

# Under the Big Sky e-Letter

## July 2019



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**Join CoCoRaHS:** August has arrived, and that means that northeast Montana can still face hit and miss showers and thunderstorms.



With a large variety of precipitation amounts over just short distances, we need CoCoRaHS weather observers to help provide some ground truth. We can get esti-

mations from radar imagery and other-sources, but our weather observers help us to validate the data. CoCoRaHS stands for The Community, Collaborative, Rain, Hail, & Snow Network. If you are interested in reporting daily precipitation, becoming a CoCoRaHS observer is easy! It is also a great way to make a difference in your community! Check out the national CoCoRaHS [webpage](#) to learn more.

### 30 Day Percent of Normal Precipitation (Montana)

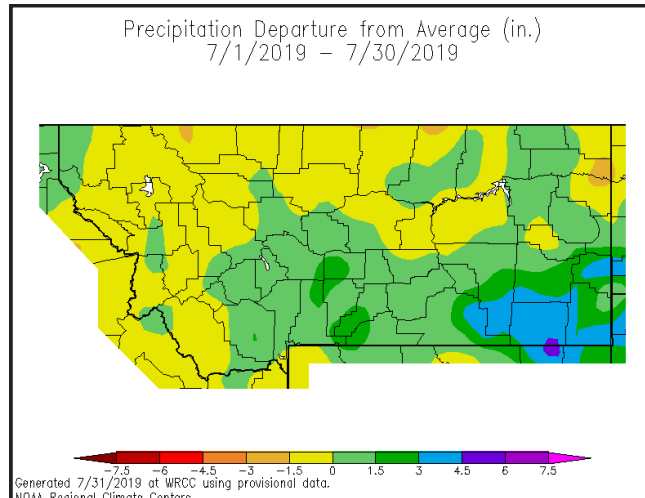


Figure 1: 30-day percent of normal precipitation across Montana.

### 30 Day Temperature Anomalies (Montana)

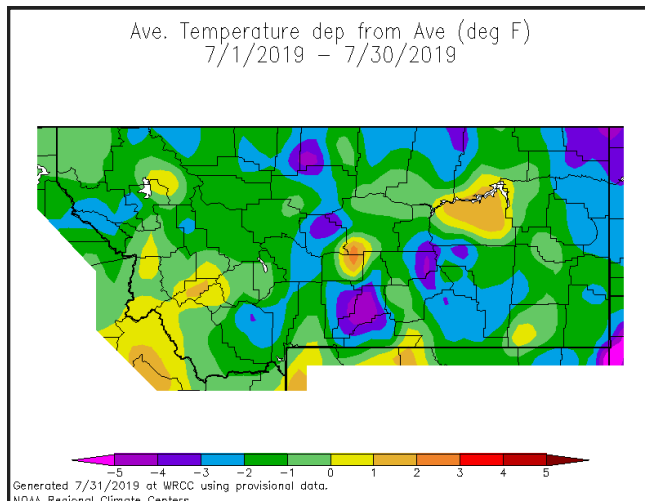


Figure 2: 30-day temperature anomalies across Montana.

**Summary:** Over the last 30 days, covering much of July, northeast Montana has experienced near normal to slightly below normal precipitation. On the other hand, temperatures have shown a variation across the state. For instance, most of far northeast Montana was cooler than average, while southwest portions of the state were warmer than average.

## Boating Safety Reminders:

There's still time to get out and enjoy activities on Fort Peck Lake this summer! We'll continue to keep you in the know when it comes to thunderstorm chances, as well as when winds may make conditions a bit less than ideal. Anytime we expect persistent sustained wind speeds at or above 20 mph or any wind gusts over 30 mph, we issue a Lake Wind Advisory for that area. So, if you're boating, or just headed out for some late summertime fun, we've got you covered! Check out [this resource](#) for more information and important safety reminders before you head out on the water this year.

Get the latest forecast for the Fort Peck Lake area [here](#).

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**Severe Weather Season Update:** July has ended with perhaps one of the most eventful severe weather days so far (occurring on July 30th). Thunderstorms developed in the afternoon and persisting throughout the evening hours across northeast Montana. One storm in particular produced enough damage that led to a storm survey from NWS Glasgow. Preliminary results from the survey in Terry, MT, where the storm pushed through, suggested that wind estimates may have ranged as high as 75 to 85 MPH. This was enough to cause major damage to the awning of a gas station. Two spruce trees became uprooted on the west side of town. This is one classic example of how a microburst (straight line winds) can lead to significant damage and impacts to structures. Several large hail reports were also produced that day, including a 2 inch report in Daniels County. You can see a full list of storm reports from the [Storm Prediction Center page](#) that occurred that day across Montana, as well as the lower 48 of the U.S., or check out the image below.

