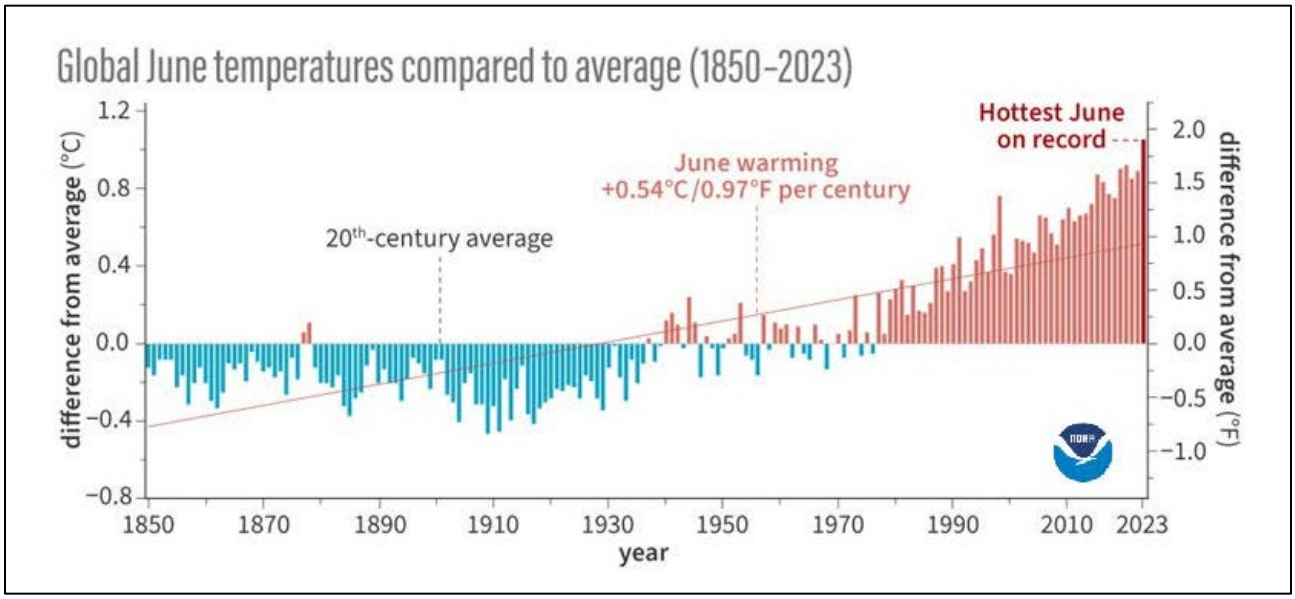
United States Department of Agriculture

Water and Climate Update

July 27, 2023

The Natural Resources Conservation Service produces this weekly report using data and products from the National Water and Climate Center and other agencies. The report focuses on seasonal snowpack, precipitation, temperature, and drought conditions in the U.S.

Brutal heat continues to impact several U.S. regions



According to National Oceanic and Atmospheric Administration (NOAA), global temperatures during the month of June were the hottest since measurement began in 1850. Record-breaking heat continues to bear down on the southern U.S., bringing temperatures into the triple digits as it spreads to the Midwest and Northeast. The weather pattern associated with bringing the heat is also responsible for stagnant air, contributing to air quality concerns and drought declarations while it fuels wildfires. The extreme heat is also affecting areas beyond the land surface, as ocean temperatures reached 101.1°F in Florida on July 24, threatening marine life.

Related:

US heat wave lingers in Southwest, intensifies in Midwest: Latest forecast – ABC News

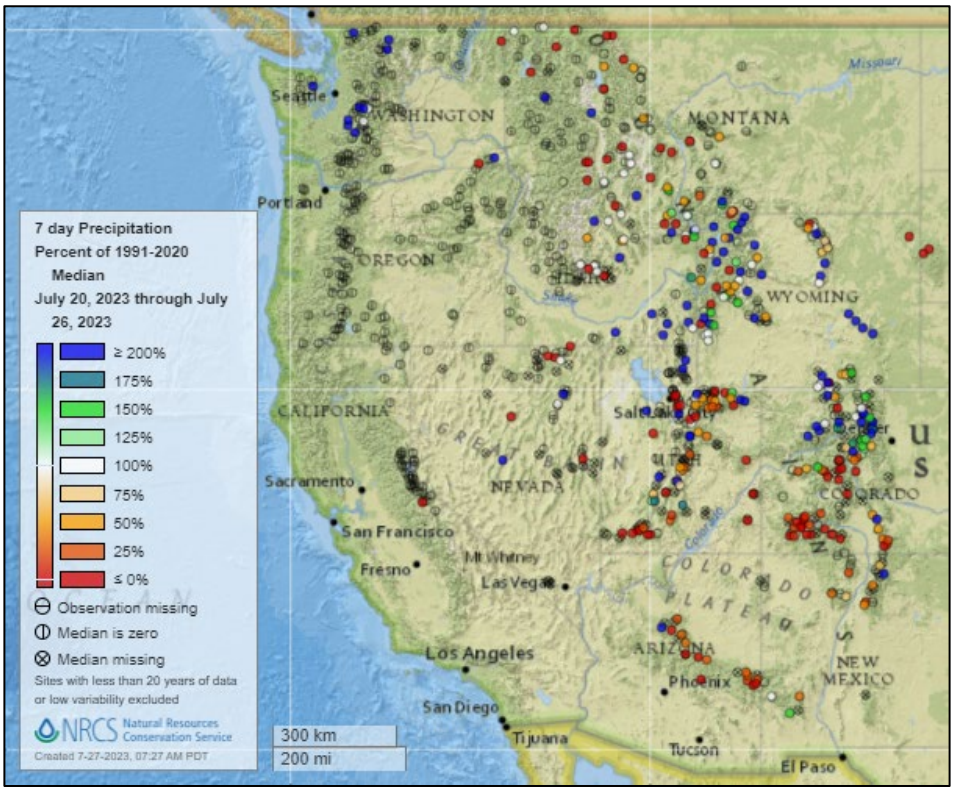
Like a hot tub: Water temperatures off Florida soar over 100 degrees, stunning experts – NBC News

Deadly extreme heat is spreading, threatening coral reefs and fueling wildfires that compromise air quality – CNN

Global climate summary for June 2023 – National Oceanic and Atmospheric Administration (NOAA)

Precipitation

Last 7 Days, NRCS SNOTEL Network

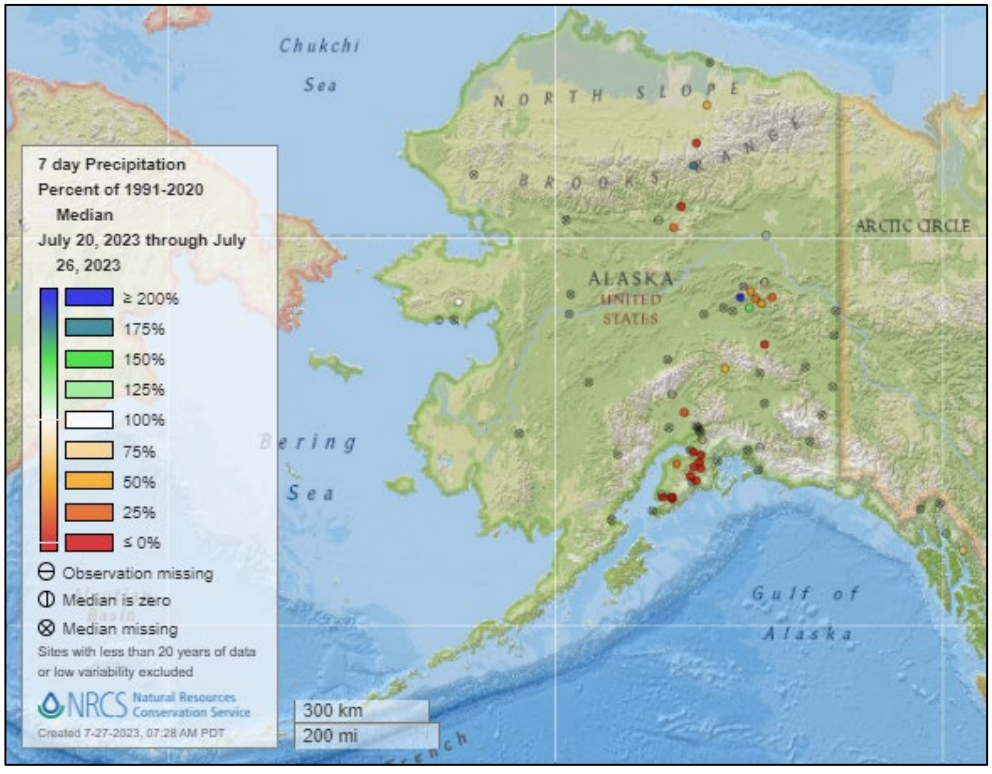


[7-day precipitation percent of median map]

See also:
[7-day total precipitation values (inches) map]

[Alaska 7-day precipitation percent of median map]

See also:
[Alaska 7-day total precipitation values (inches) map]

