

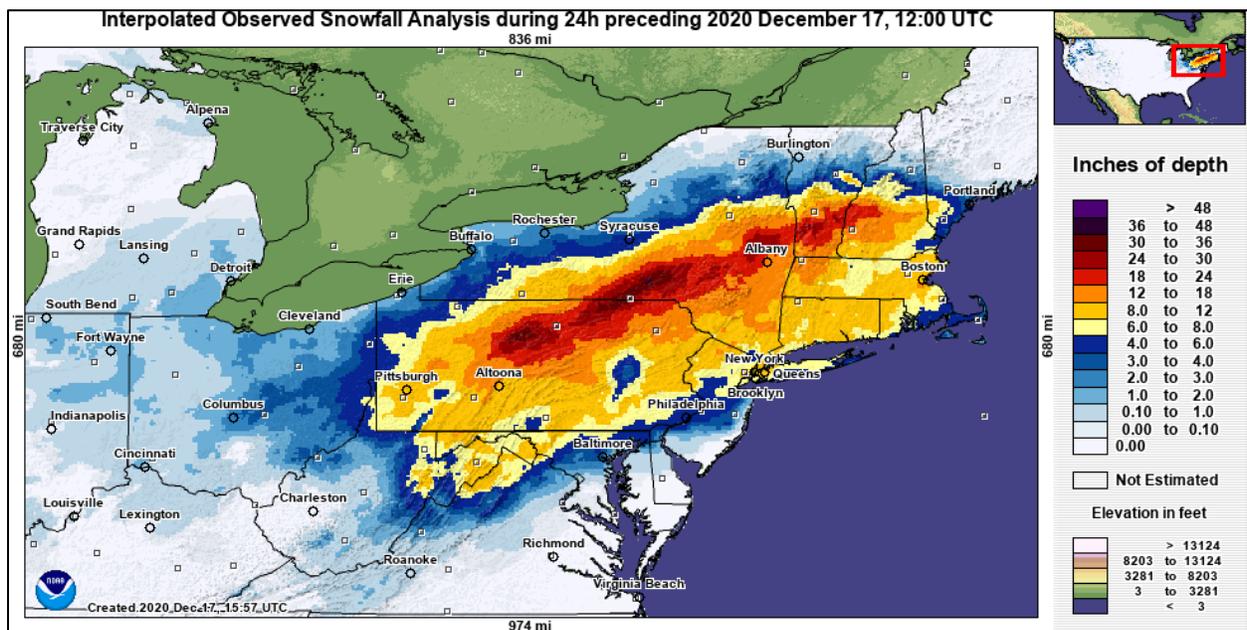
# Water and Climate Update

## December 17, 2020

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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Precipitation .....	4	Other Climatic and Water Supply Indicators .....	14
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### Nor'easter leaving deep snow from Virginia to Maine

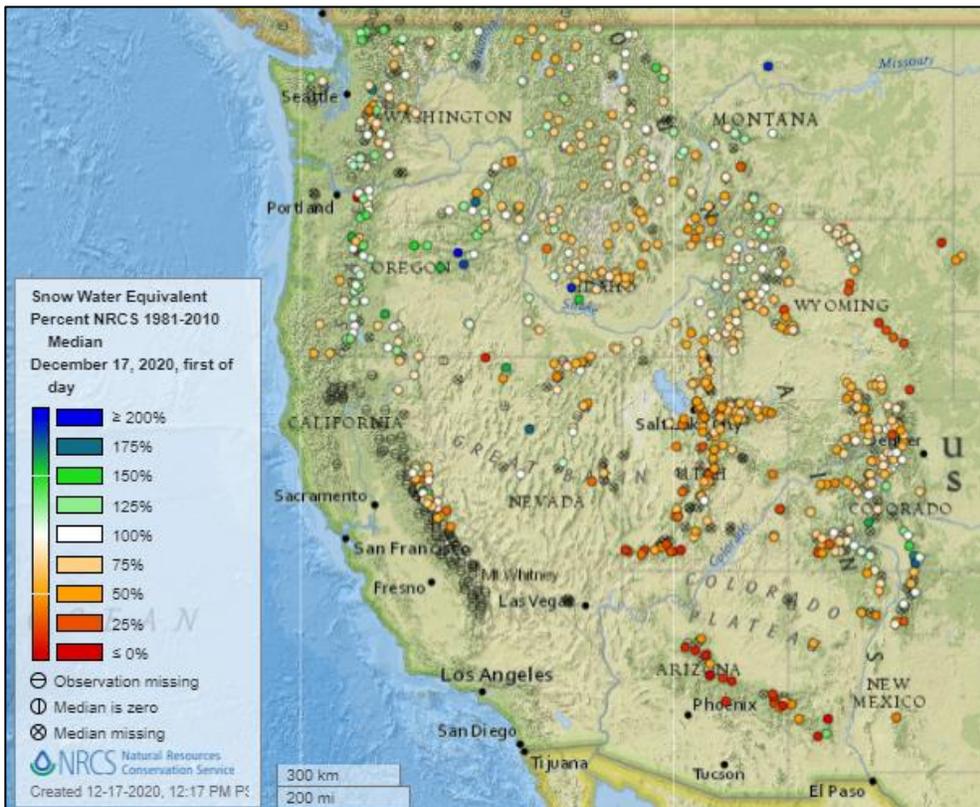


A cold, powerful Nor'easter blanketed much of the Northeast with strong winds and heavy snow. The heaviest snowfall came in a swath from central Pennsylvania through central New York. The National Weather Service office in Binghamton, NY received a record 41 inches of snow in less than 24 hours, with a snowfall rate of up to four inches per hour. The storm is adding to the snow totals in eastern New York and New England today, with winter storm warnings continuing as one to six additional inches of snow is expected.

**Related:**

- [Snow blankets Northeast, breaking records in some areas](#) - AP
- [Snow storm rages in New England after burying parts of New York with over 40 inches](#) – Washington Post
- [How much snow did the Lehigh Valley get so far? Totals from around the region](#) – Morning Call PA (PA)
- [Nor'easter Live Updates: Snowfall Totals Could Reach Two Feet](#) – New York Times (NY)
- [Western Pennsylvania Sees Biggest Snowfall In Over A Decade](#) – CBS on MSN.com
- [New England braces for more snow and cold temperatures on Thursday](#) – New York Times
- [Part of New York buried under more than 3 feet of snow, a new record: photos](#) – Penn Live (PA)
- [Winter storm blasts Northeast with 3 feet of snow, leading to four deaths](#) – NBC News