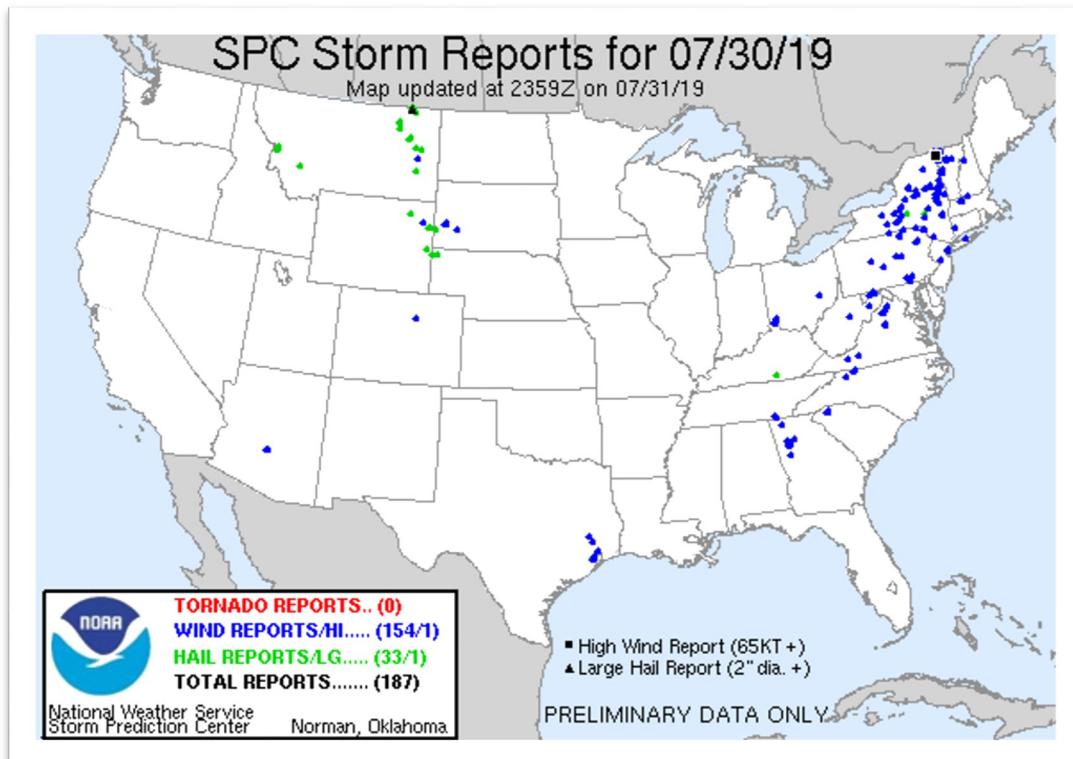


Figure 3: SPC storm reports on 7/30/2019 across the lower 48 of the U.S., including Montana.

**CPC Three Month Outlook:** The Climate Prediction Center released its three month outlook for temperature and precipitation for August 2019 through October 2019 on July 18, 2019. The outlook suggests that above normal temperatures are favored across western and central MT while equal chances for above normal, below normal, or normal temperatures exist over eastern parts of the state. Much of Montana may see above normal precipitation according to the outlook, though western Montana has equal chances for above normal, below normal, or normal precipitation. 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.

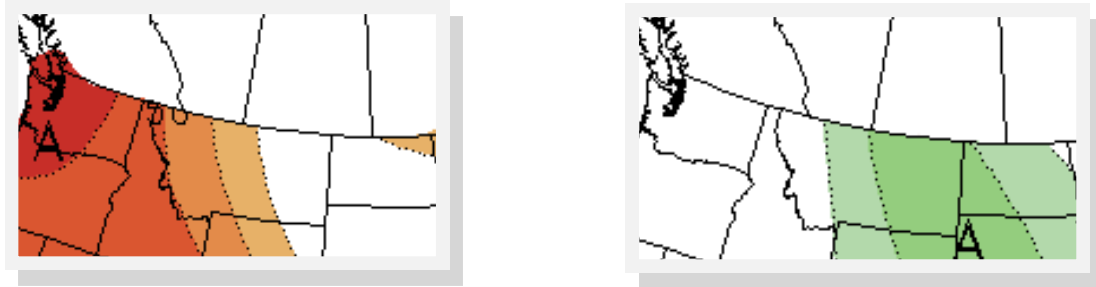


Figure 4: Climate Prediction Center three month temperature (left) and precipitation (right) outlook for August through October 2019.

