United States Department of Agriculture

Water and Climate Update

February 02, 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.

Ice storm brings power outages and travel delays to the South

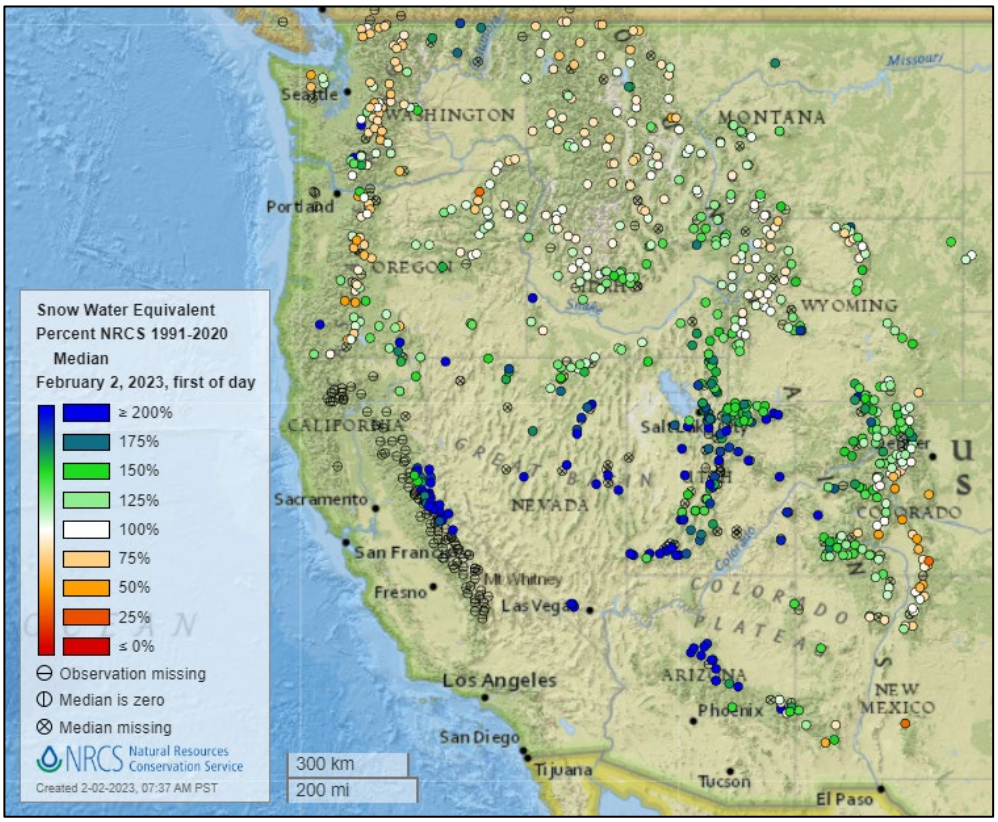
Photo courtesy of the National Weather Service, Memphis, TN

A significant ice storm ranged across the southern U.S. this week. Treacherous road conditions, hundreds of cancelled flights, and hundreds of thousands of reported power outages were among some of the impacts caused by the storm. While the South recovers from the impacts of the event, the northern Plains, Upper Midwest, and northeastern U.S. are preparing for an arctic blast that is expected to bring dangerously cold temperatures to the region.

Related:

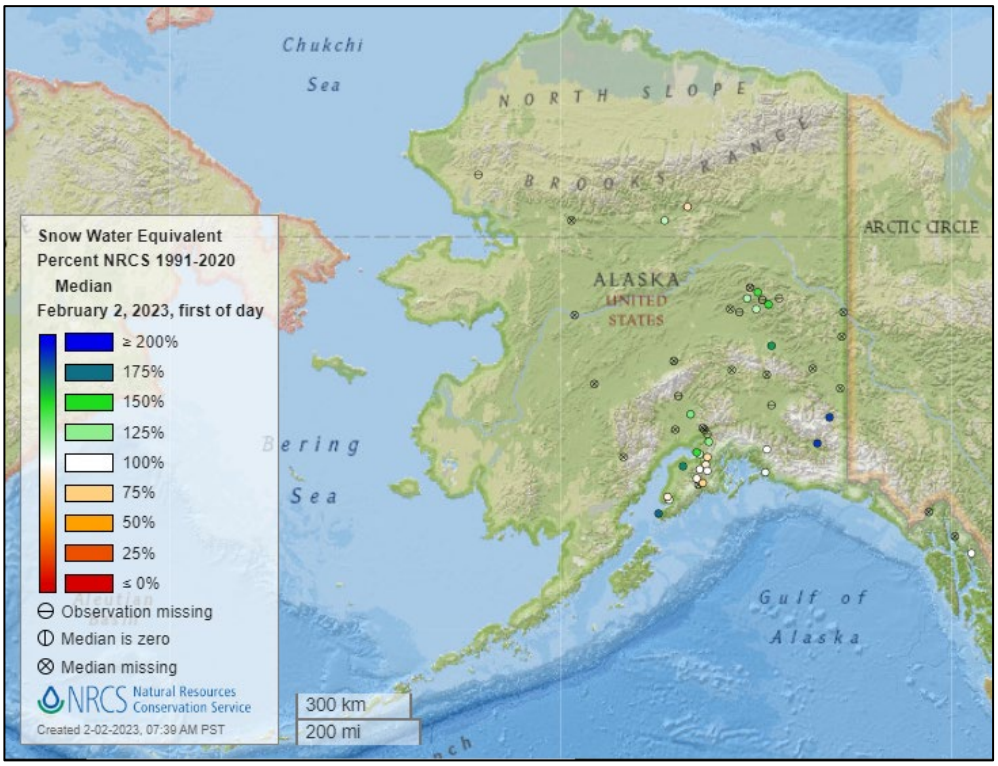
January 31, 2023 Ice storm hits the South and central US – CNN
An ice storm is unleashing treacherous conditions across parts of the Southern U.S. – NPR
Gallery: WFAA viewers share photos from winter storm moving through North Texas – WFAA (TX)
Hundreds of thousands of Texans still don't have heat, and some Austin-area outages could last until Friday - Texas Tribune (TX)
340K without power amid frigid temperatures in Texas; 2,300 flights canceled, at least 6 dead as winter storm sweeps US: Updates – USA Today

Snow



[Snow water equivalent percent of median map]

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

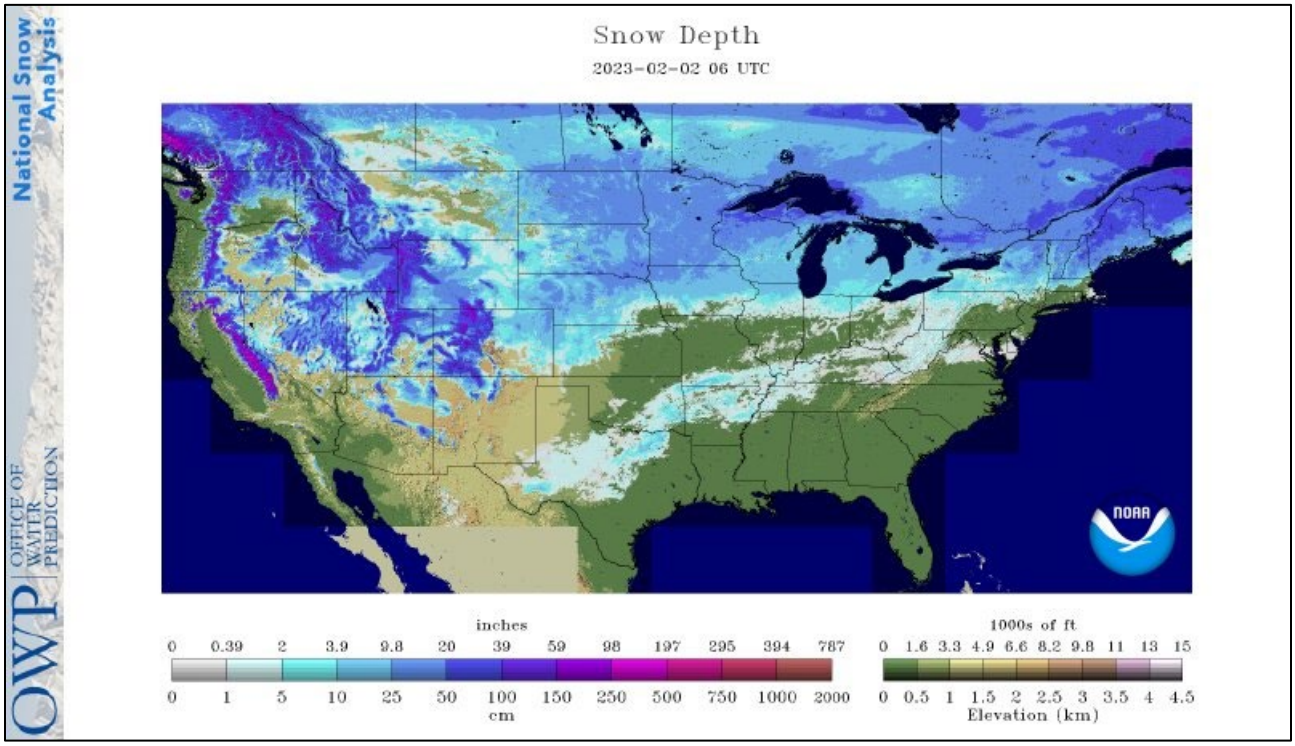


[Alaska snow water equivalent percent of median map]

