

Under the Big Sky

e-Letter

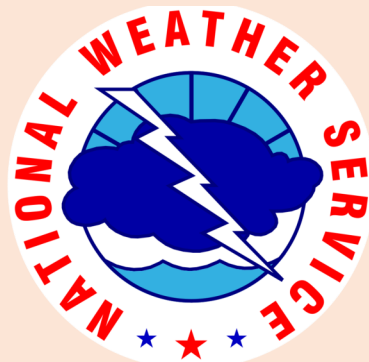
Spring & Summer

2024

National Weather Service

Glasgow, MT

Photo Credit: Ben Stoinski Meteorologist at NWS Glasgow.



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National Weather Service

←—————→
Glasgow, MT



2024 Baylor Tornado

While we have had our fair share of hail and wind events this severe weather season, it may be the Baylor tornado that people think about when they look back. On Friday 7/12/2024, a supercell thunderstorm formed near Opheim, MT which formed several short-lived weak tornadoes. The storm intensified as it tracked about 15 miles southeast of Baylor, MT. A particular tornado formed between Highway 24 and a known farm in the area. It dissipated before a second tornado formed with the same storm. Several reports from trained spotters confirmed this evolution and included photos and documentation as the storm moved southeast through Larslan, MT. A storm survey conducted by NWS Glasgow following the event produced [this report](#). See graphic below for more summary details.



Figure 1: Baylor Tornado, Friday July 12, 2024.

Record Summer Heat

The other thing this summer may be known for is the record breaking heat that occurred in early August. Glasgow, MT reached a new daily record on August 2nd with a high temperature of 108 °F. This topped the prior record of 102 °F set back in 1973.



Figure 1: Record high set on August 2, 2024.

Antelope Creek Prescribed Fire Visit

May 16, 2024

By Ben Stoinski & Jacob Zanker, NWS Glasgow Meteorologists

Multiple fire weather partners performed a major prescribed burn in the western portion of the Charles M. Russell National Wildlife Refuge. The burn was scheduled to begin in late April and early May, but a significant rainfall in early May pushed the burn operations back to begin May 15th, 2024. After a fairly successful burning day on the 15th, two National Weather Service fire weather meteorologist trainees, Jacob Zanker and Ben Stoinski, witnessed burn activities on the morning of May 16th. After a quick introduction from the burn boss at the morning operational meeting, both Jacob and Ben gave a weather briefing to the members of the fire crews. This included a forecast for the remainder of May 16th and the day of May 17th. Then, Ben and Jacob



Figure 3: Meteorologists **Ben Stoinski** and **Jacob Zanker** observe burn operations and take observations, with ignition activities beginning on the ground and via helicopter ball drops.

new ignitions by helicopter and ground personnel. Observations were taken at various aspects of terrain, with the forecast playing out nearly ideal. Temperatures rose into the 70s, minimum humidity dropped to 25-30% and winds were on the increase, but generally stayed below a 20 mph threshold. This kept fire spread and smoke across the highway under control.

touring the over 14,000 acre burn area, which included witnessing the start of



Figure 4: A ridgetop with a south aspect of the burn area facing the Missouri River below.



Figure 5: View along an access road of fires that smoldered near the ground overnight.

Partnership between NWS & Fort Peck Tribes Language and Culture Department

Scott Rozanski, Warning Coordination Meteorologist at NWS Glasgow, spearheaded an effort with the Fort Peck Tribes Language & Culture Department that began in November 2023. The project which is now in the final stages, led to the creation of cloud and weather charts that were translated in the Nakoda-Nakona & Dakḥóta languages. In addition, bookmarks were produced as well as a series of games such as, memory cards and weather wheels, all of which can be used in education and to raise awareness about cloud types and various types of weather.



Figure 6: Cloud and Land Chart translated in the Nakoda-Nakona language.

