United States Department of Agriculture

Water and Climate Update

June 1, 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.

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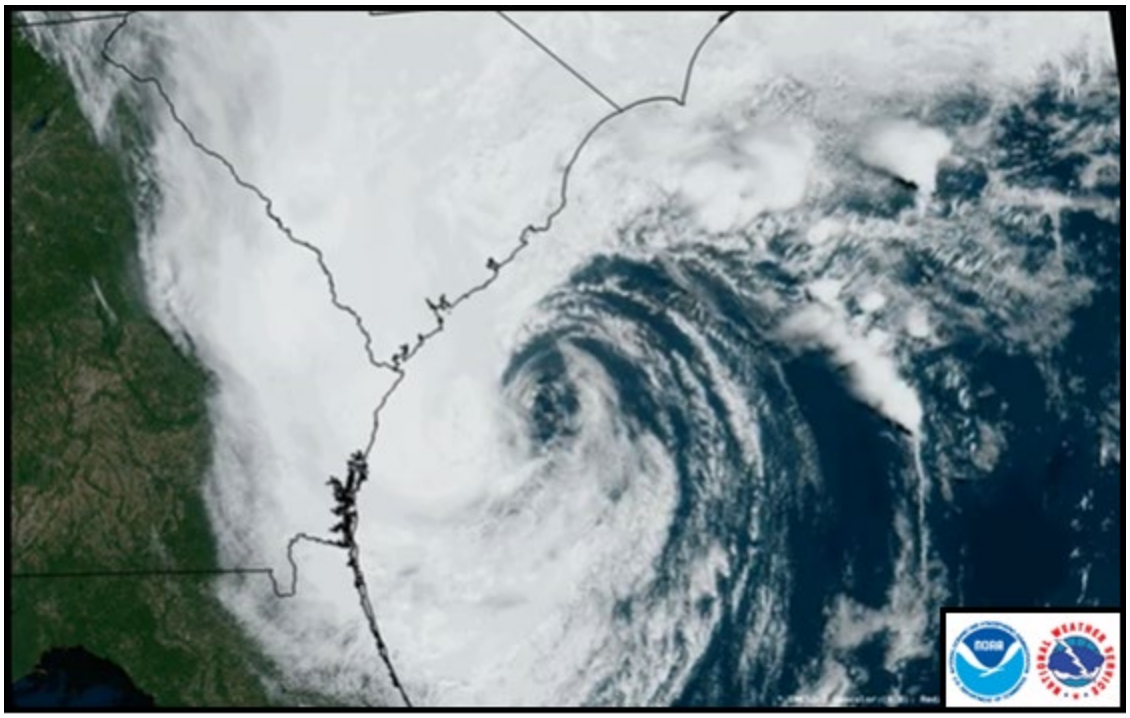
Storm hits South Carolina coast over Memorial Day weekend

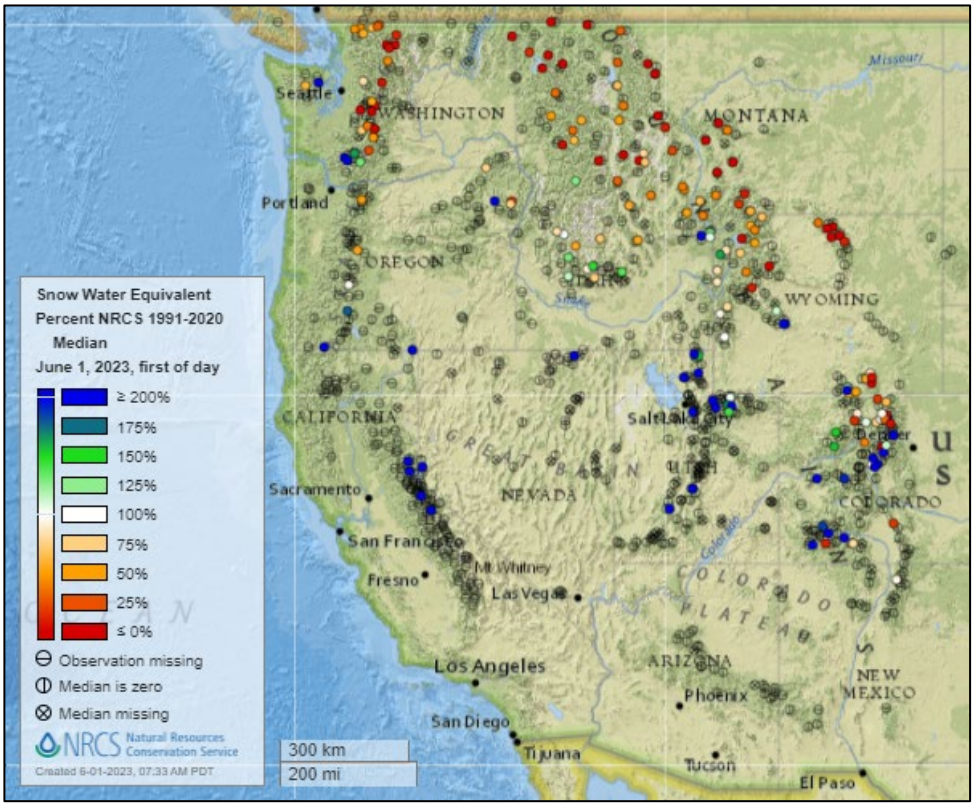


Memorial Day weekend brought stormy weather and rough seas to the South Carolina coast. Rainfall totals of over three inches, and wind gusts up to 42 mph, were observed over the holiday weekend. In addition to the wet and windy weekend, a passenger cruise ship sailed through rough waters, frightening passengers until it successfully docked. The storm also produced dangerous rip currents that required over a dozen unique lifeguard rescue operations. This storm was a spring coastal storm, occurring just before the official beginning of Atlantic hurricane season on June 1.

Related:

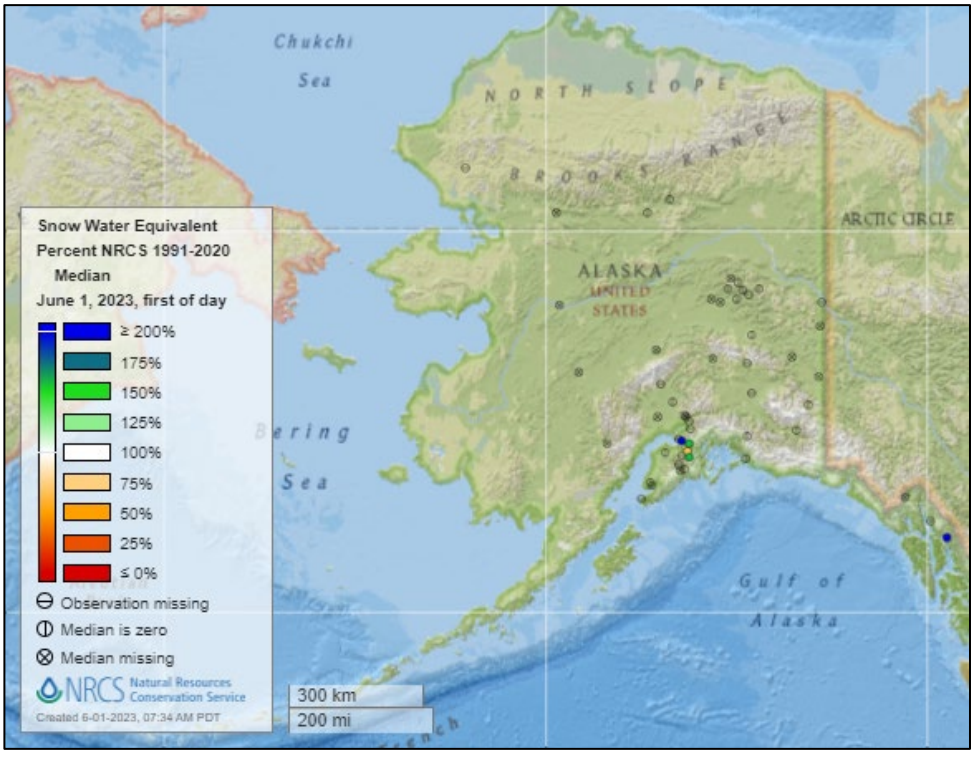
Carnival Sunshine was battered by rough weather. 'It was terrifying,' passenger says – CNN
Rough Memorial weekend weather includes 1 death, 18 rip current rescues – WRAL (NC)
Memorial Day Weekend Coastal Storm - May 26-27, 2023 - National Weather Service, Charleston, SC
Cooper, Emergency management warns about coastal flooding, bad weather over Memorial Day weekend – WNCT (SC)

Snow



[Snow water equivalent percent of median map]

See also:
[Snow water equivalent values (inches) map]

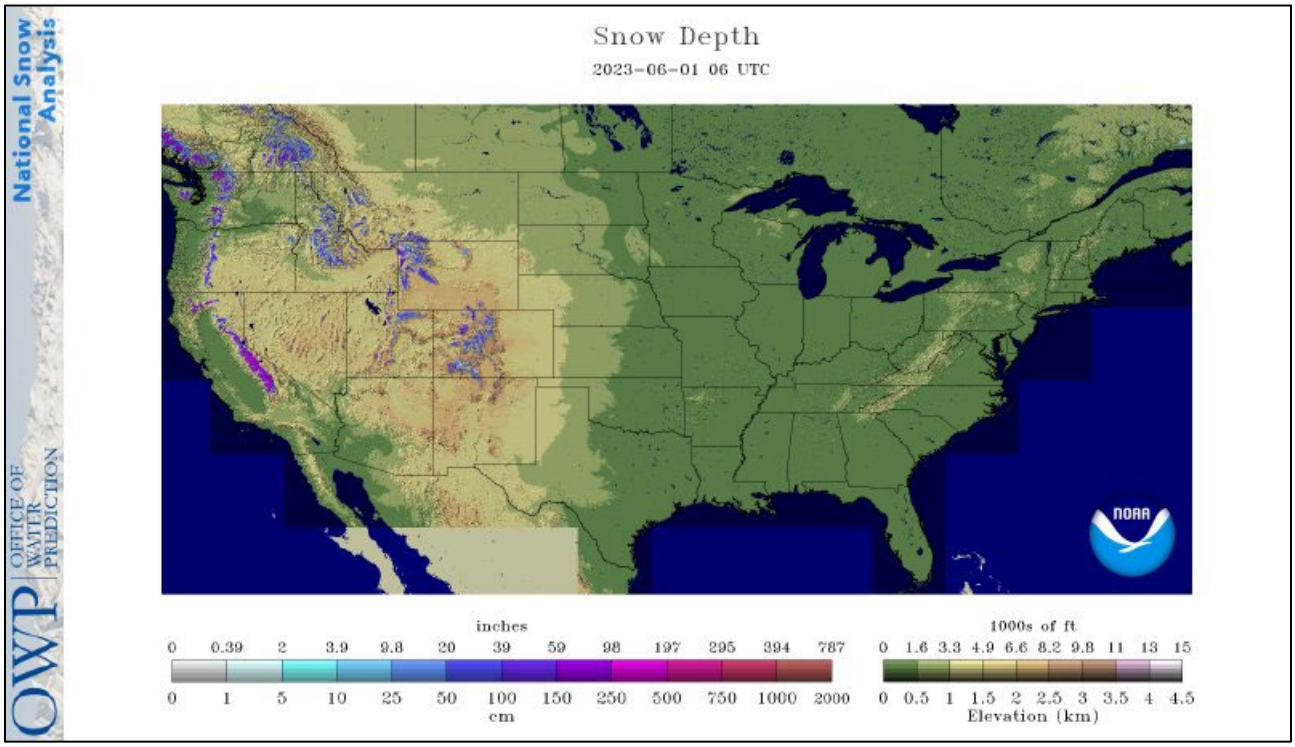


[Alaska snow water equivalent percent of median map]

