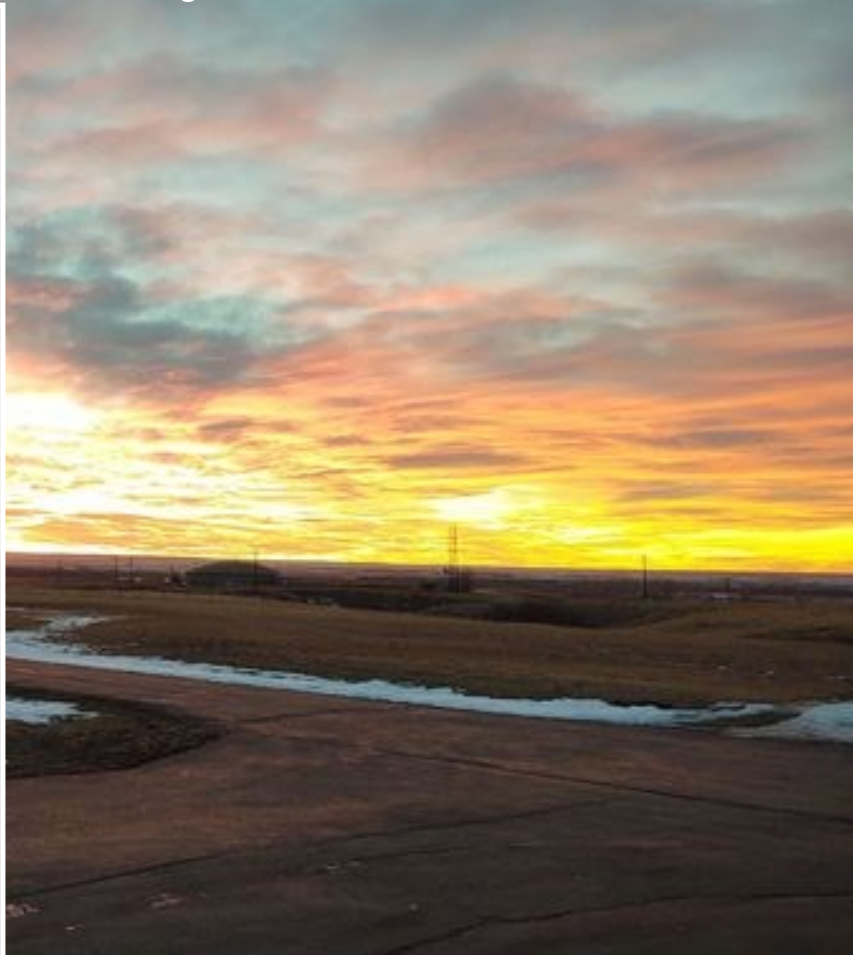


Photo Credit: Ryan Bernhart, Meteorologist
at NWS Glasgow.

Under the Big Sky

e-Letter

January 2020



National Weather Service

Glasgow, MT



Welcome to the January 2021 Edition of the NWS Glasgow Under the Big Sky E-Letter!

Each month we issue the latest Under the Big Sky newsletter in which we provide you with important weather, climate, and water information. Routinely included are the latest three month outlooks, the latest U.S. Drought Monitor, COOP precipitation reports, summaries of important weather events, trivia, and more. In addition, we also try to shed light on local office NWS Glasgow happenings from time to time such as keeping you up to date on any staffing changes.

We hope that you find these regularly issued newsletters both fun and informative and we thank you for allowing us the opportunity to serve!

As always, we continue to welcome any feedback that you may have so feel free to share with us what you think!

A Peak Inside:

- **CoCoRaHS/30 Day Summary...Page 1**
- **Hydro Summary...Page 2**
- **CPC Outlook/Drought Monitor...Page 3**
- **Climate Highlights...Page 4**
- **Monthly COOP Precipitation...Page 5**
- **Monthly Trivia...Page 6**



Become a Weather Observer for CoCoRaHS:

NWS Glasgow is looking for new CoCoRaHS volunteers to send in daily precipitation reports.

CoCoRaHS is a grassroots organization with a network of dedicated 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. And the best part is that you only need a couple of things to get started such as a 4 inch rain gauge and a ruler or yardstick. Why not give it a try today? All you have to do is check out the [CoCoRaHS main page](#), hit the join button in the upper right, fill out the form, and take some initial training. Once you have your rain gauge and ruler you are ready to get started!

Did you miss our recent CoCoRaHS training session? Check it out [here](#).