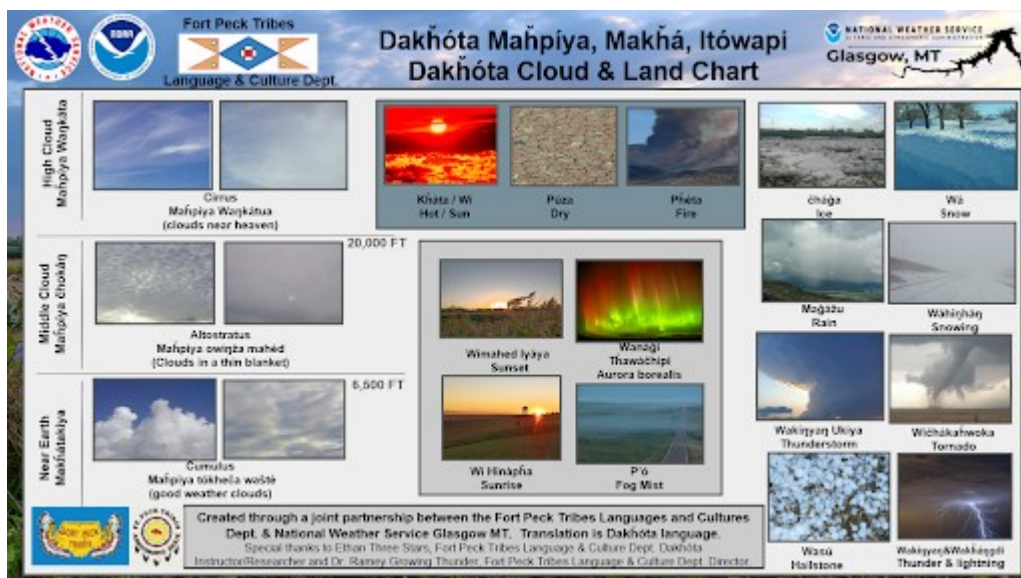


Figure 7: Cloud and Land Chart translated in the Dakḥóta language.

Partnership between NWS & Fort Peck Tribes Language and Culture Department



Figure 8: Bookmark featuring summertime weather translated in the Dakḥóta language.



Figure 9: Summer (left) and winter (right) weather wheels translated in the Nakoda-Nakona language.



Figure 10: Memory card game translated in the Dakḥóta language

Join CoCoRaHS Today!

CoCoRaHS is a grassroots organization with a network of enthusiastic 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, those in academia, etc.

Joining CoCoRaHS is a fantastic way to make a difference in your community. Check out the [CoCoRaHS main page](#) to learn more! We are always willing to accept new observers. All you'll need is a ruler and a rain gauge to get started!

2024 Training: Look for updates on an upcoming virtual CoCoRaHS on the NWS Glasgow social media pages. These training sessions generally last about 30 minutes and are an excellent tool for new observers but also serve as a great refresher for existing observers!

Need a refresher now?: The [CoCoRaHS webpage](#) has a number of available slide presentations that you can check out to learn more about these topics!

Become a CoCoRaHS observer and [join](#) today! Just fill out the electronic form and the CoCoRaHS Coordinator from NWS Glasgow will follow up with you to help you get underway.



Percent of Normal Precipitation (Montana)

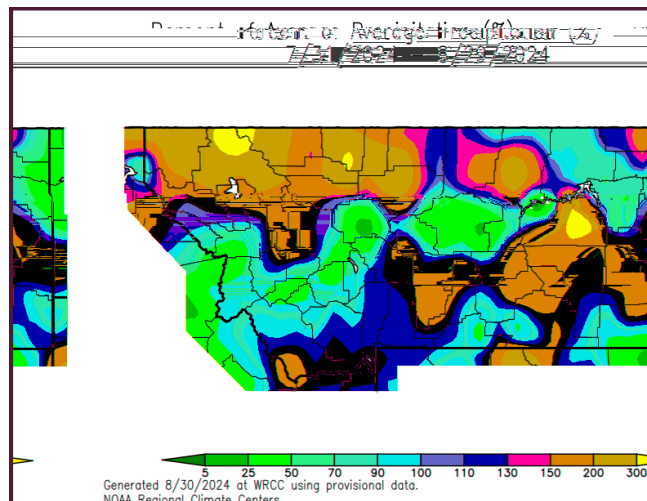


Figure 11: 30-day percent of normal precipitation across Montana.

