United States Department of Agriculture

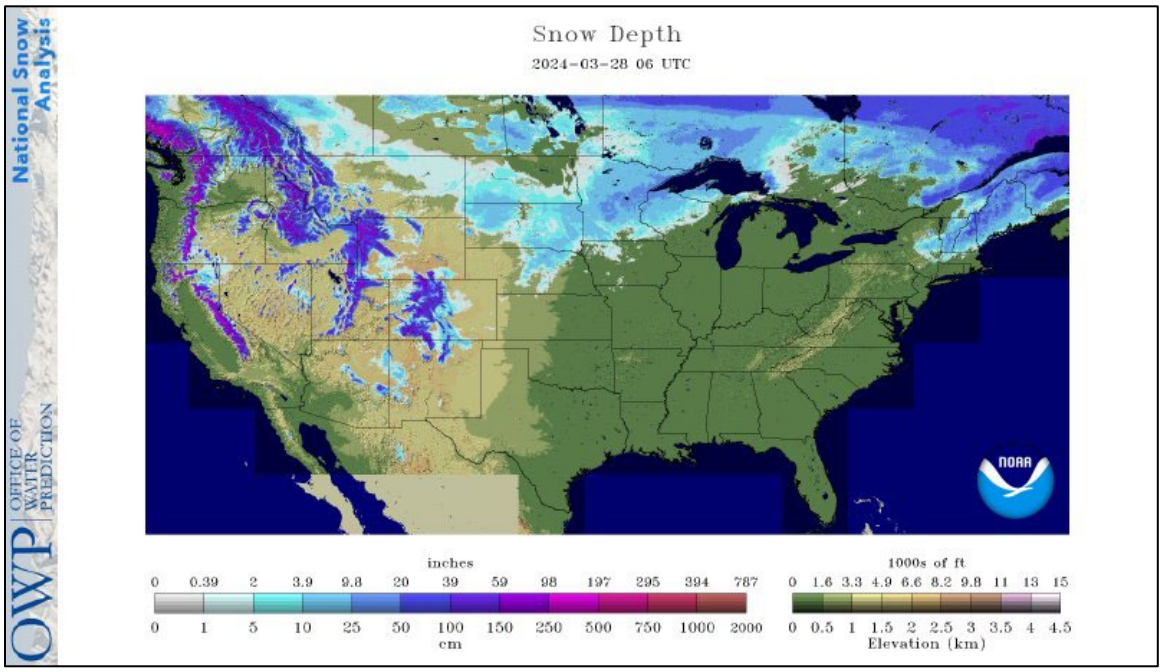
# Water and Climate Update

**March 28, 2024**

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.



## Spring starts with storms spanning the contiguous U.S.




A strong set of storm systems swept through the U.S. spanning from California to the Northeast, bringing a variety of weather conditions and an array of snow totals between March 23–26. This winter season has seen overall snow deficits for the upper Midwest and Northeast regions, but storm activity during the first week of spring brought some significant snow totals to the area. According to the National Weather Service, the Minneapolis–Saint Paul International Airport received 15.2 inches of snow during the month of March, topping the 11.2 inches it recorded during the entire meteorological winter from December through February.

**Related:**

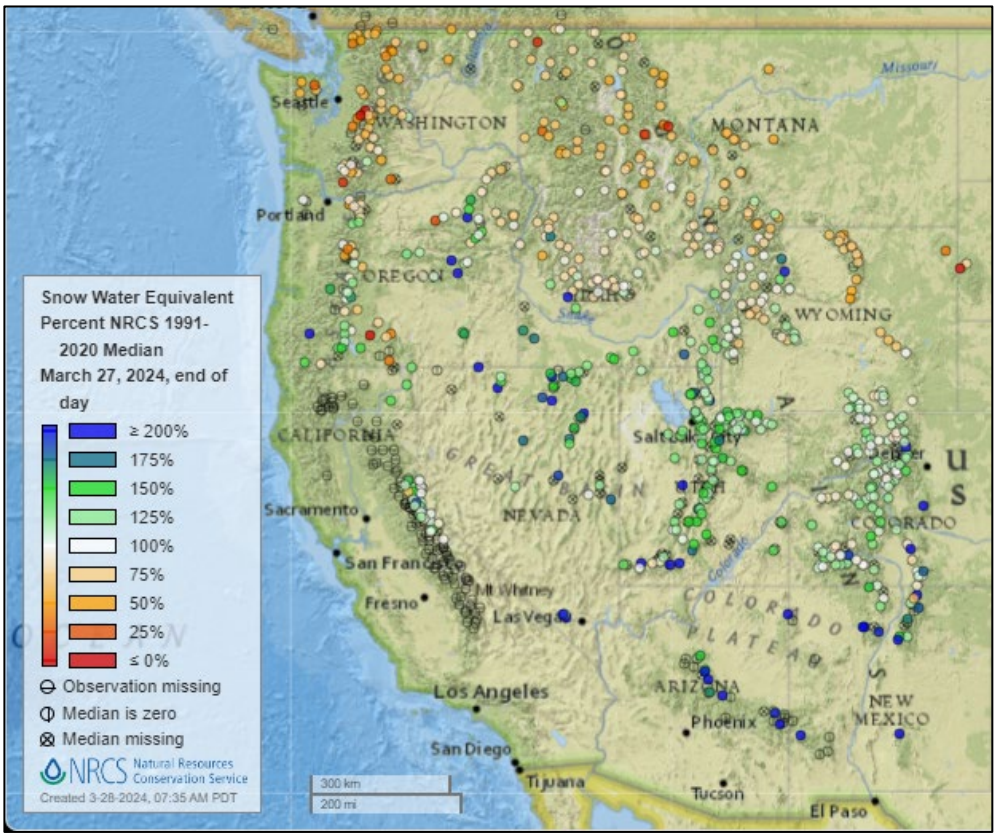
Deadly spring storm brings blizzard conditions to the Plains and the threat of strong tornadoes to the South – CNN

Feet of snow buried some Vermont towns over the weekend - how much snow fell and where. – Burlington Free Press

Major winter storm brings rain and snow from West Coast to Plains – NBC News

The US just experienced the warmest winter on record. Here's what it missed out on – CNN

## Snow




[Snow water equivalent percent of median map]

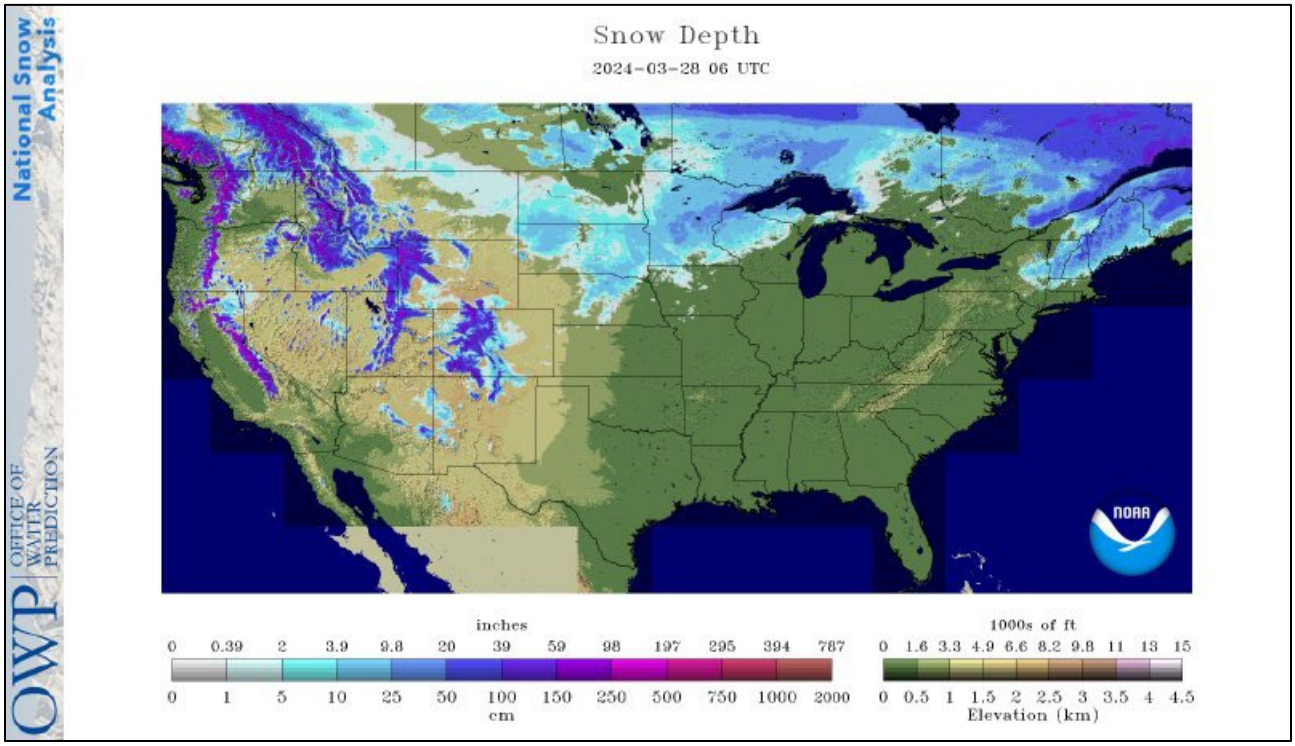
**See also:**
[Snow water equivalent values (inches) map]


[Alaska snow water equivalent percent of median map]