30 Day Percent of Normal Precipitation (Montana)

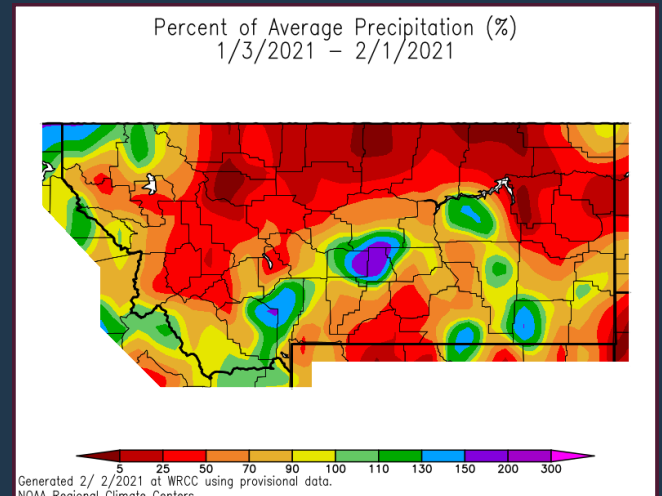


Figure 1: 30-day percent of normal precipitation across Montana.

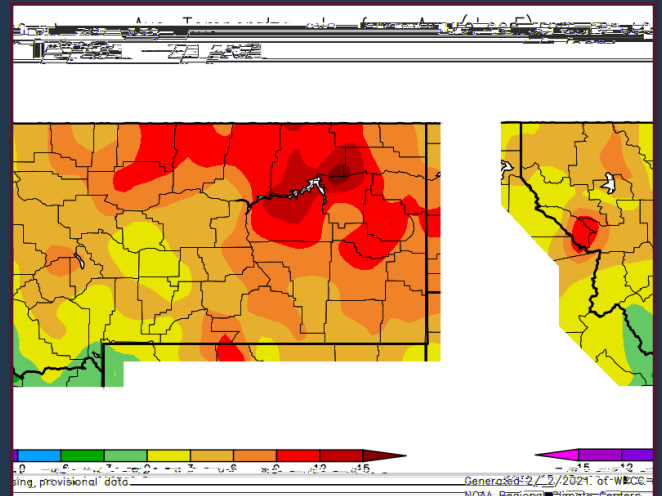


Figure 2: 30-day temperature anomalies across Montana.

Summary: Over the prior 30 days, most experienced near or below normal precipitation. There were small areas that experienced above normal precipitation across southern Montana and far northwestern Montana, but these were isolated in nature. Temperatures, on the other hand, trended near to above average, especially across NE Montana.

Hydrologic Summary for November 2020 by Greg Forester, Lead Forecaster at NWS Glasgow:

It was a very dry and much warmer than normal month for temperatures over Northeast Montana. With the exception of Zortman with 0.73 inch, Winnett with 0.17 inch, and Glasgow 46SW with 0.11 inch, little or no precipitation fell across the region. Homestead and Terry had no precipitation at all for the month. Bredette, Brockway, Circle, Glasgow 14NW, Lindsay, Opheim 10N, Saco, and Wolf Point only reported a trace of precipitation. Fort Peck, Glasgow, Hinsdale, Scobey, and Sidney report only 0.01 inch. Glasgow 0.01 inch was 2 percent of normal. Temperatures averaged between 9 degrees and 13 degrees above normal across the region. Glasgow averaged 27.2 degrees which was 10.9 degrees above normal.

The dry weather has allowed severe drought to develop in the eastern part of the region which includes areas east of Scobey, Wolf Point and Glendive.

Stream flow on the Milk, Yellowstone, Missouri and Poplar Rivers was not available due to the rivers being partly frozen.

The Fort Peck Reservoir elevation fell to 2235.9 feet during the month. The reservoir was at 83 percent of capacity and 103 percent of the mean pool.

CPC Three Month Outlook:

The Climate Prediction Center released its three month outlook for temperature and precipitation for February 2021 through April 2021 on January 21, 2021. The outlook calls for below normal temperatures over northwest portions of the state with equal chances for below normal, normal, or above normal temperatures. Meanwhile, above average precipitation is favored across Montana over the period. The latest outlook in full detail 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. The pie charts on the left hand side can be particularly useful for assessing the outlook at your specific location.

