United States Department of Agriculture

Water and Climate Update

November 16, 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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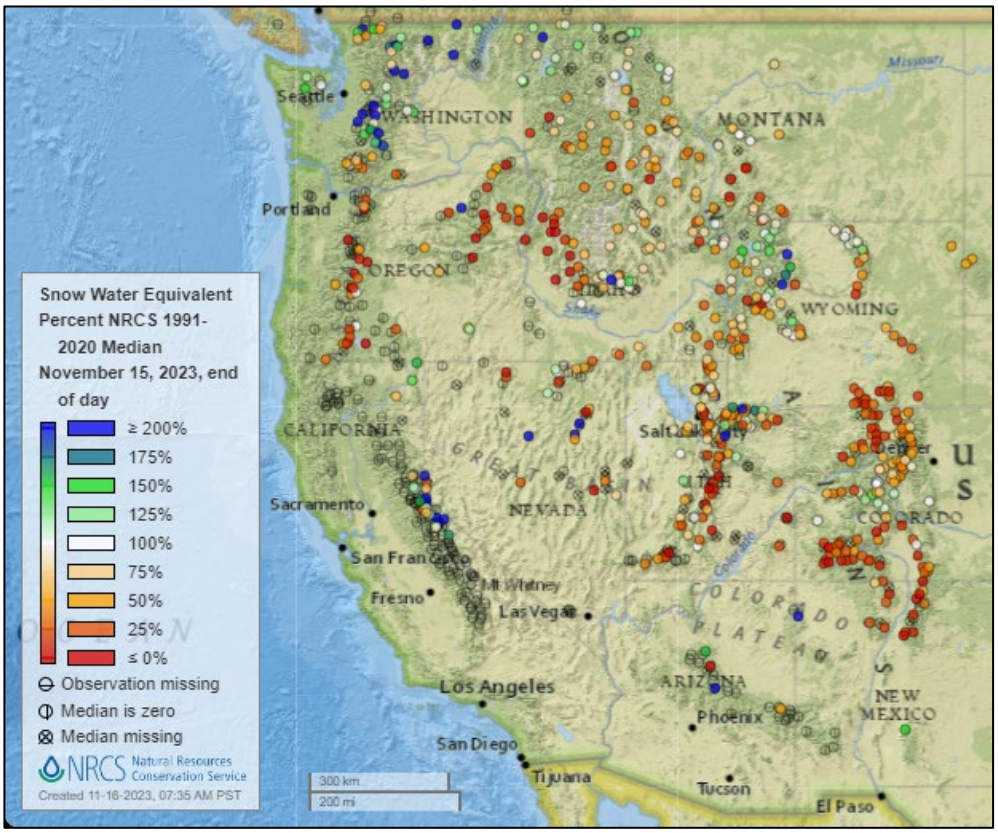
Alaska experiences rapid November snow accumulation

NRCS Hydrologist Austin Hart skiing fresh Alaska snow
Photo by Tony DeMarco

A cold and snow-filled week left Anchorage, Alaska blanketed in 22 inches of snow as of November 15, causing hazardous travel conditions and the closure of schools and businesses. According to the National Weather Service, several daily snowfall records were set last week, including Anchorage receiving 8.7 inches of snow on November 13, beating the previous record of 2.7 inches on the date in 1979. Anchorage is on track to top its current November snowfall record of 38.8 inches set in 1994, with 38 inches of snow already received this month.

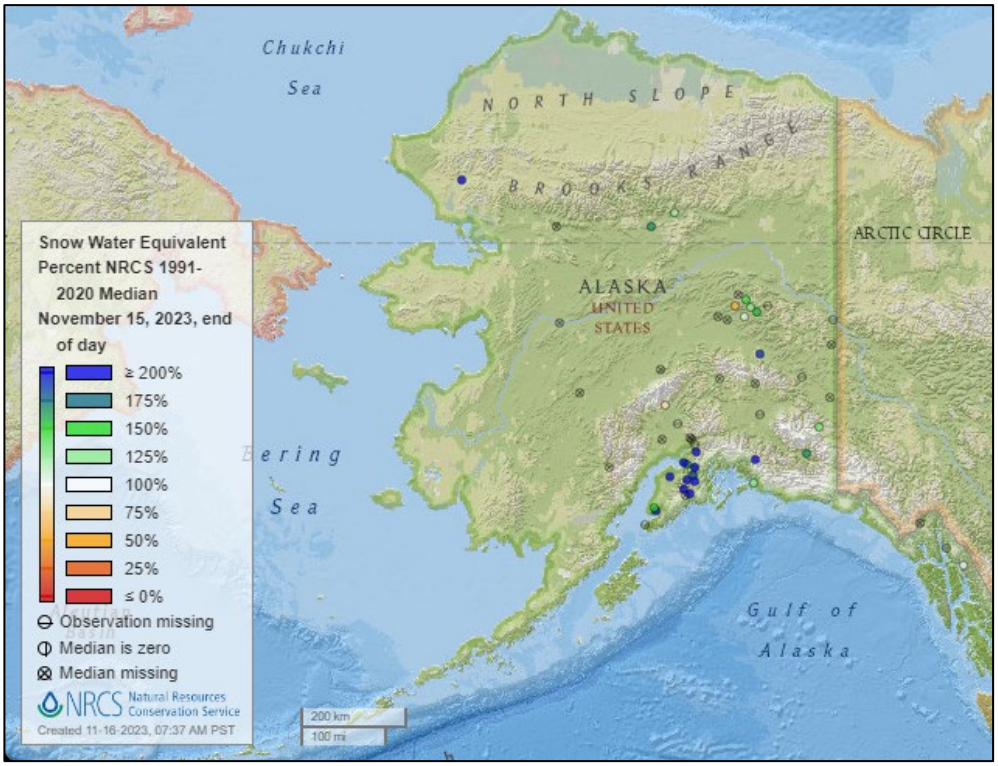
Related:
Monday storm again closes Anchorage, Mat-Su schools and state offices – Alaska Public Media
Another heavy snowfall buries Anchorage, closing schools and clogging already bad roads – Anchorage Daily News
Anchorage, Alaska, could see its snowiest November – ever – CNN
Anchorage Snow Totals – National Weather Service
Daily snow depth at Alaska SNOTEL sites – Interactive Map, NRCS Snow Survey and Water Supply Forecasting Program

Snow



[Snow water equivalent percent of median map]

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

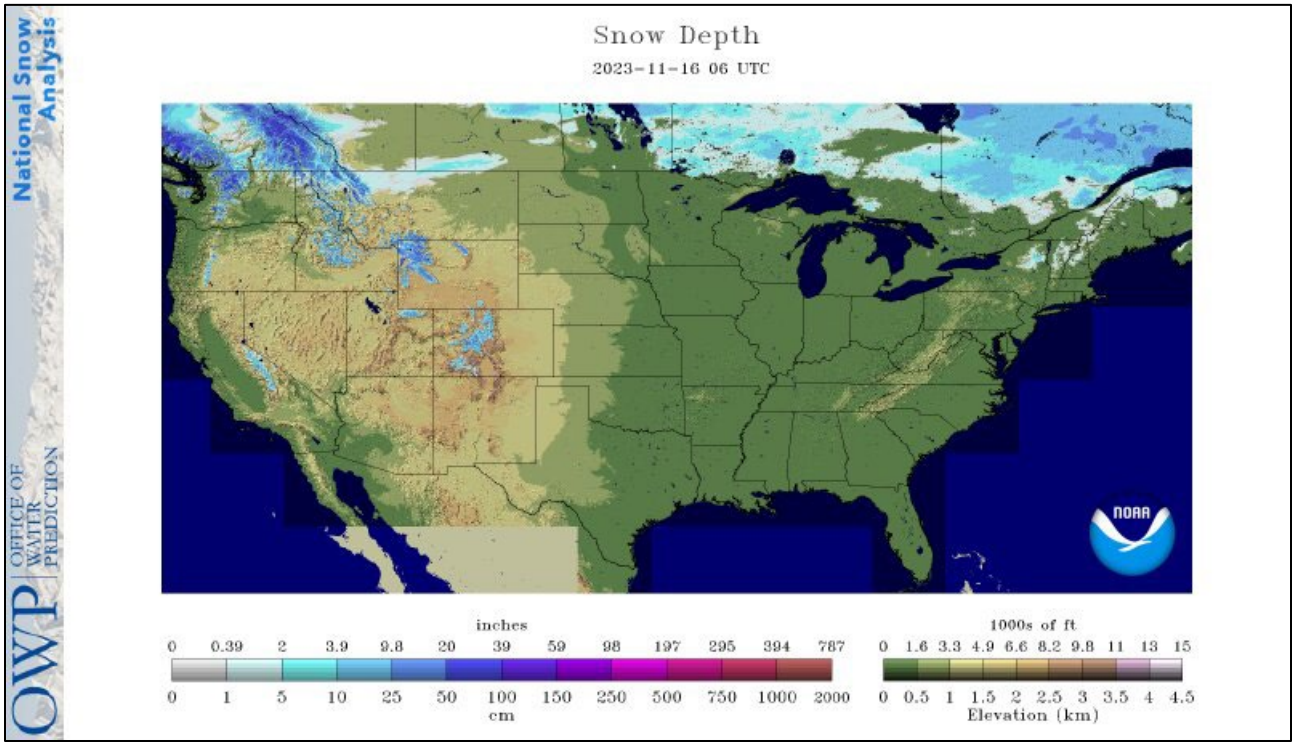


[Alaska snow water equivalent percent of median map]