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

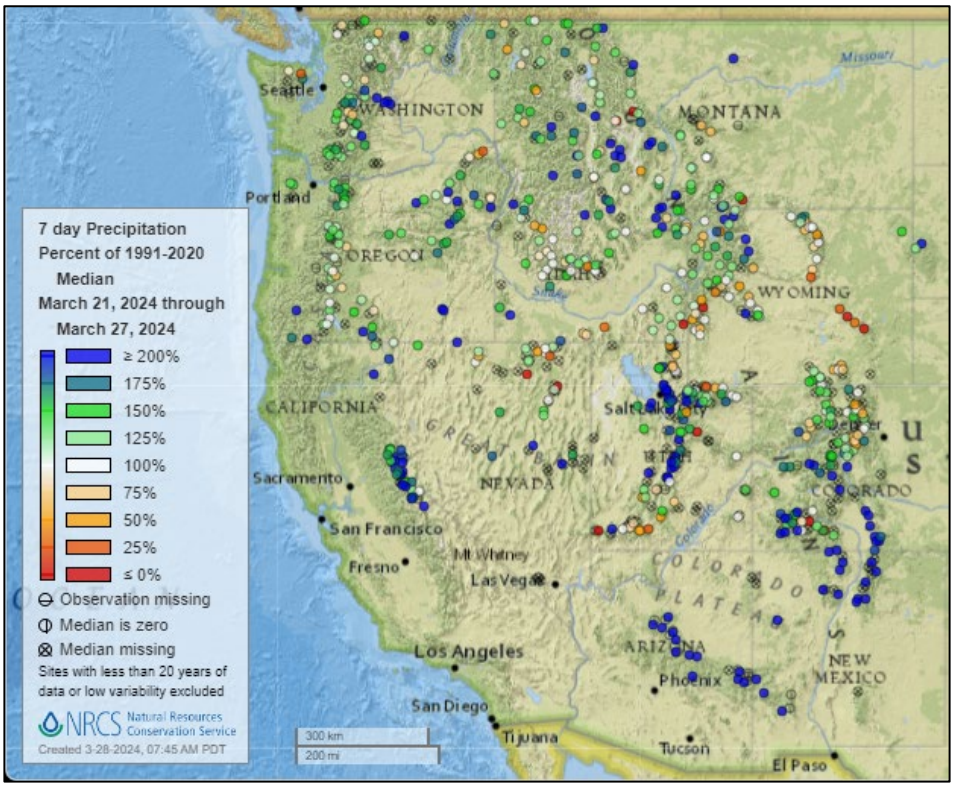
## Current Snow Depth, National Weather Service Snow Analysis

Source: NOAA NWS National Operational Hydrologic Remote Sensing Center



# Precipitation

## Last 7 Days, NRCS SNOTEL Network

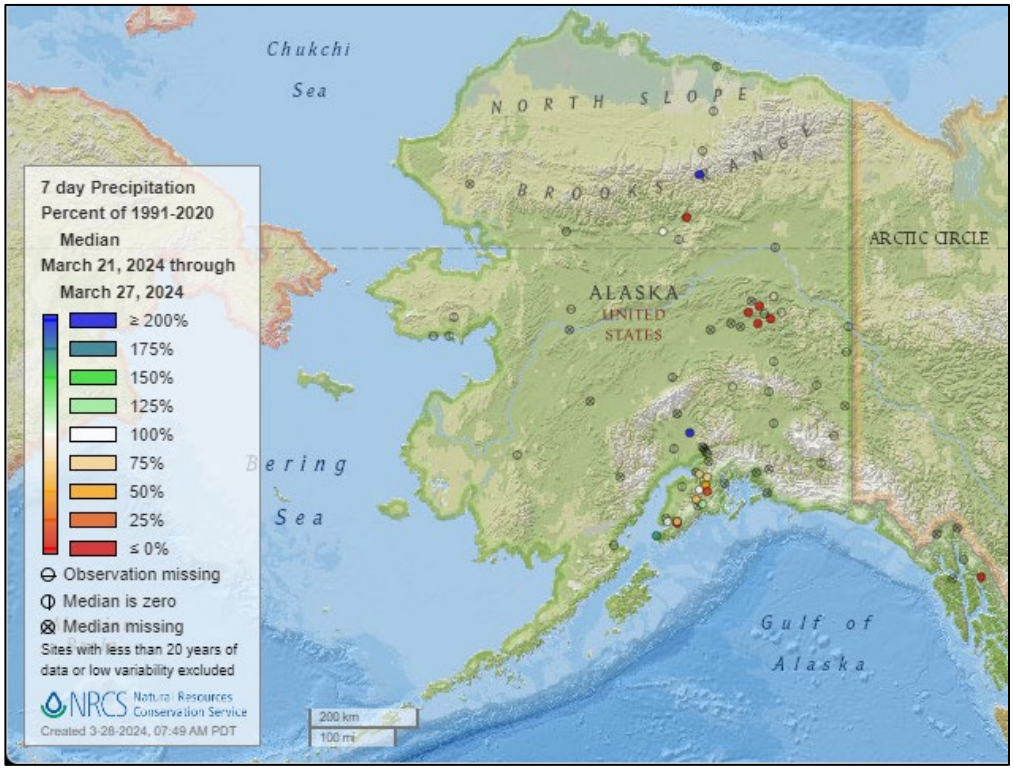



[7-day precipitation percent of median map]

***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]

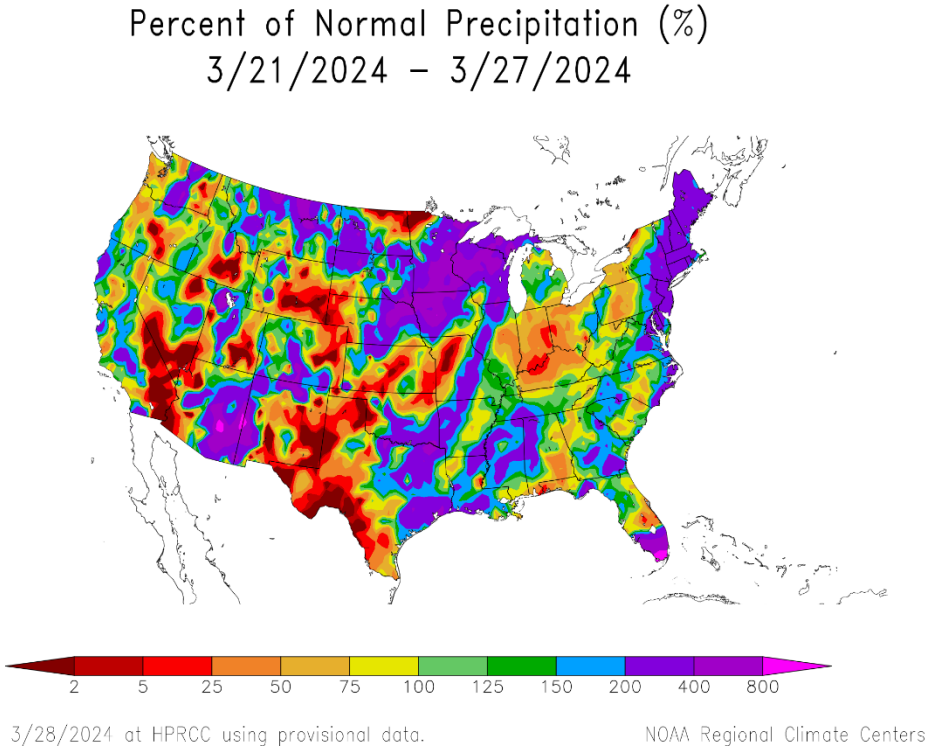


## Last 7 Days, National Weather Service (NWS) Networks

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]

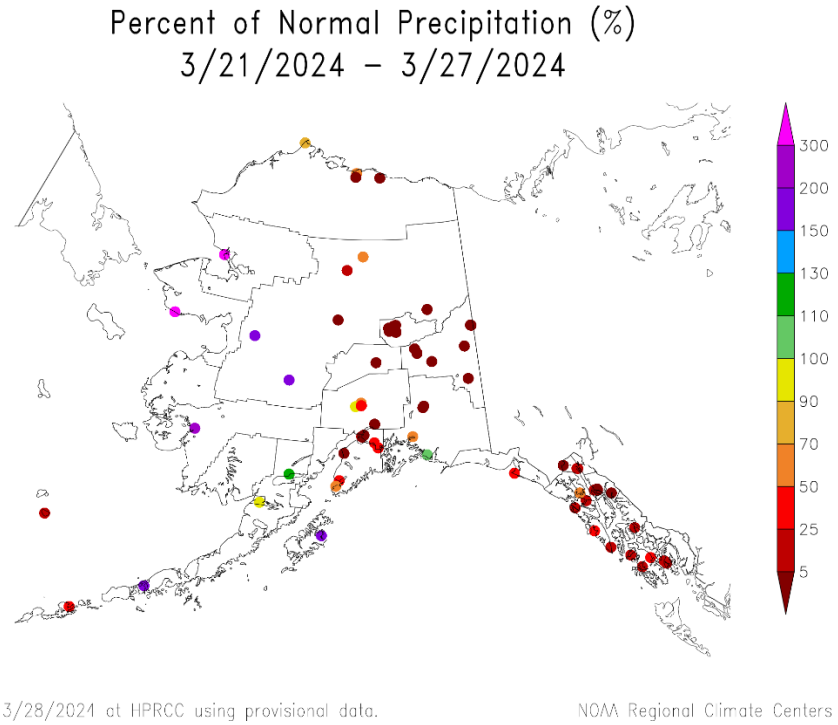



## Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

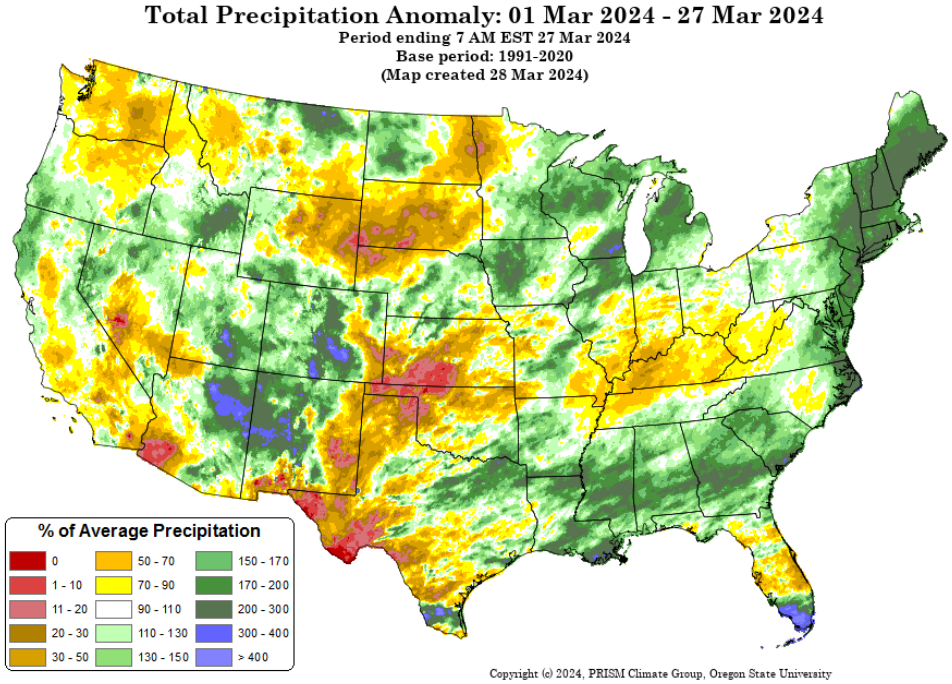
[7-day precipitation percent of normal map] for Alaska.

