

Under the Big Sky

e-Letter

November 2020

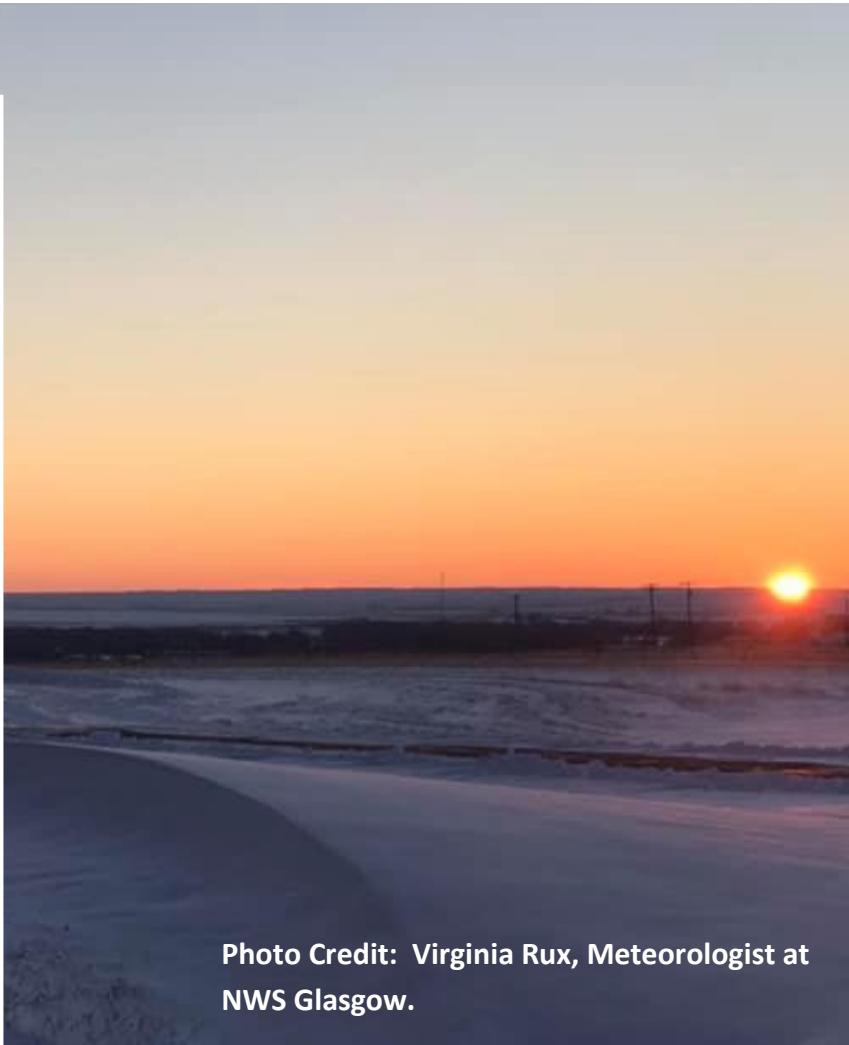


Photo Credit: Virginia Rux, Meteorologist at NWS Glasgow.

National Weather Service

Glasgow, MT



Welcome to the November 2020 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:

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NOAA Administrator's Award Recipient from NWS Glasgow

By Tanja Fransen, Meteorologist in Charge

One of the best things as a supervisor is to see your employees recognized for the great things they are doing. Recently, Patrick Gilchrist, our Warning Coordination Meteorologist (WCM) and an NWS Incident Meteorologist (IMET) received two recognitions, one being the NOAA Administrator's Award, the highest NOAA gives, and the other was a citation signed by the Premier of New South Wales, Australia with a special pin



Figure 1: Patrick Gilchrist, Warning Coordination Meteorologist at NWS Glasgow, and NSW Premier's Bushfire Emergency Citation

to remember the event. Both recognitions were part of a team of 9 incident meteorologists who went to Australia a year ago to assist them in forecasting weather to assist with fighting their devastating wildfires last year. Patrick also hit 25 wildfires he's been deployed to in his career this summer, having spent three weeks on the Cameron Peaks Fire in Colorado, and two weeks with the Lionshead Fire in OR. Both of these wildfires were well over 100k acres in size. An interesting fact, of the nine people receiving this recognition, three of them have worked at NWS Glasgow in their careers!

