



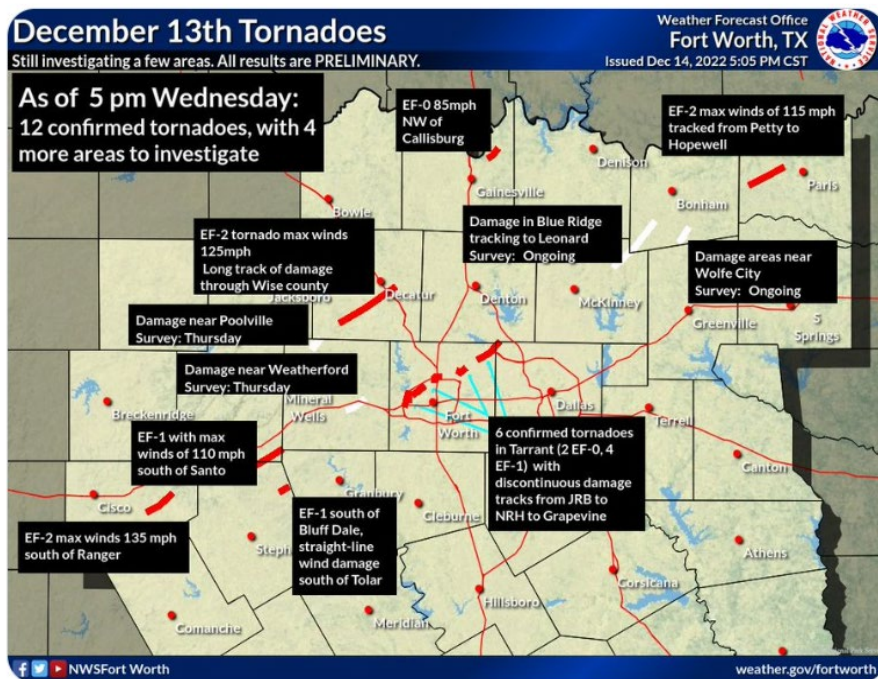
# Water and Climate Update

## December 15, 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.

Snow .....	2	Drought .....	10
Precipitation .....	4	Other Climatic and Water Supply Indicators .....	14
Temperature.....	8	More Information .....	20

## Powerful winter storm system sweeps across the U.S.

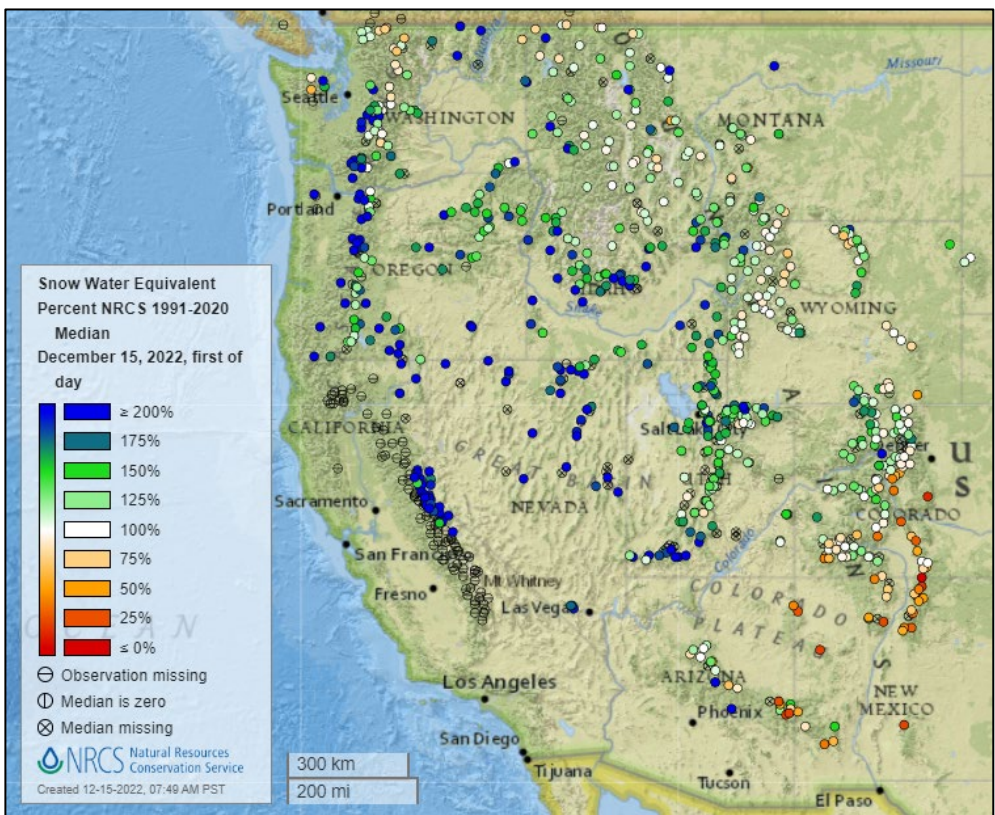


The storm cycle responsible for dumping mountain snow throughout the western U.S. last weekend has continued to bring bouts of severe weather as it moves to the east. Impacts from the storm system to date include blizzards and heavy snow in the Plains and Midwest, and tornadoes in Texas, Oklahoma, and Louisiana.

### Related:

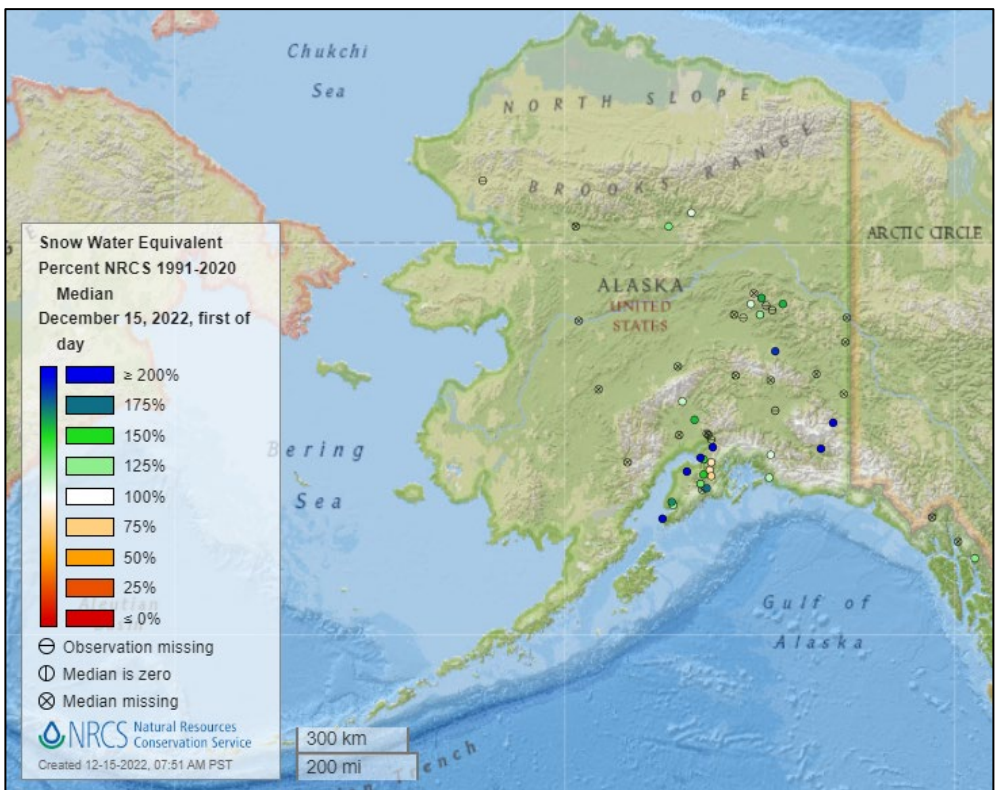
- [Winter storm slams western U.S., bringing heavy snow to Northern California](#) – NPR
- [At least 5 tornadoes confirmed in Texas as storms roll through southwestern US and blizzard conditions mount in the northern Plains](#) – CNN
- [A massive storm brings tornadoes to the South and a blizzard threat to central U.S.](#) – NPR
- [Western storm to trigger blizzard, tornadoes as it rolls into Central U.S.](#) – Washington Post
- [Storm brings rain and snow to Southern California as rockfall closes Yosemite entrance](#) – Los Angeles Times
- [Here's what December's stormy weather means for California's drought](#) – San Francisco Chronicle
- [14 Tornadoes Confirmed in Tuesday's Storms, Ranging From EF-0 to EF-2](#) – NBC DFW (TX)
- [Winter storms - live: Deadly Louisiana tornadoes damage hospital, trap people as blizzard heads across Plains](#) - Yahoo News

# Snow



[Snow water equivalent percent of median map](#)