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



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

Source: PRISM

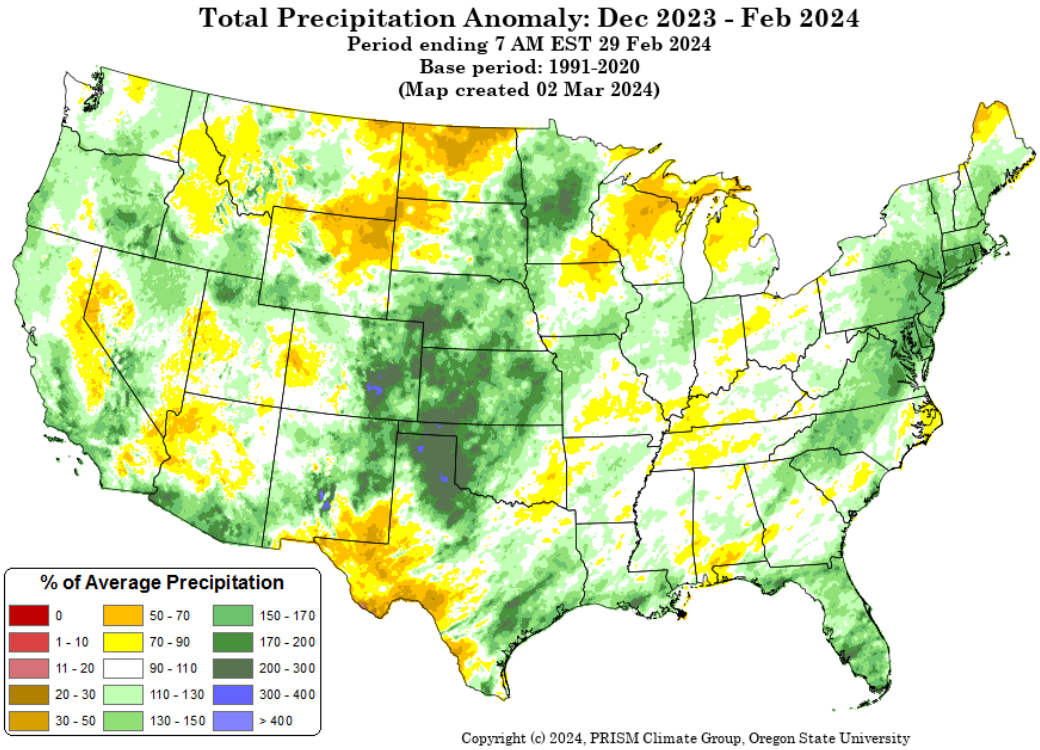



[Month-to-date national total precipitation anomaly map]

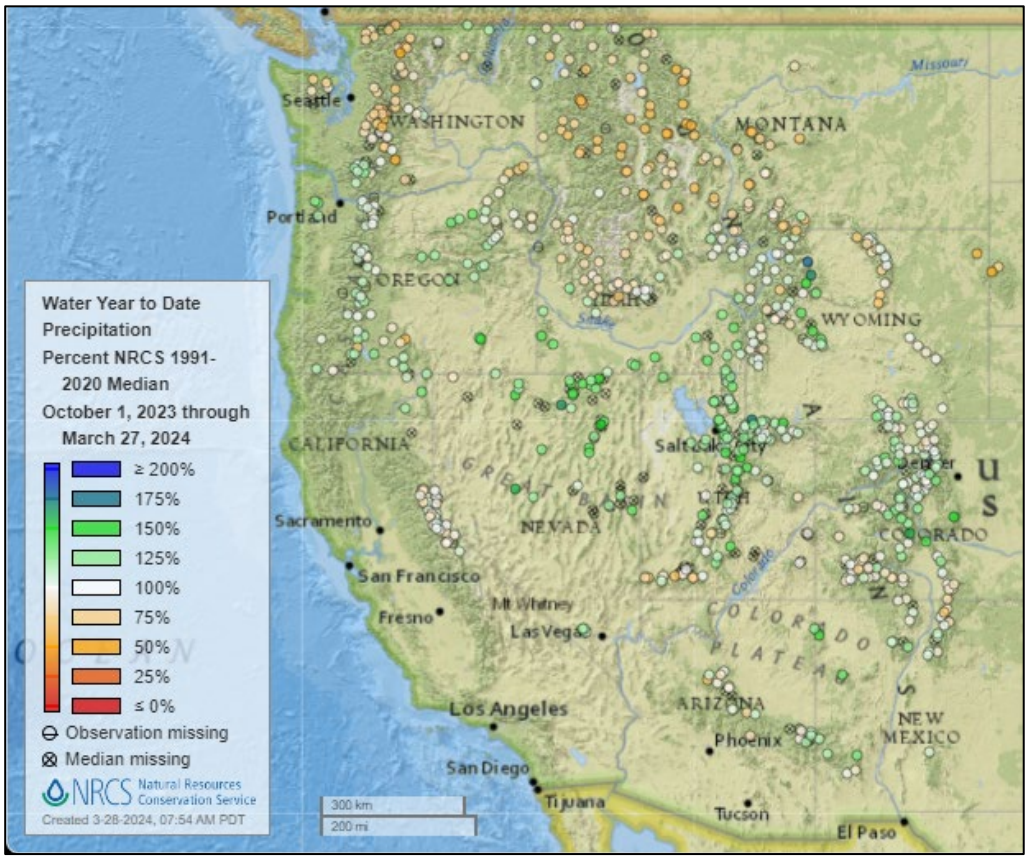
## Last 3 Months, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

[December 2023 through February 2024 precipitation anomaly map]



## Water Year-to-Date, NRCS SNOTEL Network

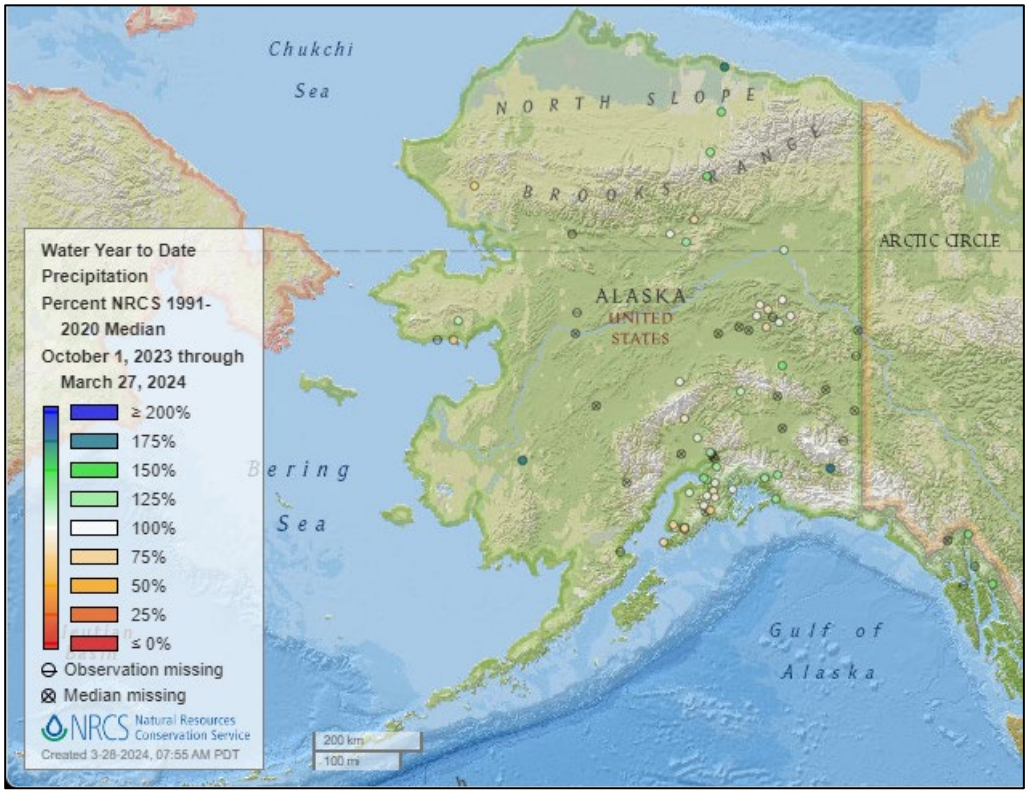



[2024 water year-to-date precipitation percent of median map]