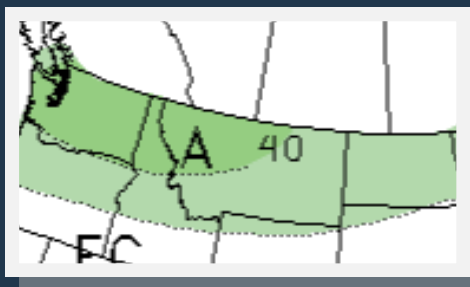
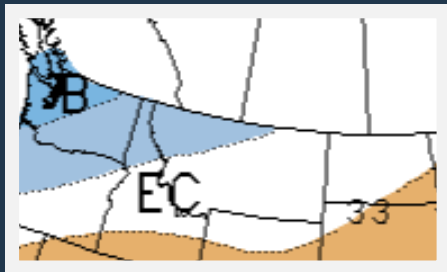
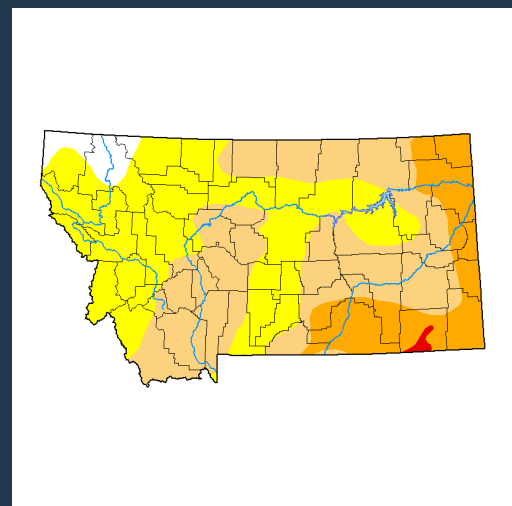
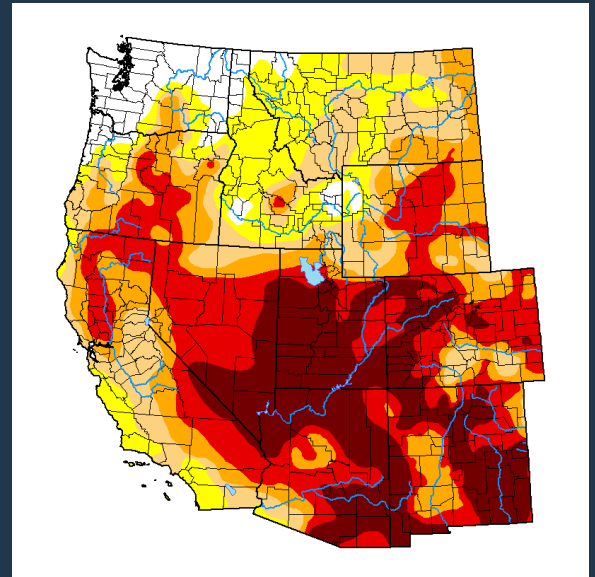


Figure 3: Climate Prediction Center three month temperature (top) and precipitation (bottom) outlook for February 2021 through April 2021.

U.S. Drought Monitor:

The [latest U.S. Drought Monitor](#) was released on Thursday February 4 2020. Eastern and southeastern and north central Montana are facing moderate to severe drought. Isolated extreme drought exists in far southeast Montana. Abnormally dry conditions are present across central and western Montana. Meanwhile, far northwestern portions of the state are void of drought conditions.



Intensity:

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)

Figure 4: U.S. Drought Monitor updated February 4, 2021.

U.S. & Global Climate Highlights (December):

The U.S. & Global climate highlights for November 2020 have been released, the latest month for which data was available. A few points for you to take home are provided below.

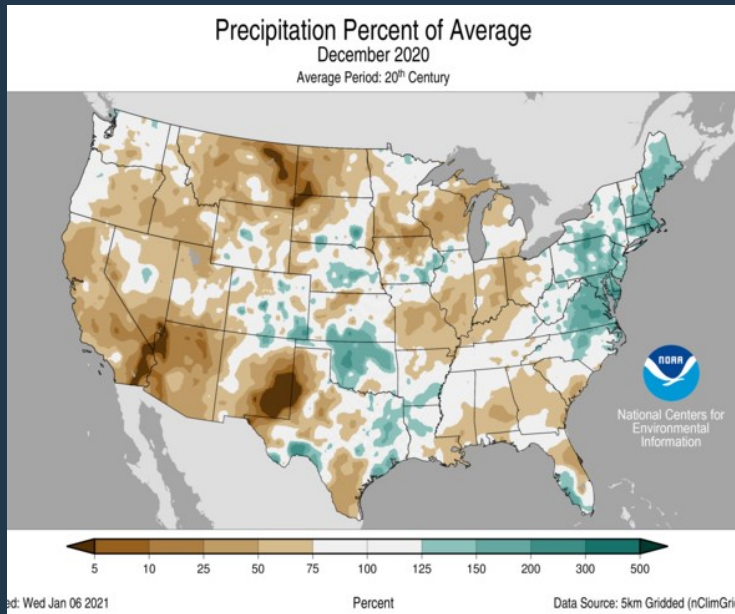


Figure 5: December 2020 Percent of Average Precipitation (U.S.).

