

Section 4

Weather Diary and Narrative Journals Relating to Weather, Water & Climate

NOAA's National Weather Service
2003-2006 Lewis & Clark Corps of Discovery Bicentennial

1805

January 1, 1805 to December, 31 1805

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 Ocian!*”; 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 ¹

Sunrise			4 PM			Missouri River ²		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18a	s	SE	34a	f	NW	R	1	0

1 Reference: Coues, Volume III, pages 1269-70, 1286; Moulton, Volume 3, pages 281-283; Thwaites, Volume 6, Part II, pages 181-182.

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

Daily Narrative Journals

Clark The Day was worm. Themtr 34⁰ above 0. Some fiew 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
4b	s	NW	8b	f a s	N	-	-	-

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—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
14b	c	N	4b	s	SE	-	-	-

Daily Narrative Journals

Clark some Snow to day

Gass The weather was generally very cold.

Ordway Snowed this morning

Friday, January 4

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	c a s	W	4b	c	NW	R	-	2 ½

Daily Narrative Journals

Clark a worm Snowey morning, the Themtr. at 28⁰ 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20b	c	NW	18b	s	NE	R	-	2

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
11b	c a s	NW	16b	f	NW	R	-	3

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
22b	f	NW	14b	f	W	F	-	1

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

Whitehouse Cloudy, Cold weather

Tuesday, January 8

Weather Diary

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20b	f	NW	10b	f	NW	R	-	1

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
21b	f	W	18b	f a c	NW	R	-	1

Daily Narrative Journals

Clark A Cold Day, Thermometer at 21⁰ below 0. The after part of this day very 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
40b	f	NW	28 ³	f	NW	R	-	1

3 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 40⁰ 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 verry 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 froze 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 severty 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38b	f	NW	14b	f	NW	F	-	½

Daily Narrative Journals

Clark verry Cold

Gass The weather was generally very cold.

Ordway clear cold morning. Nothing extroordinary 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 circle⁴

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20b	f	NW	16 ⁵	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 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
34b	f	NW	20 ⁶	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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
16b	s	SE	8b	c a s	SE	-	-	-

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 image with much more precision than 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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10b	f	E	3a	c	SW	R	-	1

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 cold 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 o'clock this morning we had total eclips of the moon. This morning not so cold as yesterday, wind from the SE. Wind chopped 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
36a	c	W	16a	f	SW	R	-	2 ½

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	c	W	12b	f	NW	-	-	-

Daily Narrative Journals

Clark a verry 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
1b ⁷	f	NW	7a	f a c	NW	F	-	1

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—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12a	c	NE	6b	f	NW	R	-	1

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a ⁸	f	NE	9b	c	SE	R	-	3/4

⁸ 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	c	NE	8a	f	SE	R	-	-

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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10a	f a h	NW	19a	c	NW	R	-	1 3/4

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 fell about 4 inches deep last night and continues to snow

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	s	E	2b	c a s	N	F	-	2 ½

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		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12b	c	NW	2b	f	NW	R	-	1/4

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 chiminal effect on the atmosphere.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
26b	f	NW	4b	f a c	W	-	-	-

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12a	c	NE	20a	f a c	SE	-	-	-

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20a	c	SE	16a	c	NW	R	-	2

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	f	NW	15a	f	SW	-	-	-

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
4a	f	SW	16a	f	W	R	-	½

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, Sepperate 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
6a	c	NW	14a	c	NW	R	-	1

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 feel 2 Inches last night.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	c a s	NW	8a	f a c	NW	F	-	1

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

Sunrise			4 PM			Missouri River ²		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
6a	c	NW	16a	f	NW	R	-	2 ½

¹ Reference: Coues, Volume III, pages 1270, 1286; Moulton, Volume 3, pages 305-307; Thwaites, Volume 6, Part II, pages 182-183.

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12b	f	NW	3a	f	S	F	-	1

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
8b	f	SW	2a	f	W	-	-	-

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 determind 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18b	f	NW	9b	f	W	-	-	-

Daily Narrative Journals

Lewis This morning fair tho' could, the thermometer stood at 18⁰ 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10a	f	NW	20a	f	NW	R	-	1

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
4b	f	NW	12a	f	W	R	-	½

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18b	f	SE	29 ³	c	S	R	-	½

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

Friday, February 8

Weather Diary

the Black & white & Speckled woodpecker has returned—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18a	f	NW	28	c	NE	F	-	1

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
10a	f	SE	33a	c	SE	-	-	-

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 smooth.

Sunday, February 10

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18a	c a s	NW	12a	c	NW	-	-	-

Daily Narrative Journals

Lewis This Morning was Cloudy after a slight snow which fell in the course of the night, the wind blew very hard from W. altho' the thermometer stood at 18⁰ Above naught the violence of the wind caused a degree of cold that was much more unpleasant than that of yesterday when thermometer stood at 10⁰ only above the same point.

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

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

Monday, February 11

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
8b	f	NW	2b	f	NW	-	-	-

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

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Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
14b	f	SE	2a	f	W	-	-	-

Daily Narrative Journals

Lewis The morning was fair tho' could, thermometer at 14⁰ below naught wind SE

Clark The ice on the parts of the River which was verry 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 riseing 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 leavs 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	c	SE	10a	c	NW	F	-	1

Daily Narrative Journals

Lewis The morning cloudy, thermometer 2⁰ below naught, wind from SE.