Avg. Temp Departure from Normal (Montana)

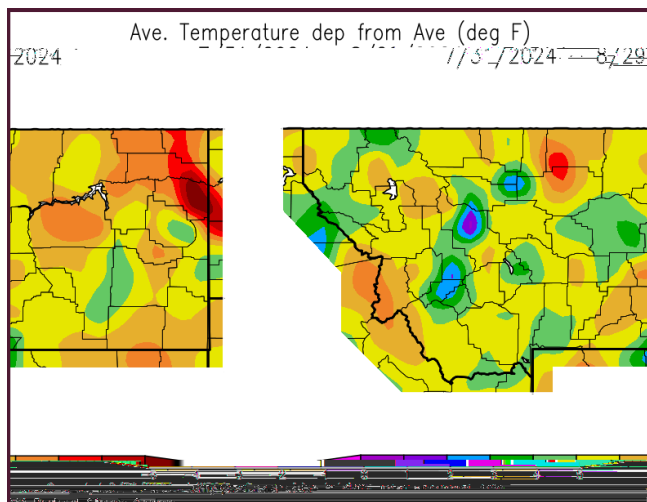


Figure 12: 30-day temperature anomalies across Montana.

Summary: In a recent 30 day period, precipitation varied across the state—likely due to the nature of hit or miss thunderstorms this time of year. Some areas received drier than normal weather while others had conditions that were near and above normal (see figure 1 for placement). Meanwhile, temperatures in general trended near or above normal across the state in the last 30 days.

Hydrologic Summary for July 2024, By Greg Forrester, Lead Forecaster at NWS Glasgow:

July had below normal precipitation and above normal temperatures. Temperatures were from 3 to 7 degrees above normal. Glasgow averaged 76.8 degrees which was 4.8 degrees above normal.

Precipitation amounts during July were well below normal across most of the region. Two locations: Medicine Lake and Port of Raymond, reported zero precipitation for the month of July. Plentywood only had a trace of precipitation in July. A few locations were above normal for precipitation which included the wet spots of Opheim 12SE with 2.39 inches, Lindsay with 2.04 inches, and Terry with 2.03 inches. Glasgow received 0.80 inch which was 41 percent of normal.

The dry weather across the region allowed moderate drought to return to areas along the North Dakota border in July.

Streamflow on the Missouri River was near normal the entire month. The Milk River and Poplar River had below normal streamflow for the entire month. Meanwhile, the Yellowstone River had well below streamflow for the month.

The Fort Peck Reservoir elevation fell to 2229.0 feet during the month. The reservoir was at 75 percent of capacity and 93 percent of the mean pool.

CPC Outlook:

The Climate Prediction Center released its latest three month outlook for temperature and precipitation for September to November 2024 on August 15, 2024. The outlook provides an idea as to what this fall is likely to offer compared with normal. Currently, Montana is favored to see warmer than average conditions over the three month period. That does not mean, however, that there can't be exceptions at times. Most of the state also has equal chances for normal, below normal, or above normal precipitation throughout the period according to the outlook.

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.

