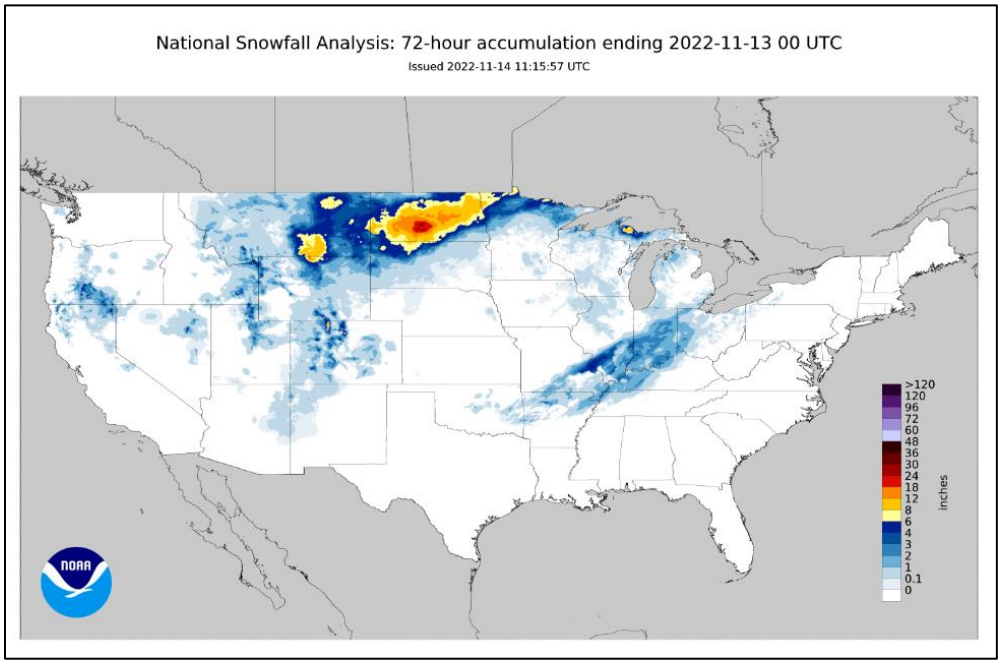
United States Department of Agriculture

Water and Climate Update

November 17, 2022

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.

Unusual Early Blizzard in the Northern Plains

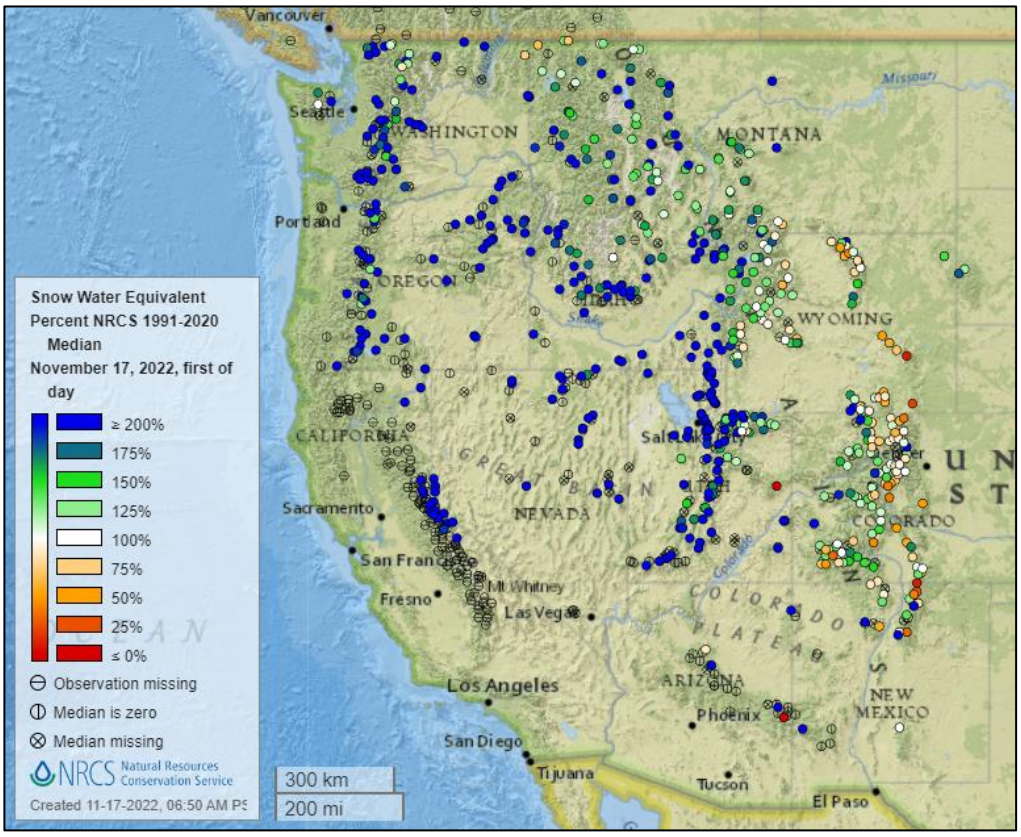


An early season blizzard in the Upper Midwest, which started on November 10, broke snowfall records for the date. The storm stretched from Wyoming to northern Minnesota, with North Dakota bearing the brunt of the snowfall. The National Weather Service in Bismarck, North Dakota, measured 17.1 inches of snow, nearly double of the previous record of 9.1 inches for the day, and nearly reaching all time one day record of 17.3 inches. Snow depth measurements in the nearby area of Mandan were as high as 24 inches. High winds accompanied the storms had gusts as high a 40–50 mph, creating drifts of 3 to 5 feet.

Related:

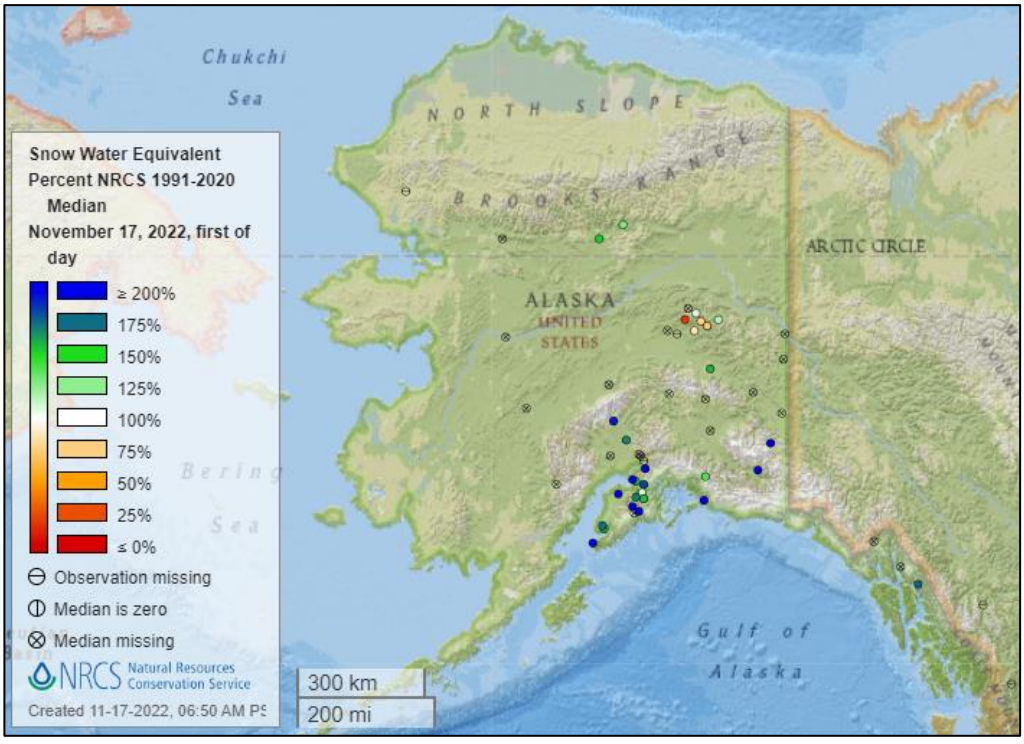
Storm in Plains to unleash blizzard conditions and hefty snowfalls – Washington Post
Blizzard blasts Bismarck snowfall record; Mandan totals reach 2 feet – The Bismarck Tribune
Plains blizzard heralds unusually cold weather pattern for Lower 48 – The Washington Post
Winter is coming: First blizzard of the season set to drop snow across north-central US – Milwaukee Journal Sentinel
Heavy snow, ice, wind rage across northern Minnesota; temps crash – MPR News
State, local crews have enough plow drivers as first blizzard of season sweeps North Dakota and Minnesota – Yahoo!
Winter is coming: First blizzard of the season set to drop snow across north-central US – The Indianapolis Star

Snow



[Snow water equivalent percent of median map]