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

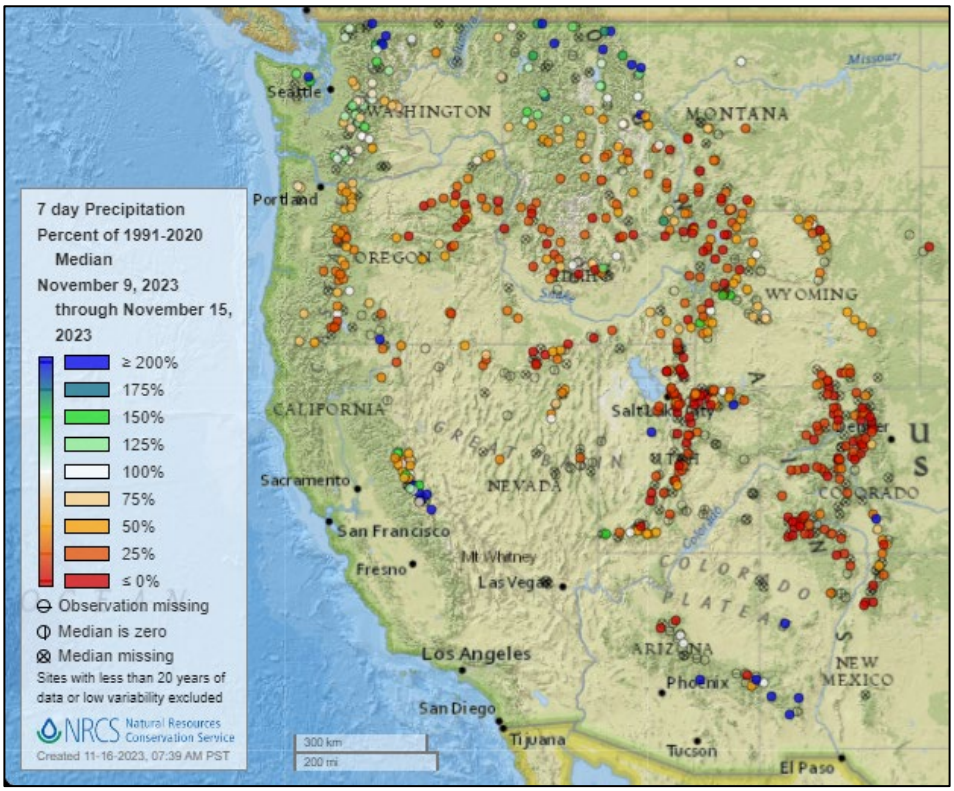
Current Snow Depth, National Weather Service Snow Analysis

Source: NOAA NWS National Operational Hydrologic Remote Sensing Center



Precipitation

Last 7 Days, NRCS SNOTEL Network

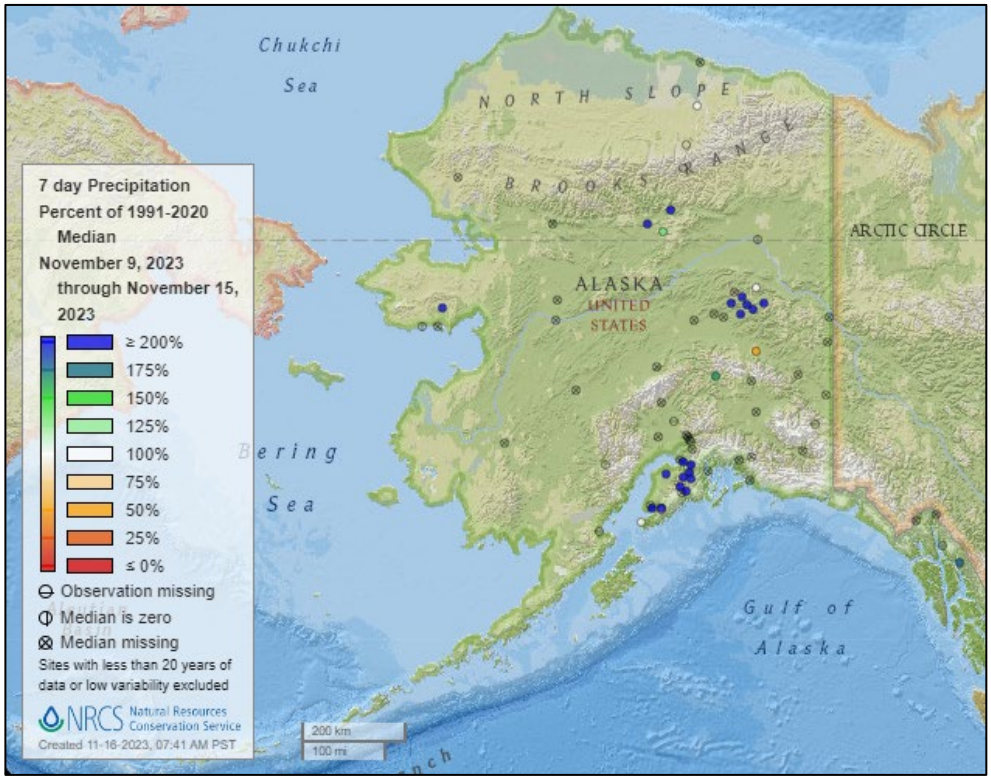


[7-day precipitation percent of median map]

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]

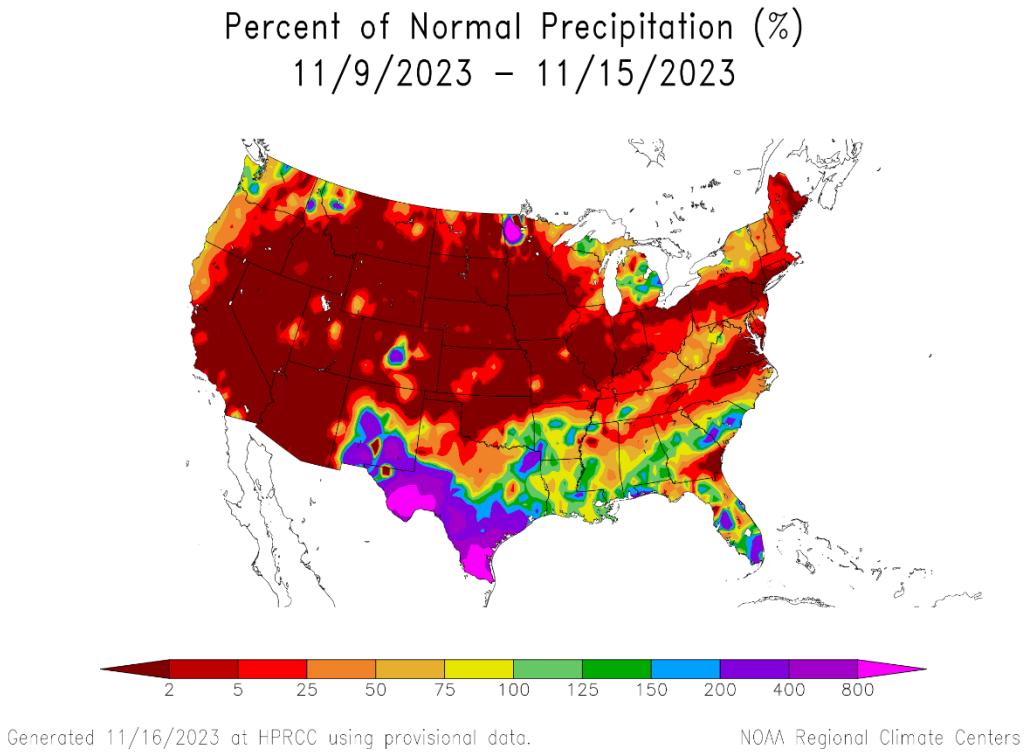


Last 7 Days, National Weather Service (NWS) Networks

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]

