Under the Big Sky e-Letter

July 2020

Photo Credit: Cory Mottice, Thunder-storm N. Fort Peck, MT on July 1, 2020.

National Weather Service

Glasgow, MT

From the MIC (Meteorologist-In-Charge):

Hi everyone!

I can't believe I have now been in Glasgow for 19.5 years. As an Air Force brat, I was used to moving every few years. We moved here to be close to family in North Dakota, and my two young sons not even in grade school yet. They are now young adults who have Montana deep in their hearts. I heard a few years ago that **"Montana is full of friends, you just haven't met them all yet."** That is certainly true. I love running into our weather spotters in gas stations or stores, at sports events, etc. I may not always put a name with the face, but don't hesitate to say hi if you run into me somewhere! After transitioning to the supervisor role from the outreach role 5 years ago I realize what I miss most is meeting all the people I did conducting Skywarn training.

In my time here, we've issued just over 3000 severe thunderstorm and tornado warnings. I can't even imagine how many reports that includes from all the weather spotters and the public in that time, but I would easily guess that is over 10,000 reports of severe weather. Throw in winter weather and high winds, and rainfall and flood reports, and we're likely over 25,000 reports in the last 20 years. We can't do what we do without you! Social media has organically taken roles of sharing information, but we can't be on all sites gathering all data, so your reports via phone, email, or tweets and posts on our Facebook pages are hugely welcome and encouraged. And, thank you to those who send our editor, Rich Maliawco, feedback from time to time. He puts a lot of time and effort into the newsletter to provide you with information you'll find informative.

Lastly, our staff. In the time here, I've worked with over 70 people (we currently have 23 employees). We even had 5 that left, and returned, even though they didn't have roots in this area, they just loved it more than urban areas they had gone to. Many of us now have roots here. From kids, to marrying someone locally, I can say without a doubt for our staff that the "middle of nowhere" has been a great place to be.

~Let the gentle breezes blow,

Tanja Fransen, Meteorologist in Charge, NWS Glasgow, MT

Welcome to the July 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 , as well as keep 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:

Boating Safety Awareness

Boating and related recreational activities are commonplace during the warm season months out at Fort Peck Lake. However, weather can often impact conditions out on the open waters. Whether it's breezy conditions or severe thunderstorms, NWS Glasgow strives to help you and those you care about stay safe all summer long.

- ⇒ **Monitor the forecast for Fort Peck Lake.**
- ⇒ **NWS Glasgow will issue a Lake Wind Advisory when sustained wind speeds will be greater than 20 mph long enough to create impacts (3 hours or more), or when any gust in excess of 30 mph is expected in the absence of convection.**
- ⇒ **Have a life jacket and "wear it!" Approximately 85 percent of those who drown while out boating did not have on a life jacket. This strategy can save a life.**
- ⇒ **Use your mobile phone, or NOAA Weather Radio to get up to the minute warning information should thunderstorms approach you.**
- ⇒ **If you see storms approaching, head for shore quickly and take shelter. Thunderstorms produce dangerous lightning which can result in a fire or loss of electronics, along with other safety risks.**
- ⇒ **A much more comprehensive resource for boating safety under a variety of weather hazards is available here.**

Figure 1: Boating safety campaign graphic.

Background Photo Credit: Craig Paju

We Need New CoCoRaHS Observers:

NWS Glasgow is looking for new CoCoRaHS volunteers. Here is how to join:

Check out the CoCoRaHS webpage and tap the join button on the upper right. It is as easy as that!

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?