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

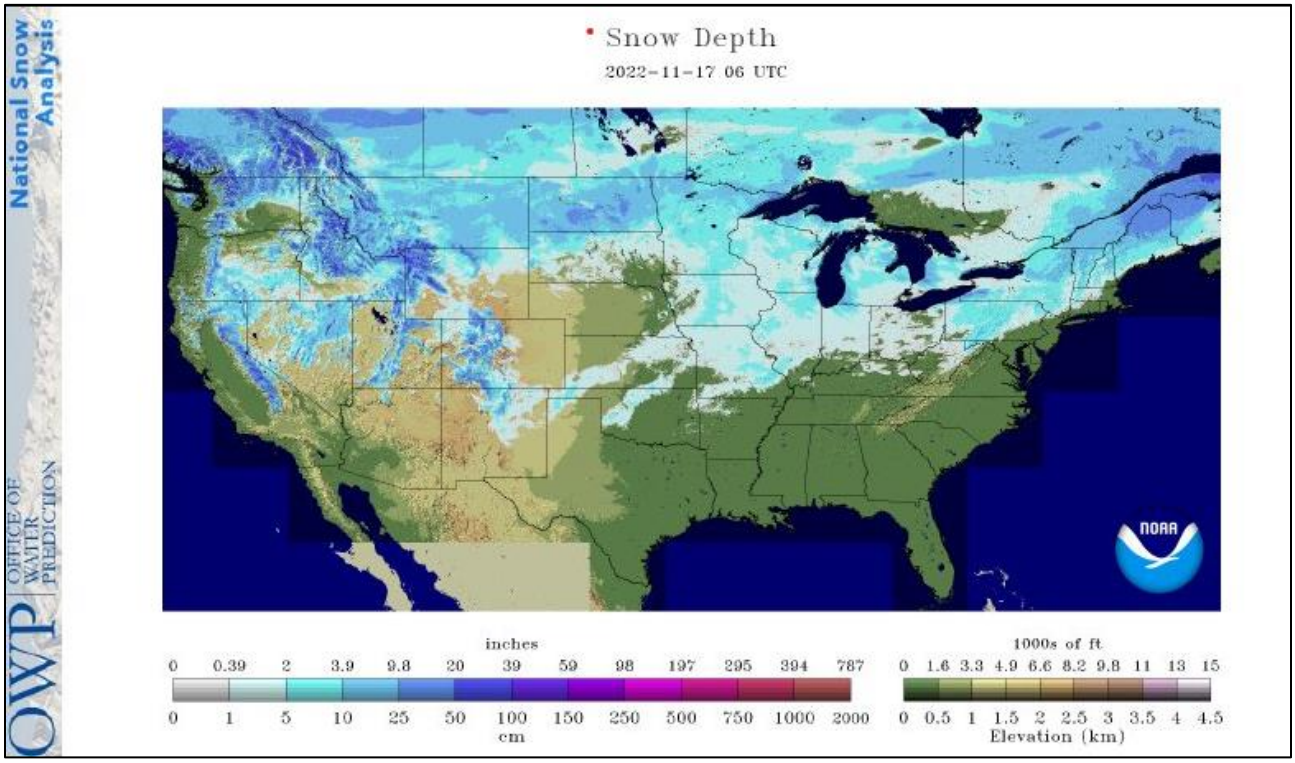


[Alaska snow water equivalent percent of median map]

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

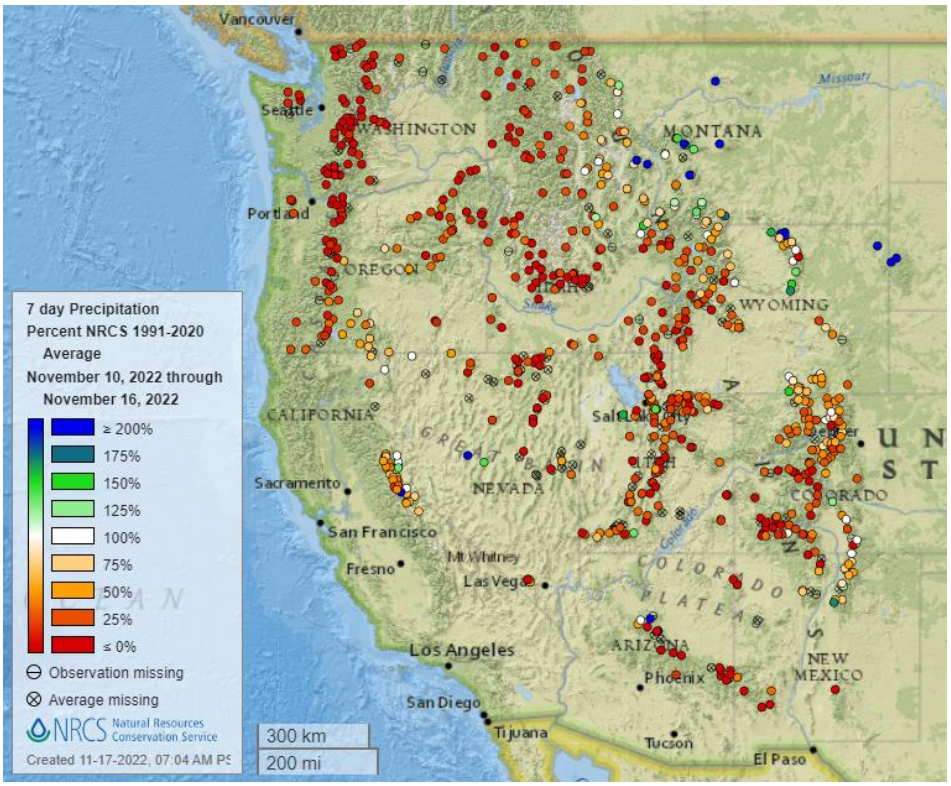
Current Snow Depth, National Weather Service Snow Analysis

Source: NOAA NWS National Operational Hydrologic Remote Sensing Center



Precipitation

Last 7 Days, NRCS SNOTEL Network

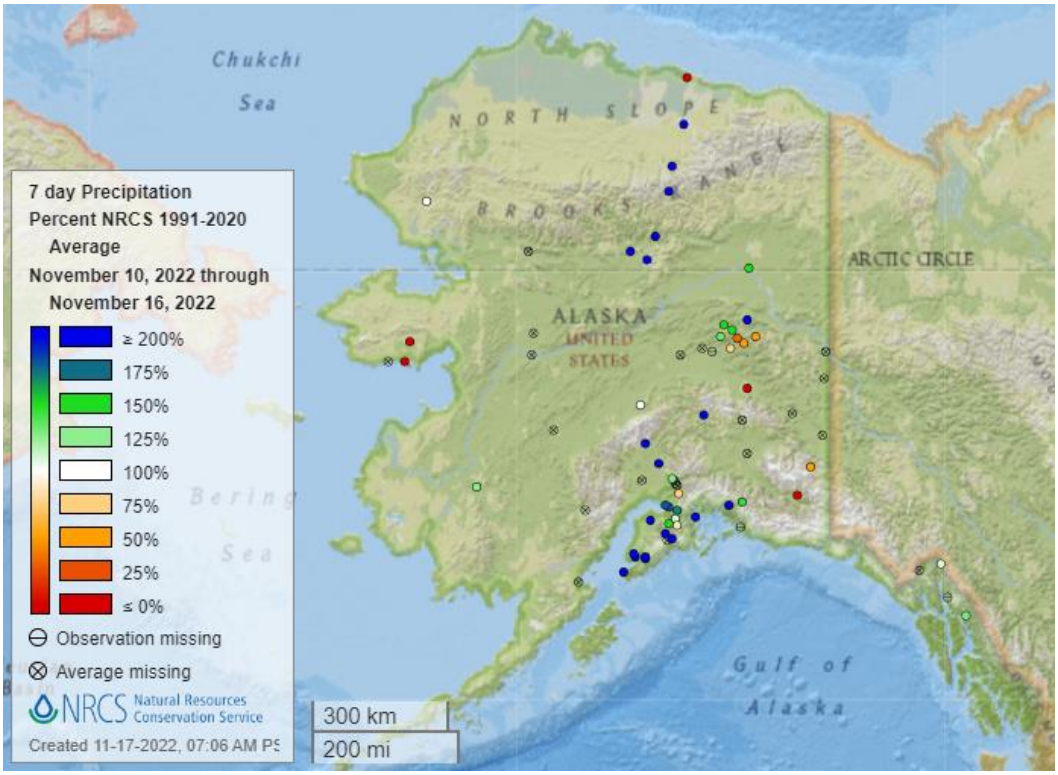


[7-day precipitation percent of average map]

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

[Alaska 7-day precipitation percent of average map]

