway**

the after part of the day pleasant.
Saturday, April 5

Weather Diary

rain but slight, air colder than usual this morning.—

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Daily Narrative Journals

Lewis & Clark

This morning was so cloudy that I could not obtain any lunar observations with Aquila as I wished. The weather has been so damp that there was no possibility of pounding the meat as I wished— Observed Magnetic Azimuth and altitude of the sun with Circumferenter and Sextant. Immediately after this observation the sun was suddenly obscured by a cloud and prevented my taking Equal Altitudes. I therefore had recourse to two altitudes in the evening which I obtained as the sun happened to shine a few minutes together through the passing cloudys.

Gass

The weather was pleasant.

Sunday, April 6

Weather Diary

this is the most perfectly fair day we have seen for a Some time musquetoes troublesome this evening the cottonwood has put forth its leaves begin to assume a green appearance at a distance. The sweet willow has not yet generaly birst it's budscales wile the leaves of the red and broad leafed willow are of some size; it appears to me to be the most backward in vegetating of all the willows. The narrow leafed willow is not found below tide water on this river.—

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Daily Narrative Journals

Lewis

from the appearance of a rock near which we were encamped on the 3rd of November
last I could judge better of the rise of the water than I could at any point below. I think the flood of this spring has been about 12 feet higher than it was at that time; the river is here about 1 ½ miles wide; it’s general width from the beacon rock which may be esteemed the head of tide water, to the marshy island is from one to 2 miles tho’ in many places it is still wider. It is only in the fall of the year when the river is low that the tides are perceptible as high as the beacon rock. Mount Jefferson bears SE this is a noble mountain...is a regular cone and is covered with eternal snow.

Gass  We had a fine morning, with some fog

Ordway  a clear pleasant morning.

Monday, April 7

Weather Diary

the air temperate, bird singing, the pizmire, flies, beetles, in motion.

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<th>Sunrise</th>
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Daily Narrative Journals

Lewis & Clark  the day has been fair and weather extremely pleasant.

Gass  This was a pleasant day, but cloudy.

Ordway  a fair morning. The musquetoes trouble us a little &C.

Tuesday, April 8

Weather Diary

wind commenced at 5 AM (Clark lists this as PM) and continued to blow most violently all day. Air temperate the male flowers of the cottonwood are falling. The goosburry has cast the petals of it’s flowers, and it’s leaves obtained their full size. The Elder which is remarkably large has began to blume. Some of it’s flowerets have expanded their corollas. The serviceburries, chokecherris, the growth which resembles the beach, the small birch and grey willow have put fourth their leaves.—
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**Daily Narrative Journals**

**Lewis**

The wind blew so violently this morning that we were obliged to unloade our perogues and canoes, soon after which they filled with water. The wind continued without intermission to blow violently all day.

**Clark**

This morning about day light I heard a Considerable roarging like wind at a distance and in the Course of a Short time waves rose very high which appeared to come across the river and in the course of an hour became so high that we were obliged to unload the canoes, at 7 oClock A.M. the winds Sueded and blew so hard and raised the Wave So enormously high from the N.E. and tossed our canoes against the Shore in such a manner as to render it necessary to haul them up on the bank, finding from the appearance of the winds that it is probable that we may be detained all day. ....in the evening late an old man his Son & Grand Son and their wives &c. came down during the time the waves raged with great fury. ....the wind continued violently hard all day, and threw our canoes with such force against the shore that one of them split before we could get it out. The Wind Continued violently hard all day—

**Gass**

This was a fine morning, but the wind blew so hard from the north-east, that it was impossible to go on; and about 8 o’clock the swells ran so high, that we had to unloade our canoes, and haul some of them out of the water to prevent their being injured. Some of the men are complaining of rheumatick pain; which are to be expected from the wet and cold we suffered last winter, during which from the 4th of November 1805 to the 25th of March 1806, there were not more than twelve days in which it did not rain, and of these but six were clear.

**Ordway**

a fair morning. The wind raised so high a head that in Stead of our setting our as we intended had to unloade our canoes. The waves ran high and filled them with water &C. The River rises a little the wind continued high all day &C.

**Expedition proceeds into the inland most tidal water of the lower Columbia River system and begins their asent above the Cascades of the Columbia (the “Great Shute” “Great Rapids of the Columbia”) just above present-day Bonneville Dam between April 9 and 12.**
Wednesday, April 9

Weather Diary

the wind lulled a little before day, and became high at 11 AM continued til dark   the vining honeysuckle has put forth shoots of several inches   the dogtoothed violet is in blume as is also both the speceis of the mountain holley, the strawbury, the bears claw, the cowslip, the violet, common striped; and the wild cress or tongue grass.

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Daily Narrative Journals

Lewis  We passed several beautifull cascades which fell from a great hight over the stupendious rocks...the most remarkable of these cascades falls about 300 feet perpendicularly over a solid rock into a narrow bottom of the river on the south side [probably Multnomah Falls]. The evening being far spent and the wind high raining and very cold we thought best not to attempt the rapids this evening. The fir has been lately injured by a fire near this place

Clark  the wind high and a rainey disagreeable evining. ...evening wet & disagreeable

Gass  The morning was pleasant. In the afternoon the weather became cloudy and some rain fell.

Ordway  a fair morning and calm  commenced raining hard & high winds from NW  the River much higher at this time than it was last fall when we passd. down. Some Spots of Snow is now on the tops of these Mountains Near the River.

Thursday, April 10

Weather Diary

some snow fell on the river hills last night. Morning cold, slight sowers through the day.

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Daily Narrative Journals

Lewis & Clark in crossing the River which at this place is not more than 400 yards wide we fell
down a great distance owing to the rapidity of the Current.

Gass during the night some showers of rain fell.

Ordway rained hard the greater part of last night. A cloudy & Showery morning. Soon
came to bad rapids where we had to two one canoe up at a time.

Friday, April 11

Weather Diary

cold raining night the geese are yet in large flocks and do not yet appear to have mated. What I
have heretofore termed the broad leafed ash is now in blume. The fringetree has cast the corolla and
it’s leaves have nearly obtained their full size. The sac a commis is in blume.—

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Daily Narrative Journals

Lewis As the tents and skins which covered both our men and baggage were wet with the
rain which fell last evening, and as it continued still raining this morning we
concluded to take our canoes first to the head of the rapids, hoping that by evening
the rain would cease and afford us a fair afternoon to take our baggage over the
portage. These rapids are much worse than they were fall when we
descended the river. ...I observe snow-shoes in all the lodges of the natives above the
Columian valley.

Clark rained the greater part of the last night and continued to rain this morning, as the
Skins and the Covering of both the mend and loading were wet we determined to take
the Canoes over first in hopes that by the evening the rain would Sease and afford us
a fair afternoon. Vegitation is rapidly progressing.

Gass We had a cloudy morning.

Ordway rained the greater part of the last night and continues this morning.
Saturday, April 12

Weather Diary

cold. Snow on the mountains through which the river passes at the rapids. The duckinmallard which breed in this neighbourhood is now laying it’s eggs,— vegetation is rapidly progressing in the bottoms tho’ the snow of yesterday and today reaches within a mile of the base of the mountains at the rapids of the Columbia.—

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Daily Narrative Journals

Lewis  It rained the greater part of last night and still continued to rain this morning. ...it continued to rain by showers all day, as the evening was rainy cold and far advance and ourselves wet we determined to remain all night.

Clark  rained the greater part of the last night, and this morning untile 10 AM. The rain Continued at intervales all day. Mountains are high on each Side and Covered with Snow for about 1/3 of the way down.

Gass  This morning was wet. It rained at intervals all day; and upon the very high mountains on the south side of the river, snow fell and continued on the trees and rocks during the whole of the day.

Ordway  a rainy wet morning.

Sunday, April 13

Weather Diary

cold rainy night. Rained by showers through the day. Wind hard.

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Daily Narrative Journals

Lewis    departed...on south side of the river the wind being too high to pass over the enterance of Cruzatts river [Wind River]. Capt. C. informed me that the wind detained him several hours a little above Cruzatt’s river.

Clark    ...the wind rose and raised the waves to Such a hight that I could not proceed any further. Walked...the wind had lulled. At ½ passed 2 PM Set out and proceeded on

Gass     There was a cloudy morning. Passed Crusatte’s River (Wind River), when the wind rose so high we could not go on, so we halted. In 3 hours...the wind fell and we went on

Ordway   the current swift. The wind rose So high that obliged us to halt at this bottom where we expected to find our hunters. The day proved fair the wind cold and Snow laying low on the Mountains near the River.

Monday, April 14

Weather Diary

wind arrose at 8 AM and contined hard all day. Service bury in blume.

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Daily Narrative Journals

Lewis & Clark    at 9 AM the wind arrose and continued hard all day but not so violent as to prevent our proceeding. The river from the rapids as high as the commencement of the narrows is from ½ to 3/4 of a mile in width, and possesses scarcely any current. The mountains through which the river passes nearly to the sepulchre rock, are high broken, rocky, partially covered with fir white cedar, and in many places exhibit very romantic scenes. Some handsome cascades are seen on either hand tumbling from the stupendious rocks of the mountains into the river. We find the trunks of many large pines Standing erect as they grew, at present in 30 feet of water; at the lowest water of the river many of those trees are in 10 feet water.

Gass    The morning was fine with some fog. The wind blew hard from the southwest and the weather was clear and cool, but there has been no frost lately, except on the tops of the hills.

Ordway about noon the wind rose so high from the NW that we came too at a village. Soon
&C Mount Hood appears near the River on the South Side which is covd. thick with Snow & very white the wind high we delayed about 2 hours and proceed. on the wind continued aft and high So we run fast.

Expedition portages around the Long and Short Narrows at the present-day The Dalles, OR.

Tuesday, April 15

Weather Diary

wind blew tolerably hard today after 10 AM observed the Curloo and prarie lark.

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Daily Narrative Journals

Gass The morning was fair.

Ordway a clear pleasant morning.

Wednesday, April 16

Weather Diary

morning unusually warm. vegetation rapidly progressing.— at the rock fort camp saw the prairie lark, a specie of the peawee, the blue crested fisher, the partycoloured corvus, and the black pheasant. A specie of hiasinth native of this place blumed today, it was not in blume yesterday.

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**Daily Narrative Journals**

**Lewis**

a great portion of that extensive tract of country to the S and SW of the Columbia and it’s SE branch [Snake River], and between the same and the waters of the California must be watered by the Multnomah river— [Willamette River]

**Gass**

This was a pleasant day.

**Ordway**

a clear pleasant morning.

**Thursday, April 17**

**Weather Diary**

weather warm; the sweet willow & white oak begin to put forth their leaves

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**Daily Narrative Journals**

**Lewis**

even at this place which merely on the border of the plains of Columbia the climate seems to have changed the air feels dryer and more pure. The earth is dry and seems as if there had been no rain for a week or ten days. The plain is covered with a rich virdure of grass and herbs from four to nine inches high and exhibits a beautifull seen particularly pleasing after having been so long imprisoned in mountains and those almost impenetrably thick forrests of the seacoast.

**Clark**

altho’ the night was cold they could not rase as much wood as would make a fire.

**Gass**

This was a fine morning.

**Ordway**

a beautiful warm morning.

**Friday, April 18**

**Weather Diary**

rain but slight. Wind very hard all day—
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**Daily Narrative Journals**

_**Lewis**_  the long narrows are much more formidable than they were when we decended them last fall [the Dalles, OR]

_**Gass**_  We had fine weather, and all set out from this place, and proceeded with great difficulty and danger to the foot of the long narrows.

_**Ordway**_  a clear cool morning.

**Saturday, April 19**

**Weather Diary**

raind, moderate showers, very cold   snow on the tops of the low hills

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**Daily Narrative Journals**

_**Clark**_  This morning early some rain.  Several showers of rain in the after part of to day, and the SW wind very high.  There was great joy with the nativs last in consequence of the arrival of the Salmon.  They informed us that those fish would arive in great quantities in the Course of about 5 days.

_**Gass**_  The morning was cloudy   Some light showers of rain fell in the afternoon   In the evening the weather cleared up and we had a fine night.

_**Ordway**_  a clear cold morning.  A little Snow fell on the hills last night.
Sunday, April 20

Weather Diary

weather cold. Rain slight snow on the hills adjacent—wind violent. Some frost this morning.

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4 Clark’s Journal Voorhis No. 3 lists this weather data as “car.”

Daily Narrative Journals

Lewis some frost this morning.

Clark This morning very Cold the western mountains Covered with Snow. At night when they [Indians] wish a light they burn dry Straw & Some fiew Small dry willows. Wind hard all day cold from NW.

Gass This was a pleasant morning with some white frost.

Ordway a clear cold morning.

Party portages around the Great Falls of the Columbia, Celilo Falls, near Wishram, OR/WA state line.

Monday, April 21

Weather Diary

heavy frost this morning. Remarkably cold last night

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Daily Narrative Journals

Lewis I ordered all the spare poles, paddles and the ballance of our canoe put on the fire as
the morning was cold.

Clark  a fair Cold morning.

Gass  This was another pleasant morning with some white frost. About 3 in the afternoon we arrived at the great falls of the Columbia

Ordway  a clear cold morning.

Tuesday, April 22

Weather Diary

night cold the day warm

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Daily Narrative Journals

Lewis  as one of our canoes was passing...we hailed them and ordered them to come over but the wind continued so high that they could not join us untill after sunset     ...the nights are cold and days warm.

Clark  I assended a high hill [possibly Haystack Butte, WA] from which I could plainly See the range of Mountains which runs South from Mt. Hood as far as I could See. I also discovered the top of Mt. Jefferson which is Covered with Snow and is S 10° W. Mt. Hood is S 30° W. The range of mountains are Covered with Timber and also Mt. Hood to a certain hite The range of mountains has Snow on them. Here we observed our 2 Canoes passing up on the opposit Side and the Wind too high for them to join us. The air I find extreemly Cold which blows Continularly from Mt. Hoods Snowey regions.

Gass  This was a pleasant morning and high wind. We proceeded on about 3 miles, when the wind became so violent, that we could not proceed any further, and halted an unloaded our canoes. Having remained here two hours....we proceeded on though the wind was high and river rough.

Ordway  a clear pleasant cold morning. The wind so high from the NW that the canoes being on the opposite Side of the river could not cross
Wednesday, April 23

**Weather Diary**

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**Daily Narrative Journals**

**Lewis**
the river is by no means as rapid as when we decended or at least not obstructed with those dangerous rapids the water at present covers most of the rocks in the bed of the river.

**Clark**
the river is by no means as rapid as it was at the time we decended.

**Gass**
We had a cloudy morning.

**Ordway**
the day warm.

Thursday, April 24

**Weather Diary**

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**Daily Narrative Journals**

**Lewis & Clark**
the winds which set from Mount Hood or in a westerly direction are much more cold than those from the opposite quarter. There are now no dews in these plains, and from the appearance of the earth there appears to have been no rain for several weeks—

**Gass**
The weather was pleasant.
Ordway a clear cool morning.
Friday, April 25

Weather Diary

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Daily Narrative Journals

Gass The morning was pleasant.

Ordway a clear cool morning.

Saturday, April 26

Weather Diary

the sweet willow has put forth its leaves. The last evening was cloudy it continued to threaten rain all night but without raining. The wind blew hard all night. The air cold as it is invariably when it sets from the westerly quarter.—

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Daily Narrative Journals

Lewis & Clark we covered ourselves partially (perfectly) this evening from the rain by means of an old tent.

Gass had a fine morning.

Ordway the day warm. Saw considerable of Snow on the mountains to the South & S East.

Expedition reaches the confluence of the Walla Walla and Columbia Rivers having passed the state line between Oregon - Washington. After resting a couple of days
they proceed by land on April 30 towards the Kooskooskee [Clearwater] River.

**Sunday, April 27**

**Weather Diary**

had a shower of rain last night

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</tbody>
</table>

**Daily Narrative Journals**

**Gass**
The morning was cloudy with some light showers of rain. Some light showers of rain fell at intervals during the day.

**Ordway**
a little rain fell the latter part of last night.

**Monday, April 28**

**Weather Diary**

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Columbia River</th>
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**Daily Narrative Journals**

**Lewis & Clark**
I at length urged that there was no wind blowing and that the river was consequently in good order to pass our horses and goods

**Gass**
The morning was pleasant. From this place we can discover a range of mountains (Blue Mountains) covered with snow, in a southeast direction and about fifty miles distant. In the evening the weather was cloudy, and it thundered and threatened rain, a few drops of which fell.

**Ordway**
a clear pleasant morning.
Tuesday, April 29

Weather Diary

<table>
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<th>Sunrise</th>
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Daily Narrative Journals

Lewis & Clark

The Wallahwallah River discharges it’s self into the Columbia on it’s South Side 15 miles below the enterance of Lewis’s River (Snake), or the S.E. branch. this is a handsome Stream about 4 ½ feet deep and 50 yards wide. The water is Clear. the Indians inform us that it has it’s source in the range of Mountains in view of us to the E. and SE. Those mountains are Coverd with Snow at present tho’ do not appear high. They [Indians] insisted on our dancing this evening but it rained a little the wind blew hard and the weather was cold, we therefore did not indulge them—

Gass

The day was fair.

Wednesday, April 30

Weather Diary

rain slight.

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<th>Sunrise</th>
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5 Here ends the river rise and fall observation data for the Columbia River.

Daily Narrative Journals

Lewis & Clark

this stream...Wallah wallah...it is deep and has a bold current. There are many large banks of pure sand which appear to have been drifted up by the wind to the hight of 15 to 20 (20 or 30) feet.
Gass        This was a cloudy morning
Ordway    chilley and cold.
May 1806
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

After traveling overland this day, the Expedition camped near present-day Waitsburg, WA.

Thursday, May 1

Weather Diary ¹

had a pretty hard shower last night. Cold morning.— having left the river we could no longer observe it’s state; it is now declining tho’ it has not been as high this season by five feet as it appears to have been the last spring. The indians inform us that it will rise higher in this month, which I presume is caused by the snows of the mountains.

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Daily Narrative Journals

Clark  Small portion of rain which fell last night Caused the road to be much furmer and better than yesterday. The morning Cloudy and Cool.

Gass  Some rain fell during the night, and the morning continues cloudy.

Ordway  Saw a timbred county a long distance to the SE & Mount of Snow.

Friday, May 2

Weather Diary

cold this morning, some dew.

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<tr>
<th>Sunrise</th>
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Lewis & Clark Expedition Weather Journals, 1806, Page 80
Daily Narrative Journals

Lewis & Clark  
a branch falls in on the S side which runs south towards the SW mountains which appear to be about 25 miles distant low yet covered with snow.

Gass  
We continued our journey up this branch, and saw to our right a range of high hills covered with timber and snow...encamped on the north fork, the creek having two forks....the south fork is the largest, and from its course is supposed to issue from those snow-topped hills on our right.

