Under the Big Sky e-Letter

July 2022

Photo Credit: Ryan Bernhart, Meteorologist at NWS Glasgow.

National Weather Service

Glasgow, MT

A Peak Inside:

National Weather Service

Glasgow, MT

John Murphy Visit:

John Murphy, COO of the National Weather Service, traveled out to visit the forecast office here in Glasgow, MT on 8/3. He spoke to the NWS Director Ken Graham's top three priorities: *our people, our infrastructure, and our future*. In addition to discussing a number of topics including labor relations, the budget, and ideas as NWS evolves forward, he also sat down one on one with staff and offered individual feedback. We'd like to thank John for his time and for sharing his expertise with us all! We hope he enjoyed his visit Under the Big Sky!

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!

Warm Season Training 2022: Did you miss it?

No problem, we are always looking for those interested in becoming a new weather observer who can send in daily precipitation reports! Check out the training and then sign up to join via the CoCoRaHS website.

Percent of Normal Precipitation (Montana)

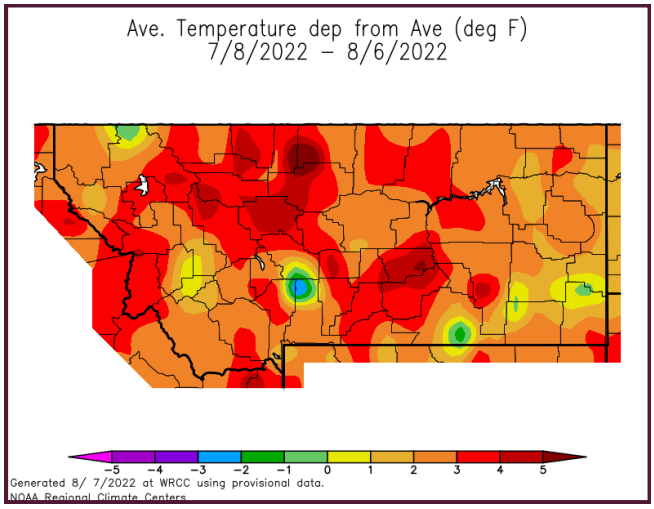


Figure 1: 30-day percent of normal precipitation across Montana.

Avg. Temp Departure from Normal (Montana)

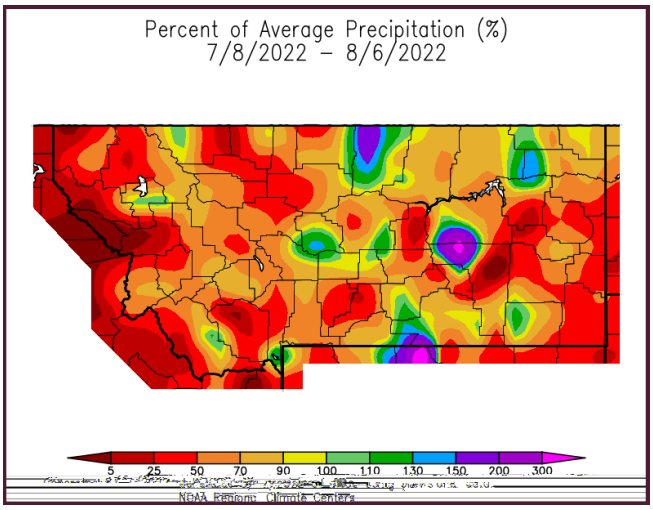


Figure 2: 30-day temperature anomalies across Montana.

Summary: The last 30 days brought generally warmer and drier than normal conditions over much of the state of Montana, as shown in the graphics above.

Hydrologic Summary for July 2022, By Greg Forrester, Lead Forecaster at NWS Glasgow:

July was a warm month with some areas receiving well above normal precipitation and near normal precipitation. The wet spots for the month were Mosby with 5.91 inches, Glasgow 46SW with 4.70 inches, and Homestead 5SE with 4.26 inches. The dry spots were Malta 7E and Content with 1.44 inches, Sidney with 1.67 inches, and Brockton 20S with 1.70 inches. Glasgow received 1.94 inches which was 99 percent of normal. Temperatures varied from 2 to 5 degrees above normal across the region. Glasgow averaged 75.6 degrees which was 3.6 degrees above normal.