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

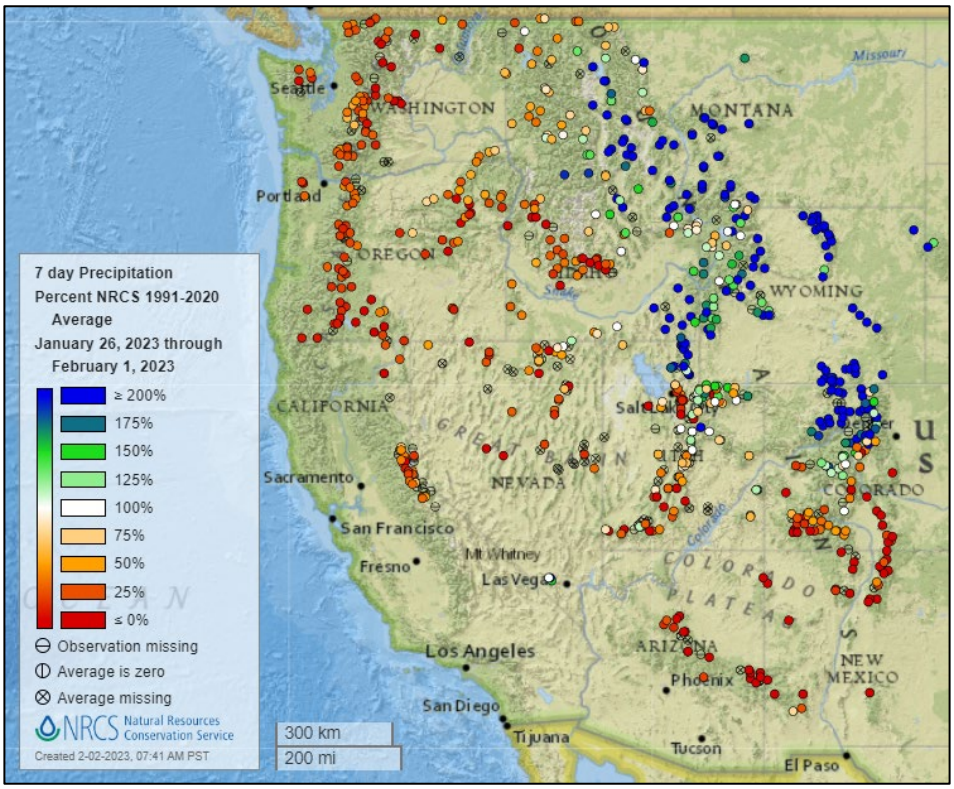
Current Snow Depth, National Weather Service Snow Analysis

Source: NOAA NWS National Operational Hydrologic Remote Sensing Center



Precipitation

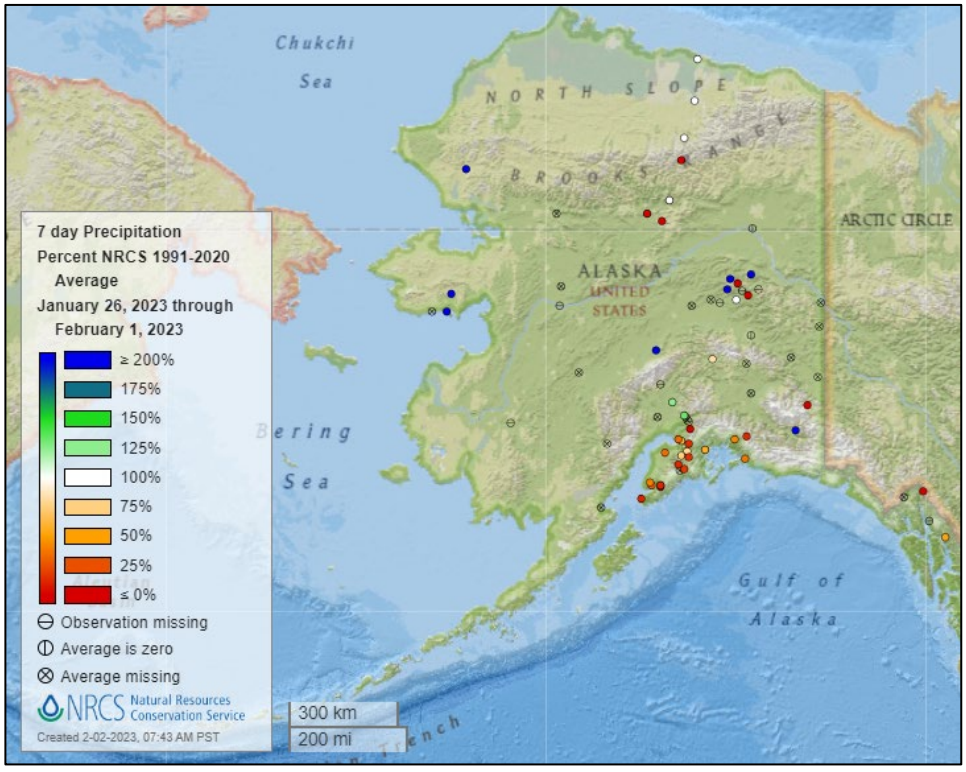
Last 7 Days, NRCS SNOTEL Network



[7-day precipitation percent of average map]

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

[Alaska 7-day precipitation percent of average map]



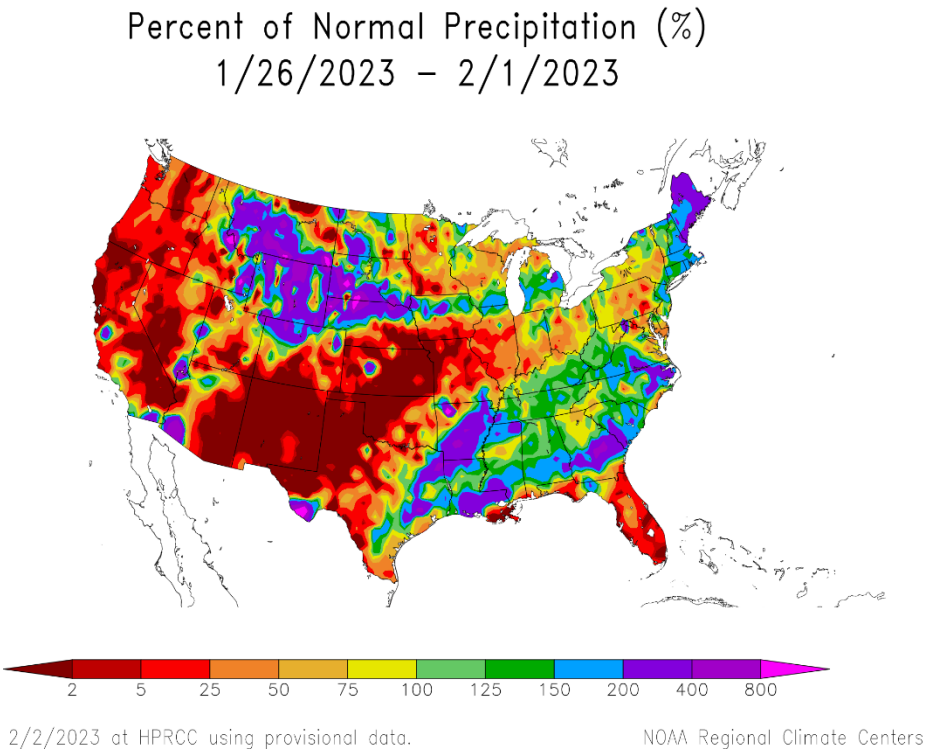
See also:
[Alaska 7-day total precipitation values (inches) map]

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]

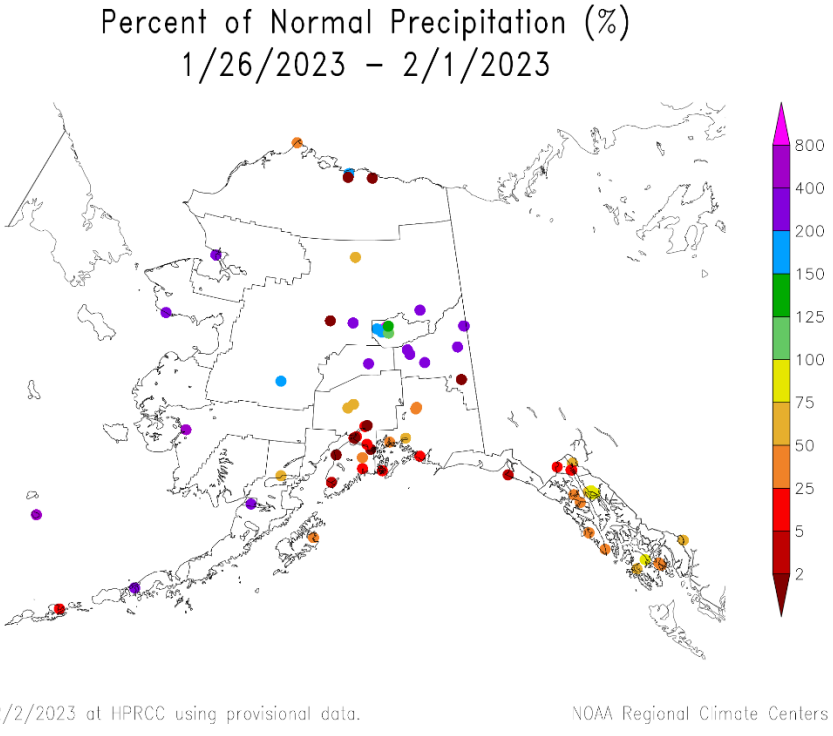


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

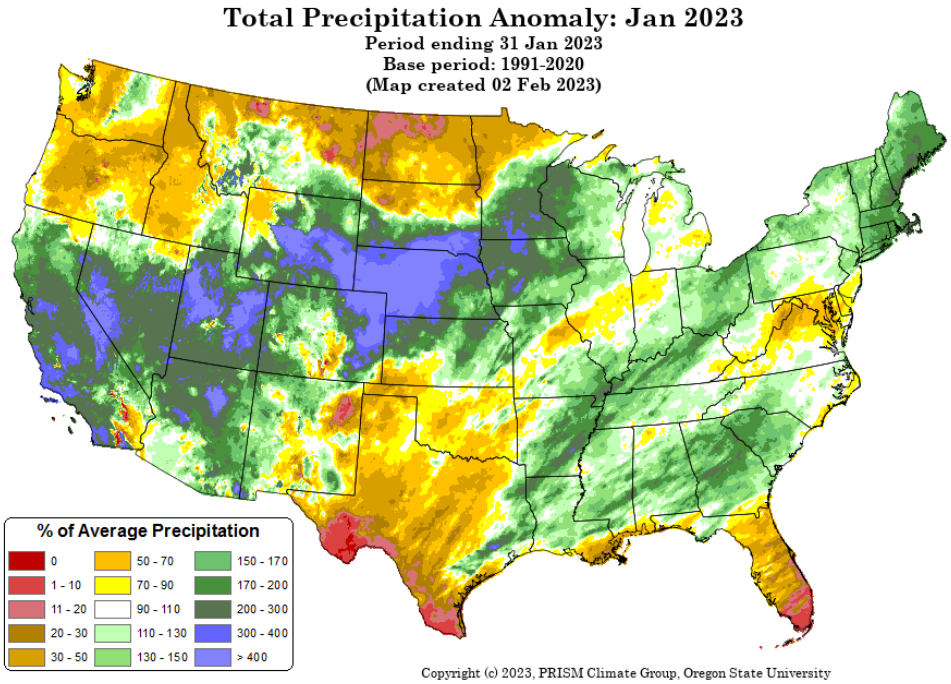
[7-day precipitation percent of normal map] for Alaska.