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

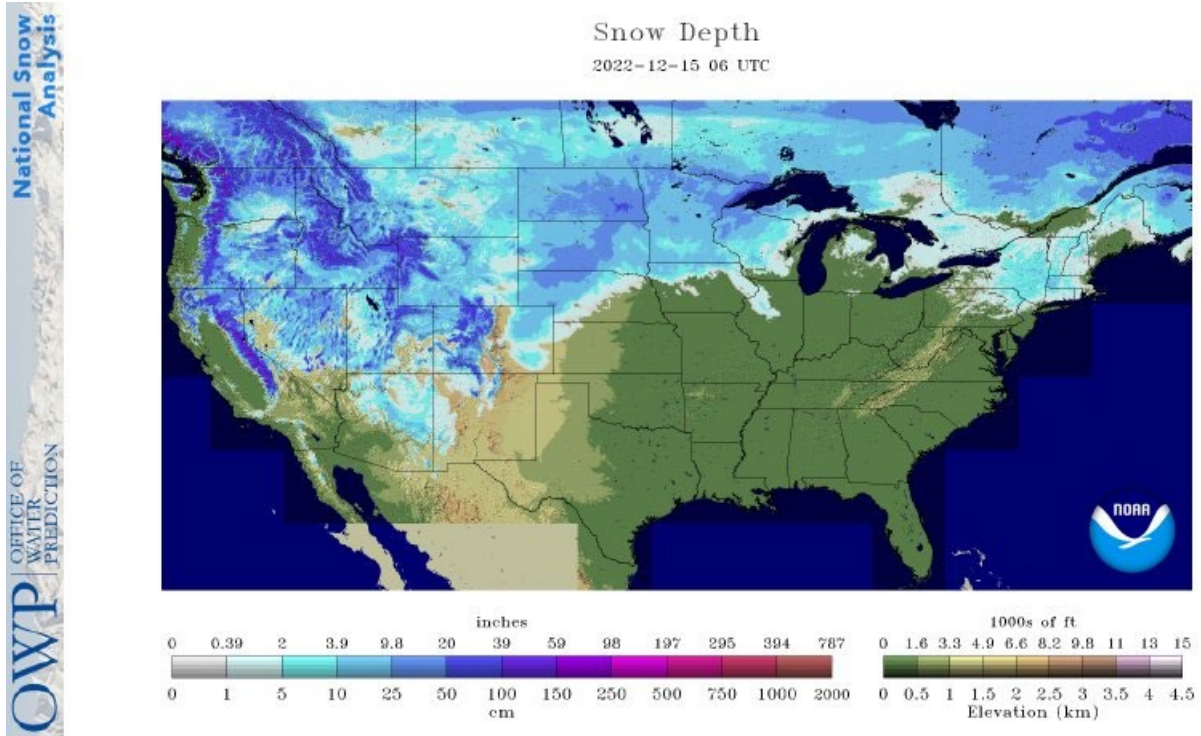


[Alaska snow water equivalent percent of median map](#)

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

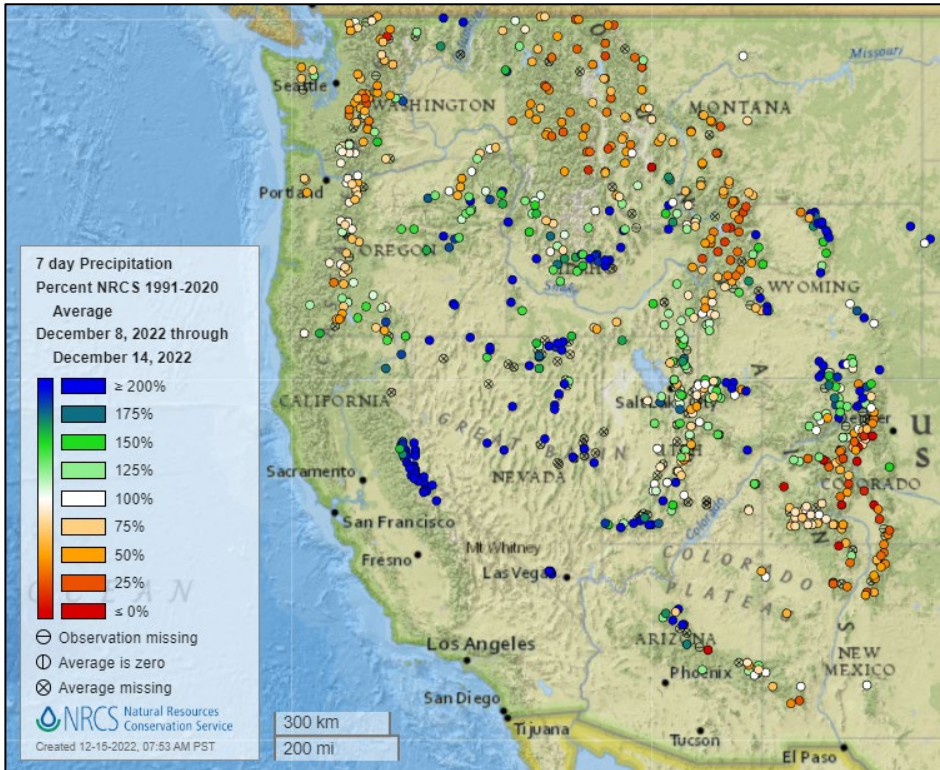
**Current Snow Depth, National Weather Service Snow Analysis**

Source: NOAA NWS National Operational Hydrologic Remote Sensing Center



# Precipitation

## Last 7 Days, NRCS SNOTEL Network

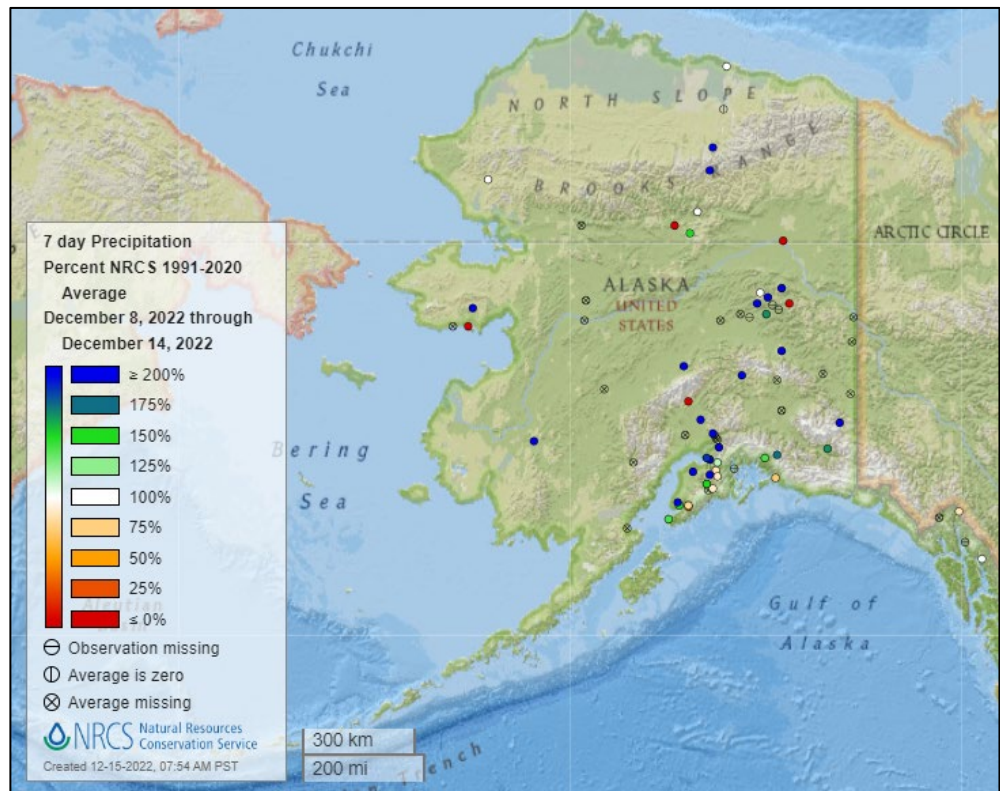


[7-day precipitation percent of average map](#)

**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](#)



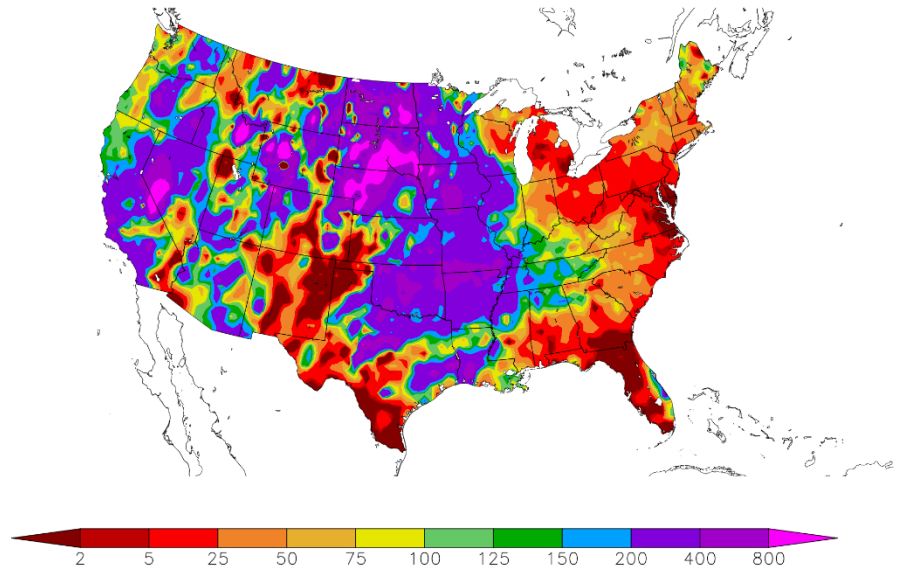
### Last 7 Days, National Weather Service (NWS) Networks

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](#)

Percent of Normal Precipitation (%)  
12/8/2022 – 12/14/2022



Generated 12/15/2022 at HPRCC using provisional data.