IMET Photo Hero Award

By Tanja Fransen, Meteorologist in Charge

IMET trainee, Cory Mottice, was deployed to his first wildfire this year, the Cameron Peaks Fire in Colorado. He forecast everything from thunderstorms, extreme heat, significant winds and even a foot of snow in his two weeks there. A photo of him was submitted to an IMET Hero Photo Award where he was taking weather observations, and he was chosen as the winner. Here's the photo of him, and another just recently getting his "award" a water bottle with flames on it. Cory is a lead forecaster and also manages our local fire weather program.



Figure 2: Cory Mottice, Lead Meteorologist and IMET trainee at NWS Glasgow.

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)

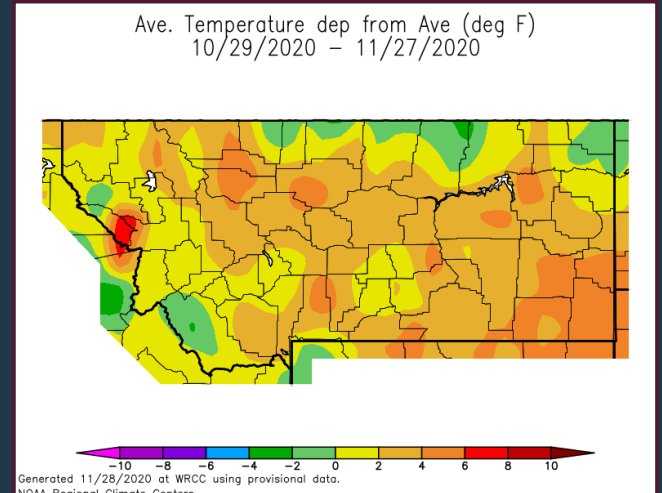


Figure 3: 30-day percent of normal precipitation across Montana.

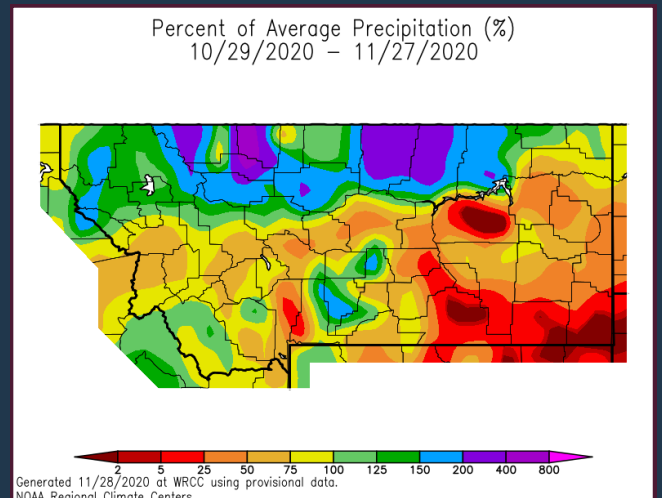


Figure 4: 30-day temperature anomalies across Montana.

Summary: Temperatures ranged generally near to above average across Montana over the past 30 days. Meanwhile, precipitation tended toward normal to wetter than average for the northern half of the state and drier conditions were noted across the south and in particularly southeast portions of the state.

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

It was a colder than normal month for temperatures over Northeast Montana. Temperatures averaged between 4 and 8 degrees below normal across the region. Glasgow averaged 39.2 degrees which was 5.5 degrees below normal.

Precipitation was near to above normal across the region. The dry spots were Raymond with 0.40 inch, Scobey 4NW with 0.41 inch, and Medicine Lake with 0.42 inch. The wet spots were Zortman with 2.01 inches, Flatwillow with 1.25 inches, and Glasgow with 1.22 inches which was 146 percent of normal.

Stream flow on the Milk, Yellowstone, Missouri and Poplar Rivers was near normal for the entire month.

The Fort Peck Reservoir elevation fell to 2237.3 feet during the month. The reservoir was at 86 percent of capacity and 106 percent of the mean pool.

CPC Three Month Outlook:

The Climate Prediction Center released an update of its three month outlook for temperature and precipitation for December 2020 through February 2021 on November 19, 2020. The outlook calls for equal chances for above normal, normal, and below normal temperatures over the three month period across northwest parts of state. Below normal temperatures are favored across most of Montana, however. 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.