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

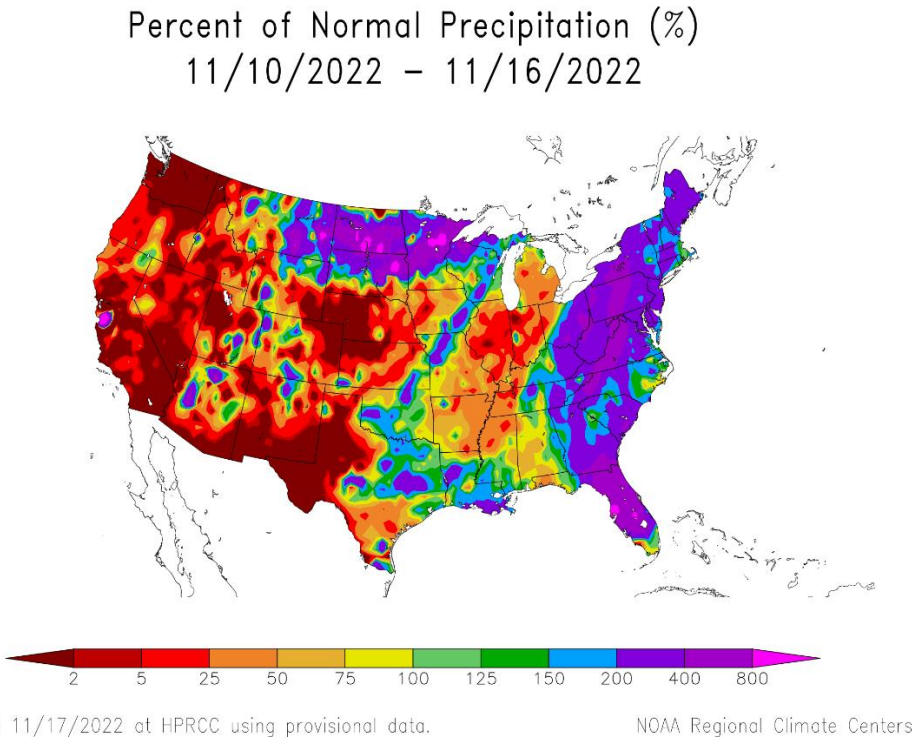


Last 7 Days, National Weather Service (NWS) Networks

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

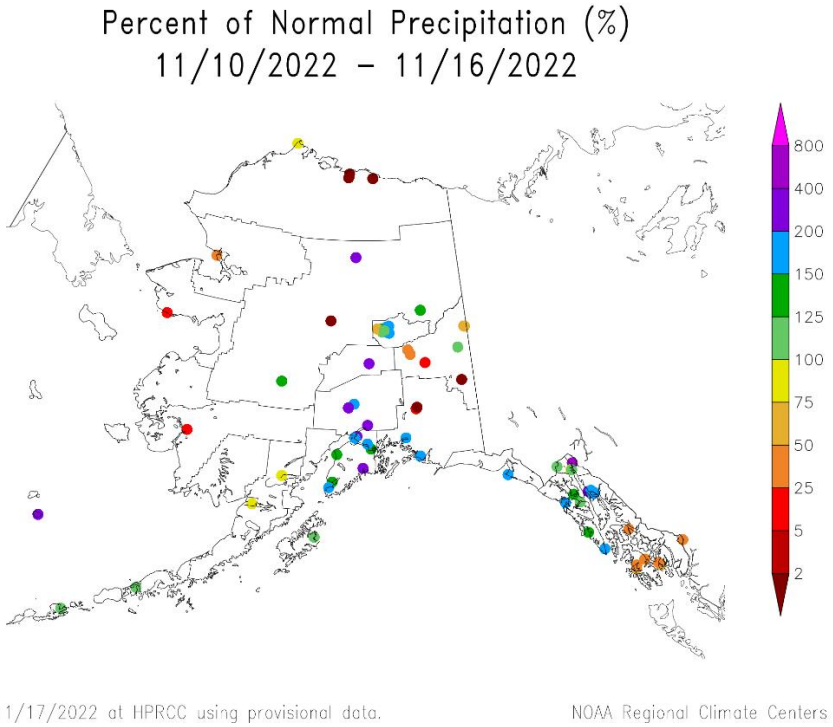


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

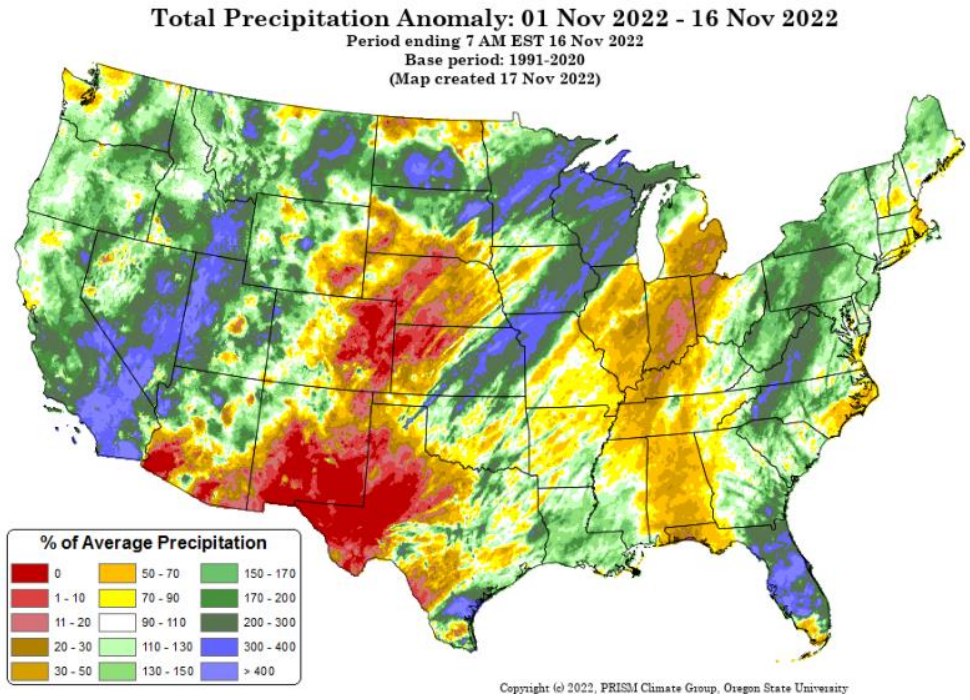
7-day precipitation percent of normal map for Alaska.

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



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

Source: PRISM

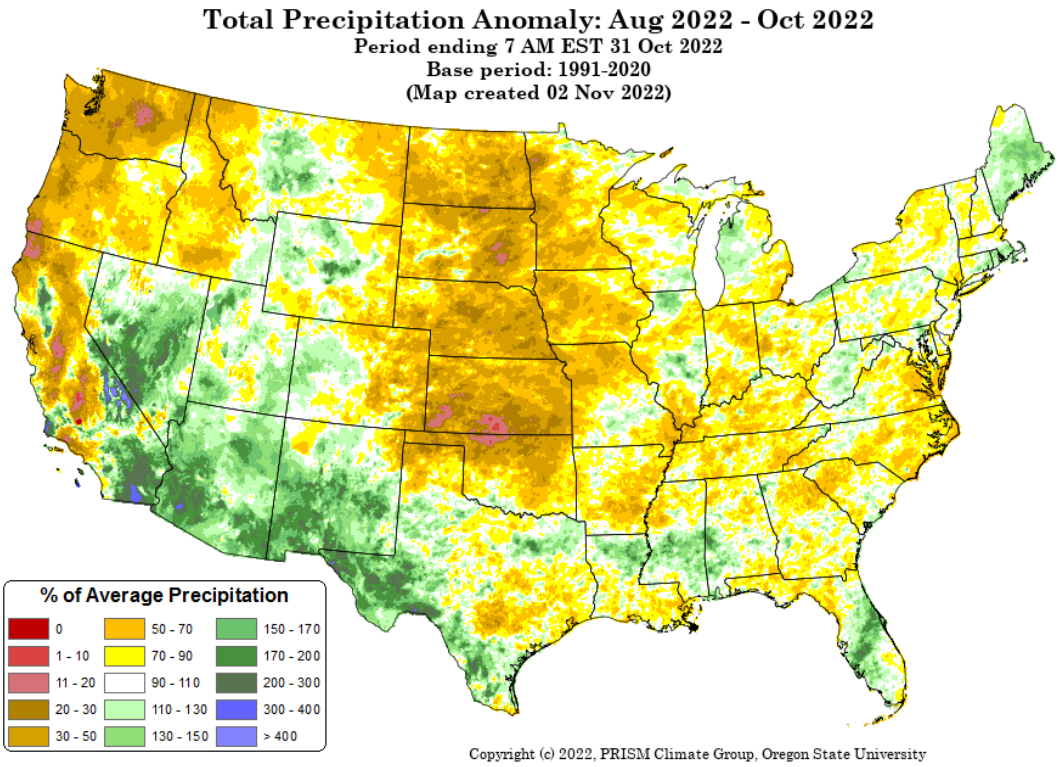


Month to date national total precipitation anomaly map

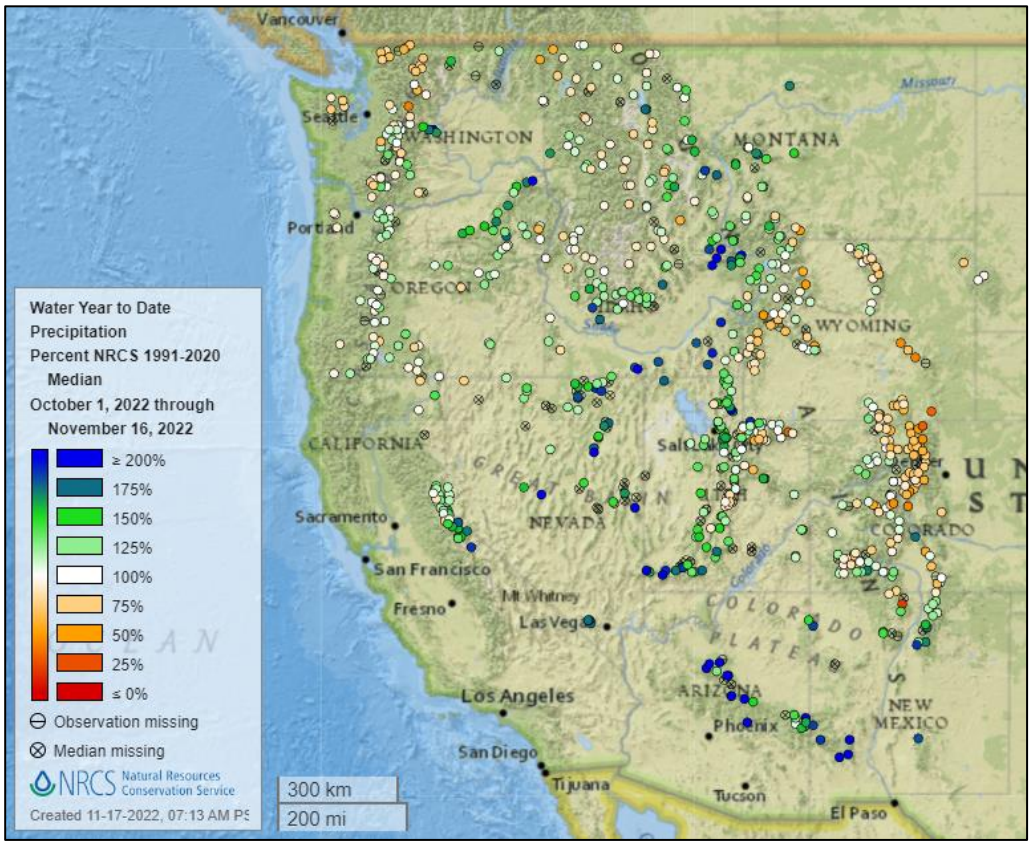
Last 3 Months, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