Ordway  
a clear cold morning. High hills to our right coorved with timber and partly covered with Snow. We crossed the branch in several places where it was 3 feet deep.

Saturday, May 3

Weather Diary

rained last night and snows & hailed this morning. The air cold and wind hard. The mountains to our right seem to have experienced an increase of their snow last evening.

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Daily Narrative Journals

Lewis & Clark  
here we encamped in small grove of cottonwood tree which in some measure broke the violence of the wind. it rained, hailed, snowed & blowed with Great Violence the greater portion of the day. it is fortunate for us that this storm was from the SW and of course on our backs. the air was very cold. The SW Mountains appear to become lower...they are Covered with timber and at this time Snow.

Gass  
We had a wet uncomfortable morning. The wind was very high this forenoon, and rather cold for the season; with some rain. The wind continued to blow hard and some snow showers fell in the afternoon.
Ordway a little rain the later part of last night, and continues Showery and cold a little hail & Snow intermixed. The wind blew very high and cold. Showers of hail & rain before noon considerable of snow fell on the high Hills. Since yesterday. We had considerable of hail & very high winds. The air is very cold—

Expedition arrives at the confluence of the Kooskooskee and Lewis’s River [today known as the Clearwater and Snake Rivers], at present-day Clarkston, WA / Lewiston, ID which they also cross the state line from Washington into Idaho.

Sunday, May 4

Weather Diary

heavy white frost this morning ice 1/6 of an inch thick on standing water. (Lewis) thick on Standing water. (Clark)

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Daily Narrative Journals

Lewis & Clark Collected our horses and set out early; the morning was cold and disagreeable. The lands though which we passed today are fertile consisting of a dark rich loam...the SW mountains are covered with snow at the present nearly to their bases. the evening was cold and disagreeable, and the natives crowded about our fire in great numbers insomuch that we could scarcely cook or keep ourselves warm.

Gass We had a severe frost last night; and the morning was cold and clear.

Ordway a hard frost & very cold this morning.

Monday, May 5

Weather Diary

hard frost this morning ice 1/8 of an inch thick on vessels of water
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<th>Temp</th>
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**Daily Narrative Journals**

**Gass**
We had a fine morning.

**Ordway**
a white frost and verry cold this morning.

**Tuesday, May 6**

**Weather Diary**

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**Daily Narrative Journals**

**Lewis & Clark**
The Kooskooske river [Clearwater] may be safely navigated at present. All the rocks of the sholes and rapids are perfectly covered; the current is strong, the water clear and cold. This river is riseing fast. The natives have a considerable salmon fishery up Colter’s Creek [Potlach River]. Had a small shower of rain this evening—

**Gass**
There was a cloudy wet morning;

**Ordway**
a rainy wet morning.

**Wednesday, May 7**

**Weather Diary**

the KoosKooski is rising water cold and clear.
Sunrise | 4 PM | River
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Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
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**Daily Narrative Journals**

**Lewis & Clark**

The spurs of the rocky mountains which were in view from the high plain to day were perfectly covered with snow. The Indians inform us that the snow is yet so deep on the mountains that we shall not be able to pass them untill after the next full moon or about the first of June; others set the time at a more distant period. this unwelcom inteligence to men confirmed to a diet of horse-beff and roots, and who are as anxious as we are to return to the fat plains of the Missouri, and thence to our native homes. This evening was cold as usual—

**Gass**

This was a fine morning

**Ordway**

a fair morning. Saw the rockey mountains covered with Snow.

**Thursday, May 8**

**Weather Diary**

Sunrise | 4 PM | River
--- | --- | ---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
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**Daily Narrative Journals**

**Gass**

The morning of this day was pleasant. Here some of the natives came to our camp, and informed us, that we could not cross the mountains for a moon and a half; as the snow was too deep, and no grass for our horses to subsist on.

**Ordway**

a fair morning.
Friday, May 9

**Weather Diary**

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**Daily Narrative Journals**

**Lewis**

the climate appears quite as mild as that of similar latitude on the Atlantic coast if not more so and it cannot be otherwise than healthy; it possesses a fine dry pure air. The grass and many plants are now upwards of knee high. I have no doubt but this tract of country if cultivated would produce in great abundance every article essentially necessary to the comfort and subsistence of civilized man. The situation of our camp was a disagreeable one in an open plain; the wind blew violently and was cold. At seven PM it began to rain and hail, at 9 it was succeeded by a heavy shower of snow which continued untill the next morning—

**Clark**

the wind blew hard from the SW. accompanied with rain untill from 7 oClock untill 9 P.M. when it began to Snow and Continued all night.

**Gass**

There was a cloudy morning

**Ordway**

the evening cold rainy & windy—

Saturday, May 10

**Weather Diary**

Snow was 8 inches deep this morning. It began to rain and hail about sunsetting this evening which was shortly after succeeded by snow. It continued to fall without intermission untill 7 AM and lay 8 inches deep on the plain where we were. The air was very keen. A sudden transition this. Yesterday the face of the country had every appearance of summer. After none AM the sun shown but was frequently obscured by clouds which gave us light shower of snow. In the after part of the day the snow melted considerably but there was too great a portion to be disipated by the influence of one day’s sun.
Daily Narrative Journals

Lewis  This morning the snow continued falling ½ after 6 AM when it ceased, the air keen and cold, the snow 8 inches deep on the plain. I was surprised to find on descending the hills of Commearp Cr. to find that there had been no snow in the bottoms of that stream. It seems that the snow melted in falling and descended here in rain while it snowed on the plains. The hills are about six hundred feet high about one fourth of which distance the snow had descended and still lay on the sides of the hills. The noise of their women pounding roots reminds me of a nail factory.

Clark  the air keen and cold the snow 8 inches deep on the plain. we collected our horses and set out for the village of the Chief with a flag, and proceeded on through an open plain. the road was slipry and the Snow Clogged and caused the horses to trip very frequently. the mud at heads of the streams which we passed deep and well supplied with the Car mash [camass].

Gass  At dark last night the weather became cloudy and it rained about an hour, when the rain turned to snow, and it continued snowing all night. In the morning the weather became clear. Where we are lying in the plains the snow is about five inches deep; and amidst snow and frost we have nothing whatever to eat. When we were about half way down the hill there was not a particle of snow nor the least appearance of it.

Ordway  the wind fell and the rain turned to Snow Some time last night the Snow fell 6 Inches deep & continues chilly & cold this morning, & we had not any thing to eat. In the evening....the snow is gone in this bottom but lyes on the high plains & hills We are now as near the mountains as we can git untill such times as the Snow is nearly gone off the mountains as we are too eairly to cross.

Sunday, May 11

Weather Diary

the Crimson haw is not more forward now at this place than it was when we lay at rock fort camp in April.—
**Daily Narrative Journals**

**Lewis**

after this council was over we amused ourselves with shewing them the power of magnetism, the spyglass, compass, watch, air-gun and sundry other articles equally novel and incomprehensible to them. About 3 PM Drewyer arrived with 2 deer which he had killed. He informed us that the snow still continued to cover the plain.

**Clark**

Some little rain last night.

**Gass**

This was a fine clear morning

**Ordway**

a fair morning.

---

**Monday, May 12**

**Weather Diary**

the natives inform us that the salmon have arrived at the entrance of the KoosKooskie in great numbers and that some were caught yesterday in Lewis’s river opposite to us many miles above the entrance of that river. From this village of the broken arm Lewis’s river is only about 10 miles distant to the SW.— the natives also inform us that the salmon appear [much] many days sooner in Lewis’s river above the entrance of the Kooskoske than they do in that stream.

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**Daily Narrative Journals**

**Lewis**

[Chief said] that the snow was yet so deep in the mountain if we attempted to pass we would certainly perish, and advised us to remain until after the next full moon when the said the snow would disappear and we could find grass for our horses—

**Clark**

a fine morning

**Gass**

We had another fine morning

**Ordway**

a clear pleasant morning.
Tuesday, May 13

Weather Diary

formed a camp on the Kooskooske

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Daily Narrative Journals

Clark A fine morning I administered to the sick and gave directions. In the evening we tried the Speed of Several of our horses.

Gass We had a fine morning with white frost.

Ordway a clear frosty morning.

Expedition halts at Camp Chopunnish in the Kooskooskee River [Clearwater] valley as they await the winter snows to melt in the upper reaches of the Bitterroot Mountains. They remain at this site near present-day Kamiah, ID from May 14 through June 10.

Wednesday May 14

Weather Diary

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Daily Narrative Journals

Lewis The morning was fair. The river is 150 yds. wide at this place and extremely rapid. Tho’ it may be safely navigated at this season, as the water covers all the rocks which lie in it’s bed to a considerable depth. [near Kamiah, ID]
Clark  a fine day.

Gass  The morning was pleasant with some white frost.

Ordway  a clear frosty morning.

Thursday, May 15

Weather Diary

the Kooskoske rising fast, the water is clear and cold.

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Daily Narrative Journals

Lewis  the party formed themselves very comfortable tents...made perfectly secure as well from the heat of the sun as from rain. About noon the sun shines with intense heat in the bottoms of the river. The air on the top of the river hills, or high plains forms a distinct climate, the air is much colder, and vegetation is not as forward by at least 15 or perhaps 20 days. The rains which fall in the river bottoms are snows on the plain. At the distance of fifteen miles from the river on the Eastern border of this plain the Rocky Mountains commence and present us with winter it’s utmost extrem. The snow is yet many feet deep even near the base of these mountains; here we have summer spring and winter within the short space of 15 to 20 miles—

Clark  some men sick...the Cause of those disorders we are unable to account for. Their diet and Sudin Change of Climate must contribute. the greater part of our Security from the rains &c. is the grass which is formed in a kind of ruff So as to turn the rain Completely and is much the best tents we have. as the days are worm &c. we have a bowry made to write under which we find not only comfortable but necessary, to keep off the intence heat of sun which has great effect in this low bottom. On the high plains off the river the climate is entirely different cool, Some Snow on the north hill Sides near the top and vegetation near 3 weeks later than in the river bottoms, and the rocky Mountains imedately in view covered several say 4 to 5 feet deep with Snow. here I behold three different Climats within a few miles.

Gass  This was a fine morning, and some hunters went out early. The rest of the party were engaged in making places of shelter, to defend them from the stormy weather. Here we expect to remain a month before we can cross the mountains.
Lewis & Clark Expedition Weather Journals, 1806, Page 90

Ordway  a fair morning.

Friday, May 16

Weather Diary

last night was uncommonly warm   river rising fast. Say 9 inches

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2 River observations did not begin until they had stopped in the Nez Perce County on the KoosKooskie River (Clearwater). As in previous observations of river rise and fall, the river was probably measured at the sunrise observation providing a 24-hour reading. These observations continued until they left for the Lolo Trail on June 10, 1806.

Daily Narrative Journals

Clark  a cloudy morning with Some rain which continued untill Meridean at interavles, but very moderately.

Gass  The morning was cloudy and some rain fell; but in about two hours it cleared away and we had a fine day.

Ordway  a light rain in the fore part of the day. The after part pleasant.

Saturday, May 17

Weather Diary

rained hard the great part of the night wet the Chronometer by accedent. River rise 11 inches. The indians caught 3 salmon at their village on the Kooskooskee above our camp some miles. They say that these fish are now passing by us in great numbers but they cannot be caught as yet because those which first ascend the river do not keep near shore; they further inform us that in the course of a few days the fish run near the shore and then they take them with their skimming neitts in great numbers. Rained untill 12 Ock. by intervails.—

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Lewis & Clark Expedition Weather Journals, 1806, Page 90
Daily Narrative Journals

Lewis  It rained the greater part of the last night and this morning untill 8 Ock. The water passed through flimzy covering and wet our bed most perfectly in shot we lay in the water all the latter part of the night. Unfortunately my chronometer which for greater security I have worn in my fob for ten days past, got wet last night; it seemed a little extraordinary that every part of me breechies which were under my head, should have escaped the moisture except the fob where the time peice was. I opened it and found it nearly filled with water which I carefully drained out exposed it to the air and wiped the works as well as I could with dry feathers after which I touched them with a little bears oil. Several parts of the iron and steel works were rusted a little which I wiped with all the care in my power. I set her to going and from her apparent motion hope she has sustained no material injury— it rained moderately the greater part of the day and snowed as usual on the plain. Sergt. Pryor informed me that it was shoe deep this morning when he came down. It is somewhat astonishing that the grass and a variety of herbatious plants which are now from a foot to 18 inches high on these plains sustain no injury from the snow or frost. I am pleased at finding the river rise so rapidly, it now doubt is attributeable to the melting snows of the mountains; that icy barrier which seperates me from my friends and Country, from all which makes life esteemable— patience, patience—

Clark  rained moderately all the last night and this morning untill, we are wet. The little river on which we are encamepd rise Sepriseingly fast. the rains of last night unfortunately wet the Crenomuter in the fob of Capt. L. breaches, which has never before been wet Since we Set out on this expedition. Her works were cautiously wiped and made dry by Capt. L. and I think she will receive no injury from this misfortune &c. rained moderately all day. at the same time Snowed on the mountains which is in the SE of us. The flew worm days which we have had has melted the Snows in the Mountains and the river has rose considerably. that icy barrier which seperates me from my friends and Country, from all which makes life estimable, is yet white with the Snow which is maney feet deep. I frequently Consult with the nativs on the subject of passing this tremendious barrier which now presents themselves to our view for great extent. they all appear to agree as to the time those Mountains may be passed which is about the middle of June. Sergt. Pryor informs me that the snow on the high plains from the river was shoe deep this morning when he came down. At the distance of 18 miles from the river and on the Eastern border of the high Plain the Rocky Mountain commences and presents us with Winter here we have Summer, Spring and winter in the short space of twenty or thirty miles.

Gass  We had a cloudy wet morning and some light rain all day. Two hunters...said it snowed on the hills, when it rained at our camp in the valley.

Ordway  rained the greater part of last night and continues this morning.
Sunday, May 18

Weather Diary

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Daily Narrative Journals

Lewis shortly after dark it began to rain and continued raining moderately all night. The air was extremely cold and disagreeable and we lay in the water as the proceeding night—

Clark Cloudy morning. The evening Cloudy, Soon after dark it began to rain and rained moderately all night—

Gass The morning was cloudy, but without rain

Ordway cloudy.

Monday, May 19

Weather Diary

rained hard last night and until 8 AM

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Daily Narrative Journals

Lewis It continued to rain this morning until 8 Ock. when it became fair.

Clark Rained this morning until 8 oClock when it Cleared off and became fair—

Gass We had a cloudy wet morning. The day was fair during the whole of the afternoon.

Lewis & Clark Expedition Weather Journals, 1806, Page 92
Ordway a light rain. About noon cleared off pleasant & warm.

Tuesday, May 20

Weather Diary

rained violently the great part of the night. Air raw and cold. A nest of the large blue or sand hill crain was found by one of our hunters. The young were in the act of leaving the shell. The young of the partycoloured corvus begin to fly.—

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Daily Narrative Journals

Lewis & Clark it rained the greater part of last night and continued this morning untill noon when it cleared away about an hour and then rained at intervals until 4 in the evening. Our covering is so indifferent that Capt. C. and myself lay in the water the greater part of last night. The hunters wounded a bear and deer...they were unable to pursue them and the snow which fell in the course of the night and this morning had covered the blood and rendered all further pursuit impracticable. Cruzatte...informed us that it was snowing on the plain while it was raining at our camp in the river bottom. Cloudy &c.

Gass We again had a very wet morning. It continued raining till about noon, when we had fair weather with some sunshine. The hunters said it also snowed on the hills today, while it rained out our camp. In the evening there were some light showers.

Ordway rained all last night and continues this morning, but Snows on the hills. Rained the greater part of the day—

Wednesday, May 21

Weather Diary

the air is remarkably dry and pure it has much the feeling and appearance of the air in the plains of the Missouri.
Daily Narrative Journals

Lewis  It rained a few hours this morning. As our tent was not sufficient to shelter us from the rain we had a lodge constructed...it is perfectly secure against the rain sun and wind and affords us much the most comfortable shelter we have had since we left Fort Clatsop.

Clark  Rained this morning. as our tent is not sufficient to keep off the rain we are Compelled to have Some other resort for a Security from the repeated Showers which fall. we have a small half circular place made and covered with grass which makes a very secure shelter for us to sleep under. ...which is but a Scanty dependance for roots to take us over those Great snowey Barriers (rocky mountains) which is and will be the Cause of our Detention in this neighbourhood probably until the 10 or 15 of June. they are at this time Covered with snow. The plains of the high Country above us is also covered with Snow.

Gass  There was a cloudy morning. At 10 o’clock the weather became clear, and in the evening was cold.

Ordway  continues rainy & wet.

Thursday, May 22

Weather Diary

air colder this morning than usual White frost tho’ no ice. Since our arrival in this neighbourhood on the 7th inst. all the rains noted in the diary of the weather were snows on the plain and in some instances it snowed on the plains when only a small mist was perceptable in the bottoms at our camps. (The high plains are about 800 feet higher than the small bottoms on the river and creeks.)

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Daily Narrative Journals

Lewis  A fine morning.

Clark  a fine day we expose all our baggage to the Sun to air and dry ...this day proved to be fine fair which afforded us an opportunety of drying our baggage which had got a little wet.

Gass  We had a fine clear morning with some white frost.

Lewis & Clark Expedition Weather Journals, 1806,  Page 94
Ordway a clear cold frosty morning.
Friday, May 23

Weather Diary

the air is cold in the morning but warm through the day. Some dew each morning.

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Daily Narrative Journals

Clark a fair morning. The hunters inform us that the high lands are very cold with snow which has fallen for every day or night for Several past.

Gass We again had a fine morning

Ordway clear & pleasant.

Saturday, May 24

Weather Diary

air remarkably pleasant all day.

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Daily Narrative Journals

Lewis this day has proved warmer than any of the proceeding since we have arrived here—

Clark a fine morning. This day proved to be very worm.

Gass This was another fine morning.

Ordway a clear pleasant warm day.
Sunday, May 25

**Weather Diary**

rained moderately the greater part of last night and until a little before sunrise. Thunder

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**Daily Narrative Journals**

**Lewis & Clark**

It rained the greater part of last night and continued until 6 AM our grass tent is impervious to the rain.

**Clark**

rained moderately the greater part of last night and this morning until 6 A.M.

**Gass**

There was a cloudy morning, and some light showers of rain fell. The weather became clear and we had a fine evening.

**Ordway**

a Thunder Shower eairly this evening.

Monday, May 26

**Weather Diary**

the sun shone warm today, but the air was kept cool by the NW breezes

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**Daily Narrative Journals**

**Lewis**

Had frequent showers in the course of the last night. One of our men saw a salmon in the river today. The river still rising fast and snows of the mountains visibly diminish.

**Clark**

Some Small Showers of rain last night, and continued Cloudy this morning until 7 AM when it Cleared away and became fair and worm. the [river] riseing very fast and Snow
appear to melt on the Mountains.