Clark I returned last Night from a hunting party much fatigued, haveing 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2a	c a s	NW	2b	f	NW	-	-	-

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
16b	f	SW	6b	f	W	-	-	-

Daily Narrative Journals

- Clark** the morning fine, the Thermometer Stood at 16⁰ below 0, Nought. 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 “jentilly Swetting the part affected, by throwng 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2a	f	SE	8a	f	W	F	-	1

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
4a	c	SE	12a	f	NW	F ⁴	-	½

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
4a	s	NE	10a	f	S	-	-	-

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
4a	f	SE	20a	f	S	-	-	-

Daily Narrative Journals

Clark a fine Day

Ordway a clear pleasant morning.

Whitehouse We had fine clear moderate weather

Wednesday, February 20

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2a	f	S	22a	f	S	-	-	-

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
6a	f	S	30a	f	S	-	-	-

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 thoughed 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
8a	c	N	32a	c a r & s	NW	-	-	-

Daily Narrative Journals

Clark a Cloudy morning, at about 12 oClock it began to rain and Continud for a few 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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18a	f	NW	32a	f	W	R	-	½

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 Perogue, and nearly disengaged 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 o'clock 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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
8a	f	NW	32a	f	W	-	-	-

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches

16a	f	W	38a	f	NW	-	-	-
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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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20a	f	NE	31a	f	N	-	-	-

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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
26a	f	SE	36a	f	E	F	-	½

Daily Narrative Journals

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
24a	f	E	38a	c	SE	-	-	-

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 Diary¹

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

Sunrise			4 PM			Missouri River ²		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	c	W	38a	f	NW	-	-	-

1 Reference: Coues, Volume III, pages 1270-71, 1286-87; Moulton, Volume 3, pages 324-327; Thwaites, Volume 6, Part II, pages 183-185.

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	f	NE	36a	f	NE	R	-	1 ½

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—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	c	E	39a	f	NW	-	-	-

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
26a	f	NW	36a	f	NW	-	-	-

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
22a	f	E	40a	f	NW	-	-	-

Daily Narrative Journals

Clark a fine Day. Themometer at 40^o 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
26a	c	E	36a	f	E	R	-	2

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12a	f	E	26a	c	E	R	-	2

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
7a	c	E	12a	f	E	R	-	2 ½

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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2a	c	N	18a	f	NW	R	-	2

Daily Narrative Journals

Clark a Cloudy Cold and windey morning, wind from the North. I walked up to see the Party that is making 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	f	NW	12a	f	NW	R	-	3 ½

Daily Narrative Journals

Clark a Cold windy Day

Ordway the day clear and cold high winds—

Whitehouse the weather continued Clear & pleasant

Monday, March 11

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
12a	c	SE	26 ³	f a c	NW	R	-	4 ½

3 Clark's Journal Codex C lists this temperature as "26 a."

Daily Narrative Journals

Clark A Cloudy Cold windy 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
2b	f a s	N	10a	f	NW	R	-	5

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 raising fast.

Whitehouse the weather continued Clear & pleasant

Wednesday, March 13

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
1b	f	SE	28a	f	SW	R	-	3 ½

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
18a	f	SE	40a	f	W	-	-	-

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

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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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	c	E	42a	c	W	F	-	3

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
30a	f	SE	46a	f	SW	R	-	2

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. paticularly the root said to cure bites of the mad dog and rattlesnake.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
24a	c	N	34a	c	N	F	-	1

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20a	c a s	N	31 ⁴	f	NW	R	-	1

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 Squawl of Snow cold air

Whitehouse the weather continued Clear & pleasant

Wednesday, March 20

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	c	NW	28 ⁵	f	NW	R	-	3

5 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
16a	c	E	26a	s & h	S	-	-	-

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
22a	f a s	S	36a	f	SW	F	-	4

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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
34a	f	W	38a	c a r	NW	F	-	4

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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	c a s	NE	30a	c a s	N	R	-	1

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—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
16	f	E	32a	f	S	R	-	5

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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
20	f	SE	46a	f	W	R	-	4 ½

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 prepareing 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 jamed 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.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28	f	SE	60a	f	SW	R	-	9

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
40	f	SE	64a	f	SW	R	-	1

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.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches

42	f	NW	52a	f	NW	F	-	11
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Daily Narrative Journals

Clark The obstickle 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28	f	NW	49a	f	NW	R	1	1

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
35	c a r	SE	45a	c	SE	R	-	9

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 Diary¹

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.

Sunrise			4 PM			Missouri River ²		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
33a ³	c	NW	43a	c a t l r & h ⁴	W	F	-	11

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 defferent 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 o'clock this morning for about an hour. Began to rain again about 4 o'clock. PM rained until 12 o'clock. 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 & Pettyaugers into the River, which they effected—

Tuesday, April 2

Weather Diary

rained hard and without intermission last night

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	c a r	NW	38a	f a c	W	F	-	5

Daily Narrative Journals

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

Gass the weather was fair but 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 pleasant.

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
24a	f	N	44a	f	W ⁵	F	-	4

⁵ 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 sarcely 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.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
36a	f	S	55a	f	NW	F	-	4

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
30a	f	NW	39a	f	N ⁶	F	-	2

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.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
19a	f	N	48a	c	NW	F	-	1

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 encamp a 4 me. S.S.