Heavy rain on July 6 brought flooding to southeast Garfield, western Prairie and southern Dawson Counties. Heavy rain on July 9 brought flooding to southern parts of Petroleum and Garfield Counties.

The wet weather allowed for significant improvement in the drought situation in northeast Montana. That said, much of the area remains abnormally dry or in moderate drought.

The Milk, and Missouri Rivers had below normal streamflow for the entire month. The Yellowstone and Poplar Rivers had near normal streamflow the entire month.

The Fort Peck Reservoir elevation fell slightly to 2222.0 feet during the month. The reservoir was at 68 percent of capacity and 85 percent of the mean pool.

CPC Outlook:

The Climate Prediction Center released its latest three month outlook for temperature and precipitation for August, September, and October on July 21, 2022. The outlook shows that warmer than normal temperatures are favored across western and southern Montana while northeastern and north central portions of the state have equal chances for normal, below normal, or above normal temperatures. Meanwhile, precipitation is forecast to trend below normal across southern Montana while northern Montana has equal chances for normal, below normal, and above normal precipitation.

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.

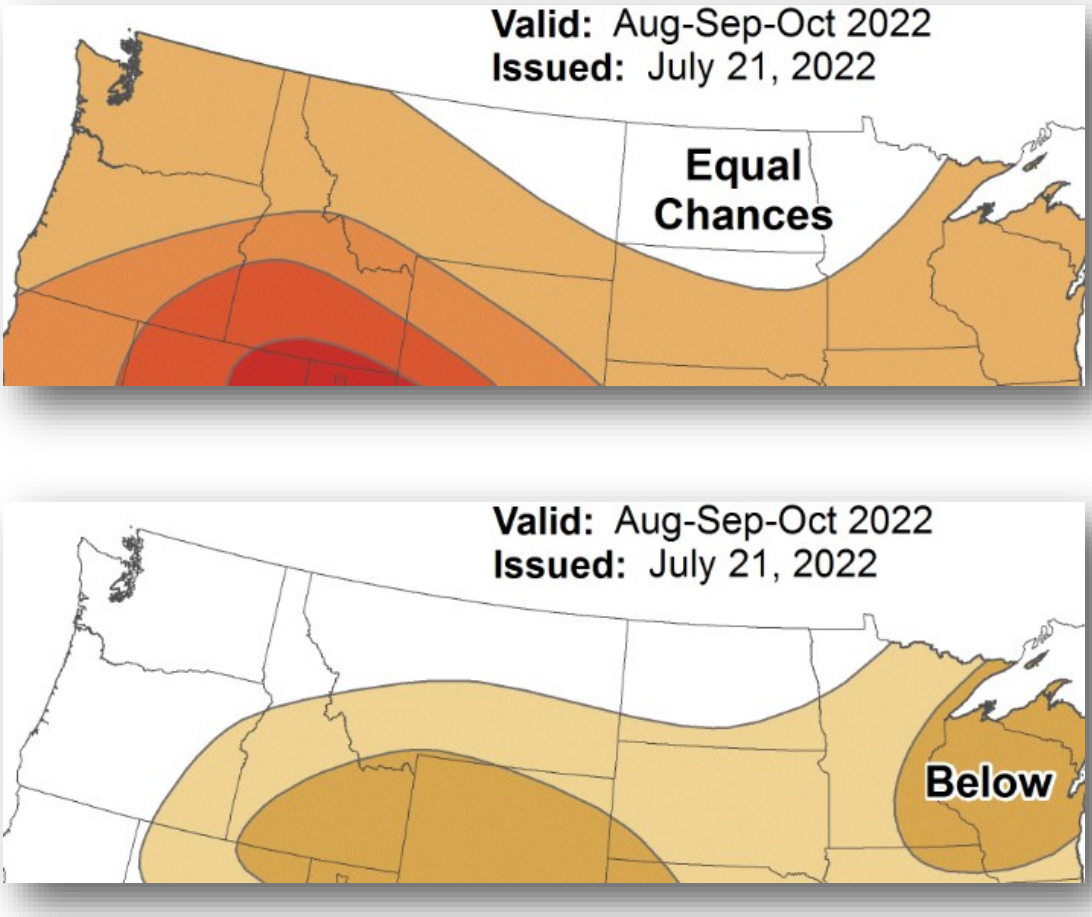
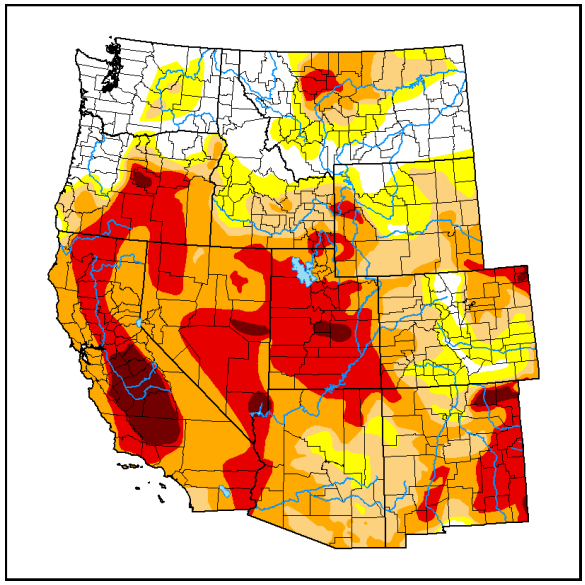
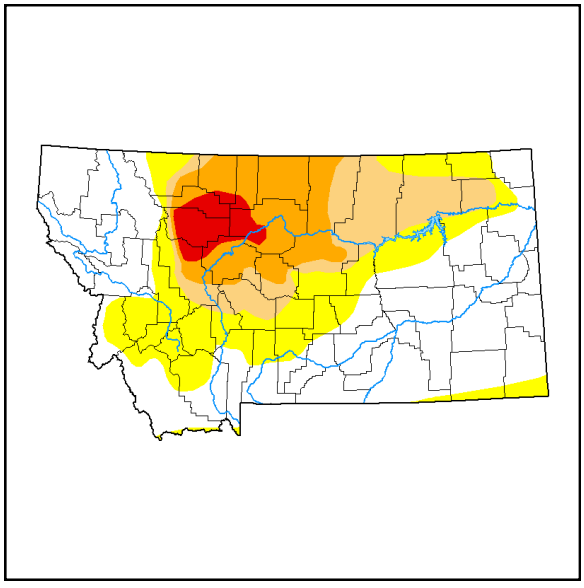


Figure 3: Climate Prediction Center three month outlook (August to October 2022) for temperature (top) and precipitation (bottom).

U.S. Drought Monitor:

The latest U.S. Drought Monitor was released on Thursday August 11, 2022. The drought conditions continue to be pared back over time in recent months through drought monitor updates in the east. That said, much of North Central Montana remains in severe to extreme drought. Northeast Montana continues to face abnormally dry to moderate drought conditions with a newly issued corridor of moderate drought extending into portions of Phillips, Valley, and Western Roosevelt Counties especially. Additionally, late summer is climatologically a drier period, and may have an effect on drought conditions over time. This outlook is updated each Thursday. Please feel free to check out the latest **here.**





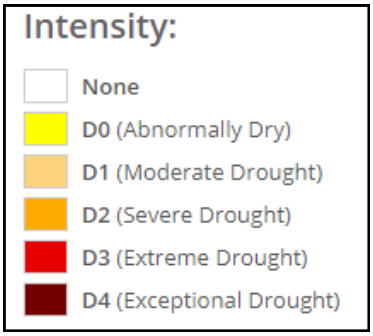


Figure 4: U.S. Drought Monitor updated August 11, 2022.