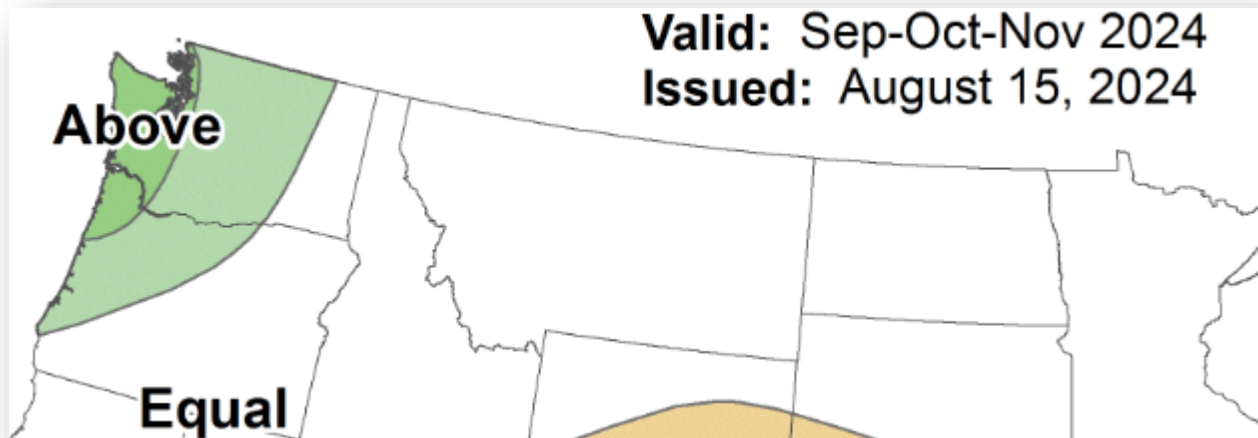
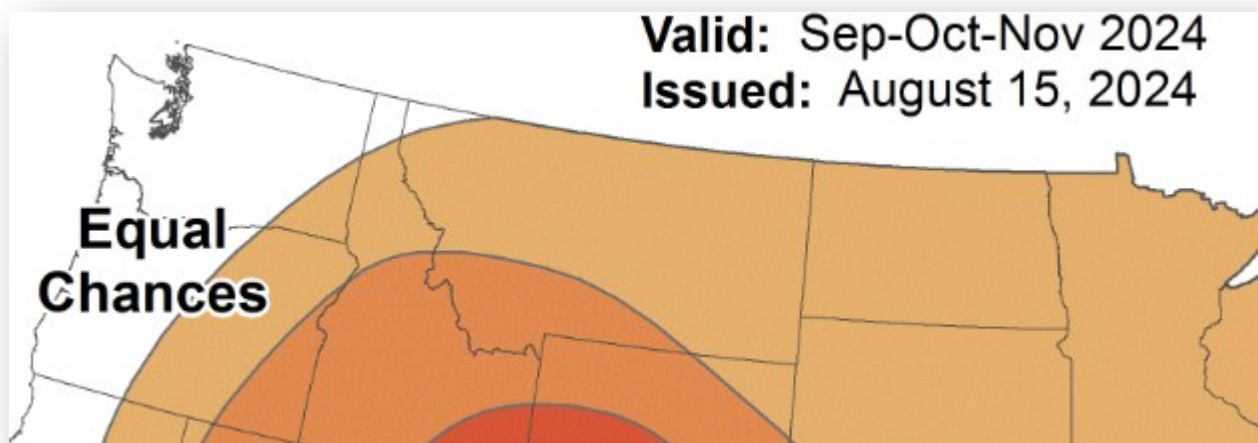


Figure 14 Climate Prediction Center three month outlook for temperature (top) and precipitation (bottom) for September-November 2024, Issued August 15, 2024.

U.S. Drought Monitor:

The latest U.S. Drought Monitor was released on Thursday August 29, 2024. Drought conditions have been worsening across portions of Montana in recent weeks as warm and dry conditions have emerged. Notably, portions of southwest Montana, as well as isolated portions of eastern Montana, are under severe to extreme drought conditions. Elsewhere, abnormally dry conditions to moderate drought prevail.