See also:
[Alaska snow water equivalent values (inches) map]

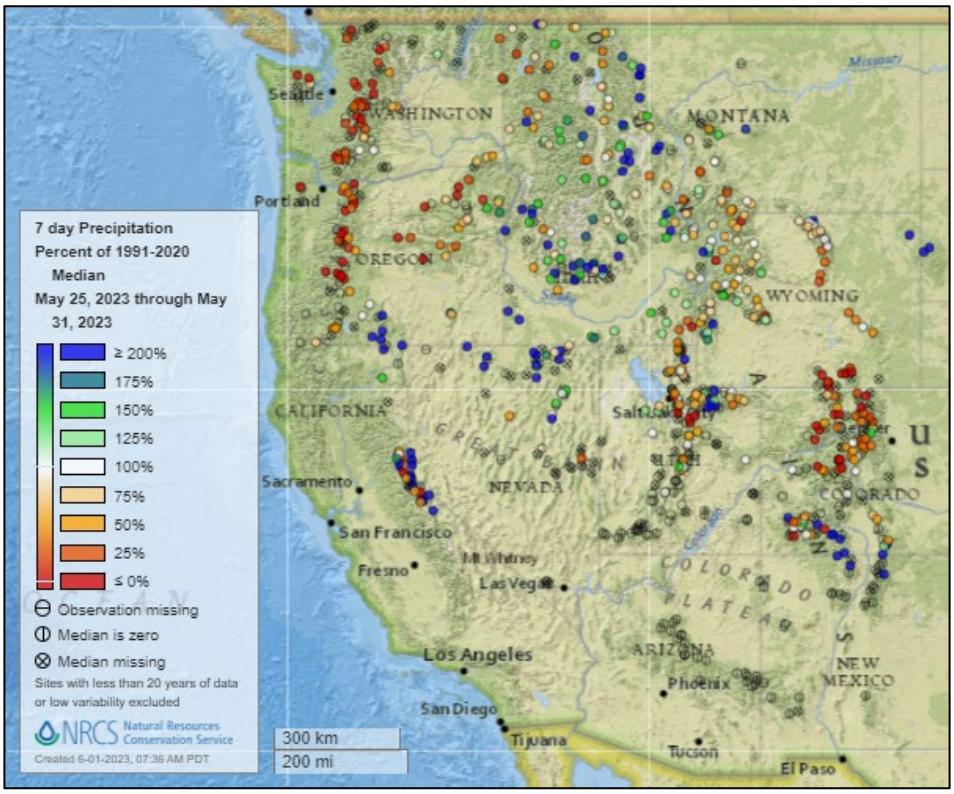
Current Snow Depth, National Weather Service Snow Analysis

Source: NOAA NWS National Operational Hydrologic Remote Sensing Center



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]

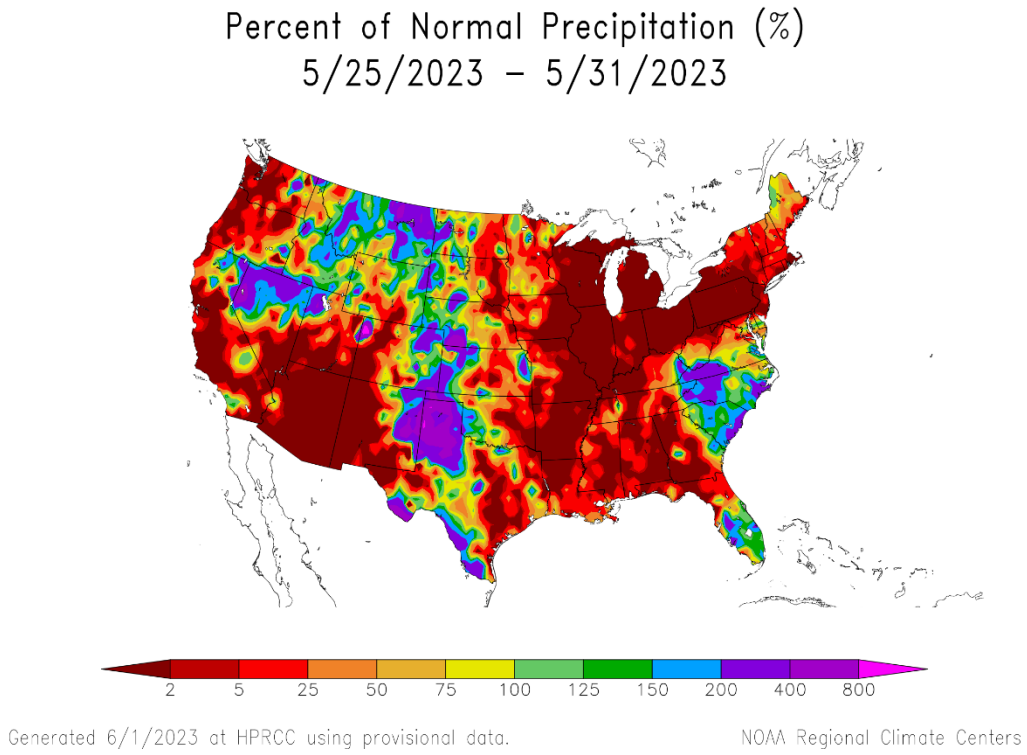
See also:
[Alaska 7-day total precipitation values (inches) map]

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]

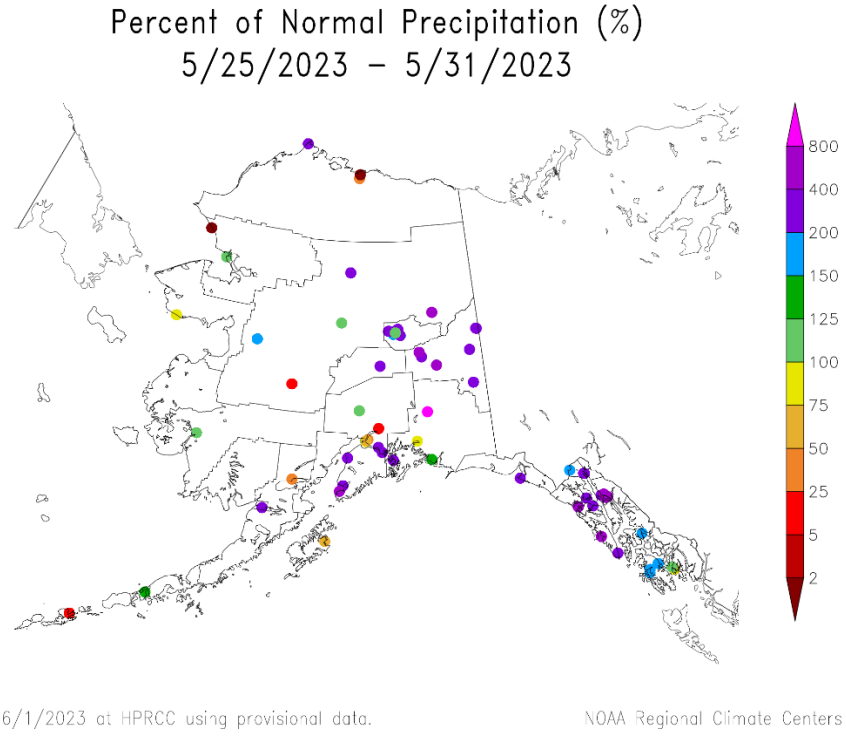


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

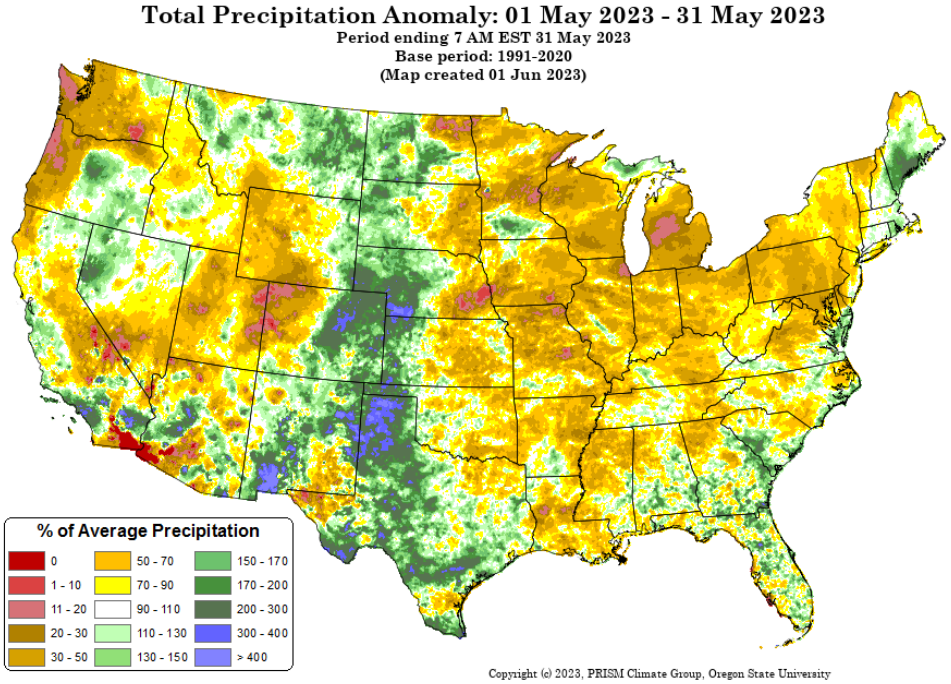
[7-day precipitation percent of normal map] for Alaska.