August through October 2022 precipitation anomaly map



Water Year-to-Date, NRCS SNOTEL Network

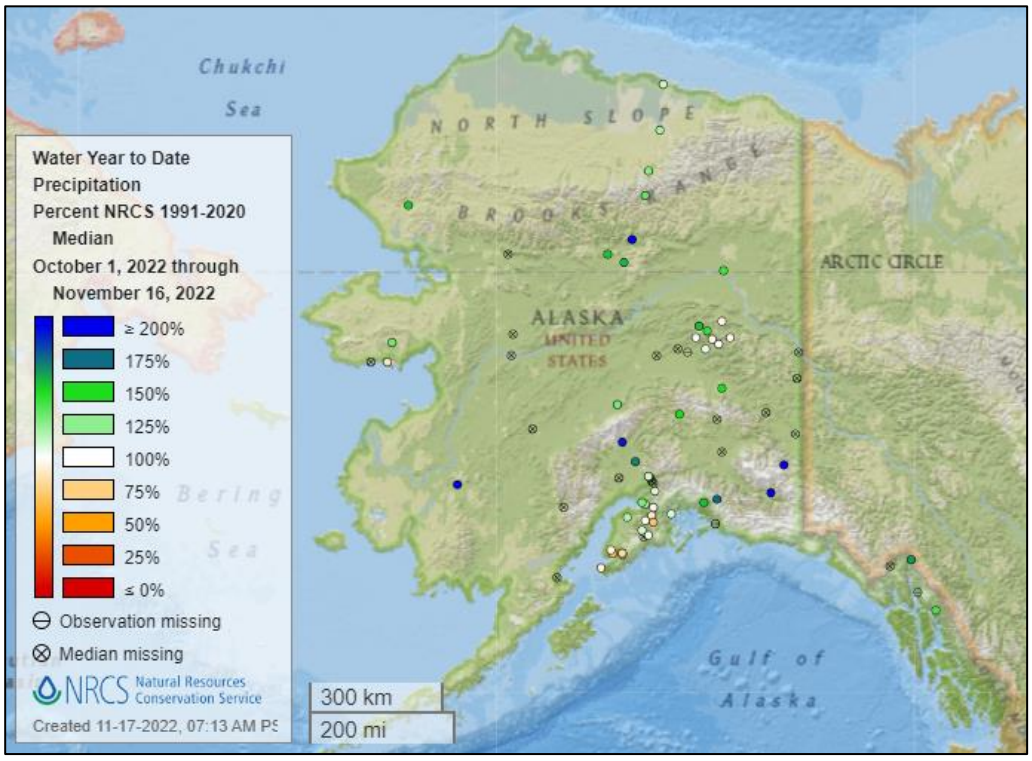


[2023 water year-to-date precipitation percent of median map]

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]

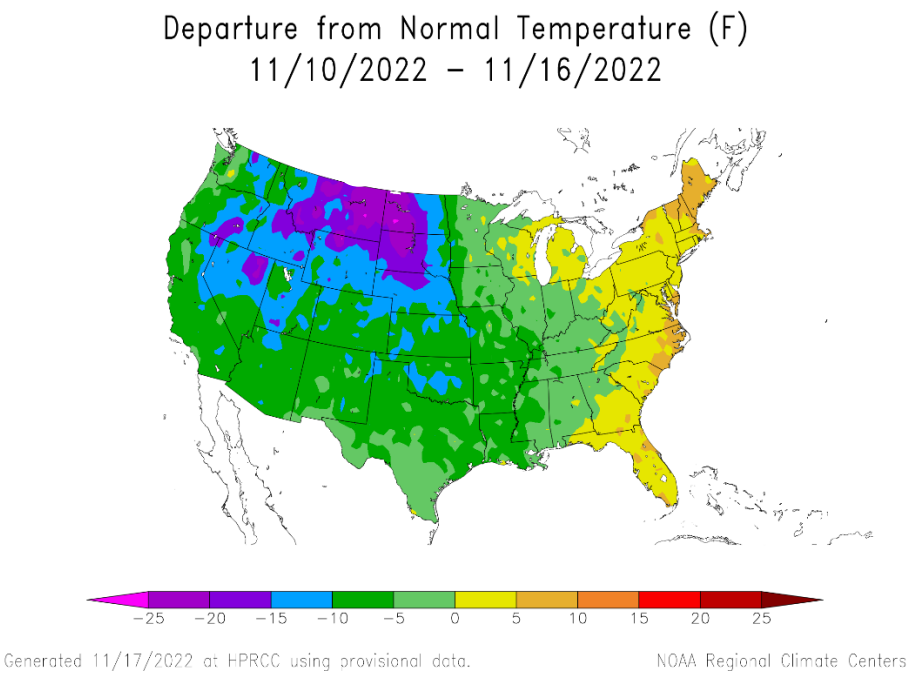
Temperature

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]

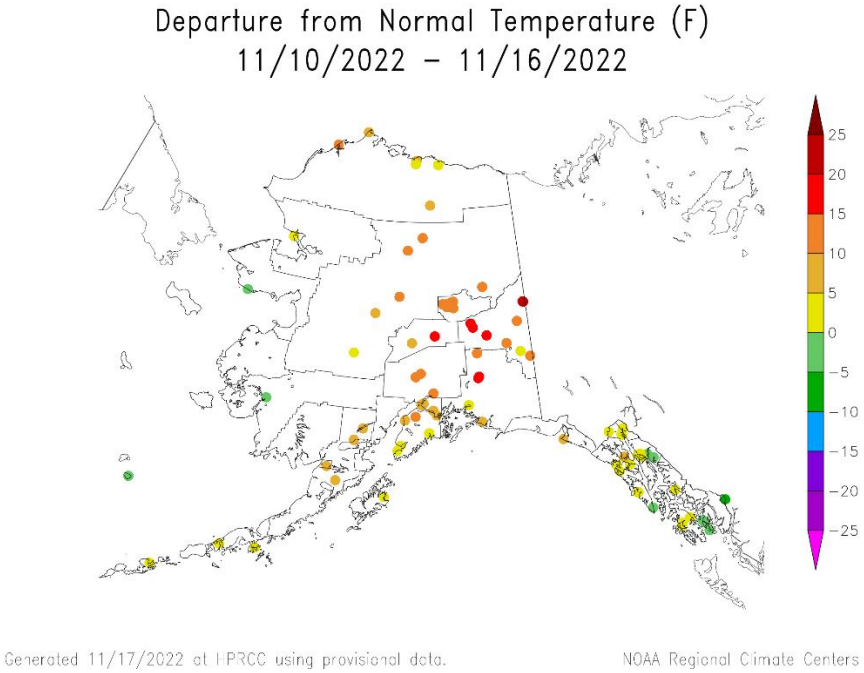


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

[7-day temperature anomaly map] for Alaska.

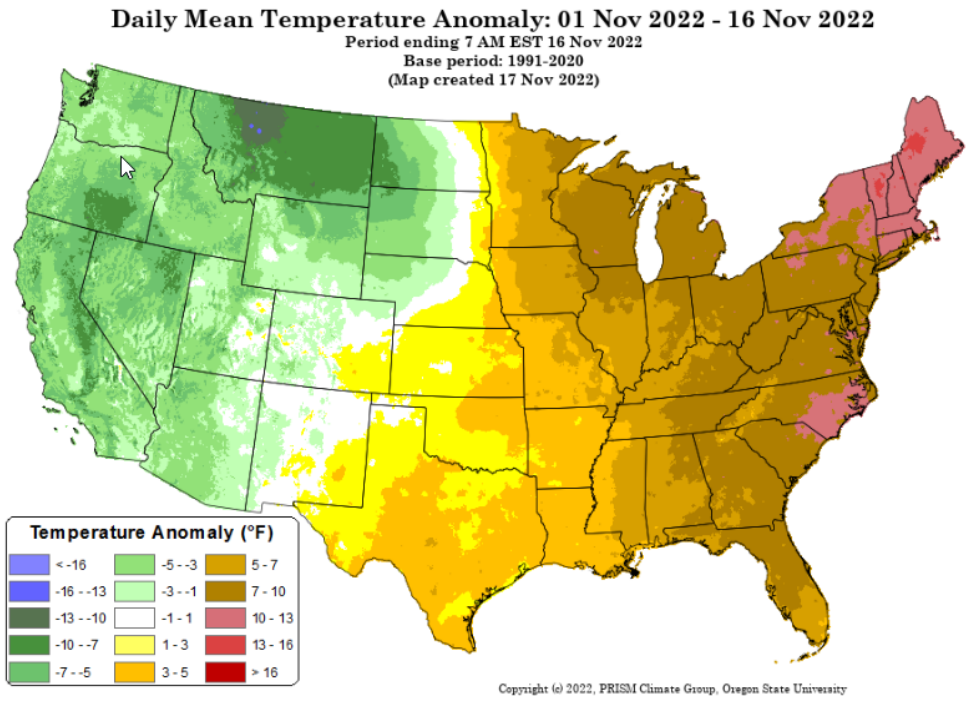
See also:
[7-day temperature (° F) map]



Month to date, All Available Data Including SNOTEL and NWS Networks

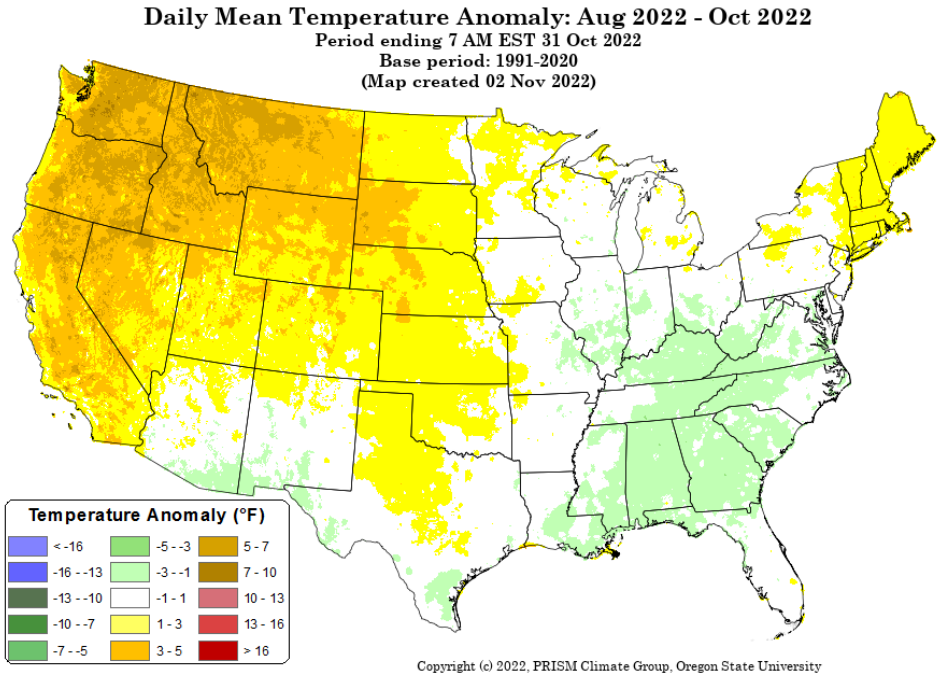
Source: PRISM

[Month to date national daily mean temperature anomaly map]