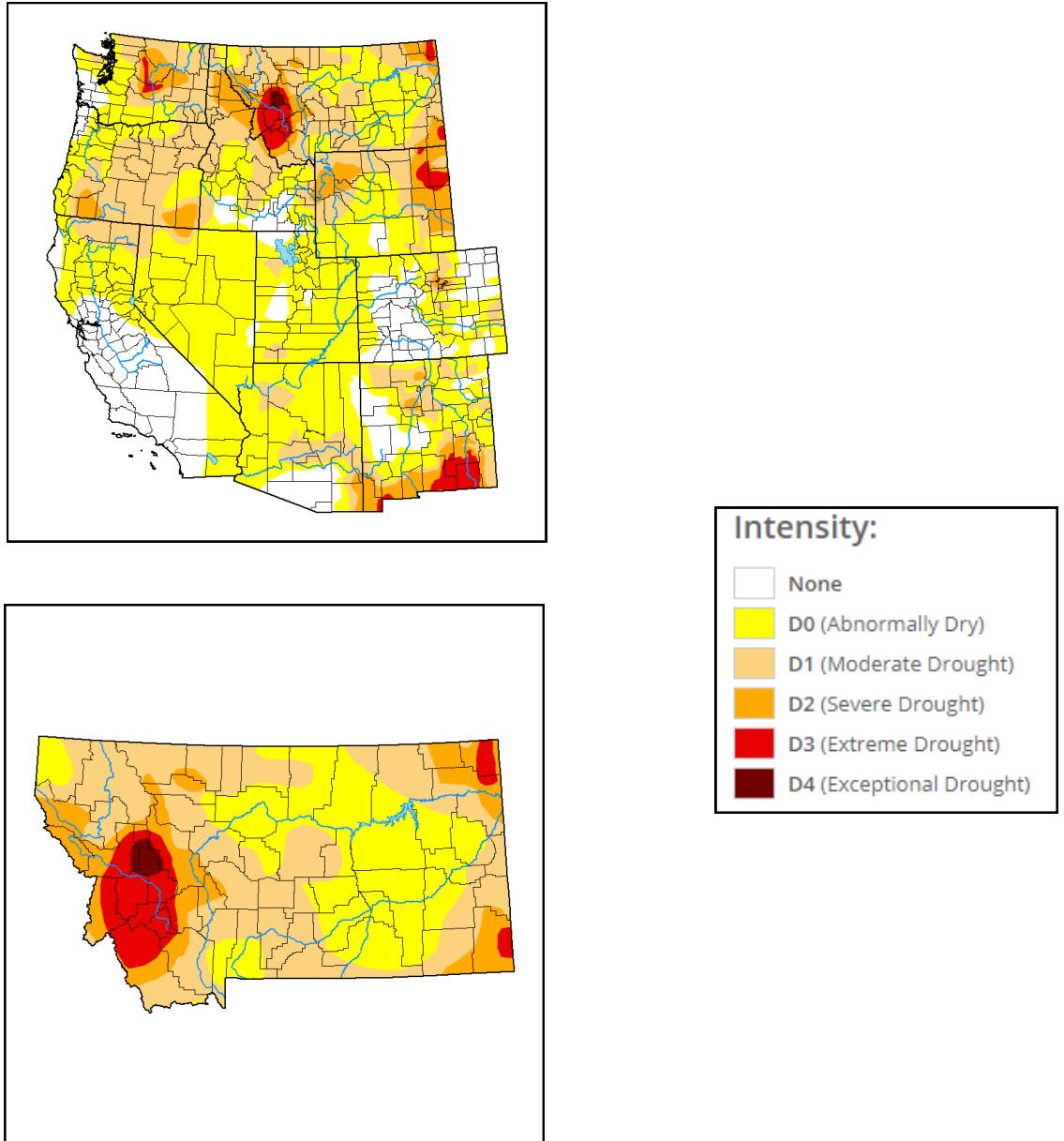


Figure 15: U.S. Drought Monitor updated August 29, 2024.

U.S. & Global Climate Highlights (July): The [U.S.](#) & [Global](#) climate highlights for July 2024 have been released, the latest month for which data was available. A few points for you to take home are provided below.