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



Monthly, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

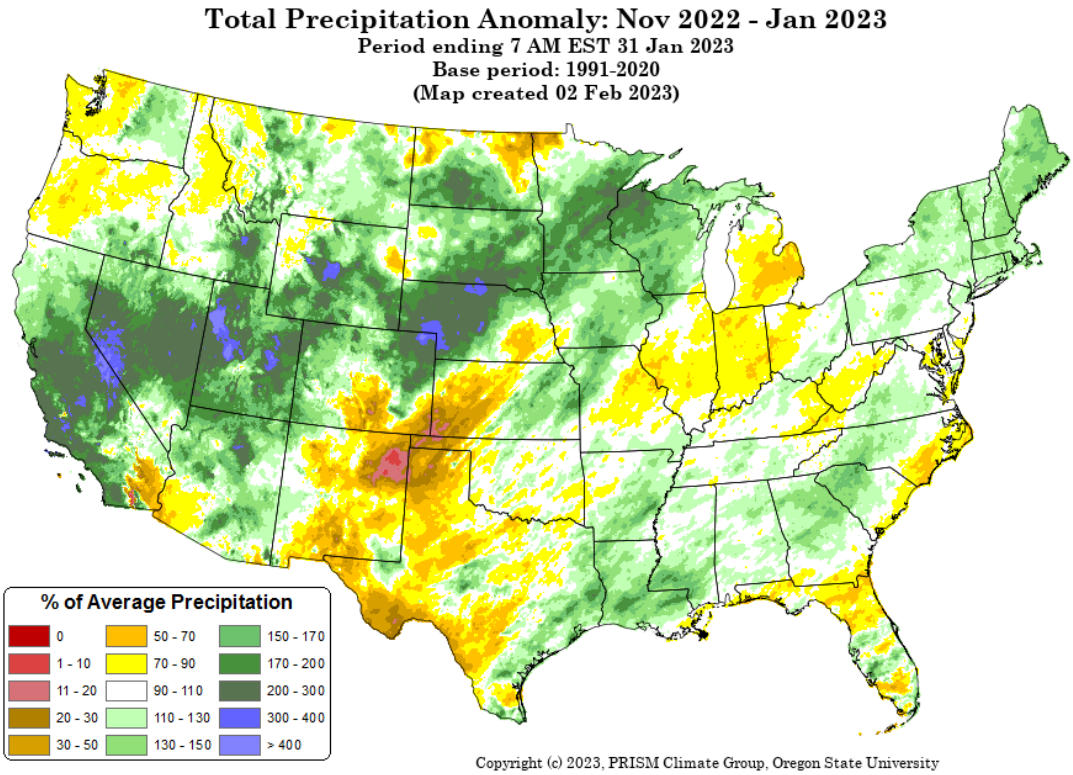


Monthly national total precipitation anomaly map

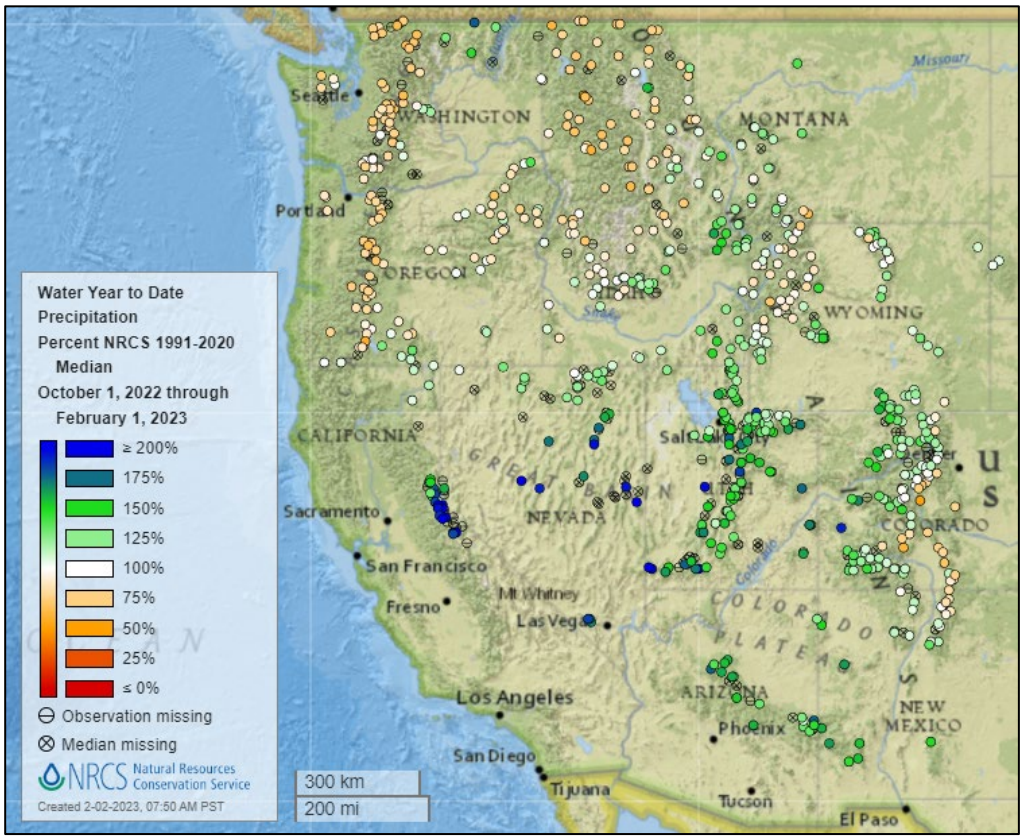
Last 3 Months, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

November 2022 through January 2023 precipitation anomaly map



Water Year-to-Date, NRCS SNOTEL Network

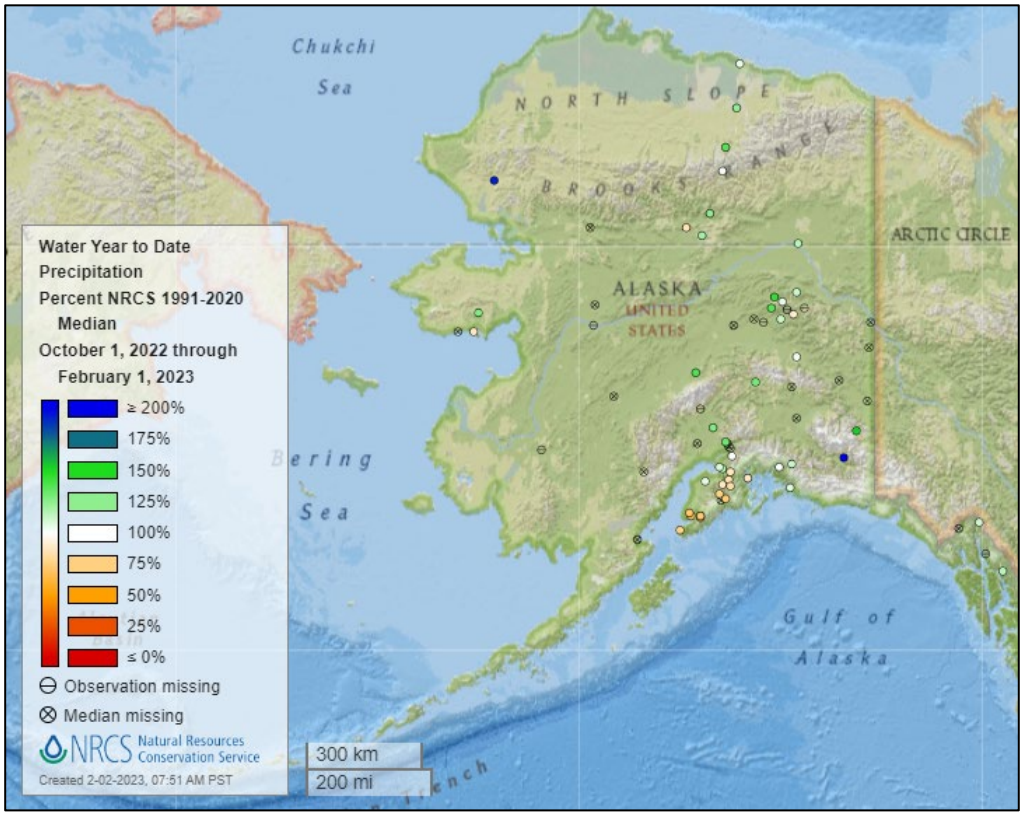


[2023 water year-to-date precipitation percent of median map]

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]