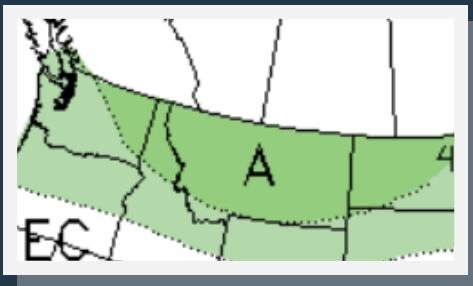
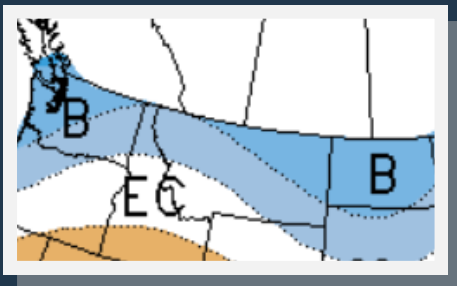


Figure 5: Climate Prediction Center three month temperature (top) and precipitation (bottom) outlook for December 2020 through February 2021.

U.S. Drought Monitor:

The [latest U.S. Drought Monitor](#) was released on Thursday November 25 2020. Far NE MT as well as far SE MT is experiencing severe drought conditions. Patchy extreme drought is present for southeast Montana as well. The rest of the state mostly fell between abnormally dry and moderate drought conditions. Far western and north central MT were void of drought.

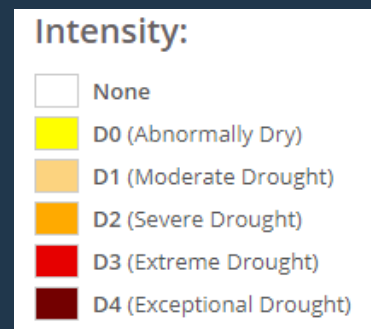
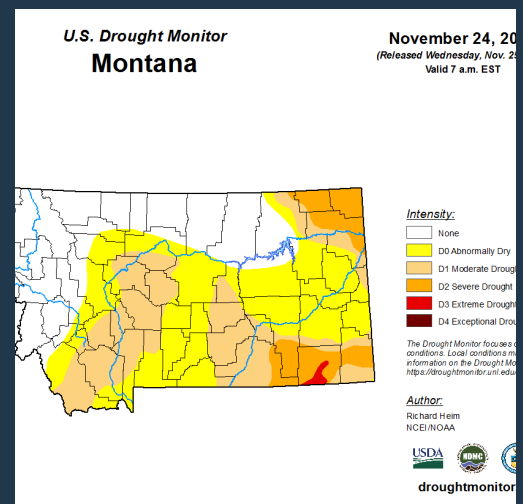
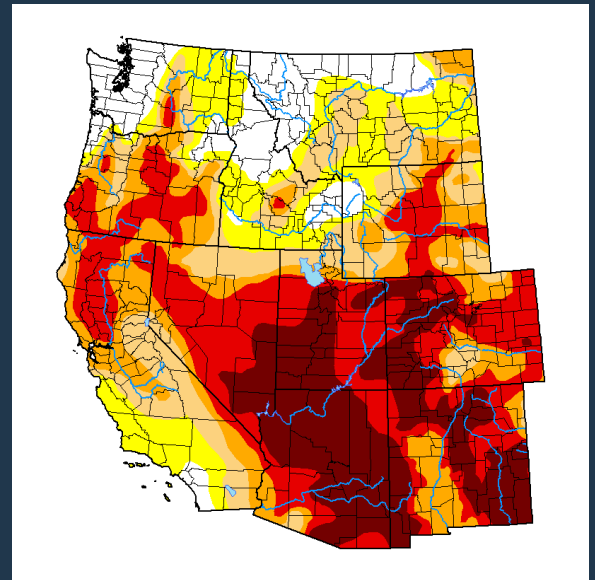


Figure 6: U.S. Drought Monitor updated November 25, 2020.

U.S. & Global Climate Highlights (October): The **U.S.** & **Global** climate highlights for October 2020 have been released, the latest month for which data was available. A few points for you to take home are provided below.