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

Source: PRISM

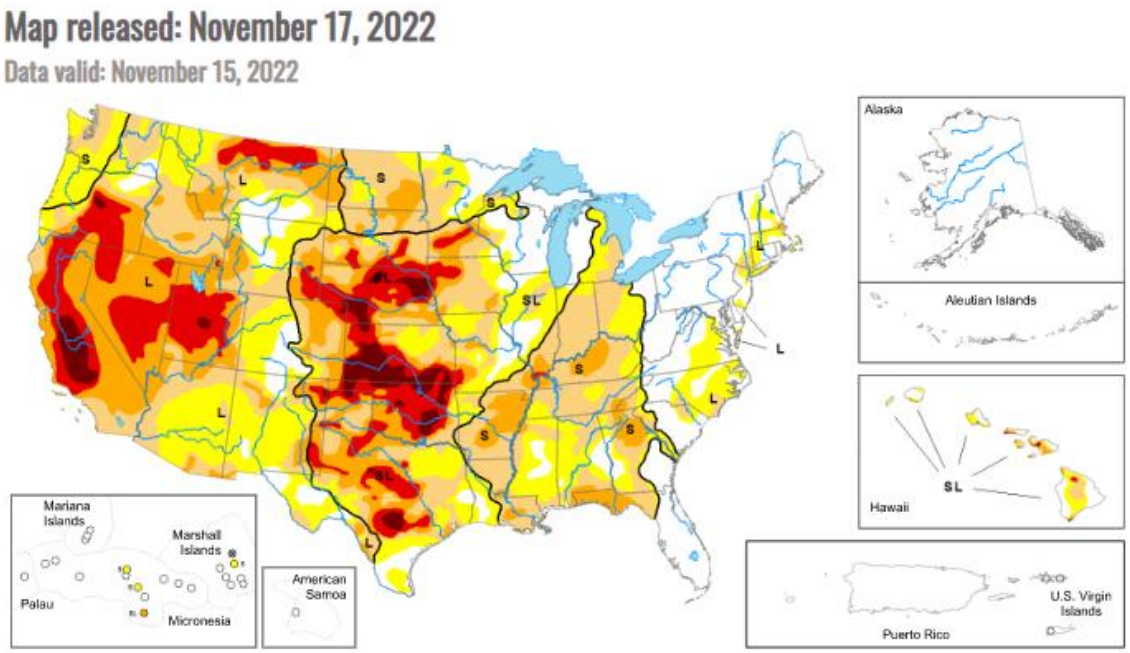


[August through October 2022 daily mean temperature anomaly map]

Drought

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

U.S. Drought Portal
Source: NOAA



United States and Puerto Rico Author(s):
Brad Rippey, U.S. Department of Agriculture

Pacific Islands and Virgin Islands Author(s):
Richard Heim, NOAA/NCEI

☐ View grayscale version of the map

The data cutoff for Drought Monitor maps is each Tuesday at 7 a.m. EST. The maps, which are based on analysis of the data, are released each Thursday at 8:30 a.m. Eastern Time.

Intensity and Impacts

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data

~ - Delineates dominant impacts
S - Short-term impacts, typically less than 6 months (agriculture, grasslands)
L - Long-term impacts, typically greater than 6 months (hydrology, ecology)
SL - Short- and long-term impacts

Current National Drought Summary, November 15, 2022

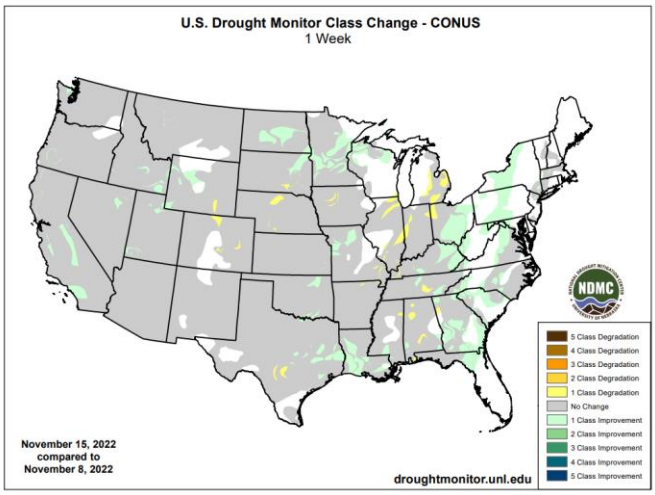
Source: National Drought Mitigation Center

"In some areas of the country, storminess chipped away and dryness and drought. Notably, on the 10th, Nicole became the first November hurricane to make landfall on the U.S. mainland since 1985, when Kate struck near Mexico Beach, Florida, on November 21. Nicole, a Category 1 hurricane with sustained winds near 75 mph, moved ashore just south of Vero Beach, Florida, around 3 am EST. Nicole's remnants eventually affected the entire eastern U.S., providing varying degrees of relief from autumn dryness. Some of the heaviest rain, locally 4 inches or more, fell in the central and southern Appalachians and neighboring areas. The rain helped to boost streamflow in the upper reaches of the Ohio River basin, with runoff moving downstream as the drought-monitoring period ended. Farther west, a storm system produced heavy snow and local blizzard conditions in the north-central U.S., while parts of the West received drought-easing precipitation. However, many other areas of the country remained mostly dry. Frigid conditions developed in conjunction with the Western storminess and expanded eastward, while much of the lingering warmth in the South and East was swept away, shortly after Nicole's departure."

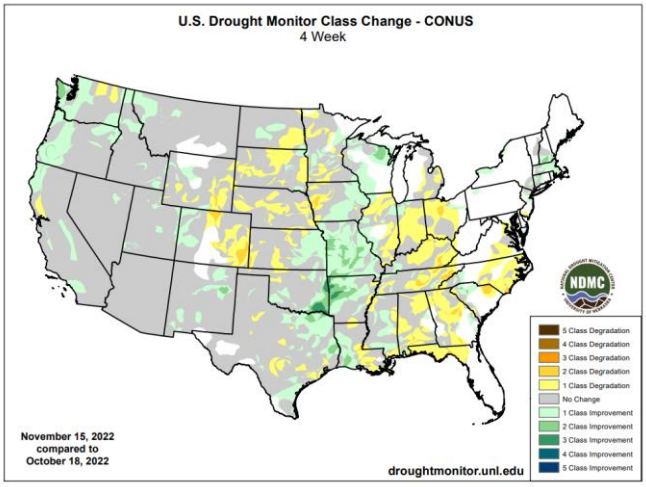
Changes in Drought Monitor Categories over Time