***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]

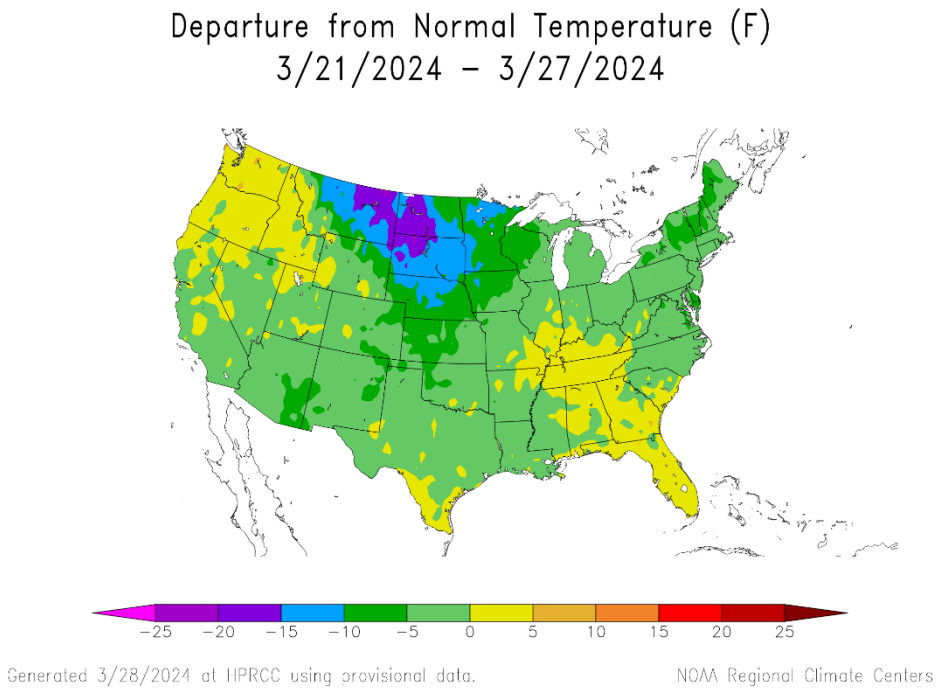
# Temperature

## 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

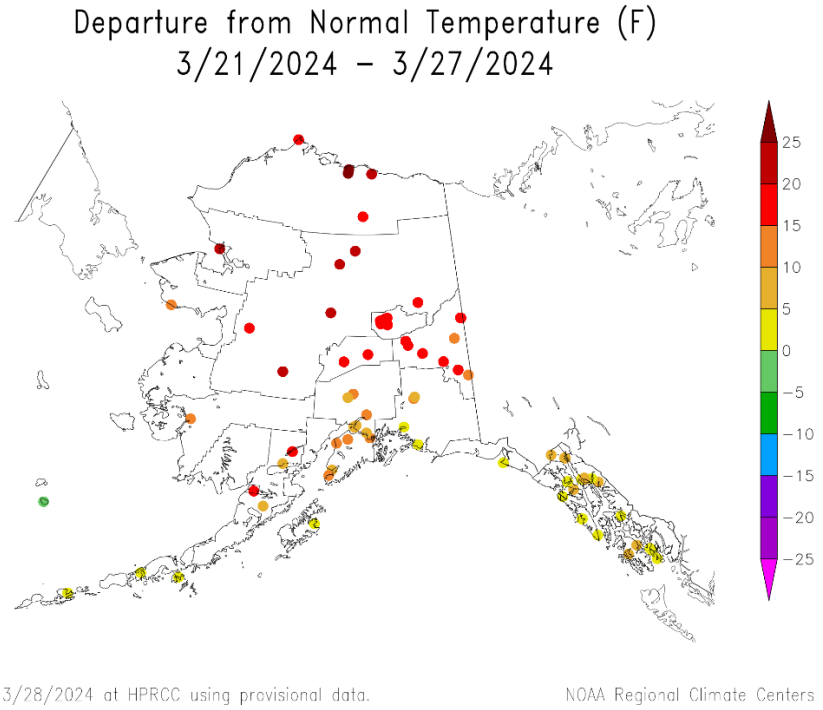



## Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

7-day temperature anomaly map for Alaska.

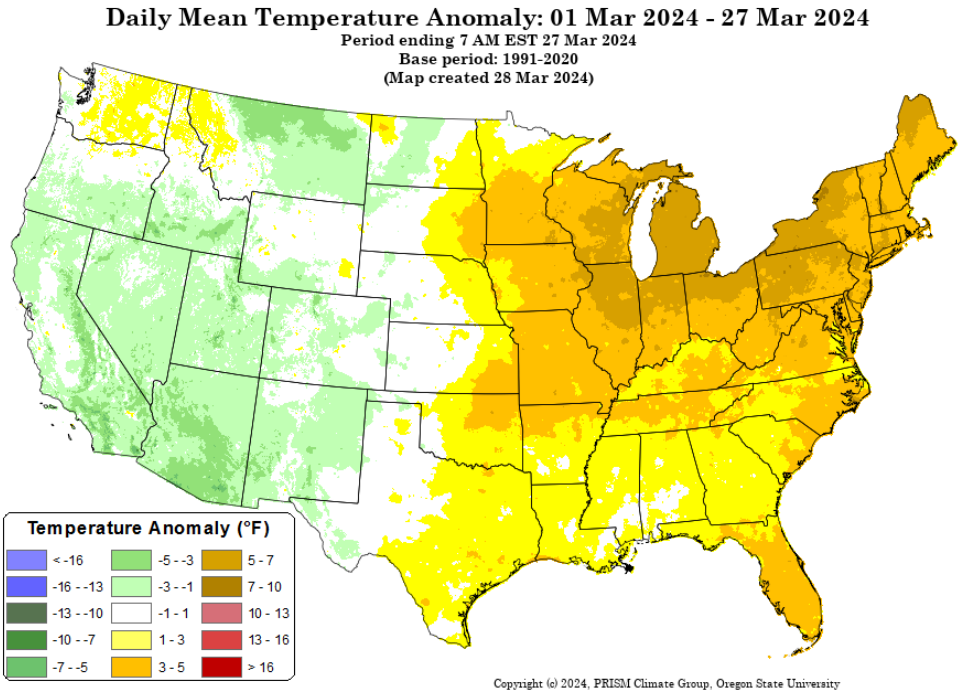
***See also:*** 7-day temperature (° F) map



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

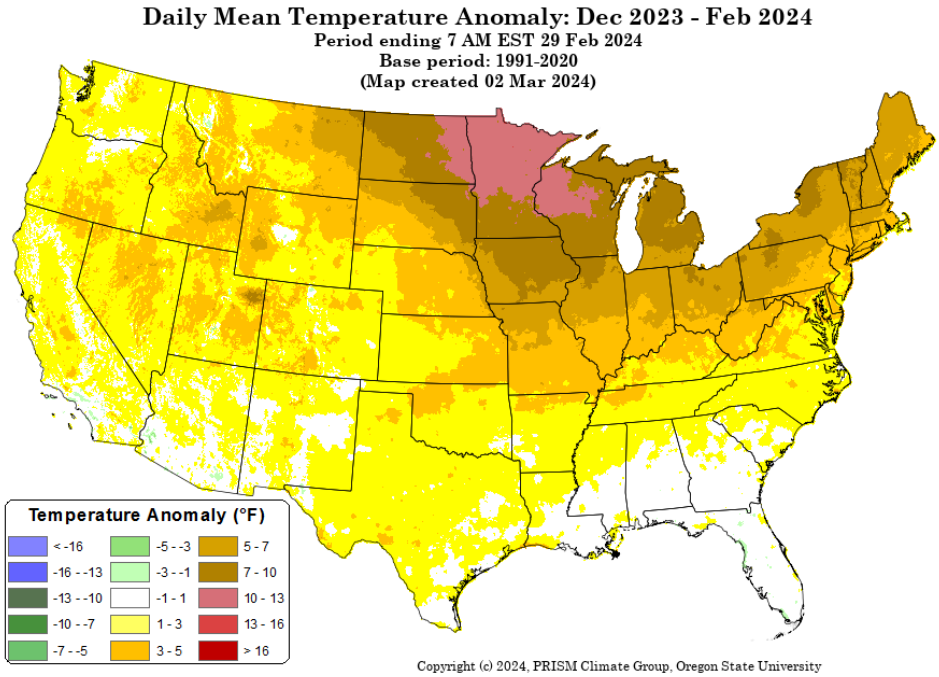
Source: PRISM

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




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

Source: PRISM




[December 2023 through February 2024 daily mean temperature anomaly map]

