

Under the Big Sky

e-Letter

February and March

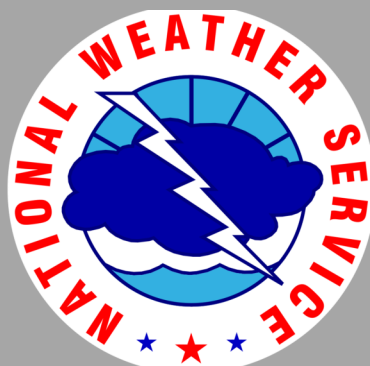
2023

National Weather Service

Glasgow, MT



Photo Credit: Jacob Zanker Meteorologist at NWS Glasgow.



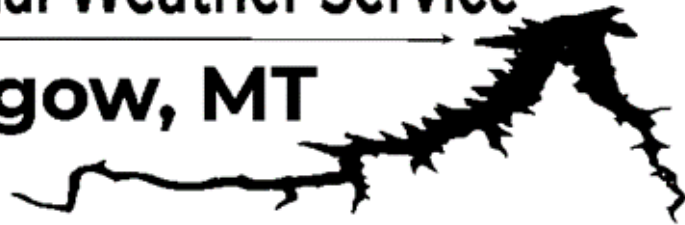
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National Weather Service



Glasgow, MT



Join CoCoRaHS Today!

CoCoRaHS is a grassroots organization with a network of highly committed observers who report daily precipitation such as rain, hail, or snow from all across the country. The data are used by meteorologists, insurance adjusters, mosquito control, and even by those in academia.

Participating in the CoCoRaHS program is a great way to make a difference in your community. Check out the [CoCoRaHS main page](#) to learn more! We are still accepting new observers so feel free to join through the main CoCoRaHS website today. All you'll need is a ruler and a rain gage to get started!

Need a refresher?:

Are you new to CoCoRaHS and need help getting started? Or, maybe you need help remembering how to take certain kinds of observations. The [CoCoRaHS](#)



[webpage](#) has a

number of available slide presentations that you can check out to learn more about these topics and more!

Are you looking to become a new CoCoRaHS observer? Then sign up to [join](#) today to get started! Just fill out the electronic form and the CoCoRaHS Coordinator from NWS Glasgow will follow up with you to help you get underway.

We will be holding a virtual spring CoCoRaHS training session soon—be sure to monitor for updates!

Percent of Normal Precipitation (Montana)

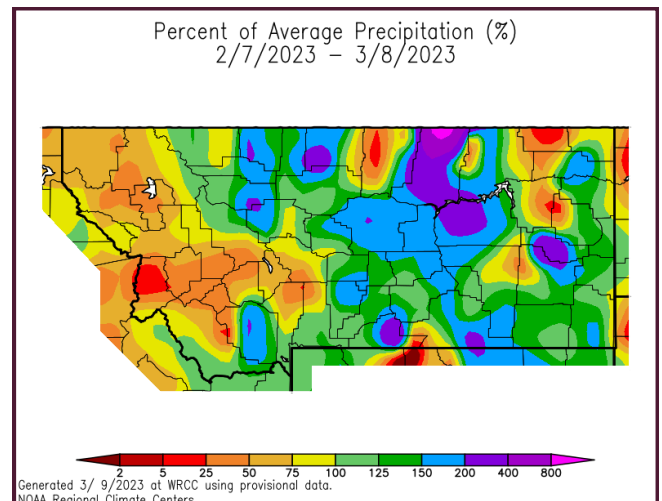


Figure 1: 30-day percent of normal precipitation across Montana.

Avg. Temp Departure from Normal (Montana)

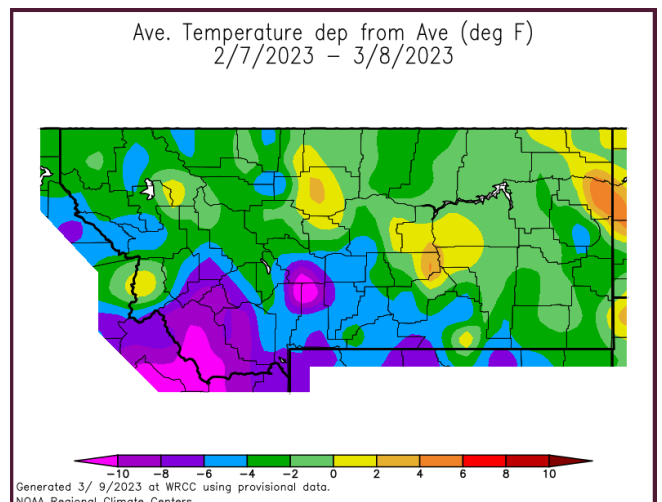


Figure 2: 30-day temperature anomalies across Montana.