Sunrise			4 PM			Missouri River ⁷		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	f	W	64a	f	SW	R	-	2 ⁶

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 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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
19a	f	NW	56a	f	NW	F	-	2

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 volcano. 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38a	f	SE	70a	f	SW	F	-	½

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 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 nomber 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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42a	f	E	74a	f	SW	R	-	1/8

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 sulphurious 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 breast 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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42a	f	NW	76a	f	W	F	-	½

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
56a	f	NW	74a	c a r t & l	W	R	-	1/8

Daily Narrative Journals

- Lewis** Canoes passed over the Lard side in order to avoid a bank which was rappidly falling in on the Stard. The night proved so cloudy I could make no further observations.
- Clark** a fine morning. Set out verry early, the murcery Stood 56⁰ above 0. The wind blew verry 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 Missouri...is 120 yards wide at the mouth, but rapid and muddy like the big Missouri. About 3 oClock their came up a Squawl of verry 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 purple colour.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
58a	f	SE	80a	f	SE	F	-	1

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	c	SE	82a	f	SW	f	-	3/4

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.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
51a	f	E	78a	f	SW	F	-	½

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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	f	SE	78a	f	S	F	-	½

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 puting 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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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 pillean 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 verry hard untill verry 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 wit the cannoes without filling them with water. Detained us about 3 hours. The river has been verry crooked and bearing towards the South the most of the day. The Game is gitting plentyier 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 regad 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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
45a ⁸	c	NW	56a	c	NW	-	-	-

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 bigin 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 obleged to lay at our last nights harbour all day. The evening clear blustry & cold. Winds—

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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
40a	c	NW	42a	c a s	NW	-	-	-

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 frosted.

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.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	f	NW	40a	c	NW	F	-	½

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 usual. 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—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
34a	f a c	W	40	f	NW	R	-	2

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 verry cold morning some frost, we Set out...untill brackfast at which time the wind began to blow verry 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
34a	f	W	52	c	NW	R	-	2

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 obliged to halt the first safe place untill the wind abated which was about 3 hours. Dried 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
40	f	N	56	f	N	R	-	1

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 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 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
36a	f	N	52a	f	NW	R	-	2

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 luled 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f	S	63a	f	SE	R	-	3

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 verry 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 drouded in attempting to Cross on the ice dureing 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
36a	f	SW	64a	f	NW	F	-	2

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 proceed 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 very hard a head from the NW until 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 until 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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
44a	f	SE	63a	f	SE	F	-	1 ½

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42a	f	NE	64a	f	E	F	-	1 ½

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50a	f	NW	58a	f	SE	F	-	½

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 from 12 OC. to 6 pM

Sunrise			4 PM			Missouri River ²		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
36a	c	E	46a	c a f	NE	F	-	1 ½

1 Reference: Coes, 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

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.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
28a	s	NE	34a	c a s	NW	F	-	1

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 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] 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 verry 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 verry 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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
26a	f	W	46a	c	W	F	-	1/4

Daily Narrative Journals

Lewis The morning being very cold 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 verry cold, a frost last night and the Thermt. Stood this morning at 26 above 0 which is 6 degrees blow freeseing— 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 Sufficently 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 verry 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 verry 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.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38a	c	W	48a	f a c	W	-	-	-

Daily Narrative Journals

Lewis We were detained this morning untill about 9 Ock. in order to repair 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

Sunrise	4 PM	Missouri River

Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38a	f	NW	62a	f a r	SE	R	-	1

Daily Narrative Journals

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

Clark the river rising & 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	f	E	61a	c a r	SE	R	-	2

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) suddonly 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 weather, a fair wind from the East, we Sailed on verry well. At mid night a light Sprinkling of rain, but did not last long.

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42a	c	S	60a	f	NE	R	-	1 ½

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 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 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 mear sprinkle the bald Eagle, of which there are great numbers, now have their young. The turtledove appears.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
41a	c	E	52a	c a r	E	F	-	1/4

Daily Narrative Journals

Lewis Set out at an early hour under a gentle brieze from the East. A black cloud which suddonly spring up at SE, soon over shaddowed 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 it's 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 verry black Cloud to the SW. We Set out under a gentle breeze from the NW. About 8 oClock began to rain, but not Sufficent 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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38a	f	E	58a	f	W	R	-	3/4

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches

38a	f a c	WNW	62a	c a r	NW	F	-	3/4
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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 suddon 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
44a	f	NE	60a	c	SW	-	-	-

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	SE	54a	c a r	NW	R	-	2

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	c a r	NW	54a	f a c	NW	F	-	2 1/4

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f	SW	52a	c	SW	F	-	1 3/4

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 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48	c a r	SW	54a	c	NW	F	-	3/4

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48	c	SW	67a	f	SW	-	-	-

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 dryed.

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 dew 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	NE	68a	f	SW	-	-	-

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 attoms. 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 60⁰ 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 Cought... the wind blew hard and the dry wood Cought & 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

rains.

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
58a	f	W	46a	c a r	NW	F	-	1

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38a	f	E	68a	f a c	SW	-	-	-

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 any thing like so great a degree; there was also a fall of dew 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, rapid 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 mercury stood at 38 at 8 o'clock 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 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 dew fell last night. We set off at 7 o'clock 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	NE	76a	f	E	F	-	1

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 crookedthe Missouri water is not so muddey as below, but retains nearly its usial cholour, and the sand principallly 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50a	f	SW	76a	f	NW	-	-	-

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 invellped 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 moderatly 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 very 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.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
46a	c	NW	48a	c	NW	F	-	½

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 drunk 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 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 drunk 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 froze on the oars this morning. Strawberries in bloom. Saw the first kingfisher.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f	SW	54a	f	SW	F	-	1/2

Daily Narrative Journals

- Lewis** 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 purgative, but painful to the intestines in its

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 dew...in the Autumn when the hard frosts commence they close they close their burrows and do not venture out again untill spring. River more rappid. The musquetoos 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. W ind SW the water freezes on the ore Ice on the edge of the river. The after part of the day was warm & the Musquetoos 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

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f	NW	68a	f	SE	R	-	3 ½

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 folage of some of the cottonwood trees have been entirely destroyed 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 frozed 1/8 of an inch thick, and the thermometer Stood this morning at the freesing 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 verry 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 Thurmot. 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 aforded 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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
46a	f	SW	82a	f	SW	R	-	2

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 Missouri fine and cool.