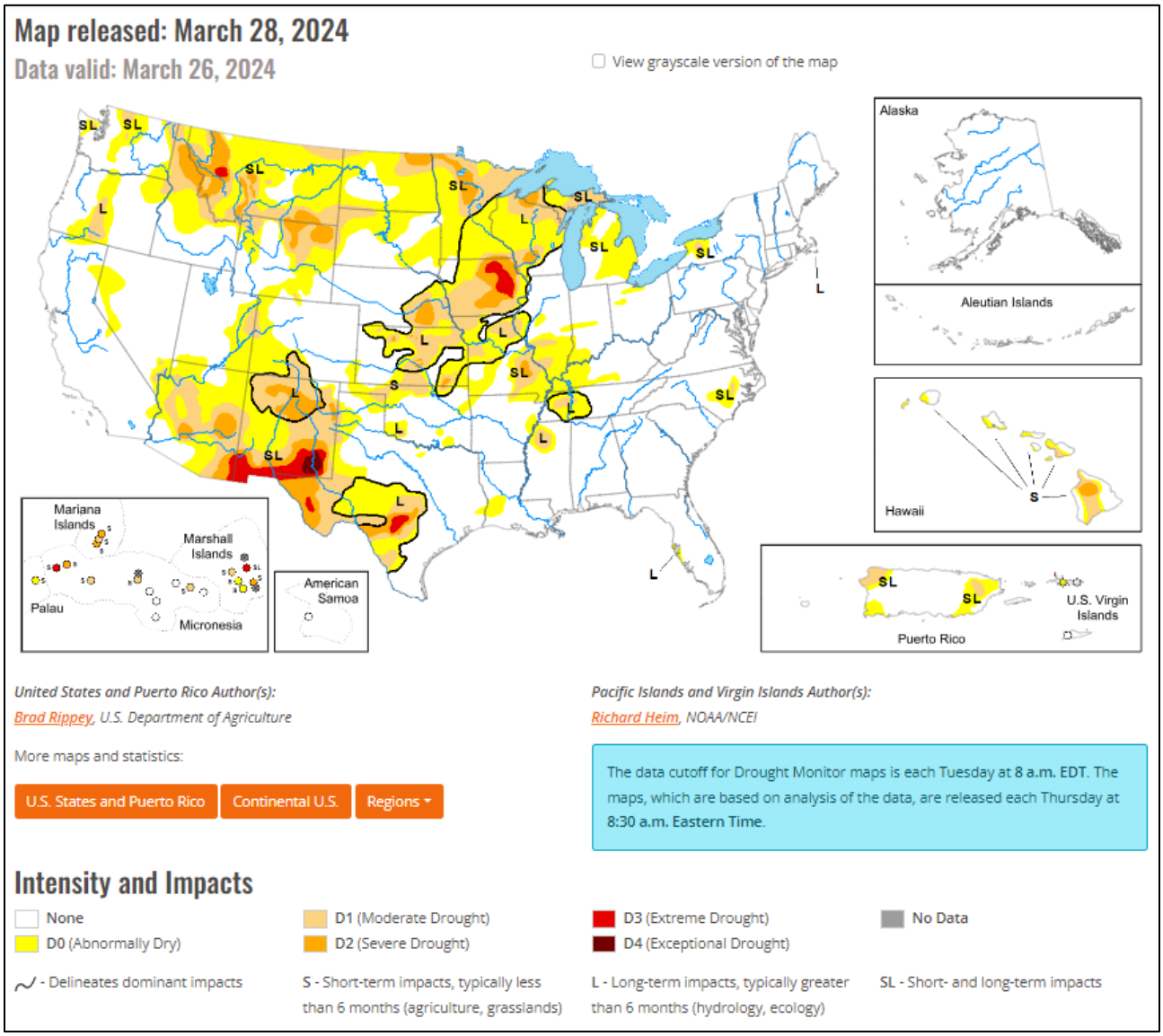
# Drought

## U.S. Drought Monitor

Source: National Drought Mitigation Center

## U.S. Drought Portal

Source: NOAA




## Current National Drought Summary, March 26, 2024

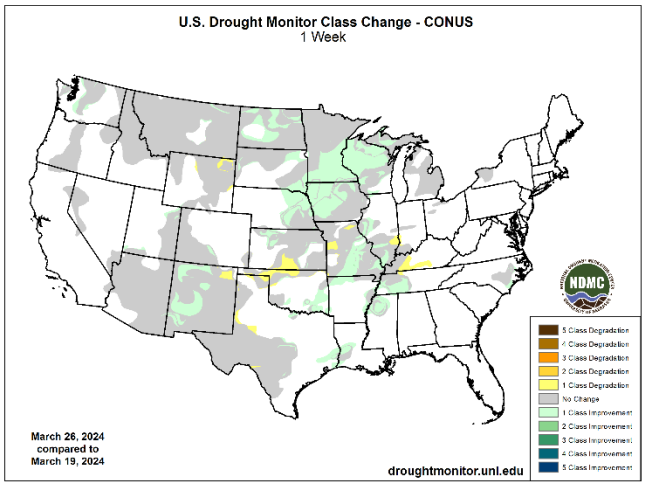
Source: National Drought Mitigation Center

"A winter-like storm system crossing the central Plains and upper Midwest resulted in a variety of weather hazards, including blizzard conditions, high winds, heavy rain, and locally severe thunderstorms. That storm was preceded by a weaker system, which produced a stripe of snow from northern Montana into portions of the Great Lakes States. Combined, the two storms produced 40 to 50% of the season-to-date snowfall in 4 to 5 days at several upper Midwestern locations, including Eau Claire, Wisconsin, and Minneapolis-St. Paul, Minnesota. Though the winter-like storm eventually weakened and drifted northward into Canada, impacts lingered. For example, the wettest day ever observed during March was noted on the 23rd in mid-Atlantic locations such as Philadelphia, Pennsylvania, and New York's LaGuardia and JFK Airports. Elsewhere, the West received widespread but generally light precipitation."

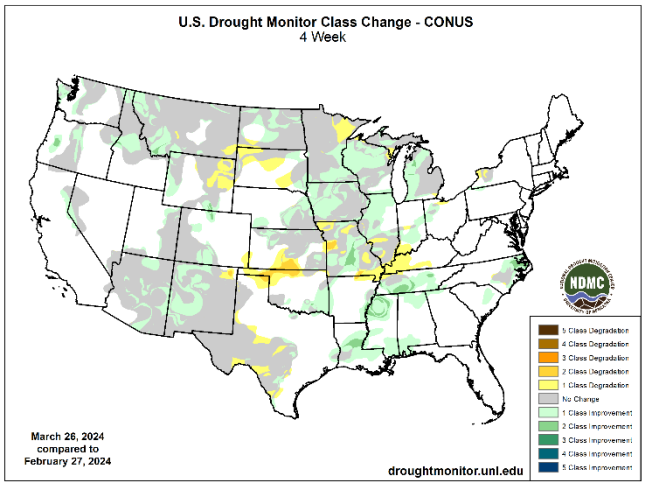
## Changes in Drought Monitor Categories over Time

Source: National Drought Mitigation Center

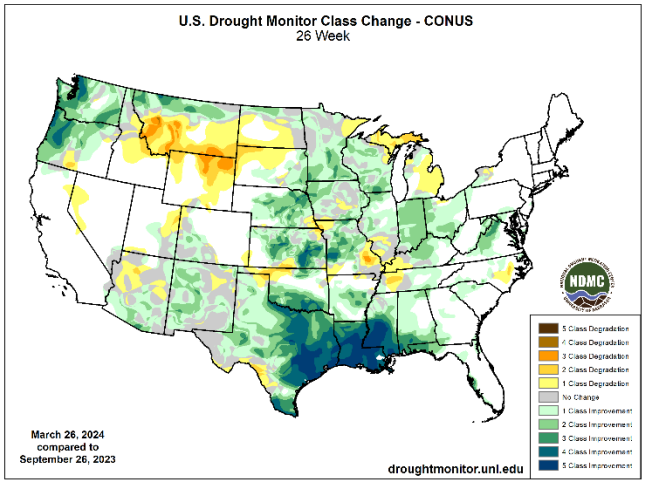
**1 Week**



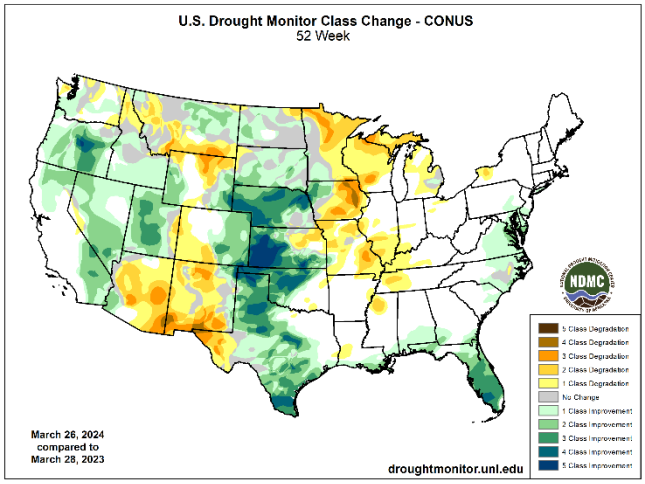

**1 Month**




**6 Months**




**1 Year**



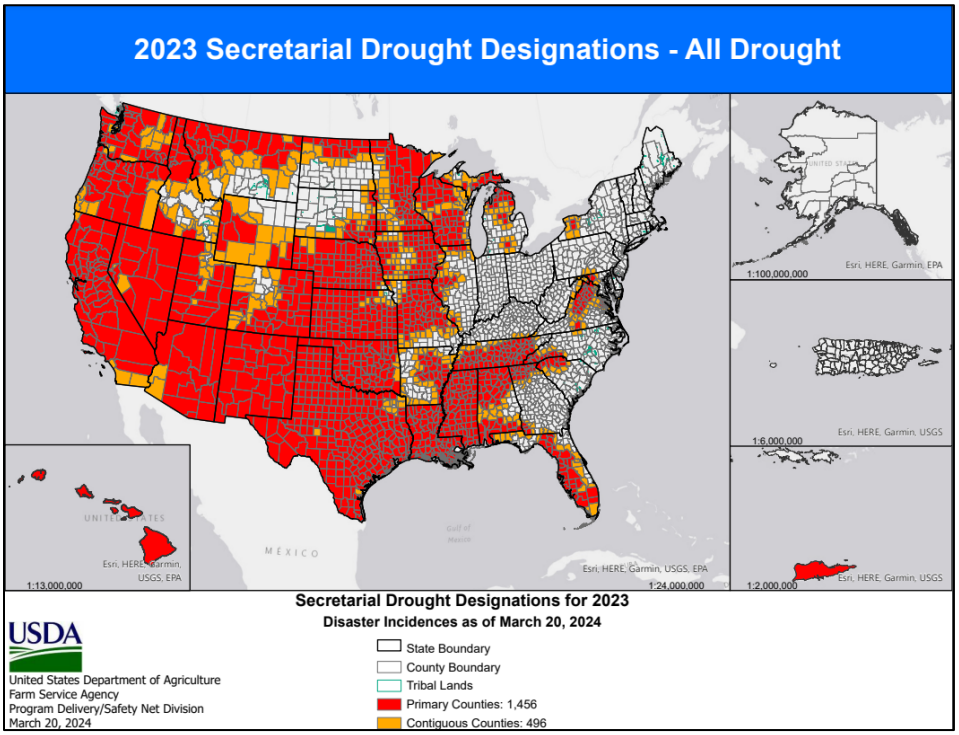

Changes in drought conditions over the last 12 months for the contiguous U.S.