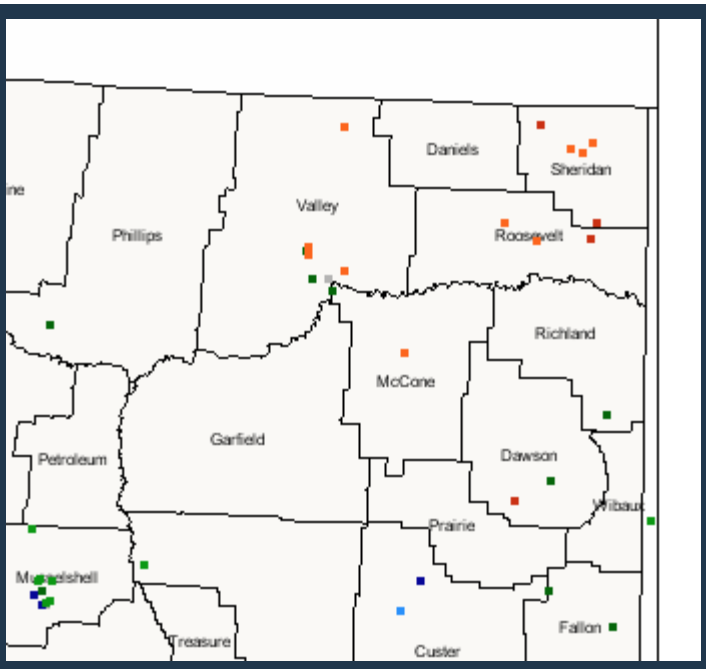


Figure 2: CoCoRaHS observations reported morning of 7/8 following the squall line event across NE Montana. Thank you for your reports!

30 Day Percent of Normal Precipitation (Montana)

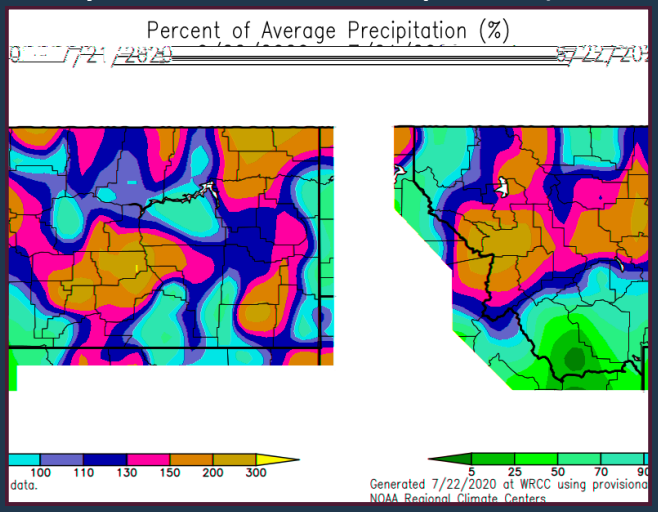


Figure 3: 30-day percent of normal precipitation across Montana.

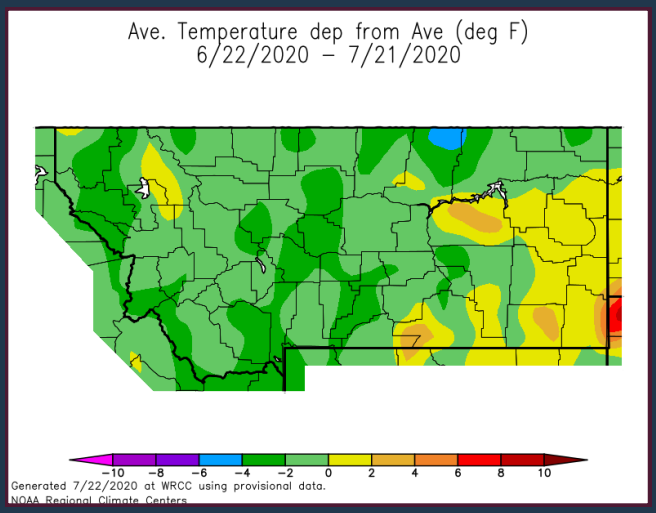


Figure 4: 30-day temperature anomalies across Montana.