NOAA Regional Climate Centers

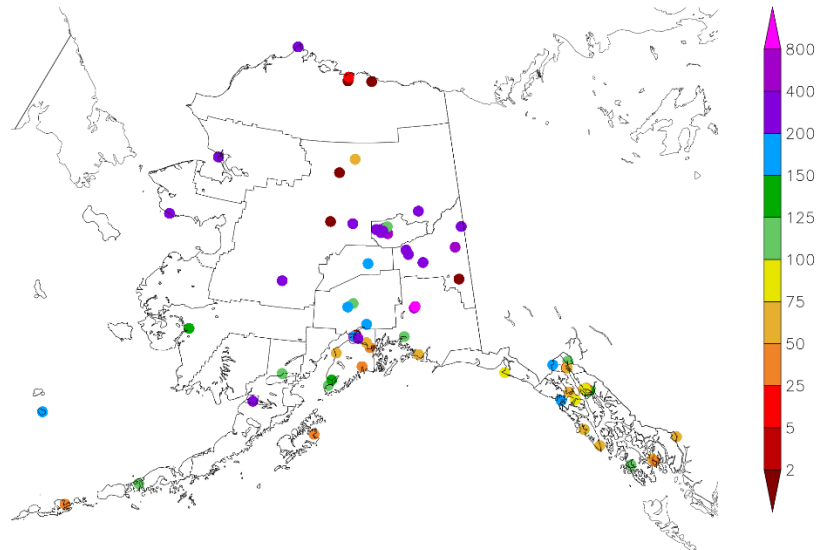
### Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

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

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

Percent of Normal Precipitation (%)  
12/8/2022 – 12/14/2022



Generated 12/15/2022 at HPRCC using provisional data.

NOAA Regional Climate Centers

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

Source: PRISM

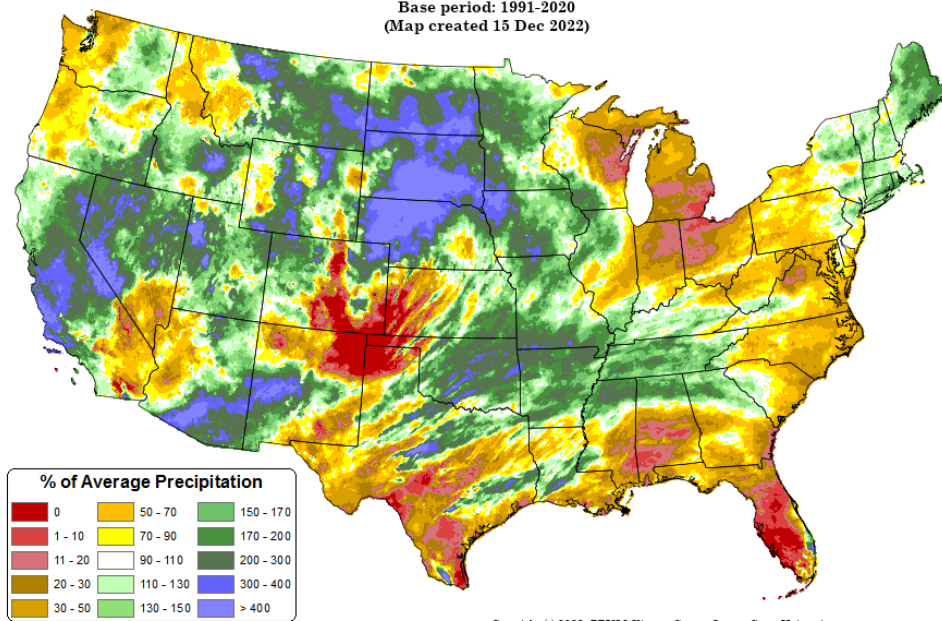
#### Total Precipitation Anomaly: 01 Dec 2022 - 14 Dec 2022

Period ending 7 AM EST 14 Dec 2022

Base period: 1991-2020

(Map created 15 Dec 2022)

[Month-to-date national total precipitation anomaly map](#)



Copyright (c) 2022, PRISM Climate Group, Oregon State University

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

Source: PRISM

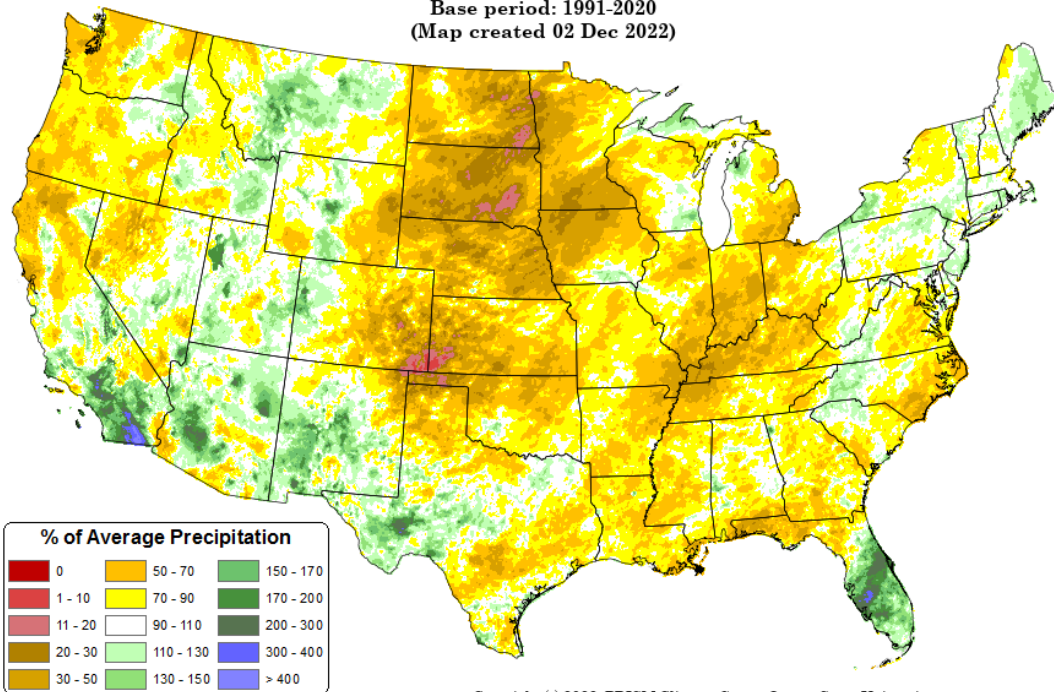
[September through November 2022 precipitation anomaly map](#)

#### Total Precipitation Anomaly: Sep 2022 - Nov 2022

Period ending 7 AM EST 30 Nov 2022

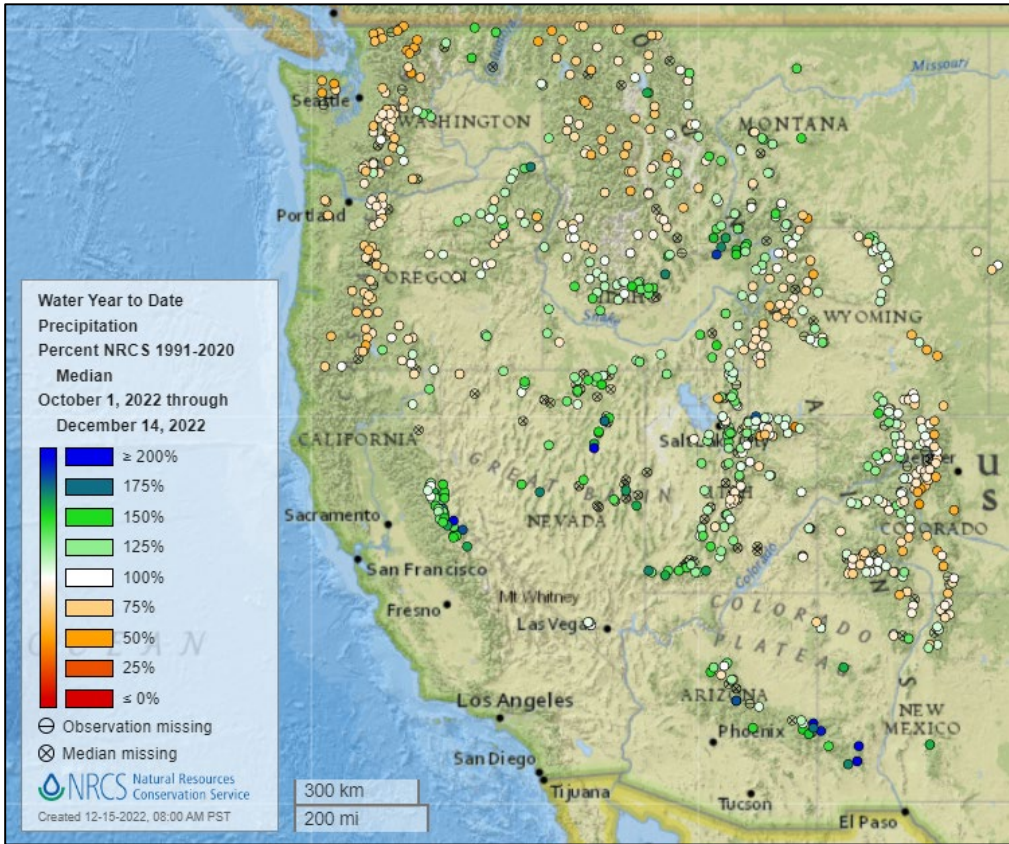
Base period: 1991-2020

(Map created 02 Dec 2022)



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Water Year-to-Date, NRCS SNOTEL Network