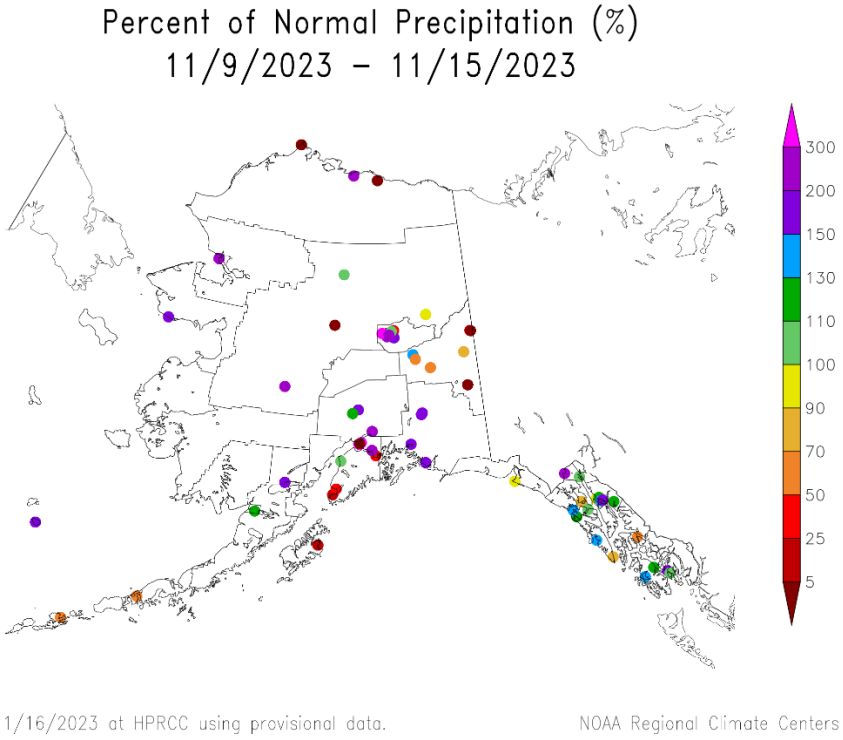


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

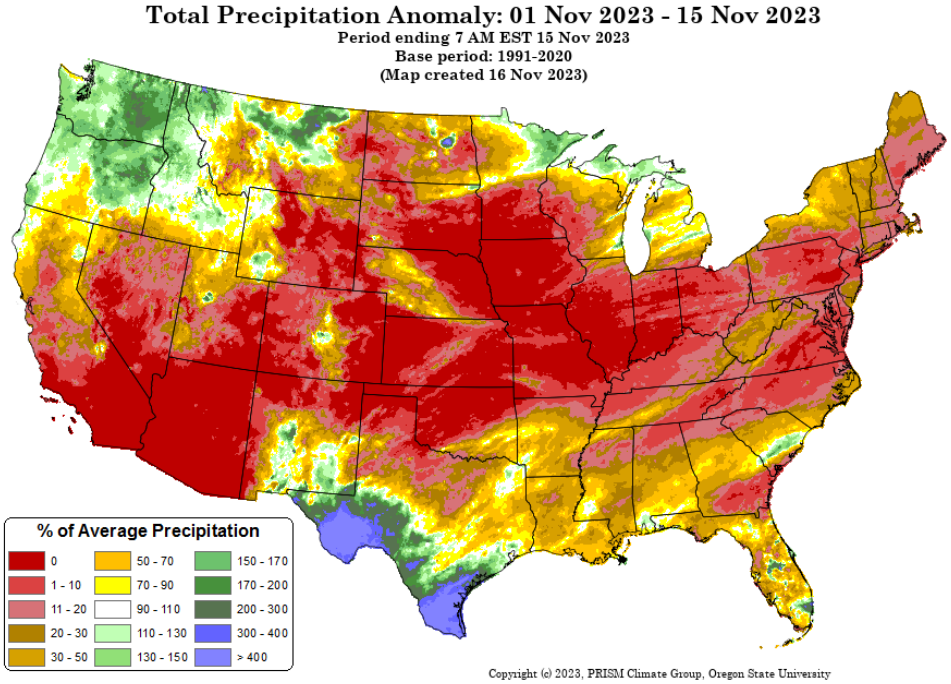
[7-day precipitation percent of normal map] for Alaska.

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



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

Source: PRISM

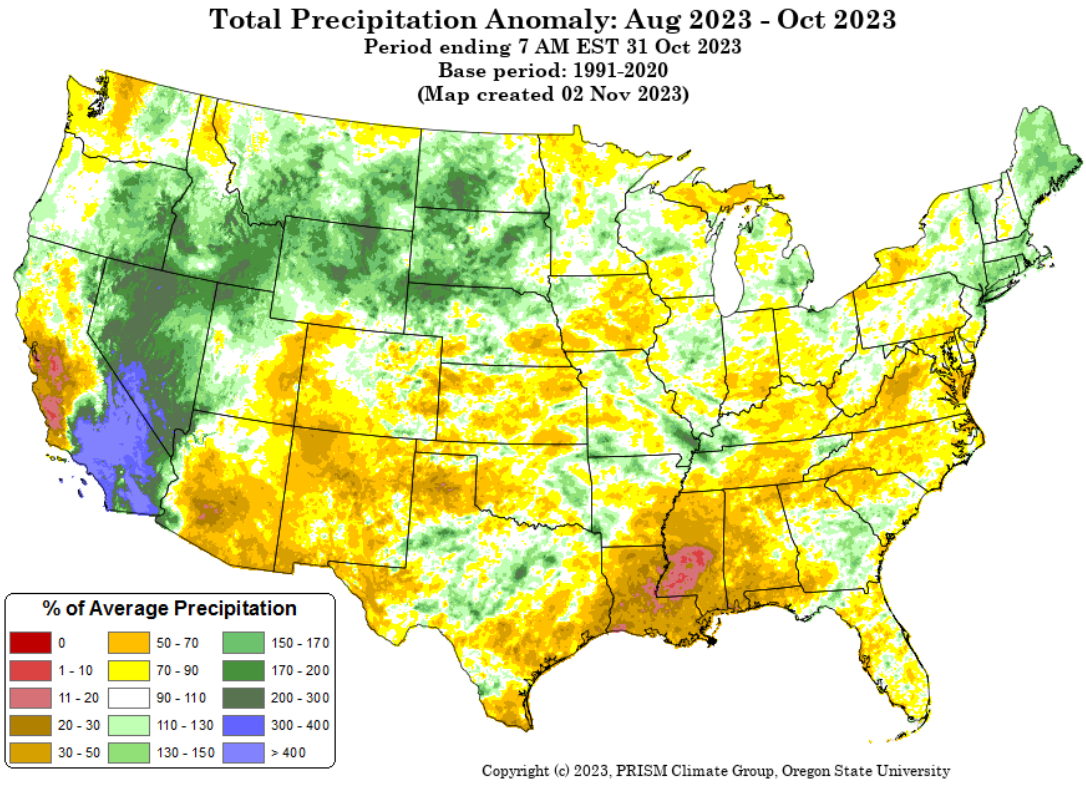


Month-to-date national total precipitation anomaly map

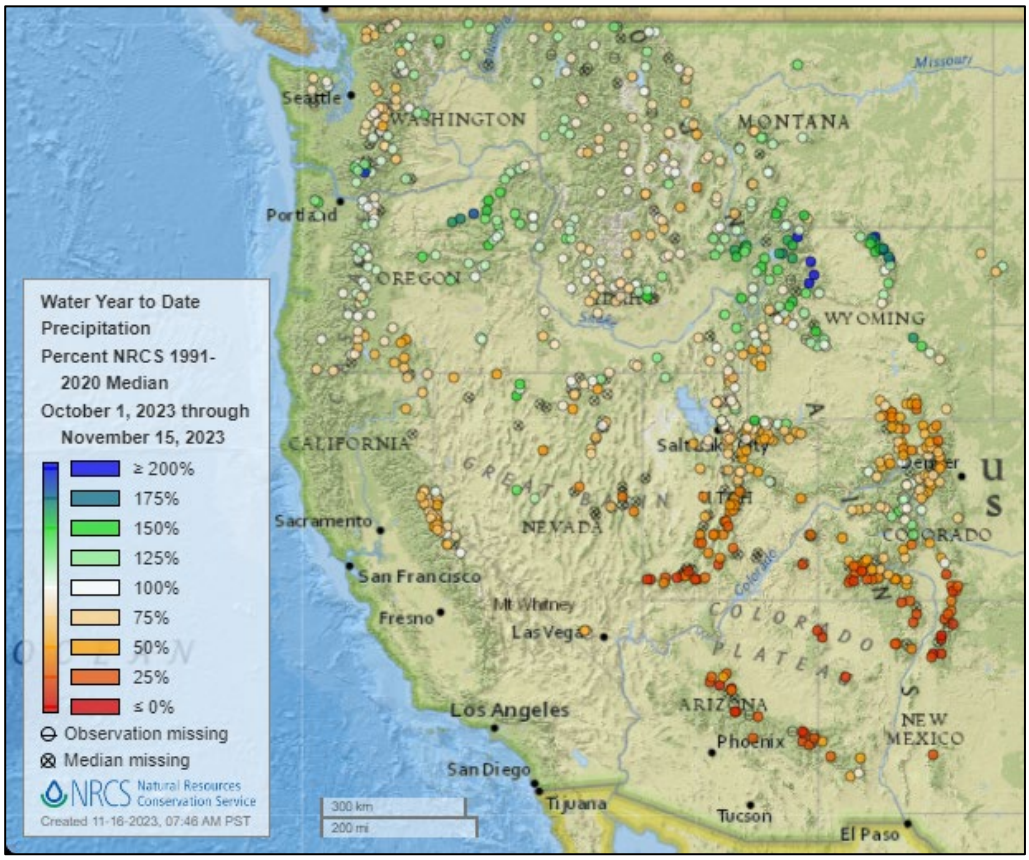
Last 3 Months, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

August through October 2023 precipitation anomaly map



Water Year-to-Date, NRCS SNOTEL Network

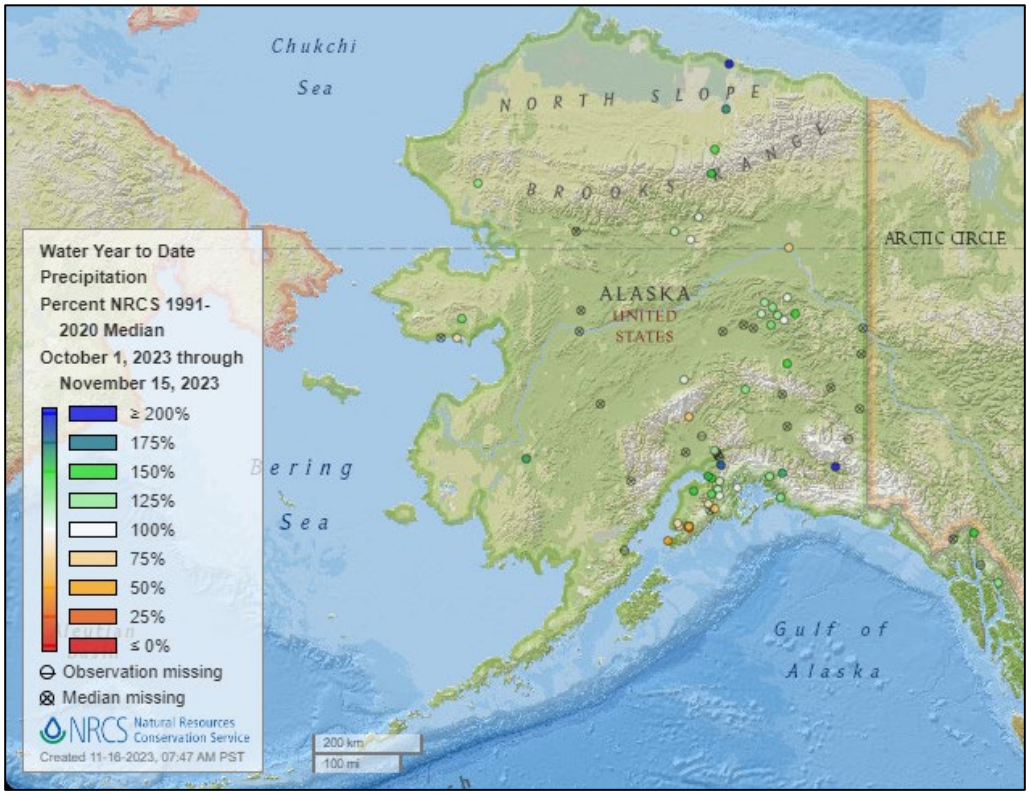


[2024 water year-to-date precipitation percent of median map]