## Snow



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

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

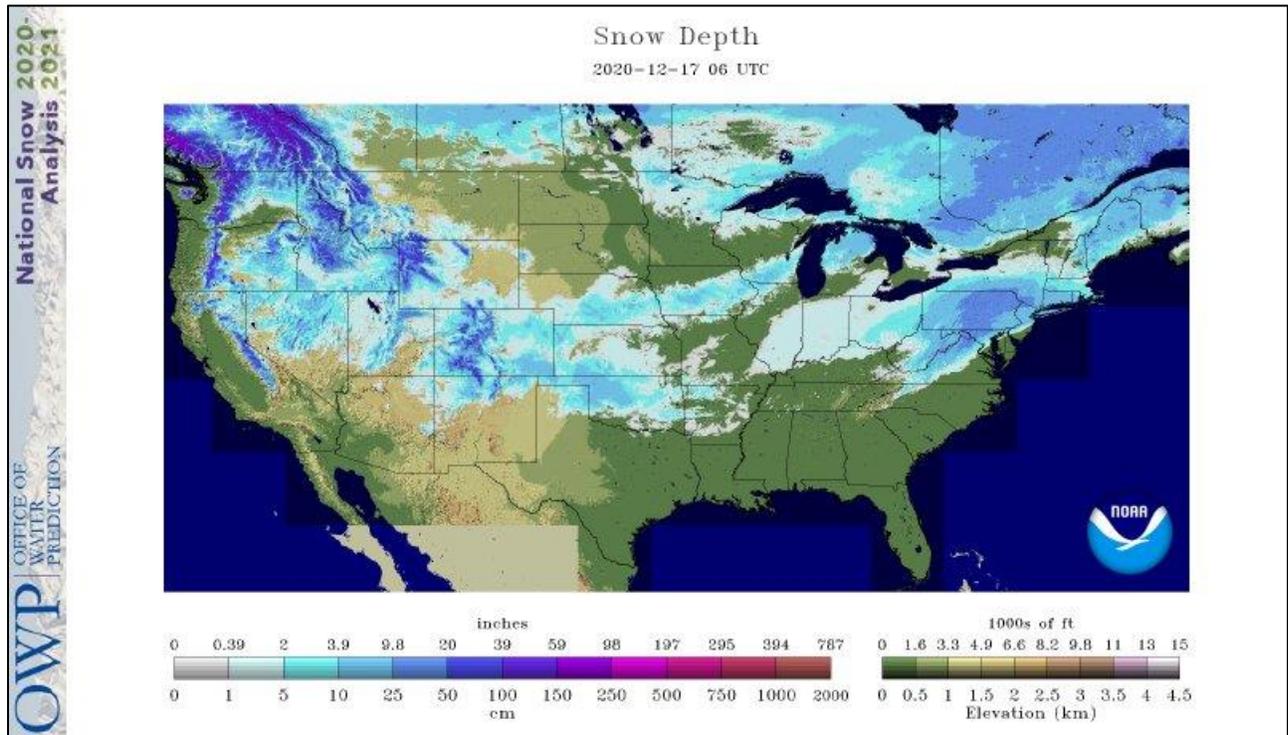


[Alaska snow water equivalent percent of median map](#)

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

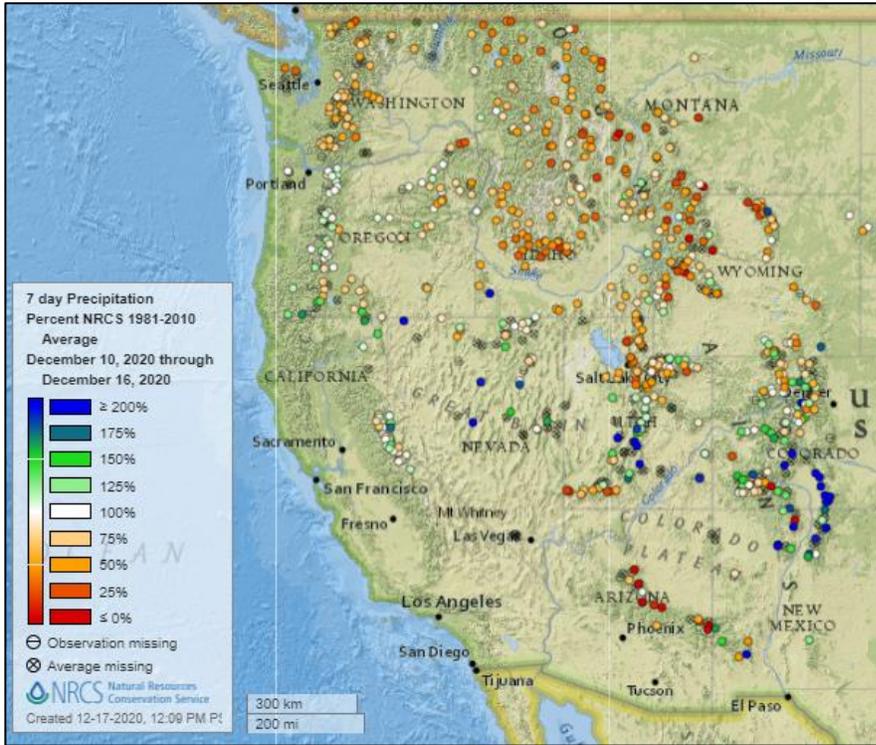
**Current Snow Depth, National Weather Service Snow Analysis**