Summary: While precipitation trends relative to average varied across the state over a recent 30 day period, temperatures were generally near normal. A few locations in central and eastern Montana saw temperatures above normal. Only far southwestern portions of the state saw temperatures several degrees below the average.

Preliminary Hydrologic Summary for January 2023, By Greg Forrester Lead Forecaster at NWS

Glasgow:

January was a dry month over northeast Montana. Many areas received less than 25 percent of their normal precipitation in January. Sidney, Brockway 3 WSW, and Outlook 6 WNW only received a trace of precipitation for the month. Other dry spots were Culbertson and Wolf Point with 0.01 inch, and Lindsay, Malta 35S, and Scobey 4NW with 0.02 inch. The wet spots for the month were Zortman with 1.03 inches, Carlyle 13 NW with 0.41 inch, and Flatwillow with 0.35 inches. Glasgow received 0.11 inch which was 25 percent of normal. Temperatures varied from 2 degrees below to 3 degrees above normal across the region. Glasgow averaged 15.9 degrees which was 1.3 degrees above normal.

The dry January brought no improvement in the drought across northeast Montana. At the end of January, extreme drought still covered most areas north of the Missouri River while moderate to severe drought covered the areas south of the Missouri River.

The Milk River, Yellowstone, Poplar, and Missouri Rivers were frozen. Streamflow information was not available.

The Fort Peck Reservoir elevation remained steady near 2218.8 feet during the month. The reservoir was at 63 percent of capacity and 80 percent of the mean pool.

Preliminary Hydrologic Summary for February 2023, By Greg Forrester Lead Forecaster at NWS

Glasgow:

February was a month of near normal temperatures and variable precipitation over northeast Montana. Some locations were very dry like Scobey 4NW which only had 0.01 inch of precipitation and Wolf Point which had 0.03 inch of precipitation for the month. Then, there were wet spots like Zortman with 1.19 inches, Glasgow 46SW with 0.91 inch, and Malta with 0.86 inch. Glasgow received 0.42 inch which was 120 percent of normal. Temperatures varied from 2degrees below to 3 degrees above normal across the region. Glasgow averaged 19.9 degrees which was 1.2 degrees above normal.

There was little change in the drought across northeast Montana. At the end of February, extreme drought still covered most areas north of the Missouri River while moderate to severe drought covered the areas south of the Missouri River.

The Milk River, Yellowstone, Poplar, and Missouri Rivers were frozen. Streamflow information was not available.

The Fort Peck Reservoir elevation fell slightly to 2218.6 feet during the month. The reservoir was at 63 percent of capacity and 80 percent of the mean pool.

CPC Outlook:

The Climate Prediction Center released its latest three month outlook for temperature and precipitation for March through May 2023 on February 16, 2023. The outlook shows below normal temperatures favored across all but extreme southern of Montana for the three month period. Equal chances exist for normal, above normal, or below normal precipitation over the same time period.

The latest outlook is always available [here](#). In addition, you can check out the Climate Prediction Center [Interactive site](#)! You can zoom in on our area, and navigate to see the climate outlook for your specific location.