U.S. Highlights for December 2020

- 1) The contiguous U.S. average temperature for December 2020 was 35.7 °F, ranking in the warmest third on record.
- 2) The average December precipitation total for the contiguous U.S. came in at 1.99 inches. This ranks within the driest third of the existing period of record.

Global Highlights for December 2020

- 1) The December 2020 global land and ocean surface temperature was the eighth highest departure from average in the period of record.
- 2) Global ocean only temperature departure also eighth highest departure within the period of record.

Winter Travel Safety



Figure 6: Snow-covered or icy roads can lead to travel headaches this time of year to be sure. The graphic above includes a few important reminder tips to help keep you and loved ones safe all season long!

Links You May Like:

- [Predictability of Arctic Air Outbreaks](#)
- [Ocean Acidification Impact on Scallops](#)
- [Western U.S. Fire Danger Increasing](#)
- [Resource for “All Things Drought”](#)
- [ENSO Update](#)

COOP Precipitation Data (*Preliminary* December 2020)

| Station | Precipitation | Location |
|---------|---------------|------------------|
| BAYM8 | 0.09 | Baylor |
| BRDM8 | T | Bredette |
| BTNM8 | M | Brockton 17 N |
| BKNM8 | 0.05 | Brockton 20 S |
| BKYM8 | T | Brockway 3 WSW |
| BRSM8 | 0.06 | Brusette |
| CLLM8 | 0.06 | Carlyle 13 NW |
| CIRM8 | T | Circle |
| CHNM8 | T | Cohagen |
| COM8 | 0.10 | Cohagen 22 SE |
| CNTM8 | 0.04 | Content 3 SSE |
| CULM8 | 0.04 | Culbertson |
| DSNM8 | 0.10 | Dodson 11 N |
| FLTM8 | 0.38 | Flatwillow 4 ENE |
| FPKM8 | 0.02 | Fort Peck PP |
| GLAM8 | T | Glasgow 14 NW |
| GGWM8 | 0.01 | Glasgow WFO |
| GGSM8 | 0.11 | Glasgow 46 SW |
| GNDM8 | 0.02 | Glendive WTP |
| HRBM8 | M | Harb |
| HINM8 | 0.01 | Hinsdale 4 SW |
| HNSM8 | T | Hinsdale 21 SW |
| HOMM8 | 0.01 | Homestead 5 SE |
| HOYM8 | M | Hoyt |
| JORM8 | M | Jordan |
| LNDM8 | T | Lindsay |
| MLAM8 | 0.03 | Malta |
| MLTM8 | 0.03 | Malta 7 E |
| MTAM8 | 0.04 | Malta 35 S |

| Station | Precipitation | Location |
|---------|---------------|------------------------|
| MDCM8 | 0.02 | Medicine Lake 3 SE |
| MLDM8 | T | Mildred 5 N |
| MSBM8 | 0.09 | Mosby 4 ENE |
| OPNM8 | 0.02 | Opheim 10 N |
| OPMM8 | 0.03 | Opheim 12 SSE |
| PTYM8 | 0.11 | Plentywood |
| PTWM8 | 0.10 | Plentywood 1 NE |
| POGM8 | 0.05 | Port of Morgan |
| RAYM8 | 0.01 | Raymond Border Station |
| SAOM8 | T | Saco 1 NNW |
| SMIM8 | T | St. Marie |
| SAVM8 | T | Savage |
| SCOM8 | 0.01 | Scobey 4 NW |
| SDYM8 | 0.01 | Sidney |
| SIDM8 | 0.02 | Sidney 2S |
| TERM8 | 0.00 | Terry |
| TYNM8 | M | Terry 21 NNW |
| VIDM8 | M | Vida 6 NE |
| WSBM8 | M | Westby |
| WTRM8 | 0.04 | Whitewater |
| WHIM8 | M | Whitewater 18 NE |
| WBXM8 | 0.07 | Wibaux 2 E |
| WTTM8 | 0.31 | Winnett |
| WNEM8 | 0.17 | Winnett 6 NNE |
| WNTM8 | 0.32 | Winnett 8 ESE |
| WITM8 | M | Winnett 12 SW |
| WLFM8 | T | Wolf Point |
| ZRTM8 | 0.73 | Zortman |

Monthly Trivia:

Last time we asked...

During the cold season, why are bridges and overpasses more susceptible to icing/freezing?

Answer: The science behind this concept is summarized nicely in the graphic below.



Figure 7: Infographic depicting reasons why bridges freeze particularly early on compared with other surfaces.



New Question: As winter season begins to age, the risk of hydrology issues begins to increase. This month we ask: What causes an ice jam? We'll explain in the next newsletter, as well as provide some important safety information.

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