## 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

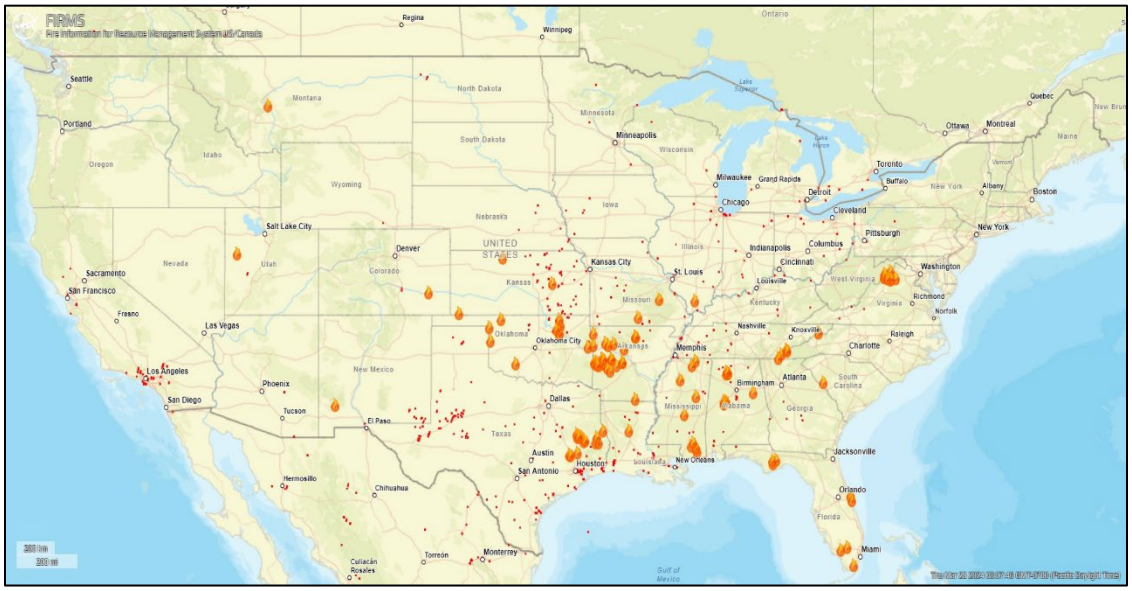
## USDA Secretarial Drought Designations

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

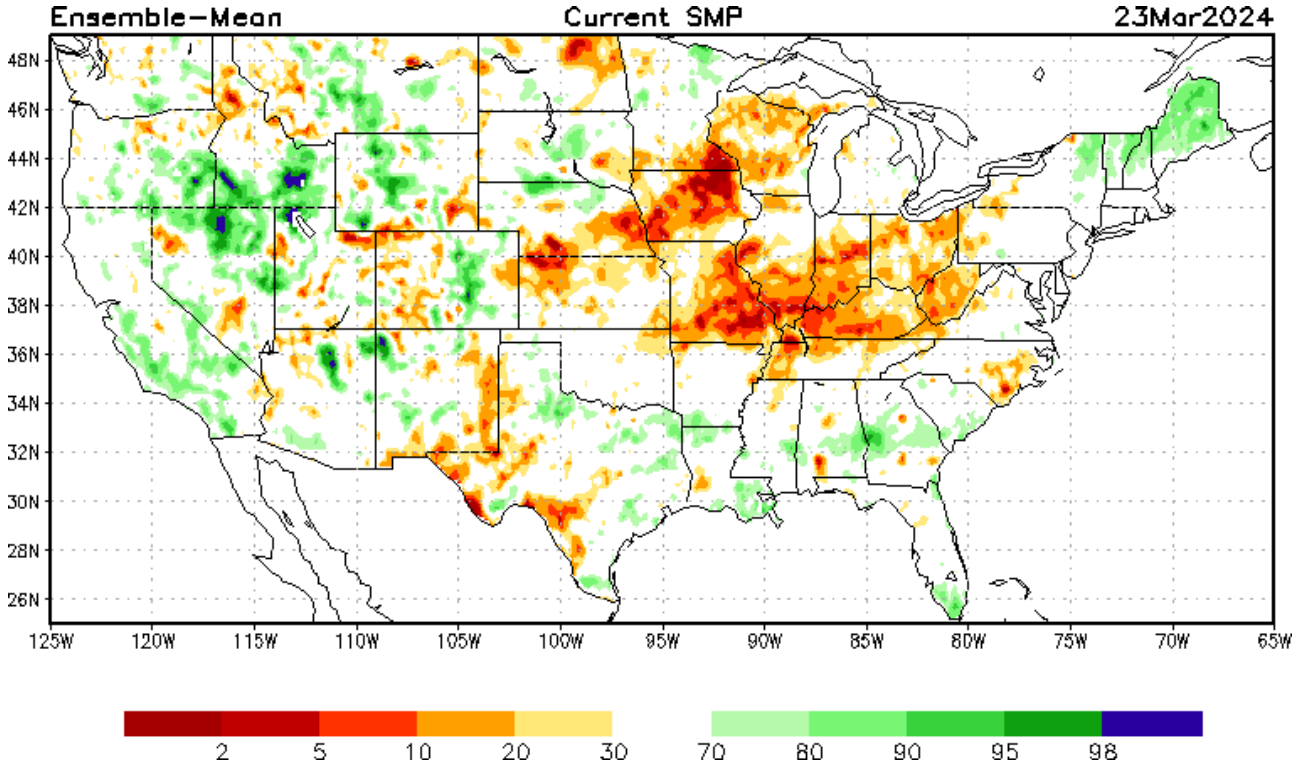
### Highlighted Wildfire Resources

- 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

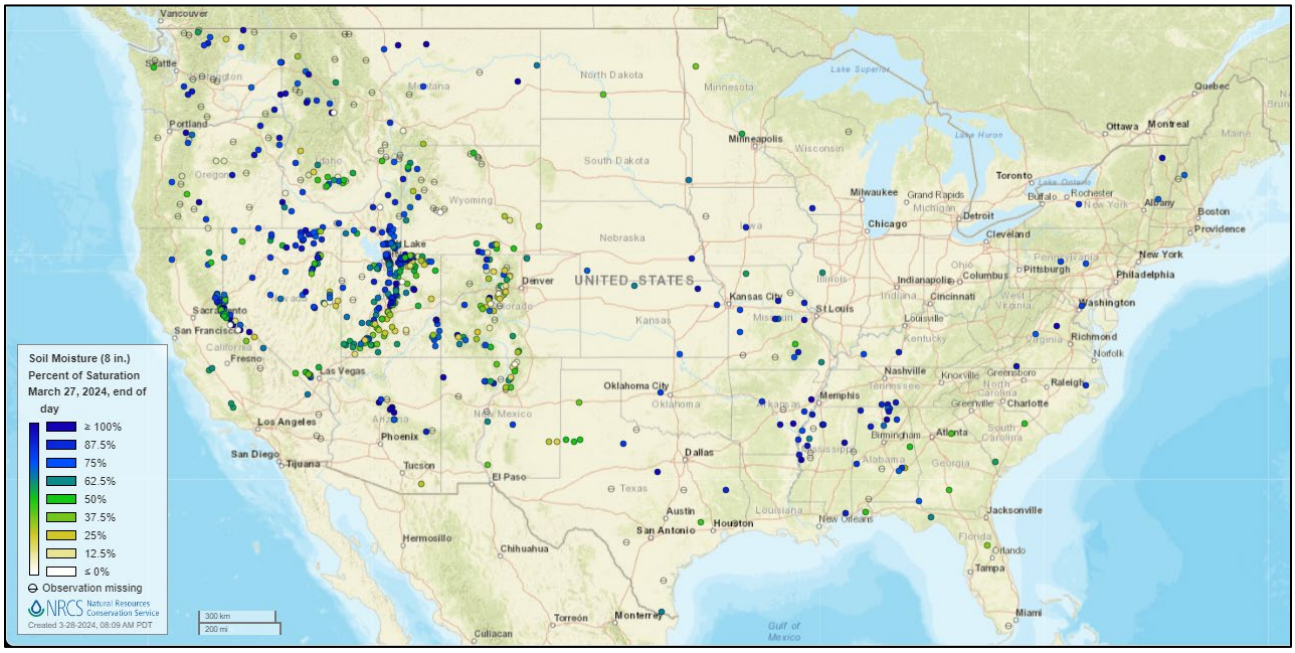



Modeled soil moisture percentiles as of March 23, 2024

## Soil Moisture Percent of Saturation

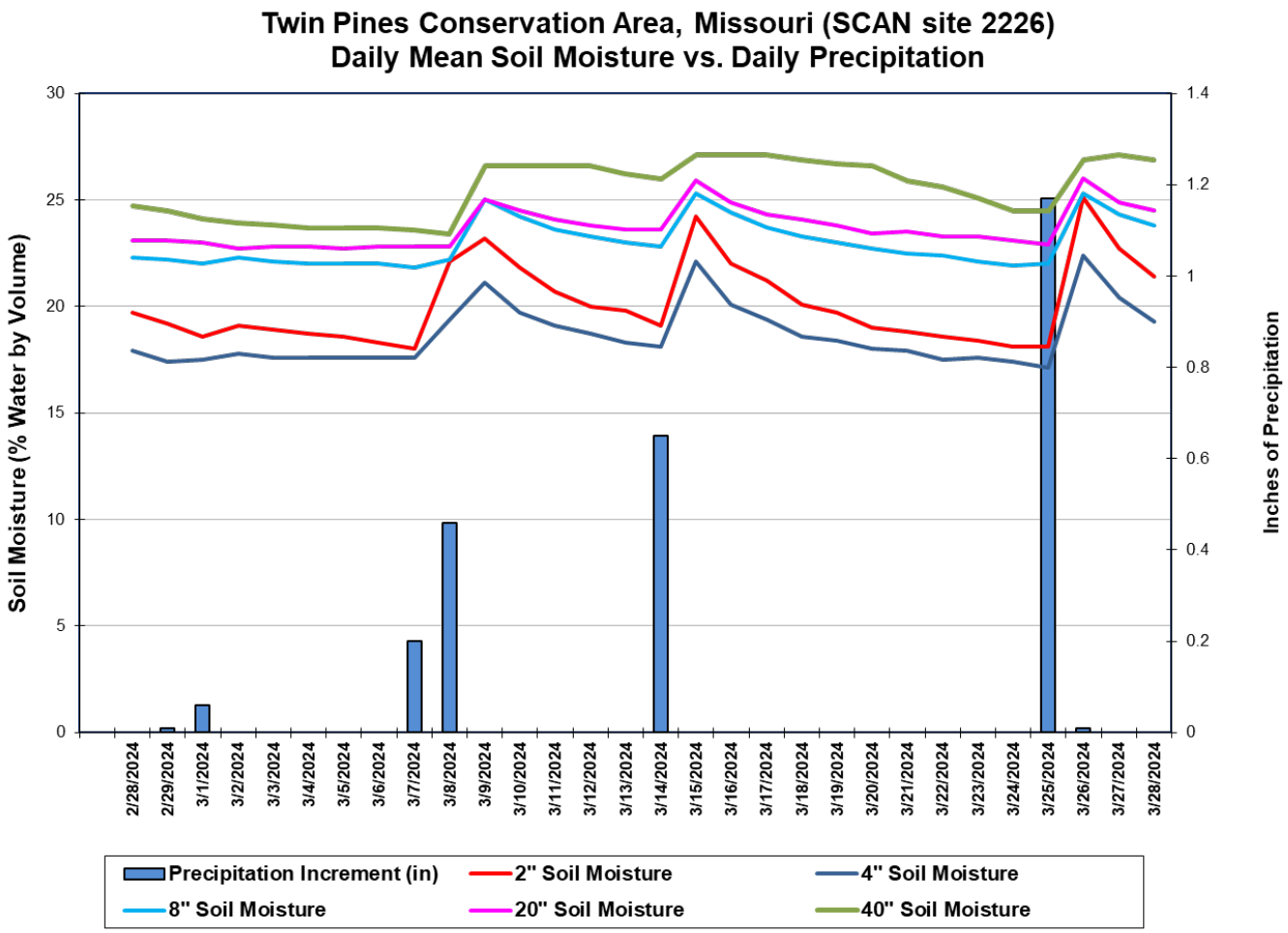
Source: NRCS SNOTEL and Soil Climate Analysis Network (SCAN)