Source: NOAA Office of Water Prediction



## Precipitation

### Last 7 Days, NRCS SNOTEL Network

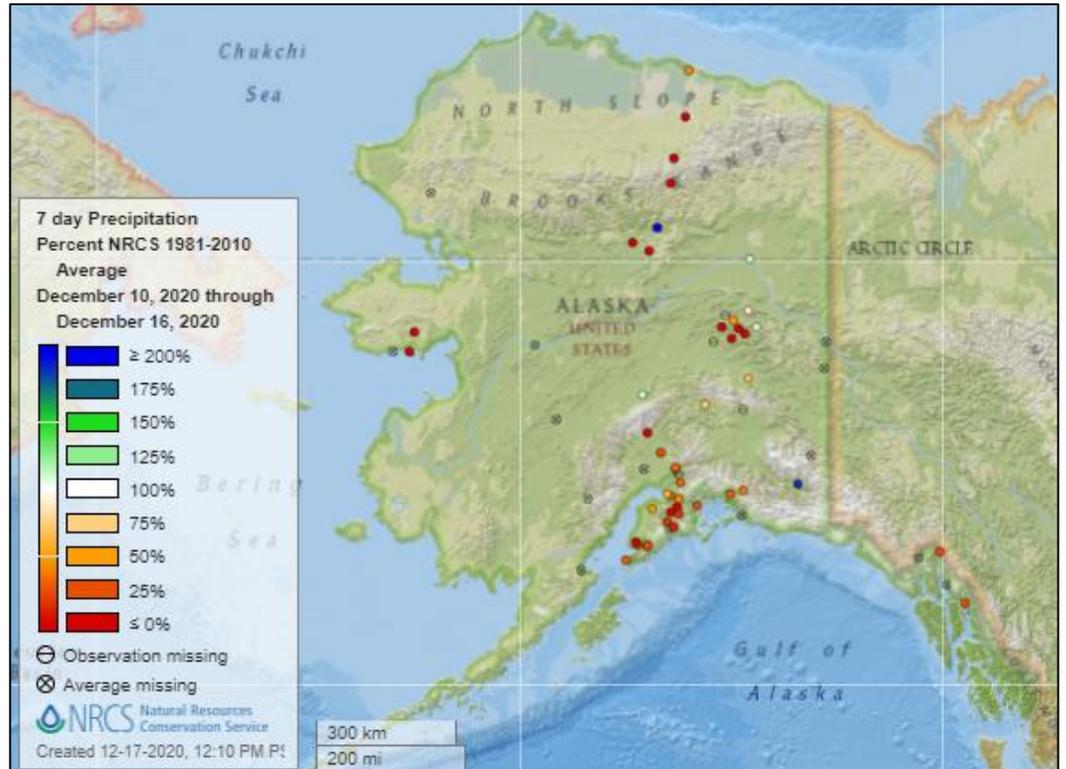


[7-day precipitation percent of average map](#)

**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](#)



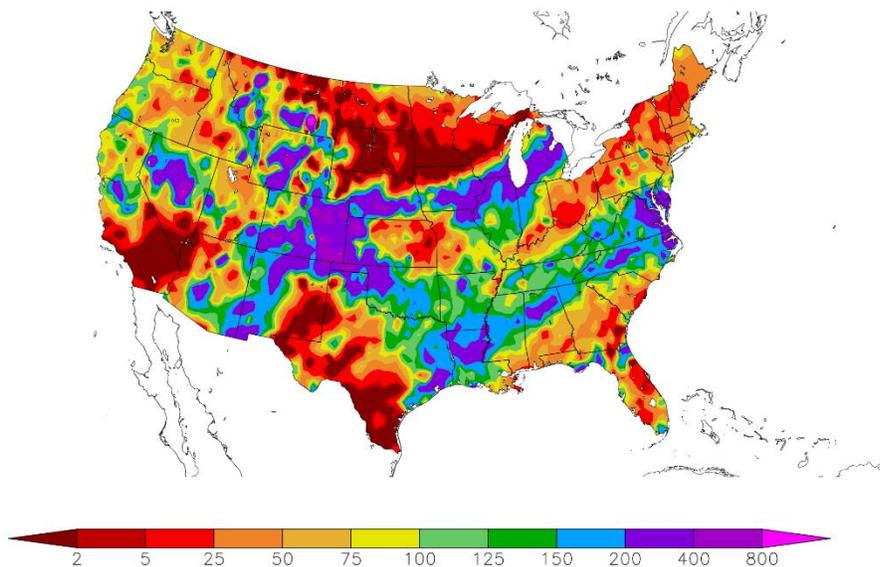
### Last 7 Days, National Weather Service (NWS) Networks

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 (%)  
12/10/2020 – 12/16/2020



Generated 12/17/2020 at HPRCC using provisional data.

NOAA Regional Climate Centers

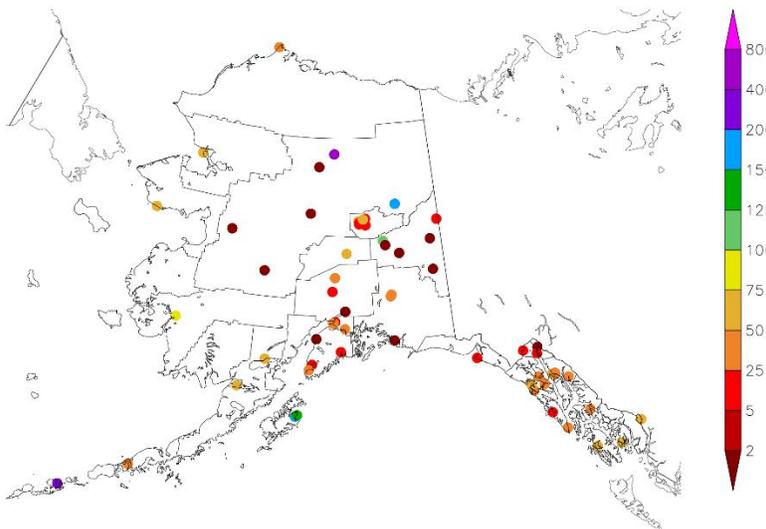
### Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

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

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

Percent of Normal Precipitation (%)  
12/10/2020 – 12/16/2020



Generated 12/17/2020 at HPRCC using provisional data.

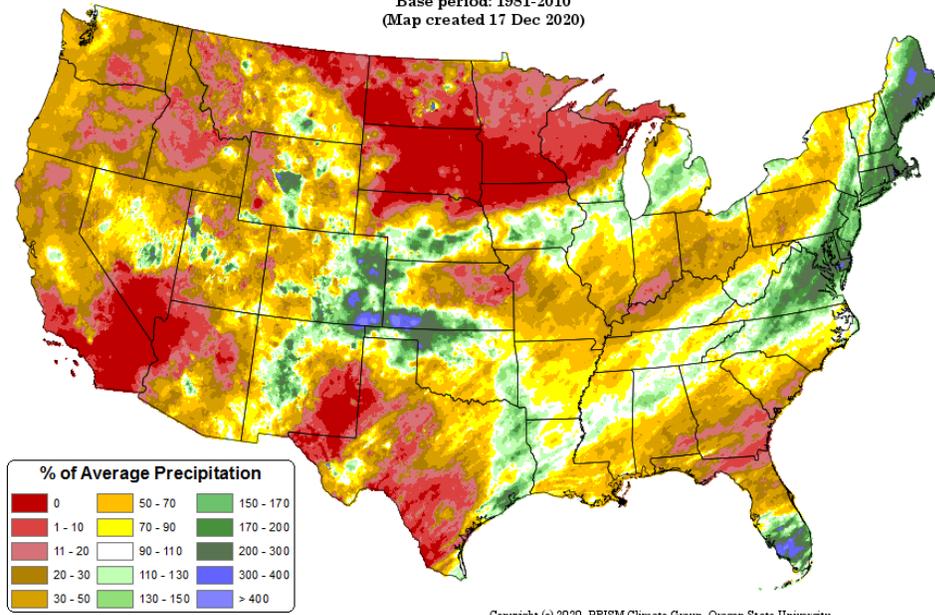
NOAA Regional Climate Centers

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

Source: PRISM

**Total Precipitation Anomaly: 01 Dec 2020 - 16 Dec 2020**  
Period ending 7 AM EST 16 Dec 2020  
Base period: 1981-2010  
(Map created 17 Dec 2020)

[Month-to-date national total precipitation percent of average map](#)