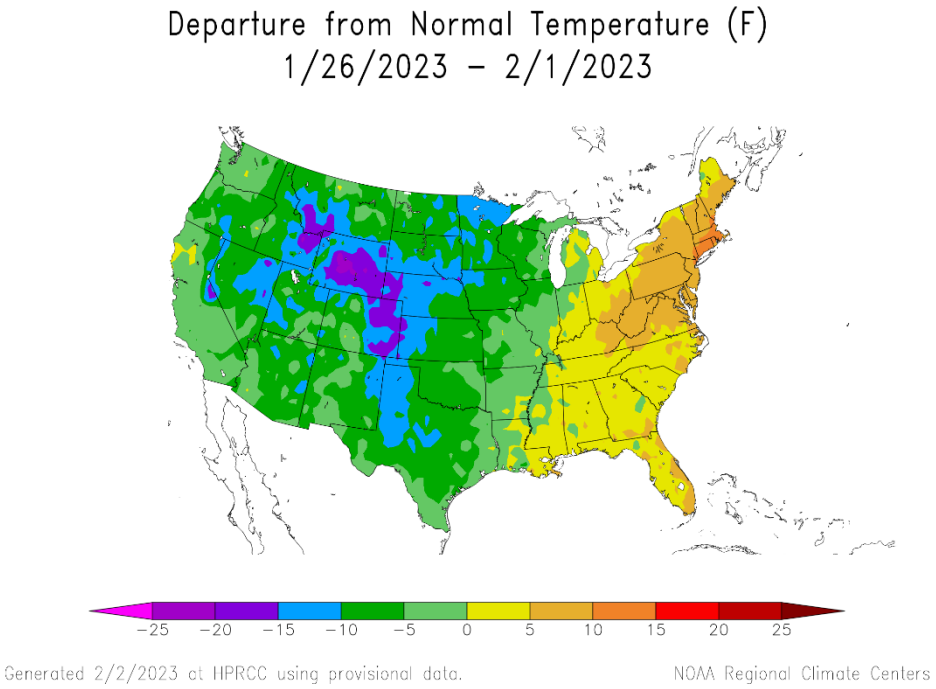
Temperature

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

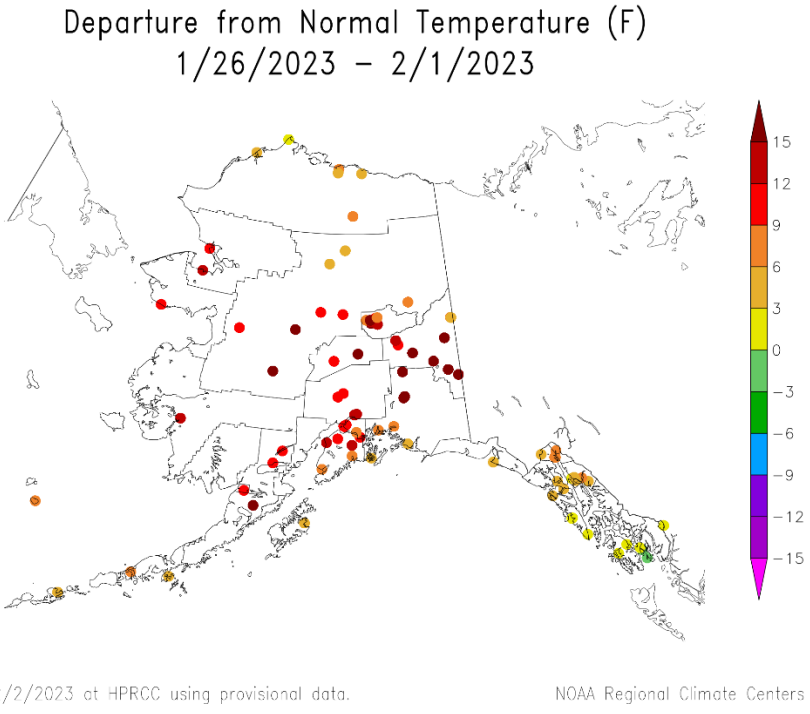


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

7-day temperature anomaly map for Alaska.

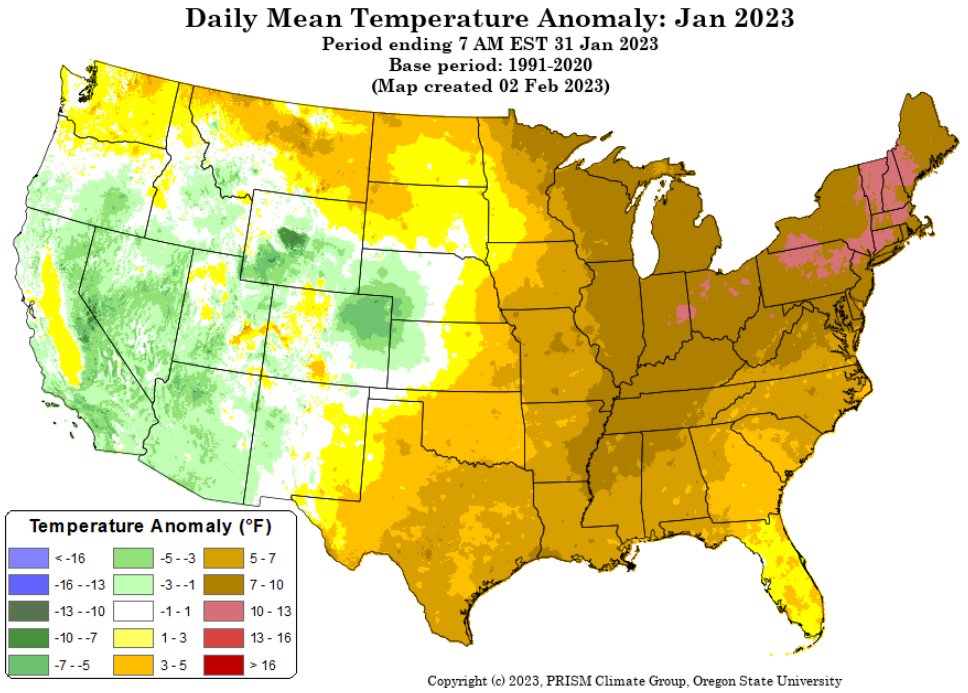
See also: 7-day temperature (° F) map



Monthly, All Available Data Including SNOTEL and NWS Networks

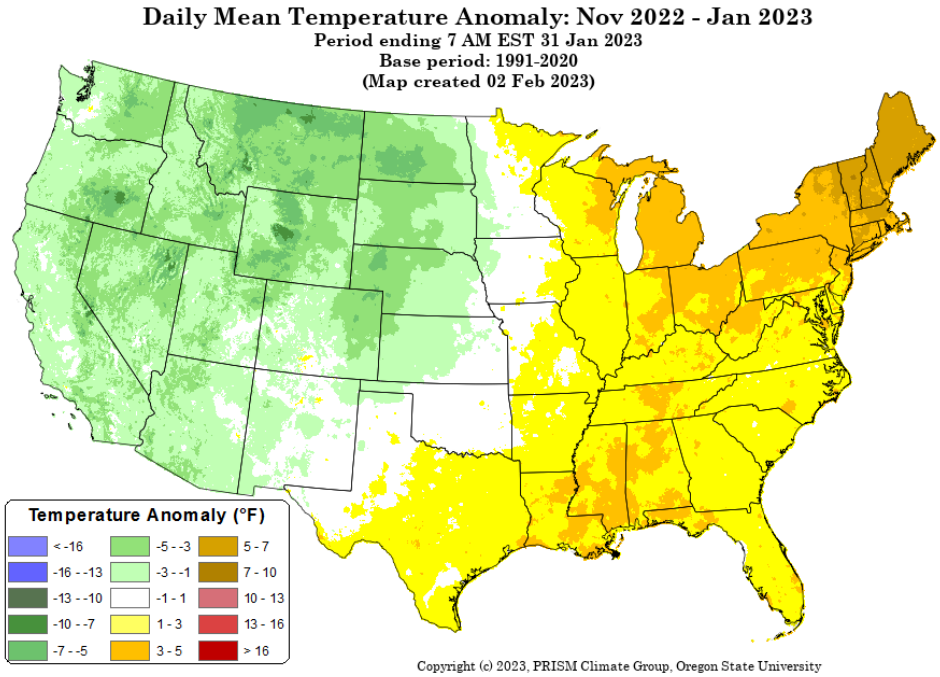
Source: PRISM

[Monthly national daily mean temperature anomaly map]



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

Source: PRISM

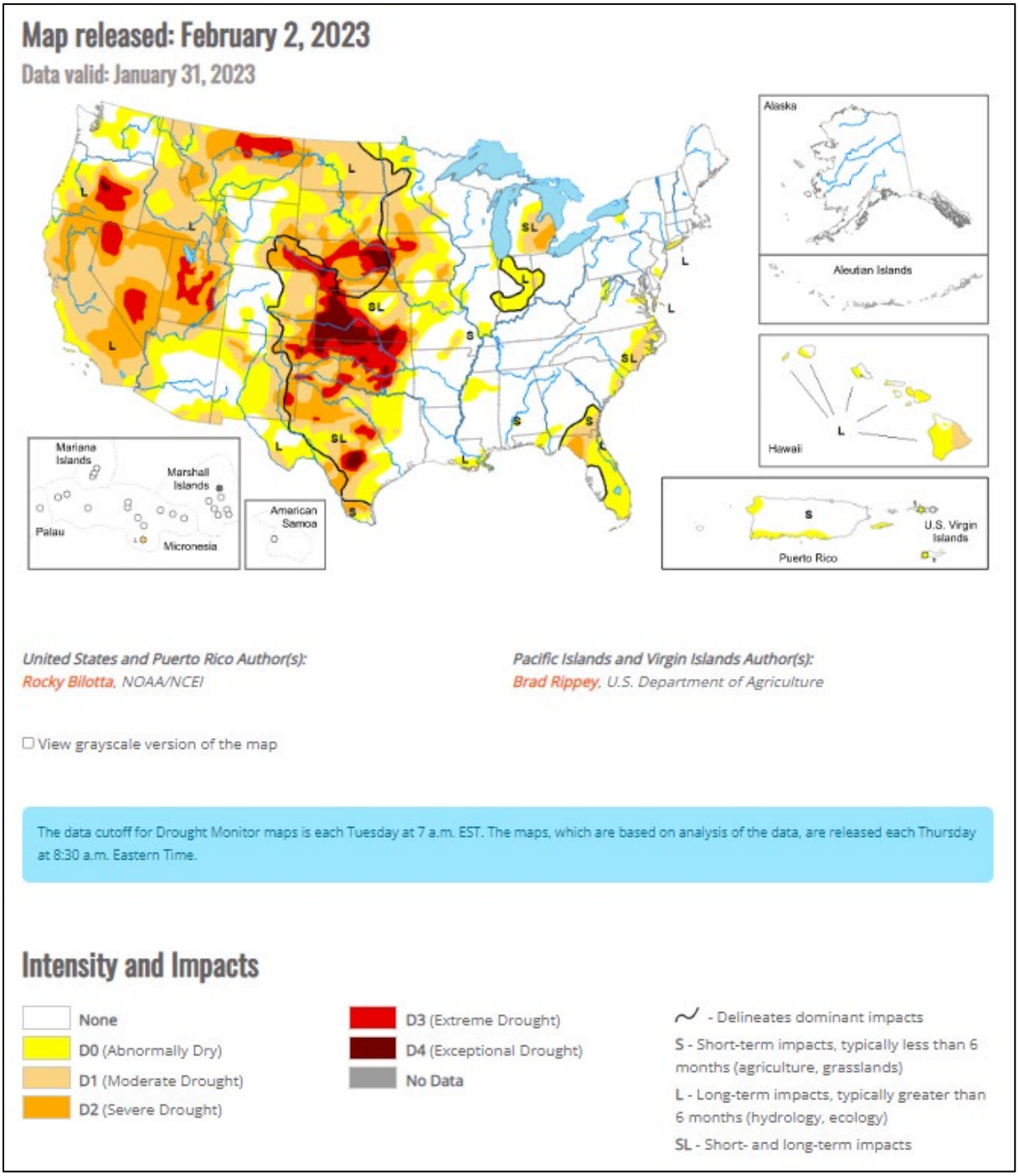


[November 2022 through January 2023 daily mean temperature anomaly map]