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



Monthly, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

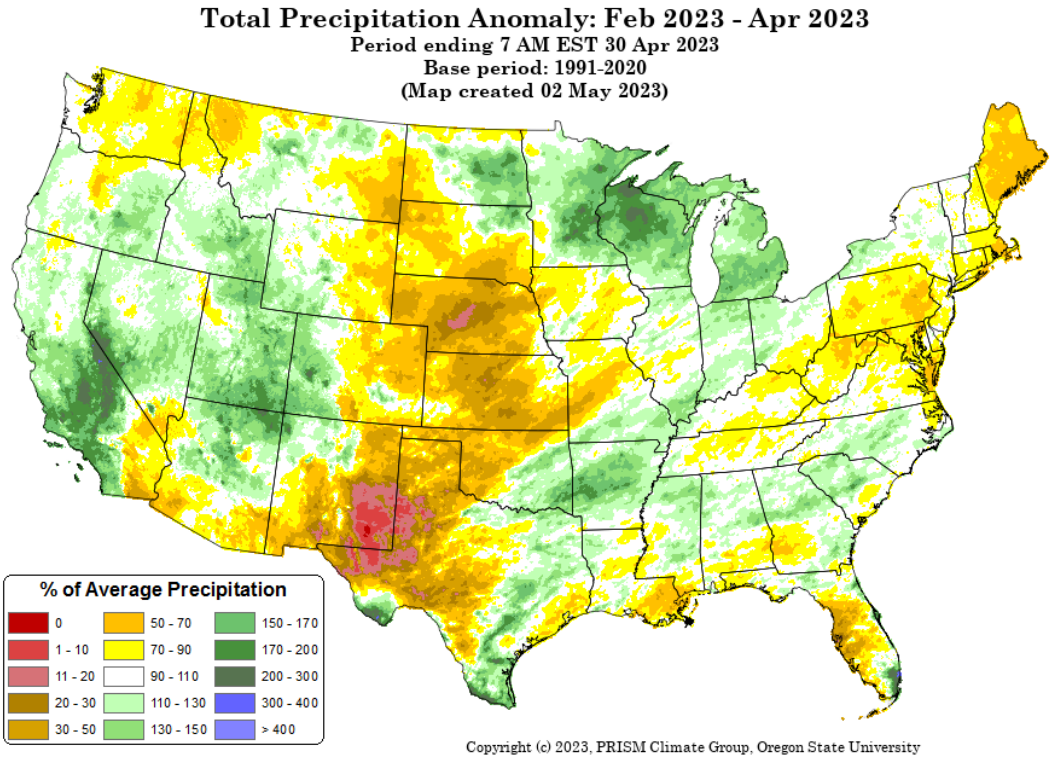


Monthly national total precipitation anomaly map

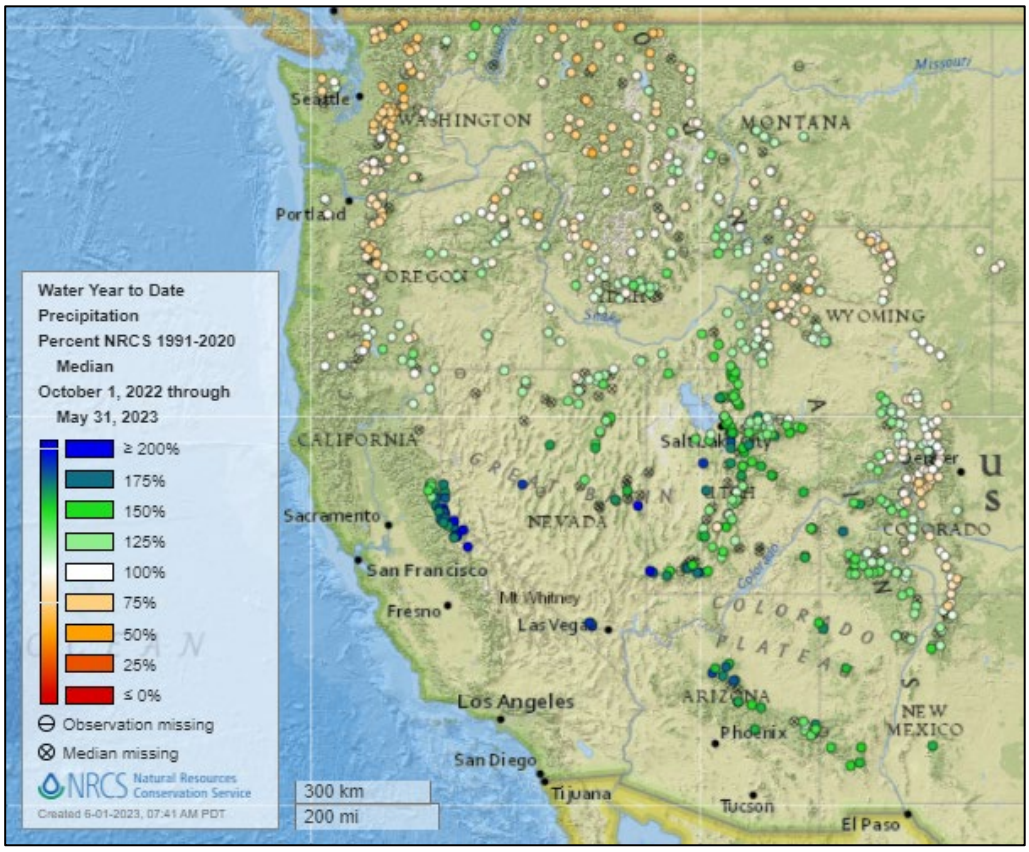
Last 3 Months, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

February through April 2023 precipitation anomaly map



Water Year-to-Date, NRCS SNOTEL Network

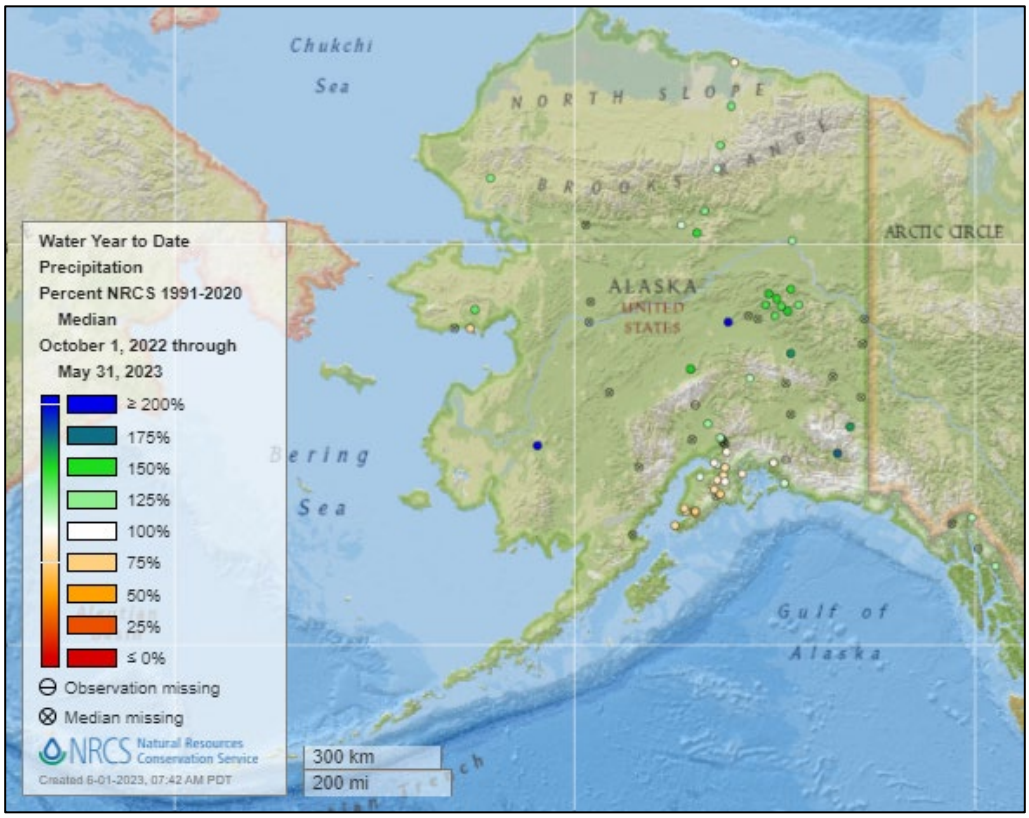


[2023 water year-to-date precipitation percent of median map]

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]