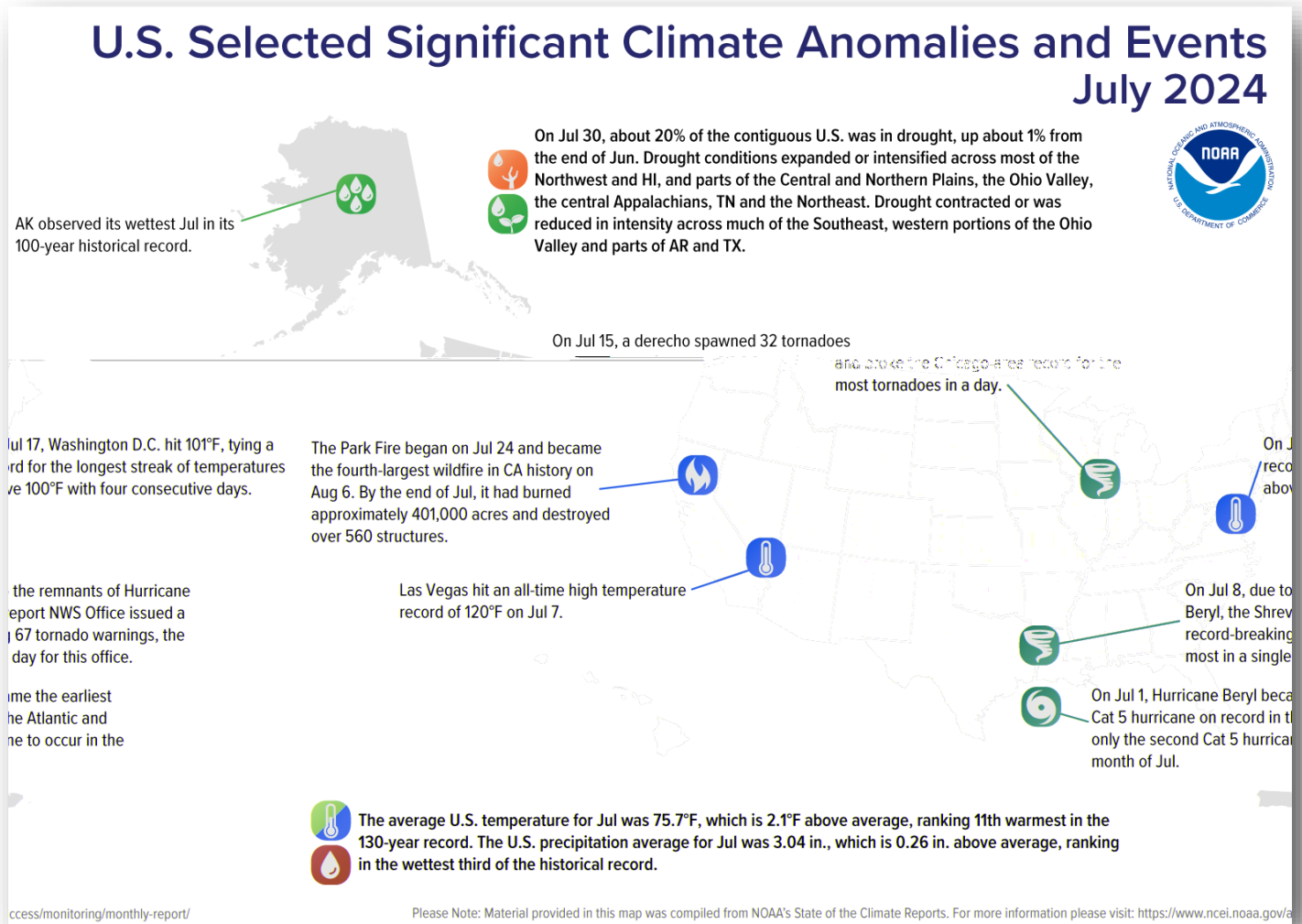


Figure 16: Significant Climate anomalies and events for July 2024.

U.S. Highlights for July 2024

- 1) The contiguous U.S. average temperature for July 2024 was 75.7 °F, ranking as the 11th warmest on record.
- 2) The average July precipitation was 3.04 inches, ranking within the wettest third on record.

Global Highlights for July 2024

- 1) The July 2024 average global surface temperature was the highest for July since records began in 1850
- 2) ENSO neutral conditions continued during the month of July, but La Niña is favored during the fall (66% chance) and winter (74% chance) .

Wildfire Safety

- ◆ Late summer and early fall is often when hot, dry, and windy conditions can enhance wildfire concerns. Now is a good time to review safety measures so that you can be prepared when critical fire weather conditions take hold. The graphic below provides a quick overview, but for more detailed safety information feel free to check out the resources [here](#).



Figure 17: NOAA Infographic with safety information for wildfire season.

Links You May Like:

[ENSO Outlook](#)

[The Role of Methane in the Atmosphere](#)

[Global Climate Summary July 2024](#)

[Animal Feeding Operations & Air Quality](#)

[Next Generation Wildfire Detection](#)

[Canadian Wildfires and US Ozone/Air Quality](#)

COOP Precipitation Totals for July 2024 (Preliminary)

Station	Precipitation	Location
BAYM8	0.26	Baylor
BRDM8	1.03	Bredette
BTNM8	M	Brockton 17 N
BKNM8	1.35	Brockton 20 S
BKYM8	1.93	Brockway 3 WSW
BRSM8	0.44	Brusette
CLLM8	1.02	Carlyle 13 NW
CIRM8	1.97	Circle
CHNM8	1.11	Cohagen
COM8	1.08	Cohagen 22 SE
CNTM8	0.80	Content 3 SSE
CULM8	1.06	Culbertson
DSNM8	0.79	Dodson 11 N
FLTM8	0.37	Flatwillow 4 ENE
FPKM8	0.97	Fort Peck PP
GLAM8	0.61	Glasgow 14 NW
GGWM8	0.80	Glasgow WFO
GGSM8	0.73	Glasgow 46 SW
GNDM8	1.72	Glendive WTP
HRBM8	M	Harb
HINM8	1.19	Hinsdale 4 SW
HNSM8	0.88	Hinsdale 21 SW
HOMM8	1.70	Homestead 5 SE
HOYM8	1.08	Hoyt
JORM8	M	Jordan
LNDM8	2.04	Lindsay
MLAM8	0.87	Malta
MLTM8	1.26	Malta 7 E
MTAM8	0.93	Malta 35 S