Gass  This day was fine and pleasant

Ordway  clear & pleasant. The river rising  Our hunters returned the creek being so high they did not go to where was any hunting

Tuesday, May 27

Weather Diary

the dove is cooing which is the signal as the indians inform us of the approach of the salmon. The snow has disappeared on the high plains and seems to be diminishing fast on the spurs and lower region of the Rocky Mountains.

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Daily Narrative Journals

Clark  A cloudy morning. Up Collin’s Creek...that Stream Still continue So high that they could not pass it—

Gass  The morning was fair and pleasant. In the afternoon some rain fell

Ordway  had a hard Thunder Shower

Wednesday, May 28

Weather Diary

had several heavy thunder showers in course of last evening and night. The river from sunrise yesterday to sun rise this morning raised 1 ft 10 Incs.— drift wood runing in considerable quantities and current incredibly swift tho’ smooth.—

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Daily Narrative Journals

Clark This Country would from an extensive Settlement; the Climate appears quit as mild as that of a Similar latitude on the Atlantic Coast; & it cannot be otherwise than healthy; it possesses a fine dry pure air. The Chiefs...would let us know before we left them. that the Snow was yet so deep in the Mountains that if we attempted to pass, we would Certainly perish, and advised us to remain untill after the next full Moon when the Snow would disappear on the South hill sides and we would find grass for our horses—

Gass There was a cloudy foggy morning

Ordway Some spots of Snow & falling timber. Had a hard Thunder Shower.

Thursday, May 29

Weather Diary

frequent and heavy showers attended by distant thunder through the night. The river raised 6 inches in the course of yesterday and 1 foot 5 l. in the course of the last night. It is now as high as there are any marks of it’s having been in the spring 1805.— a t 10 AM it arrived at it’s greatest hight having raised 1 ½ inches from sunrise to that time. In the ballance of the day it fell 7 inches. The native inform us that it will take one more rise before it begins finally to subside for the season and then the passage of the mountains will be practicable.—

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Daily Narrative Journals

Lewis & Clark We would have repeated the sweat today hd not been cloudy and frequently raining—

Gass The morning was cloudy and wet, and the river is rising very fast; which gives us hope that the snow is leaving the mountains. At 10 o’clock the river ceased rising and the weather became clear.

Ordway rained the greater part of last night. A rainy morning. We...descended the worst hills we ever saw a road made down. (They went to where the Salmon & Snake Rivers meet)
Friday, May 30

Weather Diary

rain slight last night. The river continued to fall until 4 AM having fallen 3 I by that time since sunrise. It now was at a stand until dark having which it began again to rise.

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Daily Narrative Journals

Lewis & Clark very strong current. I sent Sergt. Pryor and a party over with the Indian canoe in order to raise and secure ours but the depth of the water and the strength of the current baffled every effort.

Gass The morning was fine, with a little fog. The river is so high that the trees stand some distance in the water.

Saturday, May 31

Weather Diary

within 3 Inches of its greatest height on the 29th inst. and fell a little after which it rose again. The river rose 13 inches last night and continues to rise fast. From sunset on the 31st of May until sunrise on the 1st of June it rose Eighteen inches and is now as high as any marks of it’s having been for several years past. A heavy thunder cloud passed around us last evening about sunset. Some rain fell in the fore part of the night only.

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Daily Narrative Journals

Gass We had a fine clear morning with a heavy dew. In the evening the weather became cloudy, and we had some rain with sharp thunder and lightning.
Ordway the Toomonamah river (Salmon) which is about 150 yards wide here. They (Indians) took us over a very bad hill down on to the (Salmon) river.
June 1806
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

The Expedition continued to wait for the winter snows to melt in the upper reaches of the Bitterroot Mountains at Camp Chopunnish along the Kooskooskee River [Clearwater]. They remain at this site near present-day Kamiah, ID from through June 10.

Sunday, June 1

**Weather Diary**

about dark last evening had a slight rain from a heavy thunder cloud which passed to the E & NE of us.

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1 Reference: Coues, Volume III, pages 1279-80, 1296-97; Moulton, Volume 8, pages 68-74; Thwaites, Volume 6, Part II, pages 218-220.

2 River rise and fall observations were taken on the KoosKooskie River (Clearwater). As in previous observations of river rise and fall, the river was probably measured at the sunrise observation providing a 24-hour reading. These observations continued until they left for the Lolo Trail on June 10, 1806.

**Daily Narrative Journals**

Gass We had a fine morning after some light showers of rain during the night.— Since last evening the river rose eighteen inches.

Monday, June 2

**Weather Diary**

have slept comfortably for several nights under one blanket only. The river from sunrise until 10 AM yesterday raised 1 ½ inches; from that time until dark fell 4 ½, and in the course of last night raised again 8 inches as stated in the diary. The Indians inform us that the present rise of the river is the greatest which it annually takes, and that when the water now subsides to about the height it was
when we arrived here the mountains will be passable. I have not doubt but that the melting of the mountain snows in the beginning of June is what causes the annual inundation of the lower part of the Missouri from the 1st of the Middle of July.—

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**Daily Narrative Journals**

**Lewis** in order to prepare in the most ample manner in our power to meet that wretched portion of our journey, the Rocky Mountain, where hunger and cold in their most rigorous forms assail the waried traveller; not any of us have yet forgotten our sufferings in those mountains in September last, and I think it probably we never shall. Sergt. Ordway & party returned from The East fork of Lewis’s river they discribe as one continued rapid about 150 yds wide its banks are in most places solid and perpendicular rocks, with rise to a great hight; it’s hills are mountains high. On the tops of some of those hills which they passed, the snow had not entirely disappeared, and the grass was just springing up.

**Clark** McNeal and York were sent on a trading voyage over the river this morning. having exhosted all our Merchindize we were obliged to have recourse to every Subterfuge in order to prepare in the most ample manner in our power to meet that wretched portion of our journey, the Rocky Mountains, where hunger Cold in their most rigorous form assail the waired traveller; not any of us have yet forgotten our sufferings in those mountains in September last, I think it probable we never shall. Both forks above the junction of Lewis’s river appear to enter a high Mountainious Country.

**Gass** The morning was cloudy.

**Ordway** a fair morning. Found the river (Clearwater) very high indeed.

**Tuesday, June 3**

**Weather Diary**

The weather has been much warmer for five days past then previously, particularly the mornings and nights.—

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**Daily Narrative Journals**

**Lewis & Clark**  
I begin to lose all hope of any dependance on the Salmon as this river will not fall sufficiently to take them before we shall leave it, and as yet I see now appearance of their running near the shores as the Indians inform us they would in the course of a few days. I find that all the salmon which they procure themselves they obtain on Lewis’s river [Snake River].

**Gass**  
This was a cloudy morning with a few drops of rain; and there were some light showers during the forenoon at intervals. The river rises in the night, and falls in the day time; which is occasioned by the snow melting by the heat of the sun on the mountains, which are too distant for the snow water to reach this place until after night.

**Ordway**  
clouded up and Sprinkled a little rain.

**Wednesday, June 4**

**Weather Diary**

rained greater part of last night but fell in no great quantity---- yesterday the water was at it’s greatest height at noon, between which and dark it fell 15 inches and in the course of the night raised 1 ½ inches as stated in the diary. From the Indian information the river will now subside and may therefore be said to have been at it’s greatest annual height on the 3rd inst. at noon.—

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**Daily Narrative Journals**

**Gass**  
It rained slowly almost all last night, and for some time this morning. The river fell considerably yesterday, and in the night rose only an inch and a half. The afternoon was clear and pleasant.

**Ordway**  
rained the greater part of last night a wet morning

**Thursday, June 5**

**Weather Diary**

---

**Lewis & Clark Expedition Weather Journals, 1806, Page 104**
last night was colder than usual but no frost.— the river fell 3 ½ inches in the course of the day and raised 4 I. Last night as stated in the diary. This fluctuating state of the river no doubt is caused by the influence of the sun in the course of the day on the snows of the mountains; the accession of water thus caused in the day dose not reach us untill night when it produces a rise in the river.— the wild rose is in blume. The river fell 10 Ins. in the course of the day.

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**Daily Narrative Journals**

Clark The river falls in course of the day and rises Some at night as will be Seen by the remarks in the Diary of the weather. This most probably is the melding of the Snows dureing the day &c.

Gass There was a fine pleasant morning with heavy dew. An Indian, came with our four hunters, who had been part of the way over the mountains; but found the road too bad and the snow too deep to cross; so we are obliged to remain where we are sometime longer.

Ordway a fair morning. The Indians inform us that one of them had set out some days past to cross the mountains if possable but Soon after dark he returned to our Camp and informed us that he went over one mountain and in attempting to cross a creek which was high and rapid his horse fell and hurt him so he turned back to wait untill the water falls. The river kooskee is falling fast.

Friday, June 6

**Weather Diary**

in the course of the last night the river raised a little but fell by morning 1 inch lower that what it stood at last evening. The seven bark and the yellow vining honeysuckle are just in blume. A few of the does have produced their young. Strawberries ripe near the river.— (Lewis) hot sultry day (Clark)

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**Daily Narrative Journals**

**Lewis**  The Kooskooske is about 160 Yds. wide at this place and discharges a vast body of water; notwithstanding it high state the water remains nearly transparent, and it’s temperature appears to be quite as cold as that of our best springs.

**Gass**  The morning was pleasant

**Ordway**  a fair morning.

**Saturday, June 7**

**Weather Diary**

rain but slight both last evening and today. But little hail tho’ large. The river fell three inches last night and 7 yesterday. The goose berries fully grown also the servis berry.

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**Daily Narrative Journals**

**Gass**  We had a cloudy morning with a few drops of rain. Went to a village and while we were going some snow fell.

**Ordway**  cloudy & light Showers of rain intermixed with hail & Snow. The air cold.

**Sunday, June 8**

**Weather Diary**

river fell 8 In. in the course of yesterday 7 last night

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**Daily Narrative Journals**
Gass

There was a pleasant morning. Several natives...are of opinion we cannot cross the mountains for some time yet.
Monday, June 9

Weather Diary

river fell 9 in. yesterday (Lewis) & 3 ½ last night (Clark)

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Daily Narrative Journals

Lewis    the river has been falling for several days and is now lower by near six feet than it has been; this we view as a strong evidence that the great body of snow has left the mountains, though I do not conceive that we are as yet loosing any time as the roads is in many parts extremely steep rocky and must be dangerous if wet and slippery; a few days will dry the roads and will also improve the grass—

Clark   The flat head river is Still falling fast and nearly as low as it was at the time we arrived at this place. This fall of water is what the nativs have informed us was a proper token for us. When the river fell the Snows would be Sufficiently melted for us to Cross the Mountains. The greater length of time we delayed after that time, the higher the grass would grow on the Mountains—

Gass    This was a fine plesant day

Expedition leaves the Kooskooskee River and moves up onto the Weippe Prairie, ID and then starts their journey over the Bitterroot Mountains on the Lolo Trail but on June 17 must retrograde due to a high snowpack [their first of the journey] and begin again on June 25.

Tuesday, June 10

Weather Diary

do fell 5 ½ in. course of yesterday having left the river today I could not longer keep it’s state; it appears to be falling fast and will probably in the course of a few days be as low as when we first arrived there. It is now about 6 feet lower than it has been.
They left the river valley at this point to begin their journey towards the Bitterroot Mountains. This ends observations along the Clearwater River.

**Daily Narrative Journals**

Clark  we intend to delay a few days....by which time we Calculate that the Snows will have melted more off the mountains and the grass raised to a sufficient height for our horses to live.

Ordway  clear & pleasant.

**Wednesday, June 11**

**Weather Diary**

at the quawmash flats

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**Daily Narrative Journals**

Gass  We had a fine morning with some white frost.

Ordway  clear and pleasant.

**Thursday, June 12**

**Weather Diary**

slight sprinkle of rain in the forepart of the night.—
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**Daily Narrative Journals**

**Lewis & Clark**
the days are now very warm and the Musquetoes our old companions have become very troublesome.

**Gass**
We had a fine lovely morning with a heavy dew.

**Ordway**
a clear pleasant morning.

Friday, June 13

**Weather Diary**
the days for several past have been warm, the Musquetoes troublesome

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**Daily Narrative Journals**

**Lewis & Clark**
we directed the meat to be cut thin and exposed to dry in the sun.

**Gass**
There was a fine morning. In the evening the weather became cloudy.

**Ordway**
a fair morning.
Saturday, June 14

Weather Diary

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Daily Narrative Journals

Lewis  ....we have now been detained near five weeks in consequence of the snows; a serious loss of time at this delightfull season for traveling. I am still apprehensive that the snow and the want of food for our horses will prove a serious imbarrassment to us as at least four days journey of our rout in these mountains lies over hights and along a ledge of mountains never intirely destitute of snow. every body seems anxious to be in motion, convinced that we have not now any time to delay if the calculation is to reach the United States this season; this I am detirmined to accomplish if within the compass of human power.

Clark  we expect to Set out early, and Shall proceed with as much expedition as possible over those Snowy tremendous mountains which has detained us near five weeks in this neighbourhood waiting for the Snows to melt Sufficent for us to pass over them. And even now I Shudder with the expectation with great dificueltes in passing those Mountains, form the debth of Snow and the want of grass Sufficent to Subsist our horses as about 4 days we Shall be on the top of the Mountain which we have every reason to believe is Covered with Snow the greater part of the year.

Gass  We had a cloudy morning.

Sunday, June 15

Weather Diary

it began to rain at 7 AM and contined by showers untill 5 PM

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it rained very hard in the morning and after collecting our horses we waited for it to abait, but as it had every appearance of a settled rain we set out at 10 AM. The rains have rendered the road very slippery insomuch that it is with much difficulty our horses can get on.

Some hard Showers of rain detained us untill AM at which time we took our final departure from the quawmash fields and proceeded with much difficuelty owing to the Situation of the road which was very Sliprey. They frequently Sliped down both assending and decending those hills. the rain Seased and Sun Shown out. we passed through bad fallen timber and a high Mountain this evening. From the top of this Mountain I had an extensive view of the Rocky Mountains...several high pts. to the N & NW Covered with Snow. A remarkable high rugd mountain in the forks of Lewis’s river nearly South and covered with Snow.

This was a cloudy wet morning with some thunder. We had rain at intervals during the forenoon, but the afternoon was clear.

Soon set in to raining hard. About noon we had Thunder and hard Showers of rain.

on the tops of the hills the dog tooth violet is just in bloom grass about 2 inches high small Huckleberry just putting forth it’s leaves &c.

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the snow has increased in quantity so much that the greater part of our rout this evening was over the snow which has become sufficiently firm to bear our horshes, otherwise it would have been impossible for us to proceed as it lay in immence masses in some places 8 or ten feet deep. We found much difficulty in pursuing the road as it was so frequently covered with snow. The air is pleasant in the course of the day but becomes very cold before morning notwithstanding the shortness of the nights. Hungry Creek is but small at this place but is deep and runs a perfect torrent; the water is perfectly transparent and as cold as ice.

and proceed on through most intolerabl e bad fallen timber over a high Mountain on
which great quantity of Snow is yet lying premisquissly through the thick wood, and in maney places the banks of snow is 4 feet deep. We nooned it or dined on a Small Creek in a small open valley where we found Some grass for our horses to eate, altho Serounded by Snow. the Snow has increased in quantity So much that the great part of our rout this evening was over the Snow which has become Sufficiently firm to bear our horses, otherwise it would have been impossible fur us to proceed as it lay in emince masses in Some places 8 to ten feet deep. We found much difficulty in finding the road, as it was so frequently covered with snow.

Gass We had a pleasant morning, The hills...great many banks of snow, some of them four or five feet deep. These banks are so closely packed and condensed, that they carry our horses, and are all in a thawing state. Had some rain at dinner. In the afternoon we found the snow banks more numerous; extensive and deep; in some of them the snow as much as eight feet deep.

Ordway the morning fair. Towards noon we passed over high banks of Snow which bore up our horses, some places 5 or 6 feet deep light Showers of rain this afternoon the Snow is more Common and much deeper. The bushes are all bent flat down by the deep Snow lying on them. The Snow must fall in these hallars in the winter 15 to 20 feet deep and perhaps the Snow drifts in and fills the hollars full.

Expedition must retrograde [their first of the journey] as the snowpack it too deep for them to see the trail.

Tuesday, June 17

Weather Diary

rained slightly a little after sunset Air cool. Rained frm 1 to 3 PM (Lewis) assend a mtn. Snow 15 feet deep on top. (Clark)

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Daily Narrative Journals

Lewis this hill or reather mountain we ascended about 3 miles when we found ourselves envolved in snow from 12 to 15 feet deep even on the south sides of the hills with the fairest exposure to the sun; here was winter with all it’s rigors; the air was cold, my hands
and feet were benumbed. We could not hope for any food for our horses not even underwood itself as the whole was covered many feet deep with snow. The snow bore our horses very well and the travelling was therefore infinitely better that the obstruction of rocks and fallen timber which we met with in our passage over last fall when the snow lay on this part of the ridge in detached spots only. Under these circumstances we conceived it madness in this stage of the expedition to proceed without a guide. This is the first time since we have been on this long tour that we have even been compelled to retreat or make a retrograde march. It rained on us most of this evening—

Clark ....this mountain we ascended 3 miles when we found ourselves involved in snow from 8 to 12 feet deep even on the South Side of the mountain. I was in front and could only pursue the direction of the road by the trees which had been peeled by the natives for the inner bark of which they scraped and ate. I with great difficulty pursued the direction of the road one mile further to the top of the mountain where I found the snow from 12 to 15 feet deep, but flew trees with the fairest exposure to the Sun; here was winter with all its rigors; the air was cold my hands and feet were benumbed. We therefore come to the resolution to return...and again to proceed as soon as we could procure such a guide, knowing from the appearance of the snows that if we remained until it had dissolved sufficiently for us to follow the road that we should not be enabled to return to the United States within this season. We began our retrograde march at 1 P.M. having remain’d about three hours on this snowy mountain. We returned by the route we had advanced to Hungary Creek, which we ascended about 2 miles and encamped. ...the party were a good deal dejected, tho’ not as much so as I had apprehended they would have been. It rained on us most of this evening. On the top of the mountain the weather was very fluctuating and uncertain snowed cloudy & fair in a few minutes.

Gass There was a cloudy morning, but without rain. When we got about half way up the mountains, the ground was entirely covered with snow, three feet deep; and as we ascended it still became deeper, until we arrived at the top, where it was twelve or fifteen feet deep; After remaining about two hours, we concluded it would be most advisable to go back to some place where there was food for our horses. At this time it began to rain; and we proceeded down to Hungry Creek again. The grass and plants here are just putting out, and the shrubs budding. It rained hard during the afternoon.

