Centennial Valley Water Report — July 2023

Please contact drought@centennialvalleyassociation.org if you have any questions, comments, or suggestions.

Greetings from the Centennial Valley Association!

We hope you are staying cool wherever this Water Report finds you! Warmer temperatures are creeping across Montana, with many places seeing multiple high 90° to low 100°F temperatures. Fortunately, southwest Montana and the Centennial Valley did not get that warm! Weather stations in Lakeview and the Sandhills (BLM RAWS) indicated that the highest temperatures recorded in July were 86.9°F and 89°F, respectively. Though the monthly temperature outlook indicates above normal temperatures for our area, the 6-10 day predictive forecast highlights a much needed cool down across the entire state (NOAA).

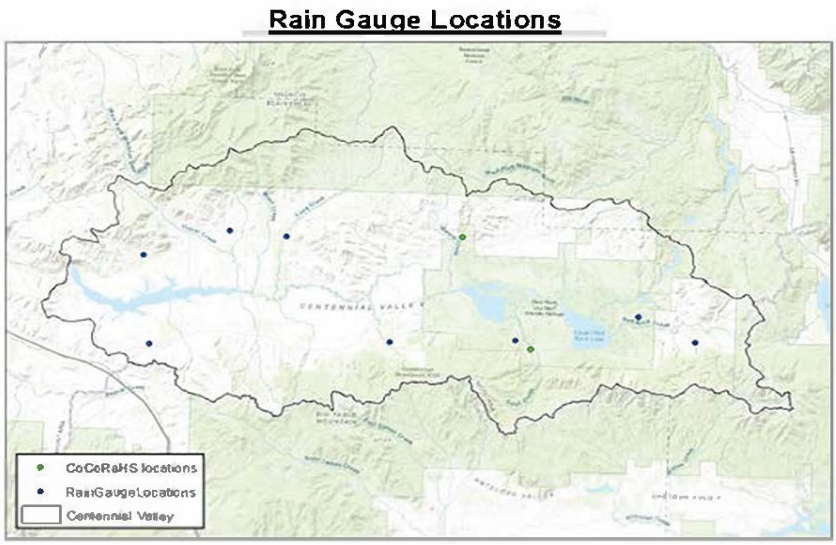
At the end of July, the Jefferson River Basin reported 108% of median precipitation for the water year, and the Red Rock subbasin, which includes the Centennial Valley, was 105% of median precipitation for the water year (NRCS). According to the USGS and Drought Monitor, 16% on Montana streamflow sites are above normal, which includes the Red Rock River below Lima Dam, and 88% of Montana has above normal precipitation probability for August.

As temperatures continue to be warm/hot and vegetation begins to dry out, please remember to do your part by helping prevent wildfires! Some things you can do to mitigate the risk include knowing the current fire weather risk before heading out, clearing away all leaves and other combustibles from a fire circle, not parking in tall grass, and preventing trailer chains from dragging on the ground. Thank you for doing your part!

Precipitation Data — July 2023

The first ten (10) days of July had good precipitation days across the entire Centennial Valley, with most sites receiving nearly a quarter of an inch of precipitation during that time frame. Unfortunately, the moisture came to an end, for the most part, the remainder of the month. The Tempest Weather Station, manned by community members in Lakeview, received the most documented precipitation at 1.58”. The CVA rain gauge in Alaska Basin received the least amount of documented precipitation at 0.19”. The other stations saw anywhere between two-tenths of an inch to over half an inch of documented precipitation.

**Please note that the Lakeview and RAWS stations reflect the full month of July totals. The CVA rain gauges were checked before the month end, so their totals reflect July 1st—27th.