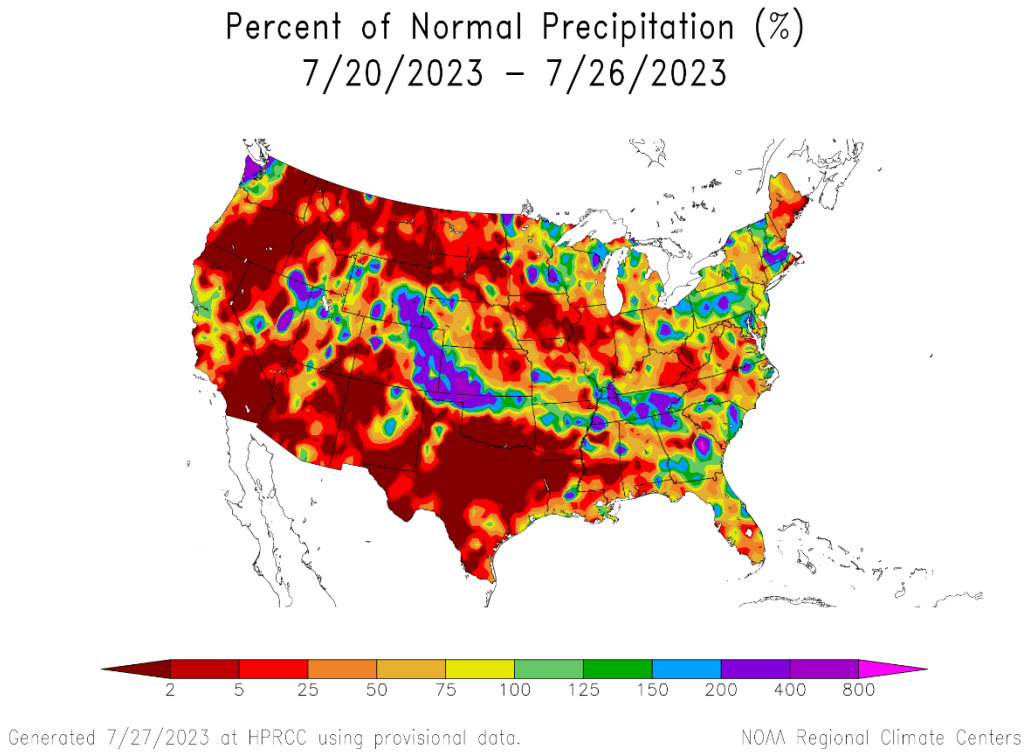


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

[7-day precipitation percent of normal map] for the continental U.S.

See also: [7-day total precipitation values (inches) map]

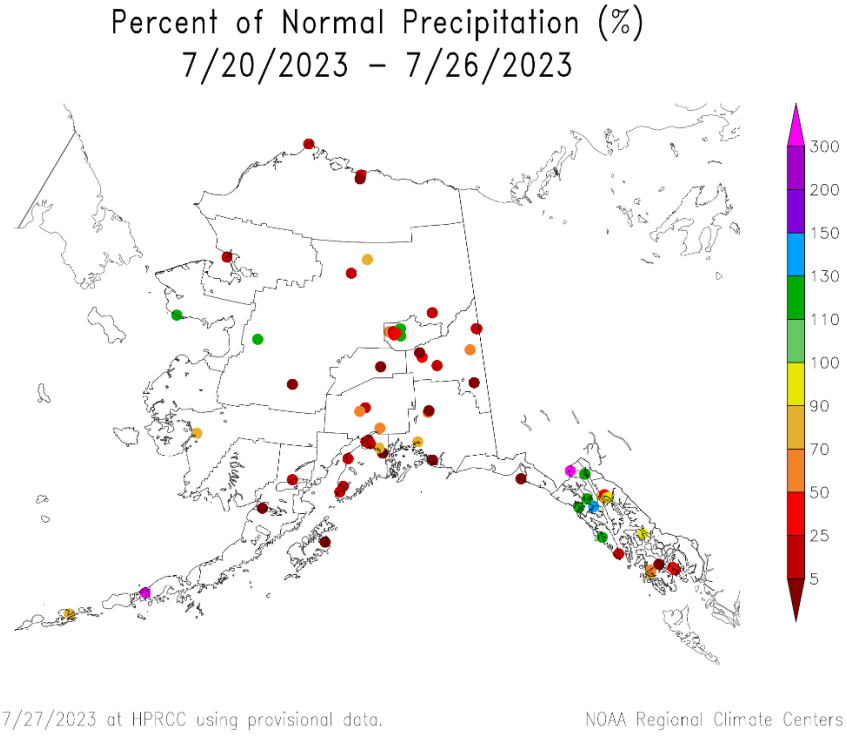


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

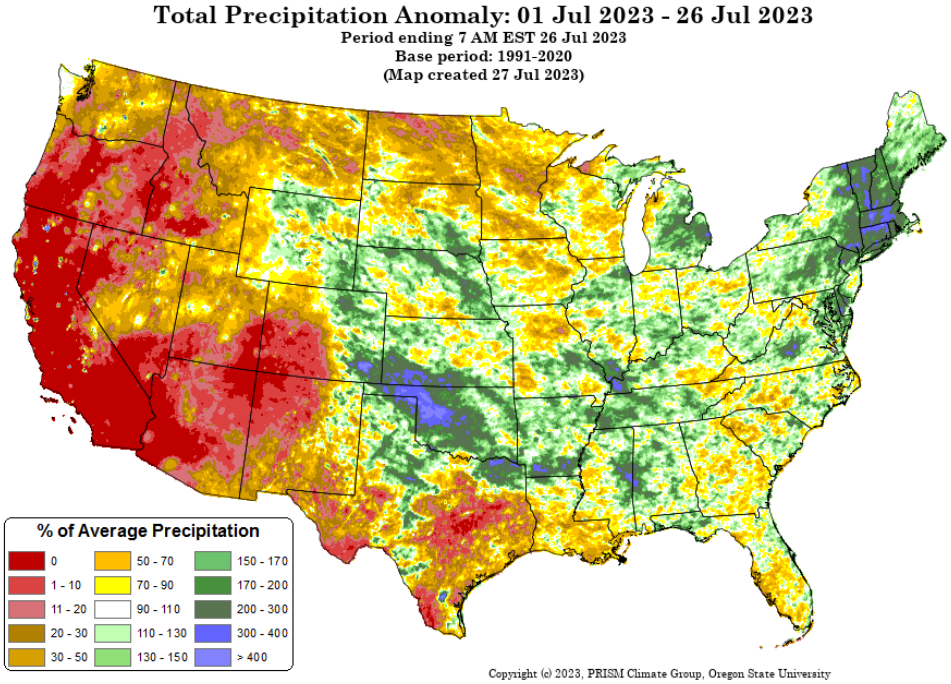
[7-day precipitation percent of normal map] for Alaska.

See also:
[7-day total precipitation values (inches) map]