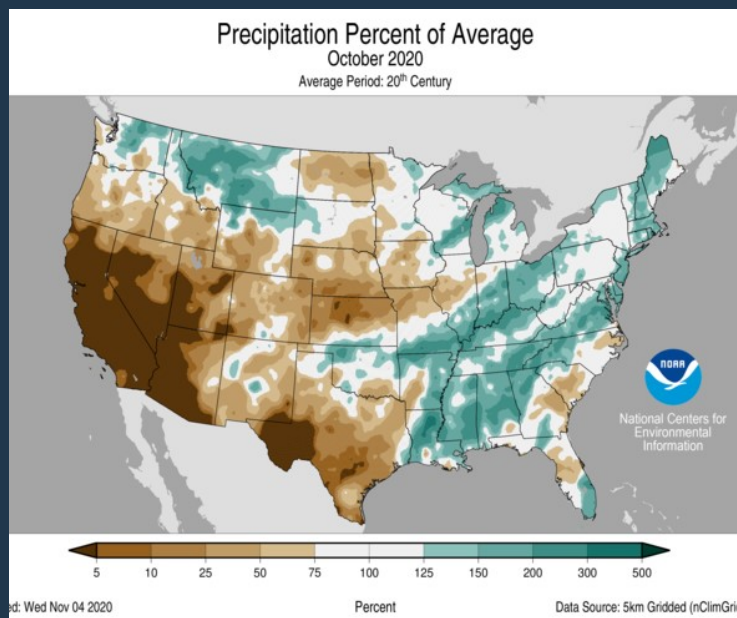


Figure 7: October 2020 Percent of Average Precipitation (U.S.).

U.S. Highlights for October 2020

- 1) The contiguous U.S. average temperature for October 2020 was 54.4 °F, ranking in the middle third on record.
- 2) The average October precipitation total for the contiguous U.S. came in at 2.16 inches. This ranks within the middle third of the existing period of record.

Global Highlights for October 2020

- 1) The October 2020 global land and ocean surface temperature was the fourth highest for October on record.
- 2) The October 2020 global ocean only surface temperature departure was 1.26°F tied with 2017 as being the fifth largest on record.

Winter Safety



Figure 8: From recent NWS Glasgow Social Media post.

The winter season brings many impacts to folks living in NE Montana. Snow, freezing rain, and black ice are some of the ways travel headaches and even walking hazards occur. The graphic above displays important safety information when encountering black ice, which is difficult to see. Here is **additional winter safety information** to help you and loved ones stay safe this season.

Links You May Like:

ENSO Update

Update to NOAA'S 2020-2021 Winter Outlook

Atlantic Hurricane Season Breaks Records

Climate Change: Do You Want Fries With That?

COOP Precipitation Data (*Preliminary* October 2020)

Station	Precipitation	Location
BAYM8	M	Baylor
BRDM8	0.59	Bredette
BTNM8	M	Brockton 17 N
BKNM8	0.92	Brockton 20 S
BKYM8	0.78	Brockway 3 WSW
BRSM8	M	Brusette
CLLM8	0.88	Carlyle 13 NW
CIRM8	0.65	Circle
CHNM8	0.72	Cohagen
COM8	0.91	Cohagen 22 SE
CNTM8	0.54	Content 3 SSE
CULM8	0.44	Culbertson
DSNM8	1.19	Dodson 11 N
FLTM8	1.25	Flatwillow 4 ENE
FPKM8	0.61	Fort Peck PP
GLAM8	1.10	Glasgow 14 NW
GGWM8	1.22	Glasgow WFO
GGSM8	0.83	Glasgow 46 SW
GNDM8	1.02	Glendive WTP
HRBM8	M	Harb
HINM8	1.15	Hinsdale 4 SW
HNSM8	1.30	Hinsdale 21 SW
HOMM8	0.43	Homestead 5 SE
HOYM8	0.94	Hoyt
JORM8	M	Jordan
LNDM8	0.85	Lindsay
MLAM8	0.99	Malta
MLTM8	0.69	Malta 7 E
MTAM8	0.71	Malta 35 S

Station	Precipitation	Location
MDCM8	0.42	Medicine Lake 3 SE
MLDM8	M	Mildred 5 N
MSBM8	0.46	Mosby 4 ENE
OPNM8	0.43	Opheim 10 N
OPMM8	0.53	Opheim 12 SSE
PTYM8	0.74	Plentywood
PTWM8	0.38	Plentywood 1 NE
POGM8	0.66	Port of Morgan
RAYM8	0.40	Raymond Border Station
SAOM8	0.99	Saco 1 NNW
SMIM8	0.78	St. Marie
SAVM8	1.04	Savage
SCOM8	0.41	Scobey 4 NW
SDYM8	0.62	Sidney
SIDM8	0.67	Sidney 2S
TERM8	0.79	Terry
TYNM8	M	Terry 21 NNW
VIDM8	0.55	Vida 6 NE
WSBM8	M	Westby
WTRM8	0.77	Whitewater
WHIM8	M	Whitewater 18 NE
WBXM8	0.57	Wibaux 2 E
WTTM8	M	Winnett
WNEM8	0.64	Winnett 6 NNE
WNTM8	1.02	Winnett 8 ESE
WITM8	M	Winnett 12 SW
WLFM8	0.82	Wolf Point
ZRTM8	2.01	Zortman

Monthly Trivia:

Last time we asked...