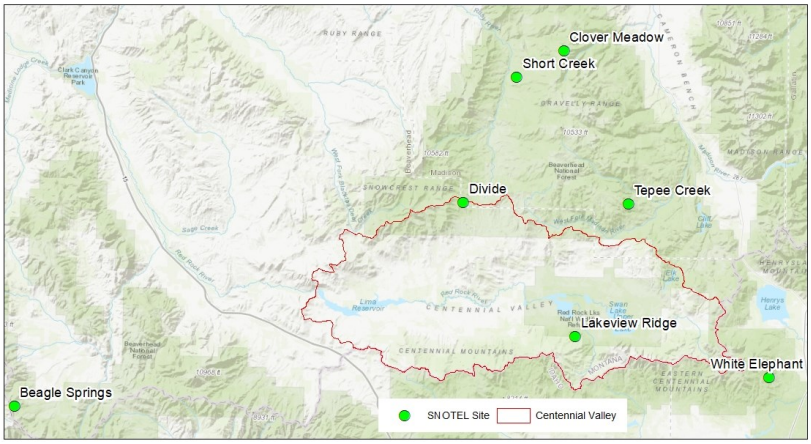


Source: CVA & Partner Monitoring

Rain Gauge Name	July Precipitation Accumulation in inches (end of period values)	June Precipitation Accumulation in inches (end of period values)
Elk Lake Road	0.27	0.84
Alaska Basin	0.19	1.61
Lakeview	1.58	5.01
South Valley Road	0.20	2.06
Monida Hill	0.27	1.32
Lima Dam	0.51	2.81
Wolverine	-	-
Long Creek	0.57	1.77
Red Rock BLM RAWS	0.30	1.79

Snowpack and Precipitation Data — As of July 31st, 2023

There are seven Natural Resources Conservation Service (NRCS) SNOTEL sites that surround the Centennial Valley (right). The percent median for precipitation accumulation for the month of July are still holding out, despite a decrease in precipitation. All sites are above 100% median for precipitation accumulation, except Beagle Springs, which is at 96%. Short Creek is at 119% of median for precipitation accumulation. For the month of July, the Tepee Creek SNOTEL received the most precipitation accumulation at 2.1", and the Divide SNOTEL received the least amount of precipitation accumulation at 0.1".