Month-to-Date, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

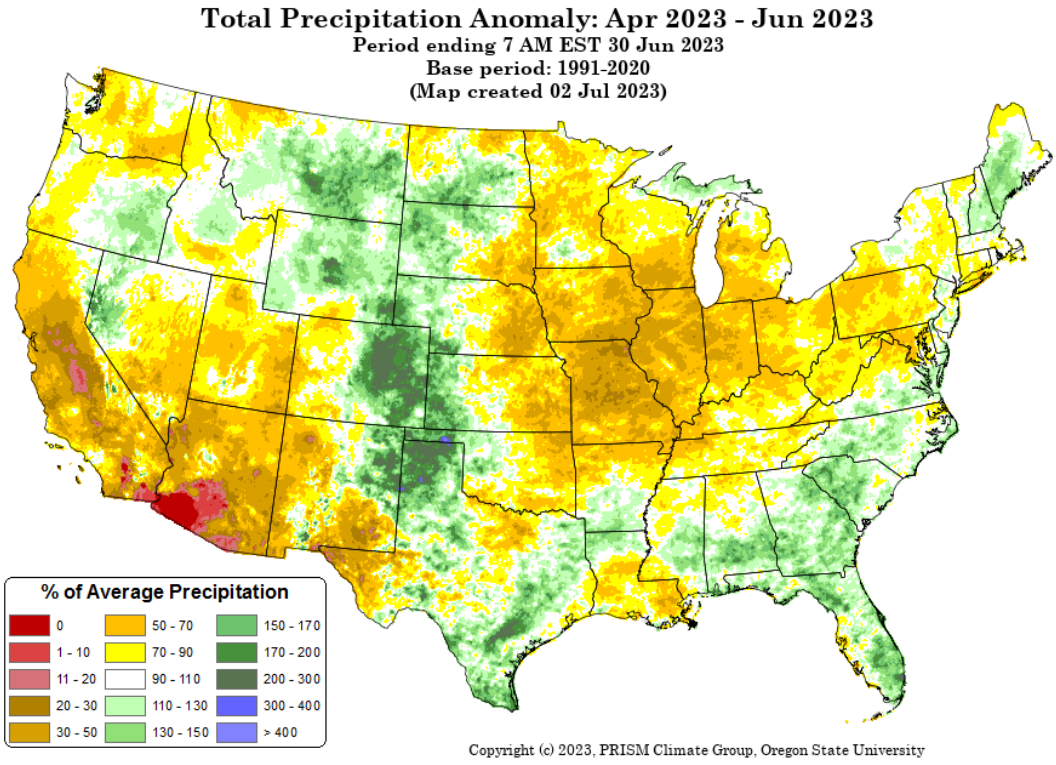


Month-to-date national total precipitation anomaly map

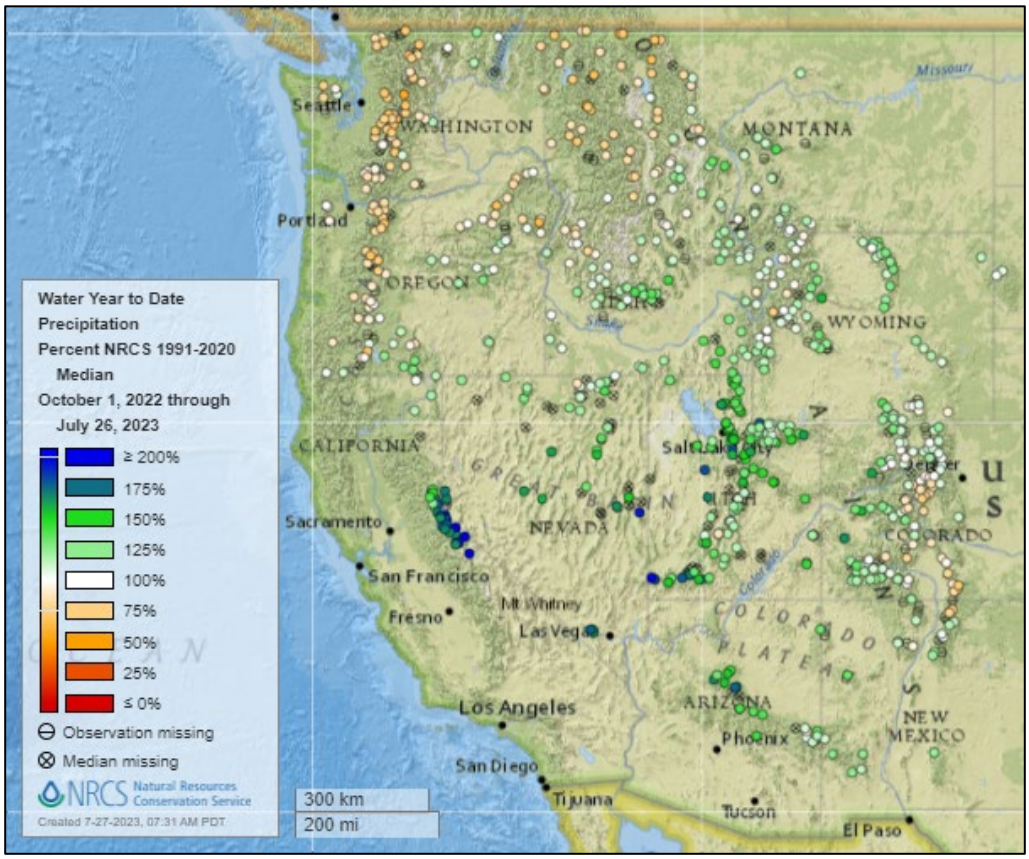
Last 3 Months, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

April through June 2023 precipitation anomaly map



Water Year-to-Date, NRCS SNOTEL Network



[2023 water year-to-date precipitation percent of median map]

See also:

[2023 water year-to-date precipitation percent of average map]

[2023 water year-to-date precipitation values (inches) map]

[Alaska 2023 water year-to-date precipitation percent of median map]

See also:

[Alaska 2023 water year-to-date precipitation percent of average map]

[Alaska 2023 water year-to-date precipitation values (inches) map]

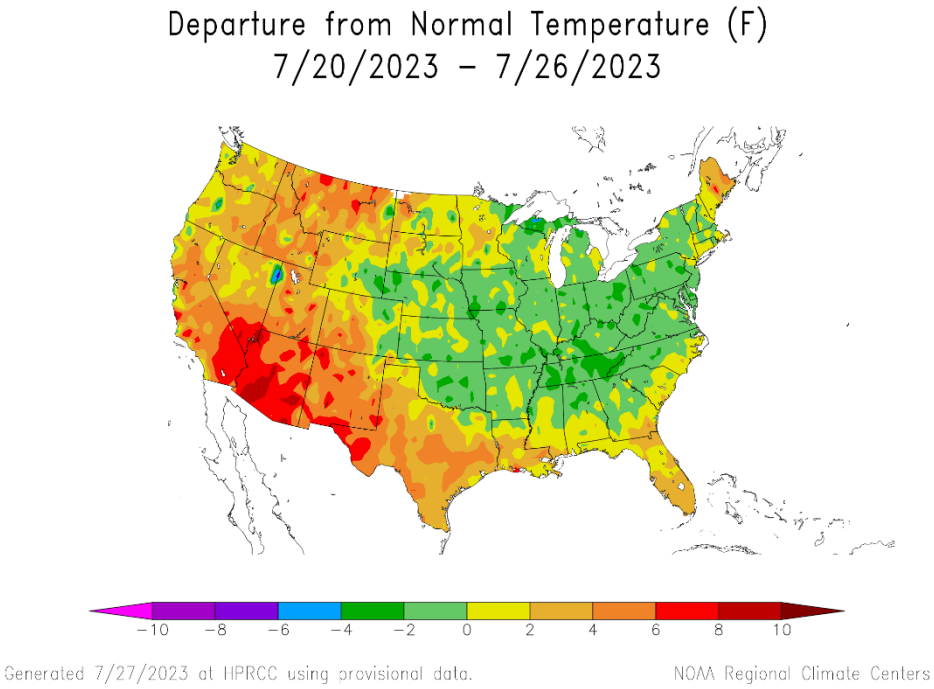
Temperature

Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

7-day temperature anomaly map for the contiguous U.S.

See also: 7-day temperature (° F) map

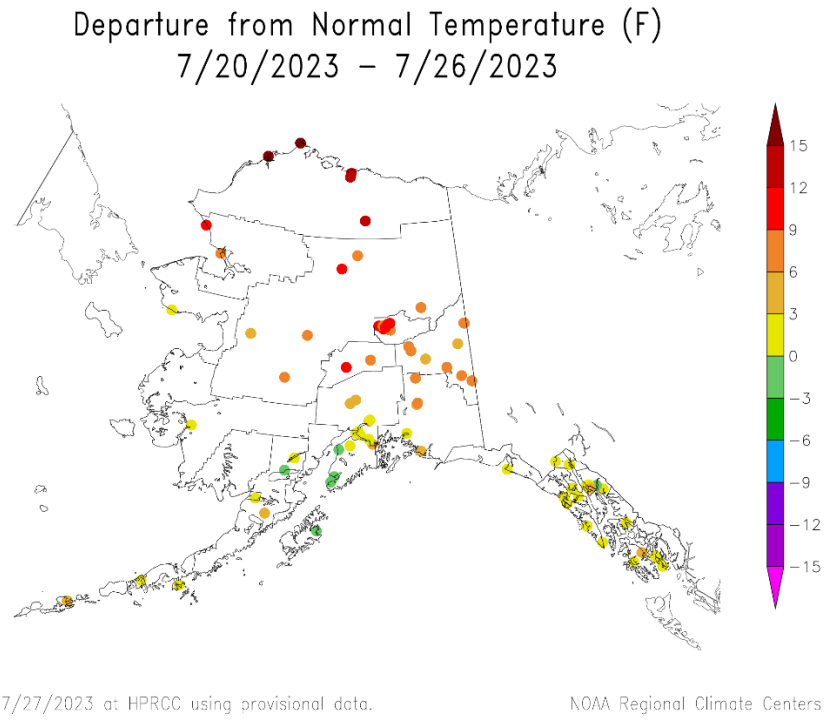


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

7-day temperature anomaly map for Alaska.