U.S. & Global Climate Highlights (June): The U.S. & Global climate highlights for June 2022 have been released, the latest month for which data was available. A few points for you to take home are provided below.

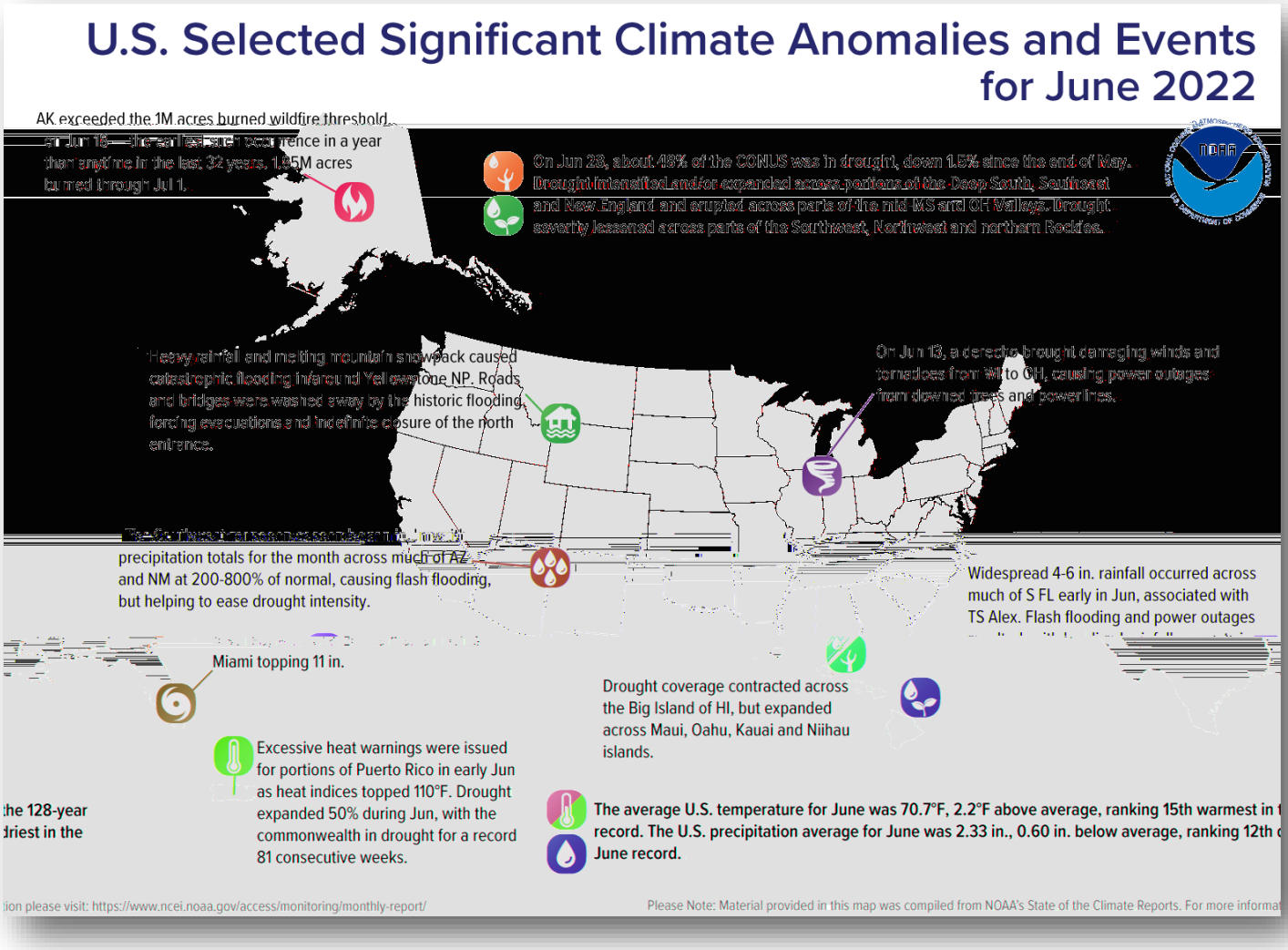


Figure 5: Significant Climate anomalies and events in June 2022

U.S. Highlights for June 2022

1) The contiguous U.S. average temperature for June 2022 was 60.7 °F, ranking 15th warmest on record.
2) The average June precipitation total for the contiguous U.S. came in at 2.33 inches, ranking tying with 1930 as the 12th driest.

Global Highlights for June 2022

1) The June 2022 global surface temperature came in as the 6th highest for April on record.
2) Interestingly, as much as 7.68% of the world's surface experienced a record high temperature in June, and this is the highest June percentage dating back to 1951.
3) Precipitation anomalies varied considerably around the world in May 2022, which is fairly typical.

Wildfire Safety Reminders

- Wildfires and effects of smoke downstream of existing wildfires become more common in the late summer and fall, especially as fuels dry out. Be especially alert on hot, dry, and windy days and avoid activities which may cause a spark. In addition to the direct impact from fires themselves, the smoke from wildfires can affect air quality, causing eye and lung irritation, and worsen respiratory illness. Please visit our **wildfire safety page** for more information on how to stay safe from these conditions this season.

Figure 6: NOAA wildfire safety graphic.

Links You May Like:

ENSO Update

ENSO & Salmon

Climate Change, Health, & Migration

Arctic Sea Ice Loss: Are Winds to Blame?