Drought

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

U.S. Drought Portal
Source: NOAA



Current National Drought Summary, January 31, 2023

Source: National Drought Mitigation Center

“Winter storms brought heavy rain and snow much of the eastern U.S. and from the Pacific Northwest to the central Rockies this week with above-normal precipitation observed from the southern Plains to the Southeast and along the East Coast. Precipitation led to abnormal dryness and drought improvements in the central Plains, Midwest, Southeast and Northeast. Conversely, conditions worsened over dryer areas including Idaho/Montana, southern Texas and the Florida Panhandle. In the eastern United States, temperatures have been above-normal resulting in rain falling over many areas instead of snow. Many cities including New York, Baltimore, Philadelphia and Washington D.C. remain snowless for the season. New York City recently set a new latest first measurable snowfall previously set on Jan 29, 1973. In California, a series of atmospheric rivers brought significant amounts of rain which gave reservoirs a much-needed boost, but California lacks infrastructure to make use of such a massive rainfall. Despite the deluge, the winter storms may not have eased the state’s drought. In Hawaii, a strong low pressure system aloft combined with a low pressure trough at the surface to produce conditions favorable for heavy rainfall and flash flooding over portions of the main islands.”

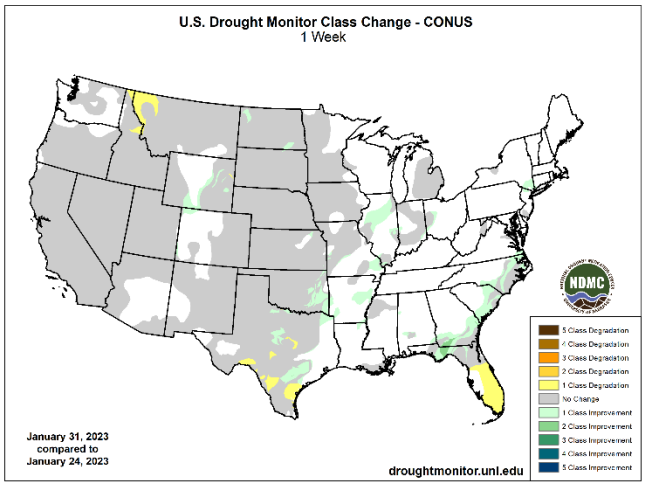
National Drought Summary – Looking Ahead

“The National Weather Service Weather Prediction Center has forecasted a significant ice storm (valid January 30 – February 2) is forecasted to bring freezing rain, sleet, and ice accumulations over portions of the Southern Plains and Mid-South. The storm is expected to bring prolonged power outages and cause treacherous travel conditions. Moving into next week (valid February 4 – February 8), very chilly conditions are expected across the Northeast as cold air and gusty winds settle in under upper-level troughing. Dangerous wind chills and possibly new daily temperature records are in store for much of the Northeast region. Temperatures could stay below zero all day in parts of Maine and in the single digits in much of northern New England. This cold airmass is expected to sink further south along the Eastern Seaboard leading to temperatures 10-20F below normal. Temperatures are expected to rebound across the East as warmer temperatures over the central U.S. migrate eastward after the weekend. The West however could stay around 5-10F below average especially in terms of highs underneath upper troughing. A frontal system could spread some light snow to the Midwest/Great Lakes regions and Northeast this weekend, and amounts could be enhanced downwind of the Great Lakes. Light precipitation is possible along the Eastern Seaboard while the West could expect generally light to moderate precipitation in the form of lower elevation rain and higher elevation snow. At 8 – 14 days, the Climate Prediction Center Outlook (valid February 9 – February 15) calls for below-normal temperatures across much of the West, from the Pacific Northwest to the Southwest, and much of Alaska. Near-normal temperatures are expected in parts of the Northwest, northern and central Rockies and southern Plains, including southwest and eastern Alaska, while the eastern half of the contiguous U.S. and the Alaska Panhandle have the greatest probability of warmer-than-normal temperatures. Most of the U.S. can expect above-normal precipitation with the probability of near-normal precipitation occurring in much of the Northwest, the Florida Peninsula and northern Alaska and in parts of southern Texas.”

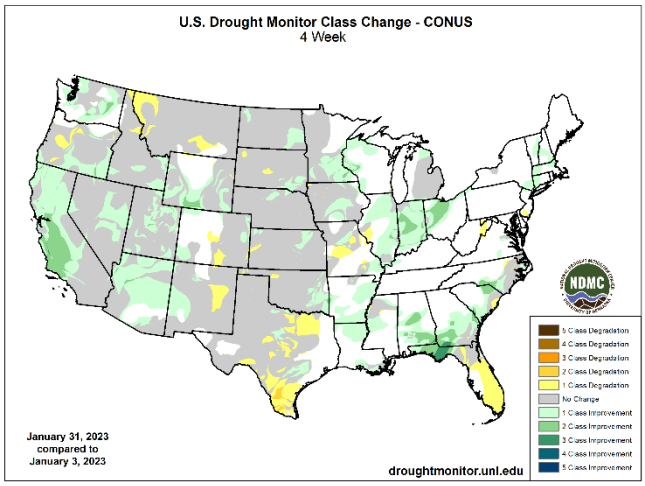
Changes in Drought Monitor Categories over Time