Summary: Northeast Montana specifically has seen near or above normal precipitation over the last 30 days. This is generally true throughout Big Sky Country. However, there are small patches of abnormally dry conditions. Southwest Montana though is where it has been considerably drier than normal. Temperatures have generally trended near or a little below normal, though southeast portions of the state have been somewhat warmer than average.

Hydrologic Summary (June 2020) by Greg Forrester, Lead Forecaster at NWS Glasgow:

It was a slightly warmer than normal month for temperatures over Northeast Montana. Temperatures averaged between near normal and 3 degrees above normal. Glasgow averaged 69.9 degrees which was 1.9 degrees above normal.

Precipitation was highly variable across the region as most of it came in thunderstorms. The dry spots were Sidney 2S with 1.07 inches, Sidney with 1.25 inches, and Culbertson with 1.35 inches. The wet spots were Glasgow 46SW with 6.99 inches, Mosby with 5.03 inches, and Hinsdale 21SW with 3.76 inches.

Glasgow had 2.17 inches of precipitation which was 95 percent of normal.

Heavy rain on June 29th did produce minor flooding on small streams across western Garfield and southwest Valley Counties.

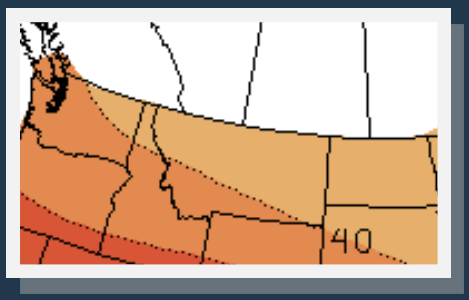
Stream flow on the Milk, Missouri, Yellowstone, and Poplar Rivers was near normal for the entire month.

The Fort Peck Reservoir elevation rose to 2239.6 feet during the month. The reservoir was at 87 percent of capacity and 108 percent of the mean pool.

Background Photo Credit: Craig Paju

CPC Three Month Outlook:

The Climate Prediction Center released its three month outlook for temperature and precipitation for August 2020 through October 2020 on July 16, 2020. The outlook calls for above normal temperatures to persist over the three month period across the state. Meanwhile, equal chances for average, below average, and above average precipitation exist across western and central Montana. Above normal precipitation is favored in the eastern part of the state. 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.



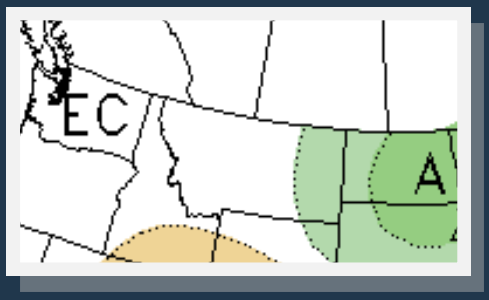
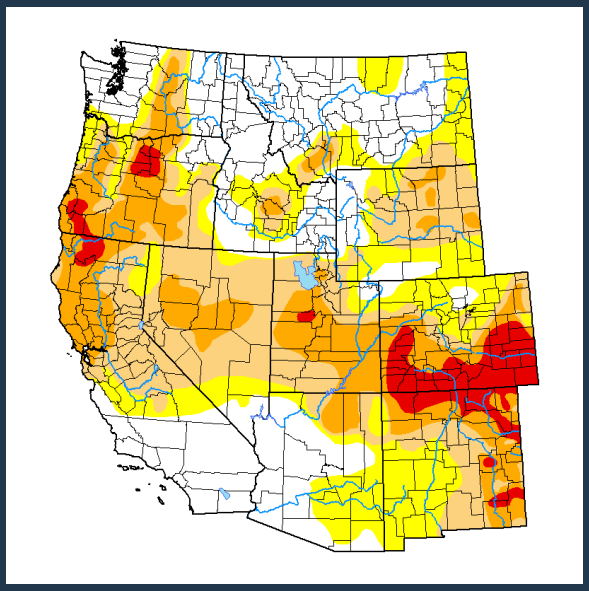
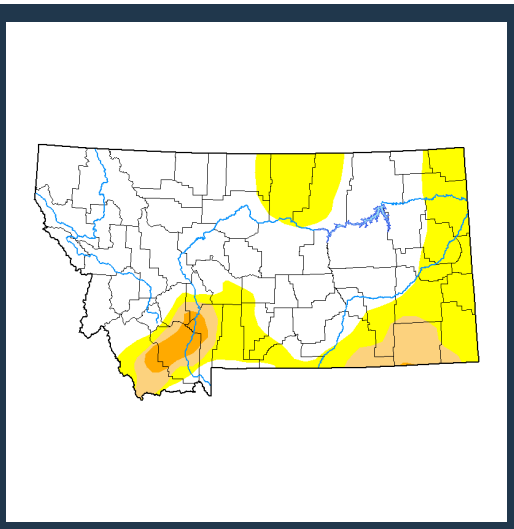