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



## Soil Moisture

Source: NRCS Soil Climate Analysis Network (SCAN)



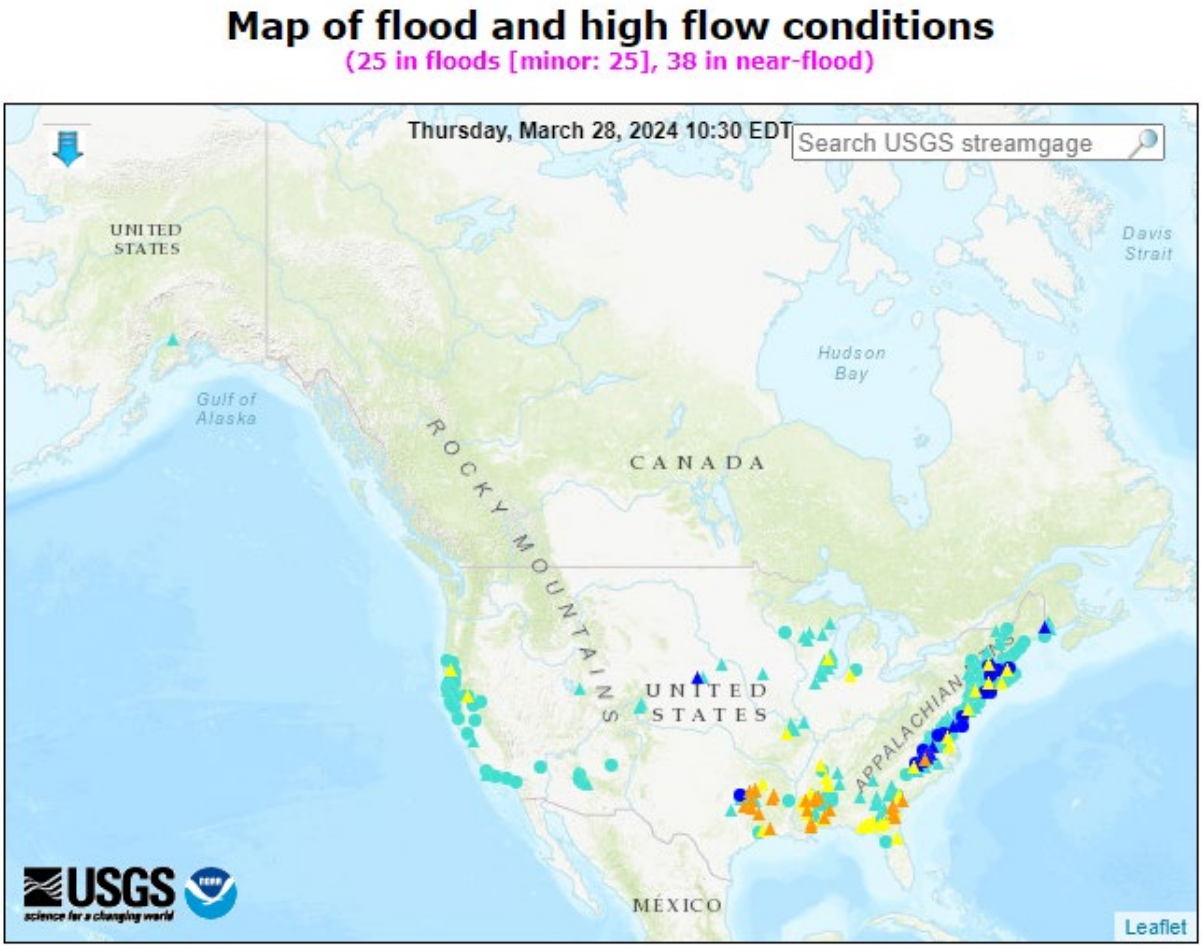

This chart shows the precipitation and soil moisture for the last 30 days at the Twin Pines Conservation Area SCAN site in Missouri. Soil sensors at all depths indicate an increase in soil moisture immediately following three separate precipitation events throughout the period. Total precipitation for the 30-day period was 2.56 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

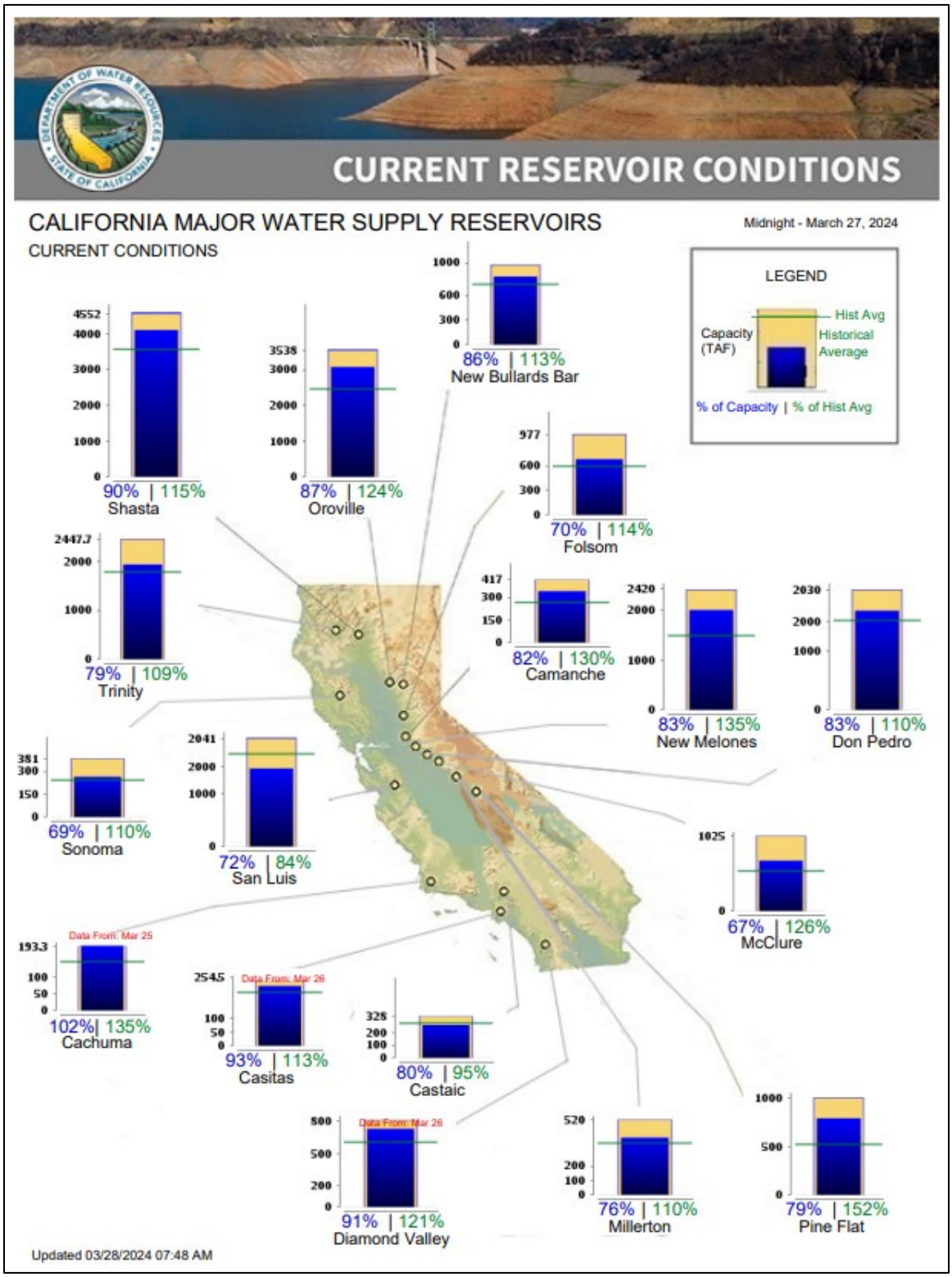
### Hydromet Teacup Reservoir Depictions

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 March 28, 2024:** "For the remainder of today, rain along the Atlantic Coast will gradually end, except in New England. Interior sections of New England may experience a rain-to-snow transition on Friday. Meanwhile, the focus for significant Western precipitation will shift into California by Friday, with heavy snow expected in higher elevations of the Sierra Nevada. During the weekend, precipitation will overspread other areas of the western U.S., including the Great Basin, Intermountain West, and Southwest. Additionally, precipitation will quickly translate eastward from Wyoming, South Dakota, and Nebraska eastward to the middle Atlantic States, with wet snow possible from the Rockies into the upper Midwest. The NWS 6- to 10-day outlook for April 2 – 6 calls for the likelihood of near- or below-normal temperatures nationwide, except for warmer-than-normal weather in California, the Great Basin, northern New England, and southern Florida. Meanwhile, near- or above-normal precipitation across much of the country should contrast with drier-than-normal conditions in coastal sections of Oregon and northern California, as well as a broad area covering much of the eastern Plains, mid-South, and Midwest."