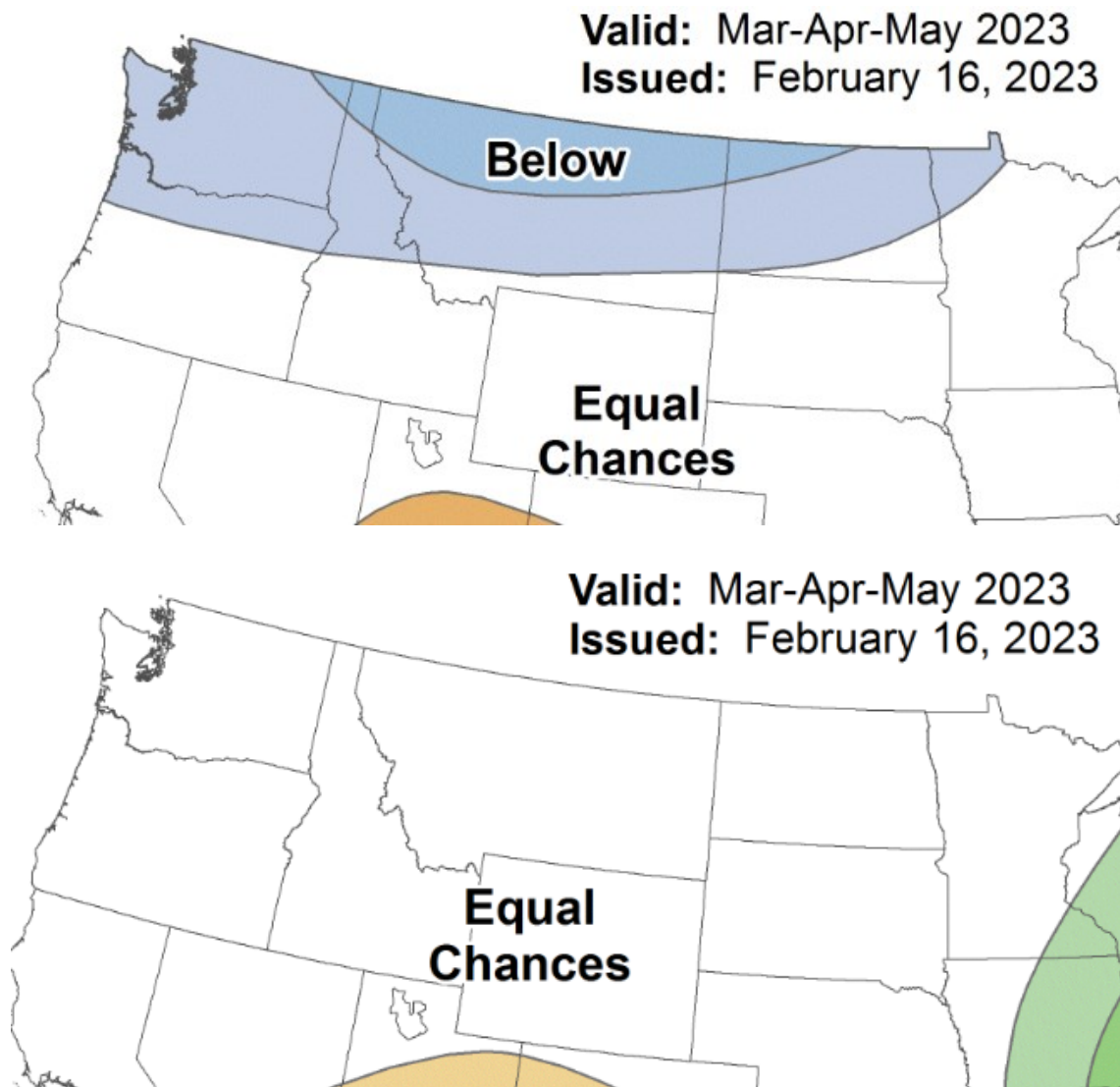


Figure 3: Climate Prediction Center three month outlook (March through May 2023) for temperature (top) and precipitation (bottom).

U.S. Drought Monitor:

The latest U.S. Drought Monitor was released on Thursday March 23, 2023. Moderate to severe drought conditions persist across much of Northeast and North Central Montana. Abnormally dry conditions are present across northwest portions of the state and only southern portions of Montana are without current drought concerns.