Whitehouse clear pleasant weather. About 3 o'clock the wind shifted to the Northwest and blew moderately— about 4 o'clock...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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
58a	f	SW	80a	f	SW	R	-	½

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 elevated 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 counterbalanced 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 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 Country 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 Setled 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
62a	f	SW	82a	f	SW	-	-	-

Daily Narrative Journals

Lewis The wind blew so hard this morning that we did not sent out untill 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 untill about 10 oClock. This day verry worm—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 untill 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 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.—

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
62a	c	SW	72a	c & r	SW	R	-	½

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 fiew drops of rain and verry 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 fiew drops of rain & Smokey wind from the SW. At 1 oClock we had a fiew 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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
62a	c a r	SW	67a	r	SW	R	-	1

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 sperituos 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 [66⁰ F or 55⁰ 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.

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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 table spoon 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 bluffs 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. notwithstanding 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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	c a r	W	53a	c a r	SW	R	-	1 ½

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 Clifts 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 woarn 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, haveing 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 eligant 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 masonry 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 Clifts 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

Sunrise			4 PM			Missouri River ²		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50a	c	SW	62a	c	-	R	-	1 ½

1 Reference: Coues, Volume III, pages 1272-73, 1289; Moulton, Volume 4, pages 346-349; Thwaites, Volume 6, Part II, pages 191-193.

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 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
56a	c a r	SW	68a	f	SW	-	-	-

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 current 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 shower of rain today but it lasted only a few minutes and was very moderate. Remain here until 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 today wind hard a head. The current swift but regular. A fair night. We took some lunar observations of moon & stars

Gass a fine morning.

Ordway we had a hard wind & a little rain last night. This morning fair. Wind from SW some little rain today wind hard a head. The current swift but regular. A fair night.

Whitehouse a clear pleasant morning. About 12 o'clock the wind blew hard from the NW at this place, and the sky became cloudy— about 1 o'clock 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
46a	f	SW	60a	f	SW	-	-	-

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 inchanting 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 abrubtly 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 snowey 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 runds 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 immence 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	f a c	NE	61a	f	SW	F	-	3/4

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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
40a	r	SW	42a	c a r	NE	F	-	3/4

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.—

Sunrise			4 PM			Missouri River		

Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
35a	c a r	NE	42a	r a r	NE	F	-	1 ½

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 abruptionness of the clifts 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
40a	c a r	SW	43a	r a r	SW	F	-	1 ½

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 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 frozan 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^o 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
41	r a r	SW	48a	f a r	SW	F	-	1 1/4

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 reffuge 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 picteresque 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 fiew 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 riffing 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50	f	SW	62 ³	f	SW	F	-	1

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	SW	68a	f a r	SW	R	-	2

Daily Narrative Journals

Lewis The day being fair and fine we dried 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.

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	f	SW	66a	f	SW	-	-	-

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

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

Wednesday, June 12

Weather Diary

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Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	f	SW	64	f a r	SW	-	-	-

Daily Narrative Journals

Lewis the sun became warm, and I boar a little to the south in order to gain the river as well to obtain water to allay my thirst. From this hight 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 riseing higher than the preceding one untill 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 verry 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 verry hot one in the bottom of the Canoe exposed to the Sun— water verry 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 verry rapid.

Whitehouse a clear pleasant morning. The current verry 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.

Sunrise			4 PM			Missouri River ⁴		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	SW	72	f	SW	R	-	3/4

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 beautiful and level plain of great extent or at least 50 or sixty miles; in this there were infinitely more buffalo than I had ever before witnessed at a view. I proceeded on this course...when my ears were saluted with the agreeable sound of a fall of water and advancing a little further I saw the spray arise above the plain like a column of smoke which would frequently disappear 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 O'clock...to gaze on this sublimely grand spectacle. 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 its 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 height of fifteen or twenty feet and are scarcely formed before large rolling 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 arises from these falls there is a beautiful rainbow produced which adds not a little to the beauty of this majestically grand scenery. After writing this imperfect description, 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 again, but then reflected that I could not perhaps succeed better than penning 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 magnificent 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 very rapid many shoals great numbers of large stones
- Gass** a fine morning. Some dew fell last night.
- Ordway** a beautiful pleasant morning. A heavy dew. Small river...about 50 yards wide....muddy colour and very 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		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	SW	74	f	SW	F	-	3/4

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 immediatly in the neighbourhood of the mountains, from whence I should have supposed, that sudden and immense torrants 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 suddonly melted down by haisty showers of rain— The weather being warm I had left my leather 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 dificulety 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 copulate.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	SW	76	f	SW	F	-	½

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 dew on the grass about my camp every morning which no doubt proceeds 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 difficulty as the river is more rapid. We can hear the falls this morning very 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 very 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
64	c a r	SW	58	f	SW	R	-	½

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 sulpher...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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50a	c	SW	57	c	SW	F	-	1/2

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	c	SW	64a	f a c	SW	F	-	½

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 continuel 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 imediately 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 ocasionally, 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	SW	70a	f	SW	F	-	½

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 verry high from the West and whole of this day.

Thursday, June 20

Weather Diary

wind still violent. Capt. Clark returns.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	c	SW	74a	f a r	SW	F	-	1/4

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 few 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 few 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 Shineing Mountains, from their glittering

appearance when the Sun Shines in certain directions on the Snow which Cover them.