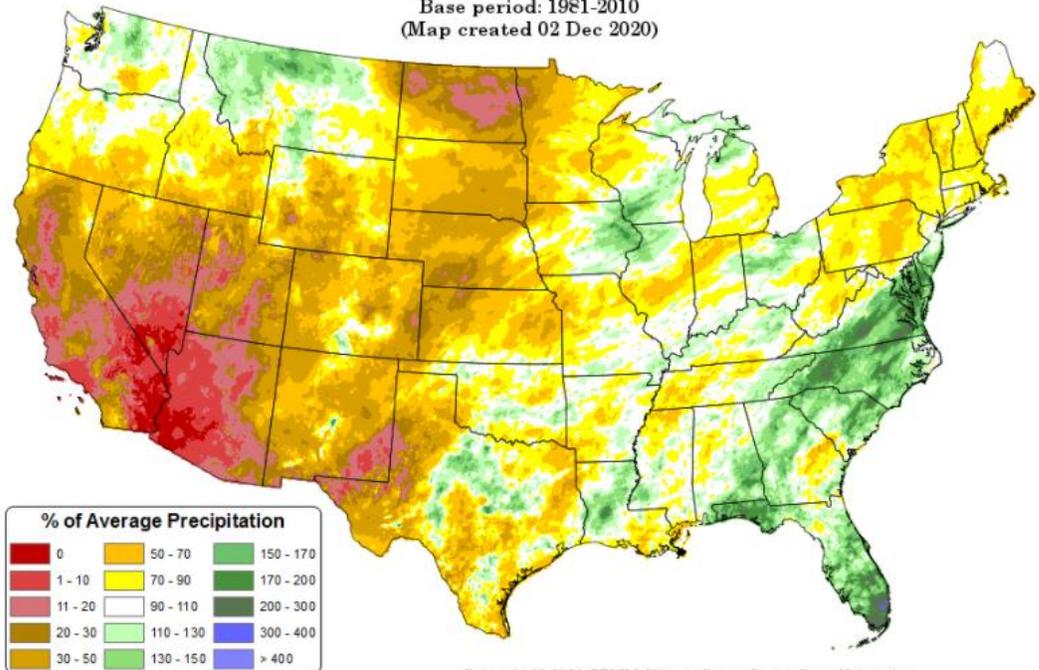
Copyright (c) 2020, PRISM Climate Group, Oregon State University

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

Source: PRISM

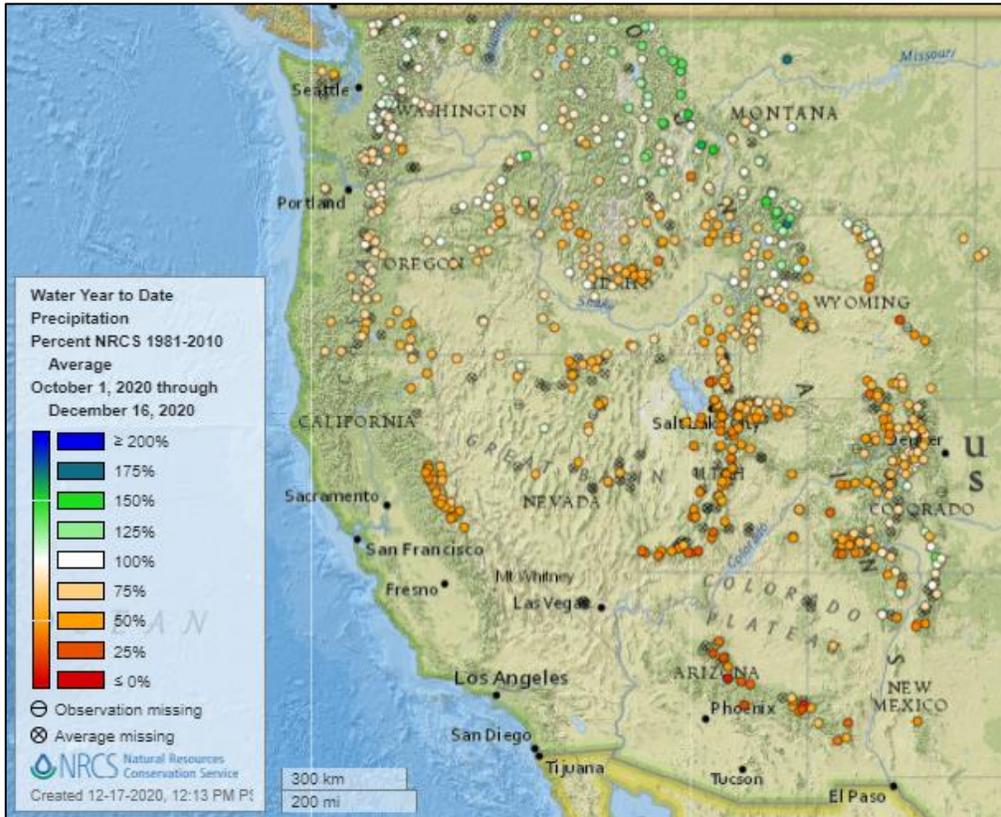
[September through November precipitation percent of average map](#)

**Total Precipitation Anomaly: Sep 2020 - Nov 2020**  
Period ending 7 AM EST 30 Nov 2020  
Base period: 1981-2010  
(Map created 02 Dec 2020)



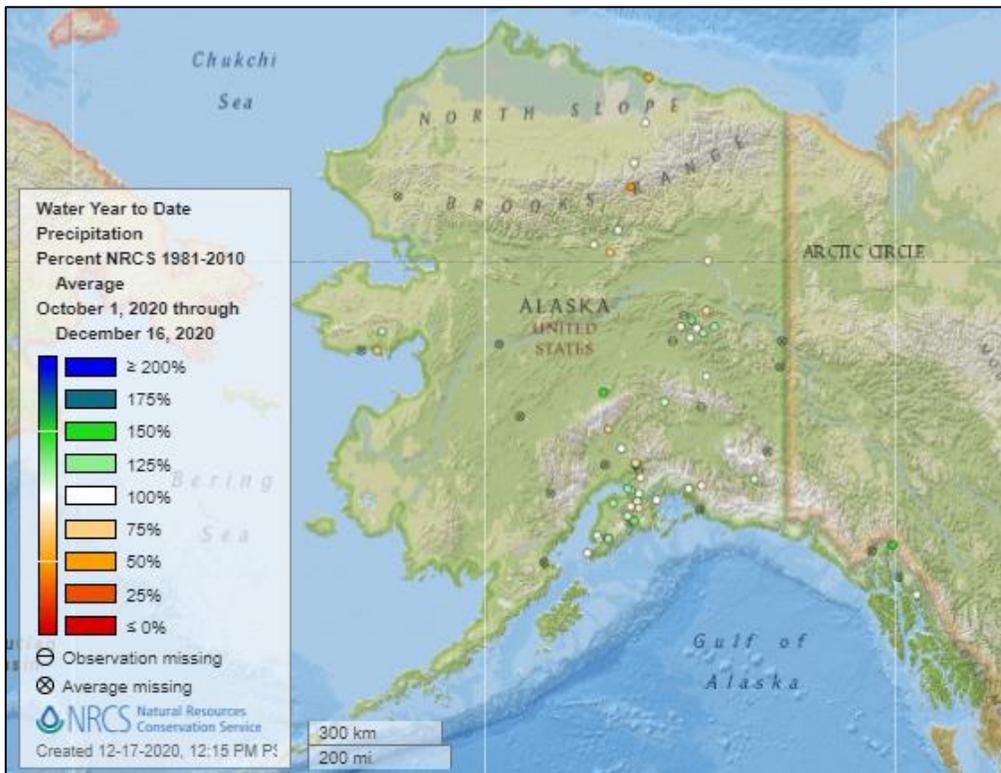
Copyright (c) 2020, PRISM Climate Group, Oregon State University