Source: National Drought Mitigation Center

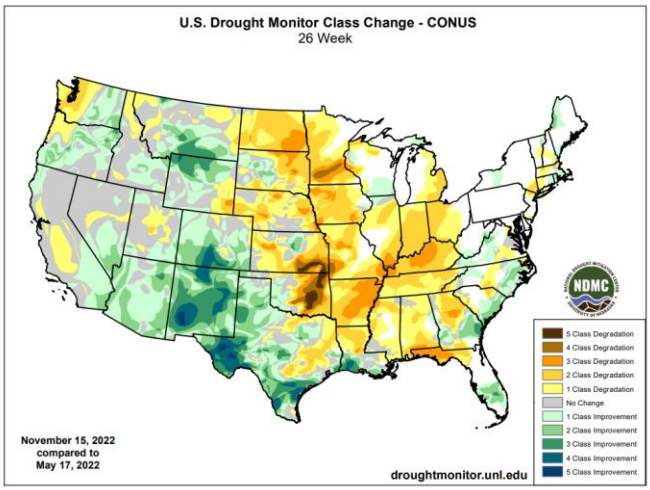
1 Week



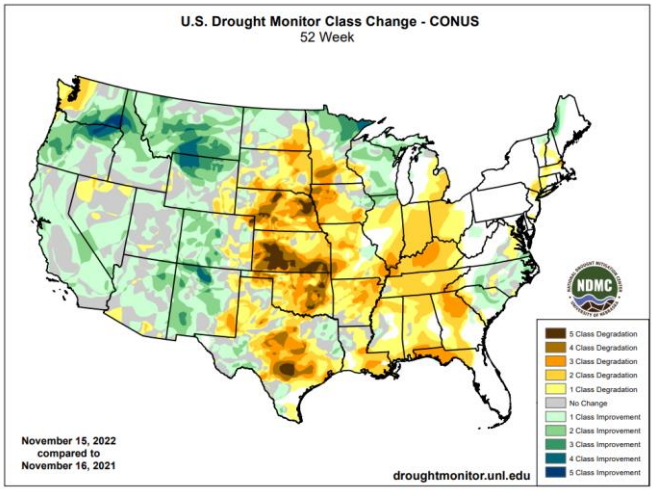
1 Month



6 Months



1 Year



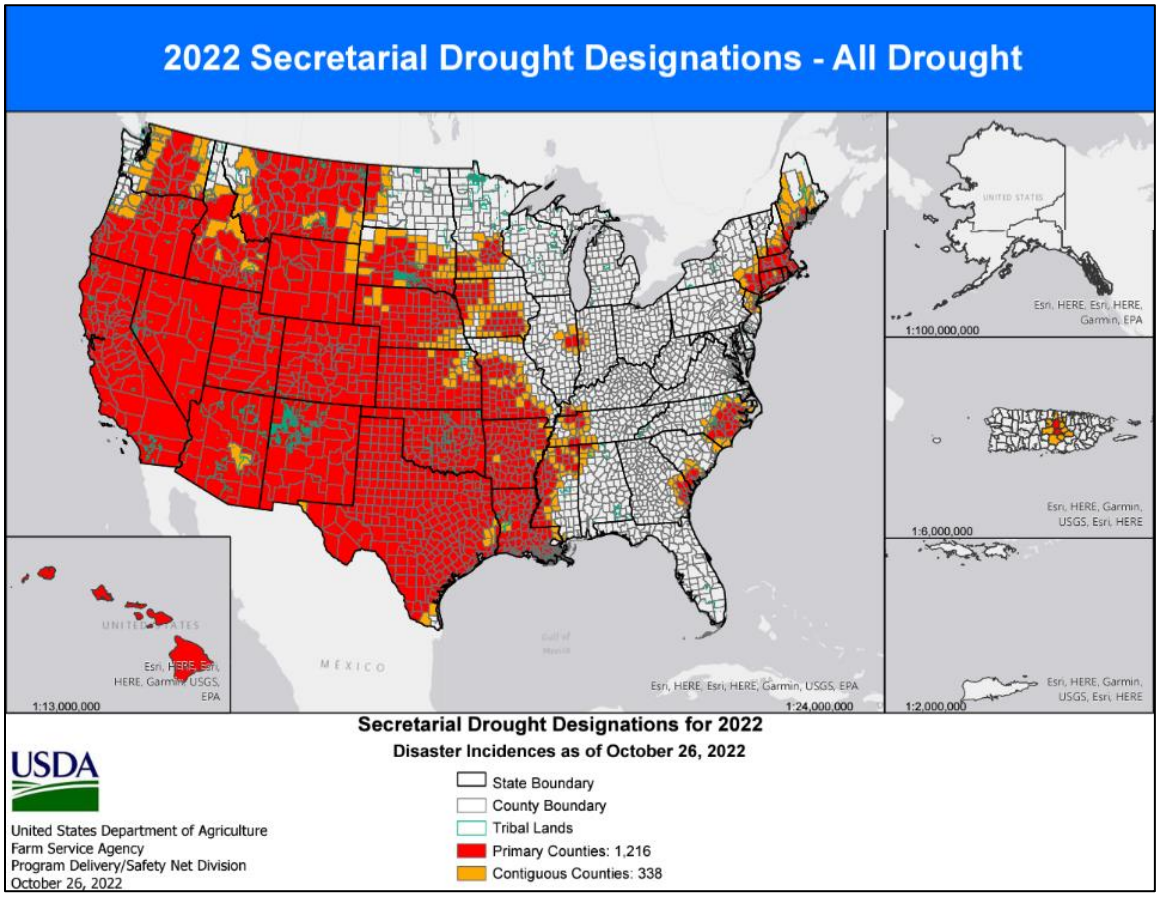
Changes in drought conditions over the last 12 months for the contiguous U.S.

Highlighted Drought Resources

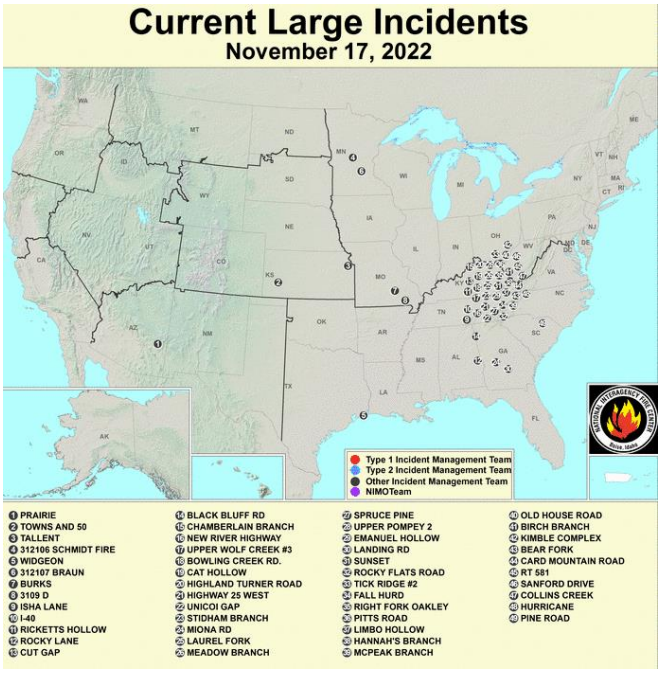
- Drought Impact Reporter
- Quarterly Regional Climate Impacts and Outlook
- U.S. Drought Portal Indicators and Monitoring
- U.S. Population in Drought, Weekly Comparison
- USDA Disaster and Drought Information

USDA Secretarial Drought Designations

Source: USDA Farm Service Agency



Wildfires: USDA Forest Service Active Fire Mapping



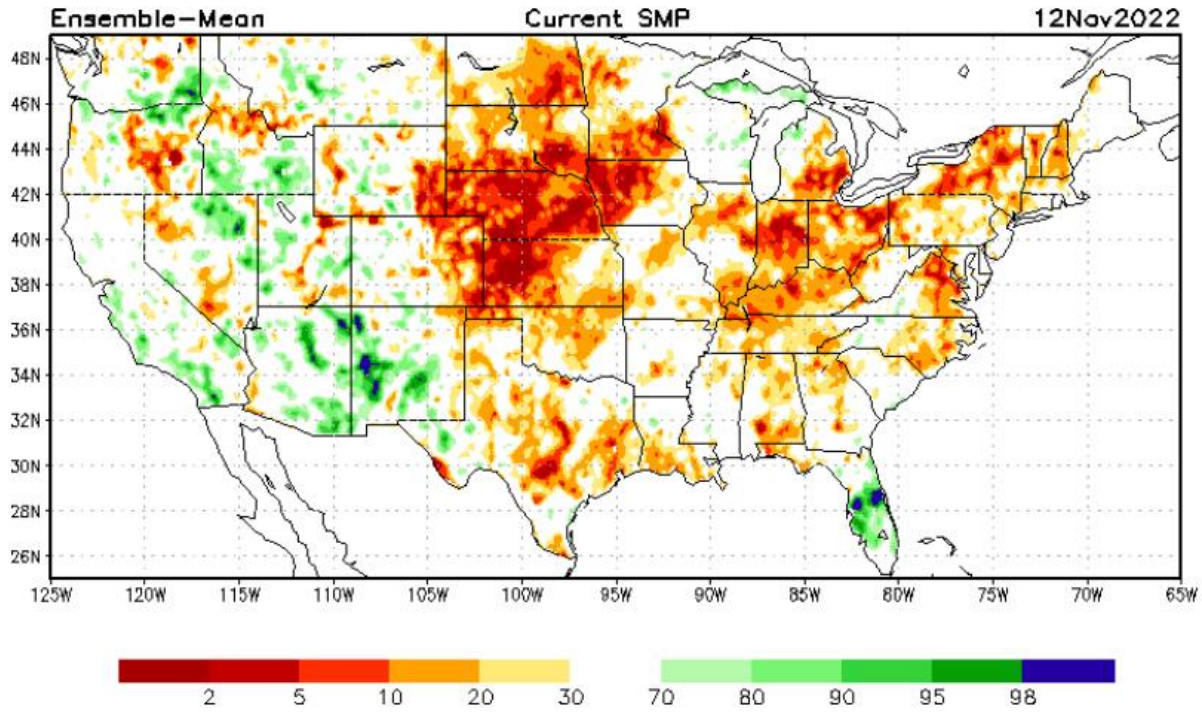
Highlighted Wildfire Resources

- 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

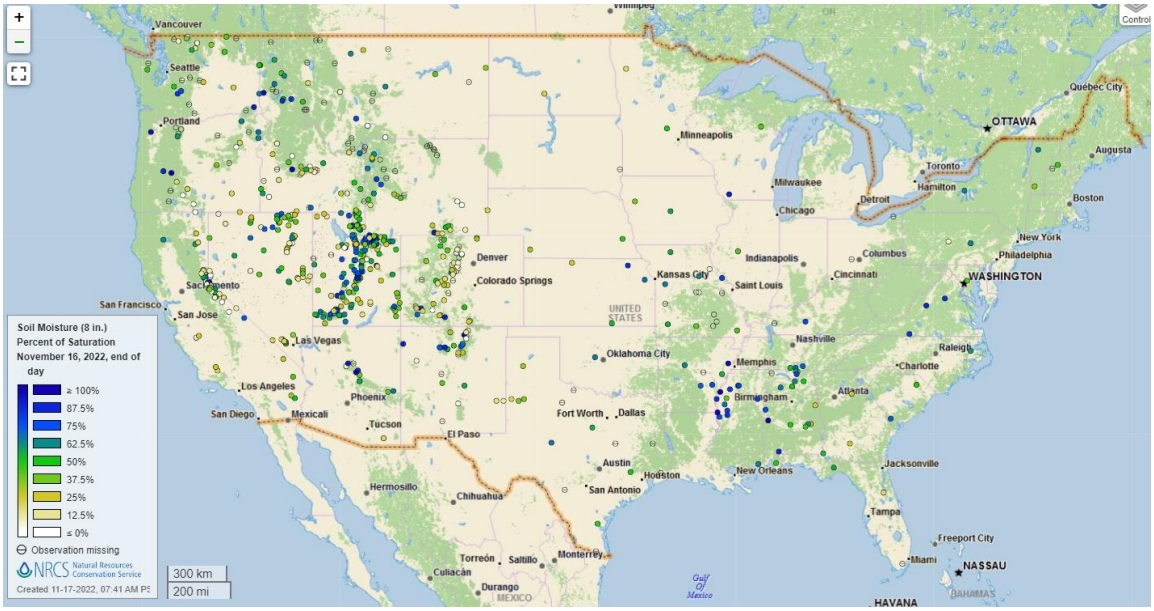


Modeled soil moisture percentiles as of October 29, 2022

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)