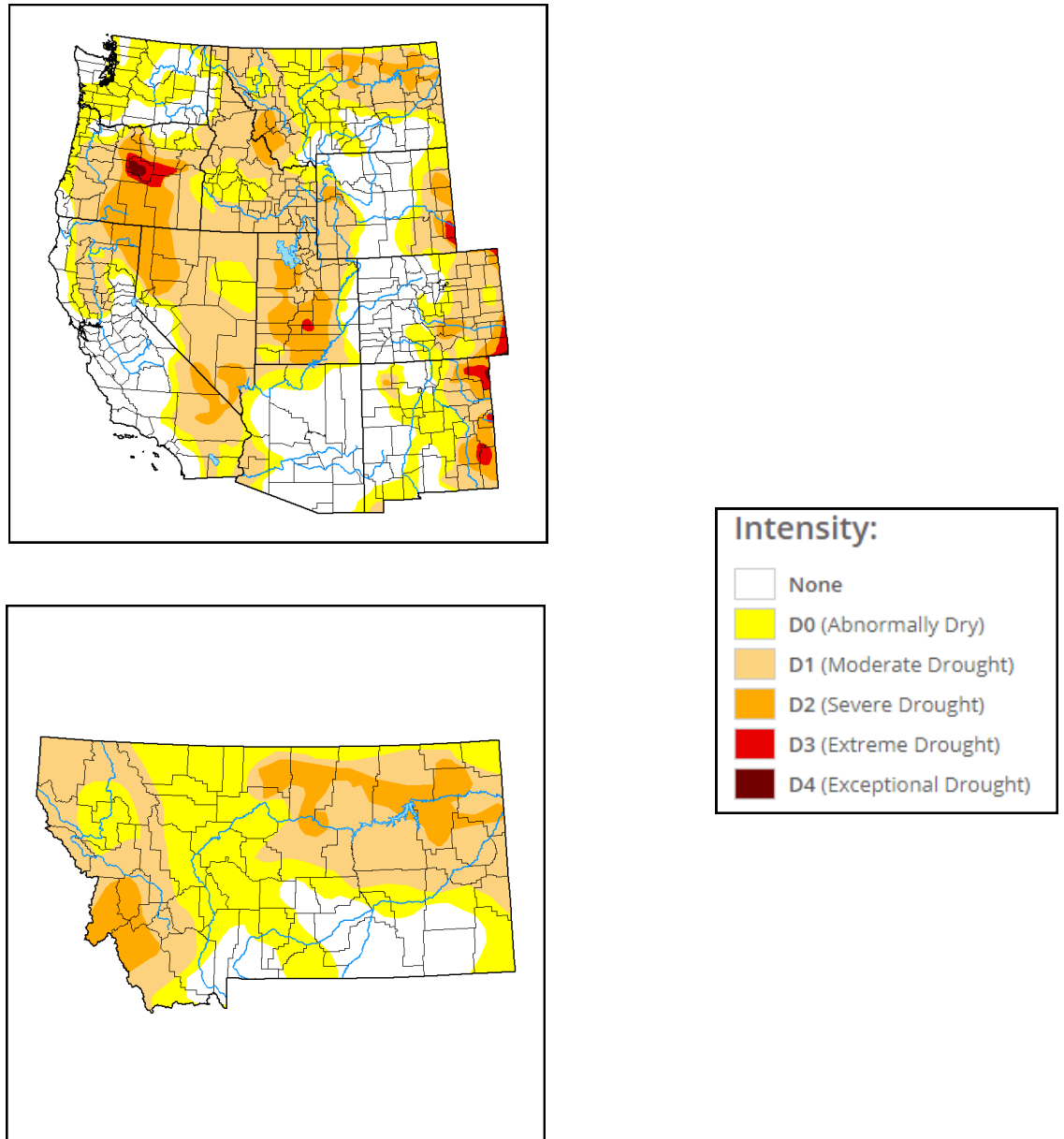


Figure 4: U.S. Drought Monitor updated March 23, 2023.

U.S. & Global Climate Highlights (January): The [U.S.](#) & [Global](#) climate highlights for January 2023 have been released, the latest month for which data was available. A few points for you to take home are provided below.