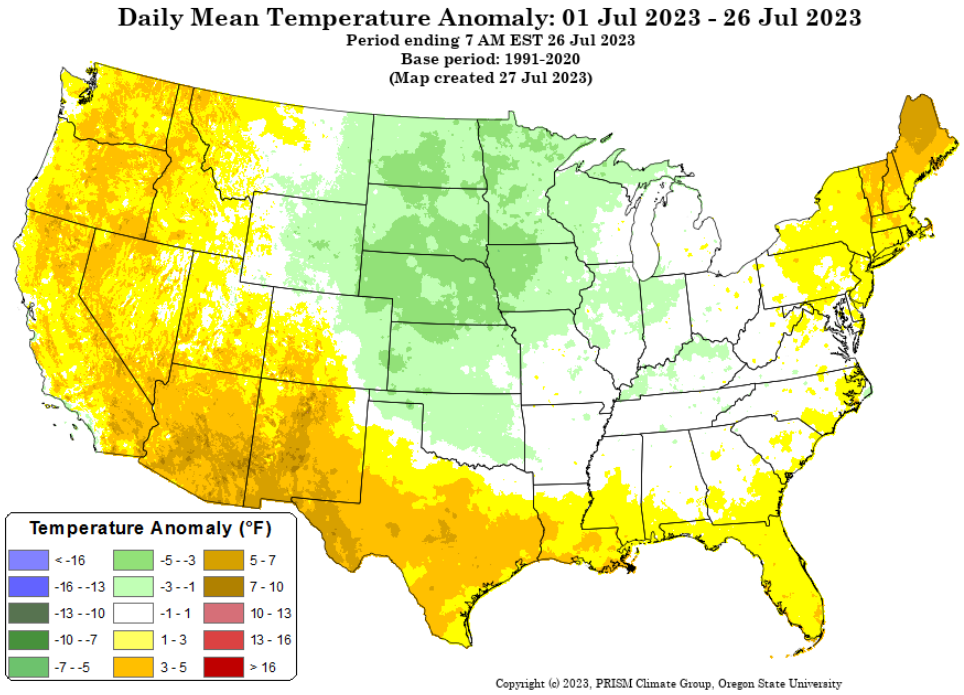
See also: 7-day temperature (° F) map



Month-to-Date, All Available Data Including SNOTEL and NWS Networks

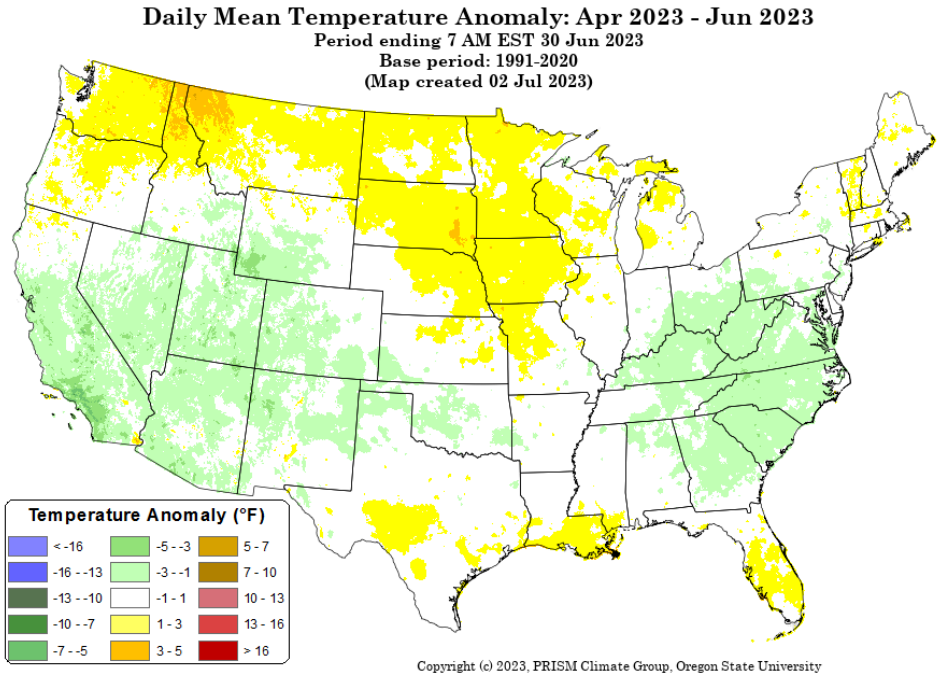
Source: PRISM

[Month-to-date national daily mean temperature anomaly map]



Last 3 Months, All Available Data Including SNOTEL and NWS Networks

Source: PRISM



[April through June 2023 daily mean temperature anomaly map]

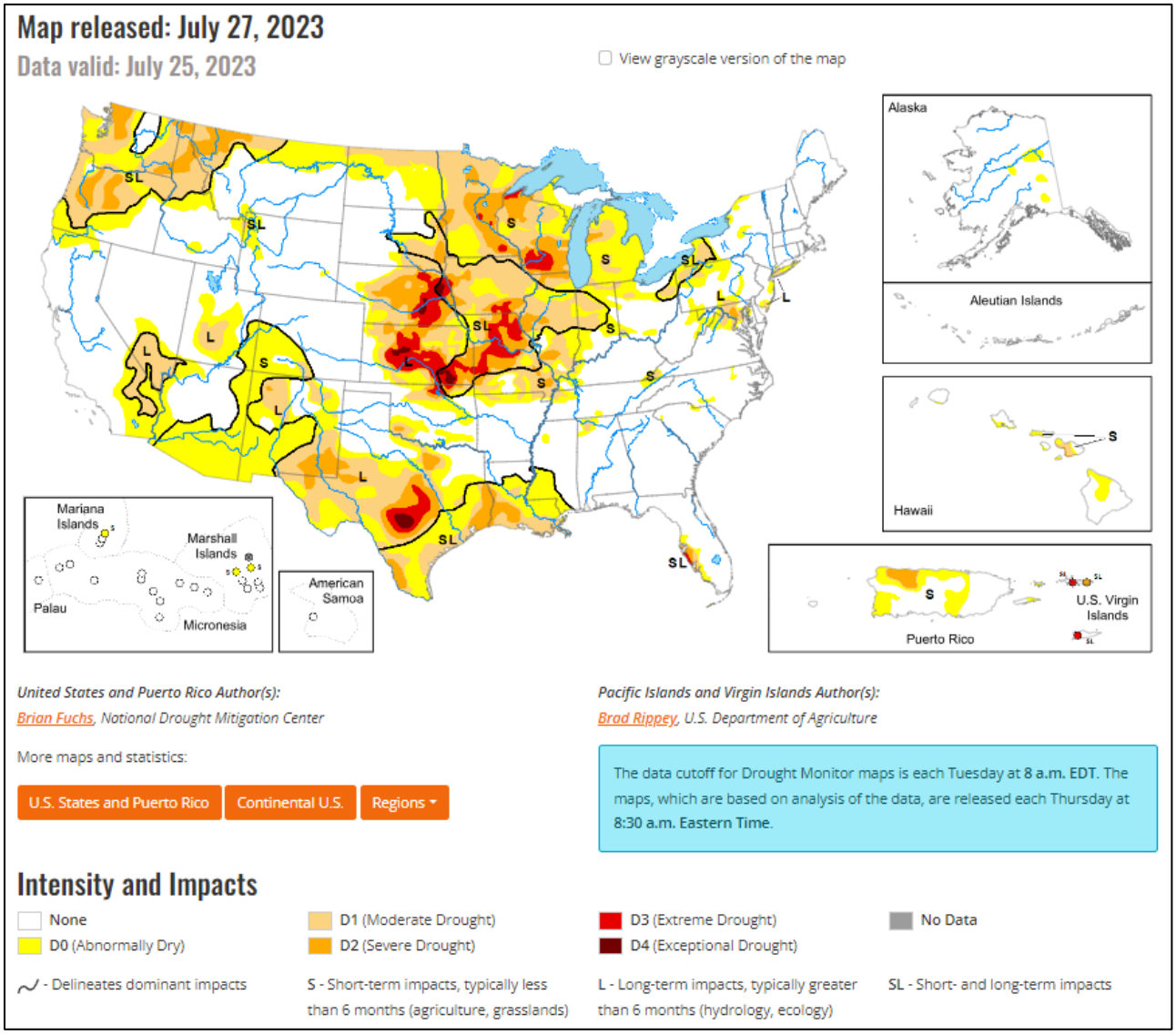
Drought

U.S. Drought Monitor

Source: National Drought Mitigation Center

U.S. Drought Portal

Source: NOAA



Current National Drought Summary, July 25, 2023

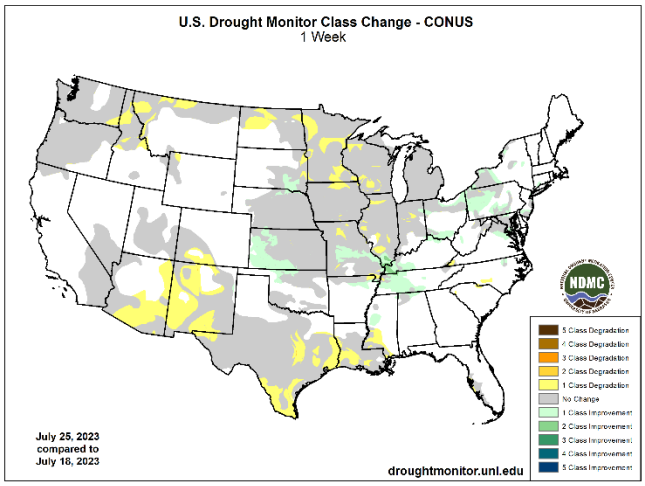
Source: National Drought Mitigation Center

“Areas of the High Plains, Central Plains, Midwest and South had the most active precipitation patterns over the last week. Record-setting rains were recorded over western Kentucky and the area had significant flooding. The monsoon season in the Southwest has remained quiet with record-setting heat dominating the region into the southern Plains. Temperatures were cooler than normal over most of the central Plains, Midwest and Mid-Atlantic with departures of 2-4 degrees below normal widespread. Temperatures in the West, Southwest, South and Southeast were warner than normal, with some departures in Arizona 8-10 degrees above normal for the week and most other areas at least 2-4 degrees above normal.”