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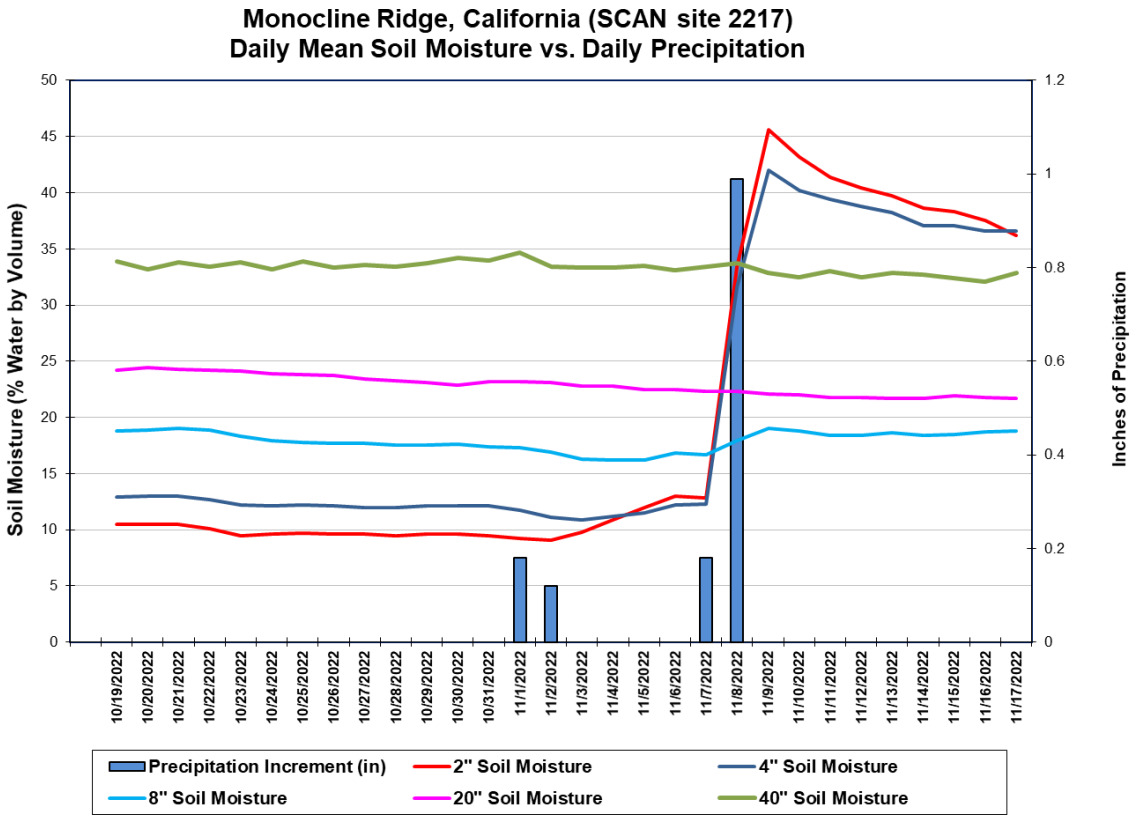


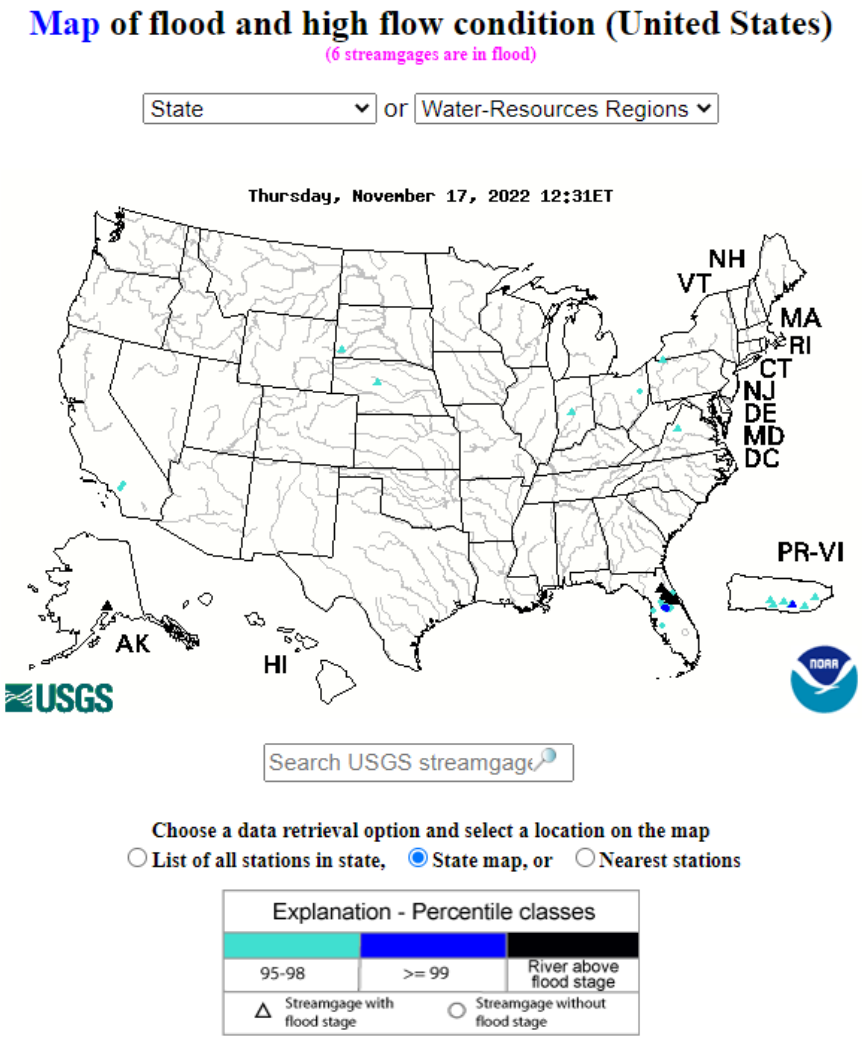
This chart shows the precipitation and soil moisture for the last 30 days at the Monocline Ridge SCAN site in California. The largest precipitation event fell on November 7-8 and resulted in an increase in soil moisture at the -2, -4, and -8-inch sensors. The deeper soil sensors reported no change. Total precipitation for the period was 1.47 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