**Updated U.S. Drought Monitor:** The [latest U.S. Drought Monitor](#) was released on Thursday July 25, 2019. Most of Montana remains absent of any drought conditions, however, portions of northwest Montana have been included in abnormally dry to moderate drought conditions.

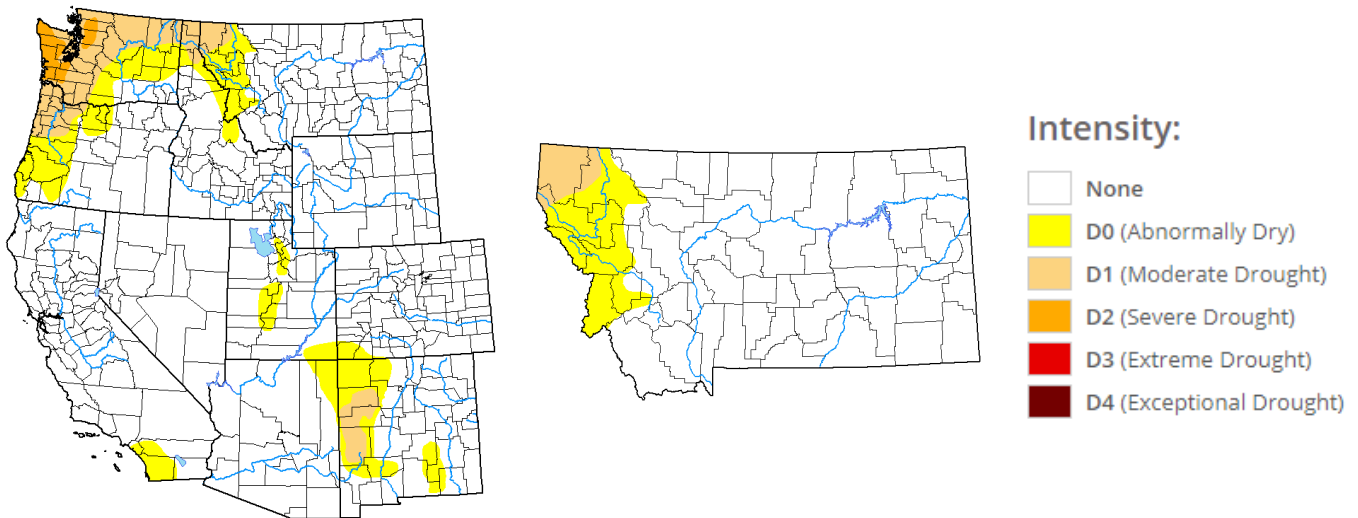


Figure 5: Latest Drought Monitor for the western U.S. (left) and Montana (right) released Thursday July 25, 2019.

**U.S. Climate Highlights (June):** The latest [U.S.](#) & [Global](#) climate highlights for June 2019 are now available. A few points for you to take home are provided below.