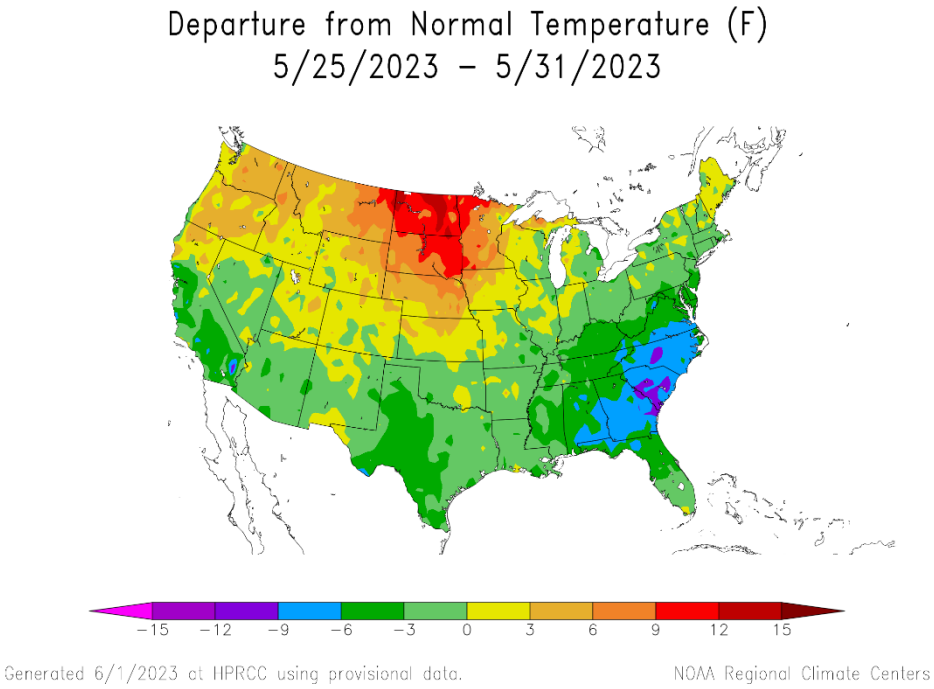
Temperature

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

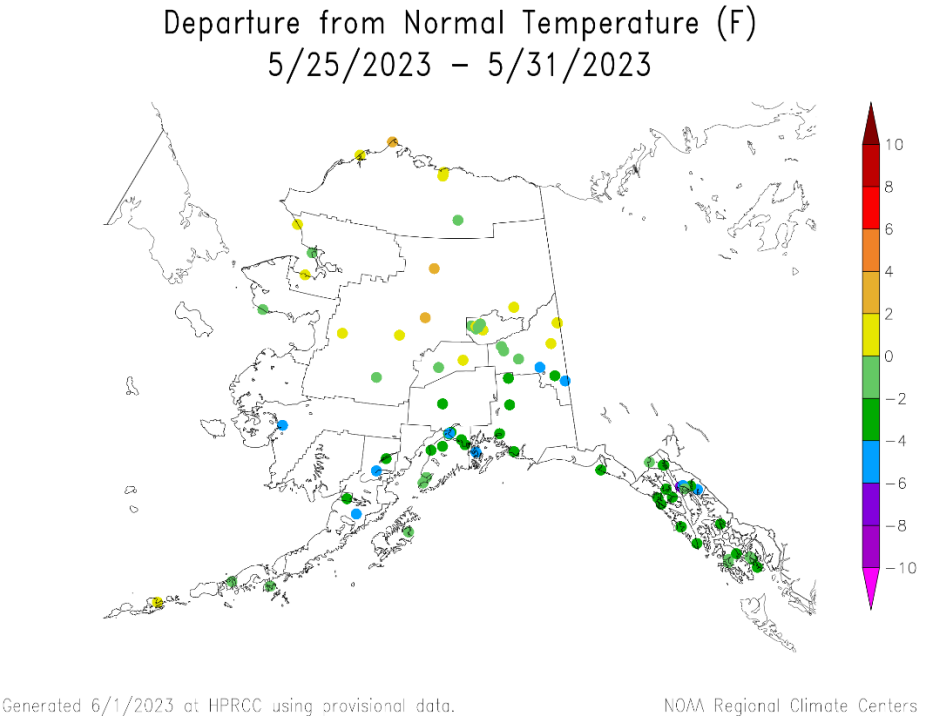


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

7-day temperature anomaly map for Alaska.