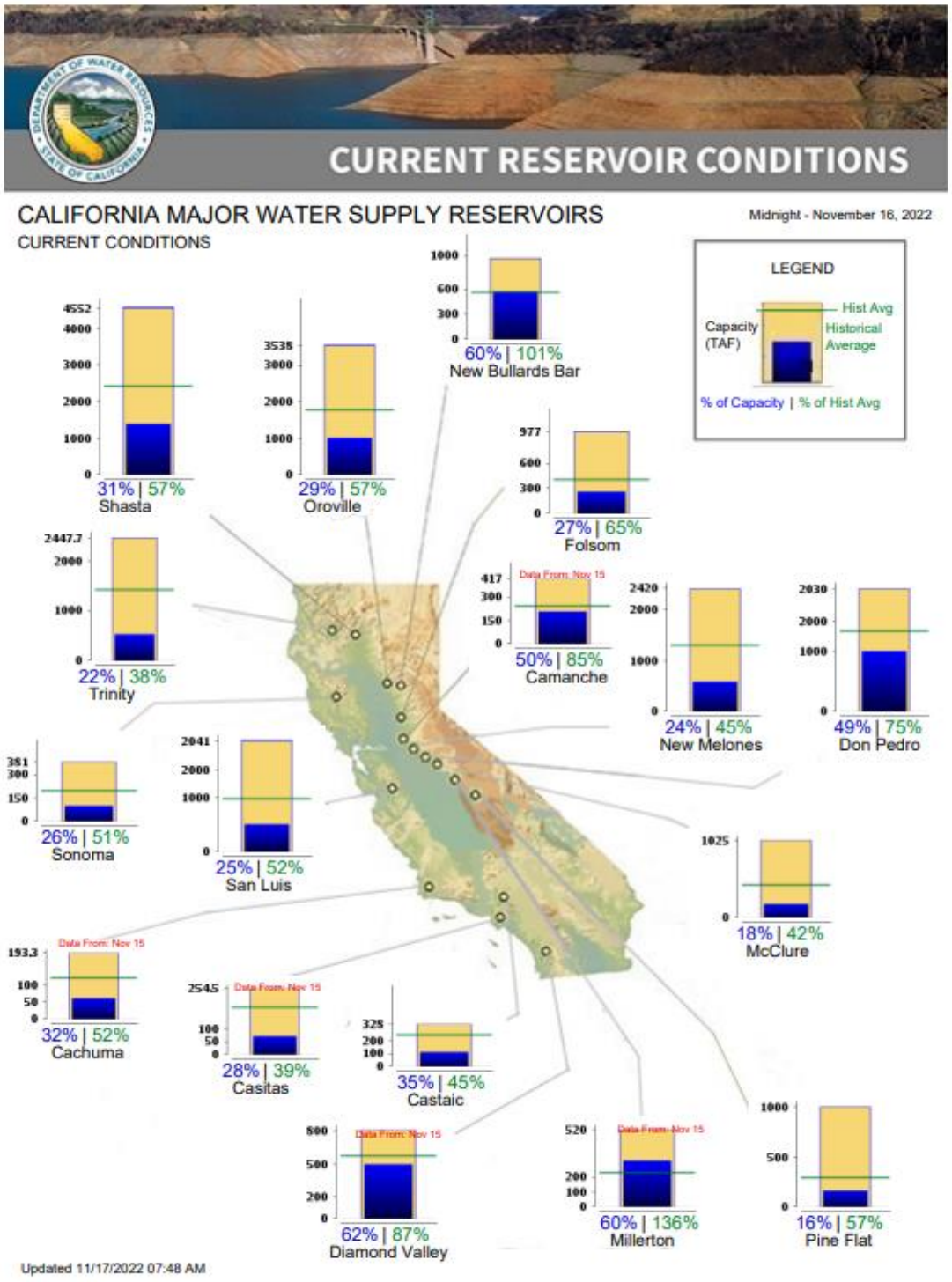
Hydromet Teacup Reservoir Depictions

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

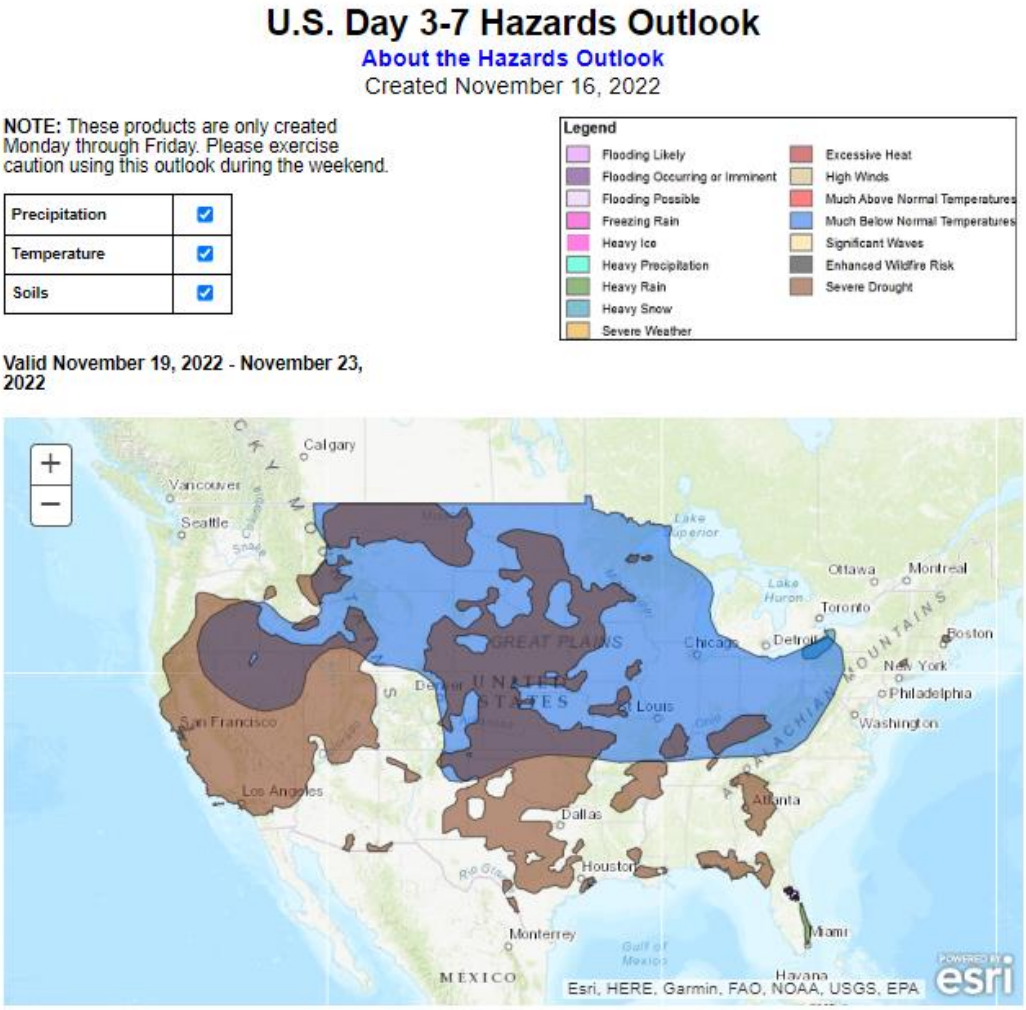
Agricultural Weather Highlights

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

National Outlook, Thursday, November 17, 2022: "Cold air will remain deeply entrenched during the next several days, especially east of the Rockies. Weekend low temperatures could fall below 20°F as far south as the Tennessee Valley and dip to 32°F nearly to the Gulf Coast, except in southern Texas and peninsular Florida. Rain may fall at times across the Deep South, especially in the western Gulf Coast region and southern Florida. Farther north, an early-season snow squall event will persist for several days downwind of the Great Lakes. Favored locations east of Lakes Erie and Ontario could receive snowfall totaling 4 feet or more. Meanwhile, a light snow event across the eastern slopes of the Rockies and adjacent High Plains will wind down by Friday. The remainder of the country will remain dry into early next week, when showers will begin to overspread the Pacific Northwest. The NWS 6- to 10-day outlook for November 22 – 26 calls for the likelihood of near- or above-normal temperatures nationwide, except for lingering cooler-than-normal conditions in the middle and northern Atlantic States and parts of the south-central U.S. Meanwhile, near- or below-normal precipitation from California to the Plains, Midwest, and mid-South should contrast with wetter-than-normal weather in the Northwest and large sections of the Gulf and Atlantic Coast States."

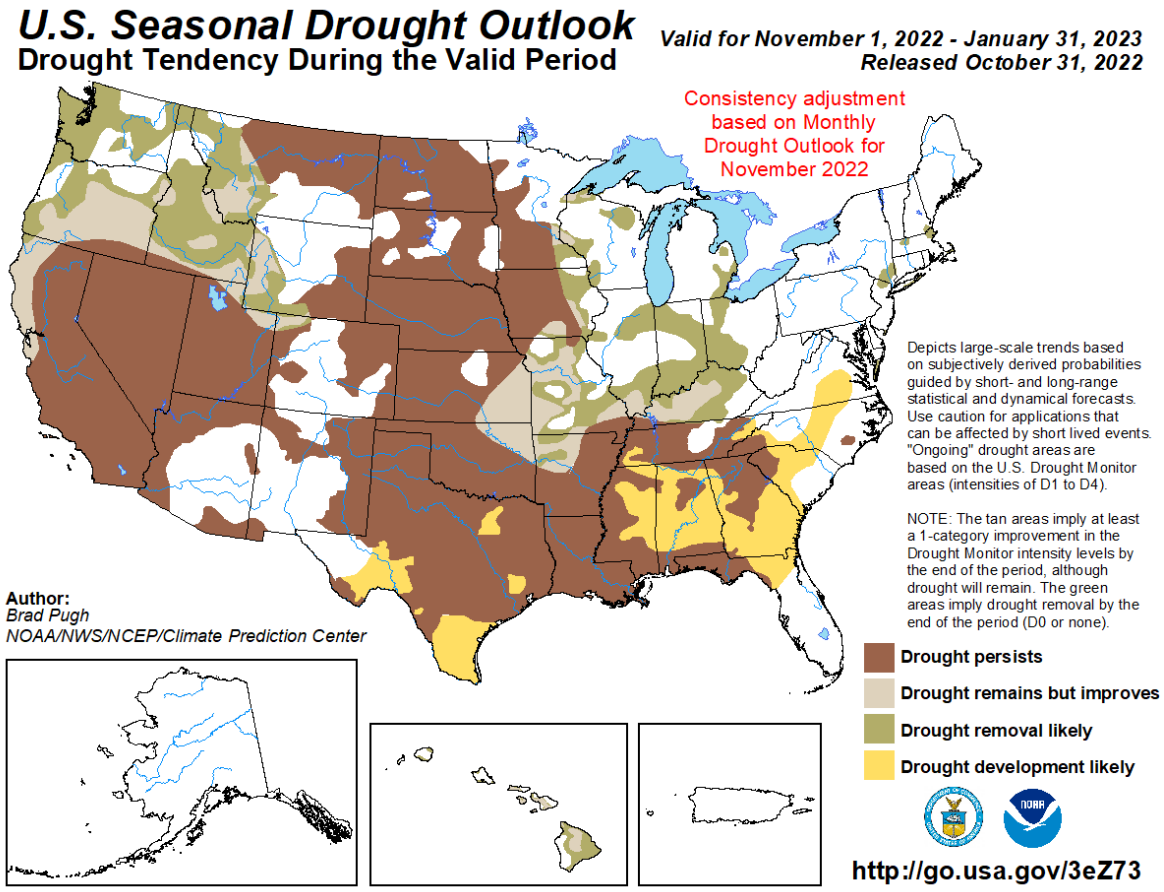
Weather Hazards Outlook: November 19 – 23, 2022

Source: NOAA Weather Prediction Center



Seasonal Drought Outlook: November 01, 2022 – January 31, 2023

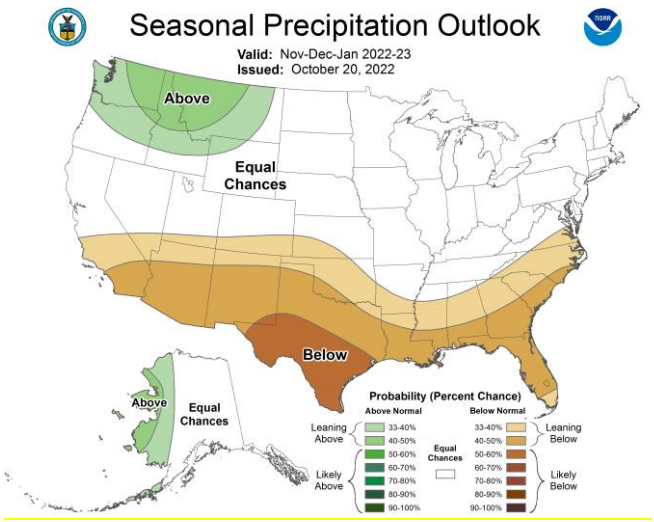
Source: National Weather Service



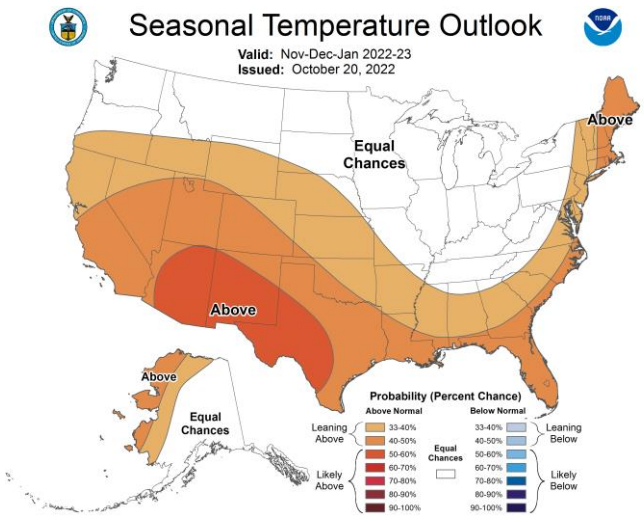
Climate Prediction Center 3-Month Outlook

Source: National Weather Service

Precipitation



Temperature



November-December-January 2022-2023 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.