See also:

[2024 water year-to-date precipitation percent of average map]

[2024 water year-to-date precipitation values (inches) map]



[Alaska 2024 water year-to-date precipitation percent of median map]

See also:

[Alaska 2024 water year-to-date precipitation percent of average map]

[Alaska 2024 water year-to-date precipitation values (inches) map]

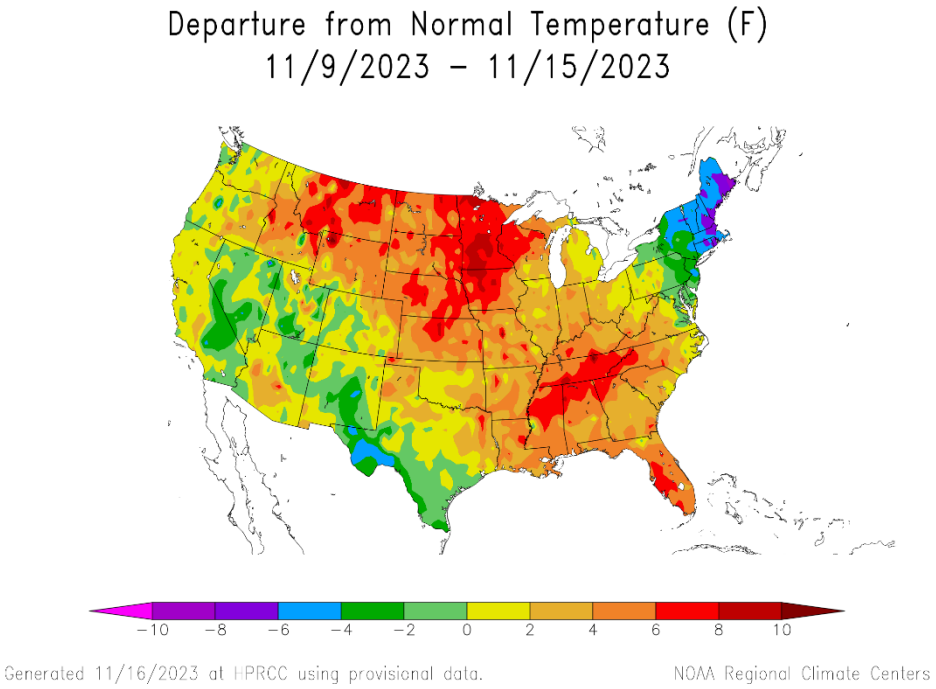
Temperature

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

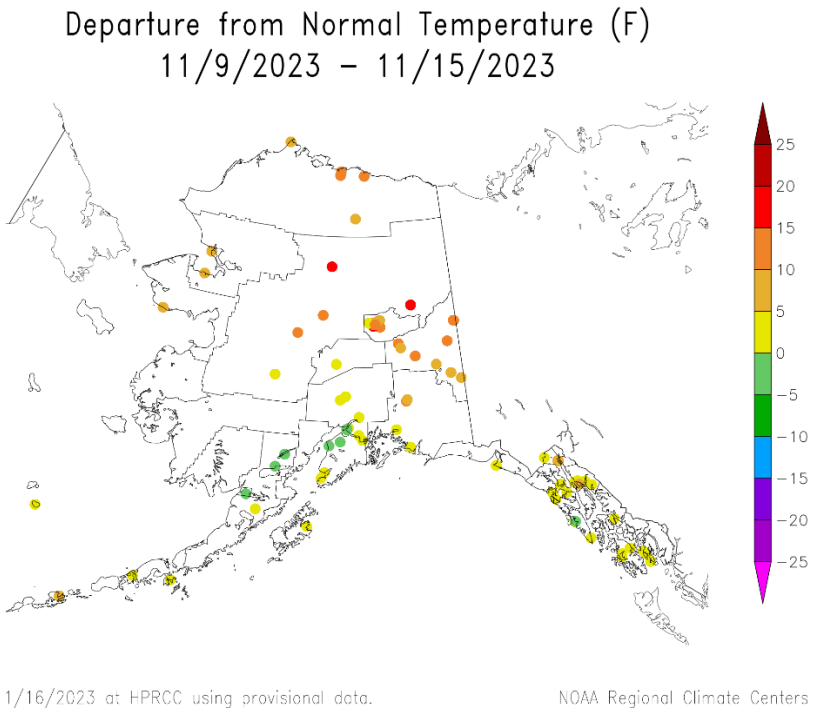


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

7-day temperature anomaly map for Alaska.