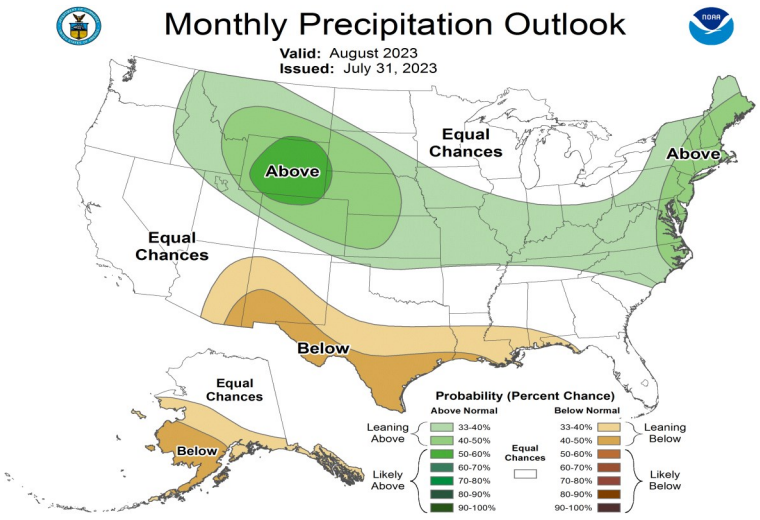
Source: NRCS Report Generator

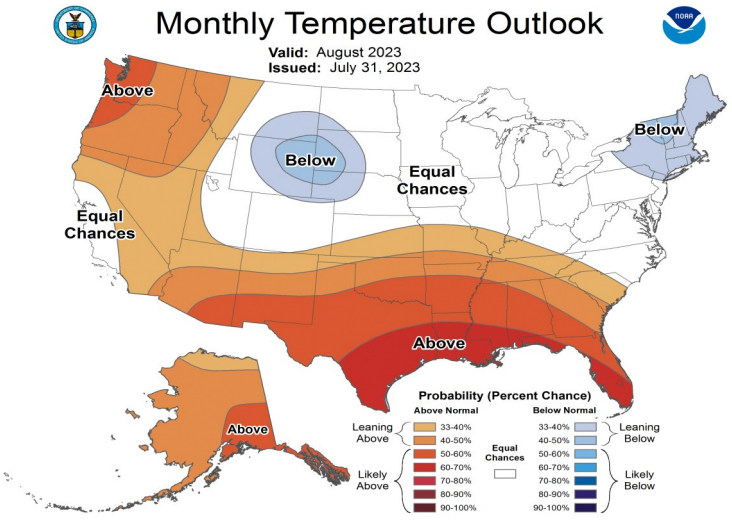
	Total Precipitation Accumulation for the Water Year (in)	Median Precipitation Accumulation (1991-2020) (in)	Precipitation Accumulation % of Median (1991-2020)
Beagle Springs (8,850 ft)	19.1	20.0	96%
Clover Meadow (8,600 ft)	31.8	27.2	117%
Divide (7,800 ft)	23.3	21.0	111%
Lakeview Ridge (7,400 ft)	26.4	23.4	113%
Short Creek (7,000 ft)	18.6	15.6	119%
Tepee Creek (8,000 ft)	27.6	23.4	118%
White Elephant (7,710 ft)	46.0	41.8	110%

Precipitation and Temperature Outlook — August 2023

The precipitation outlook for August has a 40-50% chance of being above normal in the Centennial Valley and portions of southwest, south central, and southeast Montana. The remainder of Montana has a 33-40% chance for above normal precipitation, except the northeast corner of the state. The temperature outlook for August indicates 33 -40% above normal temperatures in the Centennial Valley and southwest Montana, with a 40-50% chance of above normal temperatures in western Montana.

Source: NWS NOAA Climate Prediction Center





USGS Stream Gage Data — July 2023

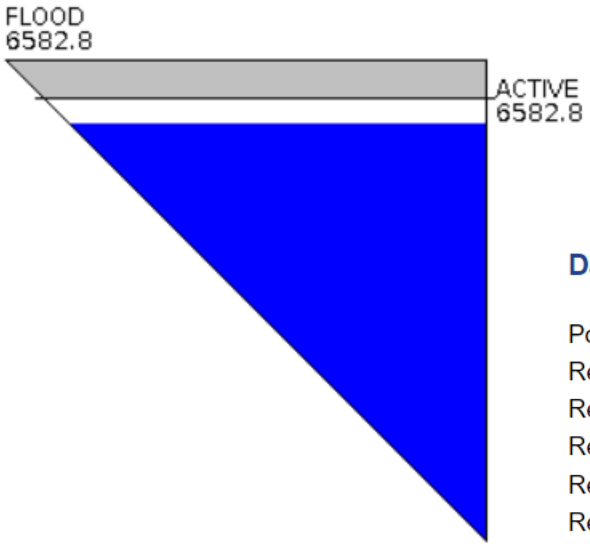
On July 31st, at 11:30pm, the stream gage at Red Rock Creek near Lakeview was at 3.02 feet and discharging around 43.4 CFS. This is a decrease from June 30th, when the site was at 3.66 feet and discharging around 87.5 CFS. On July 31st, at 11:00pm, the stream gage at Red Rock River near Lima Reservoir was at 2.64 feet and discharging around 291 CFS. This is a decrease from June 30th, when the site was at 2.91 feet and discharging around 377 CFS.

Source: USGS Streamflow Data

Lima Reservoir Data — As of August 1st, 2023

The Lima Reservoir currently has a pool elevation of 6581.1 feet and is 88.4% full. The reservoir inflow is unavailable and the outflow is 302.5 CFS.