Source: National Drought Mitigation Center

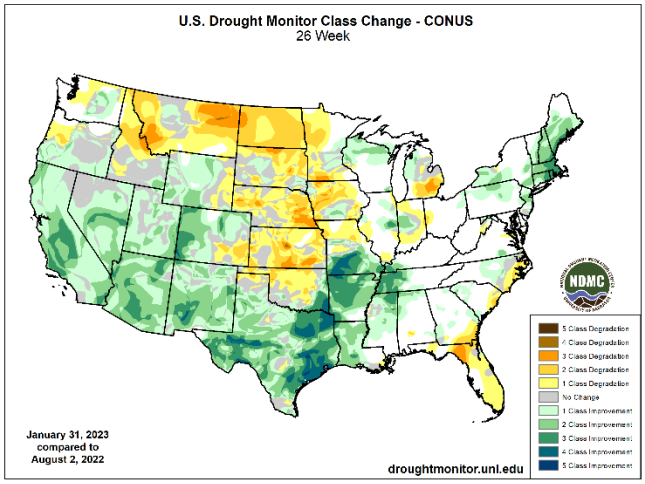
1 Week



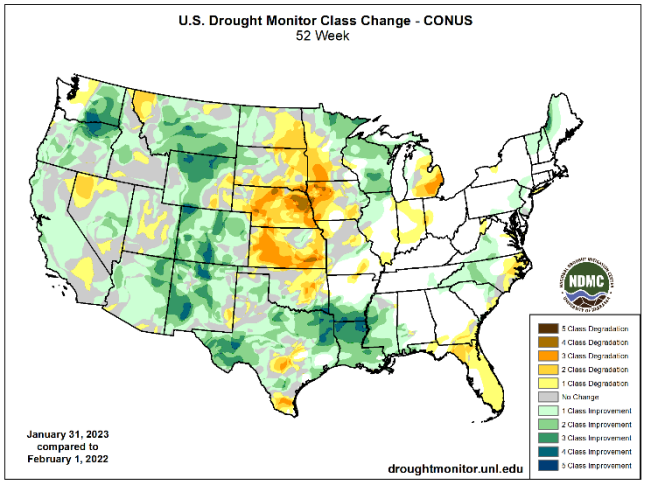
1 Month



6 Months



1 Year



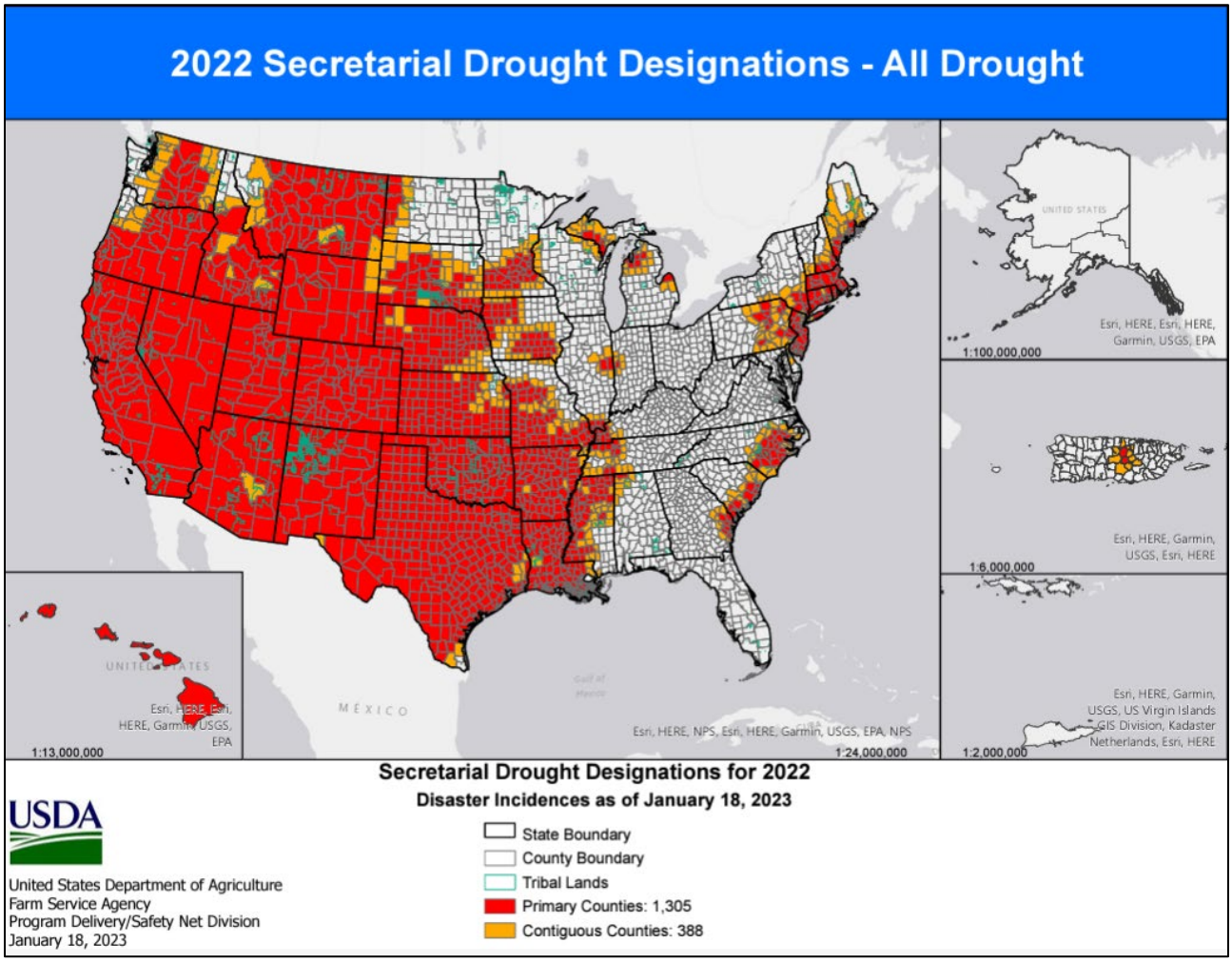
Changes in drought conditions over the last 12 months for the contiguous U.S.