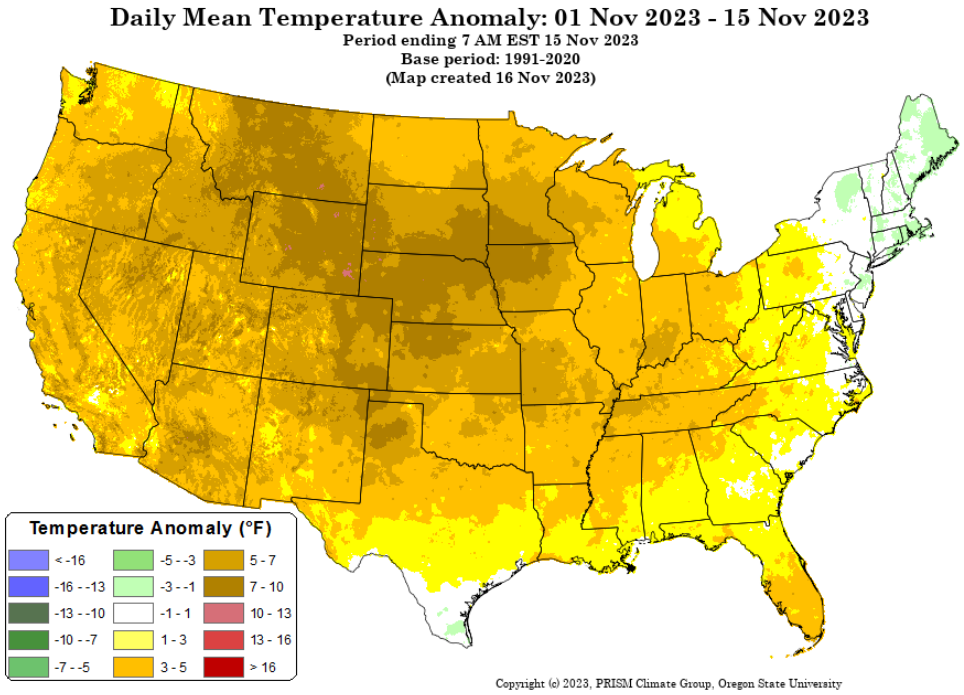
See also: 7-day temperature (° F) map



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

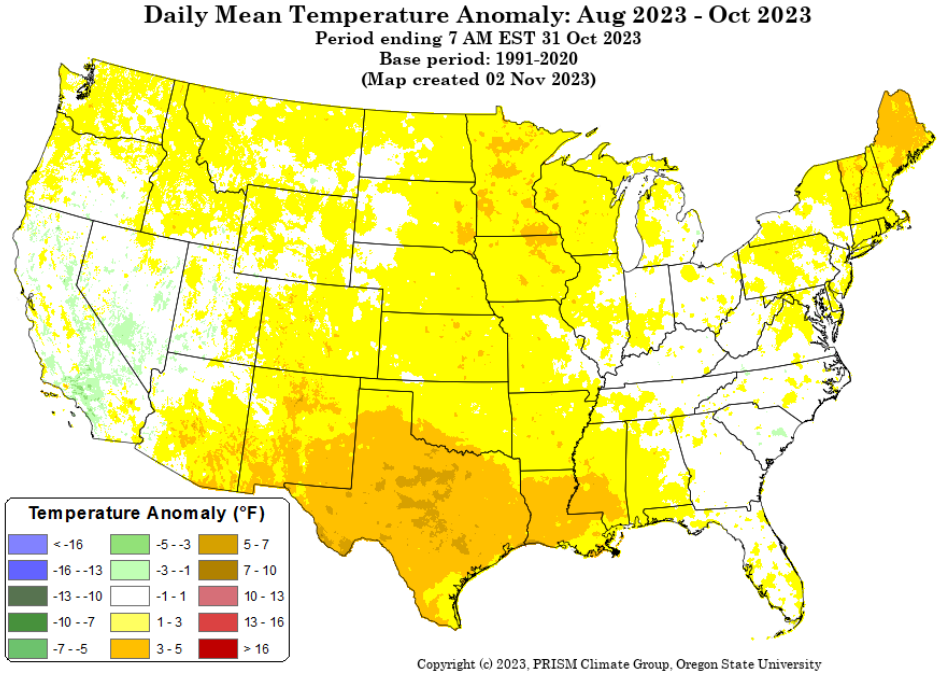
Source: PRISM

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



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

Source: PRISM

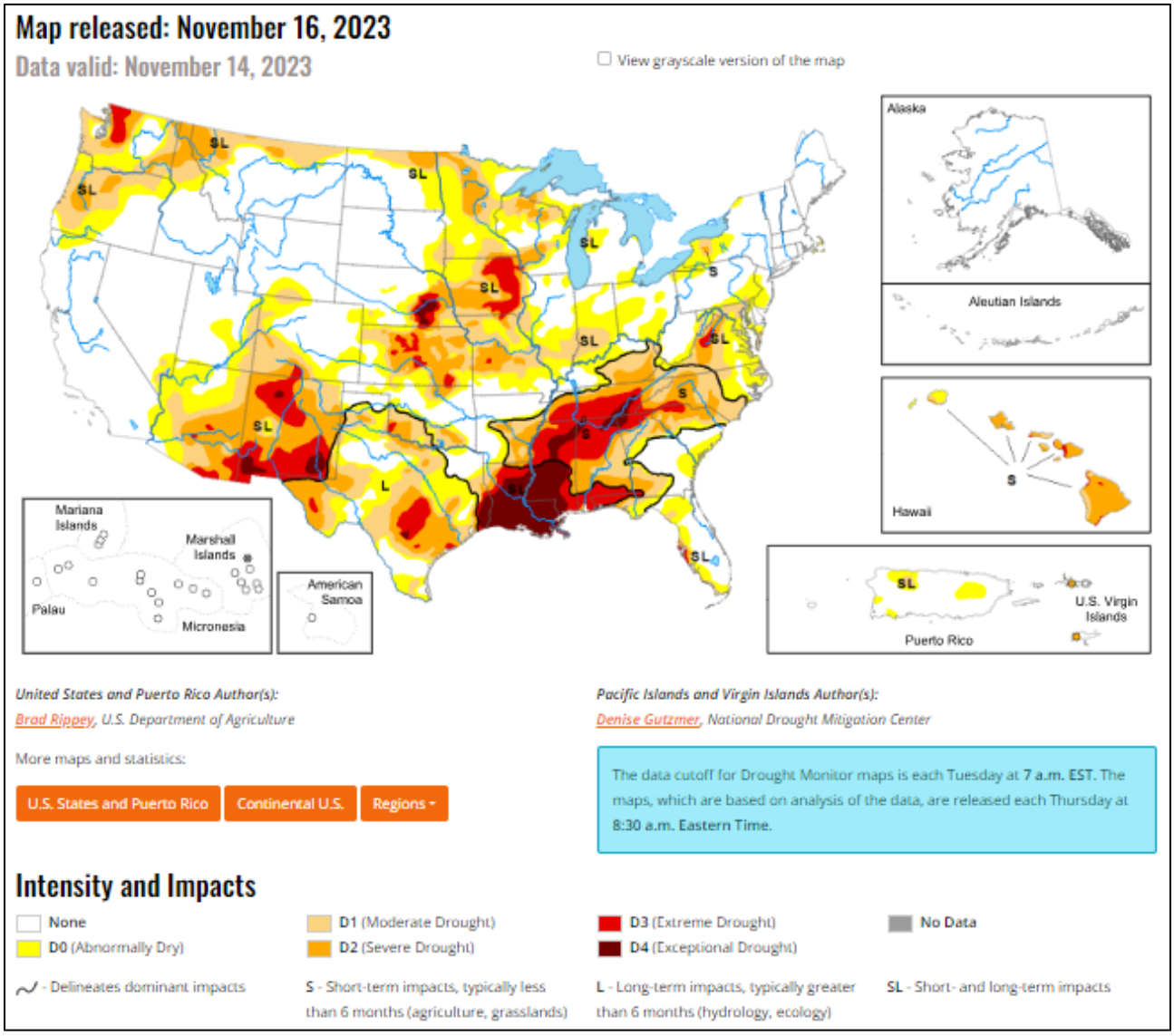


[August through October 2023 daily mean temperature anomaly map]

Drought

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

U.S. Drought Portal
Source: NOAA



Current National Drought Summary, November 14, 2023

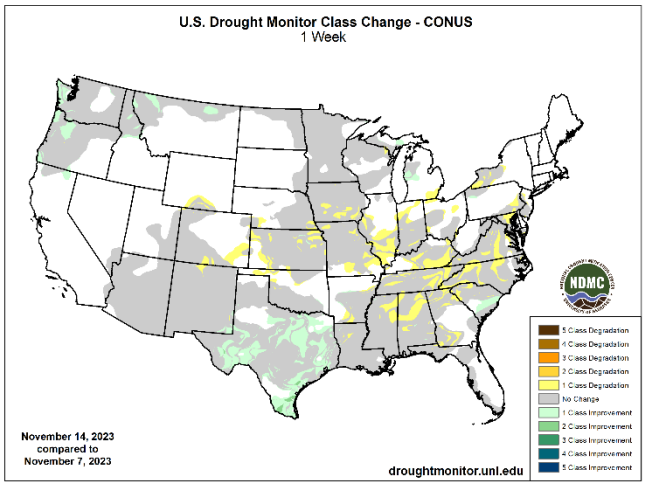
Source: National Drought Mitigation Center

"During the drought-monitoring period ending November 14, precipitation was focused across a few geographic areas, including portions of the Northwest, South, and Great Lakes region. In places where precipitation fell, winter grains, cover crops, and rangeland and pastures generally benefited from the boost in topsoil moisture. That was especially true in the South, which has been contending with serious "flash drought" issues, including a rash of autumn wildfires. However, Southern rainfall coverage was spotty, with many areas receiving only light showers. Elsewhere, Northwestern precipitation was heaviest from the Cascades westward, although key agricultural areas farther inland received some moisture. Following a nearly nationwide cold outbreak in late October and early November, warmth returned across most of the country, amplifying drought impacts in some of the driest areas."

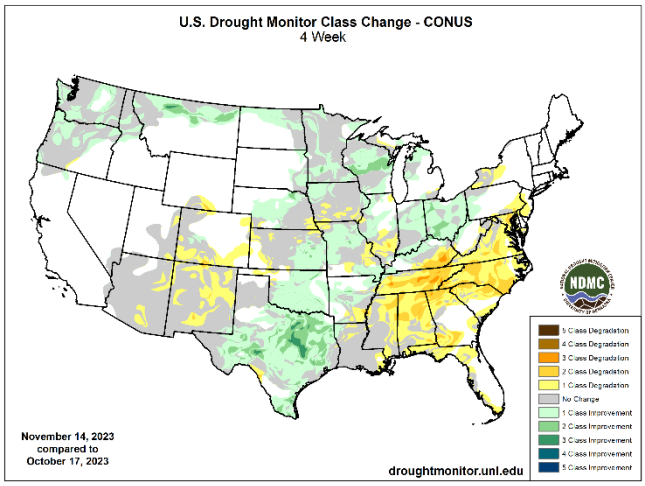
Changes in Drought Monitor Categories over Time

Source: National Drought Mitigation Center

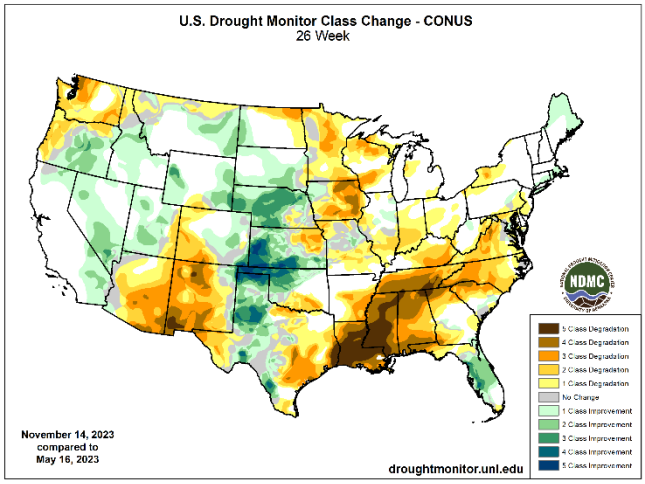
1 Week



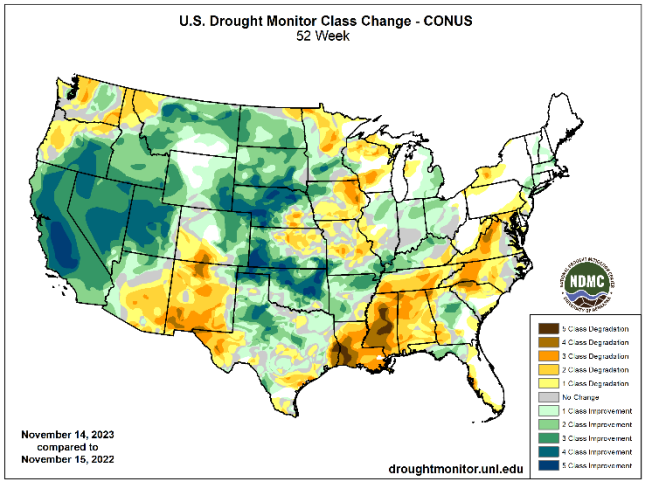
1 Month



6 Months



1 Year



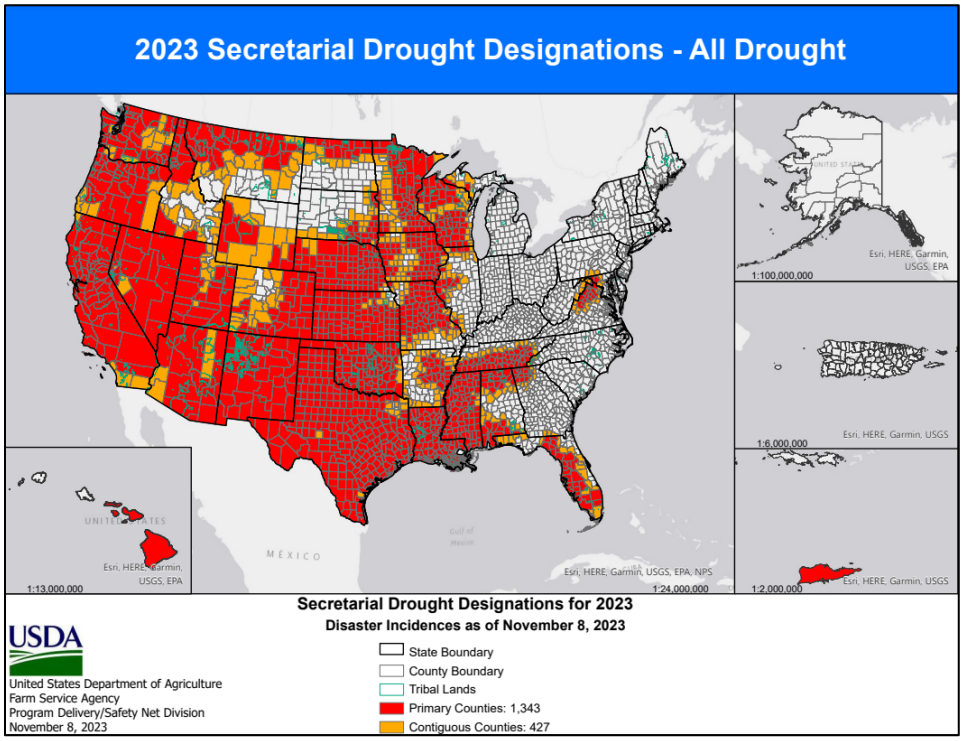
Changes in drought conditions over the last 12 months for the contiguous U.S.