Water Year-to-Date, NRCS SNOTEL Network



[2021 water year-to-date precipitation percent of average map](#)

**See also:**  
[2021 water year-to-date precipitation values \(inches\) map](#)



[Alaska 2021 water year-to-date precipitation percent of average map](#)

**See also:**  
[Alaska 2021 water year-to-date precipitation values \(inches\) map](#)

## Temperature

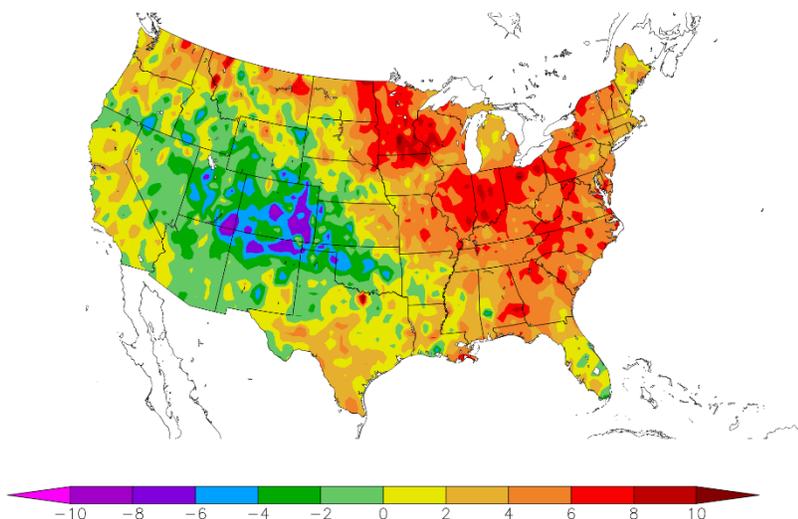
### Last 7 Days, National Weather Service (NWS) Networks

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)  
12/10/2020 – 12/16/2020



Generated 12/17/2020 at HPRCC using provisional data.

NOAA Regional Climate Centers

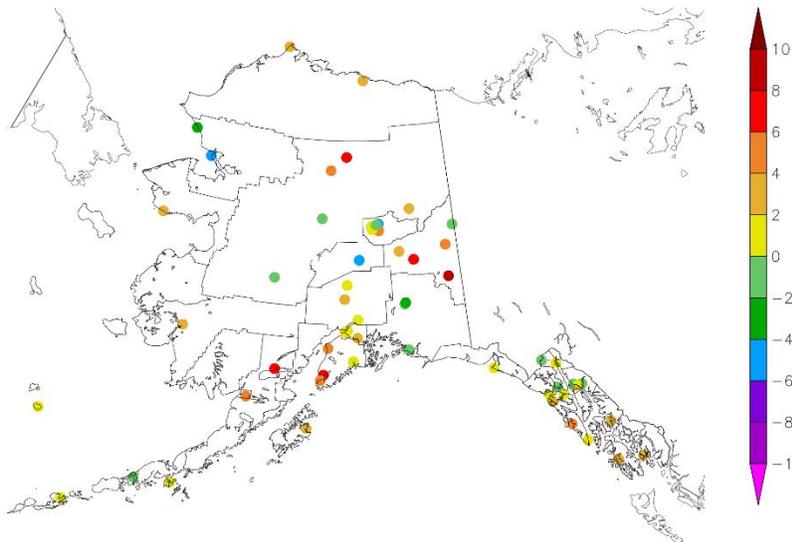
### Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

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

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

Departure from Normal Temperature (F)  
12/10/2020 – 12/16/2020



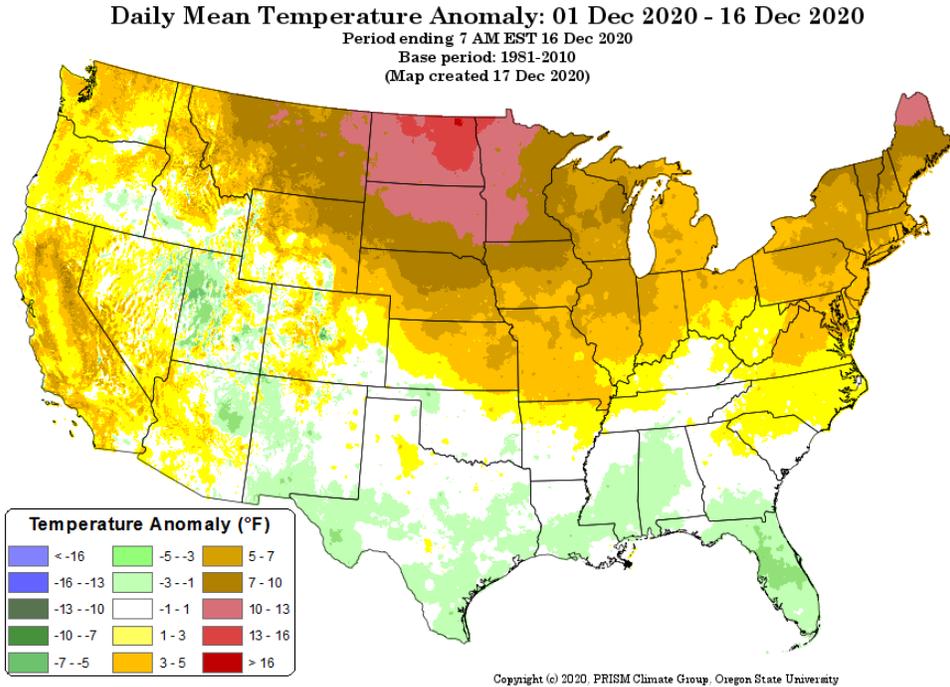
Generated 12/17/2020 at HPRCC using provisional data.