U.S. Selected Significant Climate Anomalies and Events for January 2023

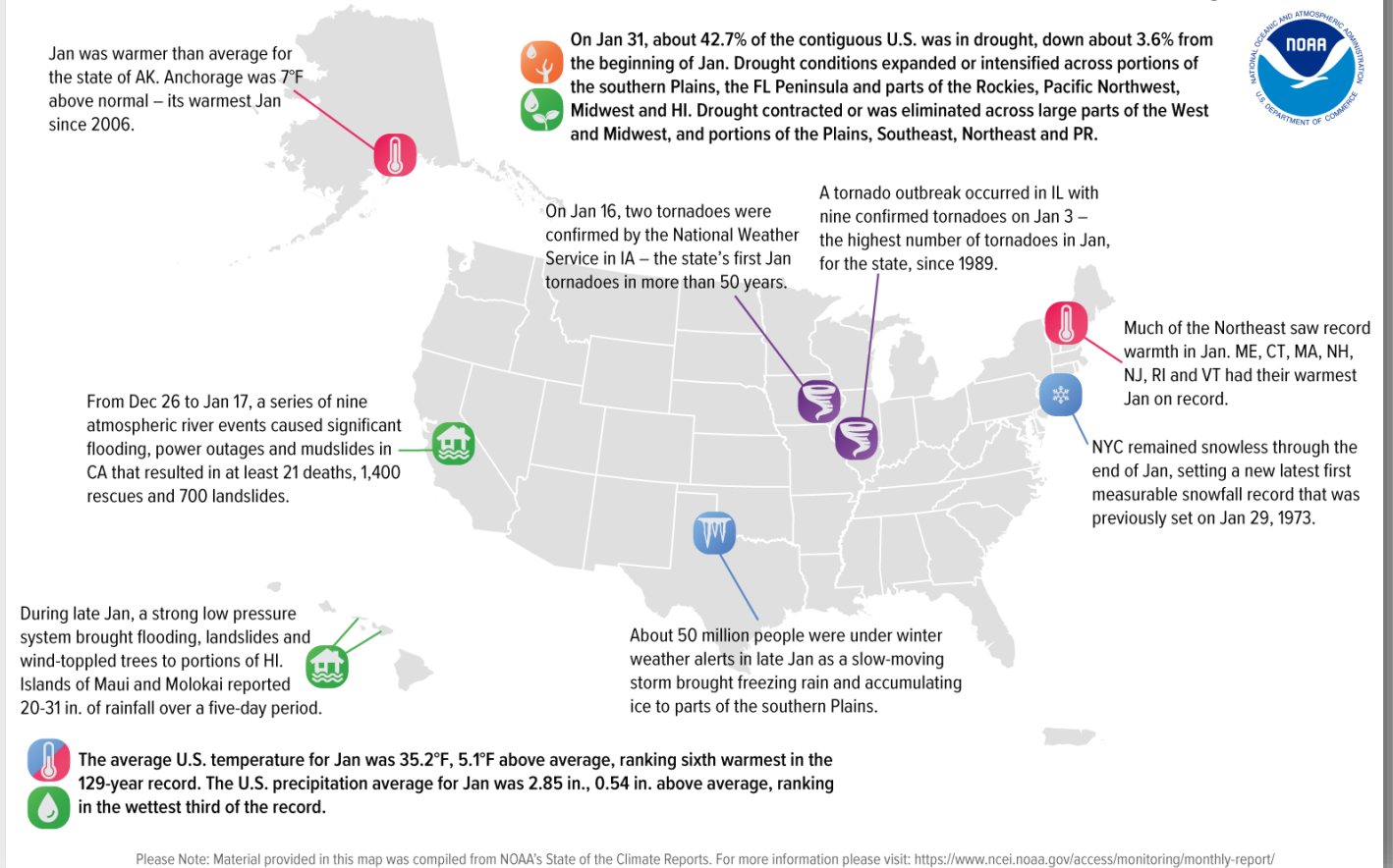


Figure 5: Significant Climate anomalies and events in January 2023.

U.S. Highlights for January 2023

- 1) The contiguous U.S. average temperature for January 2023 was 35.2 °F, ranking 6th warmest on record.
- 2) The average January 2023 precipitation total for the contiguous U.S. came in at 2.85 inches, ranking within the wettest third on record.
- 3) As of January 31, 42.7% of the contiguous U.S. was in drought, down 3.6% from the beginning of January.

Global Highlights for January 2023

- 1) January 2023 was the seventh warmest January on record in 174 years.
- 2) January 2023 was the 47th consecutive January and 527th consecutive month with global temperatures above average.

U.S. & Global Climate Highlights (February): The [U.S.](#) & [Global](#) climate highlights for January 2023 have been released, the latest month for which data was available. A few points for you to take home are provided below.

U.S. Selected Significant Climate Anomalies and Events for February and Winter 2023