What's the difference in the environment between snow, sleet, freezing rain, or just plain old rain? We'll review the concepts behind precipitation type in the next newsletter!

Answer: One of the main drivers behind whether precipitation falls as snow, sleet, freezing rain, or just rain, is just how deep the warm layer is in the atmosphere. When temperatures are above freezing from the ground all the way up to the cloud layer, rain will occur. If cold air is shallow, near the surface, and above freezing the rest of the way up, rain will freeze as it makes contact with the ground. That is called freezing rain. If the warm layer above the surface is a little more shallow, precipitation will fall as sleet. Initially, snow will fall from the cloud layer, and melt in the shallow warm layer as it falls. It refreezes before reaching the ground as it falls below the shallow warm layer. Lastly, if temperatures are below freezing from the ground all the way to the cloud layer, snow will fall.

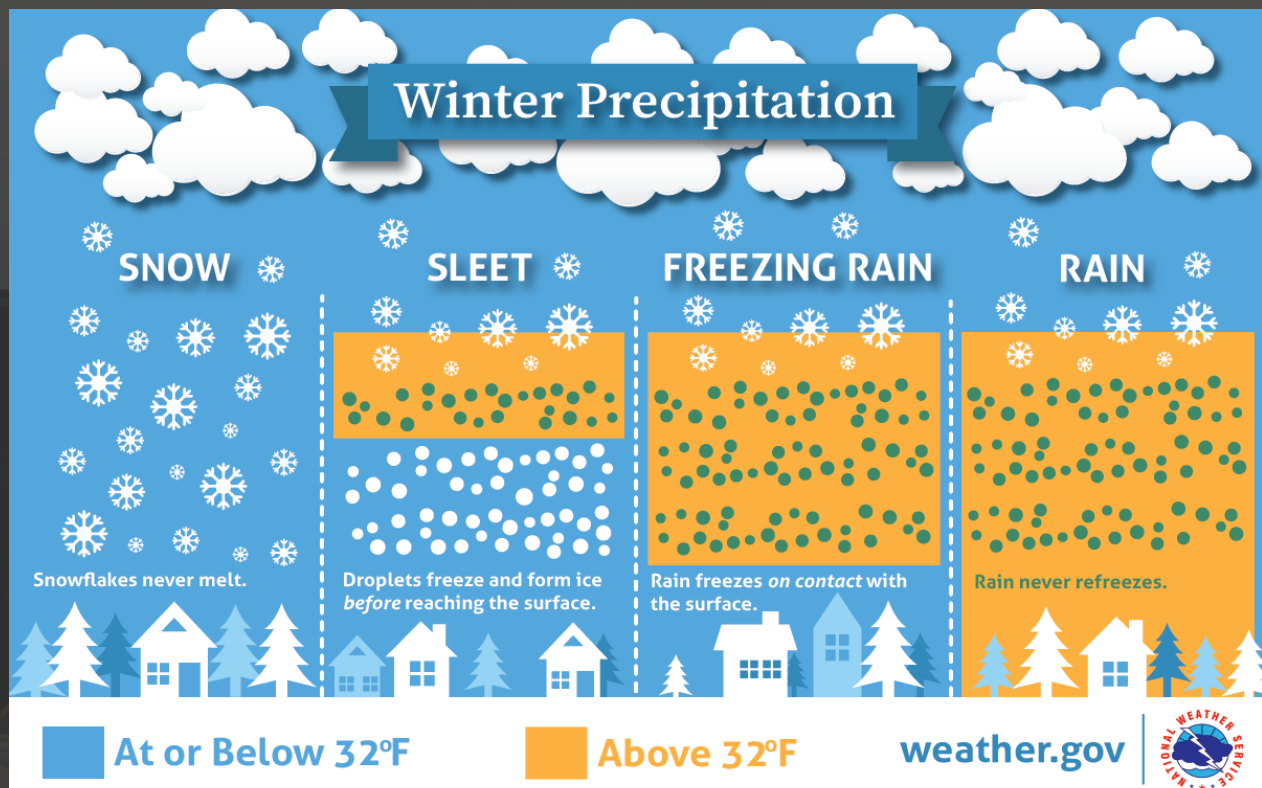


Figure 9: Graphical explanation of the science behind precipitation types.

New Question: Precipitation isn't the only thing that can cause major problems during the winter time. Extreme wind chills can lead to dangers of frostbite and hypothermia, and can threaten livestock. This time we ask—what is the difference between the air temperature and wind chill temperature? In other words, why does the wind make it “feel” colder?

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