Ordway we set out as usual the morning chilley and cloudy. When we got about half way up the ground was covered with snow 3 or 4 feet deep as we ascended higher it go deeper until we got to the top of the mountain where it was 12 to 15 feet in general even on the South Side where the Sun has open view but is So Settled So that it bears up our horses. Set in to halling & raining at this time very cold and disagreeable. So we turned back much against our expectations when we started.

Wednesday, June 18

Weather Diary

obliged to return
Sunrise | 4 PM | River
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Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
---|---|---|---|---|---|---|---|---
- | c a r | E | - | c a r & h | SW | - | - | -

**Daily Narrative Journals**

**Gass**
The morning was cloudy and several showers of rain fell during the day. Where we had dinner on the 16th had a gust of rain, hail, thunder and lightning, which lasted an hour, when the weather cleared and we had a fine afternoon. We found the musquitoes very troublesome on the creek, notwithstanding the snow is at so short a distance up the mountains.

**Ordway**
cloudy. About noon....at which time came up a hard Shower of hail and rain and hard Thunder, which lasted about an hour and cleared off. The musquitoes verry troublesome at this place.

**Thursday, June 19**

**Weather Diary**

returned to quawmash flats.

Sunrise | 4 PM | River
---|---|---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
---|---|---|---|---|---|---|---|---
- | f a c | SE | - | f | NW | - | - | -

**Daily Narrative Journals**

**Lewis**
these trout are of a red kind they remain all winter in the upper parts of the rivers and creeks and are generally poor at this season.

**Clark**
The SW Sides of the hills is fallen timber and burnt woods, the NE Sides of the hills is thickly timbered with lofty pine, and thick under growth.

**Gass**
This was a fine morning

**Ordway**
a fair morning.
Friday, June 20

**Weather Diary**

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**Daily Narrative Journals**

Lewis & Clark

we have determined to wrisk a passage on the following plan immediately, because should we wait much longer or until the snow desolves in such manner as to enable us to follow the road we cannot hope to reach the United States this winter. The travelling in the mountains on the snow at present is very good, the snow bears the horses perfectly; it is a firm course snow without a crust. Although the snow may be stated on an average at 10 feet deep yet around the bodies of the trees it has desolved generally more than in other parts not being generally more than one or two feet deep immediately at the roots of the trees. The reason why the snow is comparatively so shallow about the roots of the trees I presume proceeds as well from the snow in falling being thrown off their bodies by their thick and spreading branches as from the reflection of the sun against the trees and the warmth which they in some measure acquire from the earth which is never frozen underneath these masses of snow.

Gass

There was a fine morning.

Ordway

a fair morning.

Saturday, June 21

**Weather Diary**

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Lewis & Clark Expedition Weather Journals, 1806,   Page 116
Daily Narrative Journals

Gass  We had again a fine morning

Ordway  a fair morning.

Sunday, June 22

Weather Diary

hard frost this morning tho’ no ice. Strawberries ripe at the Quawmash flats, they are but small and not abundant.—

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Daily Narrative Journals

Lewis & Clark  the last evening was cool but the day was remarkably pleasant with a fine breize from the NW.

Gass  We had a pleasant day

Ordway  clear and pleasant

Monday, June 23

Weather Diary

hard frost this morning ice one eighth of an inch thick on standing water

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**Daily Narrative Journals**

Gass  
We had again a fine morning

Ordway  
a clear pleasant morning.

**Tuesday, June 24**

**Weather Diary**

Set out a 2nd time from quawmash flats

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4 Clark’s Journal Codex M lists this weather data as “f.”

**Daily Narrative Journals**

Clark  
we had fine grass for our horses this evening—

Gass  
There was a cloudy morning. The day keeps cloudy, and the musquitoes are very troublesome.

**Expedition starts again over the Bitterroot Mountains along the Lolo Trail on June 25 through June 30.**

**Wednesday, June 25**

**Weather Diary**

rained a little last night, some showers in the evening.

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Lewis & Clark

last evening the indians entertained us with setting the fir trees on fire. they have a great number of dry limbs near their bodies which when Set on fire creates a very sudden and emmence blaize from bottom to top of those tall trees. They are a beautifull object in this situation at night. this exhibition reminded me of a display of fireworks. the natives told us that their object in Setting those trees on fire was to bring fair weather for our journey—

Gass

There was a light shower of rain this morning. A considerable quantity of rain had fallen during the afternoon.

Ordway

a little rain last night. We find the Snow has melted considerable Since we passd. The after part of the day Showery and wet.

Thursday, June 26

Weather Diary

Slight rain in the fore part of the last evening.— (Lewis) in the snowey region. (Clark)

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Daily Narrative Journals

Lewis

the snow has subsided near four feet since the 17th inst. We now measured it accurately and found from a mark which we had made on a tree when we were last here on the 17th that it was then 10 feet 10 inches which appeared to be about the common debth though it is deeper still in some places. It is now generally about 7 feet. Accordingly we set out with our guides who lead us over and along the steep sides of tremendous mountains entirely covered with snow except about the roots of the trees where the snow had sometimes melted and exposed a few square feet of the earth. Encamped...here we found an abundance of fine grass for our horses. This situation was the side of an untimbered mountain with a fair southern aspect where the snows from appearance had been desolved about 10 days.

Clark

...and assended to the summit of the mountain where we deposited our baggage on the 17th inst. found everything safe and as we had left them. the Snow which was 10 feet 10 inches deep on the top of the mountain, had sunk to 7 feet tho’ perfectly hard and firm. we made Some fire Cooked dinner and dined, while our horses stood on snow 7 feet deep at least. Encamped...the grass was young and tender of course and had much the
appearance of the Green Swoard.

**Gass**

We had a foggy morning; proceeded on early; and found the banks of snow much decreased; at noon we arrived at the place where we had left our baggage and stores. The snow here had sunk twenty inches. We measured the depth of the snow here and found it ten feet ten inches. We proceeded over some very steep tops of the mountains and deep snow; but the snow was not so deep in the drafts between them. Some heavy showers of rain had fallen in the afternoon.

**Ordway**

we find the Snow has settled a little more than 2 feet since we left this the other day. Proceeded on thro. Snow deep. In the evening we came to the side of a mountain where the Snow is melted away and a little young grass &C.

**Friday, June 27**

**Weather Diary**

Thunder shower last evening some rain a little before dark last evening

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5 Clark’s Journal Codex M lists this weather data as “f a r.”

**Daily Narrative Journals**

**Lewis & Clark**

we halted by the request of the Indians a few minutes and smoked the pipe. From this place we had an extensive view of these stupendous mountains principally covered with snow like that on which one unacquainted with them it would have seemed impossible ever to have escaped; we arrived at a situation very similar to our encampment of the last evening tho’ the ridge was somewhat higher and the snow had not been so long desolved of course there was but little grass. I doubt much whether we who had once passed them could find our way to Travellers Rest in their present situation

**Gass**

We had a cloudy morning...proceeding over some of the steepest mountains I ever passed. The snow is so deep that we cannot wind along the sides of these steps, but must slide straight down. ...about 5 o’clock in the evening, when we stopped at the side of a hill where the snow was off, and where there was a little grass. The day was pleasant throughout; but it appeared to me somewhat extraordinary, to be traveling over snow six or eight feet deep in the latter end of June. The most of us, however, had saved our socks, as we expected to find snow on these mountains.

**Ordway**

a fair morning. We took an early breakfast and proceeded on very fast over the high banks of Snow. The day warm and Snow melts fast—
Saturday, June 28

Weather Diary

nights are cool in these mountains but no frost

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Daily Narrative Journals

Lewis & Clark
the whole of the rout of this day was over deep snows. We find the traveling on the snow not worse than without it as the easy passage it gives us over rocks and fallen timber fully compensates for the inconvenience of slipping, certain it is that we travel considerably faster on the snow than without it. the snow sinks from 2 to 3 inches with a horse, is coarse and firm and seems to be formed of the larger and more dense particles of the Snow; the Surface of the Snow is rather harder in the morning than after the sun shines on it a few hours, but it is not in that situation so dense as to prevent the horses from obtaining good foothold.

Clark
much fallen timber caused in the first instance by fire and more recently by a storm from the SW. 

Gass
The morning was pleasant. On the south side of this ridge there is summer with grass and other herbage in abundance; and on the north side, winter with snow six or eight feet deep.

Ordway
a fair clear cool morning. The snow continues as yesterday. Had a bad Shower of hail and some thunder in the evening

5 From Clark’s Courses and estimated distances list along a high ridge 4 ½ miles which turns off to the right and leads to the fishery at the entrance of Colt Creek.

Party passes across the Lolo Pass, Idaho-Montana state line.

Sunday, June 29

Weather Diary

night cold hard frost this morning. The quawmash and strawberries are just beginning to blume at the
flatts on the head of the Kooskooske. The sun flower also just beginning to blume, which is 2 months later that those on the Sides of the Western Mountains (Cascades) near the falls (Celilo) of the Columbia.

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**Daily Narrative Journals**

**Lewis & Clark**

when we decended from this ridge we bid adieu to the snow. The Kooskooske at this place is about 30 yds. wide and runs with great volocity. the principal spring is about the temperature of the Warmest baths used at the Hot Springs in Virginia. in this bath which had been prepared by the Indians by stopping the river with Stone and mud, I bathed and remained in 10 minits it was with dificulty I could remain this long and it caused a profuse sweat. two other bold Springs adjacent to this are much warmer, their heat being so great as to make the hand of a person Smart extremely when immerced. We think the temperature of those Springs about the Same as that of the hotest of the hot Springs of Virgina.

**Gass**

There was a foggy morning. Proceeded early...at which time there was a shower of rain, with hail, thunder and lightning, that lasted about an hour. At 10 o’clock we left the snow, and in the evening we arrived at the warm springs (Lolo Hot Springs).

**Ordway**

a fair morning. The fog rose up thick from the hollars had a Shower of Hail and Thunder. Towards evening we arived at the hot Stream where we camped. A number of the party as well as myself bathed in these hot Springs, but the water so hot (has been measured at 111 °F), that it makes the Skin Smart when I first entered it. I drank Some of the water also—

**Party arrives at Traveler Rest, near present-day Lolo, MT.**

**Monday, June 30**

**Weather Diary**

We are here Situated on Clark’s river in a Vally between two high mountains of Snow. Night cold hard frost this morning.
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<tr>
<th>Temp</th>
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<th>Wind</th>
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<th>Rise/Fall</th>
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**Daily Narrative Journals**

**Clark**  
Descended the mountain to Travellers rest leaving those tremendous mountain behind us— in passing of which we have experienced Cold and hunger of which I shall ever remember...from the 14th to the 19th of Sept. 1805 we marched through snow, which fell on us on the night of the 14th and nearly all the day of the 15 in addition to the cold rendered the air cool and the way difficult. On the 16th we met with banks of Snow and in the hollars and maney of the hill Sides of Snow was from 3 to 4 feet deep and Scercely any grass vegetation just commencing where the snow had melted— on the 17th at meridian, the Snow became So deep in every direction from 6 to 8 feet deep we could not prosue the road...on the 27th & 28th also passing over Snow 6 to 8 feet deep all the way on 29th passed over but little Snow— but saw great masses of it lying in different directions.

**Gass**  
We continued our march early and had a fine morning.

**Ordway**  
a clear morning. Musquetoes verry troublesome here—

7 Clark at the end of this narrative journal remark provides a lengthy discussion summarizing their experiences traveling across the mountains to the Pacific Ocean and back to Travellers Rest. This discussion is found in the daily journal entries for June 30, 1806.
July 1806
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

Tuesday, July 1

Weather Diary ¹

a speceis of wild clover with a small leaf just in blume.

Lewis Entry ²

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Lewis’s weather entries are separate from Clark’s from July through August 12, as the two leaders went on separate trails before coming back together on the Missouri in August. Lewis takes his party which includes Sergeant Gass to the White Bear Island Camp near the Great Falls of the Missouri. There Lewis takes a smaller contingent to scout the Marias River.

References:   Moulton, Volume 8, pages 142-144; Thwaites, Volume 6, Part II, pages 221-222.

Daily Narrative Journals

Gass We had a fine morning

Weather Diary ³

a Species of wild Colver in blume

Clark Entry ⁴

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<th>Sunrise</th>
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Clark takes the rest of the party up the Bitterroot Valley towards Camp Fortunate to pick the cache of goods left the last year. From there, the party returns to the Three Forks of the Missouri. Clark then splits the party and Sergeant Ordway proceeds down the Missouri with various specimens and the canoes to meet up with Sergeant Gass and assist in portaging the Great Falls of the Missouri. Clark takes a smaller contingent over Bozeman Pass and explore the Yellowstone River back to the Missouri.

References:   Coues, Volume III, pages 1280, 1297-98; Moulton, Volume 8, pages 262-267; Thwaites, Volume 6, Part II, pages 223-226.

Lewis & Clark Expedition Weather Journals, 1806,   Page 124
**Daily Narrative Journals**

**Ordway** cloudy.

**Wednesday, July 2**

**Weather Diary**

**Lewis Entry**

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**Daily Narrative Journals**

**Lewis** the tops of the high mountains on either side of this river are covered with snow.

**Gass** We continued here during this day, which was fine

**Weather Diary**

Musquetors very troublsom

**Clark Entry**

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**Daily Narrative Journals**

**Ordway** a clear pleasant morning.

The Parties split near Lolo, Montana. Lewis and his party travel up the Blackfoot river through Lewis and Clark Pass, down the Sun River and into the Great Falls of the Missouri. Clark and his party venture back up the Bitterroot Valley, over the continental divide into the Big Hole Valley and to the cache at Camp Fortunate, south of Dillon Montana.
Thursday, July 3

**Weather Diary**

the turtle dove lays its eggs on the ground in these plains and is now setting, it has two eggs only and they are white.

**Lewis Entry**

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**Daily Narrative Journals**

Lewis we saddled our horses and set out I took leave of my worthy friend and companion Capt. Clark and the party that accompanied him. I could not avoid feeling much concern on this occasion although I hoped this separation was only momentary. Passed the east branch of Clark’s River...from 90 to 120 yds. wide. the musquitoes were so excessively troublesome this evening that we were obliged to kindle large fires for our horses these insects torture them in such manner untill they placed themselves in the smoke of the fires that I really thought they would become frantic. About an hour after dark the air become so coald that the musquitoes disappeared.

Gass We had again a fine morning

**Weather Diary**

Cap L. & my Self part at Travellers rest.

**Clark Entry**

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**Daily Narrative Journals**

Clark those Creeks take their rise in the mountains to the West which mountains is at this time Covered with Snow for about 1/5 of the way from their tops downwards. Some Snow is also to be Seen on the high points and hollows of Mountains to the East of us.

Lewis & Clark Expedition Weather Journals, 1806, Page 126
**Ordway**  I am with Capt. Clark up the (Bitterroot River). We kept up the west Side as it is too high at this time to cross.

**Friday, July 4**

**Weather Diary**

**Lewis Entry**

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**Daily Narrative Journals**

**Lewis**  the evening was fine, air pleasant and no musquetoes.

**Gass**  We had a beautiful morning

**Weather Diary**

a worm day. I saw a Species of Honeysuckle with a redish brown flower in blume

**Clark Entry**

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**Daily Narrative Journals**

**Clark**  the last Creek or river which we pass’d was So deep and the water So rapid that Several of the horses were Sweped down Some Distance. The water was So Strong, altho’ the debth was not much above the horses belly, the water passed over the backs and loads of the horses. Those Creeks are emensely rapid has great decent.

**Ordway**  a fair morning. Dined and proceeded on without finding the road. As we cannot ford the river yet.
Saturday, July 5

Weather Diary

a great number of pigeons breeding in this part of the mountains musquetoes not so troblesom as near Clark’s river. some ear flies of the common kind and a few large horse flies.

Lewis Entry

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Daily Narrative Journals

Gass We had another beautiful morning....crossed a river about 35 yards wide, which flows in with a rapid current from some snow topped mountains on the north.

Weather Diary

Cool night. Some dew this morning the nights are Cool. the musquetors are troublesome untill at little after dark when the air become Cool and Musquetoes disappear.

Clark Entry

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Daily Narrative Journals

Clark I crossed the river which heads in a high peecked mountain Covered with Snow NE of the Valley at about 20 miles [near West Pintlar Peak MT]

Ordway a fair M. Set out to cross the right fork of the river which we found nearly Swimming.

Clark’s party passes over the Continental Divide at present-day Gibbons Pass, MT.
Sunday, July 6

Weather Diary

the last night cold with a very heavy dew

Lewis Entry

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Daily Narrative Journals

Gass       We had a fine clear morning with some white frost

Weather Diary

cold night with frost. I slept cold under 2 blankets on head of Clark’s river. I arived in an open plain in the middle of which a violent Wind from the N.W. accompanied with hard rain which lasted from 4 untill half past 5 P.M. quawmash in those plains at the head of wisdom River is just beginning to blume and the grass is about 6 inches high.

Clark Entry

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<th>Sunrise</th>
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Daily Narrative Journals

Clark     Some frost this morning. The last night was so cold that I could not Sleep. I observe great quantities of quawmash just beginning to blume. the Snow appears to lying in considerable masses on the mountain from which we decended on the 4th of Sept. Last. [Saddle Mountain, Ravalli County, MT] Crossd. a large Creek [Ruby Creek] from the right which heads in a Snow Mountain. we had not proceeded more than 2 Miles in the last Creek, before a violent Storm of wind accomand. with hard rain from the SW imediately from off the Snow Mountains this rain was Cold and lasted 1 ½ hours. I discovd. the rain wind as it approached and halted and formd. a solid column to protect our Selves from the Violency of the gust.
Lewis & Clark Expedition Weather Journals, 1806,  Page 130

Ordway  a fair morning. Our Intrepters wife (Sacajawea) tells us that She knows the country & that this branch is the head waters of jeffersons river &C. Late in the afternoon we came to a large extensive plain (Big Hole Valley) Came up a hard Thunder Shower of hail and hard wind. We halted a short time in the midst of it then proceed.

Lewis’ party crosses over the Continental Divide at present-day Lewis and Clark Pass, MT.

Monday, July 7

Weather Diary

a cloud came on about sunset and continued to rain moderately all night. rained at 3 PM

Lewis Entry

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Daily Narrative Journals

Lewis  passing the dividing ridge between the waters of the Columbia and Missouri rivers at 1/4 of a miles.

Gass  We had a wet night, and a cloudy morning...we came to the dividing ridge between the waters of the Missouri and Columbia

Weather Diary

Saw a blowing Snake. a violent rain from 4 to ½ past 5 last evening & Some rain in the latter part of last night. a small Shower of rain at 4 this morning accompanied with wind from the S.S.W.