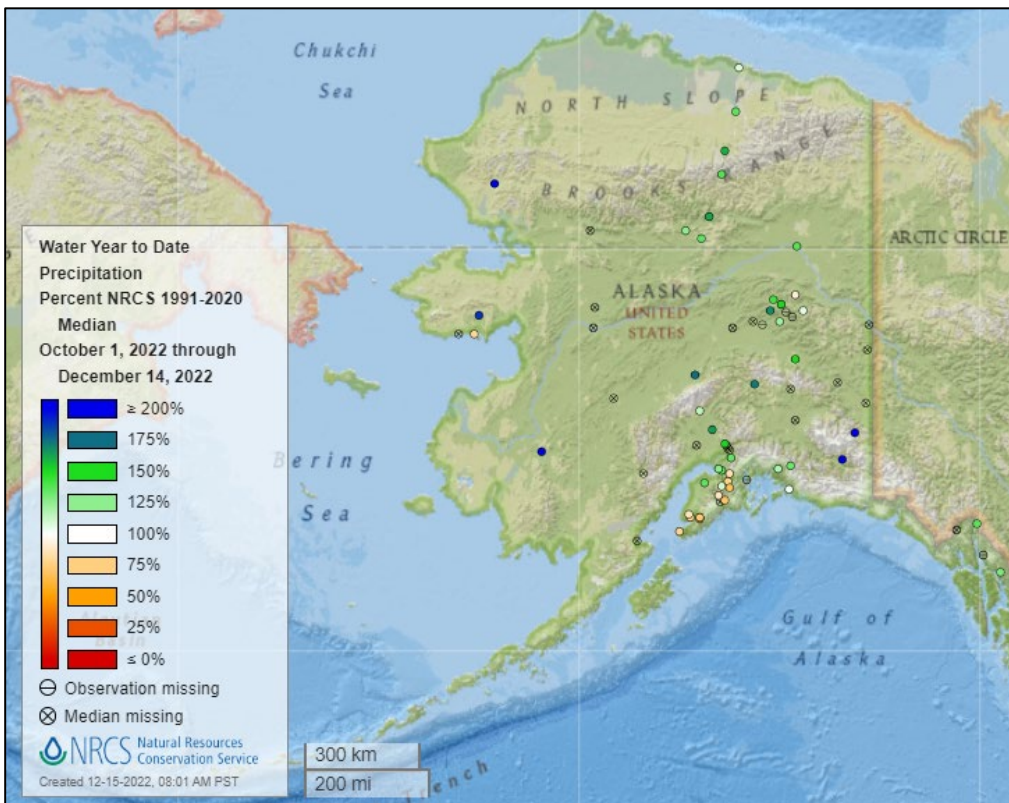


[2023 water year-to-date precipitation percent of median map](#)

**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

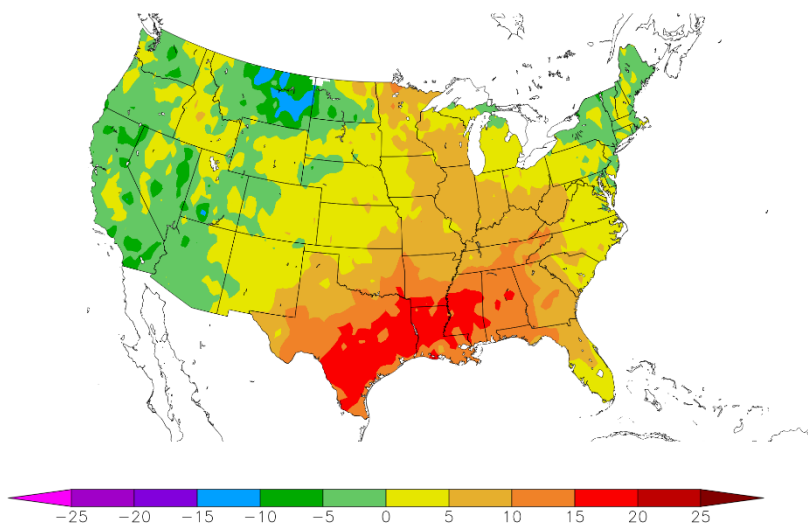
### Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

[7-day temperature anomaly map](#) for the contiguous U.S.

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

Departure from Normal Temperature (F)  
12/8/2022 – 12/14/2022



Generated 12/15/2022 at HPRCC using provisional data.

NOAA Regional Climate Centers

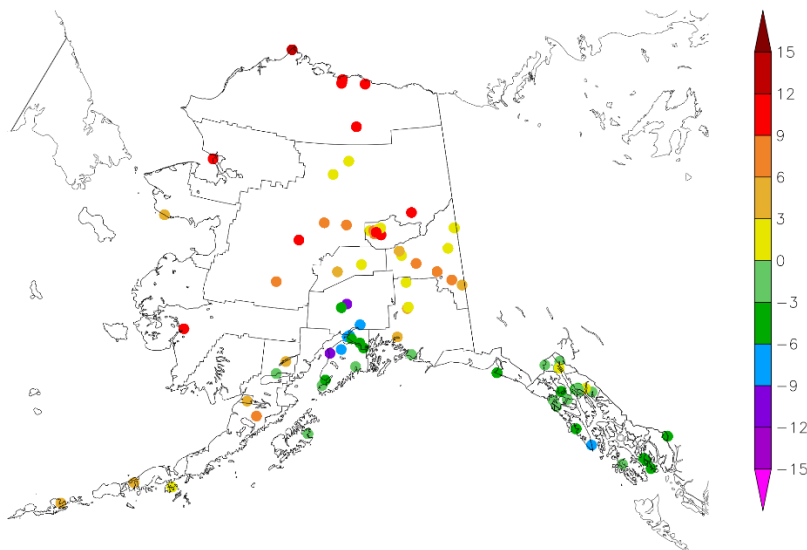
### Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

[7-day temperature anomaly map](#) for Alaska.

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

Departure from Normal Temperature (F)  
12/8/2022 – 12/14/2022



Generated 12/15/2022 at HPRCC using provisional data.

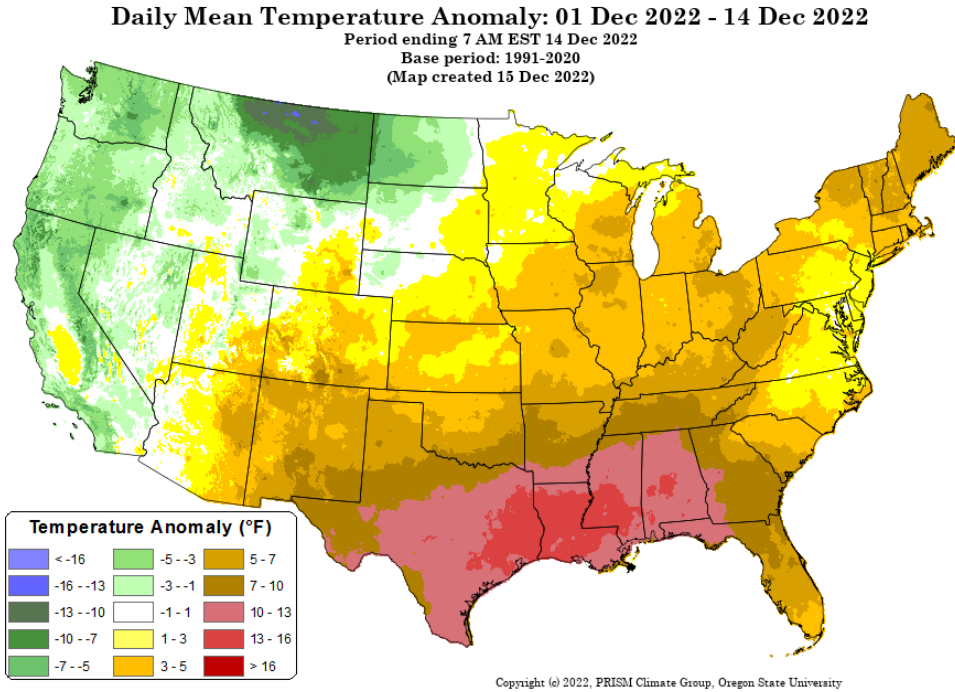
NOAA Regional Climate Centers



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

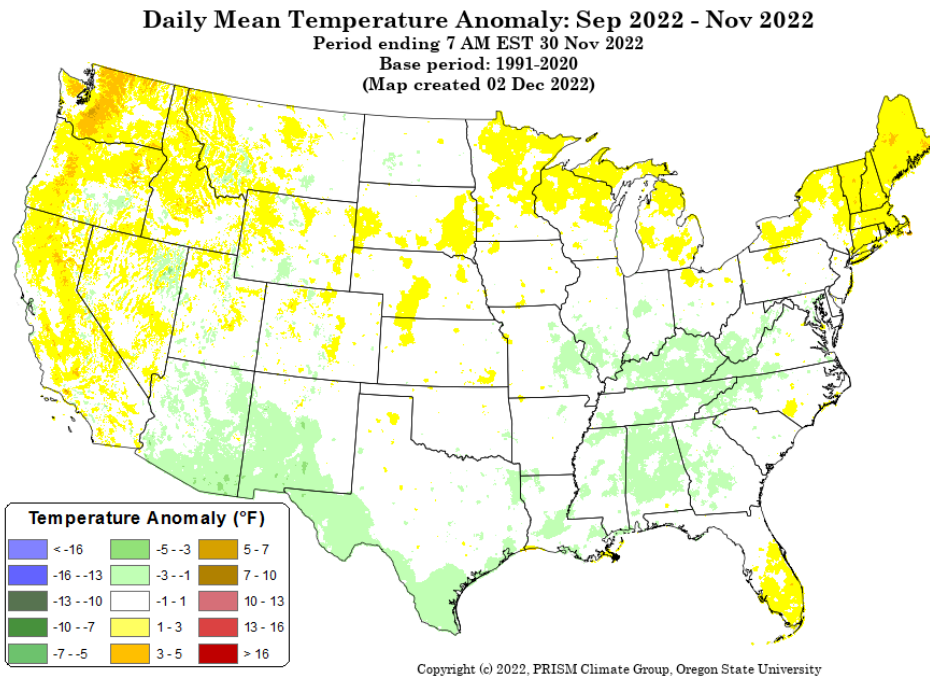
Source: PRISM

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



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

Source: PRISM



[September through November 2022 daily mean temperature anomaly map](#)