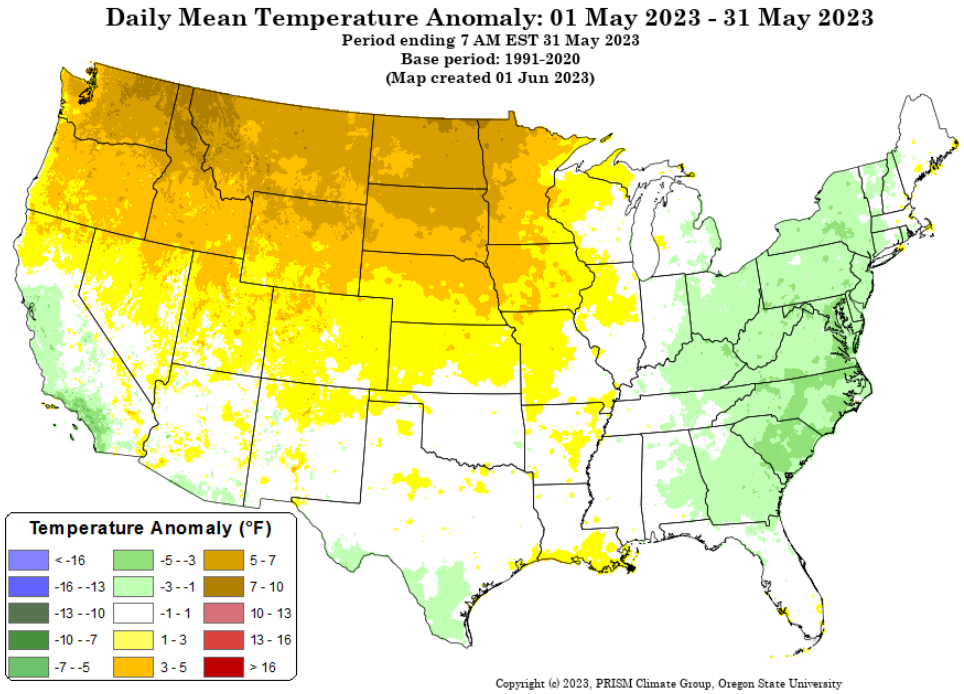
See also: 7-day temperature (° F) map



Monthly, All Available Data Including SNOTEL and NWS Networks

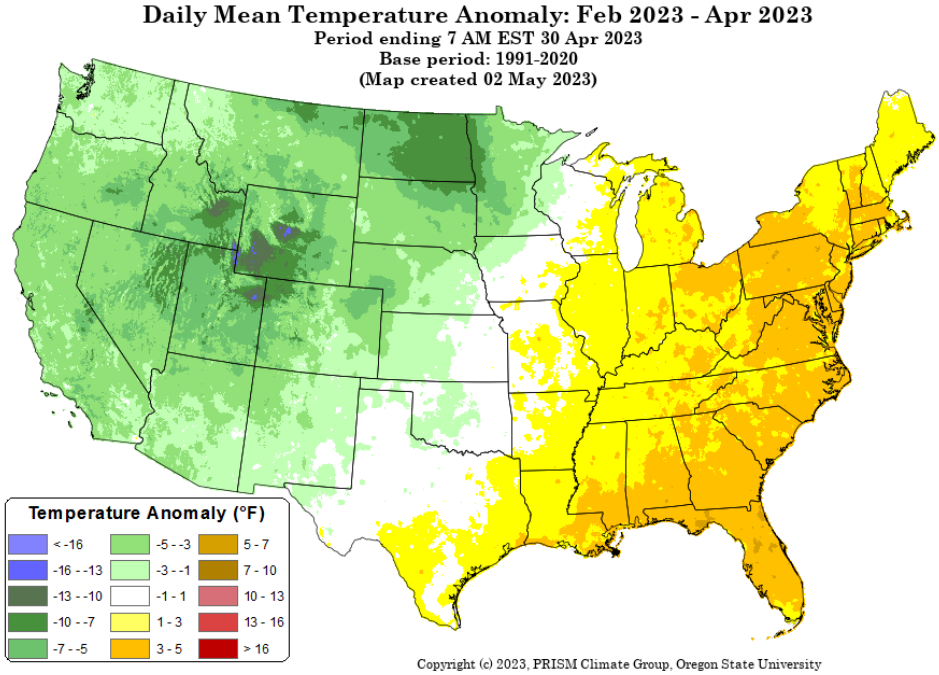
Source: PRISM

Monthly national daily mean temperature anomaly map



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

Source: PRISM

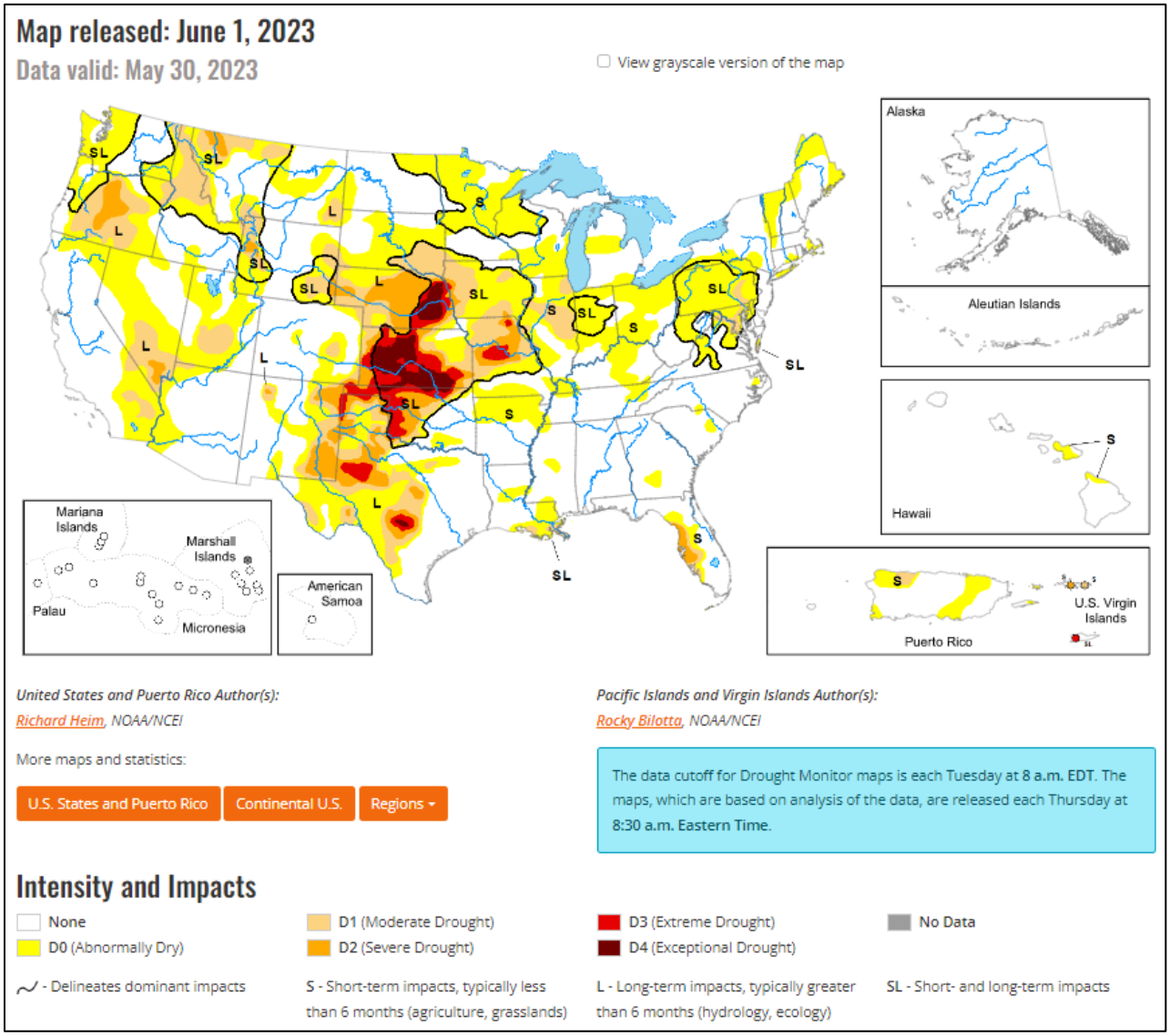


February through April 2023 daily mean temperature anomaly map

Drought

U.S. Drought Monitor
Source: National Drought Mitigation Center

U.S. Drought Portal
Source: NOAA



Current National Drought Summary, May 30, 2023

Source: National Drought Mitigation Center

“The upper-level circulation over the contiguous U.S. (CONUS) during this U.S. Drought Monitor (USDM) week (May 24-30) was dominated by three features: a trough over the West, a ridge that extended from the southern Plains to the Great Lakes, and a cutoff low over the Southeast. This pattern resulted in targeted areas of precipitation, some of it heavy, while large parts of the CONUS received little to no precipitation. Pacific weather systems moved across the West, but their fronts stalled out when they ran into the ridge over the Plains. The northwesterly flow associated with the trough inhibited precipitation across parts of the West, so the week was wetter than normal only from the Great Basin to northern Rockies. A southerly flow over the Plains was created between the western trough and eastern ridge. This flow funneled Gulf of Mexico moisture across the Plains. The moisture fed thunderstorms and weather complexes that developed along the stalled-out fronts and dry lines, resulting in above-normal precipitation across western portions of the Great Plains from Texas to Montana. Several inches of rain fell with some of these thunderstorms, resulting in localized flooding. The ridge inhibited precipitation, so a large part of the country from the Mississippi River to the Northeast received little to no precipitation. The exception to this was the Southeast, where the cutoff low pulled in Gulf and Atlantic moisture to spread above-normal precipitation across much of Florida and the Carolinas to Appalachians. Weekly temperatures averaged cooler than normal from the southern Plains to East Coast, but they were warmer than normal across the northern Plains and northern parts of the West. Abnormal dryness or drought spread across a large part of the Midwest and Northeast, and in parts of the Pacific Northwest, Puerto Rico, and Hawaii. Drought or abnormal dryness contracted across the Florida peninsula, across large areas in the western Great Plains, and in northwest Puerto Rico.”

National Drought Summary – Looking Ahead

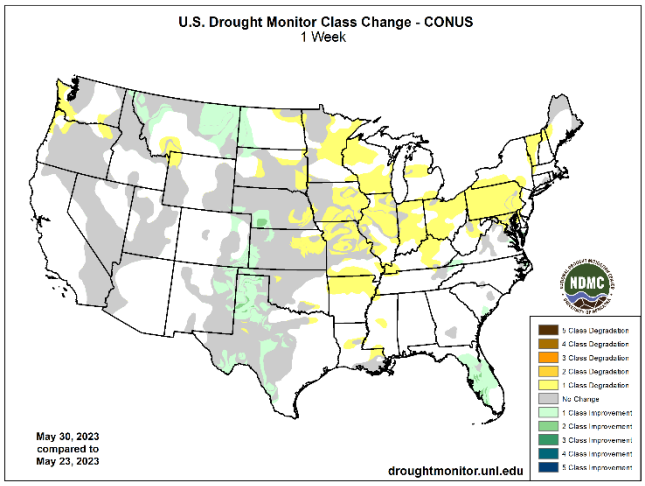
“For June 1-6, an upper-level ridge will dominate the middle part of North America, bringing above-normal temperatures to the north central states and Pacific Northwest. Upper-level troughs and closed lows will cover much of the West and New England, bringing cooler-than-normal temperatures to New England and southern parts of the West to the southern Plains. Like the last 7 days, a southerly flow of Gulf of Mexico moisture will feed showers and storms that develop from the Rockies to the Mississippi River during the next 7 days. An inch or more of rain is forecast from the southern Plains to northern Rockies, with locally 4 inches or more from the Texas panhandle to southern Kansas, and locally 2 inches or more in parts of Colorado to Montana. A fourth of an inch or more can be expected from California’s Sierra Nevada to the Great Basin, across the northern Plains to Mississippi Valley, in the Tennessee Valley, across the Gulf of Mexico coast, and along the Appalachians to Northeast. New England may see over an inch of rain, while much of the Florida peninsula will be inundated with another 2+ inches of rain. Little to no precipitation is predicted for the eastern Great Lakes to Ohio Valley, the interior Southeast, and southern and western portions of the West.

For June 6-14, a warmer-than-normal pattern is likely for the Pacific Northwest to western Great Lakes, the northern half of Alaska, and the Alaska panhandle, with cooler-than-normal temperatures across southern portions of the West, the southern Plains, and from the Appalachians to New England. Odds favor wetter-than-normal conditions across the West, southern Plains, western portions of the central to northern Plains, and the southwest half of Alaska, with drier-than-normal conditions across the Great Lakes, Upper Mississippi Valley, Ohio Valley, and northeast Alaska.”

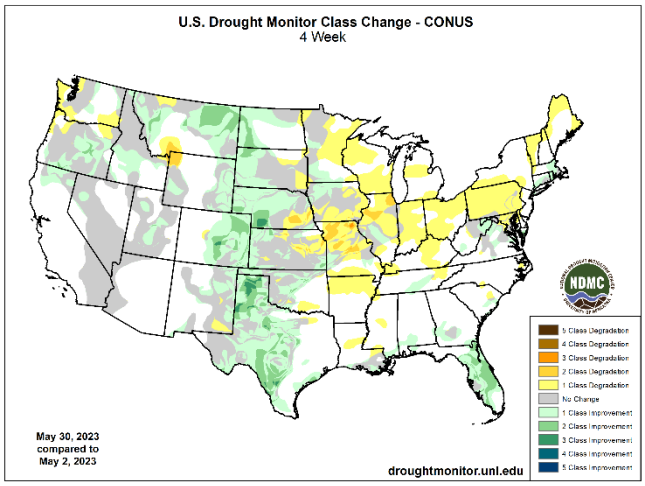
Changes in Drought Monitor Categories over Time