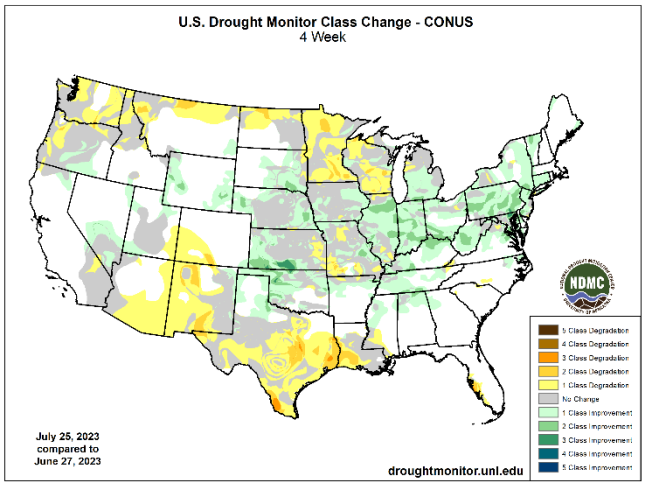
Changes in Drought Monitor Categories over Time

Source: National Drought Mitigation Center

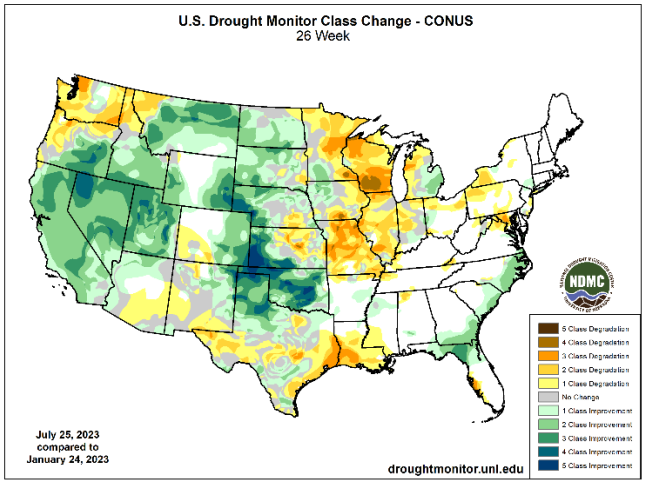
1 Week



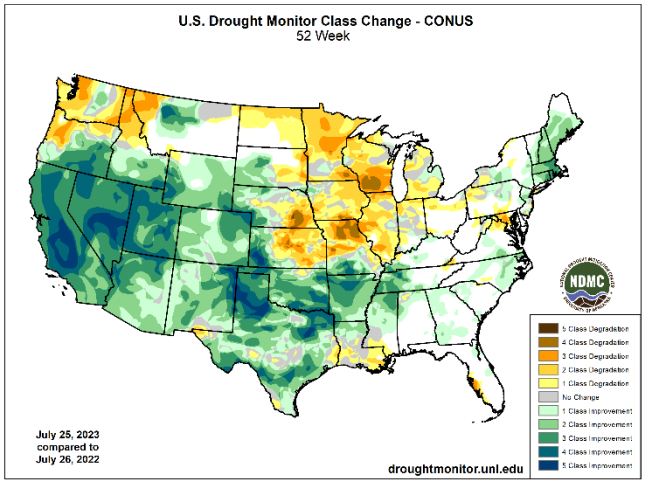
1 Month



6 Months



1 Year



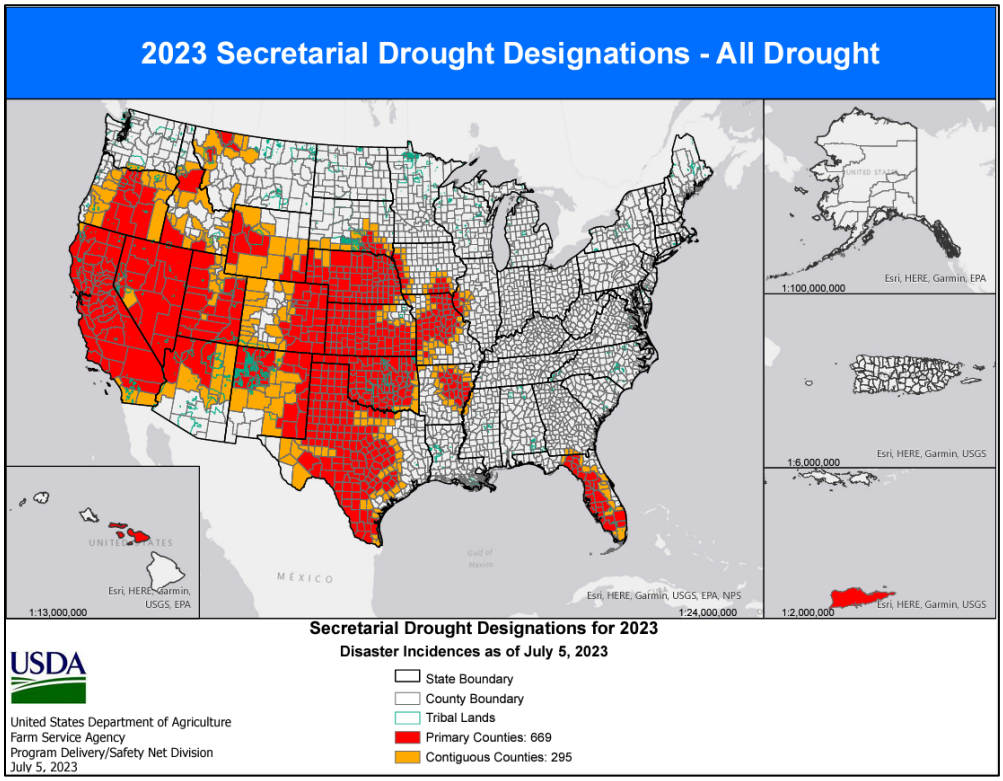
Changes in drought conditions over the last 12 months for the contiguous U.S.

Highlighted Drought Resources

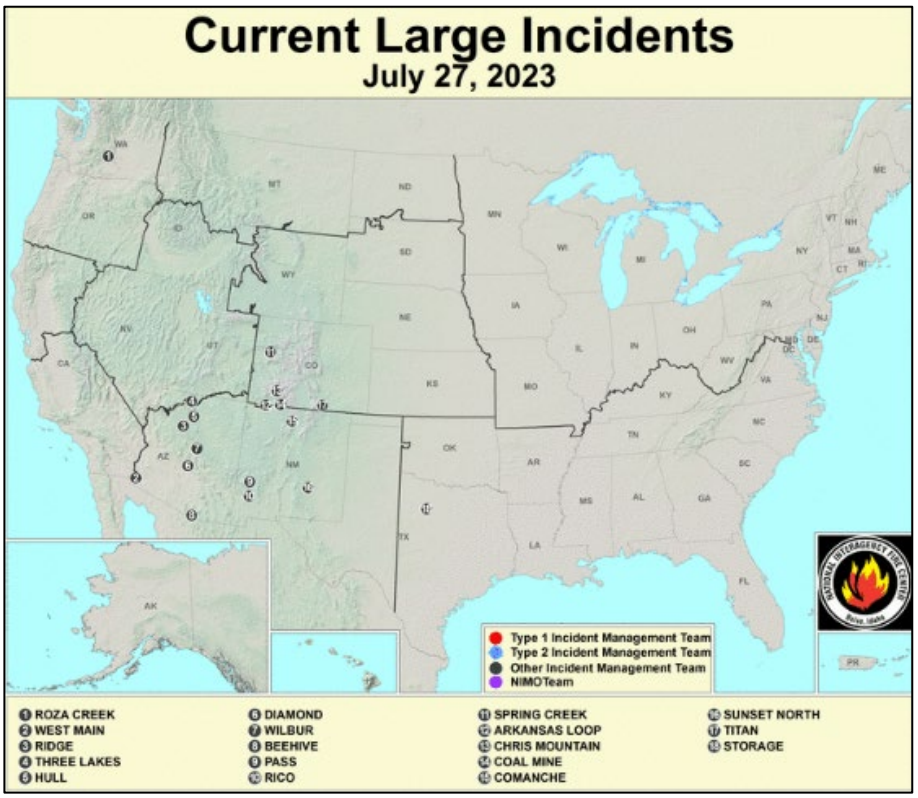
- Drought Impact Reporter
- Quarterly Regional Climate Impacts and Outlook
- U.S. Drought Portal Indicators and Monitoring
- U.S. Population in Drought, Weekly Comparison
- USDA Disaster and Drought Information