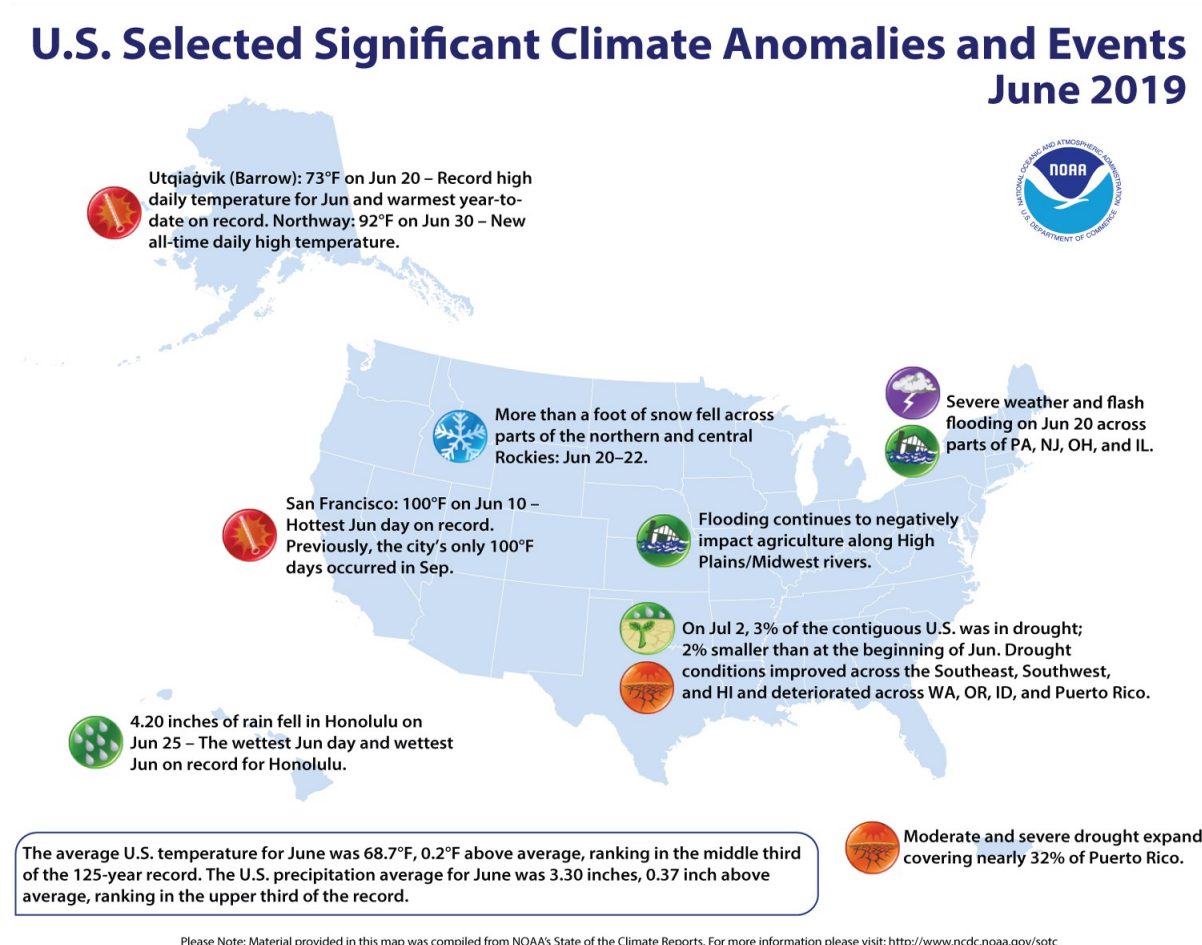


Figure 6: Climate Highlights for June 2019.

### U.S. Highlights for June 2019

- 1) The contiguous U.S. average temperature for May 2019 was 68.5 °F.
- 2) The average June precipitation total for the contiguous U.S. came in at 3.30 inches. This ranks within the upper third wettest for June throughout the 125 year period of record.
- 3) According to the U.S. Drought Monitor, 3.2% of the contiguous U.S. was in drought.

### Global Highlights for June 2019

- 1) The June 2019 global land and ocean surface temperature departure from average was the warmest on record.
- 2) The global land only surface temperature for June 2019 was the highest on record for June, coming in at 2.41 °F above average
- 3) El Niño conditions were present in June 2019 and a transition to ENSO neutral is expected over the next couple of months.

## Precipitation Data (June 2019):

Station	Precipitation	Location
BAYM8	M	Baylor
BRDM8	7.36	Bredette
BTNM8	M	Brockton 17 N
BKNM8	5.51	Brockton 20 S
BKYM8	4.06	Brockway 3 WSW
BRSM8	5.10	Brusette
CLLM8	2.11	Carlyle 13 NW
CIRM8	4.52	Circle
CHNM8	3.72	Cohagen
COM8	3.13	Cohagen 22 SE
CNTM8	5.22	Content 3 SSE
CULM8	3.34	Culbertson
DSNM8	M	Dodson 11 N
FLTM8	2.18	Flatwillow 4 ENE
FPKM8	2.01	Fort Peck PP
GLAM8	3.58	Glasgow 14 NW
GGWM8	2.90	Glasgow WFO
GGSM8	4.41	Glasgow 46 SW
GNDM8	0.81	Glendive WTP
HRBM8	M	Harb
HINM8	3.98	Hinsdale 4 SW
HNSM8	3.94	Hinsdale 21 SW
HOMM8	3.18	Homestead 5 SE
HOYM8	1.18	Hoyt
JORM8	M	Jordan
LNDM8	2.99	Lindsay
MLAM8	2.41	Malta
MLTM8	3.42	Malta 7 E
MTAM8	M	Malta 35 S