Clark Entry

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Lewis & Clark Expedition Weather Journals, 1806,  Page 130
**Daily Narrative Journals**

**Clark**
We arived at a Boiling Spring [Jackson Hot Spring]...this Spring contains a very considerable quantity of water and actually blubbers with heat for 20 paces below where it rises. It has every appearance of boiling, to hot for a man to endure his hand in it 3 seconds. A little sulferish. This extensive vally Surround with covered with snow is extremely fertile covered esculent plants &c...I now take my leave of this butifull extensive vally which I call hot spring Vally. remarkable Cold night

**Ordway**
had several Showers of rain & Thunder in the course of this afternoon—

**Clark’s party arrives at Camp Fortunate at present-day Clark Reservoir, MT.**

**Tuesday, July 8**

**Weather Diary**

heavy white frost last night. very cold

**Lewis Entry**

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**Daily Narrative Journals**

**Lewis**
the grass generally about 9 inches high.

**Gass**
The morning was pleasant with some white frost.

**Weather Diary**

a Small Shower of rain a little after dark a heavy rain and wind from SW at 4 P.M. yesterday a heavy Shower of rain accompanied with rain from the SW from 4 to 5 PM. Passed the boiling hot springs emerced 2 peces of raw meat in the Spring and in 25 Mints the Smallest pece was sufficiently cooked and in 32 the larger was also sufficiently cooked
Clark Entry

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Daily Narrative Journals

Clark
opened the cache...I found every article Safe, except a little damp. The Country through which we passed to day was diversified high dry and uneaven Stonry open plains and low bottoms very boggy [Grasshopper Creek MT] with high mountains on the tops and North sides of which there was Snow

Ordway
a clear cold morning & hard frost. Cam to a boiling hot spring (Jackson Hot Spring) I drank some of the water found it well tasted but So hot (has been measured at 136 ºF)

Wednesday, July 9

Weather Diary

rained slightly last night. Air cold. Rained constantly all day air extremly cold it began to rain about 8 AM and continued with but little intermission all day in the evening late it abated and we obtained a view of the mountains we had just passed they were covered with snow apparently several feet deep which had fallen during this day.—

Lewis Entry

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Daily Narrative Journals

Lewis
Set out early and had not proceeded far before it began to rain. The air extremly cold. Halted a few minutes in some old lodges untill it cased to rain in some measure. We then proceeded and it rained without intermission. Wet us to the skin. They day continued rainy and cold. The sun river is generally about 80 yds wide rapid...water clear.

Gass
A cloudy morning. We set out early to go down the river; but had not proceeded far before it began to rain, and we halted and took shelter. In an hours time the rain slackened, and we proceeded on; but had not gone far before it began to rain again, and

Lewis & Clark Expedition Weather Journals, 1806, Page 132
the weather was very cold for the season...before noon. ...and lay by during the afternoon as the rain continued during the whole of it.

**Weather Diary**

Hard frost. Some ice this morning. last night was very Cold and wind hard from the NE all night. The river is 12 inches higher that it was last Summer when we made the deposit here and portage from this place. more Snow on the adjacent mountains than was at that time.

**Clark Entry**

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**Daily Narrative Journals**

**Clark**
This day was windy and Cold. The wind dried our Canoes very much.

**Ordway**
a fair morning.

*Clark’s party starts down present-day Beaverhead River [Jefferson] heading toward Three Forks, MT. On their way they pass present-day Dillon, MT.*

**Thursday, July 10**

**Weather Diary**

rain ceased a little after dark

**Lewis Entry**

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**Daily Narrative Journals**

**Lewis**
the ground is renderd so miry by the rain which fell yesterday that it is excessively
fatigueing to the horses to travel. We came 10 miles and halted for dinner the wind blowing down the river in the fore part of the day was unfavourable to the hunters. They saw several gangs of Elk but they having the wind of them ran off. In the evening the wind set from the West and we fell in with a few elk. The most direct and best Course from the dividing ridge which divides the waters of the Columbia from those of the Missouri at the Gap. A fine road and about 45 miles, reducing the distance from Clark’s river to 145 miles.

Gass  At dark last evening the weather cleared up, and was cold all night. This morning was clear and cold, and all the mountains in sight were covered with snow, which fell yesterday and last night. The road was very muddy after the rain.

Weather Diary

white frost this morning. ice 3/4 of an inch thick on Standing water. grass killed by the frost. river falling progressively. a large white frost last night. the air extremely Cold. Ice 3/4 of an inch thick on Standing water.

Clark Entry

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Daily Narrative Journals

Clark last night was very cold and this morning everything was white with frost and the grass stiff frozen. I had some water exposed in a basin in which the ice was 3/4 of an inch thick this morning. The Musquetors were troublesome all day and until one hour after Sunset when it became Cool and they disappeared. I saw several large rattle Snakes in passing the rattle Snake Mountain they were fierce.

Ordway a Severe hard frost & Ice. Chilly and cold this morning

Lewis’ party arrives at the upper portage camp at the White Bear Islands, near Great Falls, MT.

Friday, July 11

Weather Diary

wind very hard in the latter part of the day
Lewis Entry

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Daily Narrative Journals

Lewis

the morning was fair and the plains looked beatifull the grass much improved by the late rain. The air was pleasant and a vast assemblage of little birds which crowd to the groves on the river sun most enchantingly. It is now the season at which the baffaloe begin to coppelate and the bulls keep a tremendous roaring we could hear them for many miles and there are such numbers of them that there is one continual roar. This evening...the wind blew very hard.

Gass

This was a fine morning

Weather Diary

frost this morning. goslins nearly grown fishing hawks have their young The yellow Current nearly ripe. a slight frost last night. the air Cool. the Musquetors retired a little after dark, and did not return untill about an hour after Sunrise.

Clark Entry

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Daily Narrative Journals

Clark

the wind rose and blew with great violence from the SW imediately off Some high mountains Covered with Snow. The violence of this wind retarded our progress very much and the river being emencly Crooked we had it imediately in our face nearly every bend. At 6 PM I passed Phalanthropy river which I proceved was very low. The wind Shifted about to the NE and blew very hard tho’ much warmer than the forepart of the day. Wisdom river is very high and falling.

Ordway

a fair morning. We took breakfast eairly and set off. The wind hard a head which is unfavourable to us. Wisdom river is verry high at this time.
Saturday, July 12

Weather Diary

wind violent all last night and today untill 5 PM when it ceased in some measure

Lewis Entry

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<th>Sunrise</th>
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Daily Narrative Journals

Lewis after 10 am...the wind blew so violently that I did not think it prudent to attempt passing the river— at 5 P.M. the wind abated and we transported our baggage and meat to the opposite shore in our canoes which we found answered even beyond our expectations. I think the river is somewhat higher than when we were here last spring/summer. The present season has been much more moist than the preceeding one. The grass and weeds are much more luxuriant than they were when I left this place on the 13th of July 1805— the yellow Currants begining to ripen.

Gass Again a fine morning

Weather Diary

wisdom river is high but falling. Prickly pears in blume

Clark Entry

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Daily Narrative Journals

Clark after completing the paddles &c and takeing Some Brackfast I set out The current I find much Stronger below the forks than above and the river tolerably steight as low as panther Creek when it became much more Crooked the Wind rose and blew hard off the Snowey mountains to the NW and rendered it very difficuelt to keep the canoes from running against the Shore. At 2 PM the Canoe in which I was in was driven by a Suden puff of wind under a log which projected over the water from the bank, and the man in
the Stern Howard was caught in between the Canoe and the log and a little hurt after
disingaging our selves from this log the canoes was driven immediately under a drift which
projected over and a little above the Water, here the Canoe was very near turning over

Ordway  a clear morning.  The canoe Capt. Clark was in got drove to Shore by the wind under
Some tops of trees and was near being filled with water.  Capt. Clark fired 2 guns as a
Signal for help.  I and the other canoes which was a head halted and went to their
assistance.  They soon got him safe off before 2 pm.

Clark’s party splits and journeys towards the Rochejhone [Yellowstone] River and
passes present-day Bozeman, MT.  Meanwhile Sergeant Ordway leads a smaller
party with the canoes towards Great Falls MT down the Missouri River.

Sunday, July 13

Weather Diary

Lewis Entry

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Daily Narrative Journals

Lewis  had the cash opened.  Found my bearskins entirely destroyed by the water, the river
having risen so high that the water had penetrated.  All my specimens of plants also lost.
The Chart of the Missouri fortunately escaped.  Musquitoes excessively troublesome
insomuch that without the protection of my musquetoe bier I should have found it
impossible to wright a moment.

Gass    The morning was pleasant

Weather Diary

Clark Entry

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Daily Narrative Journals

Clark  The Country in the forks between Gallitins & Madisens rivers is a butifull leavel plain  
Covered with low grass—  The Current of the river is rapid and near the mouth  
contains Several islands

Daily Narrative Journals - Ordway Party

Ordway  a clear morning. I and 9 proceedd on down the river. The wind a head so we halted  
little before night. The Musquetoes more troublesome than ever we have seen them  
before.

Monday, July 14

Weather Diary

Lewis Entry

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<th>Sunrise</th>
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Daily Narrative Journals

Lewis  had the meat cut thiner and exposed to dry in the sun.

Gass  There was a pleasant morning. We staid here also to day; and the musketoes continued  
to torment us until about noon, when a fine breeze of wind arose and drove them, for a  
while away.

Weather Diary

Saw a Tobacco worm shown me by York

Clark Entry

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Lewis & Clark Expedition Weather Journals, 1806,   Page 139
**Daily Narrative Journals**

*Clark*  
Passed 3 Small Streams from the Mountains to my right. Some Snow on the mountains to the SE S SW. Marked my name & day & year on a Cotton tree. The Main fork of Galletins River turn South and enter them mountains which are yet Covered with Snow.

**Daily Narrative Journals - Ordway Party**

*Ordway*  
a fair morning. The wind rose hard a head About noon we halted the wind rose So high that we were unable to proceed. In the evening as the wind fell we mooved down the R. to a bottom and Camped.

Clark’s party arrives at the Yellowstone River near present-day Livingston, MT. Ordway’s party passes the present State Capitol of Montana, Helena.

**Tuesday, July 15**

**Weather Diary**

**Lewis Entry**

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**Daily Narrative Journals**

*Lewis*  
the musquetoes continue to infest us in such manner that we can scarcely exist; for my own part I am confined by them to my bier at least 3/4ths of my time. My dog even howls with the torture he experiences from them, they are almost insupportable, they are so numerous that we frequently get them in our throats as we breath.

*Gass*  
We had pleasant weather.

**Weather Diary**

Struck the river Rochejhone 120 yards wide water falling a little
Clark Entry

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Daily Narrative Journals

Clark river is about 120 yrd wide bold and deep [Yellowstone]. The water of a whiteish blue colour. A mountain which is ruged NW has Snow on parts of it. River is rugid and covered with Snow those on the West is also high but have now Snow. Much dead timber on its N side—Camped last night passing over a low dividing ridge to the head of a water Course which runs into the Rochejhone [Yellowstone River]. The River Rochejhone at which place I arrived at 2 PM. Shield River discharges itself into the Rochejhone...this river is 35 yards deep and affords a great quantity of water it heads in those Snowey Mountain to the NW with Howards Creek. The Roche passes out of a high rugid mountain covered with Snow. This 2nd bottom over flows in high floods. But few flowers to be Seen in those plains. Low grass in the high plains

Daily Narrative Journals - Ordway Party

Ordway a fair morning.

Lewis leaves Sergeant Gass in command of the upper portage camp at White Bear Islands, while he takes a small party to explore the Marias River basin from July 16 through July 28. Ordway’s party passes through the Gates of the Rockies.

Wednesday, July 16

Weather Diary

Saw the Cookkoo or rain corw and the redheaded woodpecker. The golden rye now heading. Both species of the prickly pare in blume.— the sunflower in blume.

Lewis Entry

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Lewis & Clark Expedition Weather Journals, 1806, Page 142
Daily Narrative Journals

Lewis proceeded down the river to the handsome fall [Rainbow Falls]...where I halted about 2 hours and took a haisty sketch of these falls. here we encamped and the evening having the appearance of rain made our beds and slept under a shelving rock. these falls have abated much of their grandure since I first at them in June 1805, the water being much lower at present than it was at that moment, however they are still a sublimely grand object.

Weather Diary

Saw the wild indigo & common sunflower

Clark Entry

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Daily Narrative Journals

Clark the current of the Rochejhone is too rapid to depend on Skinn canoes no other alternative for me but to proceed on down untill I can find a tree sufficiently large &c. to make a Canoe—

Daily Narrative Journals - Gass Portage Party

Gass There was a fine morning.

Daily Narrative Journals - Ordway Party

Ordway a fair morning. The wind rose a head and blew so high about nono that obledged us to lay too near the gates of the rockey mountains. About 3 PM the wind abated a little and we proced. on thro the gates of the mn

Thursday, July 17

Weather Diary

wind voilent all day. Distant thunder last evening to the West.
Lewis Entry

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Daily Narrative Journals

Lewis  I steered my course through the wind and level plains which have somewhat the appearance of an ocean, not a tree nor a shrub to be seen. The land is not fertile, at least far less so, than the plains of the Columbia or those lower down this river, it is a light coloured soil. Rose river [Teton] is at this place fifty yards wide, the water which is only about 3 feet deep...is very terbid of a white colour. From the size of rose river at this place and it’s direction I have no doubt but it takes it’s source within the first range of the Rocky Mountains.

Weather Diary

Heavy showers of rain    Hard Thunder & Lightning last night    a heavy Shower of rain accompanied with hail Thunder and Lightning at 2 a.m. with hard wind from the SW    after the Shower was over it Cleared away and became fair.

Clark Entry

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Daily Narrative Journals

Clark    The rain of last night wet us all. Cross a large Creek which heads in a high Snow toped Mountain to the NW immediately opposit to the enterance of the Creek one Somthing larger falls in from the high Snow mountains to the SW & South. All the mountains to the SW is covered with Snow [Absaroka Range & Beartooth Mountains]

Daily Narrative Journals - Gass Portage Party

Gass    We had a pleasant day, and high wind; which drives away the musquitoes and relieves us from those tormenting insects.
**Daily Narrative Journals - Ordway Party**

**Ordway**

a clear morning. The wind rose so high that Some of the canoes were near being filled. Halted at the creek above as the wind too high to pass these rapids with safety. Towards evening the wind abated a little So we passed down the rapids with Safety.

**Friday, July 18**

**Weather Diary**

**Lewis Entry**

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**Daily Narrative Journals**

**Lewis**

many prickly pears now in blume

**Weather Diary**

yellow, purple & black Currents ripe and abundant

**Clark Entry**

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**Daily Narrative Journals**

**Clark**

currents ripe...I think the purple Superior to any I have ever tasted. The river here is about 200 yard wide rapid as usial and the water gliding over corse gravel

**Daily Narrative Journals - Gass Portage Party**

**Gass**

There was another plesant day
Ordway a clear cool windy morning. Proceeded down the gentle current the musquetoes and small flyes are very troublesome. My face and eyes are Swelled by the poison of those insects which bite verry Severe indeed.

Clark establishes Yellowstone River Canoe Camp between July 19 and July 24 near present-day Columbus, MT. Ordway’s party arrives at the upper portage camp at the White Bear Islands and begins to assist Sergeant Gass’ party moving the canoes and materials down to lower portage camp.

Saturday, July 19

**Weather Diary**

**Lewis Entry**

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**Daily Narrative Journals**

**Lewis** completed my observation of the sun’s meridian Altitude we set out.

**Weather Diary**

Saw the 1st Grape vine of the dark purple kind the grape nearly grown

**Clark Entry**

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**Daily Narrative Journals**

**Clark** we passed over two high points of Land from which I had a view of the rocky Mounts. to the W & S SE all Covered with Snow. It may be proper to observe that the emence
Swarms of Grass hoppers have distroyed every Spring of Grass for many miles on this Side of the river, and appear to be progressing upwards.

**Daily Narrative Journals - Gass-Ordway Portage Party**

**Gass**  The weather continues pleasant

**Ordway**  a clear & pleasant morning.

**Sunday, July 20**

**Weather Diary**

**Lewis Entry**

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**Daily Narrative Journals**

**Lewis**  the day proved excessively warm and we lay by four hours during the heat of it; there is scarcely any water at present in the plains and what there is, lies in small pools and is so strongly impregnated with the mineral salts that it is unfit for any purpose except the use of the buffaloe. Those animals appear to prefer this water to that of the river.

**Weather Diary**

Swarms of grass hoppers have eaten the grass of the plains for many miles. The River Rachejhone falls about ½ an in in 24 hours and becomes much Clearer than above. The Grass hoppers are emencely noumerous and have distroyed every Species of grass from one to 10 Miles above on the river & a great distance back.

**Clark Entry**

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**Daily Narrative Journals**

**Daily Narrative Journals - Gass-Ordway Portage Party**

Gass  We had a fine day  
Ordway  a clear warm morning.

**Monday, July 21**

**Weather Diary**

**Lewis Entry**

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**Daily Narrative Journals**

Lewis  the water of this stream is nearly clear [Cut Bank Creek]. From the appearance of this rock and the apparent height of the bed of the stream I am induced to believe that there are falls in these rivers somewhere about their junction.

**Weather Diary**

river falls a little and the water is nearly Clear

**Clark Entry**

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**Daily Narrative Journals**

Clark  This evening late a very black Cloud from the SE accompanied with Thunder and lightning with hard winds which Shifted about and was warm and disagreeable.
Daily Narrative Journals - Gass-Ordway Portage Party

Gass  A plesant morning.

Ordway  a fair warm morning

Lewis’ party establishes Camp Disappointment on Cut Bank Creek of the Marias River west of present-day Cut Bank, MT. They remain here until July 26.

Tuesday, July 22

Weather Diary

Lewis Entry

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Daily Narrative Journals

Lewis  there being no wood we were compelled to make our fire with the buffaloe dung which I found answered the purpose very well. as I could see from hence very distinctly where the river entered the mountains and the bearing of this point being S of West I thought it unnecessary to proceed further and therefore encamped resolving to rest ourselves and horses a couple of days at this place and take the necessary observations...the rocky mountains to the SW of us appear but low from their base up yet are partially covered with snow nearly to their bases. There is no timber on those mountains within our view. the river appears to possess at least double the volume of water which it had where we first arrived on it below; this no doubt proceeds from the evaporation caused by the sun and air and the absorbing of the earth in its passage through these open plains. I now have lost all hope of the waters of this river ever extending to N Latitude 50°.

Weather Diary

rained Slightly last evening about dark with hard winds  Thunder & lightning  a fiew drops of rain last night at dark. The Cloud appd. to hang to the SW, wind blew hard from different points from 5 to 8 PM which time it thundered and Lightened. The river by 11 am to day had risen 15 inches, and the water of a milky white Colour.
Clark Entry

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Daily Narrative Journals

Clark The wind continued to blow very hard from the NE and a little before daylight was moderately Cool. The plains immediately out from Camp is So dry and hard that the track of a horse Cannot be Seen without close examination. The plains being so remarkably hard and dry as to render it impossible to see a track. grass is but Short and dry.