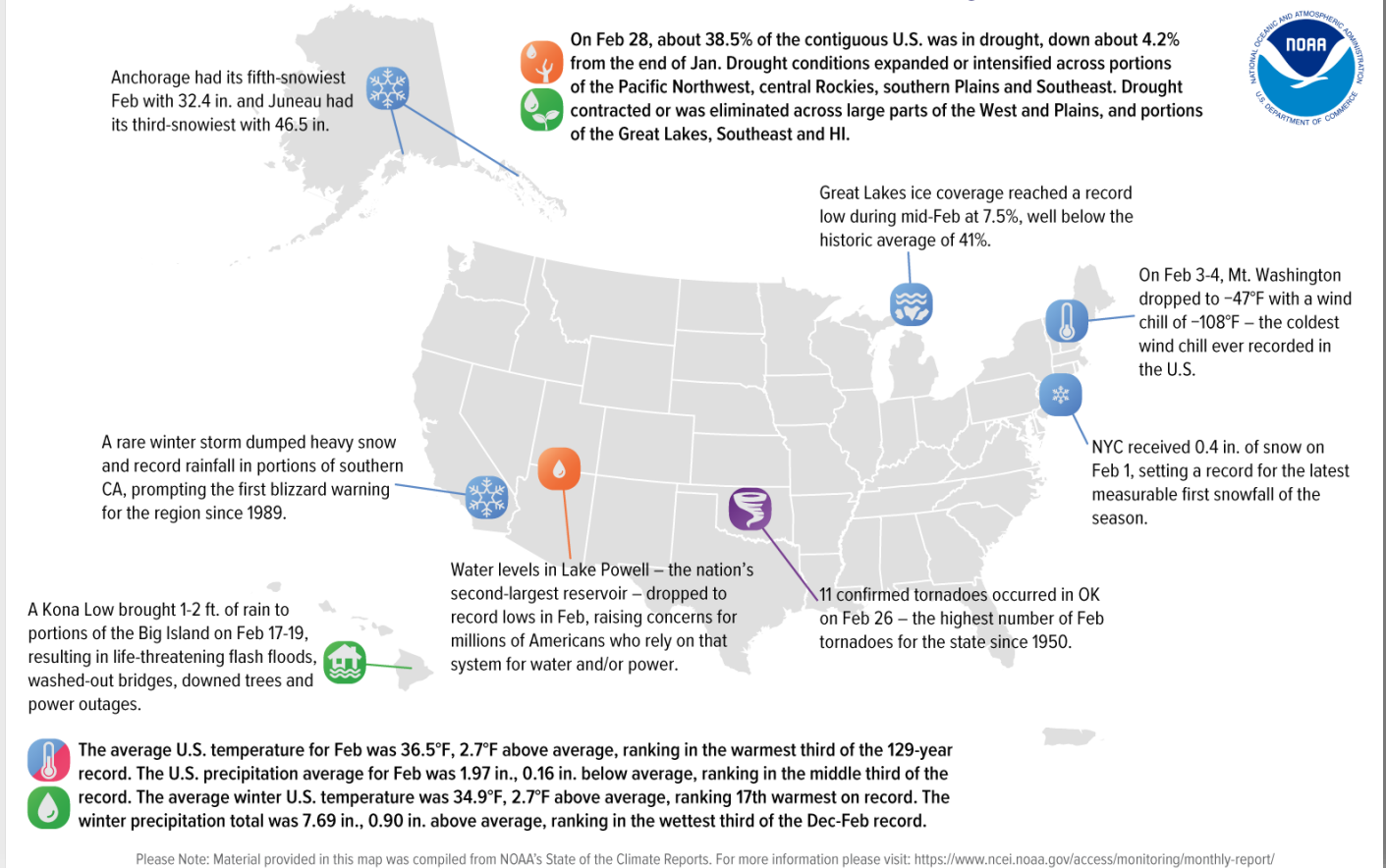


Figure 6: Significant Climate anomalies and events in February 2023.

U.S. Highlights for February 2023

- 1) The contiguous U.S. average temperature for February 2023 was 36.5°F , ranking within the warmest third on record.
- 2) The average February 2023 precipitation was 1.97 inches, also in the middle third on record.

Global Highlights for February 2023

- 1) February 2023 average global surface temperature ranked 4th highest on record.
- 2) February 2023 was the 44th consecutive February and 528th consecutive month with global temperatures above average.

Ice Jam Flooding Safety

- ◆ As temperatures start to rise more frequently this spring, we will have increasing chances for ice jams. Here's a safety graphic illustrating what they are, how they occur, and what to do when you run across one.