Figure 5: Climate Prediction Center three month temperature (top) and precipitation (bottom) outlook for August 2020 through October 2020.

U.S. Drought Monitor:

The latest U.S. Drought Monitor was released on Thursday July 16, 2020. As of that time, areas of abnormally dry conditions were present across much of north central and eastern Montana. Moderate drought was present across portions of southeast Montana with conditions turning to severe drought in southwestern Montana.





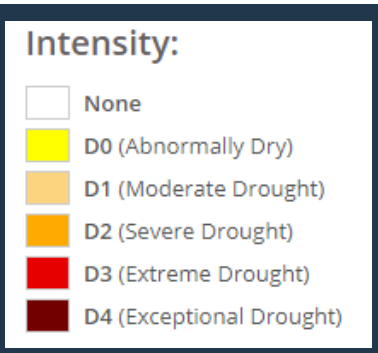


Figure 6: U.S. Drought Monitor updated July 16, 2020.

U.S. & Global Climate Highlights (June): The U.S. & Global climate highlights for May 2020 have been released. A few points for you to take home are provided below.

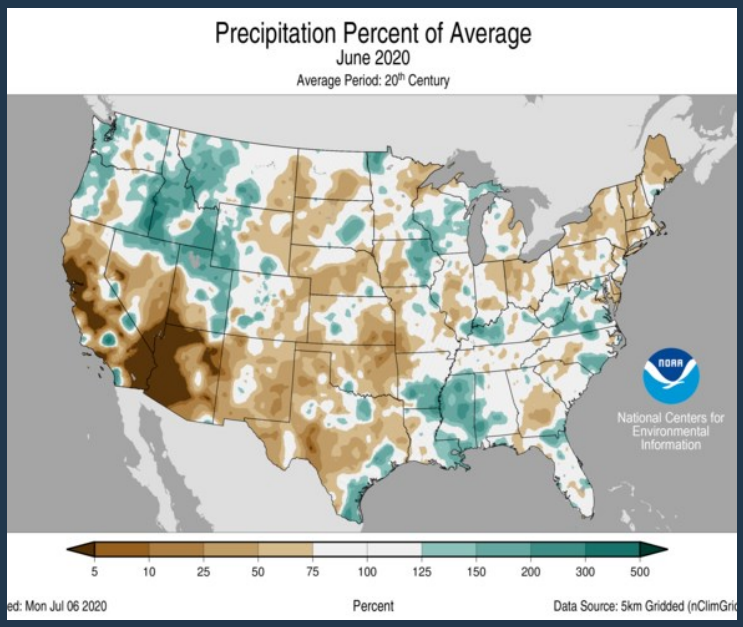


Figure 7: June 2020 Percent of Average Precipitation (U.S.).

U.S. Highlights for June 2020

1) The contiguous U.S. average temperature for June 2020 was 70.3 °F, in the middle third of the 126 year record.