Daily Narrative Journals - Gass-Ordway Portage Party

Gass We had a fine morning. Here a heavy shower of rain came on with thunder and lightning; and we remained at this place all night.

Ordway a fair morning.

Wednesday, July 23

Weather Diary

a distant thundercloud last evening to the west. Mountains covered with snow.

Lewis Entry

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Daily Narrative Journals

Lewis The clouds obscured the moon and put an end to further observations. We indeavoured to take some fish but took only one small trouht. Musquetoes uncommonly large and reather troublesome.
Weather Diary

violent wind last night from SW   The river has fallen within the last 24 hours 7 inches.  the wind was violent from the SW for about 3 hours last night from the hours of 1 to 3 am

Clark Entry

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Daily Narrative Journals

Daily Narrative Journals - Gass-Ordway Portage Party

Gass  There was a pleasant morning after the rain

Ordway  a hard Shower of rain hail and wind last evening.

Clark’s party passes by present-day Billings, MT.

Thursday, July 24

Weather Diary

a violent gust of thunder Lighting last evening at 6 PM rain and wind all night untill this evening with some intervales.

Lewis Entry

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<th>Temp</th>
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<th>Rise/Fall</th>
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Daily Narrative Journals

Lewis  At 8 A.M. the sun made it’s appearance for a few minutes and I took it’s altitude but it shortly after clouded up again and continued to rain the ballance of the day. I was therefore unable to complete the observations I wished to take at this place.  I determined
to remain another day in the hope of it’s being fair. the air has become extremely cold which in addition to the wind and rain renders our situation extremely unpleasant.

Weather Diary

Violent wind last night. River falling a little. Since the last rise is had fallen 13 inches. River falling a little it is 6 feet lower than the highest appearance of it’s rise. Rained from 3 to 4 PM but slightly. The wind violent from the SW

Clark Entry

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<tr>
<th>Sunrise</th>
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<th>River</th>
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Daily Narrative Journals

Clark river 300 yds. wide. Came to big horn river...is 150 yards wide at it’s Mouth...the water of a light Muddy Colour and much Colder that the Rochejhone. For me to mention or give an estimate of the different Species of wild animals on this river particularly Buffalow, Elk Antelopes & Wolves would be increditable. I shall therefore be silent on the Subject further. Current rapid.

Daily Narrative Journals - Gass-Ordway Portage Party

Gass This was a cloudy morning. About 4 o’clock a very heavy shower of rain, accompanied with thunder and lightning, came on, and lasted about an hour and a half. After this we had a fine evening,

Ordway a clear morning. Had a hard shower of rain which rendred the plains verry muddy

Clark’s party stops and names Pompey’s Tower [Pillar] after Sacagawea’s son. This is now a National Historic Landmark. At this rock, the only remaining physical evidence of the Lewis and Clark Expedition remains which is William Clark’s name and the day inscribed in the sandstone.
Friday, July 25

Weather Diary

rained and wind violent all day and night.

Lewis Entry

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<th>Sunrise</th>
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Daily Narrative Journals

Lewis

The weather still continues cold cloudy and rainy, the wind also has blown all day with more than usual violence from the NW. I remained in camp with R. Fields to avail myself of every opportunity to make my observations should any offer, but it continued to rain and I did not see the sun through the whole course of the day. I determined that if tomorrow continued cloudy to set out as I now begin to be apprehensive that I shall not reach the United States within this season unless I make every exertion in my power which I shall certainly not omit when once I leave this place which I shall do with much reluctance without having obtained the necessary data to establish it’s longitude— as if the fates were against me my chronometer from some unknown cause stoped today, when I set her to going she went as usual.

Weather Diary

rained from 3 to 4 PM yesterday but Slight. Rained several showers Several showers of rain with hard winds from the S and SW the fore part of the day. The brooks on each side are high and water muddye.

Clark Entry

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<th>Sunrise</th>
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Daily Narrative Journals

Clark

and had not proceeded far before a heavy shower of rain pored down on us, and the wind blew hard from the SW. The wind increased and the rain (began) continued to fall. I halted...covered with deerskins to keep off the rain, and a large fire made to dry
ourselves. The rain continued moderately until near twelve o’clock when it cleared away and became fair. The wind continued high until 2 PM. At 4 PM arrived at a remarkable rock. This rock I shall call Pompys tower is 200 feet high. The natives have ingraved on the face of this rock the figures of animals &c. near which I marked my name and the day of the month & year. From the top of this Tower I could discover two Mountains & the Rocky Mts. covered with Snow SW. I proceeded on a short distance and encamped, and earlier than I intended on account of a heavy cloud which was coming up from the SSW. and some appearance of a violent wind. About sunset the wind blew hard from the W. and some little rain.

Daily Narrative Journals - Gass-Ordway Portage Party

**Gass**

This was a fine morning with a very heavy dew. About 2 o’clock...we had another very heavy shower of rain accompanied with thunder and lightning. At 3 o’clock...it rained on us hard all the way, and the road was so muddy that the horses were not able to haul the loads

**Ordway**

Hard rain came. About noon and continued the remainder part of the day, but did not stop us from our urgent labours. halted as much as we were able to help the horses as the place so amazing muddy & bad. Rained very hard and we having no shelter some of the men and myself turned over a canoe & lay under it others set up by the fires. The water run under us and the ground was covered with water. The portage River raises fast

Sergeant Gass & Ordway portage party leaves down the Missouri from the lower portage camp site.

Saturday, July 26

**Weather Diary**

wind violent rain continues.

**Lewis Entry**

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<th>Sunrise</th>
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**Daily Narrative Journals**

**Lewis**

The morning was cloudy and continued to rain as usual, tho’ the cloud seemed somewhat thinner I therefore postponed setting out until 9 A.M. in the hope that it would clear off but
find the contrary result I had the horses caught and we set out biding a lasting adieu to this place which I know call camp disappointment. A small creek [Willow Creek] is shallow and rappid; has the appearance of overflowing it’s banks frequently and discharging vast torrents of water at certain seasons of the year. I halted and used my spye glass...which I discovered several indians....this was a very unpleasant sight.

**Weather Diary**

a slight shower this morning with hard wind from the SW the river falling, but very slowly 1 inch in 24 hs.

**Clark Entry**

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<tr>
<th>Sunrise</th>
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</table>

**Daily Narrative Journals**

**Clark** the Current of the river reagulilarly Swift.

**Daily Narrative Journals - Gass-Ordway Portage Party**

**Gass** The morning was cloudy. It rained very hard all night, which has made the plains so muddy, that it is with greatest difficulty we can get along with the canoe. A few drops of rain fell in the course of the day.

**Ordway** a wet disagreeable morning. The portage River too high to waid but is falling fast. The truck wheels Sank in the mud nearly to the hub.

Lewis’ party meets with unfortunate tragedy as two Blackfeet Indians are killed as they attempt to steal the party’s rifles and horses. Lewis’ party leaves with haste and rides all day and nearly all night towards the Marias and Missouri River confluence.

**Sunday, July 27**

**Weather Diary**
Lewis Entry

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Daily Narrative Journals

Lewis  the day proved warm but the late rains had supplyed the little reservors in the plains with water and had put them in fine order for traveling our whole rout so far was as level as a bowling green with but little stone and few prickly pears. after refreshing ourselves we again set out by moonlight and traveled leasurely, heavy thunderclouds lowered arround us on every quarter but that from which the moon gave us light.

Weather Diary

Saw a flight of gulls   a small rattle snake   several flocks of crows and black burds

Clark Entry

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<tr>
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Daily Narrative Journals

Clark  I marked my name with red paint on a Cotton tree near my camp...the river is much wider from 4 to 600 yards much divided by Islands. When we pass the Big horn I take my leave of the view of the tremendious chain of Rocky Mountains white with Snow in view of which I have been Since the 1st of Nay last.

Daily Narrative Journals - Gass-Ordway Portage Party

Gass   a fine clear pleasant morning

Ordway  a clear morning.
Lewis’ party meets with Sergeant Gass and Ordway portage party and proceed down the Missouri River through the present-day Missouri Breaks National Monument, MT.

Monday, July 28

**Weather Diary**

a thundershower last night from NW but little rain where we were. heavy hail storm at 3 PM the prickly pear has now cast it’s blume

**Lewis Entry**

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<th>Sunrise</th>
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**Daily Narrative Journals**

**Lewis**

The morning proved fair. After 1 PM...during the time we halted at the entrance of Maria’s river we experienced a very heavy shower of rain and hail attended with violent thunder and lightning.

**Weather Diary**

a few drops of rain this morning a little before day light. River still falling a little Bratten Coet (caught) a beaver Labeech shot 2 last evenig. I saw a wild cat lying on a log over the water

**Clark Entry**

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<th>Sunrise</th>
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**Daily Narrative Journals**

**Daily Narrative Journals - Gass-Ordway Portage Party**
Gass  The morning was fine and pleasant. About one o’clock....about this time we started a heavy gust of rain and hail, accompanied with thunder and lightning came on and lasted about an hour, after which we had a cloudy wet afternoon

Ordway  about 9 AM we discovrd on a high bank a head Capt. Lewis & the three men who went with him on horse back comming towards us on N Side. Got his observations for the Lat.(at the Marias River) but the cloudy weather prevented him from gitting the Longitude &C. About 1 PM we arived at the forks of the Marriah....we Soon had a hard Shower of rain & large hail. Some larger than a musket Ball Thunder and high winds a head but we procd. Late in the evening we had a Shower of rain which lasted about a hour—

Tuesday, July 29

Weather Diary

heavy rain last night, continued with small intervales all night

Lewis Entry

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<th>Sunrise</th>
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Daily Narrative Journals

Lewis  Shortly after dark last evening a violent storm came on from the NW attended with rain hail Thunder and lightning which continued the greater part of the night. Not having the means of making a shelter I lay in the water all night. The rain continued with but little intermission all day. I intend halting as soon as the weather proves fair in order to dry our baggage which much wants it. We set out early and the currant being strong we proceeded with great rapidity. At 11 AM we passed that very interesting part of the Missouri where the natural walls appear, particularly discribed in my outward bound journey. The river is now nearly as high as it has been this season and is so thick with mud and sand that it is with difficulty I can drink it. Every little rivulet now discharges a torrent of water bringing down immense boddies of mud sand and filth from the plains and broken bluffs—

Gass  Early in a cloudy morning we commenced our voyage from the mouth of Maria’s river; and the current of the Missouri being very swift, we went down rapidly. A considerable quantity of rain fell in the course of the day.

Ordway  cloudy and rain. About 11 AM we entered the high clay broken country white clay hills and the white walls resembling ancient towns & buildings &C. We had a Shower of rain

Lewis & Clark Expedition Weather Journals, 1806,  Page 158
Weather Diary

a few drops of rain (rain slightly with Thunder and lightning) accompanied with hard Claps of Thunder and Sharp lightning last night wind hard from the NE

Clark Entry

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<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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Daily Narrative Journals

Clark a Slight rain last night with hard thunder and Sharp lightening accompanied with a violent NE wind. I set out early this morning wind So hard a head that we made but little way. The Tongue River....so muddy and worm as to render it very disagreeable to drink...nearly milk worm very muddy. The river widens. I think it may be generally Calculated at from 500 to a half a mile wide in width

The Lewis party passes the confluence of the Missouri and Judith River in central Montana.

Wednesday, July 30

Weather Diary

rained almost without intermission

Lewis Entry

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<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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Daily Narrative Journals

Lewis The rain still continued this morning it was therefore unnecessary to remain as we could not dry our baggage. The currant being strong and the men anxious to get on they plyed their oars faithfully and we went at the rate of about seven miles an hour. The rain continued with but little intermission all day; the air is cold and extremely disagreeable. Nothing extraordinary happened today.
Gass We embarked early in a cloudy morning with some rain. The water of the river is thick and muddy, on account of the late falls of rain, which wash those clay hills very much. Heavy rain fell at intervals during the day.

Ordway cloudy and wet. Rained all day.

Weather Diary

Great number of Swallows, they have their young. Killed 1 s black tail deer. Young gees beginning to fly a slight shower of rain accompanied with thunder and lightning. Several showers in the course of this day. It cleared away in the evening and became fair river falling a little. Great quantities of Coal appear in the bluffs of either Side. Some appearance of Burnt hills at a distance from the river.

Clark Entry

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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Daily Narrative Journals

Clark first appearance of Birnt hills. They have the apperance of dischargeing emence torrents of water. The late rains which has fallen in the plains raised Suden & heavy Showers of rain must have fallen, Several of which I have seen dischargeing those waters. A violent Storm from the NW obliged us to land imediately below this rapid...above enterance of a river...I call it Yorks dry R. After the rain and wind passed over I proceeded on at 7 miles. Water was disagreeably muddy.

Lewis’ party leaves present-day Missouri Breaks National Monument, MT.

Thursday, July 31

Weather Diary

rained almost without intermission

Lewis Entry

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<th>Sunrise</th>
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Daily Narrative Journals

Lewis the rain still continuing. The river is still rising and excessively muddy more so I think than I ever saw it. We experienced some very heavy showers of rain today.

Gass We set out early, though it continued at intervals to rain hard. At noon we halted to dine, and had then a very heavy shower of rain. Though the afternoon was wet and disagreeable, we came 70 miles to day.

Ordway cloudy and rain. Had several showers of rain. The river very muddy owing to the heavy rains washing those Clayey hills.

Weather Diary

rained only a few drops last night. A small showers to day. Wind hard form the NE the wind blew hard and it was showery all day tho not much rain. The clouds came up from the W and NW frequently in course of the day.

Clark Entry

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<th>Sunrise</th>
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Daily Narrative Journals

Clark Showers all this day.
August 1806
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

Lewis’ party passes by the confluence of the Missouri and Musselshell Rivers in central Montana. Clark’s party is proceeding down the Yellowstone River and near’s present-day Glendive, Montana.

Friday, August 1

Weather Diary

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<th>Sunrise</th>
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1 Lewis’s weather entries are separate from Clark’s from July through August 12, as the two leaders went on separate trails before coming back together on the Missouri in August.

2 Reference: Moulton, Volume 8, pages 159-160; Thwaites, Volume 6, Part II, pages 222-223.

Daily Narrative Journals

Lewis The rain still continuing I set out early as usual after 1 PM...as the rain still continued with but little intermission and appearances seemed unfavorable to it’s becoming fair shortly, I determined to halt at this place. Shortly after we landed the rain ceased tho’ it still continued cloudy all this evening.

Gass We embarked early in a wet disagreeable morning The afternoon was cloudy with some rain

Ordway hard rain. Here we delayed this afternoon to dry our deer Skins Mount. Sheep skins &C. which were near Spoiling as the weather has been some time wet.

Saturday, August 2

Weather Diary

rained last night and all day to day at intervales

Clark Entry

Lewis & Clark Expedition Weather Journals, 1806, Page 163
Sunrise | 4 PM | Yellowstone River 4  
---|---|---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches  
- | c a r | NW | - | r | N | R | - | 5 1/2

3 Reference: Coues, Volume III, pages 1280-81, 1298; Moulton, Volume 8, pages 333-336; Thwaites, Volume 6, Part II, pages 226-228.

4 Clark began Yellowstone River rise and fall observations on this date. The data usually is not for a 24-hour period unless they are encamped. In most cases, when Clark’s party stopped for the evening, he followed Lewis’ habit from previous journal entries, placing a mark and measured the next morning. Thus many observations were only 8 to 10 hour long.

**Daily Narrative Journals**

Clark

We Set out early as usial the wind was high and ahead which caused the water to be a little rough and delayed us very much added to this we had Showers of rain repeatedly all day at the intermation of only a few minits between them. My Situation a very disagreeable one. In an open Canoes wet and without a possibility of keeping my Self dry. The brooks have all Some water in them from the rains which has fallen. The water is excessively muddy. This gangue of Buffalow was entirely across and as thick as they could Swim. The Chanel on the Side of the Island the went into the river was crouded with those animals for ½ an hour. [meat] nearly Spoiled from the wet weather.

Saturday, August 2

**Weather Diary**

it became fair soon after dark last evening and continued so.—

**Lewis Entry**

Sunrise | 4 PM | River  
---|---|---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches  
- | f a r | NW | - | f | NW | - | - | -

**Daily Narrative Journals**

Lewis

The morning proved fair and I determined to remain all day and dry the baggage and give the men an opportunity to dry and air their skins and fur. The day proved warm fair and favourable for our purpose. The river fell 18 inches since yesterday evening. We are all extremly anxious to reach the entrance of the Yellowstone river where we expect to join Capt. Clark and party.

Gass

This was a fine clear morning
Ordway  a fair morning. The day warm

Weather Diary
rained a little last night and Several Showers this morng

Clark Entry

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  river wide.  The river in this days decent is less rapid crouded with Islds and muddy bars and is generally about one mile in wedth.

Clark’s party passes the confluence of the Yellowstone and Missouri Rivers and passes the present-day Montana - North Dakota state line.

Sunday, August 3

Weather Diary

Lewis Entry

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<th>Sunrise</th>
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Daily Narrative Journals

Gass  We had a fine morning

Ordway  a fair morning.
Weather Diary

Musquetors troublesom. I arrive at the Missouri. heavy dew.

Clark Entry

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<th>4 PM</th>
<th>Yellowstone River</th>
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5 River observations are now on the Missouri River following the same technique noted in Footnote #2 above.

Daily Narrative Journals

Clark last night the Musquetors was so troublesom that no one of the party Slept half the night. For my part I did not Sleep one hour. Those tormenting insects found their way into My beare and tormented me the whole night. They are not less numerous or troublesom this morning. At 8 AM I arived at the Junction of the Rochejhone with the Missouri. A large Buck Elk which I shot & had his flesh dryed in the Sun for a Store down the river. Had the canoes unloaded and every article exposed to dry & Sun. Maney of our things were wet. The current of this river may be estimated at 4 miles and ½ pr. hour from the Rocky Mts. as low as Clarks Fork, at 3 ½ Miles pr. hour from thence as low as the Bighorn...3 [mph] as the Tongue...2 3/4 [mph] as Wolf rapid and at 2 ½ [mph] from thence to its enterance into the Missouri.

Lewis’ party passes by the confluence of the Missouri and Milk Rivers southeast of present-day Glasgow, MT.

Monday, August 4

Weather Diary

Lewis Entry

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Daily Narrative Journals

Lewis Set out at 4 AM this morning. At ½ after eleven O’Ck. passed the entrance of big dry
river; found the water in this river about 60 yds. wide tho’ shallow. It runs with a boald currant. At 3 PM we arrived a the entrance of Milk river where we halted a few minutes. This stream is full at present and it’s water is much the colour of that of the Missouri

Gass
This was another pleasant day. At five o’clock we passed the mouth of Milk River, which was very high and the current strong.