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: Fire Information for Resource Management System US/Canada

Source: NASA/USDA Forest Service

Current active wildfires larger than 1,000 acres in size

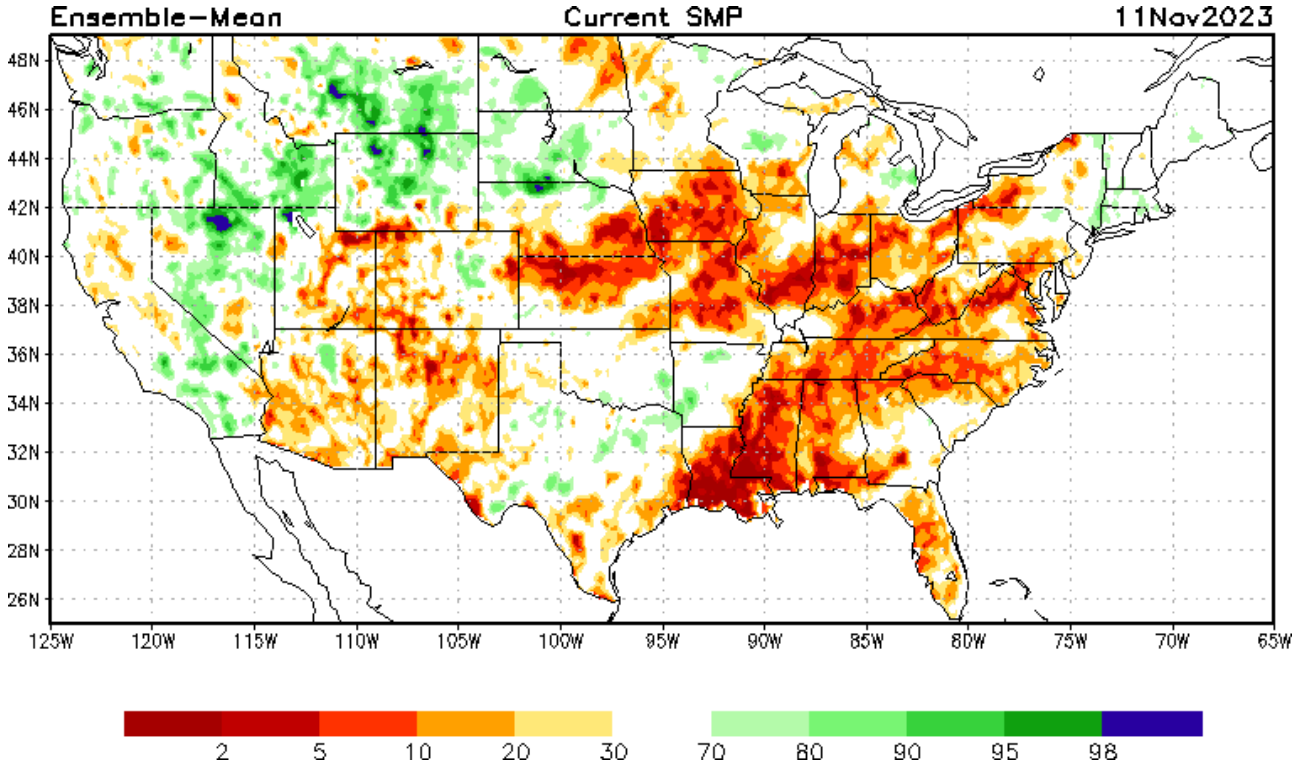
Highlighted Wildfire Resources

- 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

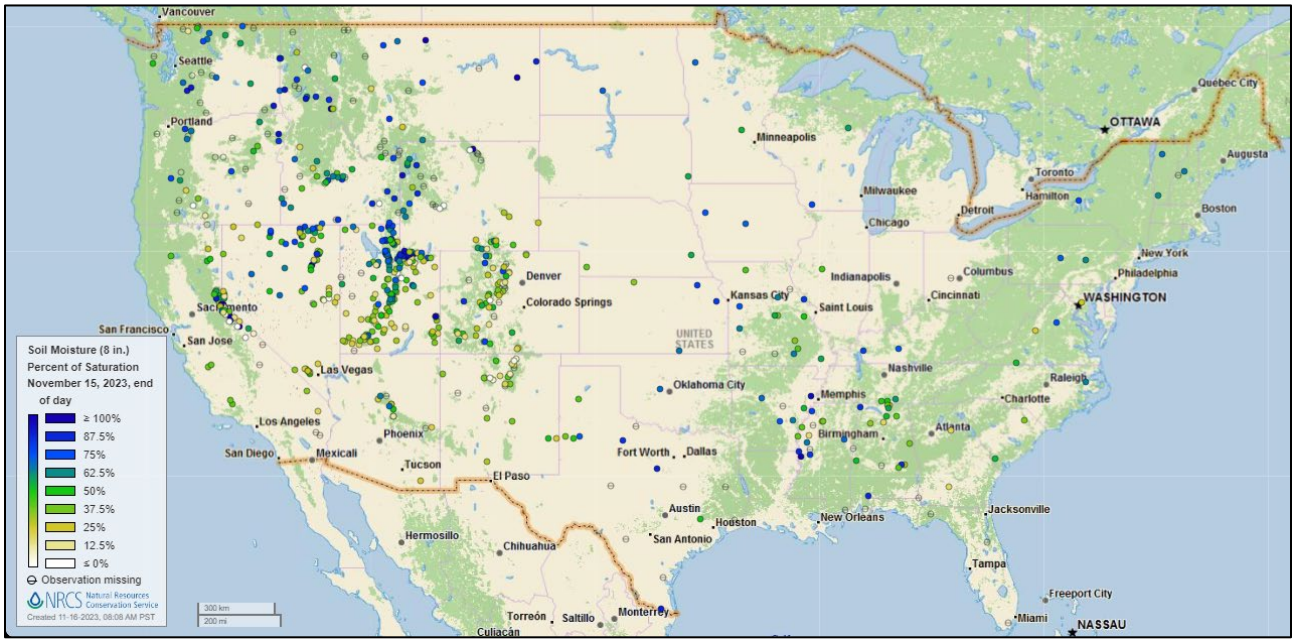


Modeled soil moisture percentiles as of November 11, 2023

Soil Moisture Percent of Saturation

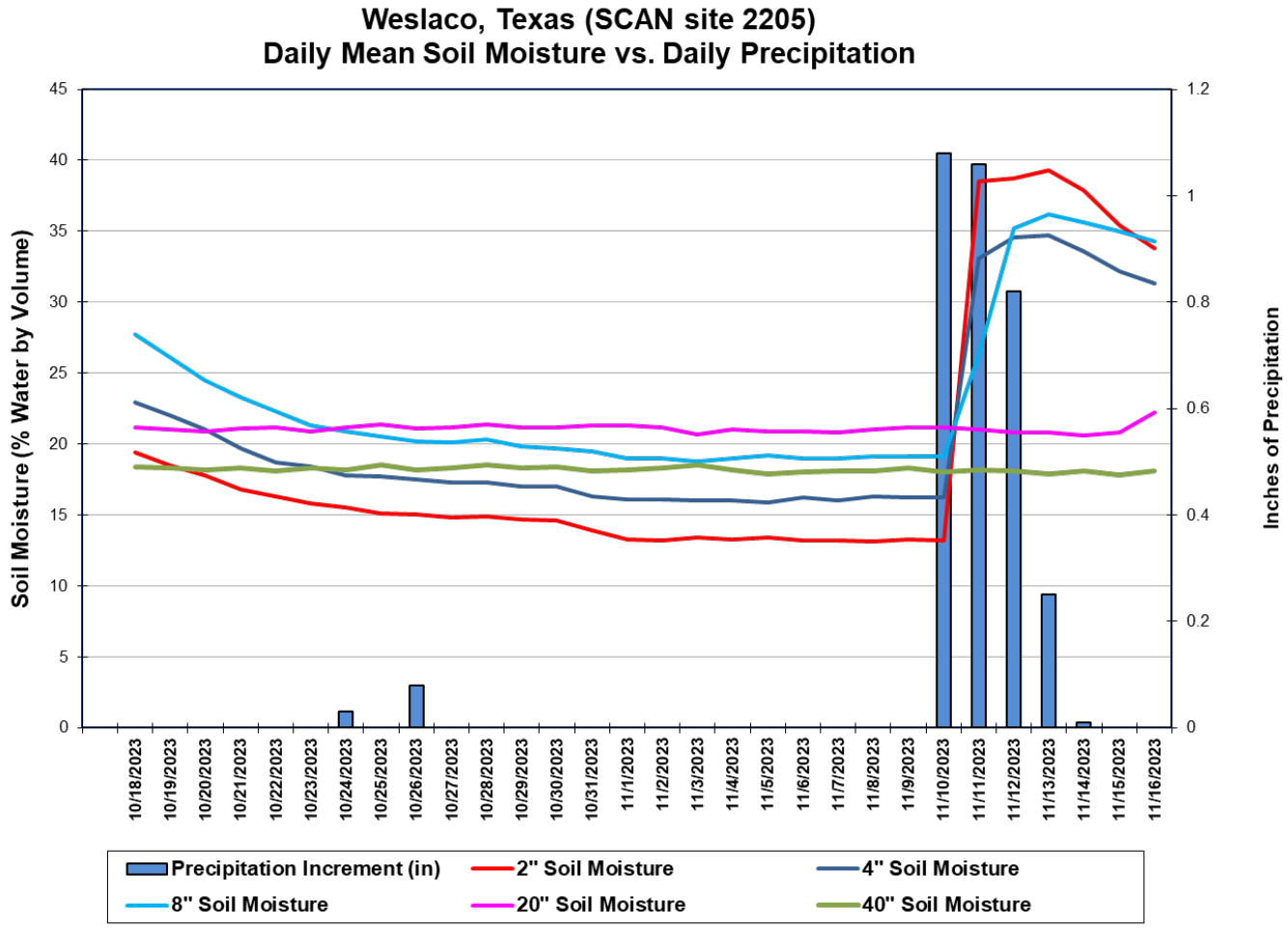
Source: NRCS SNOTEL and Soil Climate Analysis Network (SCAN)