NOAA Regional Climate Centers

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

Source: PRISM

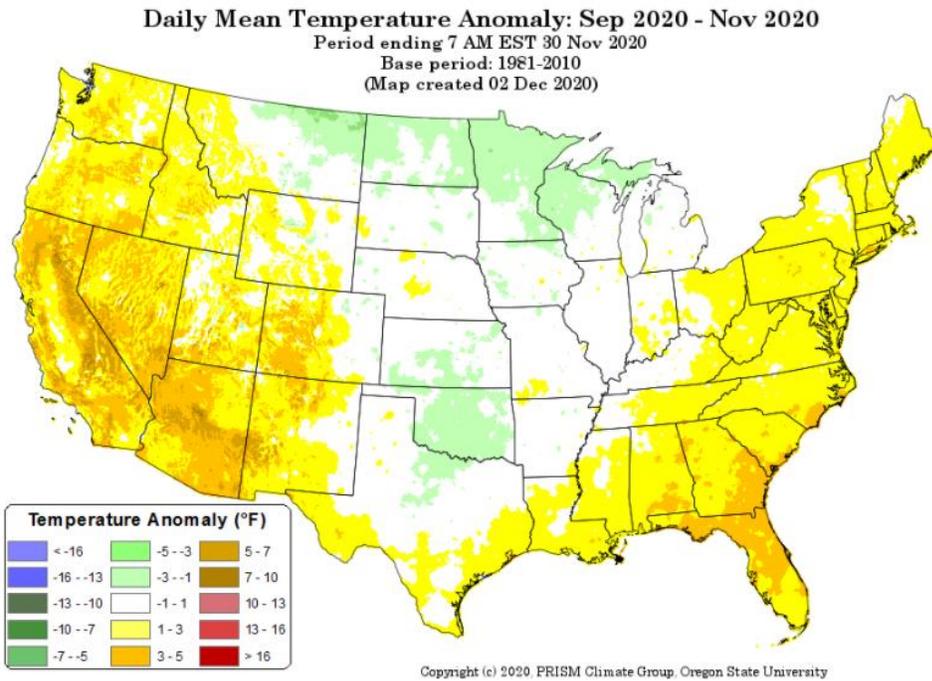
[Month-to-date national daily mean temperature anomaly map](#)



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

Source: PRISM

[September through November 2020 daily mean temperature anomaly map](#)



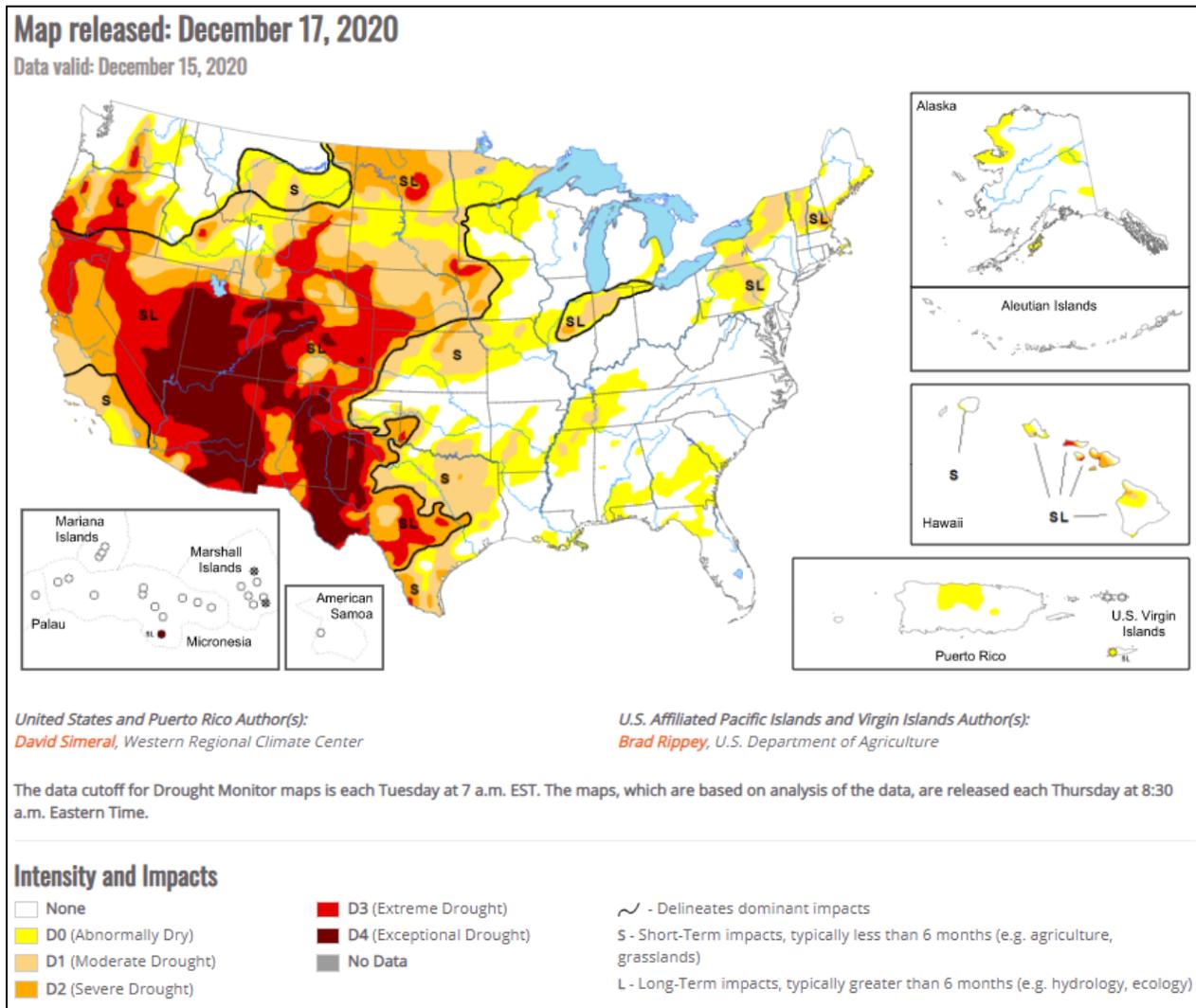
## Drought

### [U.S. Drought Monitor](#)

Source: National Drought Mitigation Center

### [U.S. Drought Portal](#)

Source: NOAA



### Current [National Drought Summary](#), December 17, 2020

Source: National Drought Mitigation Center

“This U.S. Drought Monitor week saw some modest improvements in drought conditions across portions of the Southwest, southern Great Plains, South, lower Midwest, and portions of the Northeast. Drought-related conditions deteriorated in southern California, the southern Great Basin, Texas, Minnesota, and parts of New England. In California, storm activity during the weekend delivered beneficial rain and snow to areas of central and northern California; however, the southern part of the state remained dry. Since January 1, areas of California—including portions of the eastern Sierra and Sacramento Valley—have received less than 25% of normal precipitation. The impact of both short- and long-term dryness in parts of California has been affecting the cattle ranching industry with numerous drought impact reports describing severe impacts to pasture and rangeland conditions as well as reports of ranchers having to sell livestock. Fortunately, another round of storms is expected to impact northern California this week bringing valley rains and mountain snows to the region. In the southern Great Basin, record dryness during the past 6-month period led to expansion of