Source: National Drought Mitigation Center

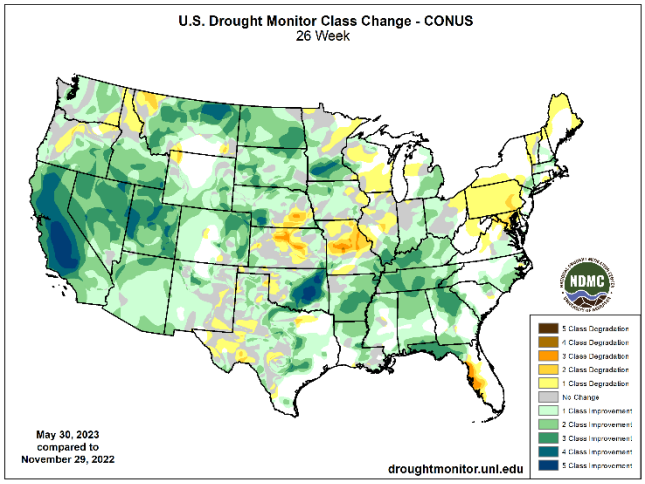
1 Week



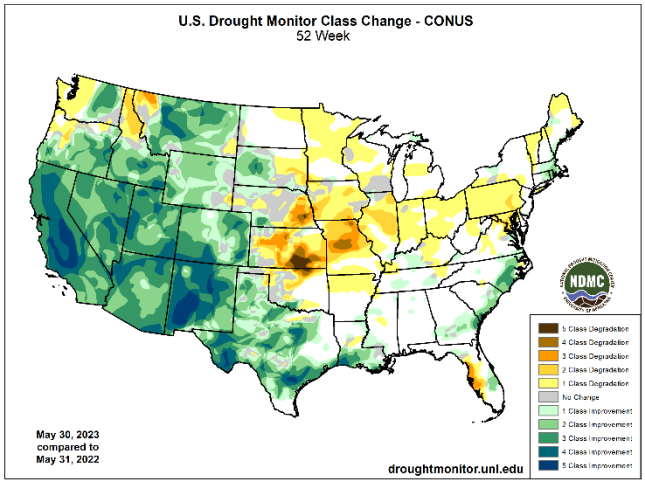
1 Month



6 Months



1 Year



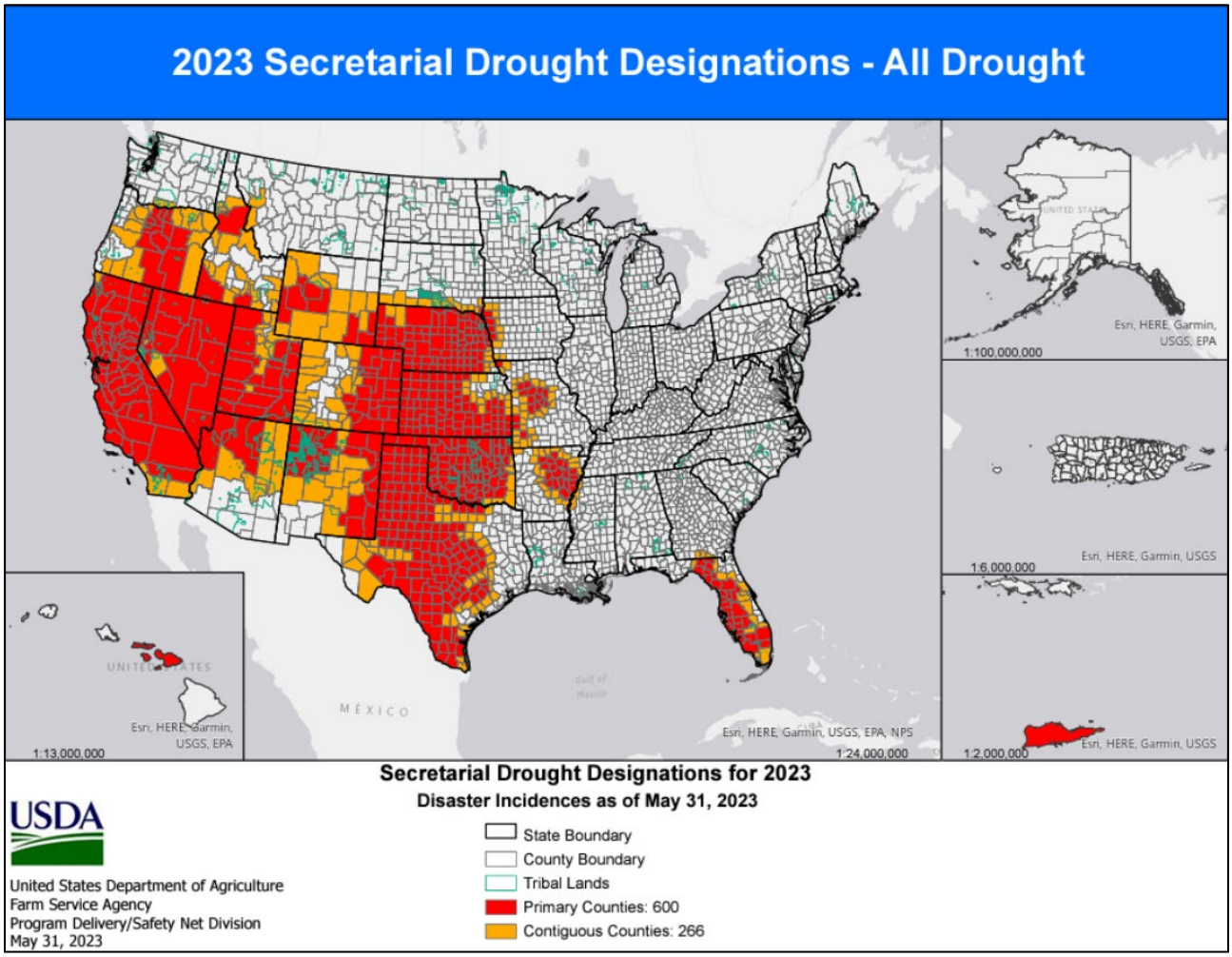
Changes in drought conditions over the last 12 months for the contiguous U.S.