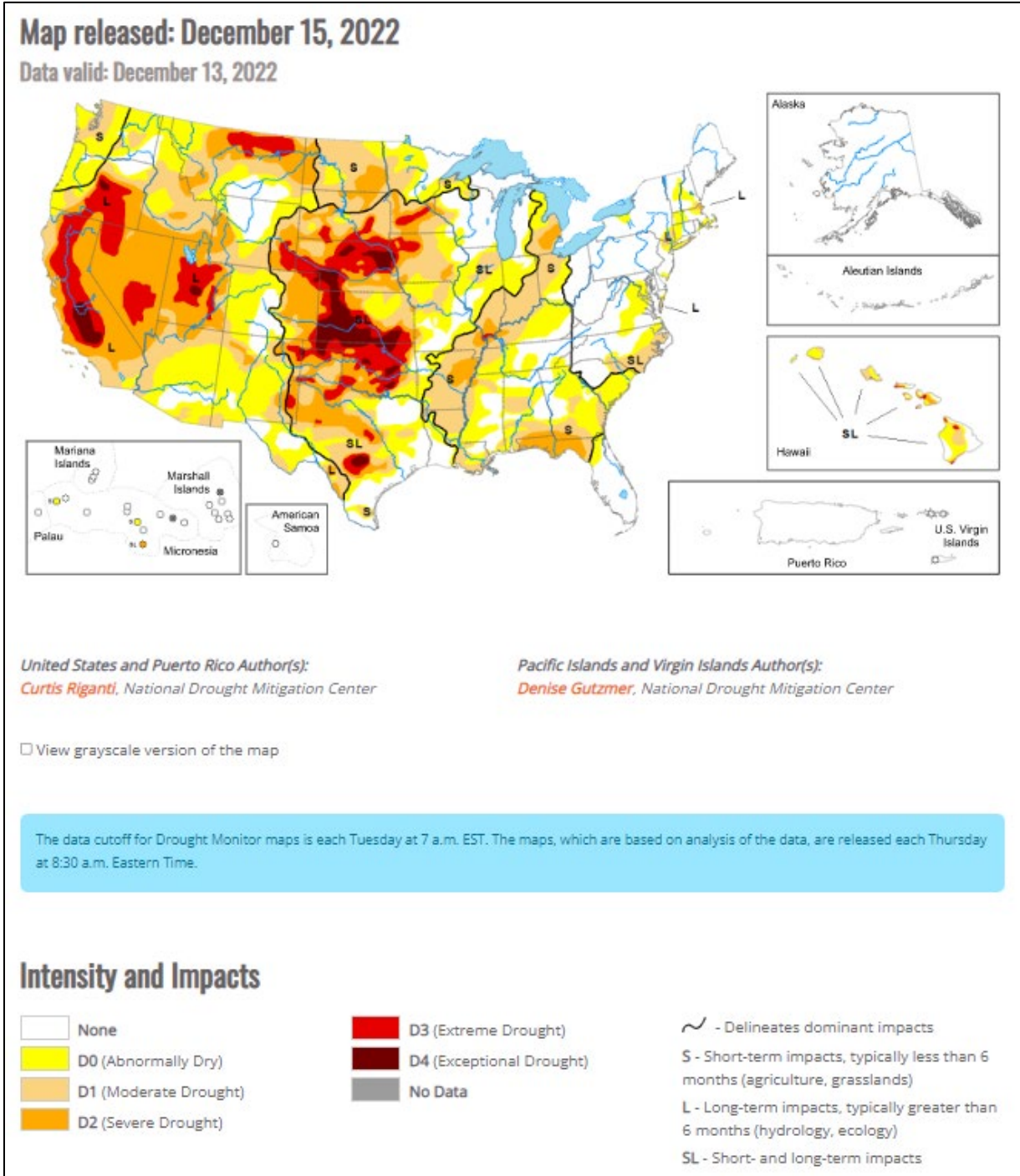
# Drought

[U.S. Drought Monitor](#)

Source: National Drought Mitigation Center

[U.S. Drought Portal](#)

Source: NOAA



**Current [National Drought Summary](#), December 13, 2022**

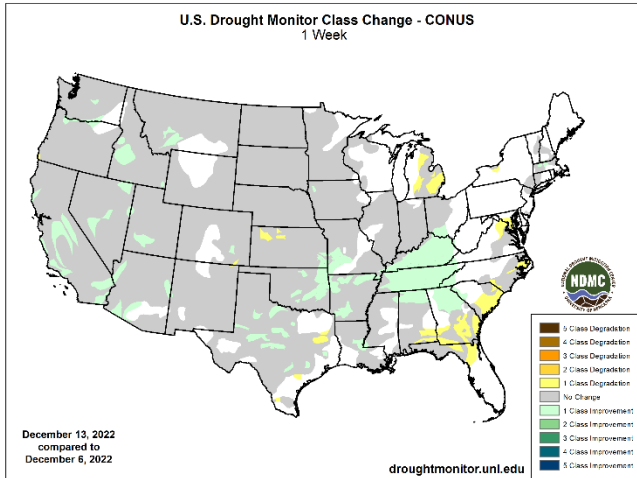
Source: National Drought Mitigation Center

“While much of the contiguous U.S. is still experiencing drought or abnormal dryness, several storm systems dropped large amounts of precipitation over the past week in the form of rain or snow, especially in California and from eastern Oklahoma through Tennessee. Since some of this precipitation fell near the Tuesday morning data cutoff, more analysis of the early week precipitation will be performed next week, when more data is available to analyze changes to ongoing drought conditions. In parts of the Great Lakes, Southeast, and northwest Kansas that missed out on recent precipitation, drought or abnormal dryness developed or worsened.”

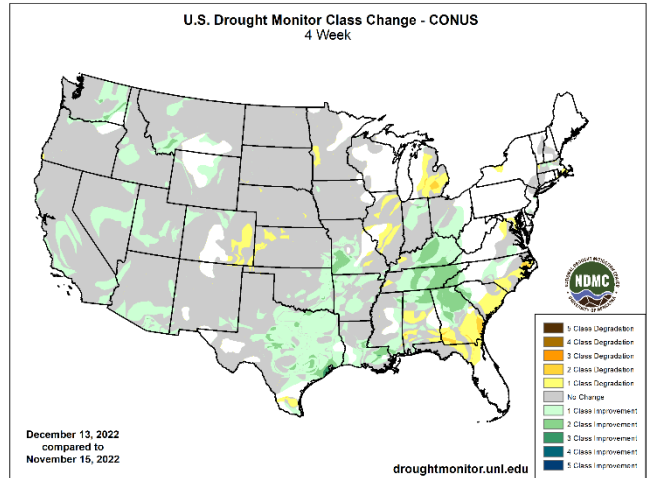
## Changes in Drought Monitor Categories over Time