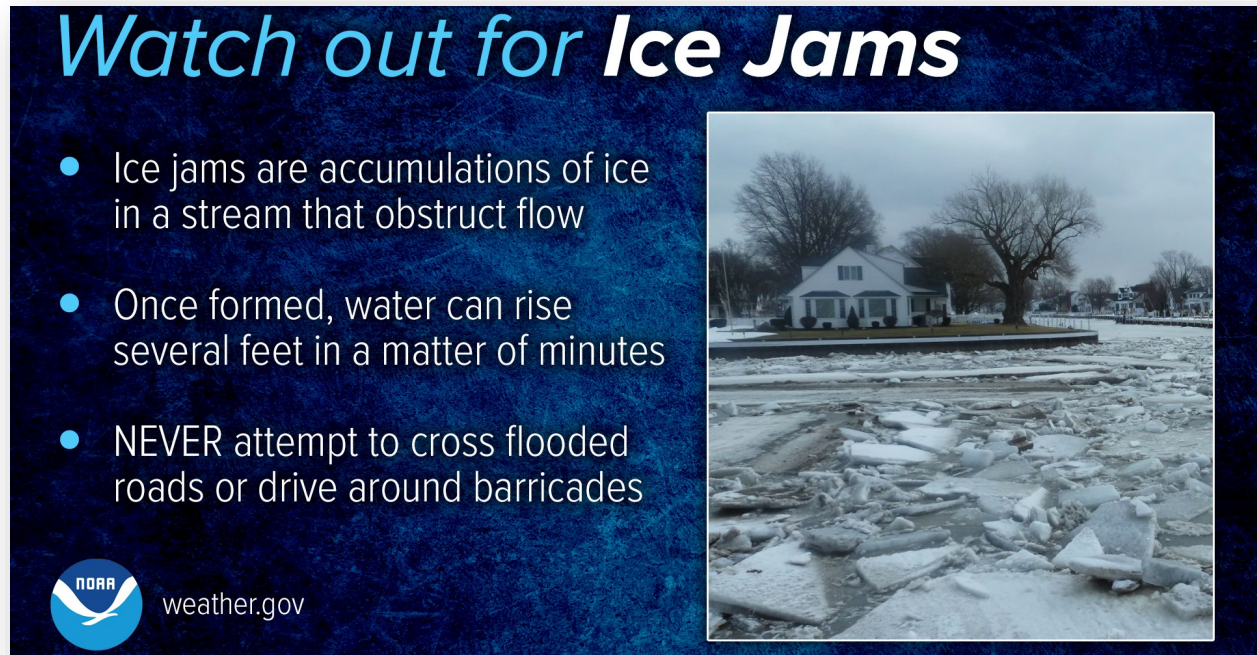


Figure 7: NOAA safety info graphic for ice jam safety.

Alt-Text: *Watch out for ice jams! Ice jams are accumulations of ice in a stream that obstruct flow. Once formed, water can rise several feet in a matter of minutes. Never attempt to cross flooded roads or drive around barricades.*

Links You May Like:

[ENSO Update](#)

[Machine Learning and Climate Models](#)

[Assessing Drought with Climate Change](#)

[Drought Status Update for Western U.S.](#)

COOP Precipitation Totals for January 2023 (Preliminary)

Station	Precipitation	Location
BAYM8	0.29	Baylor
BRDM8	T	Bredette
BTNM8	M	Brockton 17 N
BKNM8	0.12	Brockton 20 S
BKYM8	T	Brockway 3 WSW
BRSM8	0.08	Brusette
CLLM8	0.41	Carlyle 13 NW
CIRM8	0.15	Circle
CHNM8	0.12	Cohagen
COM8	M	Cohagen 22 SE
CNTM8	0.10	Content 3 SSE
CULM8	0.01	Culbertson
DSNM8	M	Dodson 11 N
FLTM8	0.35	Flatwillow 4 ENE
FPKM8	0.06	Fort Peck PP
GLAM8	0.04	Glasgow 14 NW
GGWM8	0.11	Glasgow WFO
GGSM8	0.15	Glasgow 46 SW
GNDM8	0.05	Glendive WTP
HRBM8	M	Harb
HINM8	0.05	Hinsdale 4 SW
HNSM8	0.14	Hinsdale 21 SW
HOMM8	0.08	Homestead 5 SE
HOYM8	M	Hoyt
JORM8	M	Jordan
LNDM8	0.02	Lindsay
MLAM8	0.03	Malta
MLTM8	0.12	Malta 7 E
MTAM8	0.02	Malta 35 S