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



Soil Moisture

Source: NRCS Soil Climate Analysis Network (SCAN)



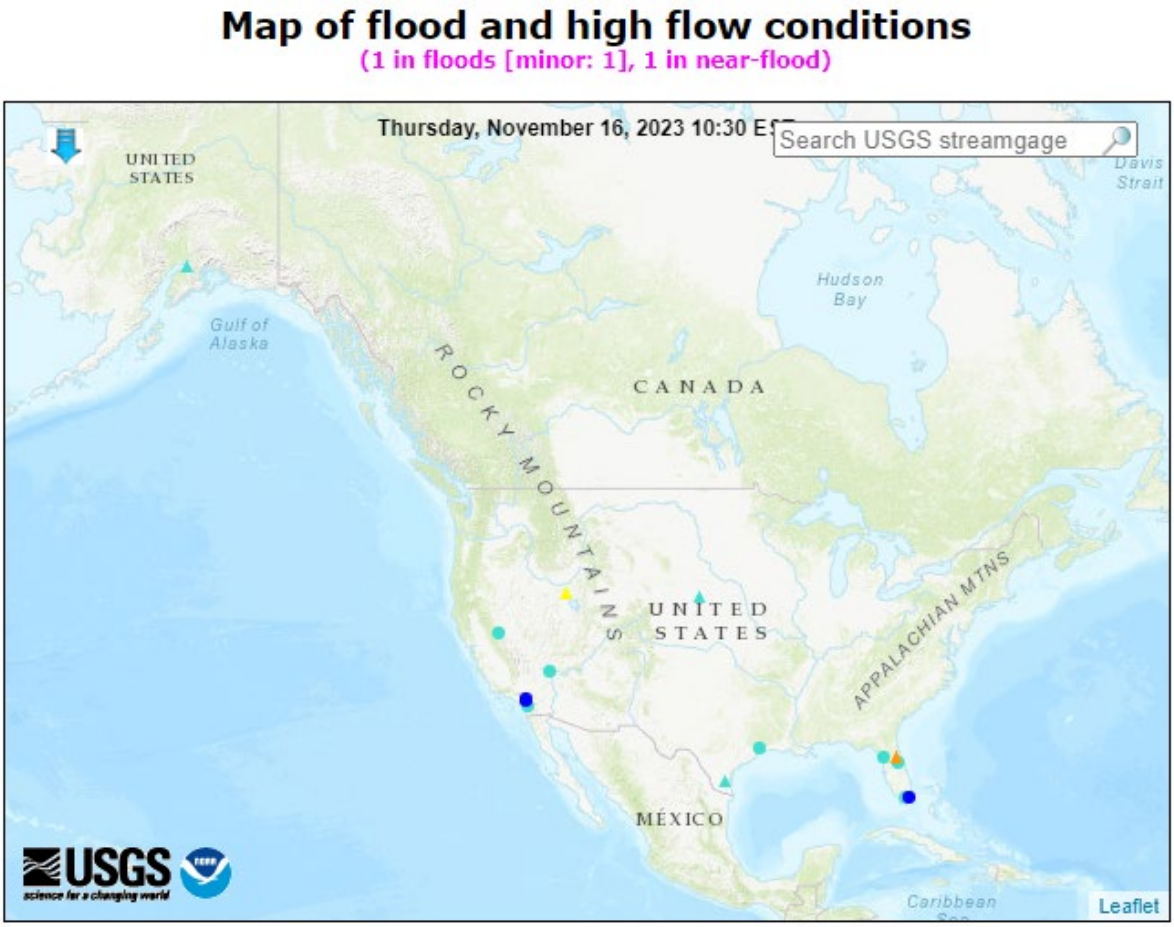
This chart shows the precipitation and soil moisture for the last 30 days at the Weslaco SCAN site in Texas. November 10-14 saw the site receiving 3.22 inches of precipitation, with soil moisture levels increasing at the -2, -4, and -8-inch soil sensors after moisture levels remained fairly steady at all sensor depths for much of the period. Total precipitation for the 30-day period was 3.33 inches.

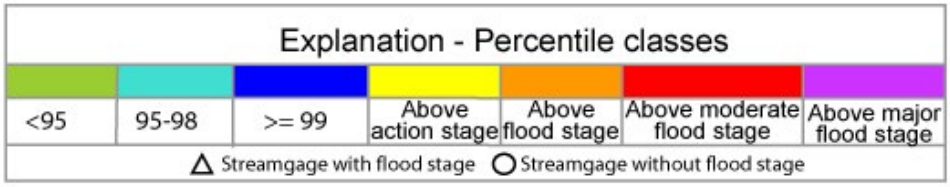
Soil Moisture Data Portals

- 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]





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

Reservoir Storage

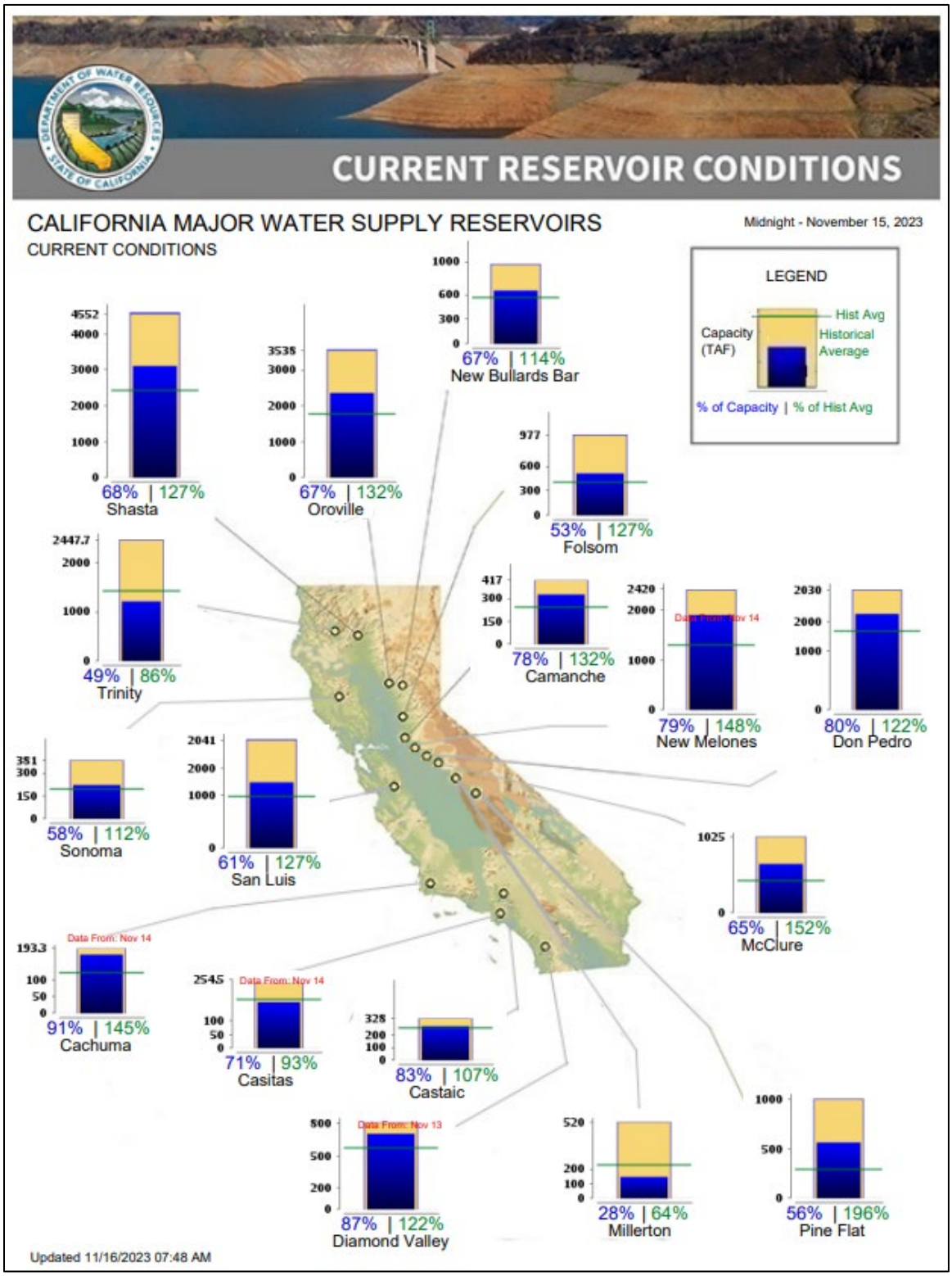
Hydromet Teacup Reservoir Depictions

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 November 16, 2023: **“**An active U.S. weather pattern will evolve over the next several days. Initially, relatively mild, tranquil weather will cover much of the country. However, a low-pressure system moving northward near the Atlantic Coast will deliver showers and gusty winds to parts of Florida today into early Friday, followed by similar conditions on Saturday in coastal New England. Meanwhile, a Pacific storm system will arrive in the Northwest during the weekend, delivering rain and snow. Early next week, a low-pressure system developing over the central or southern Plains will begin to intensify while drifting northeastward into the Ohio Valley. That system will likely lead to stormy weather across parts of the South, East, and lower Midwest during the pre-Thanksgiving holiday travel period. Sharply colder air will trail that storm system, starting across the northern Plains and upper Midwest. The NWS 6- to 10-day outlook for November 21 – 25 calls for the likelihood of below-normal temperatures east of the Rockies, while warmer-than-normal weather will prevail in the West. Meanwhile, below-normal precipitation in most areas west of the Mississippi River should contrast with wetter-than-normal weather in the East, as well as northern sections of the Rockies and High Plains.”