Station	Precipitation	Location
MDCM8	1.04	Medicine Lake 3 SE
MLDM8	0.84	Mildred 5 N
MSBM8	M	Mosby 4 ENE
OPNM8	0.70	Opheim 10 N
OPMM8	2.39	Opheim 12 SSE
PTYM8	M	Plentywood
PTWM8	0.72	Plentywood 1 NE
POGM8	0.76	Port of Morgan
RAYM8	0.55	Raymond Border Station
SAOM8	1.14	Saco 1 NNW
SMIM8	1.61	St. Marie
SAVM8	M	Savage
SCOM8	1.37	Scobey 4 NW
SDYM8	0.61	Sidney
SIDM8	1.74	Sidney 2S
TERM8	2.03	Terry
TYNM8	M	Terry 21 NNW
VIDM8	M	Vida 6 NE
WSBM8	M	Westby
WTRM8	0.54	Whitewater
WHIM8	M	Whitewater 18 NE
WBXM8	M	Wibaux 2 E
WTTM8	0.54	Winnett
WNEM8	0.25	Winnett 6 NNE
WNTM8	1.16	Winnett 8 ESE
WITM8	M	Winnett 12 SW
WLFM8	1.12	Wolf Point
ZRTM8	M	Zortman

Monthly Trivia:

Last time we asked...

Moving flood waters can knock you off your feet and carry you away. Just how deep does the water have to be to knock you over?

Answer: It does not take much. Just 6 inches of fast-moving water can knock over and carry away the typical adult human. And twice that amount can carry away a small car!

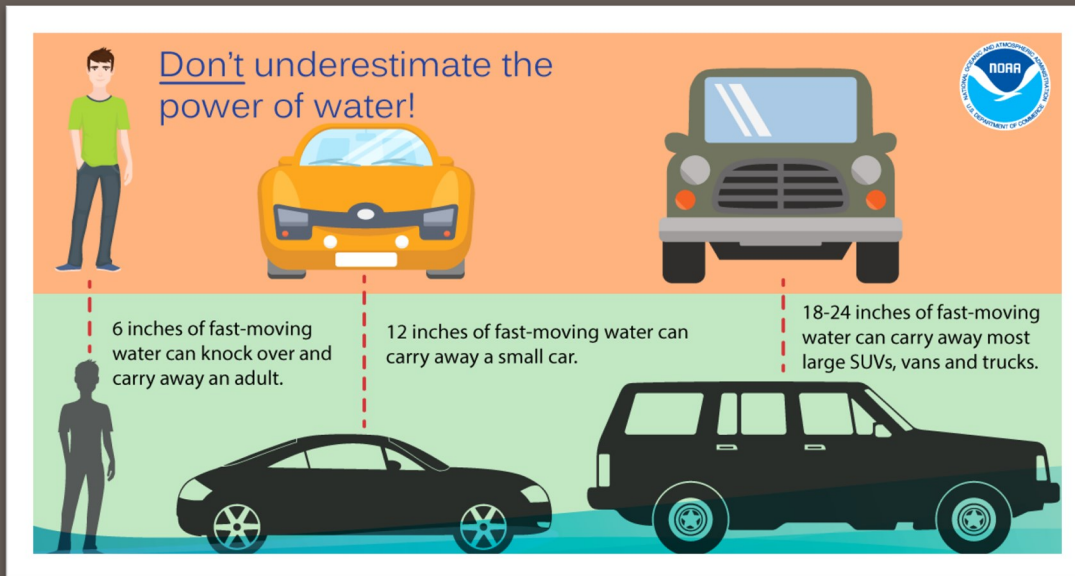


Figure 18: NWS Info graphic showing the power of water.

? **New Question:** Fall months are typically when we see wild swings in weather conditions, often in just hours or days. This includes the potential for high winds, for instance, with a cold frontal passage. We often message to stay safe by avoiding exterior rooms and windows. Have you ever thought about why a safe location during high winds is in the lower part of your home in an interior room, away from windows? We'll explore the science behind these safety tips in our next newsletter.

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