2) The average June precipitation total for the contiguous U.S. came in at 2.72 inches. This ranks within the driest third of the existing period of record.

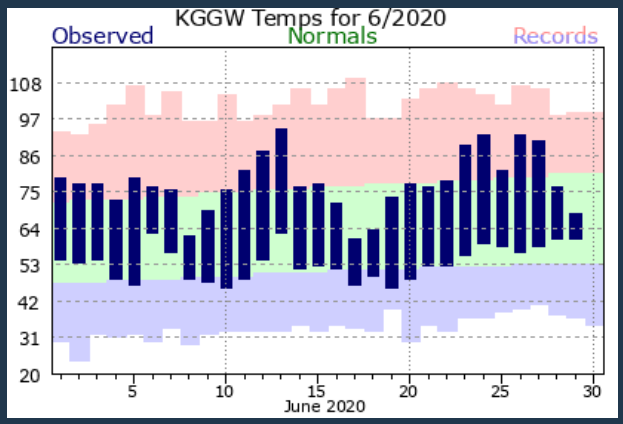
Global Highlights for June 2020

1) The June 2020 global land and ocean surface temperature tied with the third highest in the 141 year period of record.

2) The June 2020 global ocean only surface temperature was 1.39 °F. This was the third highest for June as well within the 141 year period of record.

Local Climate Graphs:

Glasgow, MT (June 2020)



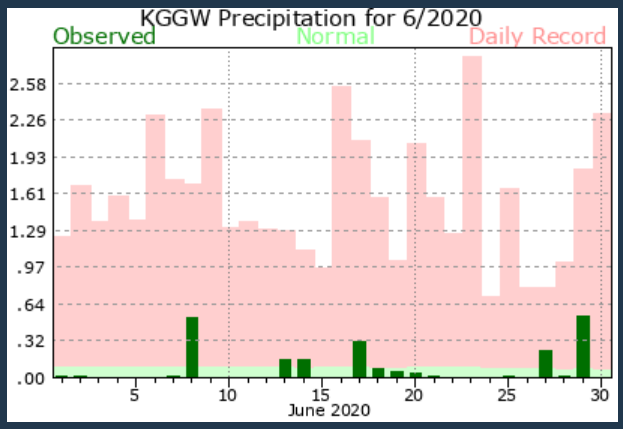


Figure 8: June 2020 Glasgow, MT Climate Graphs.

Links You May Like:

ENSO Update

Hottest Day of the Year?

June 2020 tied as Earth's 3rd Hottest

NOAA Cloud & Data Strategy

NOAA's Climate Risk Areas Initiative

COOP Precipitation Data (*Preliminary* June 2020)

Station	Precipitation	Location
BAYM8	M	Baylor
BRDM8	2.93	Bredette
BTNM8	M	Brockton 17 N
BKNM8	3.11	Brockton 20 S
BKYM8	3.38	Brockway 3 WSW
BRSM8	M	Brusette
CLLM8	1.68	Carlyle 13 NW
CIRM8	2.52	Circle
CHNM8	2.20	Cohagen
COM8	2.44	Cohagen 22 SE
CNTM8	3.27	Content 3 SSE
CULM8	1.35	Culbertson
DSNM8	M	Dodson 11 N
FLTM8	3.41	Flatwillow 4 ENE
FPKM8	1.98	Fort Peck PP
GLAM8	1.71	Glasgow 14 NW
GGWM8	2.17	Glasgow WFO
GGSM8	6.99	Glasgow 46 SW
GNDM8	1.42	Glendive WTP
HRBM8	M	Harb
HINM8	3.17	Hinsdale 4 SW
HNSM8	3.76	Hinsdale 21 SW
HOMM8	1.48	Homestead 5 SE
HOYM8	1.46	Hoyt
JORM8	M	Jordan
LNDM8	1.87	Lindsay
MLAM8	2.54	Malta
MLTM8	3.05	Malta 7 E
MTAM8	3.02	Malta 35 S