Source: Bureau of Reclamation



Daily Reservoir Data as of 08/01/2023

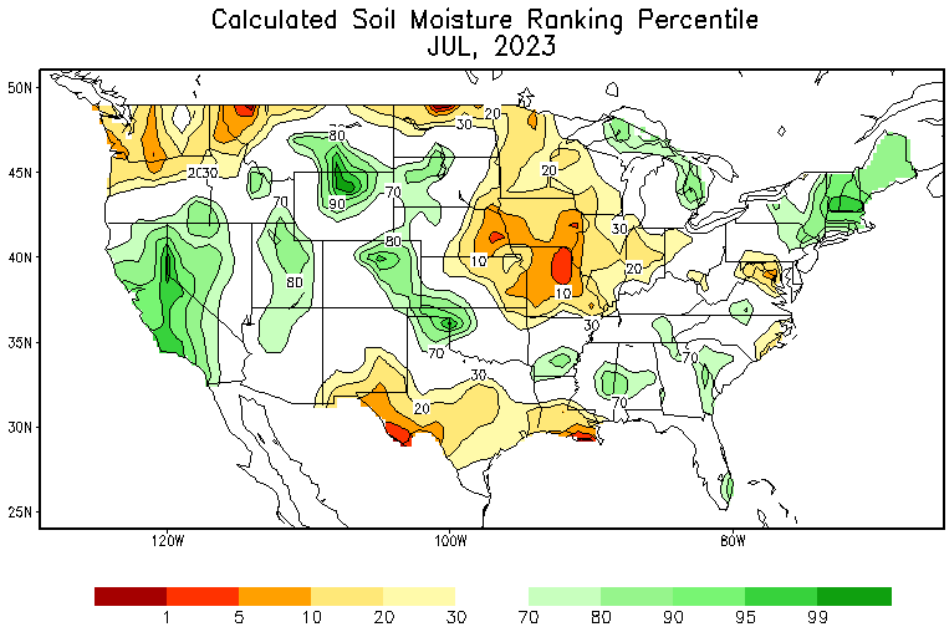
Pool Elevation is 6581.1 Feet
Reservoir Storage is 74313.6 Acre-Feet
Reservoir Inflow is 9856.7 CFS
Reservoir Outflow is 302.5 CFS
Reservoir is 88.4 % Full*
Reservoir Flood Control Pool is filled 0.0 %

** Reservoir is considered "full" when pool elevation is at top of active conservation pool. Percentage is based on total reservoir volume below that level.*

Soil Moisture Conditions — July 2023

Soil moisture is the total amount of water, including water vapor, in unsaturated soil. Soil moisture represents the water that resides in the pores of soil. In the Centennial Valley, the soil moisture was in the 30-70% percentile for the month of July. This percentile indicates that the soil is not dry, but did not have a significant increase in soil moisture.

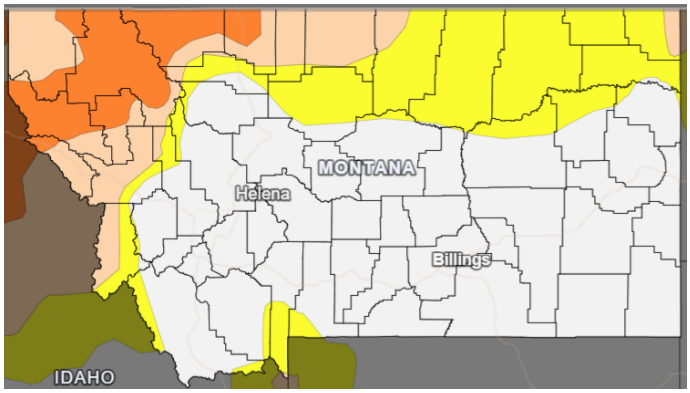
Sources: Climate Prediction Center



Drought Data — July 2023

As of July 25th, drought status across the state is increasing its reach, with 18.8% of Montanans experiencing moderate or severe drought in northwest Montana and 21.5% of Montanans experiencing abnormally dry conditions. In Beaverhead County, no one is affected by drought conditions, though 15.19% of the County is experiencing abnormally dry conditions. This includes Alaska Basin in the Centennial Valley.