Weather Diary
Rochejhone falling much faster than the Missouri

Clark Entry

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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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Daily Narrative Journals

Clark
Musquetors excessively troublesom...those insects is on the Sand Bars in the river and even those Situations are only clear of them when the Wind Should happen to blow which it did to day for a few hours in the middle of the day. The torments of those Misquetors. The Child of Shabono has been So much bitten by the Musquetor that his face is much puffed up & Swelled.

Tuesday, August 5

Weather Diary

Lewis Entry

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<tr>
<th>Sunrise</th>
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Daily Narrative Journals

Lewis
the geese cannot fly at present; I saw a solitary Pillacon [Pelican] the other day in the same situation. This happens from their shedding or casting the fathers of the wings at this season.
Gass Last night was cloudy and thunder was heard at a distance. This morning was also cloudy. The forenoon had become clear and pleasant, and at noon we got under way. At sunset we encamped and at dark a violent gust of rain and wind came on with thunder and lightning, which lasted about an hour; after which we had a fine clear night.

Ordway a fair morning. A little after dark came up a Thunder Shower of wind and rain and nearly filled our canoes, so that we had to unload them. The sand flew so that we could Scarsely See & cut our faces by the force of the wind—

Weather Diary

Musquetors excessively troublsom both rivers falling.

Clark Entry

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<th>Sunrise</th>
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</table>

Daily Narrative Journals

Clark the Misquetors was So numerous that I could not keep them off my gun long enough to take Sight and by thair means missed. At 10 AM the wind rose with a gentle breeze from the NW which in Some measure thinned the Misquetors. Camped...our Situation was exposed to a light breeze of wind which continued all the forepart of the night from the SW and blew away the misquetors.

Clark’s party passes present-day Williston, ND.

Wednesday, August 6

Weather Diary

a violent gust of Thunder Lightning wind and hail last night.

Lewis Entry

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Lewis & Clark Expedition Weather Journals, 1806, Page 168
**Daily Narrative Journals**

**Lewis**
A little after dark last evening a violent storm arrose to the NE and shortly after came on attended with violent Thunder lightning and some hail; the rain fell in a mere torrent and the wind blew so violently that it was with difficulty I could have the small canoes unloaded before they filled with water; they sustained no injury. Our situation was open and exposed to the storm. I obtained a few hours of broken rest; the wind and rain continued almost all night and the air became very cold. We set out early this morning...decended 10 miles below Porcupine river [Poplar River, MT]...when the wind became so violent that I laid by until 4 PM. The wind then abaited in some measure we again resumed our voyage

**Gass**
a fine morning, but high wind. At 12 o’clock the wind blew so violent that it became dangerous to go on and we halted...left after three hours

**Ordway**
a fair morning. The wind rose high so halted.

**Weather Diary**

rained hard last night with Thunder Lightning & hard wind from S.W. Killed a white Bear & Bighorn

**Clark Entry**

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<th>Sunrise</th>
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**Daily Narrative Journals**

**Clark**
I rose very wet. About 11 PM last night the wind become very hard for a few minits Suckceeded by Sharp lightning and hard Claps of Thunder and rained for about 2 hours very hard after which it continued Cloudy the balance of the night. Wind hard from the NW I halted. Bear plunged into river...we all fired into him without killing him, the wind so high that we could not pursue him. I have observed buffalow floating down which I suppose must have been drounded in Crossing above. The wind blew hard all the after part of the day.

Lewis’ party passes the confluence of the Yellowstone and Missouri Rivers and passes the present-day Montana - North Dakota state line.
Thursday, August 7

Weather Diary

rained from 12 last night until 10 AM today—.

Lewis Entry

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<th>Sunrise</th>
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Daily Narrative Journals

Lewis  It began to rain about midnight and continued with but little intermission until 10 AM today. The air was cold and extremely unpleasant. The current favored our progress being more rapid than yesterday.

Gass  The morning was cloudy, and we set out early, after a very heavy shower of rain which fell before day light. About 4 o’clock arrived at the mouth of Yellowstone.

Ordway  A showery wet morning. About 4 PM we arrived at the mouth of the River Roshjone (Yellowstone). The wind his this evening.

Weather Diary

Commenced raining at daylight and continued at intervals all day. air Cool.

Clark Entry

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Daily Narrative Journals

Clark  Some hard rain this morning after daylight which wet us all. I formed a Sort of Camped and delayed until 11 AM when it Stopped raining for a short time. Proceeded...the rain Continued at intervals all day tho’ not hard at 6 PM...Campd...soon after we landed the wind blew very hard for about 2 hours, when it lulled a little. The air was exceedingly Clear and Cold and not a misquetor to be Seen, which is a joyfull circumstance to the Party.
Lewis’ party stops near present-day Williston, ND from August 8 through August 10.

Friday, August 8

**Weather Diary**

wind hard but not so much so as to detain us.—

**Lewis Entry**

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**Daily Narrative Journals**

**Lewis**
I set our early; the wind heard [hard] from the NE but by the force of the oars and currant we traveled at a good rate. This evening...the air is cold yet the Musquetoes continue to be troublesome—

**Gass**
We had a fine cool morning with some white frost

**Ordway**
a fair morning.

**Weather Diary**

air cool.  Sergt.  Pryor arrive in Skin Canoes.

**Clark Entry**

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**Daily Narrative Journals**

**Clark**
Sergt. N. Pryor informed me that the Second night after he parted with me [Pryor and party left with horses on July 24, 1806]...about 4 PM he halted to let the horses graze during which time a heavy Shower of rain raised the Creek so high that Several horses which had Stragled across the Chanel of this Creek was obliged to Swim back. [July 26,
Saturday, August 9

**Weather Diary**

heavy dew last night.  air cold.

**Lewis Entry**

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**Daily Narrative Journals**

- **Lewis**  The day proved fair and favourable for our purposes.
- **Gass**  This was another fine day
- **Ordway**  a cool windy morning.

**Weather Diary**

a heavy dew.  air cool and clear   found red goose berries and a dark purple current & Service’s

**Clark Entry**

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**Daily Narrative Journals**

- **Clark**  a heavy dew this morning.

Sunday, August 10

**Weather Diary**

a slight shower about 3 PM   wind hard.
Lewis Entry

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Daily Narrative Journals

Lewis  The morning was somewhat cloudy I therefore apprehended rain however it shortly after became fair. At 4 in the evening it clouded up and began to rain the wind has blown very hard all day but did not prove so much so this evening as absolutely to detain us.

Gass  We had a fine morning In the afternoon some drops of rain fell; and the musquitoes here were very bad indeed.

Ordway  a cool windy morning. Camped...the musquitoes troublesome indeed. We could not all this night git a moment of quiet rest for them—

Weather Diary

found a Species of Cherry resembling the read Heart cherry of our country

Clark Entry

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Daily Narrative Journals

Clark  wind blew hard from the East all day. In the after part of the day it was (cloudy) & a fiew drops of rain. I finished a Copy of my Sketches of the River Rochejhone.

Monday, August 11

Weather Diary

air cool this evening wind hard.
Lewis Entry

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**Daily Narrative Journals**

**Lewis**  
It being my wish to arrive at the birnt hills [Crow Hills, ND] by noon in order to take the latitude of that place as it is the most northern point of the Missouri...when I arrived here it was about 20 minutes after noon and of course the observation for the sun’s meridian Altitude was lost.

**Gass**  
The morning was pleasant

**Ordway**  
a fair morning. High winds.

**Weather Diary**

sarsis berries in abundance & ripe.

Clark Entry

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**Daily Narrative Journals**

**Clark**  
at 10 AM landed on a Sand bar...and during breakfast...and my delay at this place which was 2 hours had the Elk meat exposed to the Sun.

Lewis’ party meets up with Clark’s in west-central North Dakota and the re-united Expedition proceeds together down the Missouri River.

Tuesday, August 12

**Weather Diary**

wind violent last night.
Lewis Entry 6

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6 Lewis’ weather table “apparently ceased keeping it after his reunion with Clark on August 12, as with his other journal-keeping, due to the wound he received on the eleventh.” Moulton, Volume 8, page 160.

Daily Narrative Journals

Lewis At 1 PM I overtook Capt. Clark and party and had the pleasure of finding them all well. As writing in my present situation is extremely painful to me I shall desist until I recover and leave to my friend Capt. C. the continuation of our journal. This cherry...is now ripe...I have never seen it in blossom.

Gass The morning was pleasant. Clarke’s party...found the Yellow Stone river a pleasant and navigable stream, with a rich soil along it; but timber scarce.

Ordway a fair morning. A little rain this evening &C—

7 Here ends Captain Meriwether Lewis’s entries into the Lewis and Clark Expedition Journals. He never does resume writing for the rest of the journey. And only after arriving in St. Louis does he write about the Expedition’s completion and findings to President Thomas Jefferson.

Weather Diary

Capt. Lewis overtake me with the party

Clark Entry

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Daily Narrative Journals

Clark encamped. The wind blew very hard from the SW and some rain.
Expedition passes by the confluence of the Missouri and Little Missouri Rivers, ND.

Wednesday, August 13

Weather Diary

a few drops of rain last night at 8 P.M. with hard S W wind

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Daily Narrative Journals

Clark the last night was very Cold with a Stiff breeze from the NW. All hands were on board and we Set out at Sunrize and proceeded on very well with a Stiff breeze astern the greater part of the day. having came by the assistance of the wind, the current and our oars 86 miles. The air is cool &c.

Gass After a stormy night of wind and rain we set out early in a fine morning

Ordway a fair morning. A fair breeze from the NW

Expedition arrives at Fort Mandan near present-day Washburn, ND and stays until August 17. Here they leave their interpreter Charbonneau, his wife Sacagawea and their son Jean-Baptiste as well as Private John Colter.

Thursday, August 14

Weather Diary

Mandan Corn [is ripe] now full and beginning to harden

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</table>
Daily Narrative Journals

Clark  I proceeded on to the black cats village on the NE side of the Missouri where I intended to Encamp but the Sand blew in Such a manner that we deterumined not to continue on that side. After the Council I directed the Canoes to cross the river to a brook opposit where we Should be under the wind and in a plain where we would be Clear of musquetors

Gass  The morning of this day was pleasant

Ordway  a fair morning.

Friday, August 15

Weather Diary

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  The evening is Cool and windy.

Gass  We had a fine clear pleasant morning

Ordway  a clear pleasant morning.

Saturday, August 16

Weather Diary

Northern lights Seen last night which was in Streaks

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</table>
Daily Narrative Journals

Clark a cool morning.

Gass There was a fine cool day; and we yet remained here, waiting an answer from the natives.

Ordway a clear cool morning.

Expedition leaves the Mandan Villages and starts down the Missouri again.

Sunday, August 17

Weather Diary

leave the Mandans

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Daily Narrative Journals

Clark a cool morning. We proceeded on to the old Ricara village the SE wind was so hard and the waves so high that we were obliged to come too & camp on the SW side near the old Village.

Gass There were some flying clouds this morning, and the weather was cold for the season. We proceeded on at two o’clock; the wind was high, and river rough.

Ordway we set out and proced. On the wind a head.

Expedition passes present-day State Capitol of North Dakota, Bismarck.

Monday, August 18

Weather Diary

rained moderately last night in forpart of the night.
Sunrise | 4 PM | Missouri River
---|---|---
| Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
---|---|---|---|---|---|---|---|---
- | c a r | SE | - | f | SE | F | - | 1 1/2

**Daily Narrative Journals**

**Clark** moderate rain last night, the wind of this morning from the SE as to cause the water to be So rough that we Could not proceed on untill 8 AM at which time it fell a little & we proceeded on tho’ the waves were yet high and the wind Strong. At 2 PM...wind Still high and from the Same point. The winds blew hard from the SE all day which retarded our process very much

**Gass** We set out early in a cloudy morning, and the wind high.

**Ordway** the wind high and a little rain. The wind continued

**Tuesday, August 19**

**Weather Diary**

Comenced raining at 5 A.M. and Continued with a hard wind until [blank]

Sunrise | 4 PM | Missouri River
---|---|---
| Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
---|---|---|---|---|---|---|---|---
- | t l & r | SE | - | c | SE | F | - | 3/4

**Daily Narrative Journals**

**Clark** Some rain last night and this morning the wind rose and blew with great Violence untill 4 PM and as our camp was on a Sand bar we were very much distressd with the blows of San. At 4 PM the wind Seased to blow with that violence which it had done all day we Set out and proceeded on down. The wind rose and become very strong from the SE and a great appearance of rain. Stretched it over Some Stickes, under this piece of leather I Slept dry, it is the only covering which I have had Suffecient to keep off the rain Since I left the Columbia. It began to rain moderately soon after night.

**Gass** This was a cloudy windy morning; and the water so rough, that our small canoes could not safely ride the waves. At 3 o’clock in the afternoon the wind ceased,

**Ordway** a Showery morning. Thunder and high wind So it detained us. About 4 pm the wind fell
a little and we procd. On. Windy & cold—

The Expedition passes the present-day North Dakokta - South Dakota state line.

Wednesday, August 20

Weather Diary

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<th>Sunrise</th>
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Daily Narrative Journals

Clark  a violent hard rain about day light this morning. All wet except myself and the indians. We embarked a little after Sun rise wind moderate and ahead. the wind blew hard all day which caused the waves to rise high and flack over into the Small Canoes in Such a manner as to employ one hand in throwing the water out. The plains begin to Change their appearance the grass is turning of a yellow colour. I observe a great alteration in the Corrent course and appearance of this pt. of the Missouri. In places where there was Sand bars in the fall 1804 at this time the main Current passes, and where the current then passed is now a Sand bar— San bars which were then naked are now covered with willow Several feet high. the enterance of some of the Rivers & Creeks changed owing to the mud thrown into them, and a layor of mud over Some of the bottoms of 8 inches thick.

Gass  We embarked early after a heavy gust of wind and rain, and proceeded on very well. The forenoon was cloudy, without rain; and in the afternoon the weather became clear and pleasant

Ordway  the after part of the day pleasant.

Thursday, August 21

Weather Diary

rained a little in the course of the night. at day a violent hard Shower for ½ an hour
Sunrise | 4 PM | Missouri River
---|---|---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
- | f | SE | - | f | NW | F | - | 2 1/2

**Daily Narrative Journals**

**Clark** The wind rose and blew from the NW at half past 11 AM. The Sun being very hot the Chyenne Chief envited us to his Lodge which was pitched in the plain at no great distance from the River.

**Gass** had a fine morning

**Ordway** a fair morning.

**Expedition passes present-day Mobridge, SD.**

**Friday, August 22**

**Weather Diary**

rained the greater part of last night. grape and plums ripe. The rains which have fallen in this month is most Commonly from flying Clouds which pass in different directions, those Clouds are always accompanied with hard winds and Sometimes accompanied with thunder and lightning— The river has been falling moderately Since the third of the month. the rains which has fallen has no impression of the river than Causing it to be more muddy and probably prevents its falling fast.—

Sunrise | 4 PM | Missouri River
---|---|---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
- | c a r | SW | - | f | SE | F | - | 4

**Daily Narrative Journals**

**Clark** rained all the last night every person and all our bedding wet, the Morning cloudy. Below the ricaras the river widens and the Sand bars are emencely noumerous much less timber in the bottoms than above—

**Gass** There was a cloudy wet morning, after a night of hard rain. At little after noon...the weather became clear
Ordway  hard Thunder Shower all last night.  I about 10 AM cleared off fair and we set out

Saturday, August 23

Weather Diary

rained at 10 A.M. & 4 PM  hard wind

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<td>Temp</td>
<td>Weather</td>
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</table>

Daily Narrative Journals

Clark  We set out very early, the wind rose & became very hard, we passed the Sar-war-kar-na-har river [Moreau River, SD] at 10 AM and half past eleven the wind became so high and the water so rough that we were obliged to put to Shore and Continue untill 3 PM when we had a Small Shower of rain after which the wind lay, and we proceeded on.  At 4 PM a Cloud from the NW with a violent rain for about half an hour after the rain we again proceeded on.

Gass  We set out early in a fine morning, but the wind was high; and we went on very well till near noon, when the wind blew so hard that we had to halt, and were detained about four hours.  Later....we had a very heavy shower of rain which detained us another hour.

Ordway  a little rain & Thunder.  About 11 AM the wind rose so high that it detained us about 3 hours.  Had light Showers of rain all day.

Sunday, August 24

Weather Diary

wind blew hard all day  grapes in abundance

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>Missouri River</th>
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<td>Temp</td>
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</tbody>
</table>
**Daily Narrative Journals**

**Clark**
a fair morning. Proceeded on untill 2 PM when the wind blew So hard from the NW that we could not proceed came too on the SW Side where we continued untill 5 PM when the wind lay a little and we proceeded on.

**Gass**
We had a fine morning, and went on very well till noon, when the wind rose, and blew so strong that we were obliged to halt. Having lain by three hours we again proceeded, but did not go far before we were obliged on account of the wind, again to stop, and encamp for the night.

**Ordway**
a clear pleasant morning. About noon the wind rose high from SW which detained us about 3 hours then proc. on though the work against us

**Monday, August 25**

**Weather Diary**

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<th>Sunrise</th>
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<th>Missouri River</th>
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<td>SW</td>
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</table>

**Daily Narrative Journals**

**Clark**
a cool clear morning a Stiff breeze ahead. The Chyenne discharges but little water which is much the colour of the missouri not So muddy. This day proved a fine Still day

**Gass**
The morning was again pleasant.

**Ordway**
a clear pleasant morning.

**Expedition passes present-day State Capitol of South Dakota, Pierre.**

**Tuesday, August 26**

**Weather Diary**

Heavy dew this morning. Saw a pilecan
Sunrise | 4 PM | Missouri River
---|---|---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
- | f | SE | - | f | SE | F | - | 3/4

**Daily Narrative Journals**

**Clark** a heavy dew this morning. After 5 PM...we had a Stiff breeze from the SE which continued to blow the greater part of the night dry and pleasant. We made 60 miles to day with the wind ahead greater part of the day—

**Gass** had a pleasant morning

**Ordway** a fair morning.

**Expedition passes around the Big Bend (known also as the Grand De Tour) of the Missouri in central South Dakota.**

**Wednesday, August 27**

**Weather Diary**

first Turkeys at Tylor River above the big bend

Sunrise | 4 PM | Missouri River
---|---|---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
- | f | SE | - | f | SE | F | - | 1 1/4

**Daily Narrative Journals**

**Clark** a Stiff breeze a head from the East. At 1 PM we halted in the big bend [Grand Detour of the Missouri, SD]

**Gass** again had a pleasant day

**Ordway** a fair morning.
Expedition camps just south of present-day Chamberlain, SD.

Thursday, August 28

Weather Diary

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<th>Sunrise</th>
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</table>

Daily Narrative Journals

Gass We had another pleasant day

Ordway a fair morning.

Friday, August 29

Weather Diary

Some rain this morning only a few drops and at 10 A.M.