Station	Precipitation	Location
MDCM8	M	Medicine Lake 3 SE
MLDM8	0.03	Mildred 5 N
MSBM8	M	Mosby 4 ENE
OPNM8	M	Opheim 10 N
OPMM8	M	Opheim 12 SSE
PTYM8	0.22	Plentywood
PTWM8	0.14	Plentywood 1 NE
POGM8	M	Port of Morgan
RAYM8	0.14	Raymond Border Station
SAOM8	0.08	Saco 1 NNW
SMIM8	0.05	St. Marie
SAVM8	M	Savage
SCOM8	0.02	Scobey 4 NW
SDYM8	0.11	Sidney
SIDM8	0.01	Sidney 2S
TERM8	0.03	Terry
TYNM8	M	Terry 21 NNW
VIDM8	M	Vida 6 NE
WSBM8	M	Westby
WTRM8	M	Whitewater
WHIM8	M	Whitewater 18 NE
WBXM8	M	Wibaux 2 E
WTTM8	0.26	Winnett
WNEM8	0.16	Winnett 6 NNE
WNTM8	0.28	Winnett 8 ESE
WITM8	0.40	Winnett 12 SW
WLFM8	0.01	Wolf Point
ZRTM8	1.03	Zortman

COOP Precipitation Totals for February 2023 (Preliminary)

Station	Precipitation	Location
BAYM8	0.08	Baylor
BRDM8	0.18	Bredette
BTNM8	M	Brockton 17 N
BKNM8	0.31	Brockton 20 S
BKYM8	0.22	Brockway 3 WSW
BRSM8	0.48	Brusette
CLLM8	0.38	Carlyle 13 NW
CIRM8	0.21	Circle
CHNM8	0.30	Cohagen
COM8	0.38	Cohagen 22 SE
CNTM8	M	Content 3 SSE
CULM8	0.29	Culbertson
DSNM8	M	Dodson 11 N
FLTM8	0.56	Flatwillow 4 ENE
FPKM8	M	Fort Peck PP
GLAM8	0.30	Glasgow 14 NW
GGWM8	0.42	Glasgow WFO
GGSM8	0.91	Glasgow 46 SW
GNDM8	0.24	Glendive WTP
HRBM8	M	Harb
HINM8	M	Hinsdale 4 SW
HNSM8	0.35	Hinsdale 21 SW
HOMM8	0.11	Homestead 5 SE
HOYM8	M	Hoyt
JORM8	M	Jordan
LNDM8	0.38	Lindsay
MLAM8	M	Malta
MLTM8	0.35	Malta 7 E
MTAM8	M	Malta 35 S

Station	Precipitation	Location
MDCM8	M	Medicine Lake 3 SE
MLDM8	0.37	Mildred 5 N
MSBM8	M	Mosby 4 ENE
OPNM8	M	Opheim 10 N
OPMM8	M	Opheim 12 SSE
PTYM8	0.19	Plentywood
PTWM8	M	Plentywood 1 NE
POGM8	0.13	Port of Morgan
RAYM8	M	Raymond Border Station
SAOM8	0.14	Saco 1 NNW
SMIM8	0.15	St. Marie
SAVM8	M	Savage
SCOM8	0.01	Scobey 4 NW
SDYM8	0.27	Sidney
SIDM8	0.18	Sidney 2S
TERM8	0.89	Terry
TYNM8	M	Terry 21 NNW
VIDM8	M	Vida 6 NE
WSBM8	M	Westby
WTRM8	M	Whitewater
WHIM8	M	Whitewater 18 NE
WBXM8	0.42	Wibaux 2 E
WTTM8	M	Winnett
WNEM8	0.32	Winnett 6 NNE
WNTM8	0.74	Winnett 8 ESE
WITM8	M	Winnett 12 SW
WLFM8	0.03	Wolf Point
ZRTM8	1.19	Zortman

Monthly Trivia:

Last time we asked...

As you go about outdoor winter plans, ice safety is important to keep in mind. The lake may *look* frozen, but how thick must the ice be to support activities like ice skating or snow mobiling? We'll explore this in more detail in the next newsletter.

Answer: Check out the NOAA Safety Infographic below for minimum ice thickness guidelines for various activities.



Figure 8: Info graphic showing the safety on ice.

Alt text: Safety On Ice: Ice is never 100% safe. If you don't know, don't go! Minimum ice thickness guidelines for new, clear ice only: Less than 2 inches: stay off! 4 inches: supports ice fishing and walking. 5 inches: supports small groups ice skating. 6 inches: supports snow mobile ATV. 9 inches: supports cars. 12 inches: supports medium size trucks. Stay away from any cracks and melting ice.

? **New Question:** When it warms up on a routine basis this spring and the snow begins to melt, where does the water ultimately end up? We'll explore some of the science of snow melt processes in the next newsletter!

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