Dureing 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 extream 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 dureing 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 autherise 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 derrection 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 perticular those to the NW and SW are covered with Snow, and appear to be verry 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 verry 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	f	SW	70a	c	SW	F	-	1/4

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 rapid and place in the shade of a tree.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
45a	c	SW	54a	f	SW	F	-	1/2

Daily Narrative Journals

- Clark** a fine morning. Wind from the
- Ordway** a clear pleasant morning. the wind as usual. ...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 usual. 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

Sunrise			4 PM			Missouri River ⁵		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	f	SE	65a	c	SE	F	-	1/4

5 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 uneaven, and dried 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	c a r	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 o'clock 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 Continud 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 Sufficently 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	c a r	SW	72a	f	SW	-	-	-

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 riarity 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 dificuelty 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 Sufficently 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	f	SW	78a	f	SW	R	-	½

Daily Narrative Journals

Lewis The Musquetoës are extreemly 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 verry cloudy. The weather cleared up at 9 oClock AM and the verry 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 debth 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 hight 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 sollid. 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	f	SW	77	f a r & h t l ⁶	SW	R	-	1 1/4

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 minutes & 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 rich brown, the Small Streams, discharges in great torrents, and partake of the Cholera of the earth over which it passes— a great part of which is light & of a redish brown. Several Buffalows passed drowned & dashed to pieces 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 heavy dew last night. passed the upper falls which is a great cataract 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 I 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 very 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 o'clock PM we had a hard shower of rain which made the Portage so Slippery

Friday, June 28

Weather Diary

Cat fish no higher

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
46a	f	SW	75	c a f	SW	R	-	2

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 expereinced a most dredfull wind from off the Snow Mountains to the SW accompd. with rain which continued at intervalles 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 colour. Soon after we halted, we had a Shower and at dark we experienced a most dredful 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
47a	r t & l	SW	77	f	SW	R	-	4 ½

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 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 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 its passage to the river adds not a little to its 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 prairies 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 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 Should 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 Shelveing rocks under which we took shelter near the river and placed our guns the compas &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 Poreing down the hill in the rivin with emence force tareing everything before it takeing 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 makeing 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 Scrcely 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 very much. On arrival a the Camp on the willow run— met the party who had returned in great Confusion to the run leaveing 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 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 verry eairly this morning after clear & warm. We find that the prarie is So wet as to render it impossable 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 bleading 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 caught 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 would 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	f	SW	76	f	SW	R	-	2 1/4

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 seting 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 it's portage around the Great Falls of the Missouri.

Monday, July 1

Weather Diary ¹

wind hard during the grater part of the day.—

Sunrise			4 PM			Missouri River ²		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
59a	f	SW	74a	f	SW	R	-	½

¹ Reference: Coues, Volume III, pages 1273, 1289-90; Moulton, Volume 5, pages 22-24; Thwaites, Volume 6, Part II, pages 193-195.

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 Musquetoos 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 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 weighed 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

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 underwent, as much as Men could possibly endure; to escape with their lives—

Tuesday, July 2

Weather Diary

some rain just before sun rise

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f a r	SW	78a	f	SW	-	-	-

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 suddonly chilled and condenced, 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

fair weather.

Wednesday, July 3

Weather Diary

slight rain in the evening.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
58a ³	f	SW	74a	c a f & r	SW	-	-	-

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 Scercely 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 perpetial 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 comeing 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 vacuum 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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	Sw	76a	f a r	SW	F	-	1/4

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 suddonly 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 deminution 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 nois 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 leasure I could find from whence it issued. I have thout it probable that it might be caused by runing 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 sperits, 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 danceing 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	f a h & r ⁴	SW	72a	f	SW	F	-	½

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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
47a	c a h r t & l	SW	74a	f a c	SW	F	-	1/4

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 despite 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 accompan. 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 gethered 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	c a f	SW	77a	r a c	SW	F	-	1/4

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. Ther leather cloathes soon become roton 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 musquetoos 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	SW	78a	f a r	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	c a r	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 favourate boat was a great disapointment 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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f a r	SW	66a	F	SW	-	-	-

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 modderately 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 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
46a	f	SW	70a	f	SW	-	-	-

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 Minnetares 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 phantom 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 lye 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 oblegded 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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50a	f	SW	74a	f	SW	F	-	1/4

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 very 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

Sunrise			4 PM			Missouri River ⁵		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
42a	f	SW	76a	f	SW	F	-	1/4

⁵ 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 clense 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
45a	f	SW	78a	c a r	SW	-	-	-

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 o'clock PM we experienced 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 o'clock 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f a r	SW	76a	f	SW	F	-	1 1/2

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 elevated 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 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
53a	f	SW	80a	f	SW	F	-	3/4

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 rapid [Probably the later Half-Breed, or Lone Pine Rapids]...the current of the Missouri below these rapids is strong for several miles, tho' just above there is scarcely any current, the river very narrow and deep, about 70 yds. wide. The mosquitoes 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 peice 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 Madison 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
58a	f	SW	81a	f	SW	F	-	1 1/2

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

Sunrise			4 PM			Missouri River ⁶		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	SW	84a	f	SW	-	-	-

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
62a	f	SW	68a	c a h & r	SW	F	-	½

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. Musquetoos less troublesome than usual. We had a thundershower today about 1 PM which continued about an hour and was attended with som hail.

Clark a find 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 oClock 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 oClock 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
59a	f a r	SW	60a	f	NW	-	-	-

Daily Narrative Journals

Lewis currant strong. Having lost my post Meridian Observation for Eq. 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	NW	67a	f	NW	F	-	½

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 musquetoës 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	f	NW	80a	f	NE	-	-	-

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 Thermometer where we dined. I went back for it. It Stood in the heat of the day at 80 degrees above 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 Thermometer 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	f	SW	80a	c	SW	F	-	½

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	SW	90a	f	SW	F	-	¾

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 runing to great extent through such a rough mountainous country without having it's stream intersepted by some difficult and gangerous 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 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 verry 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.