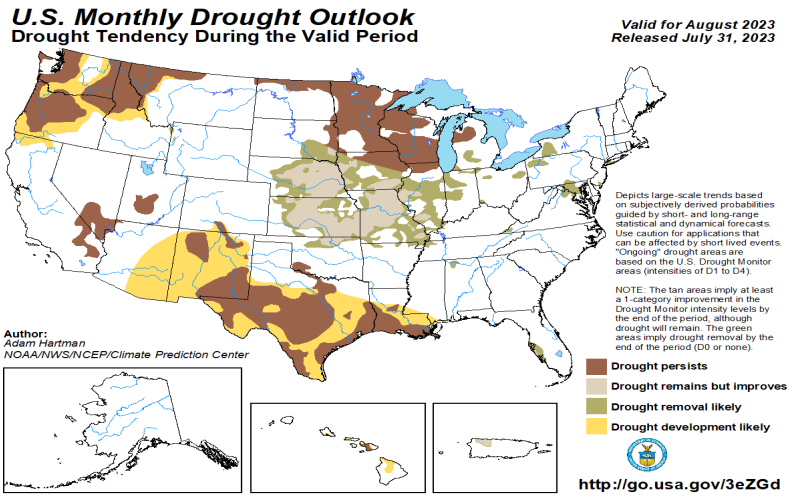
Source: National Integrated Drought Information System



Drought Outlook — August 2023

Montanans in the northwestern and north central parts of the state will experience persisting drought conditions for the month of August, while Ravalli County and portions of northwestern Beaverhead County drought development is likely. For the rest of the state, drought is not predicted.

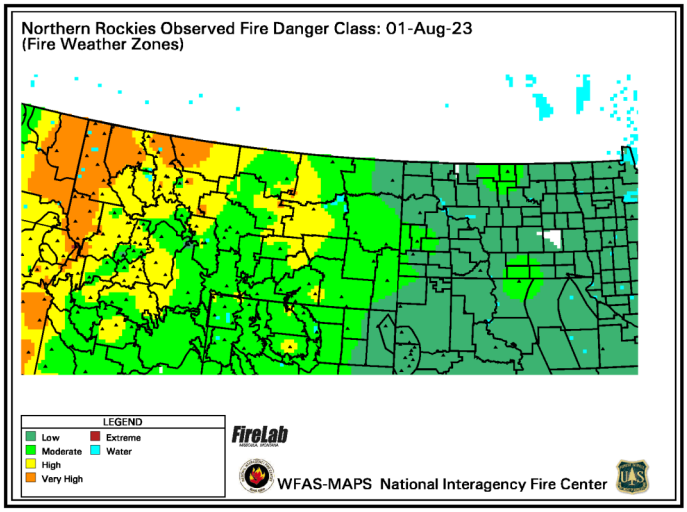
Source: NWS NOAA Climate Prediction Center



Fire Weather Conditions — August 1st, 2023

Southwest Montana is at a moderate fire danger classification. According to the National Weather Service, there is nothing of significant concern across southwestern Montana, but western Montana is experiencing an air quality alert due to elevated particulate levels from wildfire smoke. There are currently eight (8) active wildfires being documented by InciWeb in Montana, plus numerous more in Idaho. In Montana, the largest fire is the Niarada Fire near Elmo, at 8,400-acres, that was started by a lightning strike. As summer continues on, and warm dry weather persists, please remember to practice fire safety while out recreating or traveling in the backcountry!

Sources: US Forest Service Wildland Fire Assessment System; National Weather Service



More Fire Resources

DNRC Interactive Fire Map: https://gis.dnrc.mt.gov/apps/firemap/
Montana Wildfire News: https://www.npr.org/podcasts/490249415/montana-wildfire-news
Northern Rockies Fire Weather Daily Outlook: https://gacc.nifc.gov/nrcc/predictive/weather_Day1.jpg
Northern Rockies Significant Fire Potential: https://fsapps.nwcg.gov/psp/npsg/data/conus-sevenday/d1_0.png
AirNow Smoke Map: https://gispub.epa.gov/airnow/

If you have any questions, comments, or trouble interpreting the data, please contact drought@centennialvalleyassociation.org!

CENTENNIAL VALLEY ASSOCIATION

Helpful Links:

Montana Drought Status Percentage
NRCS SNOTEL Report Generator
USGS Streamflow Data
Lima Reservoir
Palmer Drought Severity Index
BLM Weather Station