Station	Precipitation	Location
MDCM8	M	Medicine Lake 3 SE
MLDM8	M	Mildred 5 N
MSBM8	5.03	Mosby 4 ENE
OPNM8	M	Opheim 10 N
OPMM8	3.52	Opheim 12 SSE
PTYM8	2.74	Plentywood
PTWM8	3.58	Plentywood 1 NE
POGM8	2.17	Port of Morgan
RAYM8	M	Raymond Border Station
SAOM8	2.99	Saco 1 NNW
SMIM8	2.87	St. Marie
SAVM8	2.60	Savage
SCOM8	3.24	Scobey 4 NW
SDYM8	1.25	Sidney
SIDM8	1.07	Sidney 2S
TERM8	1.69	Terry
TYNM8	M	Terry 21 NNW
VIDM8	2.91	Vida 6 NE
WSBM8	2.54	Westby
WTRM8	2.32	Whitewater
WHIM8	M	Whitewater 18 NE
WBXM8	2.01	Wibaux 2 E
WTTM8	M	Winnett
WNEM8	3.27	Winnett 6 NNE
WNTM8	M	Winnett 8 ESE
WITM8	3.73	Winnett 12 SW
WLFM8	3.21	Wolf Point
ZRTM8	3.40	Zortman

Monthly Trivia:

Last time we asked…

Why do meteorologists not like reports of marble sized hail?

Answer: Marbles come in a variety of different sizes. The main issue with reports of marble sized hail is that it then becomes difficult to understand the size that you are describing. Using standardized objects such as coins or sporting balls allows us to have an easy object to compare the size of the hail too. When someone reports that hail is the size of golf balls, universally people are able to understand what that means. If you visualize hail the size of marbles; however, each individual may have a different construct of what that means.

BB	Less than 1/4"
Pea	1/4"
Dime	7/10"
Penny	3/4"
Nickel	7/8"
Quarter	1"
Half Dollar	1¼"
Walnut or Ping-Pong Ball	1½"
Golf Ball	1¾"
Lime	2"
Tennis Ball	2½"
Baseball	2¾"
Large Apple	3"
Softball	4"
Grapefruit	4½"

Figure 10: Chart of standard hail sizes for reporting purposes (typically compared with a coin or sporting ball, etc.).

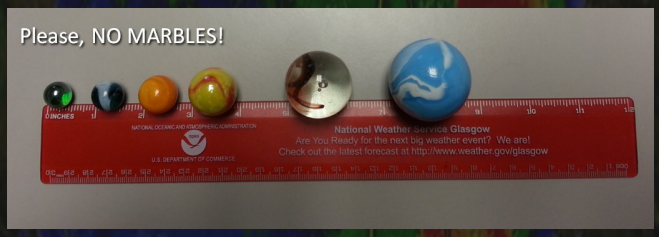


Figure 9: Photo of marbles showing inconsistent sizes.

New Question: As thunderstorm season ages in the late summer, fire weather concerns begin to ramp up, especially as area fuels dry, and warm and breezy environments become present. Dry thunderstorms also contribute to the risk for new fire starts. This month we ask: What exactly is a dry thunderstorm?

Did You Know?:

One of the questions we often get from the public is, "I had damage to my roof, but I'm not sure when it happened, it was sometime between March and May…" or "Some of my crops had hail damage that we didn't notice until we started harvesting, was there hail in my area this summer?" Every storm report we receive from the public, trained weather spotters, and observational equipment is entered into a program called **Storm Data** that is managed by the NOAA/NWS National Center for Environmental Information (NCEI). They make that information publicly available on this website:

http://www.ncdc.noaa.gov/stormevents/

There are large gaps in the data prior to 1995, which is when the NWS modernized and created larger forecast offices. But, the data for the past 25 years is fairly accurate based on the reports that we received.

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