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	SW	86a	f	SW	F	-	½

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 ascend. Middle fork is quit as large about 90 yds. wide. The South fork is about 70 yds wide. The forks appear to be verry rapid. On the North Side the Indians have latterly Set the Prarie on fire, the Cause I Can't account for. The day verry 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 verry trouble Som untill 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 verry white Clay or rocks. Several bad rocky rapids.

Friday, July 26

Weather Diary

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
60a	f	SW	82a	c a r	SW	F	-	3/4

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 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 reather 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 verry 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.

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 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 suddonly 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 beautiful 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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	f a r	SW	90a	f	SW	F	-	½

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'Clock 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 intervalles 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	f a r	N	82a	f	NE	R	-	1/2

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 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

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

Sunrise			4 PM			Missouri River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
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.

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 Diary¹

Sunrise			4 PM			Jefferson River ²		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	f	SW	91a	f	SW	F	-	½

1 Reference: Coues, Volume III, pages 1273-74, 1290; Moulton, Volume 5, pages 180-182; Thwaites, Volume 6, Part II, pages 195-196.

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 50⁰
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

Sunrise			4 PM			Jefferson River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	f	NW	81a	f	NW	F	-	½

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

Sunrise			4 PM			Jefferson River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
50a	f	NE	86a	f	NE	F	-	½

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 drea 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

Sunrise			4 PM			Jefferson River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	f	SW	92a	f	S	F	-	½

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 cotten timber in some of the R. bottoms killd. & 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

Sunrise			4 PM			Jefferson River ³		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
49a	f	SE	79a	f	SE	F	-	½

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 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 o'clock PM...and some time after we had a small Shower of rain.

Wednesday, August 7

Weather Diary

Thunder shower last evening from the NW. The river which we are now ascending is so inconsiderable and the current 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 o'clock a thunder Storm from the NW accompanied with rain which lasted about 40 minutes—

- 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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
54a	f a r	SW	82a	c a f	SW	-	-	-

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 remembrance 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 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
58a	f	NE	78a	c	SW	-	-	-

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 musquetoës 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 high since we have entered the rocky Mountains, yet the ascent has been so gradual along the vallies that it was scarcely perceptible 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, & 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 suddonly turned his horse about, gave him a

whip leaped the creek and disappeared...we now set out on the track of the horse...halted...cooked breakfast....before we had finished 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 until 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
58a	f a r & j	W	72a	f a r a h	NW	-	-	-

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 immense 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 verry 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 verry 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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
52a	c a f	NW	70a	f a r	NW	-	-	-

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	f a r	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 dried 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 51⁰ 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.

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
48a	f	SW	70a	f	SW	-	-	-

Daily Narrative Journals

Clark as this morning was cold and the men fatigued Stiff and Chilled...detained till 7 o'clock. The Therm. Stood at 48^o 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 Thermometer Stood at 47^o. 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^o 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 Diary⁵

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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
30a	f a r	SW	71a	f a r	SW	-	-	-

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

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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f a r ⁶	SW	74a	f	SW	-	-	-

6 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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
19a	f	SE	78a	f	E	-	-	-

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 vessells 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 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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
22a	f	E	70a	f	E	-	-	-

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 & rocky, the assent of three was So Steap that it is incredible 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 difficulty; 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
35a	f	E	72a	f	SE	-	-	-

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 foarded 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 & roeing 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
40a	f	SE	76a	f a r	SE	-	-	-

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,

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f a r	SE	65a	c	SE	-	-	-

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 pased within a very few feet of me. This part of the cove on the NE side of the Creek has lately been birned 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
31a	f	SE	45a	f	SE	-	-	-

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 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 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 vessells 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).

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f	SE	56a	f	SE	-	-	-

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
35a	f	SW	66a	f	SW	-	-	-

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
32a	f	SW	68a	f	SW	-	-	-

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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
34a	c	NE	59a	c	NE	-	-	-

Daily Narrative Journals

Clark a fine Morning.

Ordway a fine morning.

Whitehouse a clear pleasant morning.

Saturday, August 31

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38a	c a r	NE	58a	c a r & h	NE	-	-	-

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.

Sunrise			4 PM			River ²		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
38a	c	NW	67a	c	NW	-	-	-

¹ Reference: Coues, Volume III, pages 1274-75; Moulton, Volume 5, pages 240-243; Thwaites, Volume 6, Part II, pages 196-198.

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
36a	c a r	NE	60a	c a r h	NE	-	-	-

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.

Sunrise ³			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
34a	c a r	NE	52a	c a r	NE	-	-	-

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 Dairy 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 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 termonated 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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
19a	r a s	NE	34a	c a r	NE	-	-	-

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 &c. 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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
17a	c a s	NE	29a	c a r & s	NE	-	-	-

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	NE	-	r	NE	-	-	-

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	NE	-	c a r	NE	-	-	-

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 covered 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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	NE	-	c a r	NE	-	-	-

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 covered 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	NE	-	f a r	NE	-	-	-

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 scestitial 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	f	NW	-	-	-

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	f	NW	-	-	-

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	f	NE	-	-	-

Daily Narrative Journals

Clark a white frost, Set out at 7 oClock. Creek of fine clear water. The road through this hilly Country 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	NE	-	r	NE	-	-	-

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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	c a r & s ⁴	SW	-	-	-

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 verry high Steep mountain for 9 miles to a large fork from the left which appears to head in the Snow topped 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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a l & s ⁵	SW	-	s	SW	-	-	-