COOP 2021 Precipitation Totals for July 2022 (Preliminary)

Station	Precipitation	Location
BAYM8	2.52	Baylor
BRDM8	3.09	Bredette
BTNM8	M	Brockton 17 N
BKNM8	1.70	Brockton 20 S
BKYM8	3.44	Brockway 3 WSW
BRSM8	M	Brusette
CLLM8	3.47	Carlyle 13 NW
CIRM8	1.81	Circle
CHNM8	3.42	Cohagen
COM8	M	Cohagen 22 SE
CNTM8	1.44	Content 3 SSE
CULM8	2.53	Culbertson
DSNM8	M	Dodson 11 N
FLTM8	2.63	Flatwillow 4 ENE
FPKM8	M	Fort Peck PP
GLAM8	1.86	Glasgow 14 NW
GGWM8	1.94	Glasgow WFO
GGSM8	4.70	Glasgow 46 SW
GNDM8	2.80	Glendive WTP
HRBM8	M	Harb
HINM8	M	Hinsdale 4 SW
HNSM8	M	Hinsdale 21 SW
HOMM8	4.26	Homestead 5 SE
HOYM8	3.90	Hoyt
JORM8	M	Jordan
LNDM8	3.90	Lindsay
MLAM8	1.75	Malta
MLTM8	1.44	Malta 7 E
MTAM8	M	Malta 35 S

Station	Precipitation	Location
MDCM8	M	Medicine Lake 3 SE
MLDM8	3.70	Mildred 5 N
MSBM8	5.91	Mosby 4 ENE
OPNM8	M	Opheim 10 N
OPMM8	3.29	Opheim 12 SSE
PTYM8	2.62	Plentywood
PTWM8	2.20	Plentywood 1 NE
POGM8	1.76	Port of Morgan
RAYM8	3.63	Raymond Border Station
SAOM8	M	Saco 1 NNW
SMIM8	1.74	St. Marie
SAVM8	M	Savage
SCOM8	M	Scobey 4 NW
SDYM8	1.67	Sidney
SIDM8	2.46	Sidney 2S
TERM8	3.26	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	M	Winnett
WNEM8	2.29	Winnett 6 NNE
WNTM8	M	Winnett 8 ESE
WITM8	M	Winnett 12 SW
WLFM8	3.53	Wolf Point
ZRTM8	3.17	Zortman

Monthly Trivia:

Last time we asked…

In this month's newsletter we highlighted some important safety tips when it comes to summertime thunderstorms. However, excessive heat can cause impacts this time of year too if you're outside with prolonged exposure and do not keep safety in mind— which brings us to our next trivia question. What are the potential first signs of heat-related illness? Hint: check out our complete list of heat safety reminders and information here.