Station	Precipitation	Location
MDCM8	M	Medicine Lake 3 SE
MLDM8	M	Mildred 5 N
MSBM8	1.52	Mosby 4 ENE
OPNM8	4.72	Opheim 10 N
OPMM8	M	Opheim 12 SSE
PTYM8	5.94	Plentywood
PTWM8	M	Plentywood 1 NE
POGM8	3.38	Port of Morgan
RAYM8	4.73	Raymond Border Station
SAOM8	4.41	Saco 1 NNW
SMIM8	3.80	St. Marie
SAVM8	2.57	Savage
SCOM8	4.04	Scobey 4 NW
SDYM8	2.05	Sidney
SIDM8	2.47	Sidney 2S
TERM8	2.33	Terry
TYNM8	M	Terry 21 NNW
VIDM8	M	Vida 6 NE
WSBM8	M	Westby
WTRM8	3.60	Whitewater
WHIM8	M	Whitewater 18 NE
WBXM8	2.72	Wibaux 2 E
WTTM8	M	Winnett
WNEM8	0.84	Winnett 6 NNE
WNTM8	M	Winnett 8 ESE
WITM8	1.47	Winnett 12 SW
WLFM8	4.50	Wolf Point
ZRTM8	9.89	Zortman

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### Links You May Like:

[Reducing Greenhouse Gases Will Save Lives](#)

[June 2019 Breaks Records](#)

[Robots Help Hurricane Forecasting](#)

[Check UV Index This Summer](#)

[Latest ENSO Update](#)

**Monthly Trivia:** Last month we asked...

Which is hotter, the surface of the sun, or thunderstorm lightning?

**Answer:** Lightning is hotter, much hotter than the surface of the sun. In fact, lightning can reach temperatures as high as 50,000 °F! This high temperature allows for rapid expansion and contraction of the air surrounding the lightning, which we hear as thunder. To learn more about the dangers of lightning and how to stay safe through the rest of this summer season, check out some information [here](#). You can also read on some general severe thunderstorm safety tips [here](#).



**New Question:** As the wet season comes to an end across northeast Montana, things start to dry out climatologically, the risk for wildfires starts to increase across the area. Low relative humidity in the presence of strong, gusty winds can raise the risk, and lightning from thunderstorms in the late convective season can contribute as well. One such example of a wildfire occurred recently, initiated by thunderstorm lightning. It started on July 10-11, 2017 and is referred to as the Lodgepole Complex. This month's trivia asks: How did this particular wildfire rank historically across Montana?

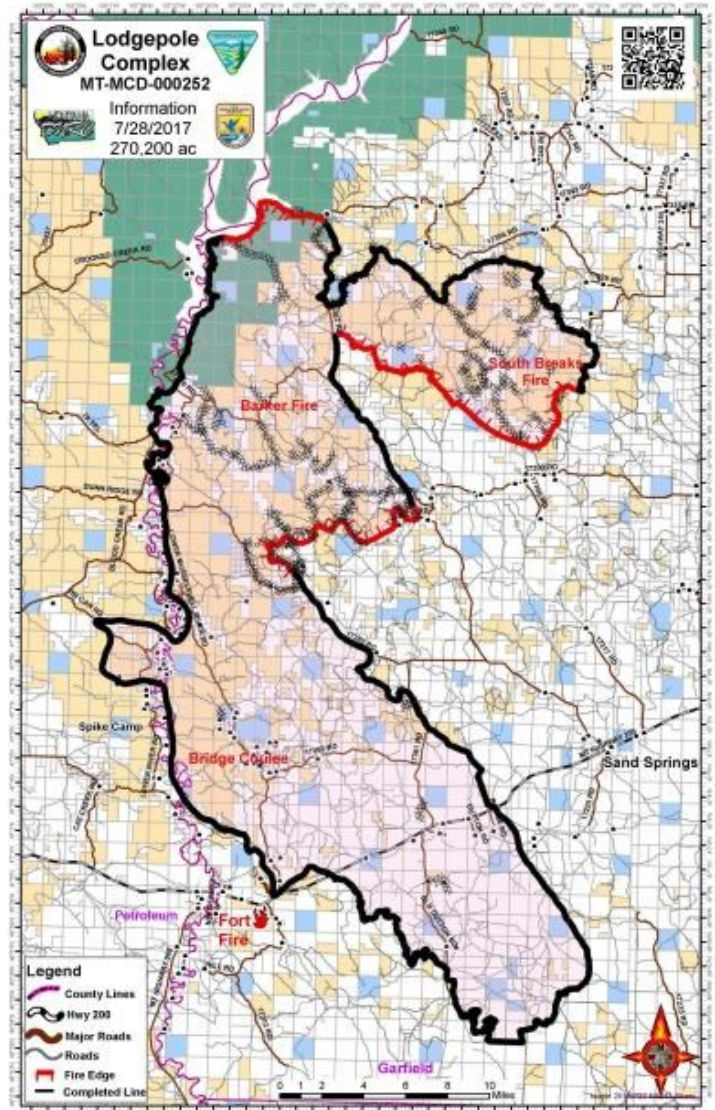


Figure 4: Outline of Lodgepole Complex.

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