Weather Hazards Outlook: November 18 – 22, 2023

Source: NOAA Weather Prediction Center

U.S. Day 3-7 Hazards Outlook

About the Hazards Outlook

Created November 15, 2023

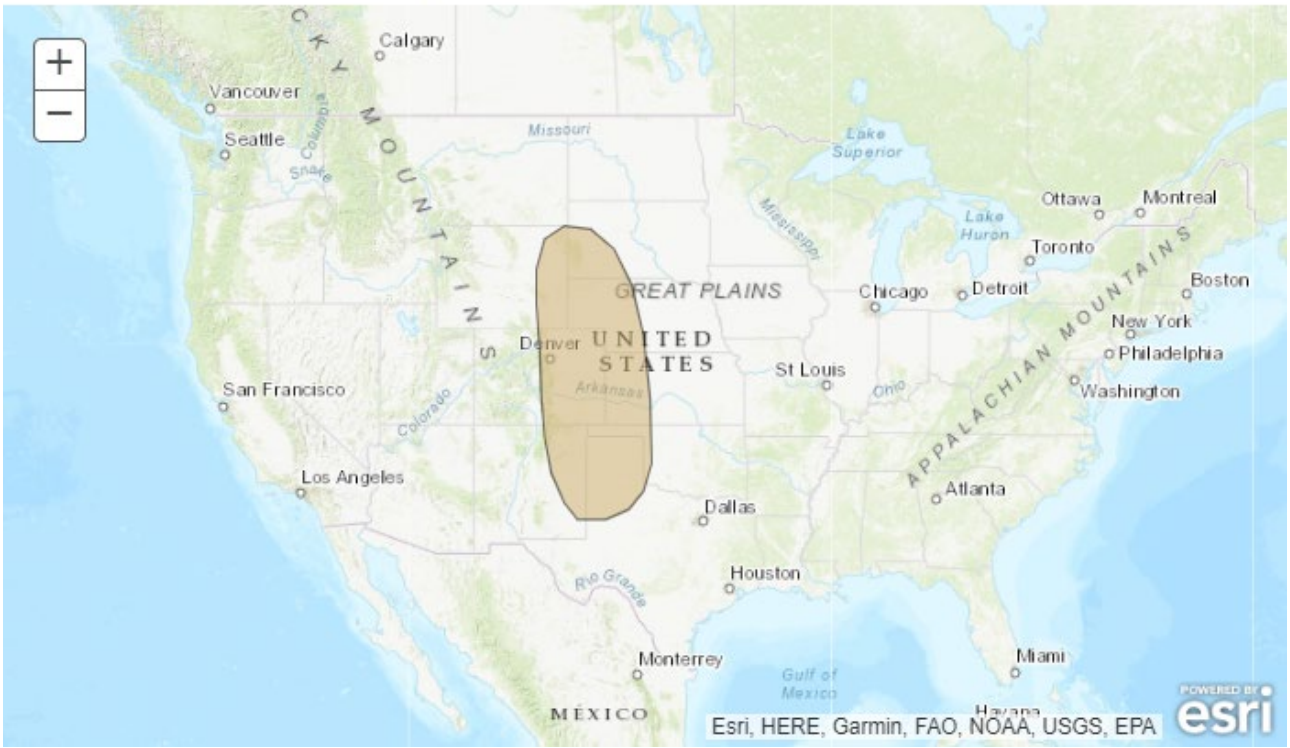
NOTE: These products are only created Monday through Friday. Please exercise caution using this outlook during the weekend.

Precipitation	☑
Temperature	☑
Wildfires	☑
Soils	☐

Valid November 18, 2023 - November 22, 2023

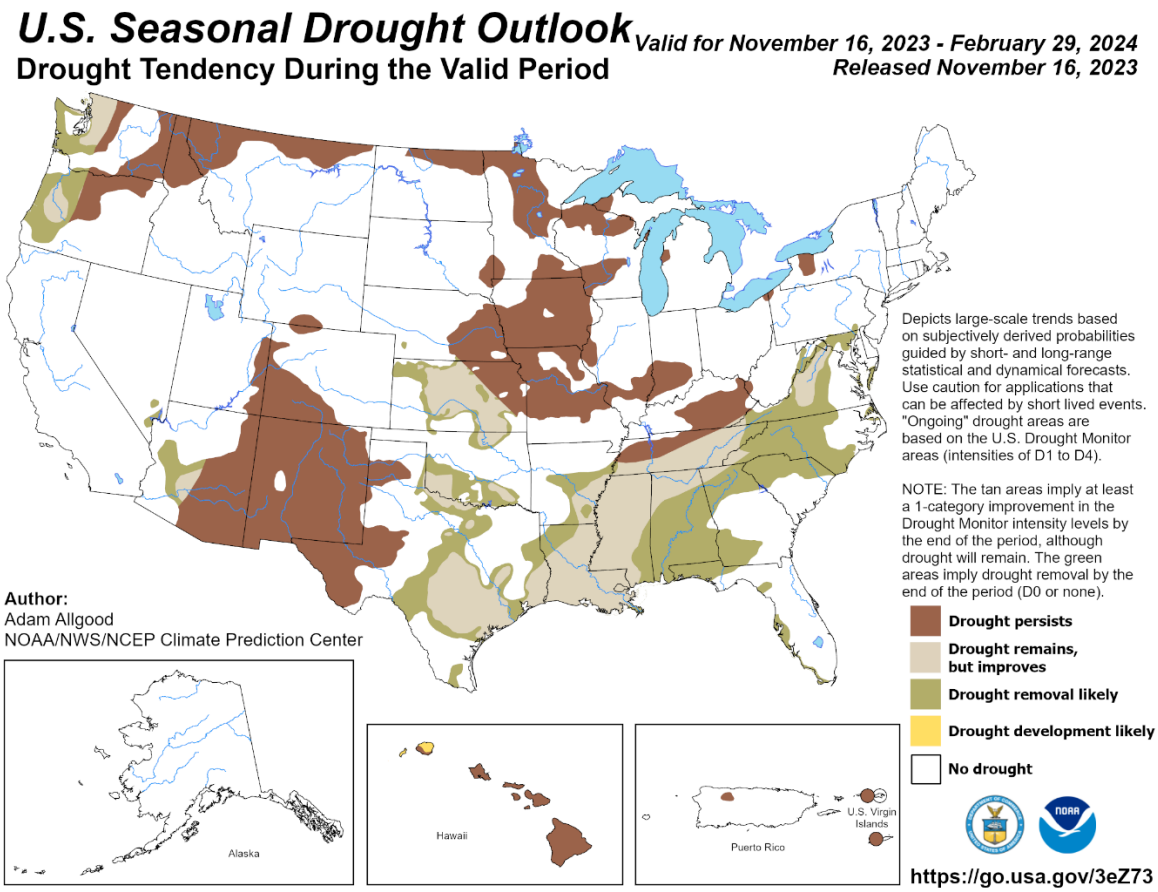
Legend

- Flooding Likely
- Flooding Occurring or Imminent
- Flooding Possible
- Freezing Rain
- Heavy Precipitation
- Heavy Rain
- Heavy Snow
- Hazardous Heat
- Hazardous Cold
- Frost/Freeze
- High Winds
- Significant Waves
- Critical Wildfire Risk
- Severe Weather



Seasonal Drought Outlook: November 16, 2023 – February 29, 2024

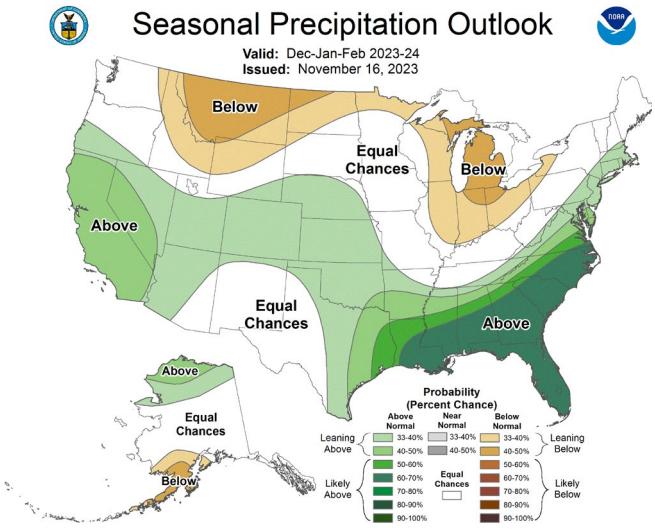
Source: National Weather Service



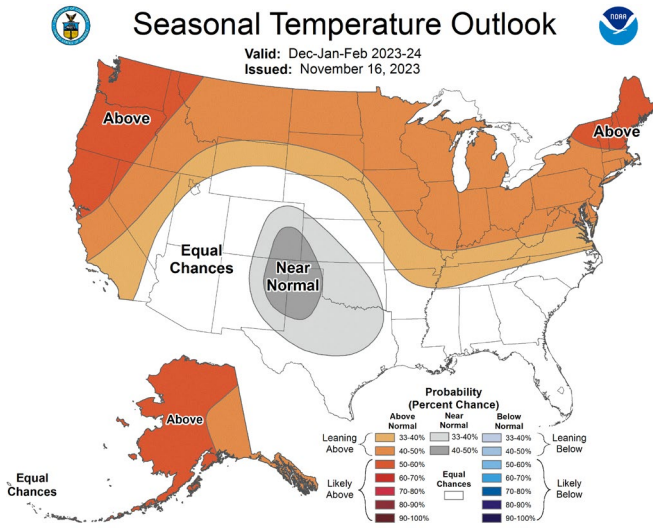
Climate Prediction Center Three-month Outlook

Source: National Weather Service

Precipitation



Temperature



December-January-February 2023-2024 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.