USDA Secretarial Drought Designations

Source: USDA Farm Service Agency



Wildfires: USDA Forest Service Active Fire Mapping



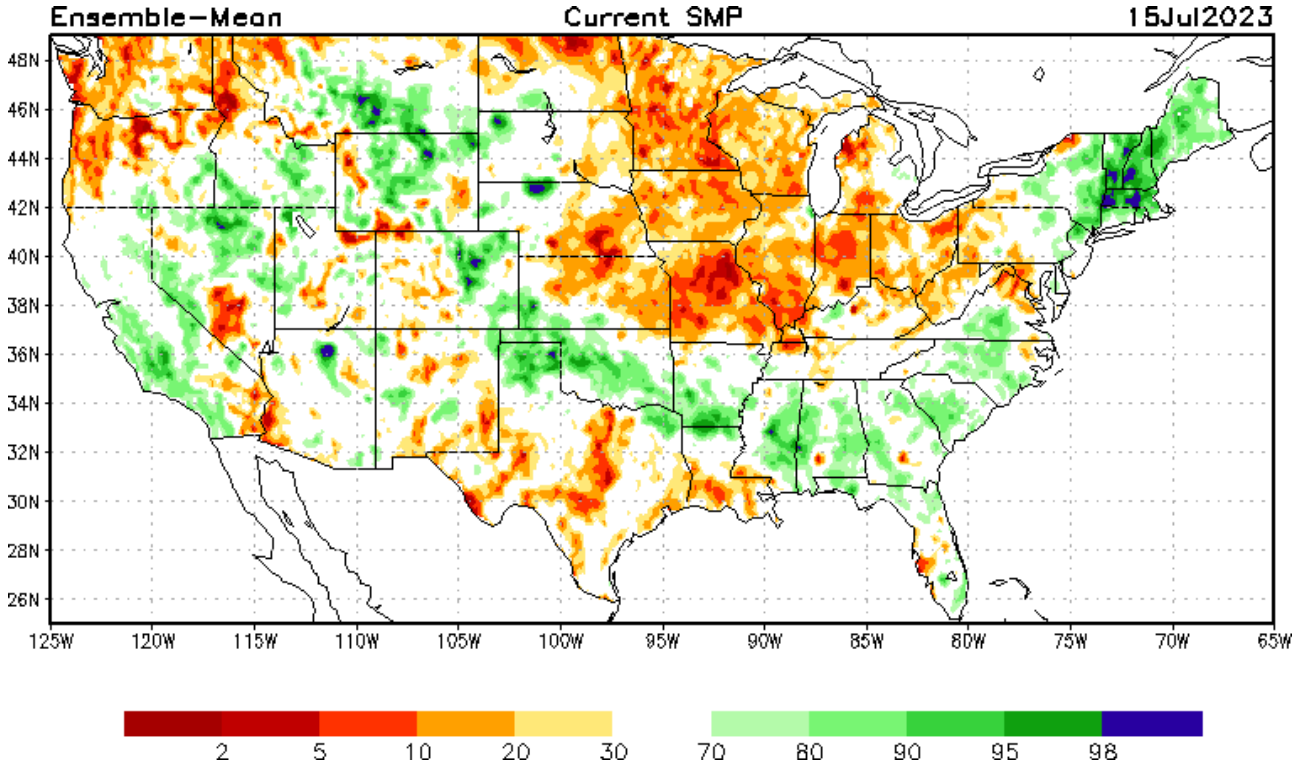
Highlighted Wildfire Resources

- National Interagency Fire Center
- InciWeb Incident Information System
- Significant Wildland Fire Potential Outlook

Other Climatic and Water Supply Indicators

Soil Moisture

Source: NOAA National Centers for Environmental Prediction

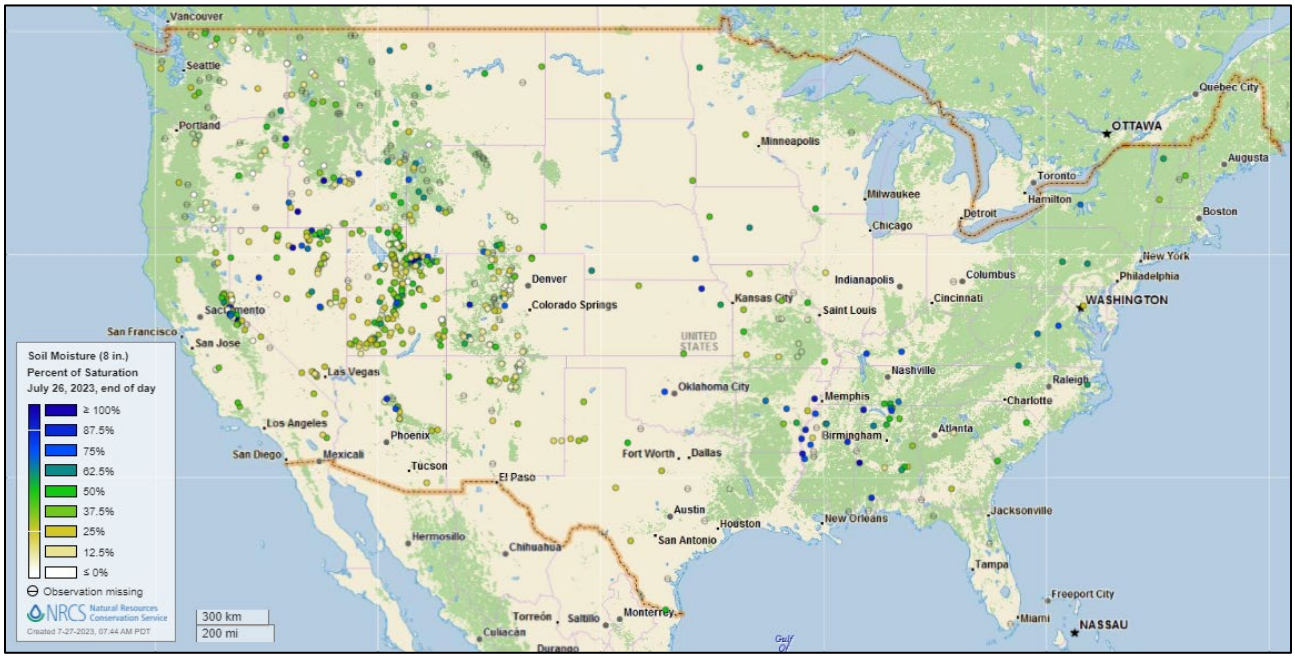


Modeled soil moisture percentiles as of July 15, 2023

Soil Moisture Percent of Saturation

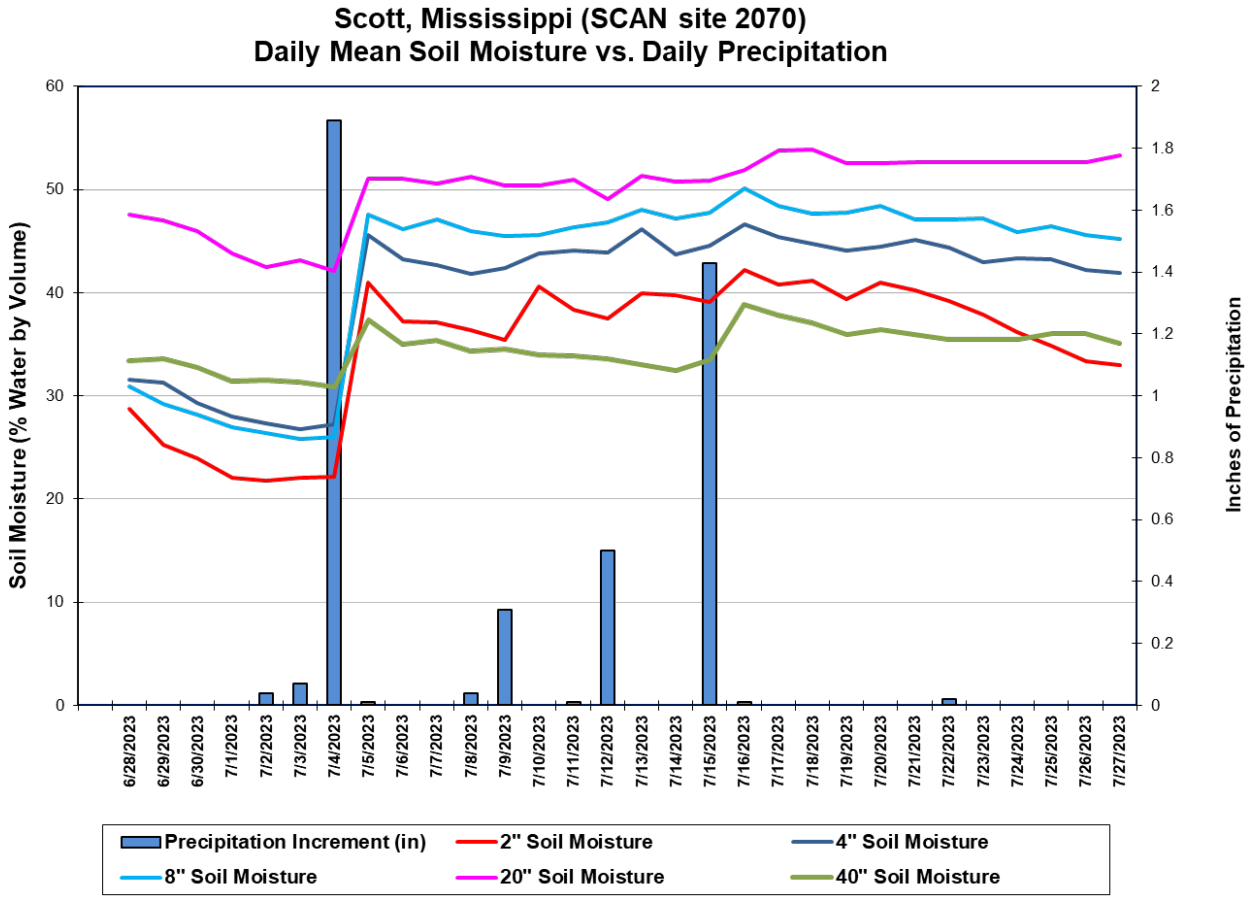
Source: NRCS SNOTEL and Soil Climate Analysis Network (SCAN)

U.S. soil moisture map at 8-inch depth:



Soil Moisture

Source: NRCS Soil Climate Analysis Network (SCAN)