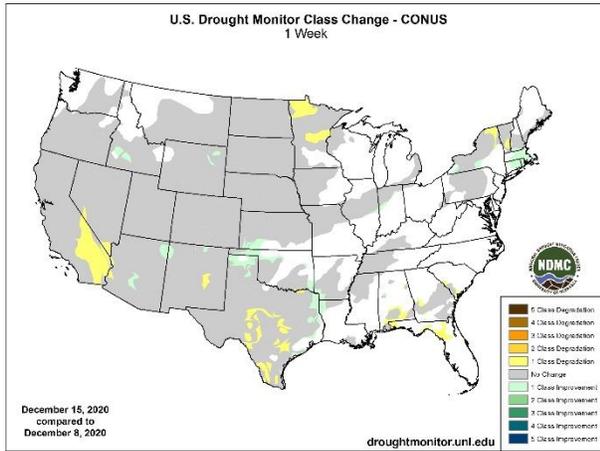
## Water and Climate Update

areas of Exceptional Drought (D4) in the eastern Sierra Nevada and southern Nevada. In the Southwest, both Arizona and New Mexico received light rains across parts of the lower deserts as well as some mountain snowfall in northern Arizona and northern New Mexico, providing a much-needed boost to soil moisture levels. Elsewhere, above-normal precipitation during the past 30-to-60-day period and snowfall this week in northern portions of the Texas Panhandle and Oklahoma Panhandle, led to removal of areas of drought. Further to the south in the Hill Country and South Texas Plains, drought intensified in response to persistent warm and dry conditions as well as mounting precipitation deficits ranging from 2-to-8+ inches during the past 90-day period. Conversely, areas along the coastal plains of northeastern Texas received 1-to-2+ inch accumulations during the past week leading to widespread improvements on the map. In the Midwest, wetter-than-normal conditions during the past 30-to-60-day period led to minor improvements on the map in central Illinois and northern Indiana. Likewise, portions of western New York saw improvement on the map in response to recent storm activity.”

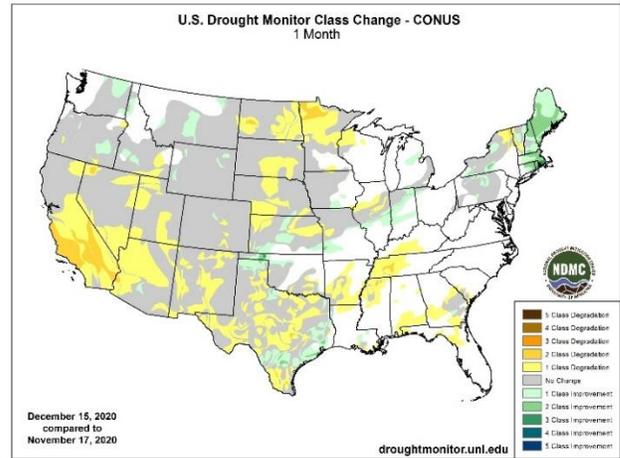
## Changes in Drought Monitor Categories over Time

Source: National Drought Mitigation Center

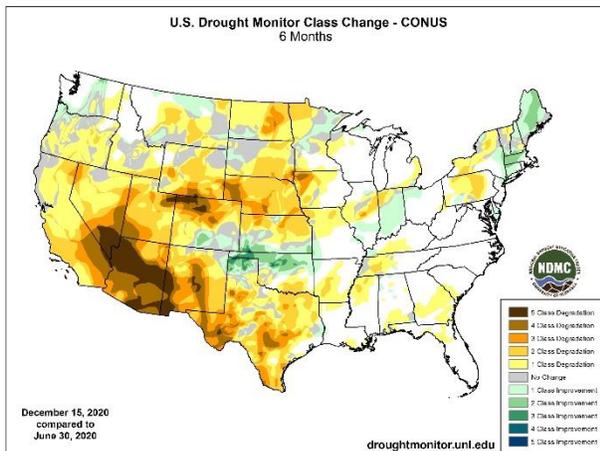
### 1 Week



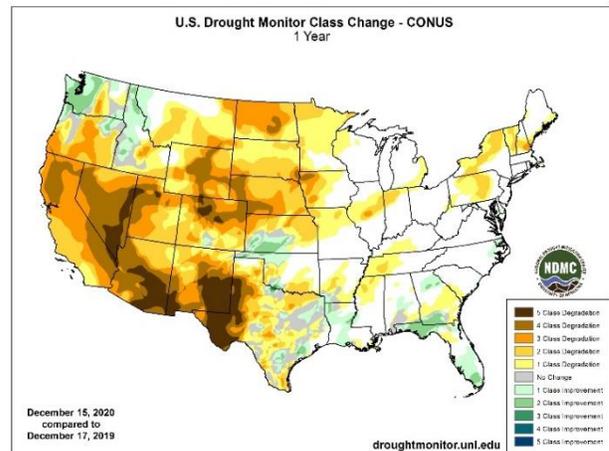
### 1 Month



### 6 Months



### 1 Year



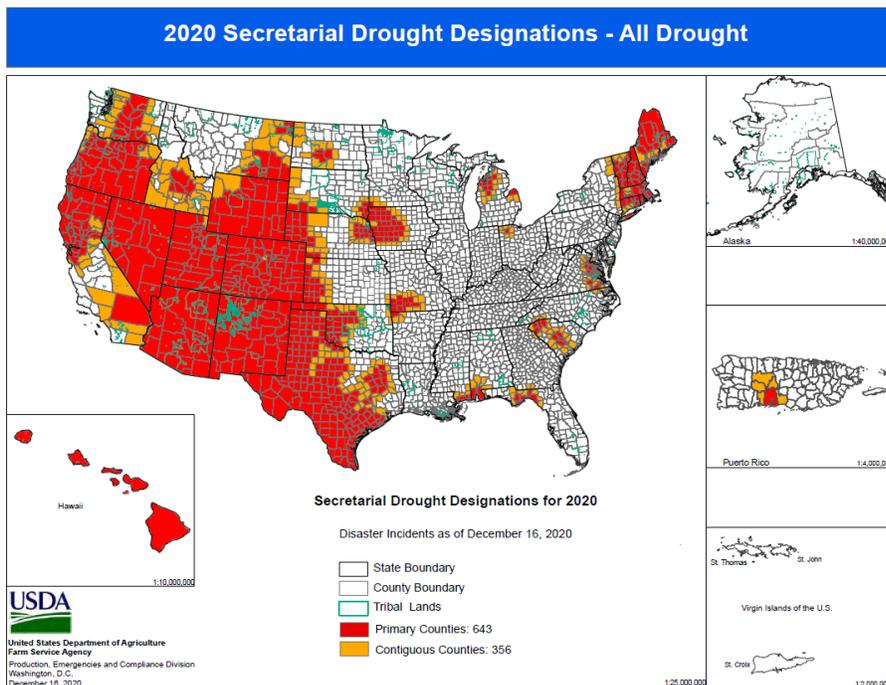
[Changes in drought conditions over the last 12 months for the contiguous U.S.](#)