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 dift. 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 ruged 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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a s	SW	-	f	SW	-	-	-

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 difiuelty 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 repitition of yesterday expt the Snow which made it much wors to proseed as we had in maney places to drect 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 Scarsely 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SW	-	-	-

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SW	-	-	-

Daily Narrative Journals

Lewis used the snow for cooking—

Clark The want of provisions together with the difficulty of passing those immense mountains dampened the spirits of the party which induced us to resort to some plan of reviving their spirits. A fair morning, cold. From the top of a high part of the mountain at 20 miles I had a view of an immense plain and level country 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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SW	-	-	-

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 descend the mountain the heat becomes more proseptable 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	Sw	-	f	SW	-	-	-

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 very warm after descending into the low Country—

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 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	f	SW	-	-	-

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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r t & l ⁶	SE	-	f a r ⁷	SE	-	-	-

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	f	SW	-	-	-

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 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	f	SW	-	-	-

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

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 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	f	SW	-	-	-

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	f	SW	-	-	-

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 octr. we were at the mouth of the Chopunnish river makeing Canoes to Decend the Kooskooske.

Sunrise ³			4 PM			River ⁴		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	-	-	-	-	-

1 Reference: Coues, Volume III, page 1275; Moulton, Volume 5, pages 364-366; Thwaites, Volume 6, Part II, pages 198-199.

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	N	-	-	-	-	-	-

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	-	-	-	-	-

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	-	-	-	-	-

Daily Narrative Journals

Clark This morning is a little cool, wind from off the Eastern mountains. The after part of this day verry warm.

Gass a white frost, afterwards a fine day.

Ordway a fair morning.

Whitehouse a fair morning.

Saturday, October 5

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	-	-	-	-	-

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	-	-	-	-	-

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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	-	-	-	-	-

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E	-	-	-	-	-	-

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	SW	-	-	-	-	-	-

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NW	-	-	-	-	-	-

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 colour. We went down it a short distance and the wind blew so high from NW

Whitehouse a fair and pleasant morning. About 5 o'clock PM we arrived 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 colour.

Friday, October 11

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c	E & SW	-	-	-	-	-	-

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 worn.

Gass a fine morning; proceeded on

Ordway a clear morning. The country is barren and broken. Some high plains. No timber. Passed over some rapids where the waves roiled high.

Whitehouse fair and clear weather a pleasant morning. Some rapid water but the current mostly gentle.

Saturday, October 12

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	E & SW	-	-	-	-	-	-

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 rocky 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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	SW	-	-	-	-	-	-

Daily Narrative Journals

- Clark** rained a little before day. A windey dark rane y 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

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Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	-	-	-	-	-

Daily Narrative Journals

Clark a verry 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 verry Considerable. The wind this after noon from the SW as usial 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 barron 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	-	-	-	-	-

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.

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	-	-	-	-	-

Daily Narrative Journals

Clark a cool morning. haveing 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	-	-	-	-	-

Daily Narrative Journals

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 incrediabile 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 counrey where the eye has no rest. The roughfs are nearly flat, which proves to me that rains are not common in this open country.

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 giced.

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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	-	-	-	-	-

Daily Narrative Journals

- Clark** a cold morning faire & wind from SE. Distance across the Columbia 960 3/4 yds...Ki-moo-e im 575 yds. 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...verry wide from a half a mile to three forths wide and verry Smooth & pleasant.

Saturday, October 19

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SE	-	-	-	-	-	-

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], destant about 156 miles, a range of mountains in the Derection crossing a conical mountain SW topped 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 mountn a long distance down the River which appears to have Snow on it. We found the day pleasant

Sunday, October 20

Weather Diary

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	-	-	-	-	-

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	-	-	-	-	-

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 rocky rapids where the River is nearly filled with high dark coloured rocks

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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	-	-	-	-	-

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 contiually 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	-	-	-	-	-

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	W	-	-	-	-	-	-

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 ariseing 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	W	-	-	-	-	-	-

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	W	-	-	-	-	-	-

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	W	-	-	-	-	-	-

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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a f	NW	-	-	-	-	-	-

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 verry 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 obledged us to halt on the Lard. Side under Some cliffs 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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	W	-	-	-	-	-	-

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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	SE	-	-	-	-	-	-

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 damed 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 foggey. 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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	SW	-	-	-	-	-	-

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 every 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^{1, 2}

Sunrise ³			4 PM			River ⁴		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	NE	-	-	-	-	-	-

1 Reference: Coues, Volume III, pages 1275, 1290; Moulton, Volume 6, pages 99-101; Thwaites, Volume 6, Part II, pages 198-200.

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	SW	-	-	-	-	-	-

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 remainder 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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a fog	NE	-	-	-	-	-	-

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 discovered 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 covd. 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	W	-	-	-	-	-	-

Daily Narrative Journals

Clark A cloudy cool morning, wind from the west. Tide rose last night 18 inches perpdicular 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

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 intervalles throughout the day. Saw 14 Garter Snakes.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r c r	SW	-	-	-	-	-	-

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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	SW	-	-	-	-	-	-

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a fog ⁶	SW	-	-	-	-	-	-

⁶ Clark's Journal Codex I lists this weather data as "r a 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 Separated from us this morning in the fog. The rain continued untill 9 oclock moderately. Several marshey Islands towards the Lard Side the Shape of them I can't See as the river is wide and day foggey. The fog So thick we could not See across the river. rain Continud. 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 Ocian, which Creates great joy. Some high mountains to the S.W. on the top of one is Snow. *Ocian 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 roeing or noise made by the waves brakeing 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	SW	-	-	-	-	-	-

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 verry 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

roled and tossed the Canoes in such a manner this evening that Several of our party were Sea sick. Ocian 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 gitting 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	S	-	-	-	-	-	-

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 verry 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

imediately 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 & rainy, & 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a r	NW	-	-	-	-	-	-

Daily Narrative Journals

Clark rained verry hard the greater part of the last night & continues this morning, the wind has luled 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 rainy 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

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.