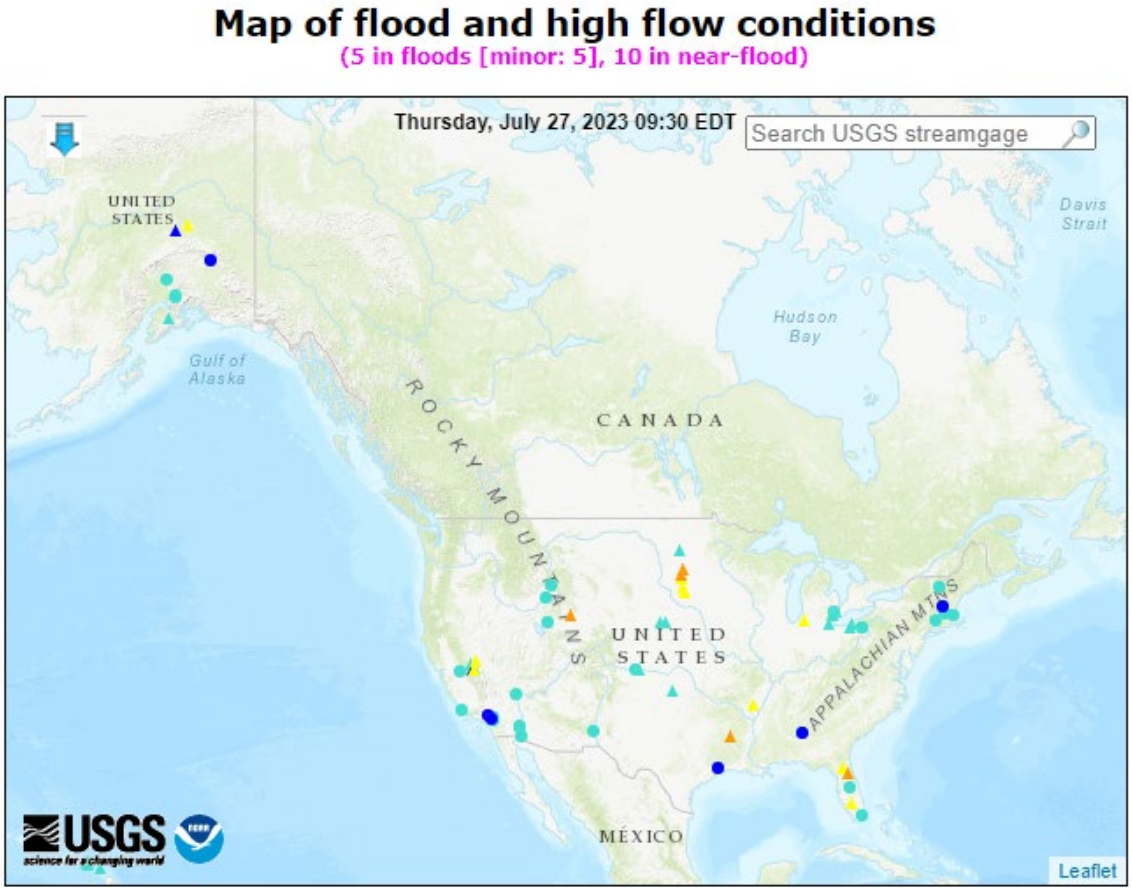
This chart shows the precipitation and soil moisture for the last 30 days at the Scott SCAN site in Mississippi. After the site received 1.89 inches of precipitation on July 4, soil moisture levels increased at all sensor depths. Total precipitation for the 30-day period was 4.33 inches.

Soil Moisture Data Portals

- USCRN Soil Moisture
- National Soil Moisture Network
- NOAA Climate Prediction Center Soil Moisture
- NASA Grace

Streamflow, Drought, Flood, and Runoff

Source: U.S. Geological Survey [WaterWatch Streamflow Map]



Explanation - Percentile classes						
<95	95-98	>= 99	Above action stage	Above flood stage	Above moderate flood stage	Above major flood stage
△ Streamgage with flood stage ○ Streamgage without flood stage						

[WaterWatch: Streamflow, drought, flood, and runoff conditions]

Reservoir Storage

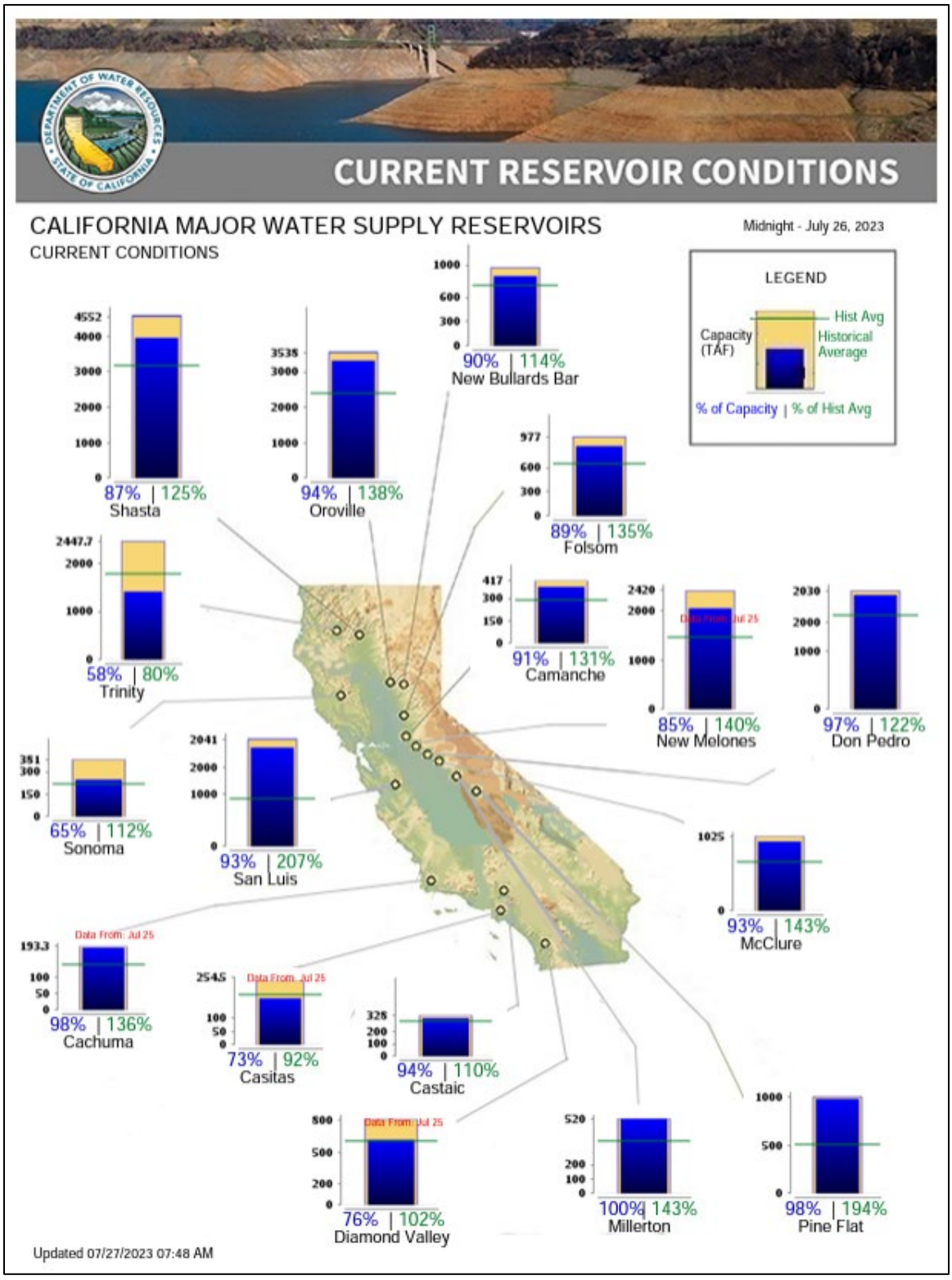
Hydromet Teacup Reservoir Depictions

Source: U.S. Bureau of Reclamation

- [Upper Colorado]
- [Pacific Northwest/Snake/Columbia]
- [Sevier River Water, Utah]
- [Upper Missouri, Kansas, Oklahoma, Texas]