Source: National Drought Mitigation Center

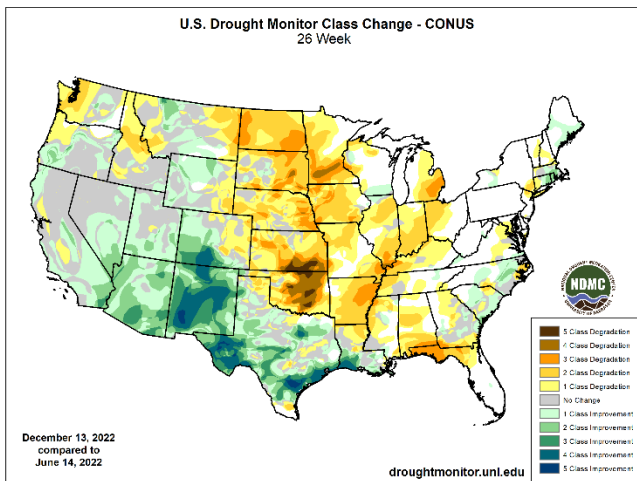
### 1 Week



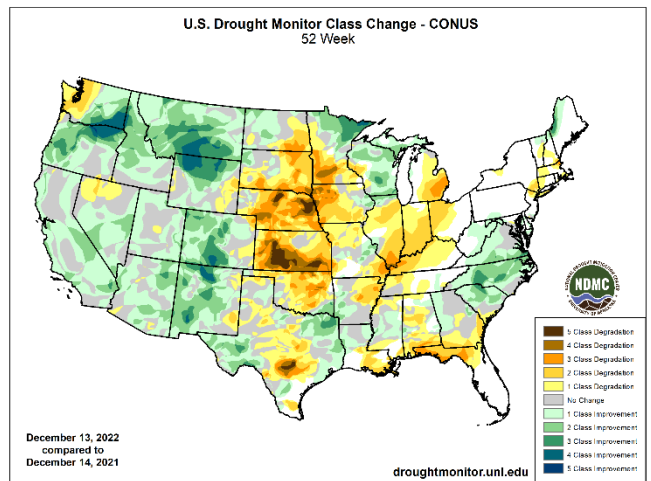
### 1 Month



### 6 Months



### 1 Year



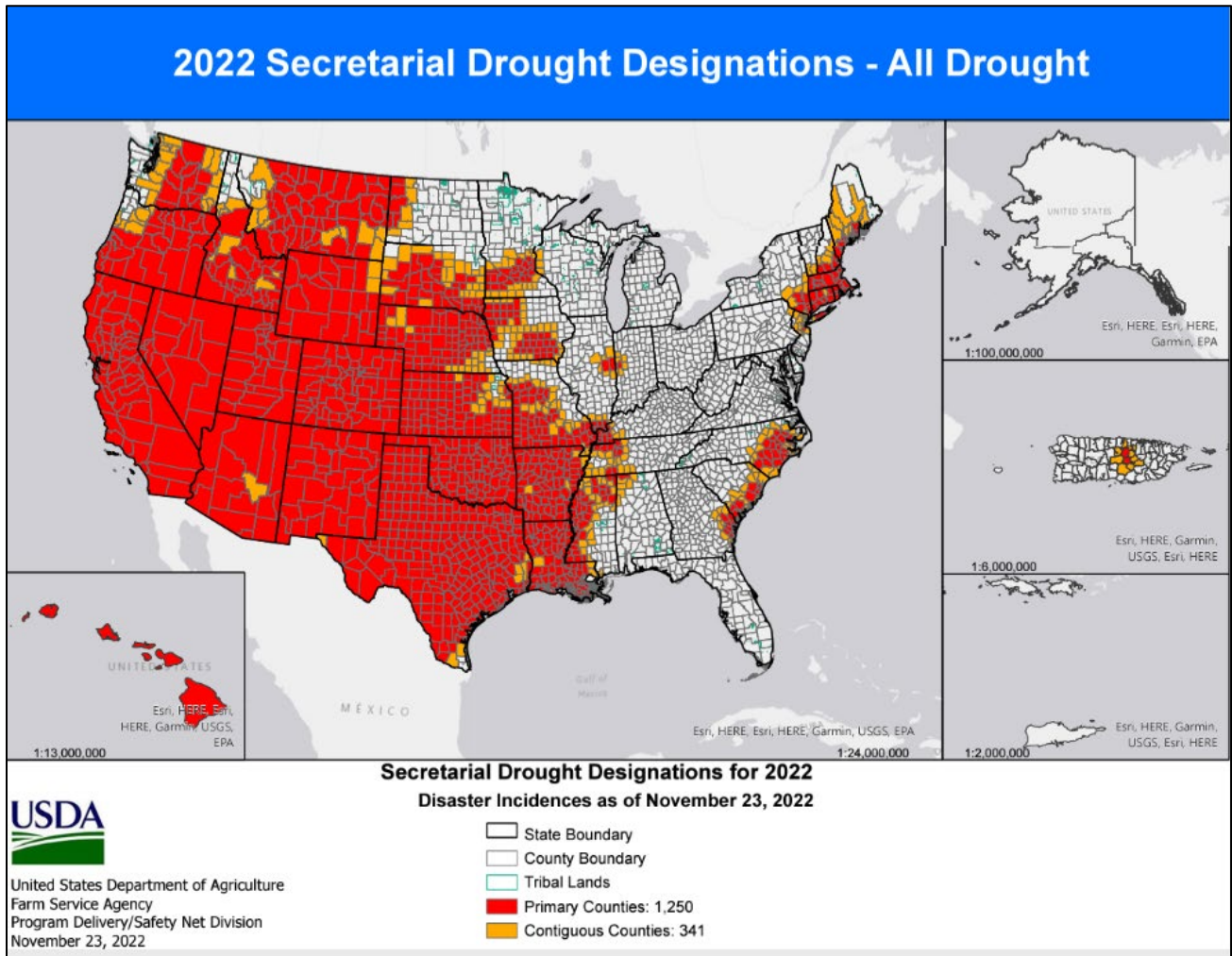
[Changes in drought conditions over the last 12 months for the contiguous U.S.](#)

## 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**

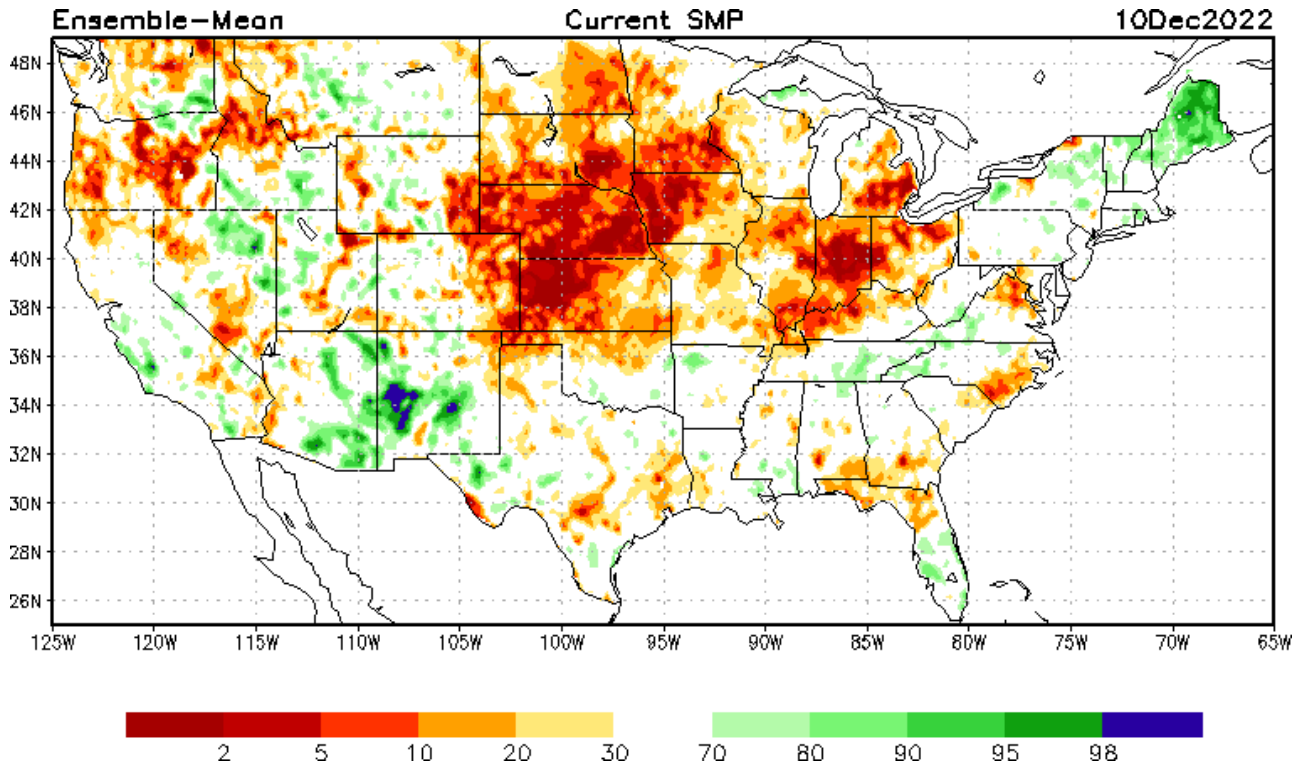
Source: USDA Farm Service Agency



## Other Climatic and Water Supply Indicators

### Soil Moisture

Source: NOAA National Centers for Environmental Prediction

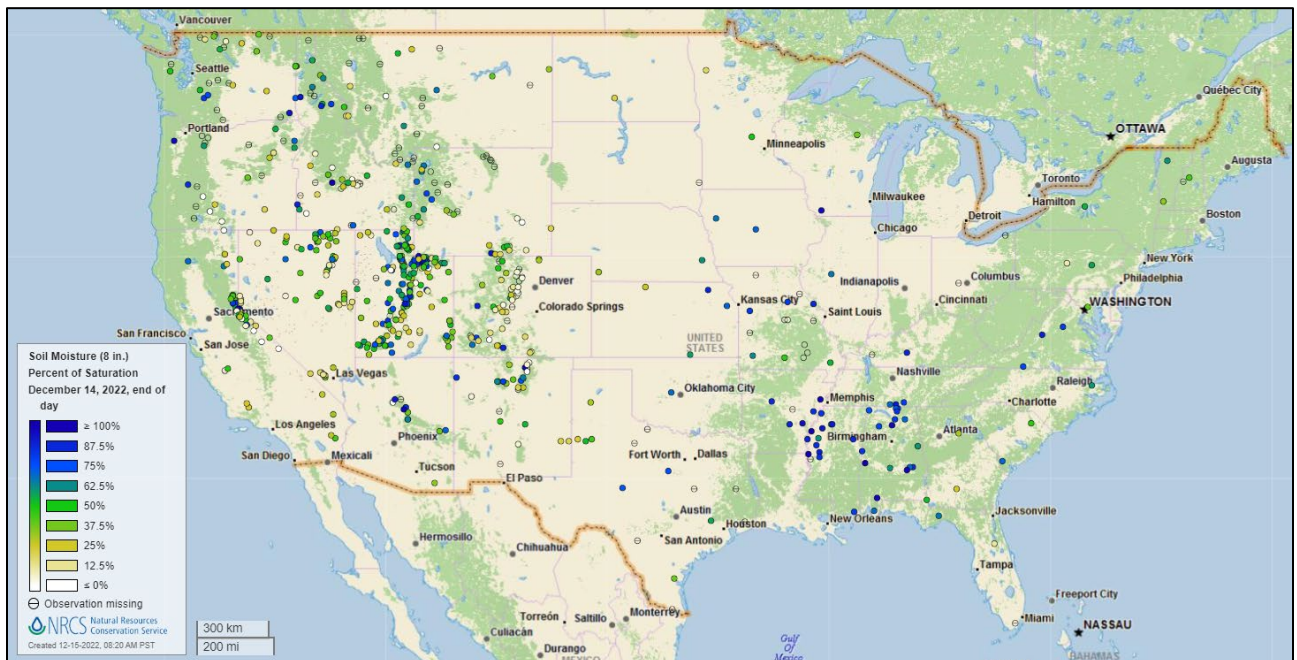


[Modeled soil moisture percentiles](#) as of December 10, 2022

### Soil Moisture Percent of Saturation

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

[U.S. soil moisture map at 8-inch depth:](#)