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 & rainy, 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 & rained untill 12 oClock
 Cleared off an hour and rained again. (Lewis) the rain has been pretty generally falling Since the 7th inst. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	h r t & l	SW	-	-	-	-	-	-

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 Scercely large enough to Contain us, our Baggage in a Small holler about ½ mile from us, and Canoes at the mercy 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

Daily Narrative Journals

Clark Some intervals of fair weather last night, rain and wind continue this morning. ...trees very 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 eneviatilbly Suffer very 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 rainy 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 rainy day

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Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	-	-	-	-	-	-	-

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, perticularley 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 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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	SE	-	-	-	-	-	-

Daily Narrative Journals

Clark Rained all the last night at intervalles 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 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 rainy weather continued without a longer intermition than 2 hours at a time, from the 5th in the mornig. 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 & 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f	WSW	-	-	-	-	-	-

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a f	E	-	-	-	-	-	-

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)

Sunrise			4 PM			River		
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Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a c	SE	-	-	-	-	-	-

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 estonishment 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 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SE	-	-	-	-	-	-

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. rauid. ...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 until 1 PM the 21st after which it became Cloudy without rain (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	SE	-	-	-	-	-	-

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 until 1 PM and Cleared away and was Cloudy without rain

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SE	-	-	-	-	-	-

Daily Narrative Journals

Clark A cloud morning. the Wind blew hard from the SE which with the addition of the flood tide raised very high waves which broke with great violence against the shore throwing water into our camp the fore part of this day Cloudy Mornng. dark & Disagreeable, a Suprising 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 rainy 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 rainy

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)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SSE	-	-	-	-	-	-

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 accompaned 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	-	-	-	-	-

Daily Narrative Journals

Clark A calm Cloudy morning, a moderate rain the greater part of the last night. Rained at intervalles 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	W	-	-	-	-	-	-

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 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 verry 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

Sunrise	4 PM	River

Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	ESE	-	-	-	-	-	-

Daily Narrative Journals

Clark A fin 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 Sevral days past. (Lewis) Some rain on the morning of the 23rd and night of the 24th instant. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	ENE	-	-	-	-	-	-

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 difficuelty in precureing 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)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

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)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW & NW	-	-	-	-	-	-

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 intervalles of fair weather all the latter part of the night. O! How disagreeable is our Situation dureing this dreadful 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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

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 intervalles 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 intervalles throughout the last night, Some thunder and lightnige.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r & h	SW	-	-	-	-	-	-

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 intervalles 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.

Sunrise ³			4 PM			River ⁴		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	E	-	-	-	-	-	-

1 Reference: Coues, Volume III, pages 1275, 1290-91; Moulton, Volume 6, pages 148-151; Thwaites, Volume 6, Part II, pages 198, 200-201.

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 Decmber.

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 repeeted 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 rocky 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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	-	-	-	-	-

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 intervalles the night of the 2d instant with constant hard and Sometimes violent winds. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	E	-	-	-	-	-	-

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 imediately 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SE	-	-	-	-	-	-

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 Safty 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 rainy 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)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

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 crouded into my mind respecting his probably Situation & Safty— rained hard. The repeeted 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 provents 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)

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 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 rainy 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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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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r ⁵	NE	-	-	-	-	-	-

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 until 3 PM.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c r	NE	-	-	-	-	-	-

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 Continued 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)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches

-	r	NE	-	-	-	-	-	-
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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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

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 intervalles from the 10th instant untill 8 AM to day I with 16 men Set out after meat. (Clark)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SW	-	-	-	-	-	-

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 stay 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.—

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

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 Tremendous gusts of wind. The winds violent from the SE. With some risk proceeded on thro high waves in the river, a tempestuous 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 until 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
-	f a r & 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 rugged and uneven.

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 until meridian.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r s h	SE	-	-	-	-	-	-

Daily Narrative Journals

Clark rained and Snowed alternately all the last night, and Spurts (gusts) of Snow and Hail Continued until 12 o'clock, which has chilled the air, Cold disagreeable Dreadful day, the wind hard and unsettled. At 12 the Hail and Snow Ceased, 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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	h r & c	SW	-	-	-	-	-	-

Daily Narrative Journals

Clark Some rain with intervalles 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 mornng.

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r h	SW	-	-	-	-	-	-

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

Daily Narrative Journals

Clark rained as usual all the last night and contd. moderately all day to day without any intermission.

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

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)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r h & l	SW	-	-	-	-	-	-

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 intervalles 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 hard rain at Different times last night, and moderately this morning and the rest of the day without intermission. 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 intervalles last night and to day.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c r	SW	-	-	-	-	-	-

Daily Narrative Journals

Clark Some rain at different times last night and Showers of hail with intervalles 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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r a t & l	SW	-	-	-	-	-	-

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 Smoked 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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

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

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

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SE	-	-	-	-	-	-

Daily Narrative Journals

Clark rained as usual 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 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)

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	c a r	SE	-	-	-	-	-	-

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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	f a r	SE	-	-	-	-	-	-

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.

Sunrise			4 PM			River		
Temp	Weather	Wind	Temp	Weather	Wind	Rise/Fall	Feet	Inches
-	r	SW	-	-	-	-	-	-

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.