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

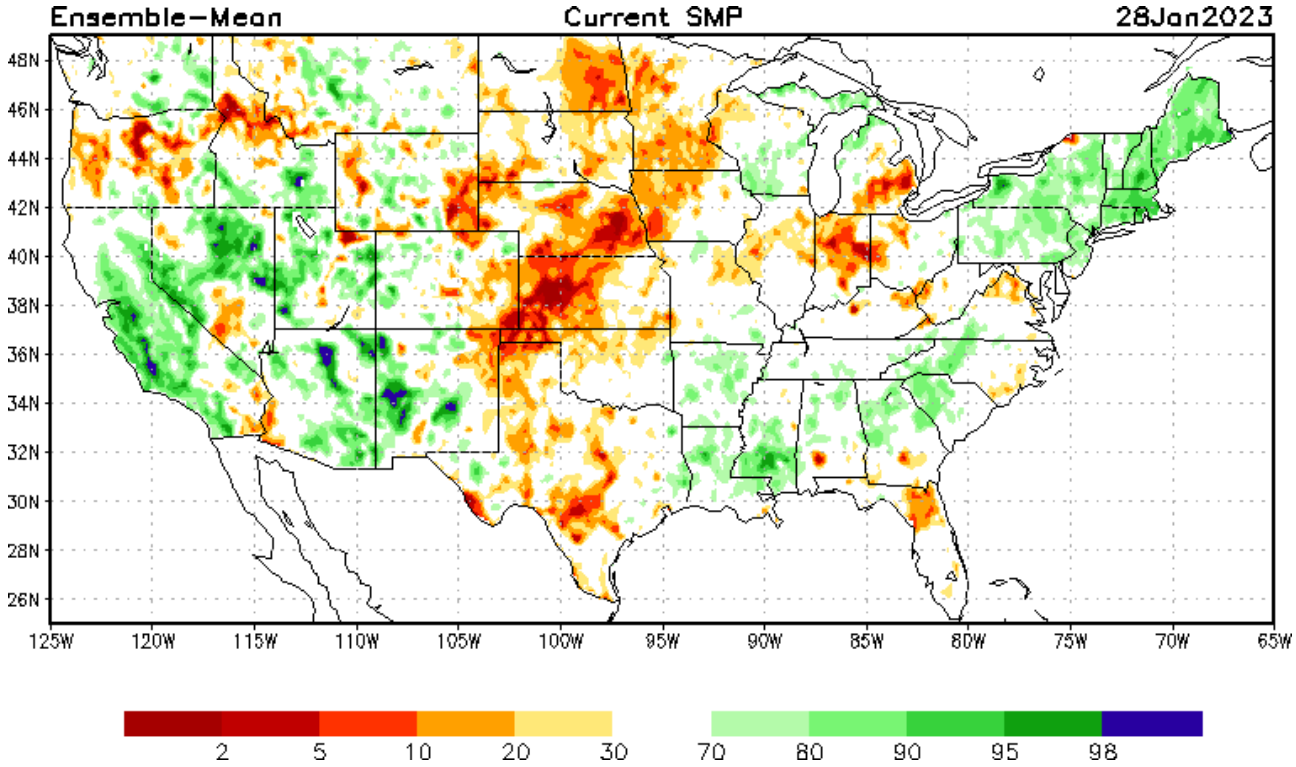
Source: USDA Farm Service Agency



Other Climatic and Water Supply Indicators

Soil Moisture

Source: NOAA National Centers for Environmental Prediction

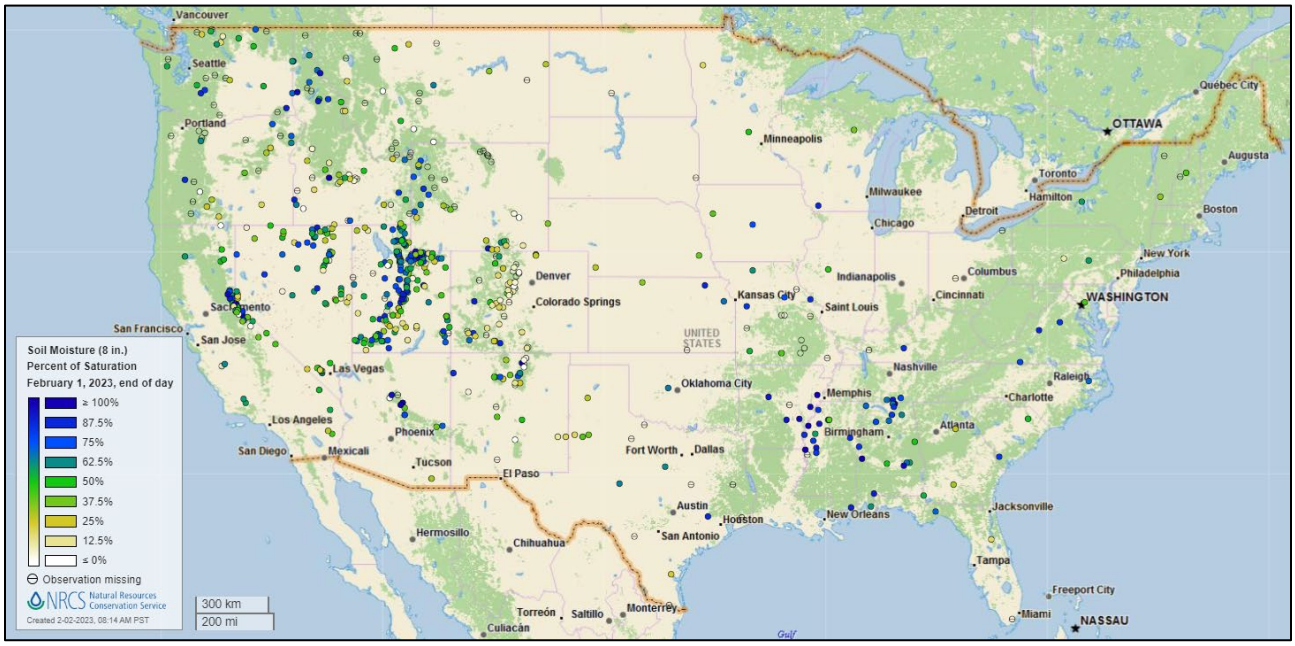


Modeled soil moisture percentiles as of January 28, 2023

Soil Moisture Percent of Saturation

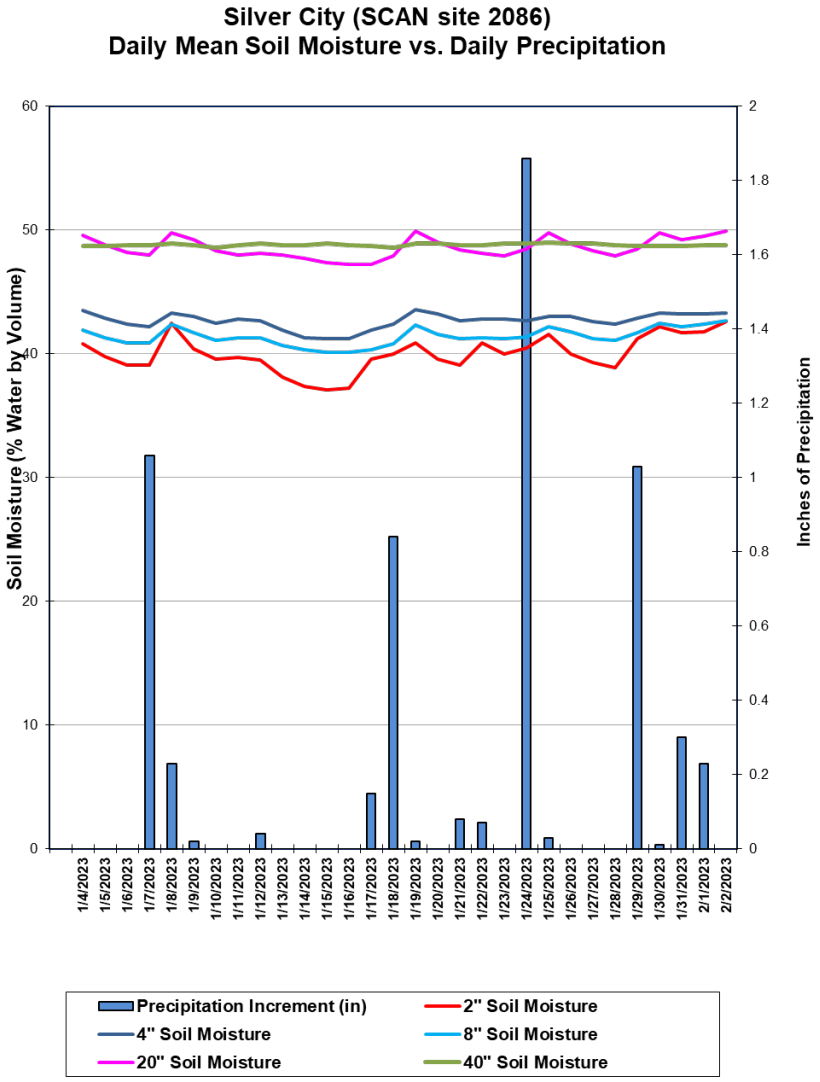
Source: NRCS SNOTEL and Soil Climate Analysis Network (SCAN)

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



Soil Moisture

Source: NRCS Soil Climate Analysis Network (SCAN)



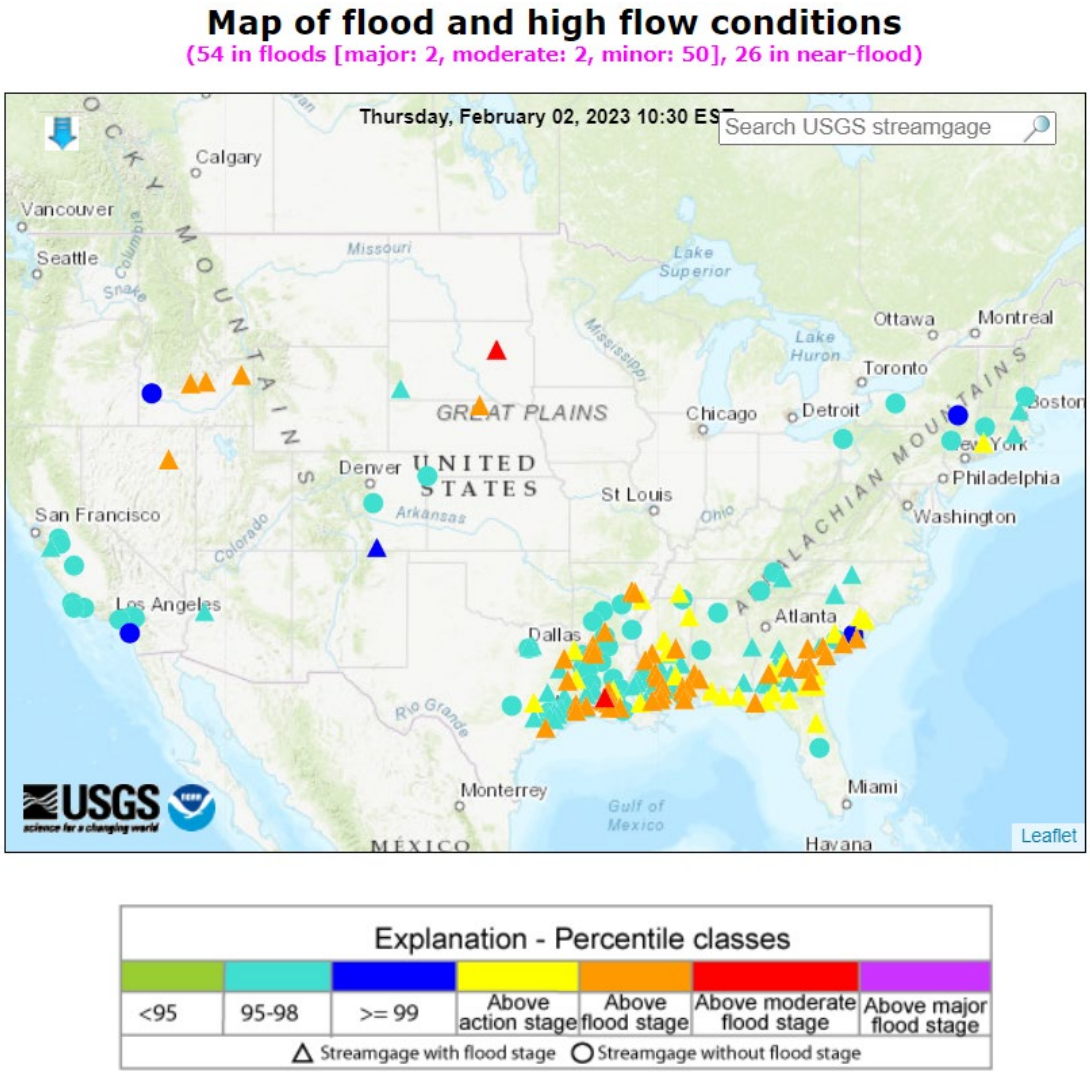
This chart shows the precipitation and soil moisture for the last 30 days at the Silver City SCAN site in Mississippi. Storm activity on January 24 brought 1.86 inches of precipitation to the station with the -2, -4, -8 and -20 inch soil sensors reporting an increase in soil moisture. Total precipitation for the 30-day period was 5.97 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

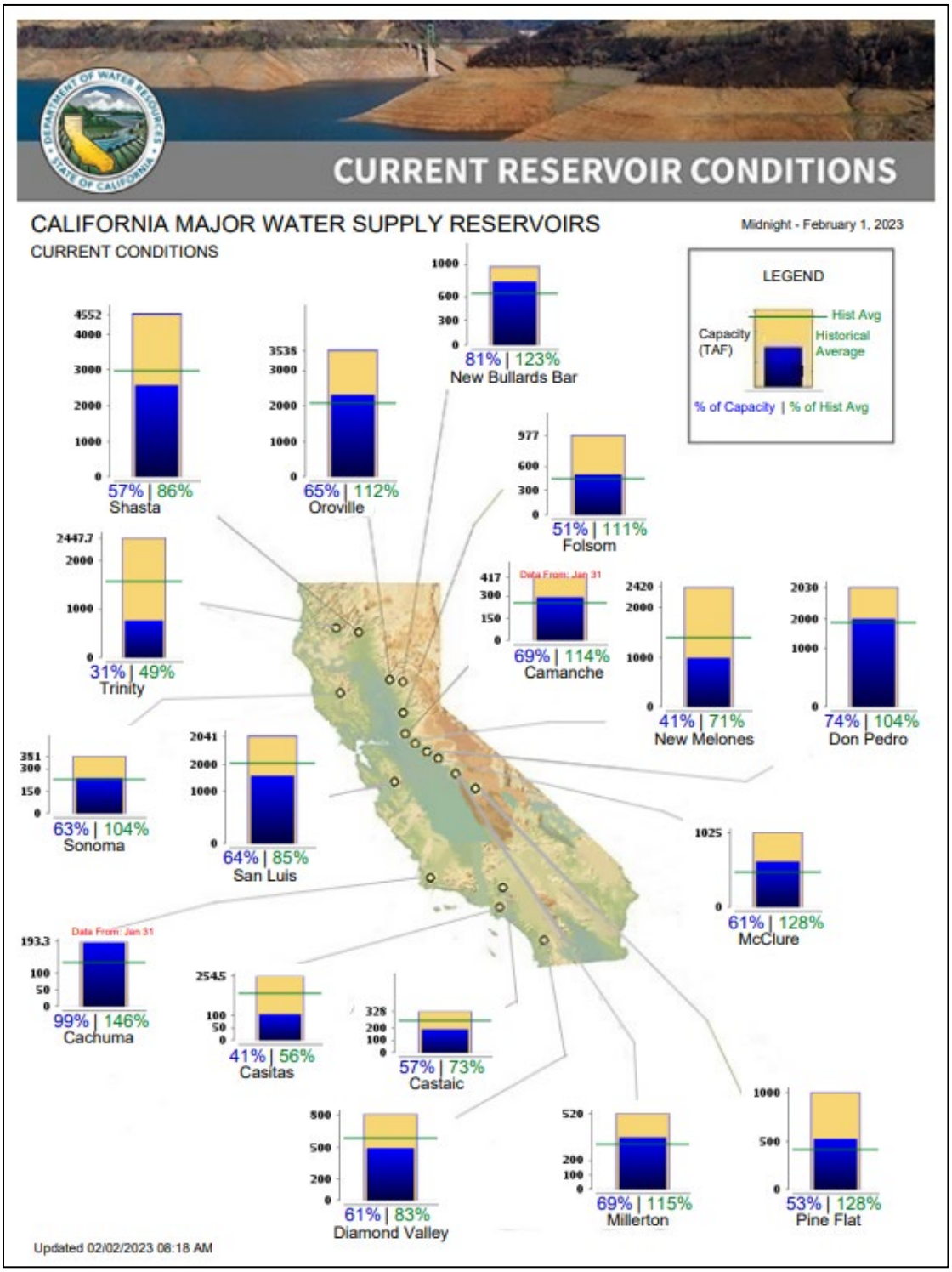
Hydromet Teacup Reservoir Depictions

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 February 02, 2023: "Later today, wintry precipitation will finally end across ice-affected areas from Texas into the mid-South. Any rain across the Deep South will end on Friday. Farther north, a powerful surge of cold air will overspread the Northeast, with weekend temperatures plunging below -20°F in northern New England. Most of the remainder of the country will experience a moderation of temperatures, with warmer-than-normal weather soon returning across the Great Plains. Meanwhile, light to moderately heavy precipitation will develop across the West, starting during the weekend. Other areas of the country, including the Plains, will receive minimal precipitation during the next 5 days. The NWS 6- to 10-day outlook for February 7 – 11 calls for the likelihood of near- or below-normal temperatures in the West, while warmer-than-normal weather will cover most areas east of the Rockies. Meanwhile, near- or below-normal precipitation in a broad area stretching from California and the Desert Southwest to the northern Plains and upper Midwest should contrast with wetter-than-normal conditions across the remainder of the U.S., including the Pacific Northwest and all areas east of a line from the southern High Plains to Lake Michigan."