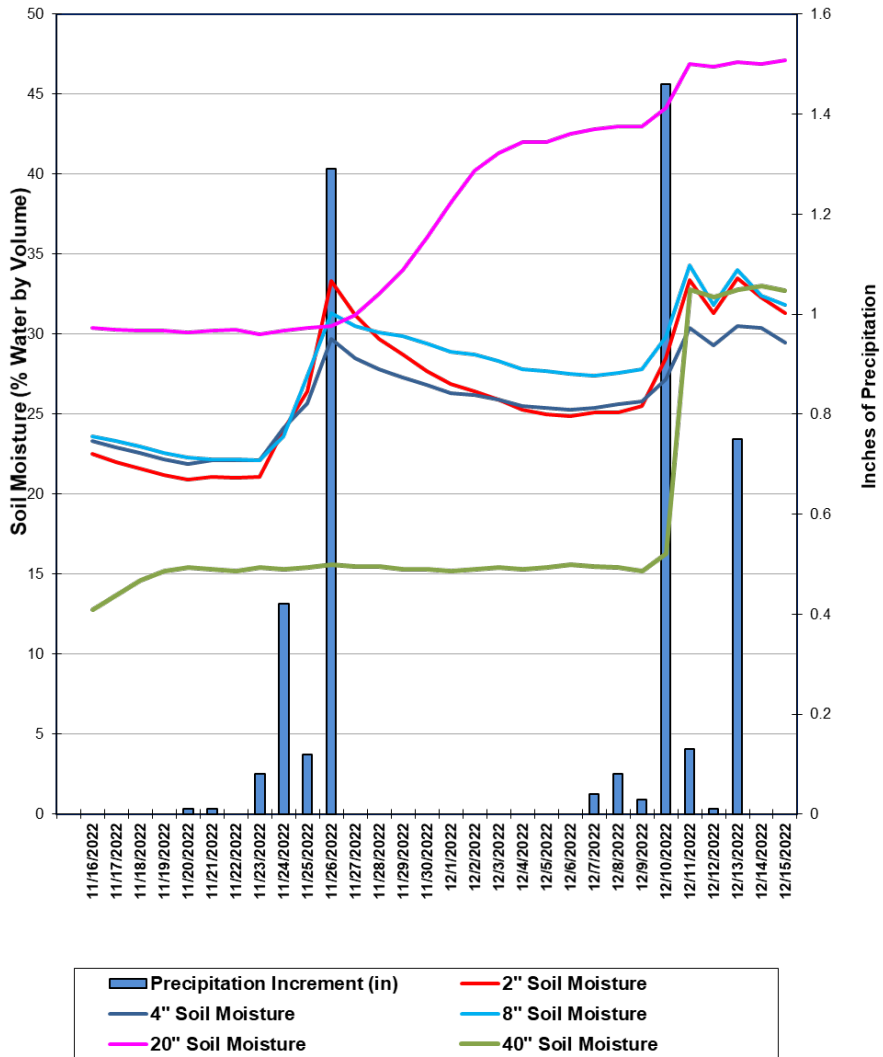


# Water and Climate Update

## Soil Moisture

Source: NRCS [Soil Climate Analysis Network](#) (SCAN)

Stephenville, Texas (SCAN site 2203)  
Daily Mean Soil Moisture vs. Daily Precipitation



This chart shows the precipitation and soil moisture for the last 30 days at the [Stephenville](#) SCAN site in Texas. Storm activity from December 10 brought 1.46 inches of precipitation to the station with all soil sensors reporting an increase in soil moisture. Total precipitation for the 30-day period was 4.43 inches.

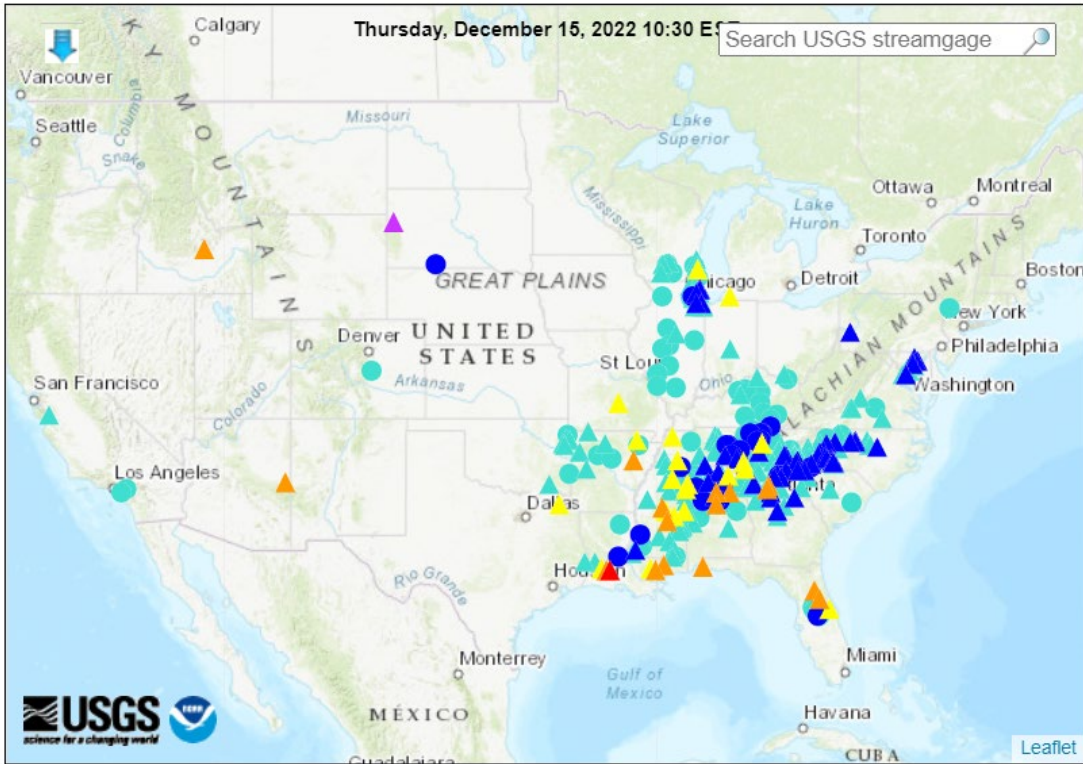
## Soil Moisture Data Portals

- [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](#)

**Map of flood and high flow conditions**  
 (21 in floods [major: 3, moderate: 2, minor: 16], 20 in near-flood)



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**

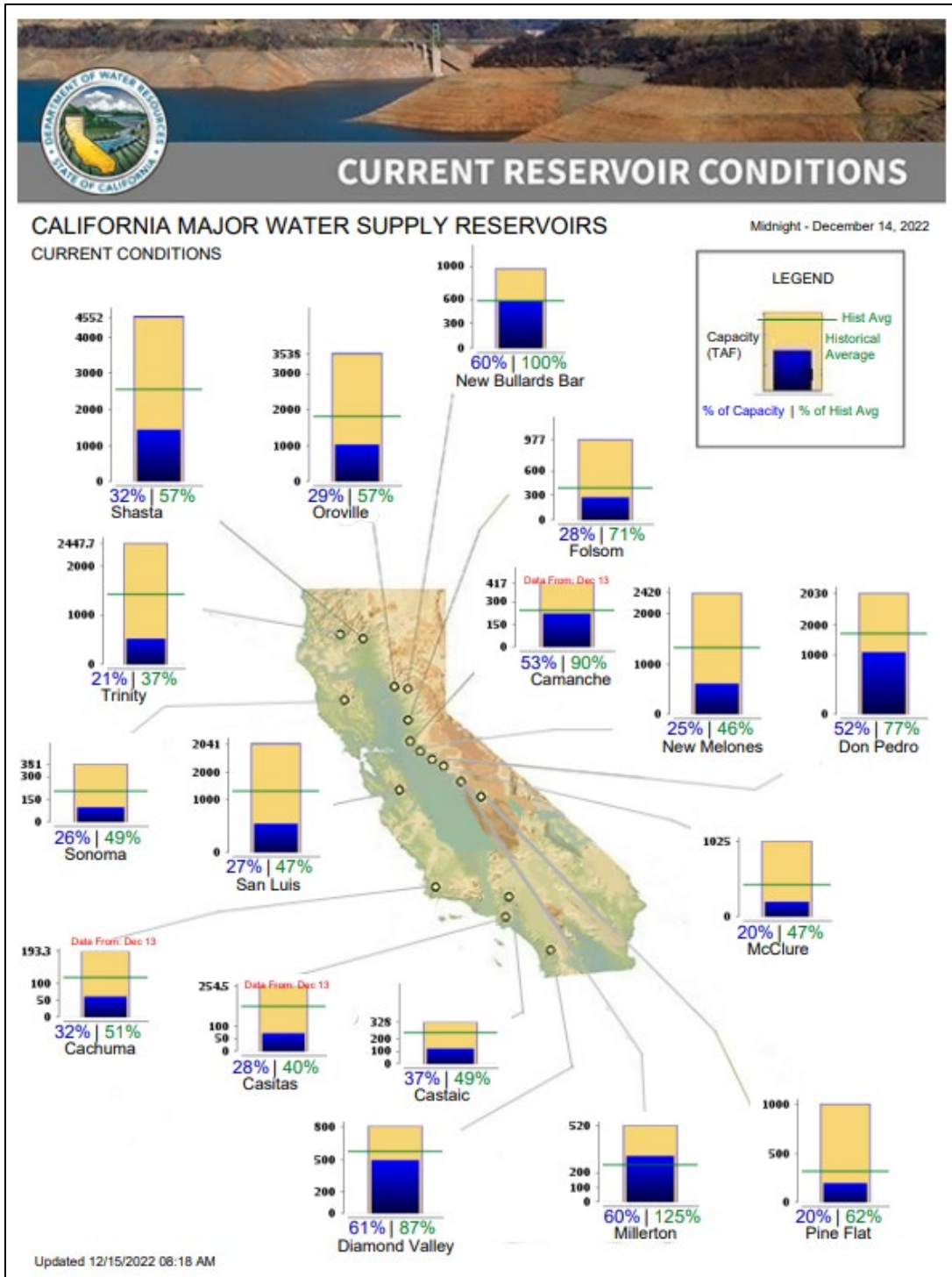
Source: U.S. Bureau of Reclamation

- [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 December 15, 2022:** “A nearly stationary and slowly decaying storm system currently centered over Wisconsin will remain parked in the vicinity of the upper Great Lakes region into the weekend. Meanwhile, a secondary low-pressure system will develop later today near the middle Atlantic Coast and track northeastward. As a result, lingering snow and wind across the north-central U.S. will gradually diminish, while significant precipitation (1 to 2 inches, in the form of rain, freezing rain, and snow) will fall in the Northeast. Early next week, substantially colder air will begin to overspread the northern Plains and upper Midwest, with temperatures plunging below 0°F and possibly falling to -20°F. Cold weather will also continue in the West, with daily freezes expected as far south as California’s San Joaquin Valley and parts of the Desert Southwest. The NWS 6- to 10-day outlook for December 20 – 24 calls for the likelihood of colder-than-normal conditions nationwide, except for the return of above-normal temperatures in California and near- or above-normal temperatures in much of Arizona, Nevada, Oregon, and Utah. Meanwhile, below-normal precipitation from California to the southern Appalachians should contrast with wetter-than-normal weather across the northern half of the U.S., as well as southern Texas and the Atlantic Seaboard.”