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<tr>
<th>Sunrise</th>
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<td>NW</td>
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</table>

8 This is the final entry for river rise and fall data for the Missouri River. No other river data is taken or recorded for the rest of the return trip to St. Louis.

Daily Narrative Journals

Clark a cloudy morning. Willard and Labiech waded white river a few miles above its enterance and inform me that they found it 2 feet water and 200 yards wide. The water of this river at this time nearly as white as milk. I ascended to the high Country and from an eminance, I had a view of the plains for a great distance. From this eminance I had a view of a greater number of buffalow than I had ever Seen before at one time. I must have Seen near 20,000 of those animals feeding on this plain.

Gass The morning was cloudy
Ordway  a little rain.

Saturday, August 30

Weather Diary

a few drops of rain last night    I saw the Tetons

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<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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</table>

Daily Narrative Journals

Clark  our encampment of this evening was a very disagreeable one, bleak exposed to the winds, and the Sand wet.

Gass  We had a pleasant morning

Expedition now parallels the current day South Dakota - Nebraska state line until September 4.

Sunday, August 31

Weather Diary

rained most of last night with T. Li & a hard wind from the S.W. some rain to day

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</table>

Daily Narrative Journals

Clark  all wet and disagreeable this morning. A half past 11 PM last night the wind Shifted about to the NW and it began to rain with hard Claps of thunder and lightning the Clouds passd over and the wind Shifted about to the SW & blew with great violence So much So that all hand were obliged to hold the Canoes & Perogue to prevent their being blown off
from the Sand bar. However a Suden Squal of wind broke the cables of the two small Canoes and with Some dificueltly they were got to Shore. Soon after the 2 canoes in which Sergt. Pryor and the indians go in broke loose...and were blown quite across the river to the NE Shore where fortunately they arived Safe. the wind Slackened a little and by 2 AM Segt with [party] returned safe, the wind continud to blow and it rained untill day light all wet and disagreeable. the morning Cloudy and wind down the river After 4 PM...the Sun Shone with a number of flying Clouds.

Gass

There was a cloudy morning, after a disagreeable night of wind and hard rain. We set our early

Ordway

we had hard Showers of rain all last night and verry high winds caused one of our canoes broke loose and I took another canoes and to take it back and with Some difficulty goot it back to Camp. Verry disagreeable night.
September 1806
Lewis and Clark Expedition
Weather Diary & Daily Narrative Journals

Expedition camped near future historical site of Fort Yankon, just below present-day Gavin Dam along the Nebraska - South Dakota state line.

Monday, September 1

**Weather Diary**

A thick fog until 8 A.M. A few drops of rain about 1 P.M.

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<tr>
<th>Sunrise</th>
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</tbody>
</table>

Reference: Coues, Volume III, page 1298; Moulton, Volume 8, pages 373-375; Thwaites, Volume 6, Part II, pages 228-229.

**Daily Narrative Journals**

**Clark**

Musquitos very troublesome last night. We set out at the usual hour and had not proceeded on far before the fog became so thick that we were obliged to come too and delay half an hour for the fog to pass off which it did in some measure and we again proceeded on. At 9 AM we passed the entrance of River Quiequur [Niobrara River, NE] which had the same appearance it had when we passed up water rapid and of a milky white colour. The musquitos excessively troublesome until about 10 PM when the SW wind became strong and blew the most of them off. We came 52 miles today only with a head wind.

**Gass**

A fine pleasant day. After 10 o’clock proceeded on with an unfavorable wind.

**Ordway**

A fair morning. About 9 AM we passed the mouth of Rapid Water River (Niobrara).

Tuesday, September 2

**Weather Diary**

Hard wind all day. Saw the prairie fowl common in the Illinois plains. Saw Linn and Slippery elm
Daily Narrative Journals

Clark  The wind was hard a head & continued to increas which obliged us to lay be nearly all day. The wind Still high and water rough we did not Set out untill near Sun Set. We proceeded to a Sand abar...Come to on account of the wind and Encamped on a Sand bar, the woods being the harbor of the Musquetors and the party without means of Screaning themselves from those tormenting insects. on the Sand bars the wind which generaly blows moderately at night blows off these pests and we Sleep Soundly. The wind Continued to blow hard from the Same point SE untill 3 PM.

Gass  a fine morning, but high wind. After noon....the wind blew so violent that we had to encamp for the night.

Ordway  a fair morning. About 11 AM the wind rose So high a head that it detained us untill towards evening.

Expedition passes present-day Vermillion, SD

Wednesday, September 3

Weather Diary

a Stiff breeze form the S.E. untill 12 at night when it changed to S.W. and blew hard all night

Daily Narrative Journals

Clark  Wind Continued to blow very hard this morning. It Shifted last night to the SW and blew the Sand over us in Such a manner as to render the after part of the night very disagreeable. The wind luled a little and we Set out and proceeded on with the wind a head. After 4 pm...soon after we Landed a violent Storm of Thunder Lightning and rain from the NW which was violent with hard Claps of thunder and Sharp Lightning which
continued until 10 PM after which the wind blew hard. I set up late and partook of the tent of Mr. Aires which was dry. Mr. Aires unfortunately had his boat sunk on the 25 of July last by a violent storm of wind and hail by which accident he lost the most of his useful articles as he informed us. ...the river much crowded with sand bars, which are very differently situated from what they were when we went up.

Gass a pleasant morning. At sunset a violent gust of wind and rain, with thunder and lightning came on and lasted two hours.

Ordway the day warm & sultry. A very hard storm of wind and hard rain this evening.

Expedition camps near present-day Sioux City, IA and enters solely into present-day Nebraska leaving South Dakota.

Thursday, September 4

Weather Diary

at 6 P.M. a violent storm of thunder lightning and rain until 10 P.M. when it ceased to rain and blew hard from N W until 3 A.M.

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<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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Daily Narrative Journals

Clark I rose at the usual hour found all the party as wet as rain could make them.

Gass There was a cloudy morning.

Ordway a fair morning, but the hard rain and thunder continued the greater part of last night.

Friday, September 5

Weather Diary
<table>
<thead>
<tr>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Rise/Fall</th>
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**Daily Narrative Journals**

**Clark**  The Musquetors being so excessively tormenting that the party was all on board and we set out at day light and proceeded on very well. The river...becomes much narrower more crooked and the current more rapid and crowded with snags and sawyers.

**Gass**  This was a fine morning.

**Ordway**  A fair morning.

**Saturday, September 6**

**Weather Diary**
	head the whipper will  Common to the u states at Soldiers river.

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<tbody>
<tr>
<td>Temp</td>
<td>Weather</td>
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**Daily Narrative Journals**

**Clark**  proceeded on wind-hard a head. The evening proved cloudy and the wind blew hard.

**Gass**  A fine morning

**Ordway**  A fair morning.

**Sunday, September 7**

**Weather Diary**

Saw the whipperwill and heard the common hooting owl  Musquetors very troublesom. killed 3 Elk.
Sunrise | 4 PM | River
---|---|---
Temp | Weather | Wind | Temp | Weather | Wind | Rise/Fall | Feet | Inches
- | f | SE | - | f | SE | - | - | -

Daily Narrative Journals

Clark  
we proceeded on with a Stiff Breeze ahead. Note the evaporation on this portion of the Missouri has been noticed as we assended this river, and it now appears to be greater than it was at that time. I am obliged to replenish my ink Stand every day with fresh ink at least 9/10 of which must evaporate. We all Set out at 4 PM wind ahead as usial. Found the Musquetors excessively tormenting not withstanding a Stiff breeze from the SE a little after dark the wind increased the Musquetors dispersed

Gass  
We had a pleasant morning

Ordway  
a pleasant morning. Abt. 10 AM set out...the wind So high that we could Scarsely proced. About 2 oClock PM we overtook the party who had halted to hunt as the wind was So high. Towards evening the wind abated So that we proced. on untill after Sunset.

Expedition camps near present-day Omaha, NE.

Monday, September 8

Weather Diary

warmest day we have experienced in this year. passed River platt—

Clark  
The Missouri at this place does not appear to Contain (as much) more water than it did 1000 Miles above this place, the evaporation must be emence; in the last 1000 miles this river receives the water 20 rivers and maney Creeks Several of the Rivers large and the Size of this river or the quantity of water does not appear to increas any—

Gass  
We again had a plesant morning

Lewis & Clark Expedition Weather Journals, 1806, Page 193
Ordway  a fair morning.

Expedition passes by the confluence of the Platte and Missouri Rivers, in present-day Nebraska. They also pass the present-day Iowa - Missouri state line.

Tuesday, September 9

**Weather Diary**

<table>
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<tr>
<th>Sunrise</th>
<th>4 PM</th>
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**Daily Narrative Journals**

Clark  passed the enterance of the great river Platt which is at this time which is a this time low the water nearly clear the current turbelant as usial; our party appears extreamly anxious to get on, and every day appears produce new anxieties in them to get to their Country and friends. The Musquetors are yet troublesome, tho’ not So much So as they were above the River platt. the Climate is every day perceptably wormer and air more Sultery than I have experienced for a long time. the nights are now so worm that I sleep Comfortable under a thin blanket, a fiew days past 2 was not more than sufficient.

Gass  passed the mouth of the great river Platte; went on very well all day

Ordway  a fair morning.

Wednesday, September 10

**Weather Diary**

<table>
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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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<th>Weather</th>
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</table>
Daily Narrative Journals

Clark  we Set our very early this morning and proceeded on very well with wind moderately a head. We find the river in this timbered Country narrow and more moveing Sands and a much greater quantity of Sawyers or Snags than above. Great caution and much attention is required to Stear Clear of all those difficuelties in this low State of the water.

Gass  We had a pleasant morning

Ordway  a fair morning.

The Expedition passes the present-day Nebraska - Kansas state line.

Thursday, September 11

Weather Diary

a few drops of rain only a little before day and Some rain at 2 P M

<table>
<thead>
<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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Daily Narrative Journals

Clark  a heavy Cloud and wind from the W detained us untill after sunrise. The [mosquitoes] are no longer troublesom on the river, from what cause they are nouverous above and not So on this part of the river I cannot account.

Gass  had a cloudy morning, and slight showers of rain during the forenoon

Ordway  a Showery morning.

Expedition camps near present-day St. Joseph, MO.

Friday, September 12

Weather Diary

Heavy dew this morning and fog  Some rain from 12 to 4 P M
### Daily Narrative Journals

**Clark**  
a thick fog a little before day which blew off at day light. A heavy Dew this morning. We set out at Sunrise the usual hour and proceeded on very well about 7 miles met 2 perogues....The wind blew a head Soon after we passed those perogues. The evening proving to be wet and Cloudy we Concluded to continue all night

**Gass**  
The morning was fine

**Ordway**  
a foggy morning. We had Small Showers of rain this evening.

---

**Saturday, September 13**

### Weather Diary

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<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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### Daily Narrative Journals

**Clark**  
a little after Sunrise we set out the wind hard a head from the SE At 8 AM....the wind being too high for us to proceed in Safty through the eme[n]city of Snags...we concluded to lye by. At 11 AM we proceeded on. The day disagreeably worm.

**Gass**  
We had a pleasant morning after some rain that fell yesterday, and again proceeded on early with unfavouable wind.

**Ordway**  
a fair morning. The wind being high and as we were out of meat we detained along at different places to hunt. Camped having made but a Short distance this day—

---

**Expedition passes present-day Atchison, KS and Independence Creek.**
Sunday, September 14

Weather Diary

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</table>

Daily Narrative Journals

Clark Set out early and proceeded on very well. Our party received a dram and Sung Songs until 11 oClock at night in the greatest harmoney.

Gass a fine morning

Ordway a fair morning.

Expedition passes by the confluence of the Kansas and Missouri Rivers, at present-day Kansas City, MO.

Monday, September 15

Weather Diary

day very worm Smokey and worm

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<tr>
<th>Sunrise</th>
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<th>River</th>
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Daily Narrative Journals

Clark we set out early with a Stiff Breeze a head. At 11 AM passed the enterance of the Kanzas river which was very low. As the winds were unfavourable the greater part of the day we only decended 49 miles and encamped. The weather disagreeably worm and if it was not for the constant winds which blow from the S and SE we Should be almost Sificated Comeing out of a northern Country open and Cool between the Latd. Of 46° and 49° North in which we had been for nearly two years, rapidly decending into a woody Country in a wormer Climate between the Latts. 38° and 39° North is probably the Cause of our experiencing the heat much more Senceable than those who have
Continued within the parallel of Latitude.

**Gass** The morning was pleasant

**Ordway** a fair morning. We set off at eight and procd. on the wind a head as usual.

**Tuesday, September 16**

**Weather Diary**

this day very Sultry and much the hottest which we have experienced

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**Daily Narrative Journals**

**Clark** the Day proved excessively worm and disagreeable, so much so that the men rowed but little.

**Gass** This was another pleasant day

**Ordway** a fair morning. The day very warm indeed.

**Wednesday, September 17**

**Weather Diary**

day worm, but few musquetors

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**Daily Narrative Journals**

**Clark** passed the Island of the little Osage Vilage [near Malta Bend, MO] which is considered
by the navigator of this river to be the worst place in it. The current passing with great velocity against the banks which cause them to fall &c. This day proved worme.

**Gass**

had a pleasant day, but very warm. About 11 o’clock we passed through a bad part of the river, where it was so filled with sawyers that we could hardly find room to pass through safe.

**Ordway**

a fair morning. We passed through a very bad part of the river which was filled so thick with log standing on end & sawyers that we only found room to pass through.

**Thursday, September 18**

**Weather Diary**

<table>
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<tr>
<th>Time</th>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Temp</th>
<th>Weather</th>
<th>Wind</th>
<th>Rise/Fall</th>
<th>Feet</th>
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<tbody>
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<td>Sunrise</td>
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**Daily Narrative Journals**

**Clark**

the weather we found excessively hot as usual. We find the current of this part of the Missouri much more gentle than it was as we ascended, the water is now low and where it is much confined it is rapid. one of our party J. Potts complains very much of one of his eyes which is burnt by the Sun from exposing his face without a cover from the Sun. Shannon also complains of his face & eyes &c.

**Ordway**

a clear morning.

**Expedition passes present-day State Capitol of Missouri, Jefferson City.**

**Friday, September 19**

**Weather Diary**

Saw a green Snake as high up as Salt Rivr on the missouri. The limestone bluffs commence below Salt river on S. Side
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<tr>
<th>Sunrise</th>
<th>4 PM</th>
<th>River</th>
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**Daily Narrative Journals**

**Clark**  
a very singular disorder is taking place amongst our party that of the Sore eyes. Three of the party have their eyes inflamed and Sweled in Such a manner as to render them extremally painfull, particularly when exposed to the light, the eye ball is much inflaimed and the lid appears burnt with the Sun, the cause of this complaint of the eye I can’t [account?] for. From it’s Sudden appearance I am willing to believe it may be owing to the reflection of the sun on the water.

**Gass**  
a fine day....being so anxious to reach St. Louis, where, without any important occurrence, we arrived on the 23rd, and were received with great kindness and marks of friendship by the inhabitants, after an absence of two years, four months and ten days.

**Ordway**  
a fair morning.

**Saturday, September 20**

**Weather Diary**

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<th>Sunrise</th>
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**Daily Narrative Journals**

**Clark**  
The Osage river very low and discharges but a Small quantity of water at this time for so large a river We Saw Some cows on the bank which was a joyfull Sight to the party and Caused a Shout to be raised for joy. We Came in Sight of the little french Village called Charriton. We landed and were very politely received...as it was like to rain we accepted of a bed in one of their tents.

**Ordway**  
As Several of the part have Sore eyes (sun burned from viewing sun on the water) & unable to work, our officers leave 2 small canoes
Expedition arrives at St. Charles, MO.

Sunday, September 21

Weather Diary

a Slight Shower of rain a little before day light this morning

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Daily Narrative Journals

Clark at 4 PM we arived in Sight of St. Charles, the party rejoiced at the Sigh.

Ordway late in the evening hard rain commend. and continued hard during the night.

Monday, September 22

Weather Diary

at St. Charles the raine commenced about 9 P.M and was moderate untill 4 A.M. when it increased and rained without intermition untill 10 A.M: Some Thunder and lightning about daylight. it Continued Cloudy with Small Showers of rain all day. we arived at the Mississippi

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Daily Narrative Journals

Clark This morning being very wet and the rain Still continuing hard, and our party being all Sheltered in the houses of those hospitable people, we did not [think?] proper to proceed on untill after the rain was over at 10 AM it seased raining and we Colected our party and Set out and proceeded on down to the Contonemt. We were honored with a Salute of Guns and a harty welcom—

Ordway the hard rain continued this morning untill about 11 Oclock AM at which time the party
was collected and we Set out & procd. on Some Rain this evening.

**Expedition arrives in St. Louis. After completing a journey of more than 8,000 miles.**

**Tuesday, September 23**

**Weather Diary**

at St. Louis Several light Showers in the course of this day. we arrived at St Louis at 12 oClock

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**Daily Narrative Journals**

**Clark** set out decended to the Mississippi and down that river to St. Louis at which place we arived about 12 oClock. We Suffered the party to fire off their pieces as a Salute to the Town.

**Ordway** a wet disagreeable morning. Soon arived at the Mouth of the Missouri entered the Mississippi River and landed at River deboise where we wintered in 1804. About 12 oClock we arived in Site of St. Louis. Drew out the canoes then the party all considerable much rejoiced that we have the Expedition Completed and now we look for boarding in Town and wait for our Settlement and then we entend to return to our native homes to See our parents once more as we have been So long from them.— Finis.

**Wednesday, September 24**

**Weather Diary**

rained moderately this morning and continued Cloudy with moderate rain at intervales all day

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Daily Narrative Journals

Clark I sleped but litte last night. However we rose early and Commenced wrighting our letters. Capt. Lewis wrote one to the presidend and I wrote Govr. Harrison & my friends in Kentucky. Capt. Lewis in opening his trunk found all his papers wet, and Some Seeds spoiled.

Thursday, September 25

Weather Diary

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Daily Narrative Journals

Clark had all of our Skins &c. Suned and Stored away in a Storeroom

Friday, September 26

Weather Diary

fair and worm

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Daily Narrative Journals

Clark a fine morning we commenced wrightin &c. ²

² Here ends Captain William Clark’s entries into the Daily Narrative Journals of the Lewis and Clark Expedition three days after arriving in St. Louis. Time was spent writing letters to various family members and completing editing of the journals during this period.

Lewis & Clark Expedition Weather Journals, 1806, Page 203
Saturday, September 27

**Weather Diary**

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Sunday, September 28

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Monday, September 29

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Tuesday, September 30

**Weather Diary**

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3 This is the last entry of weather, water or climate data for the Lewis and Clark Expedition in the Weather Diary.

Thus ended the formal Expedition journal entries for the epic trip from St. Louis to the Pacific Ocean and return.

May we proceed on!