## Weather Hazards Outlook: March 30 – April 03, 2024

Source: NOAA Weather Prediction Center

### U.S. Day 3-7 Hazards Outlook

About the Hazards Outlook

Created March 27, 2024

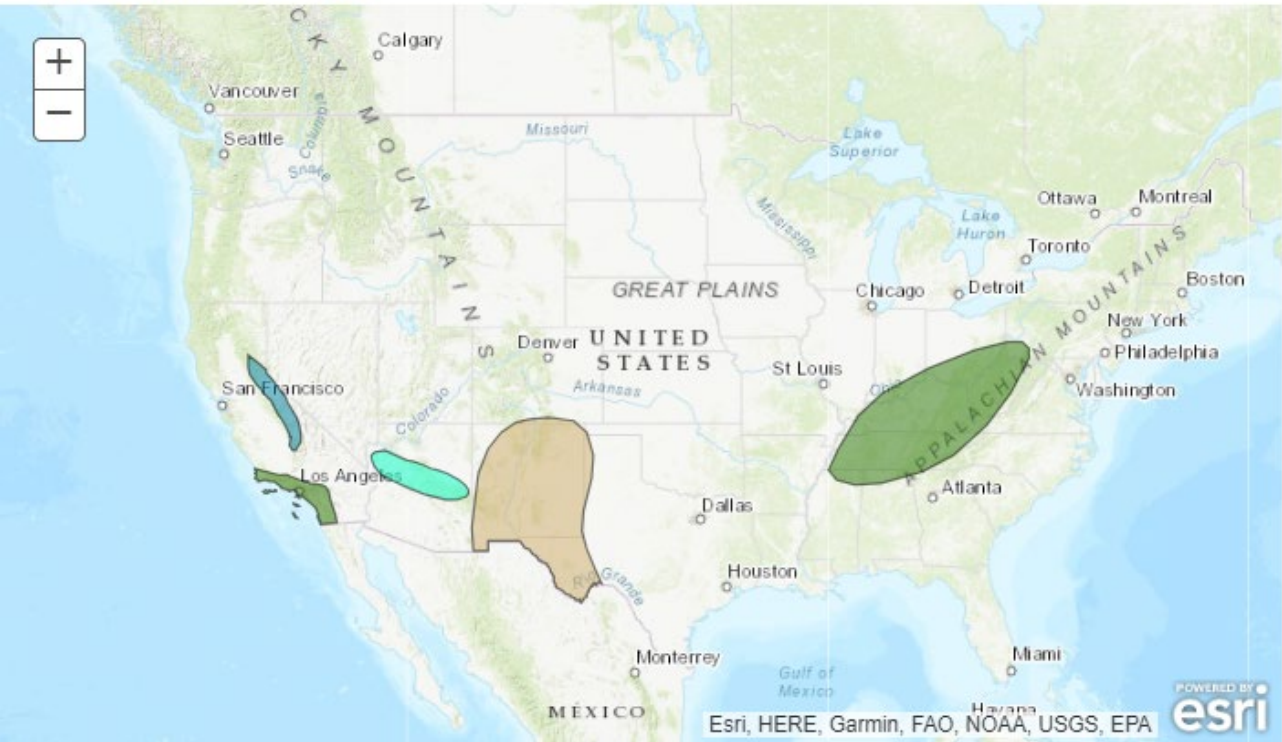
**NOTE:** These products are only created Monday through Friday. Please exercise caution using this outlook during the weekend.

| | |
|---|---|
| Precipitation | ☑ |
| Temperature | ☑ |
| Wildfires | ☑ |
| Soils | ☐ |

**Valid March 30, 2024 - April 03, 2024**

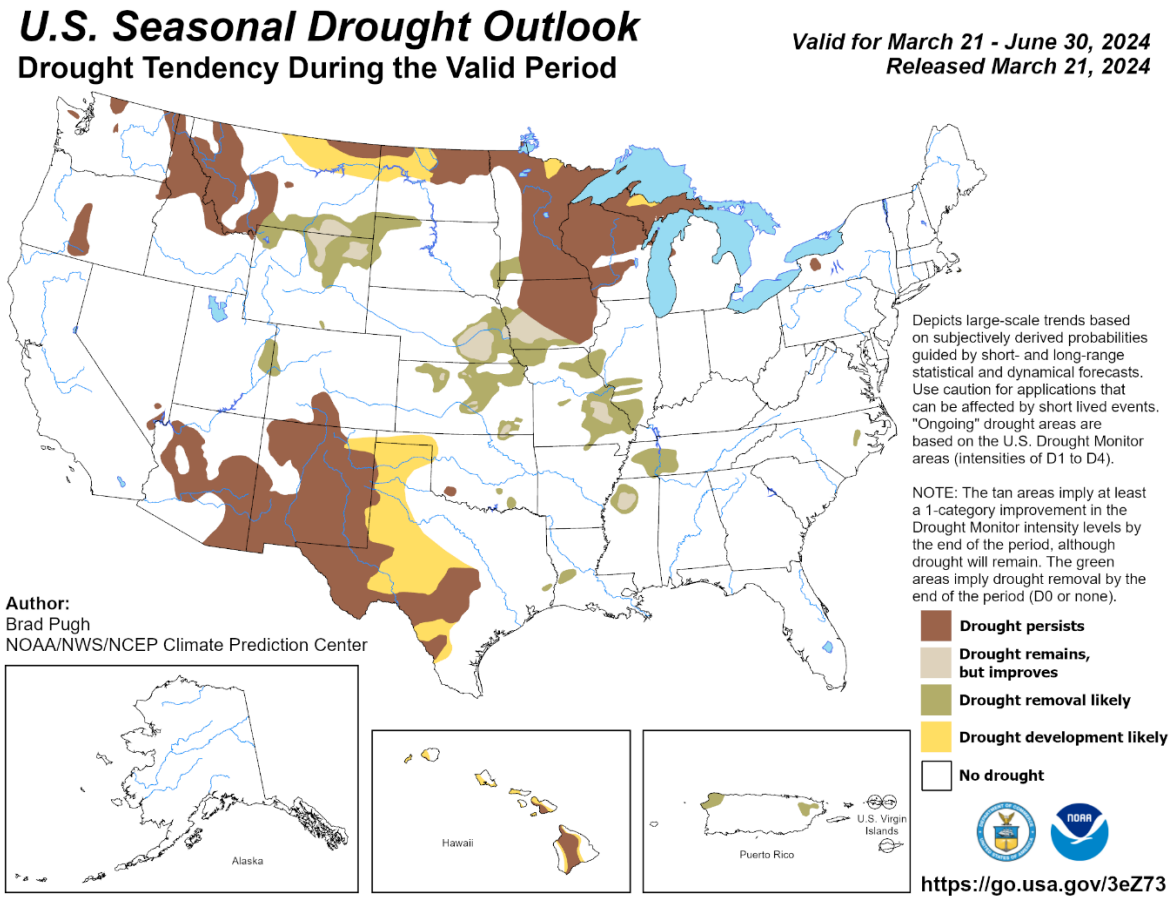
**Legend**

- 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: March 21 – June 30, 2024

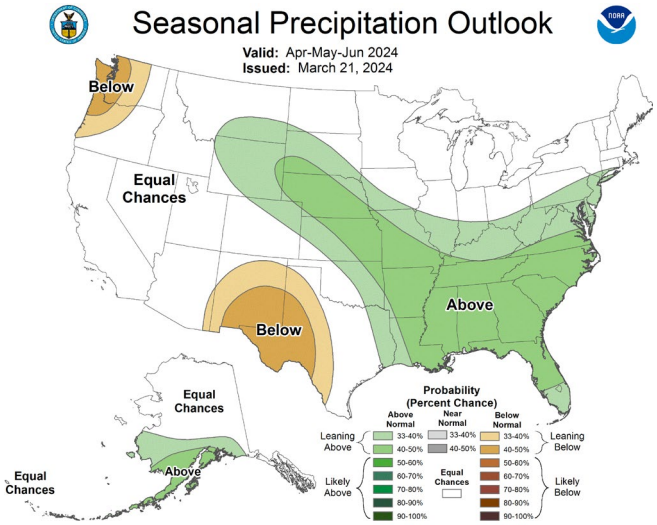
Source: National Weather Service



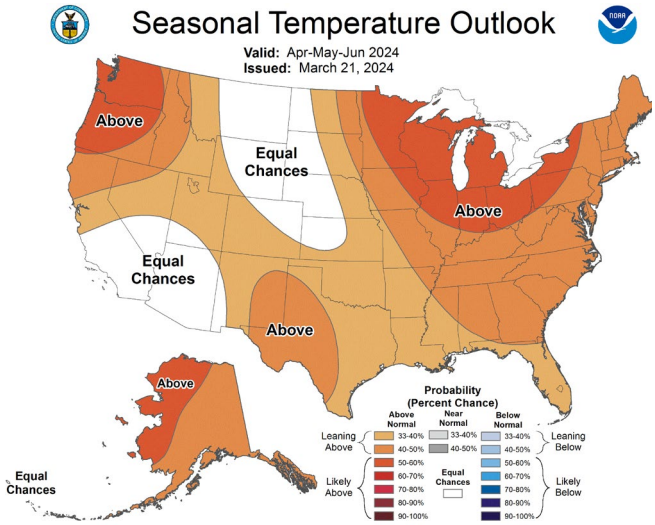

## Climate Prediction Center Three-month Outlook

Source: National Weather Service

Precipitation




Temperature




April-May-June 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.