Current California Reservoir Conditions

Source: California Department of Water Resources



Current California Reservoir Conditions

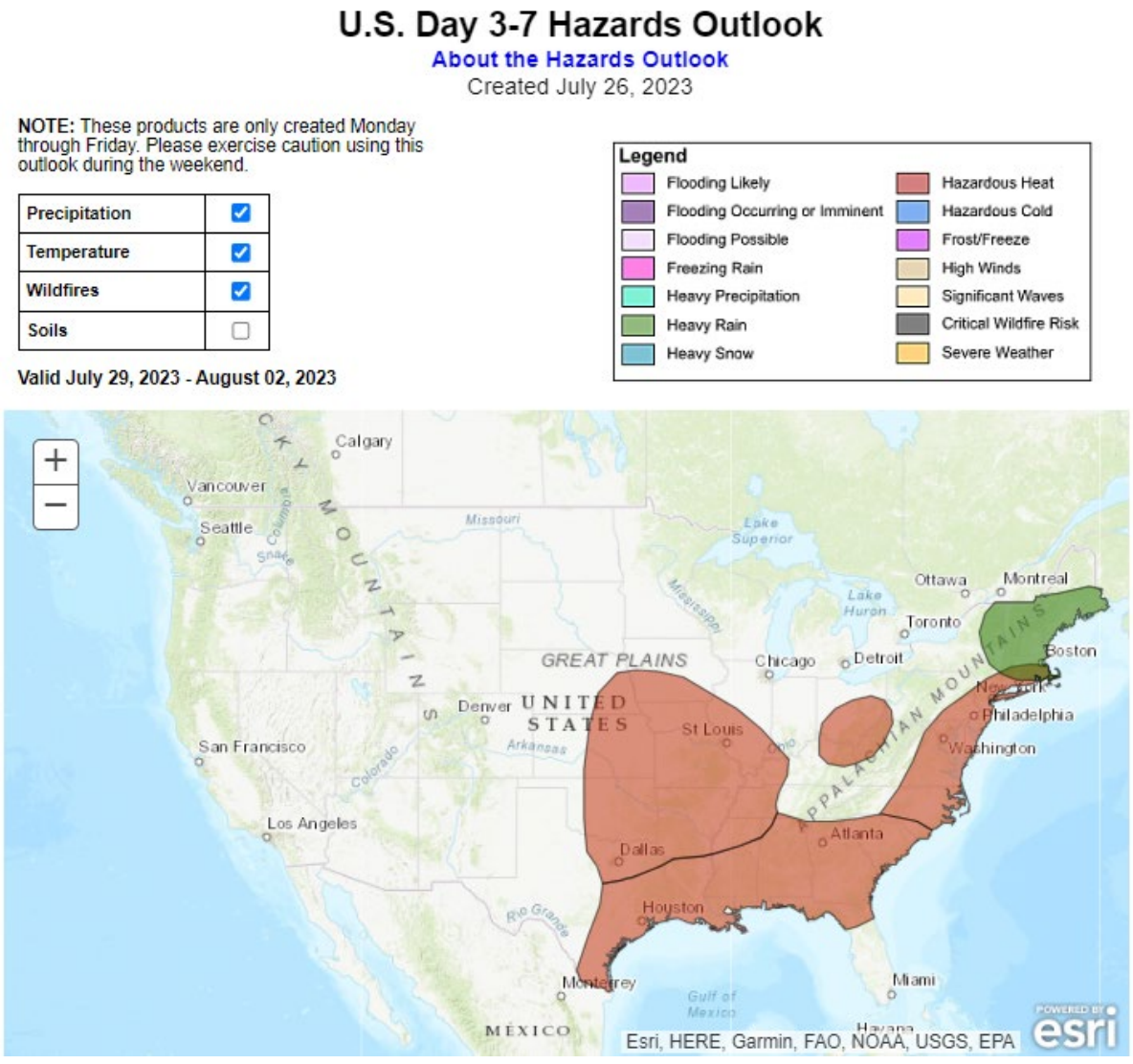
Agricultural Weather Highlights

Author: Brad Rippey, Agricultural Meteorologist, USDA/OCE/WAOB

National Outlook, Thursday July 27, 2023: "Midwestern heat will peak today or Friday, with maximum temperatures topping 100°F as far north as South Dakota and as far east as the middle Mississippi Valley. Eastern temperatures will approach or reach 100°F as far north as the mid-Atlantic. During the weekend, cooler air will overspread the Midwest, excluding the southern tier of the Corn Belt. Hot, humid conditions will linger, however, across the South. By early next week, heat will re-intensify across the central Plains and southwestern Corn Belt, with 100-degree temperatures extending into Kansas and Missouri. Heat will also prevail in much of the West. During the hot spell, significant rainfall will be limited to a few areas. Over the next 5 days, completely dry weather should cover much of the Far West and an area stretching from the southern Plains to the Mississippi Delta. In contrast, locally heavy showers will dot Florida's peninsula, while "ring of fire" thunderstorms will occur around the northern periphery of a ridge of high pressure, extending from the northern Plains into the Northeast. Elsewhere, thundershowers associated with the Southwestern monsoon circulation will pepper the Four Corners States. The NWS 6- to 10-day outlook for August 1 – 5 calls for the likelihood of near- or above-normal temperatures and rainfall across most of the country. Cooler-than-normal conditions will be confined to the Northeast and parts of central California, while drier-than-normal weather should be limited to western Washington, the central Gulf Coast region, and portions of the Great Lakes States."

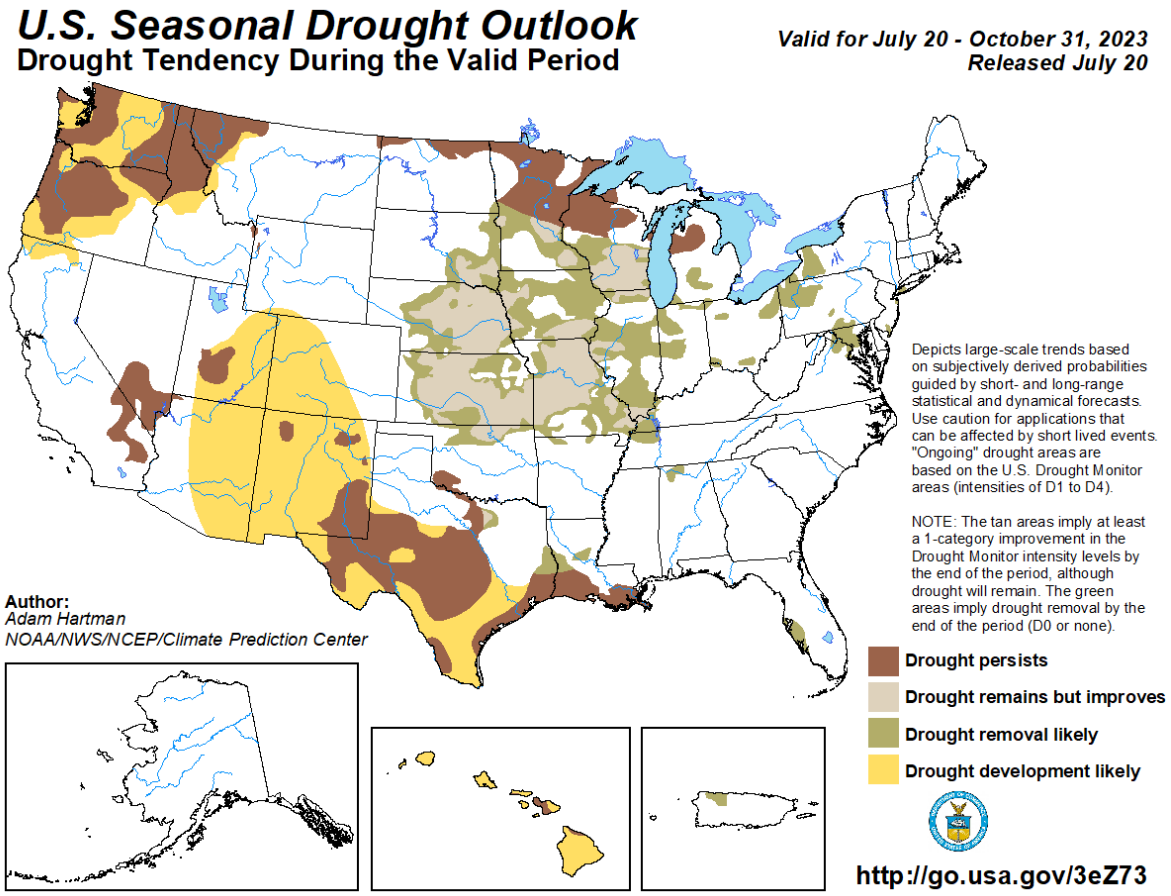
Weather Hazards Outlook: July 29 – August 02, 2023

Source: NOAA Weather Prediction Center



Seasonal Drought Outlook: July 20 – October 31, 2023

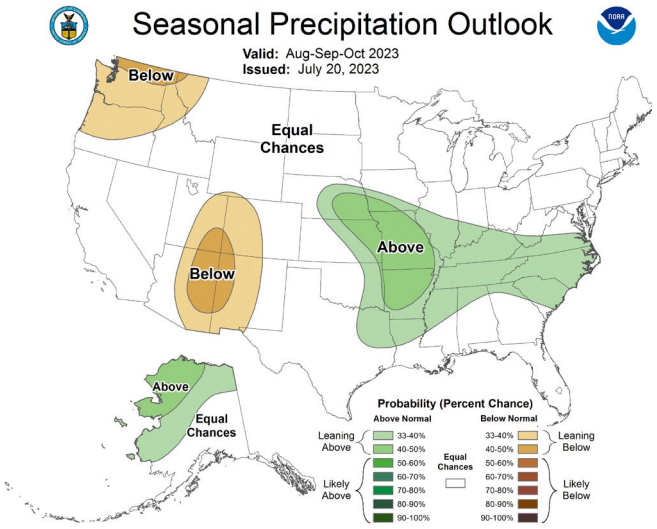
Source: National Weather Service



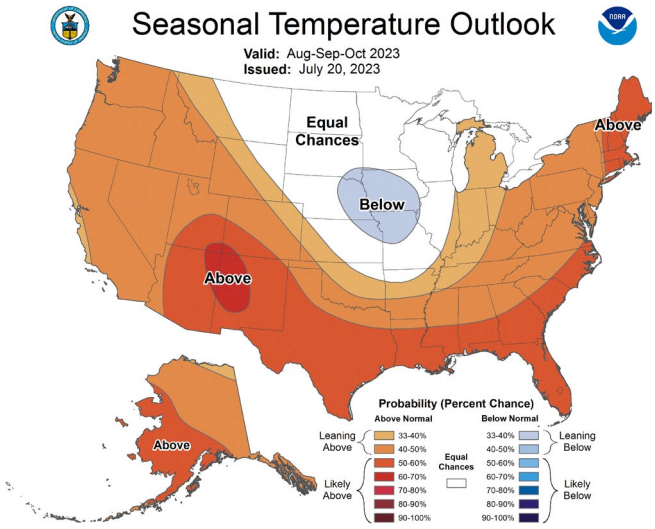
Climate Prediction Center Three-month Outlook

Source: National Weather Service

Precipitation



Temperature



August-September-October 2023 precipitation and temperature outlook summaries

More Information

The NRCS National Water and Climate Center publishes this weekly report. We welcome your feedback. If you have questions or comments, please contact us.