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

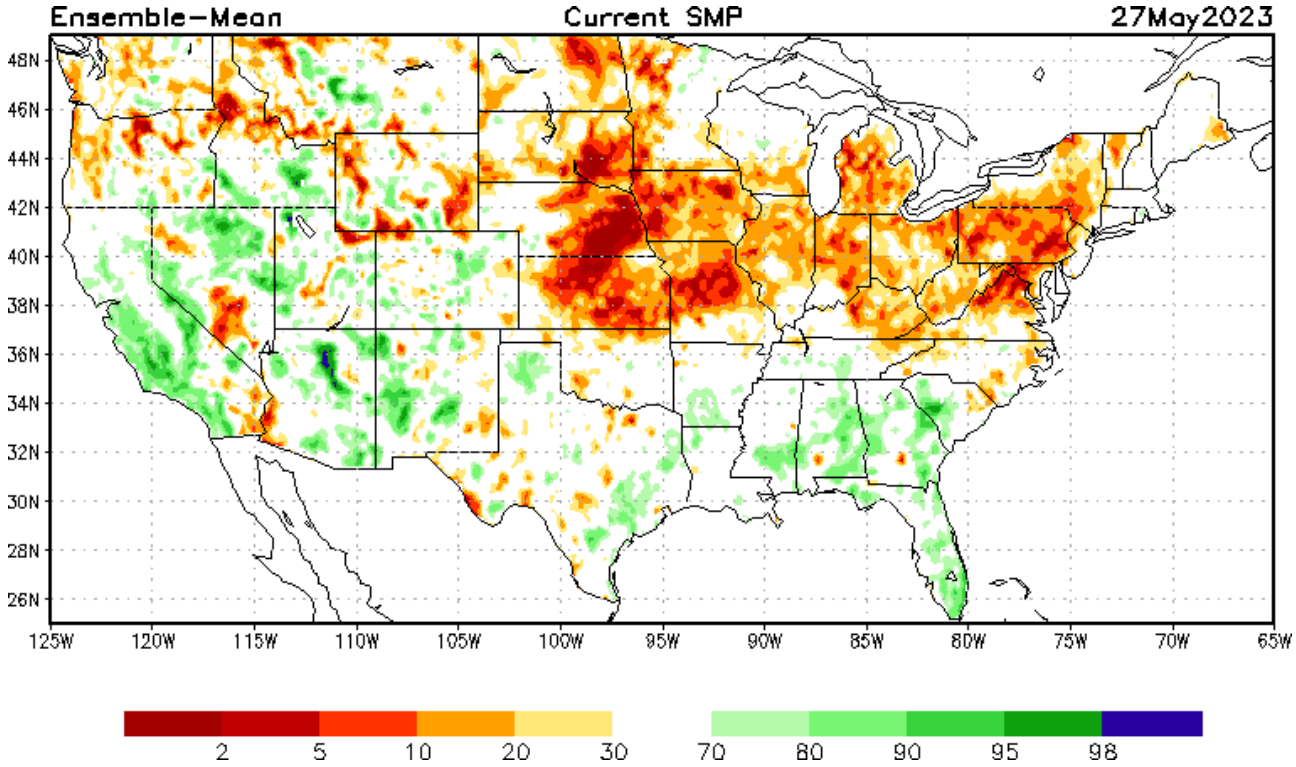
Source: USDA Farm Service Agency



Other Climatic and Water Supply Indicators

Soil Moisture

Source: NOAA National Centers for Environmental Prediction

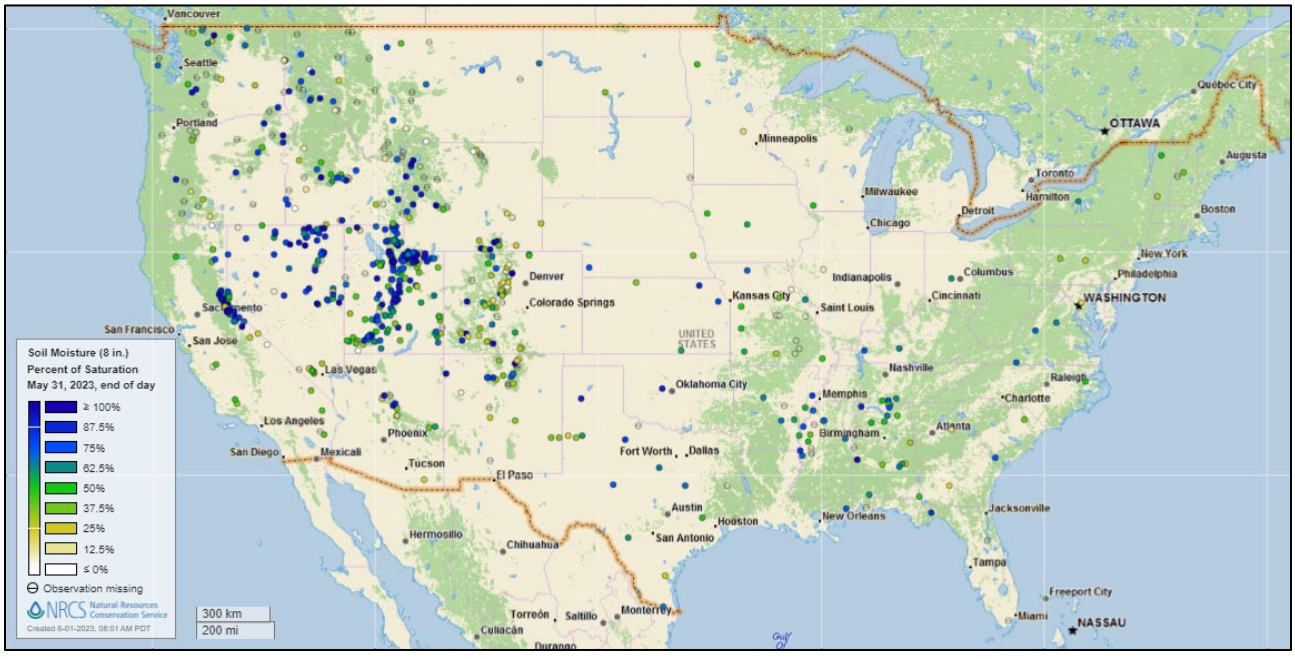


Modeled soil moisture percentiles as of May 27, 2023

Soil Moisture Percent of Saturation

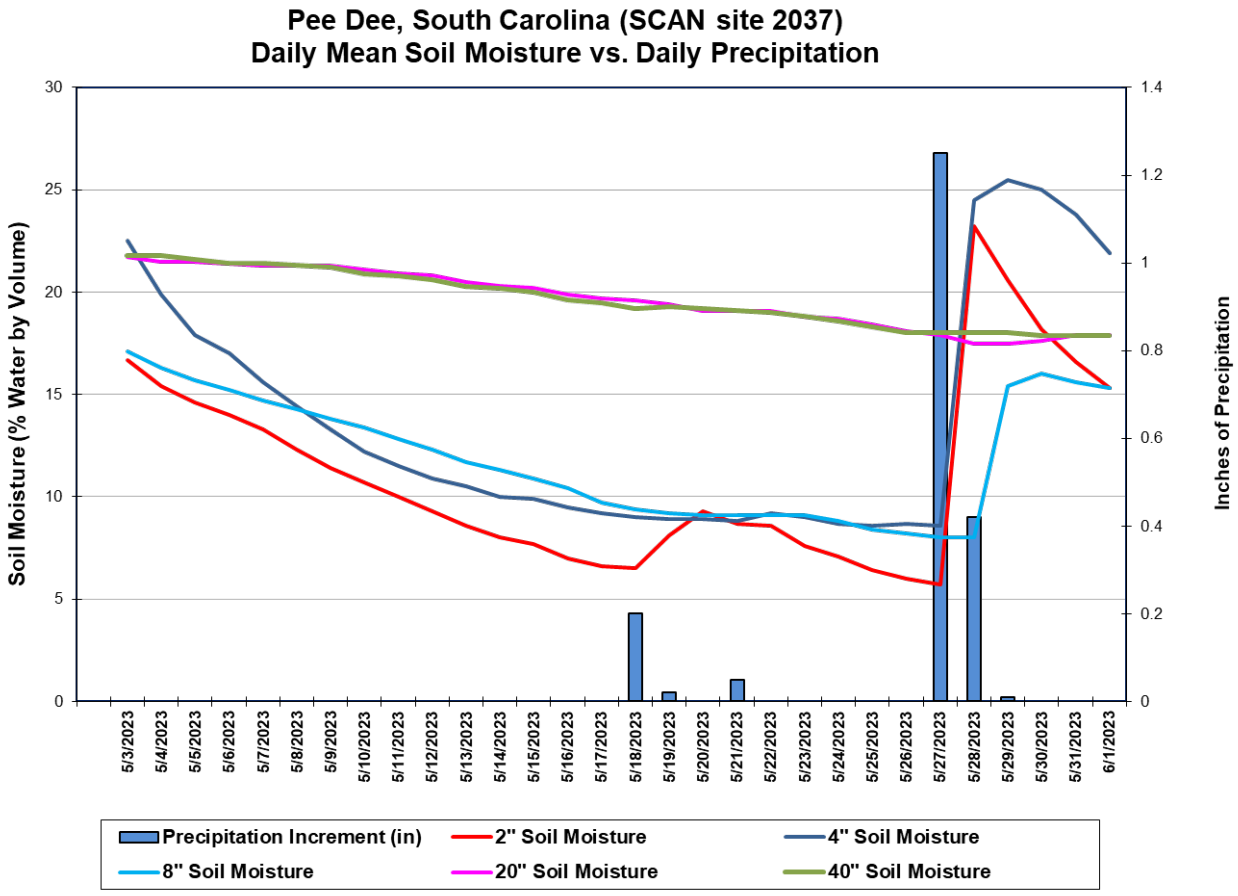
Source: NRCS SNOTEL and Soil Climate Analysis Network (SCAN)

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



Soil Moisture

Source: NRCS Soil Climate Analysis Network (SCAN)



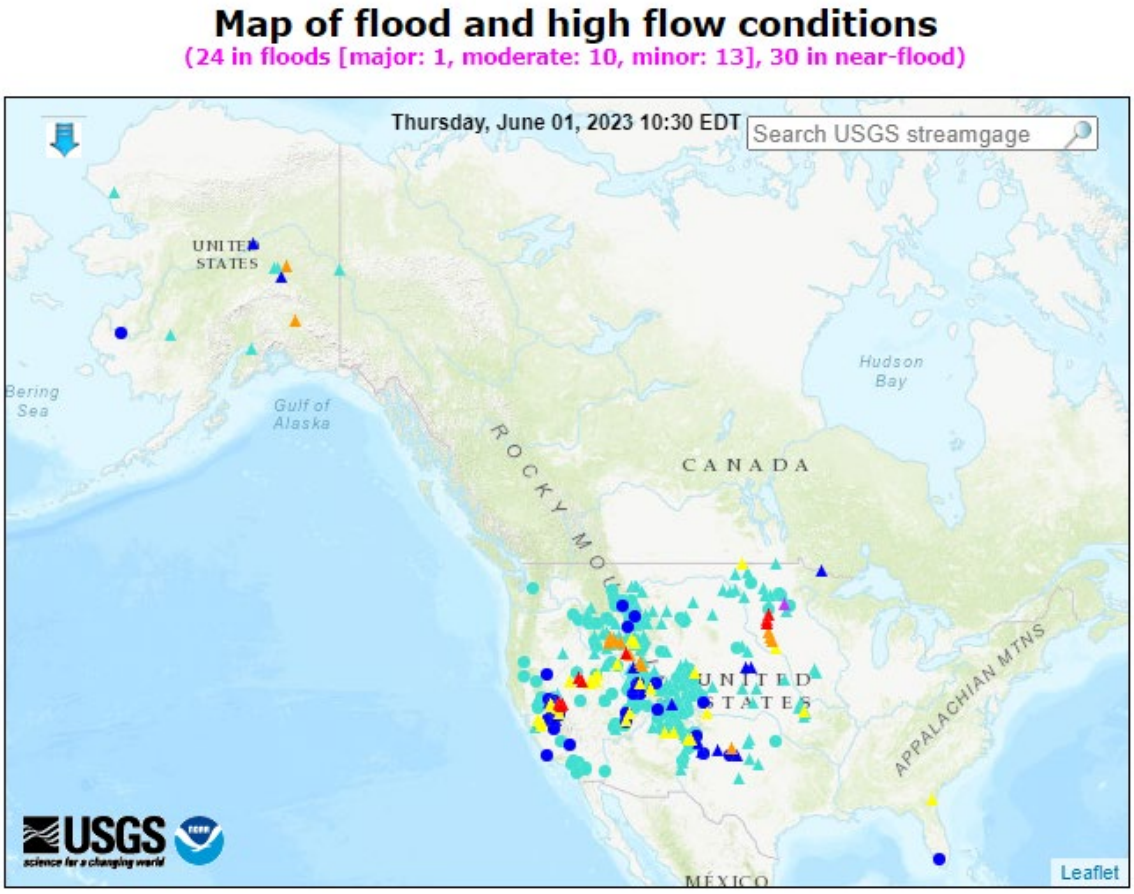
This chart shows the precipitation and soil moisture for the last 30 days at the Pee Dee SCAN site in South Carolina. Soil moisture levels increased rapidly at the -2, -4, and -8-inch soil sensor depths after the site received precipitation throughout Memorial Day weekend. Total precipitation for the 30-day period was 1.95 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