Answer: Prolonged exposure to extreme heat can lead to stress and heat related injury. One of the first signs of heat-related illness may be heat cramps, which may lead to heat exhaustion and heat stroke. Symptoms of heat cramps include painful muscle cramps and spasms, especially in the legs and abdomen. These cramps may also be accompanied by heavy sweating. Anyone experiencing heat cramps should seek medical attention if they persist for longer than 1 hour.

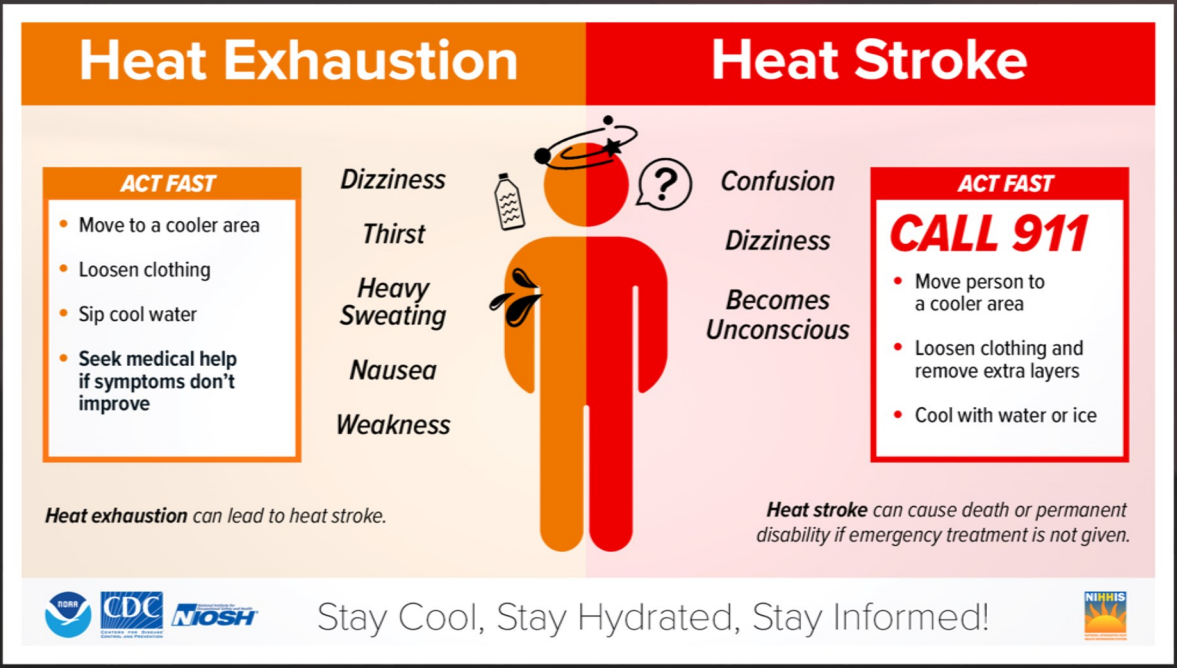


Figure 7: Safety graphic showing the symptoms and action items for heat exhaustion and heat stroke.

New Question: The late summer and fall months are wildfire season for NE Montana. The National Weather Service issues a number of products to help keep you safe during this time and to help raise awareness as to when conditions may lead to new fire starts or make containment of existing wildfires more difficult. This month we ask, what is the difference between a Fire Weather Watch and a Red Flag Warning?

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