### Weather Hazards Outlook: [December 17 – 21, 2022](#)

Source: NOAA Weather Prediction Center

















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

[About the Hazards Outlook](#)

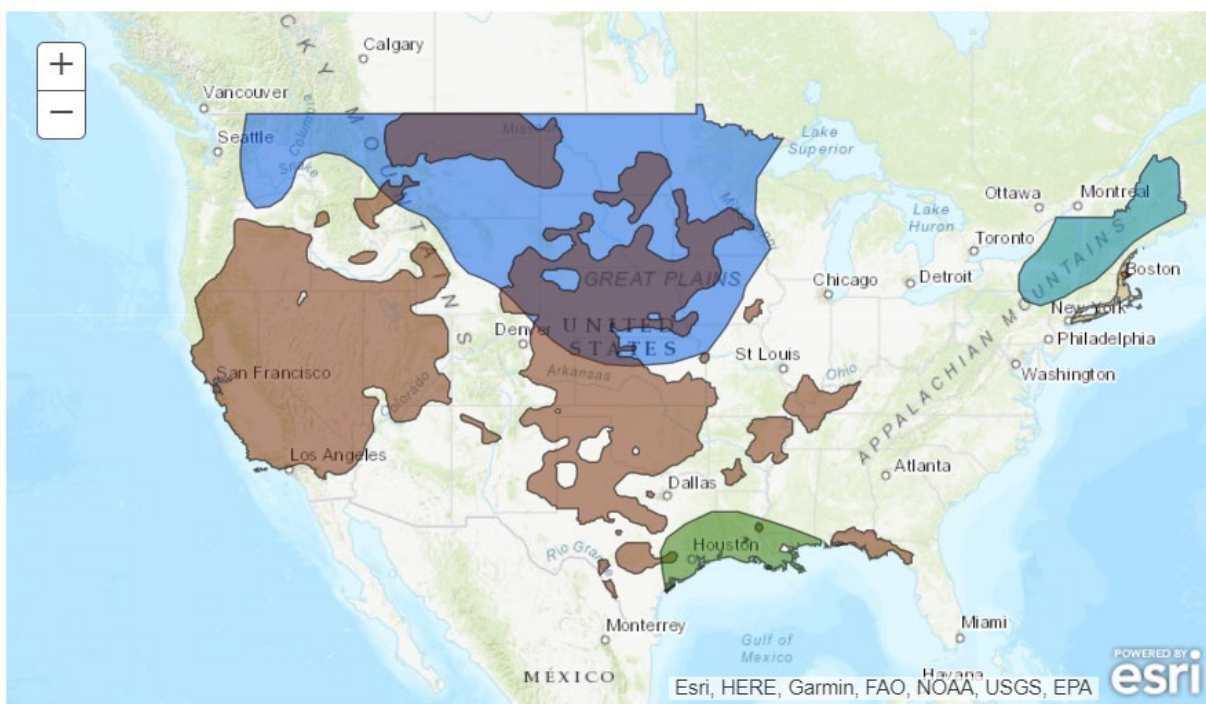
Created December 14, 2022

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

Precipitation	<input checked="" type="checkbox"/>
Temperature	<input checked="" type="checkbox"/>
Soils	<input checked="" type="checkbox"/>

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

Valid December 17, 2022 - December 21, 2022

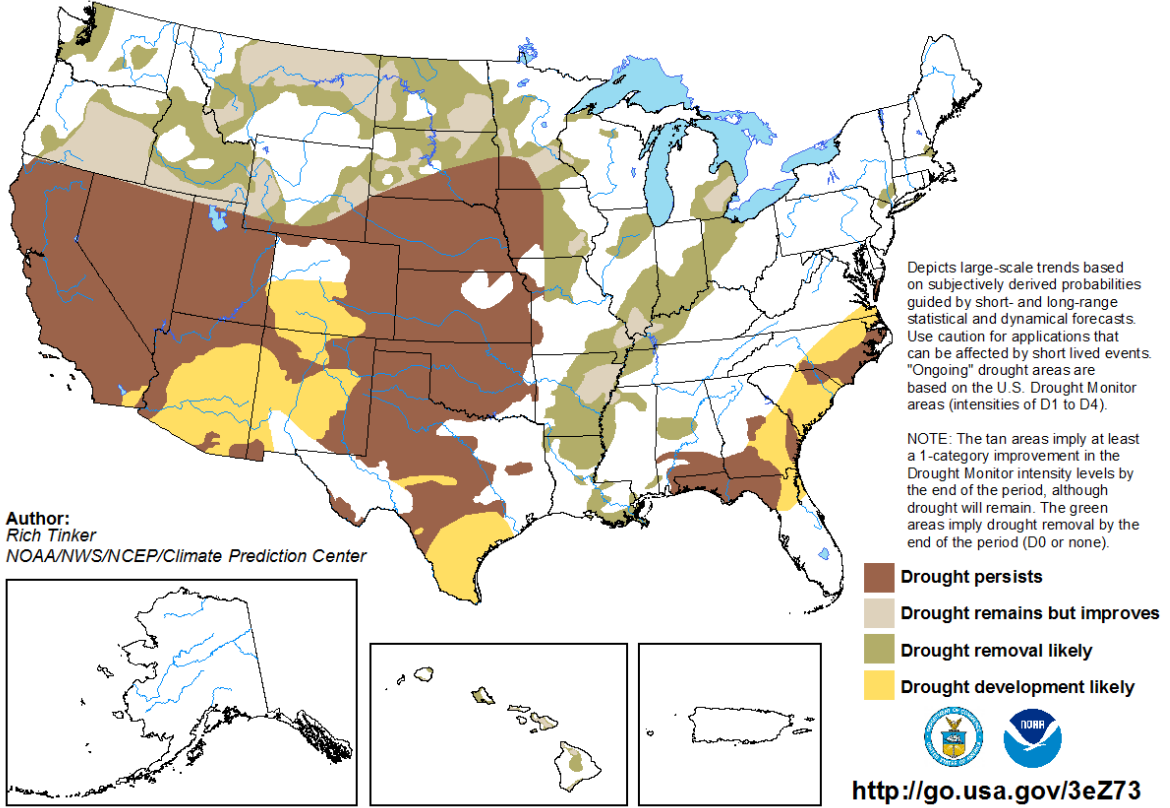


**Seasonal Drought Outlook: [December 15, 2022 – March 31, 2023](#)**

Source: National Weather Service

**U.S. Seasonal Drought Outlook**  
Drought Tendency During the Valid Period

Valid for December 15, 2022 - March 31, 2023  
Released December 15, 2022

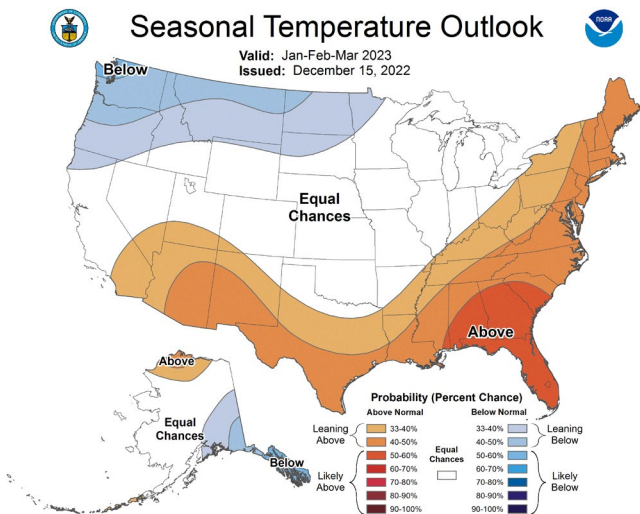
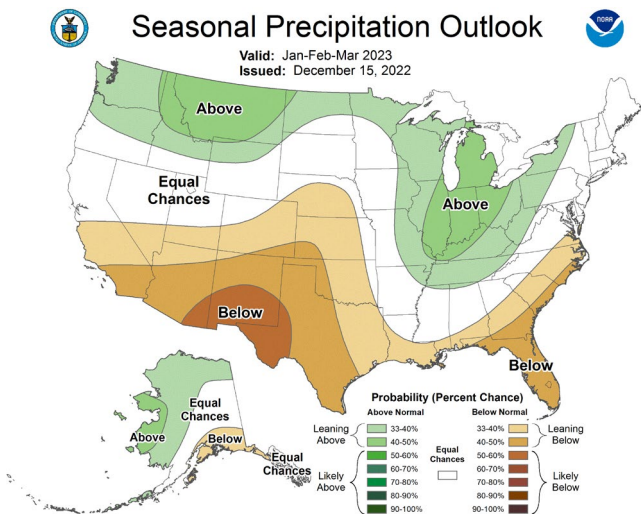


**Climate Prediction Center Three-month Outlook**

Source: National Weather Service

[Precipitation](#)

[Temperature](#)



[January-February-March 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](#).