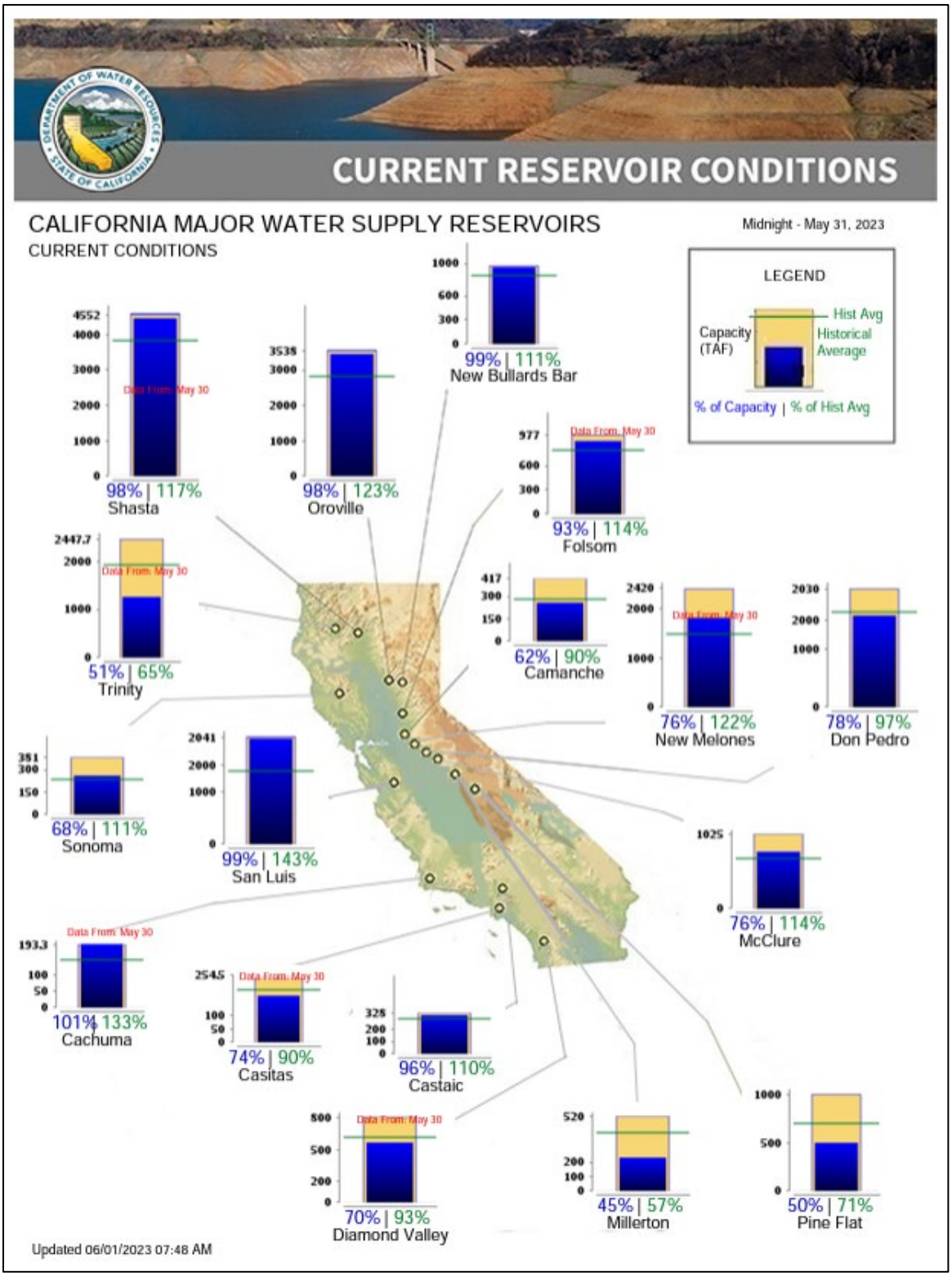
Hydromet Teacup Reservoir Depictions

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

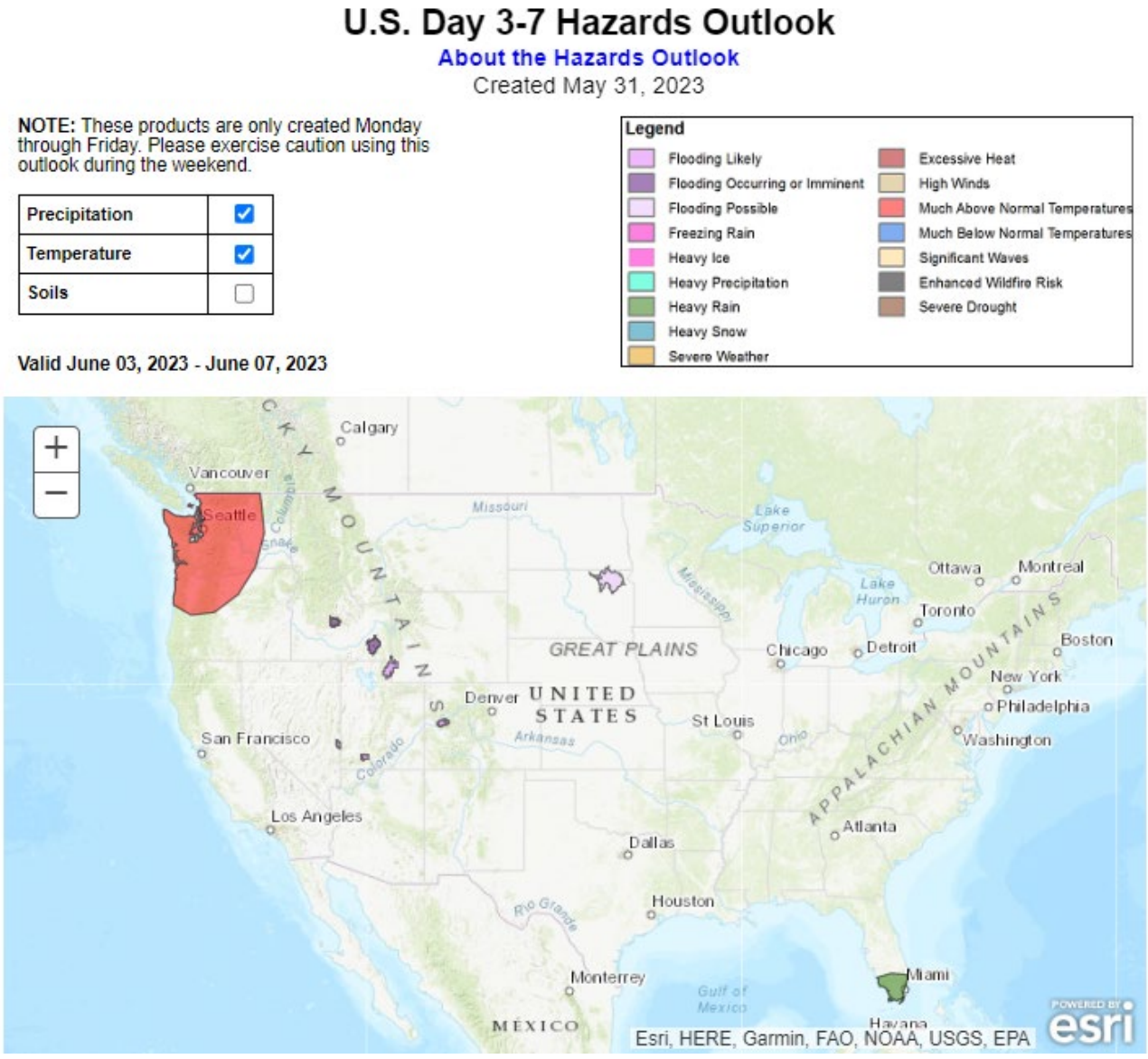
Agricultural Weather Highlights

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

National Outlook, Thursday June 1, 2023: "An area of low pressure over the northeastern Gulf of Mexico should remain offshore, with additional development (into a short-lived tropical depression or tropical storm) possible over the next day or two as the system begins to drift southward. Regardless of development, locally heavy showers may occur through the weekend across peninsular Florida. Meanwhile, high pressure centered over the Midwest will maintain dry conditions during the next 5 days over the eastern Corn Belt. Part of the Northeast, however, may receive much-needed rainfall, starting on Friday. Farther west, daily showers and thunderstorms will continue across the nation's mid-section, with 5-day rainfall totals reaching 1 to 3 inches or more in many areas from Montana to Texas. Elsewhere, mostly dry weather will prevail in the Far West and Desert Southwest. The NWS 6- to 10-day outlook for June 6 – 10 calls for the likelihood of near- or below-normal temperatures and near- or above-normal precipitation across much of the country. However, warmer-than-normal weather will stretch across the North from the Pacific Northwest into the upper Midwest, while drier-than-normal conditions will cover western Washington and much of the Midwest."

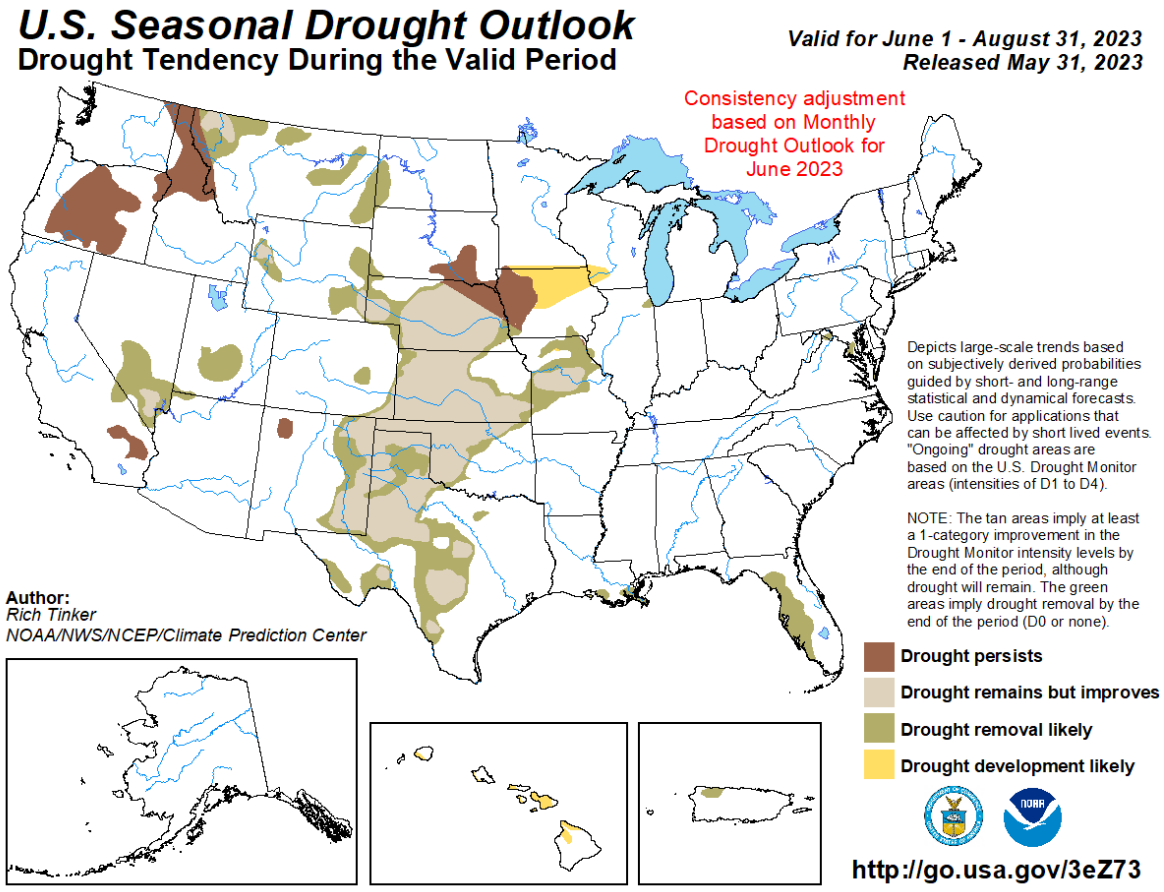
Weather Hazards Outlook: June 03 – 07, 2023

Source: NOAA Weather Prediction Center



Seasonal Drought Outlook: June 1 – August 31, 2023

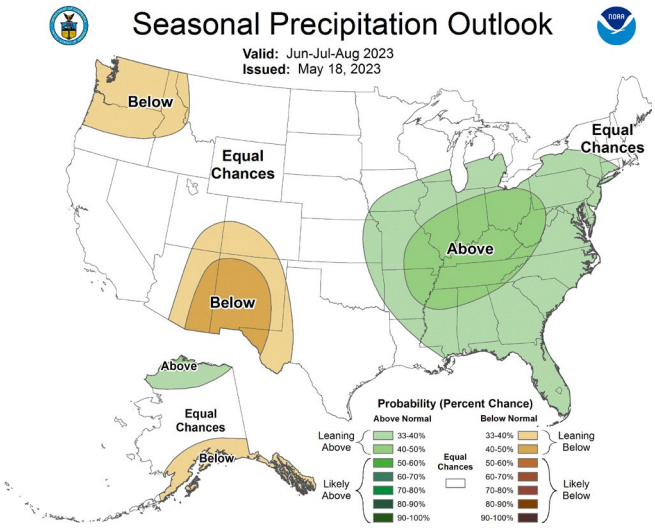
Source: National Weather Service



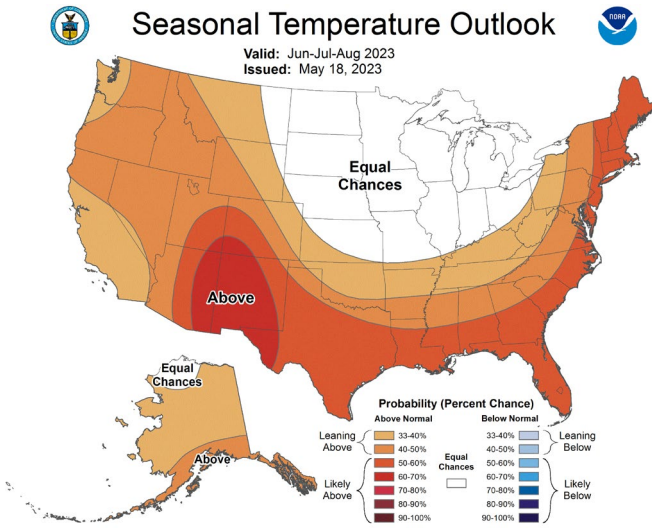
Climate Prediction Center Three-month Outlook

Source: National Weather Service

Precipitation



Temperature



June-July-August 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.