Weather Hazards Outlook: February 04 – 08, 2023

Source: NOAA Weather Prediction Center

U.S. Day 3-7 Hazards Outlook

About the Hazards Outlook

Created February 01, 2023

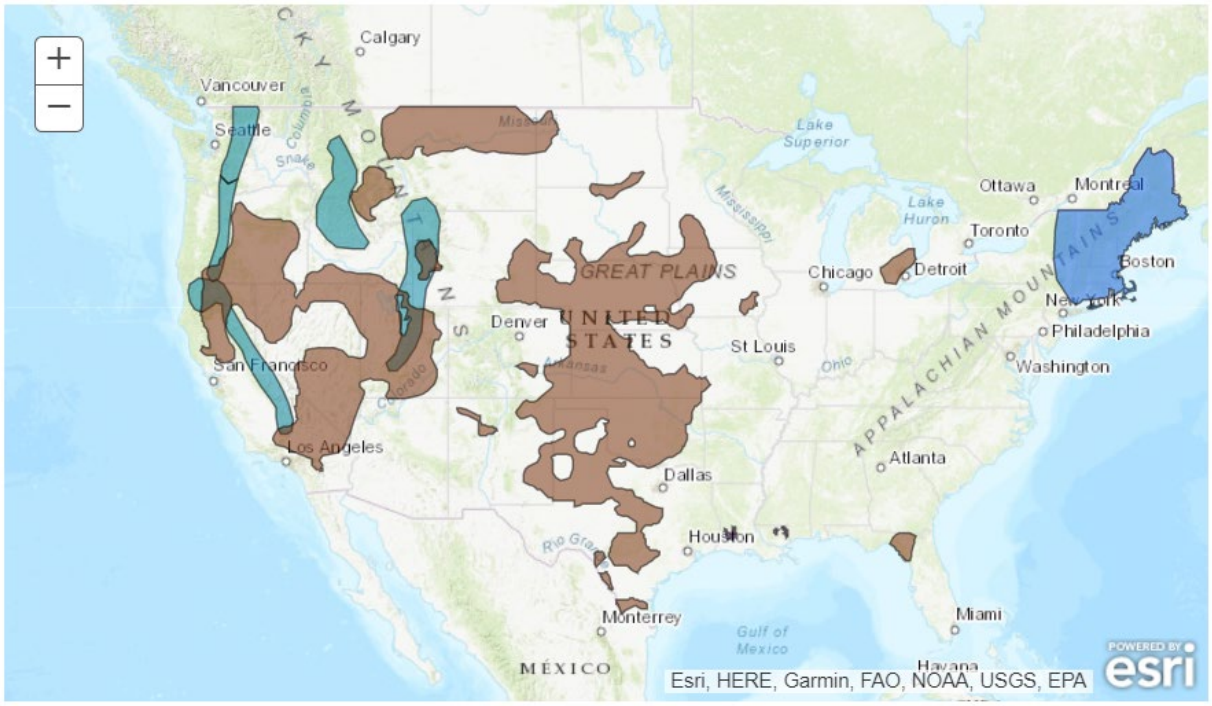
NOTE: These products are only created Monday through Friday. Please exercise caution using this outlook during the weekend.

Precipitation	☑
Temperature	☑
Soils	☑

Legend

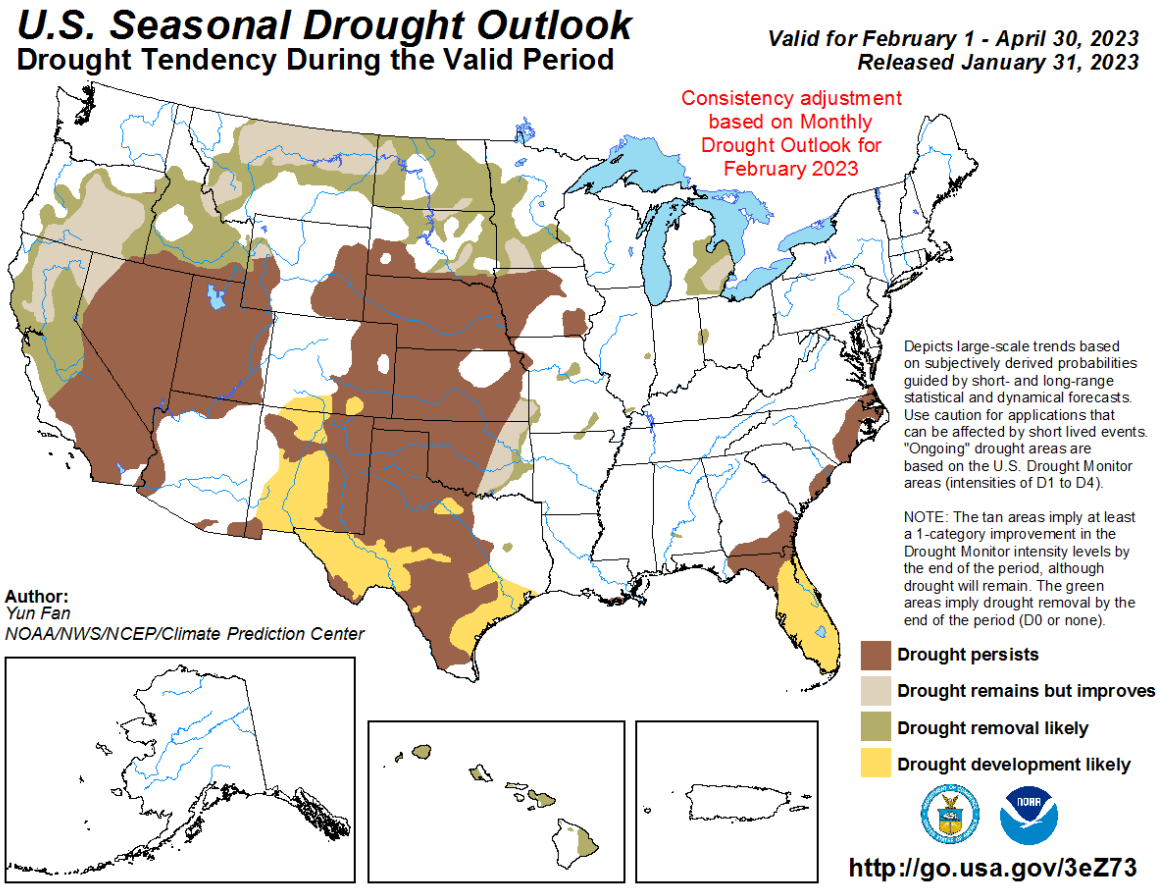
- Flooding Likely
- Flooding Occurring or Imminent
- Flooding Possible
- Freezing Rain
- Heavy Ice
- Heavy Precipitation
- Heavy Rain
- Heavy Snow
- Severe Weather
- Excessive Heat
- High Winds
- Much Above Normal Temperatures
- Much Below Normal Temperatures
- Significant Waves
- Enhanced Wildfire Risk
- Severe Drought

Valid February 04, 2023 - February 08, 2023



Seasonal Drought Outlook: February 01 – April 30, 2023

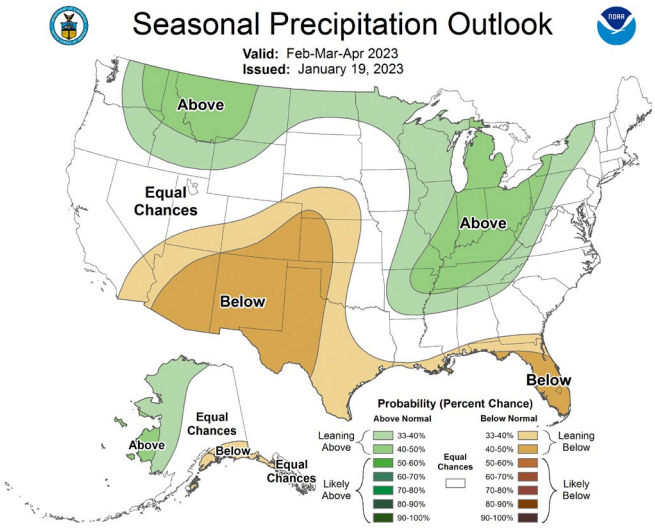
Source: National Weather Service



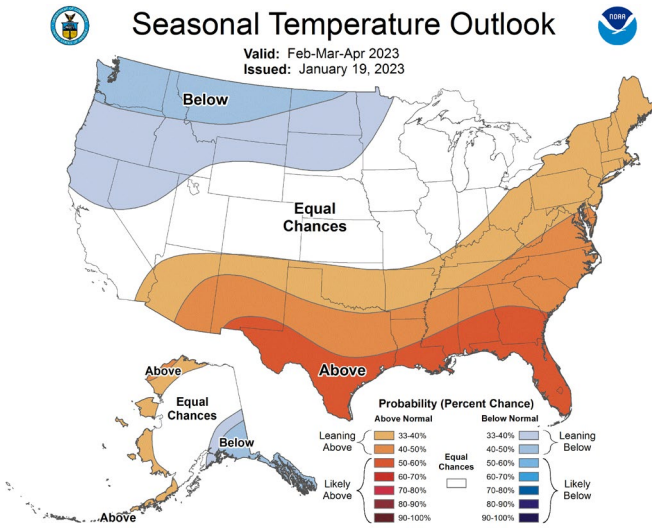
Climate Prediction Center Three-month Outlook

Source: National Weather Service

Precipitation



Temperature



February-March-April 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.