## Highlighted Drought Resources

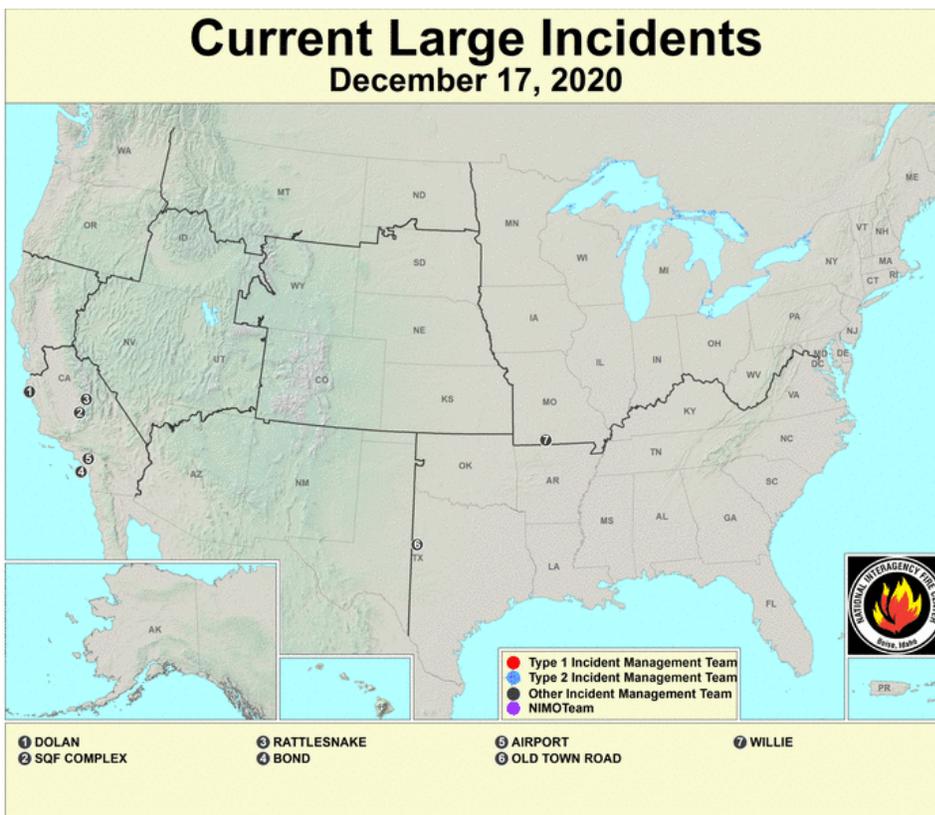
- [Drought Impact Reporter](#)
- [Quarterly Regional Climate Impacts and Outlook](#)
- [U.S. Drought Portal Indicators and Monitoring](#)
- [U.S. Population in Drought, Weekly Comparison](#)
- [USDA Disaster and Drought Information](#)

**Secretarial Drought Designations**

Source: USDA Farm Service Agency



**Wildfires: USDA Forest Service Active Fire Mapping**



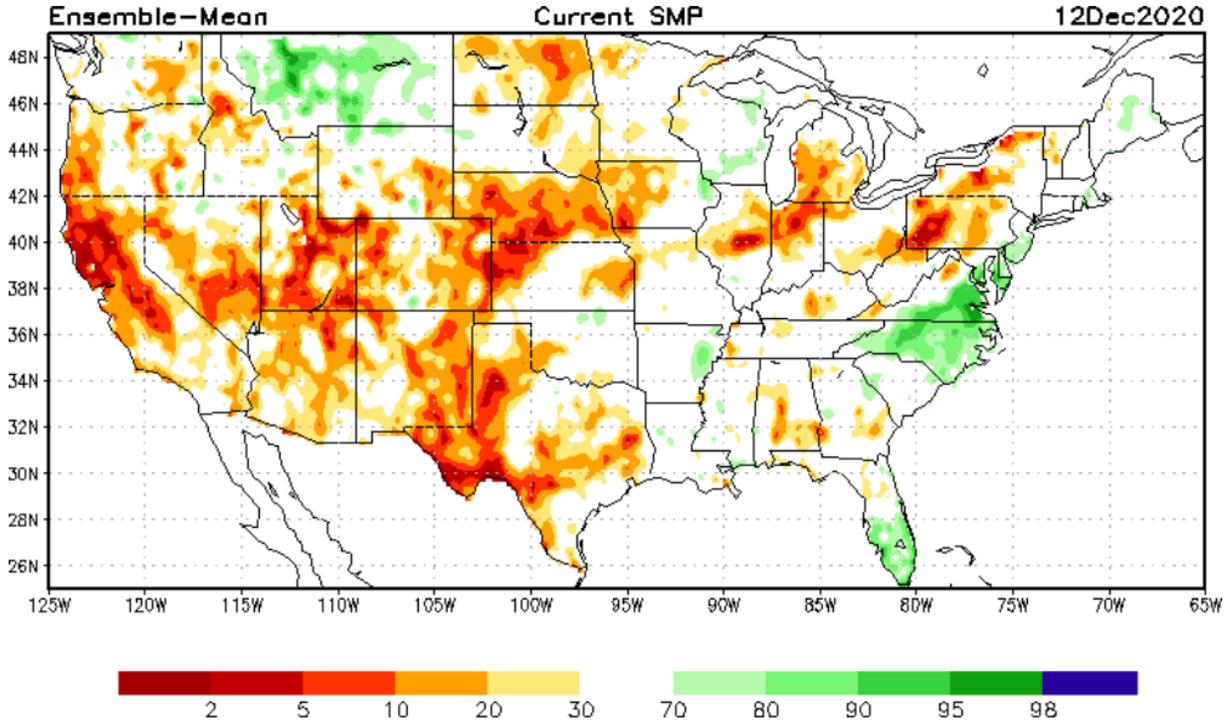
**Highlighted  
Wildfire  
Resources**

- [National Interagency Fire Center](#)
- [InciWeb Incident Information System](#)
- [Significant Wildland Fire Potential Outlook](#)

## Other Climatic and Water Supply Indicators

### Soil Moisture

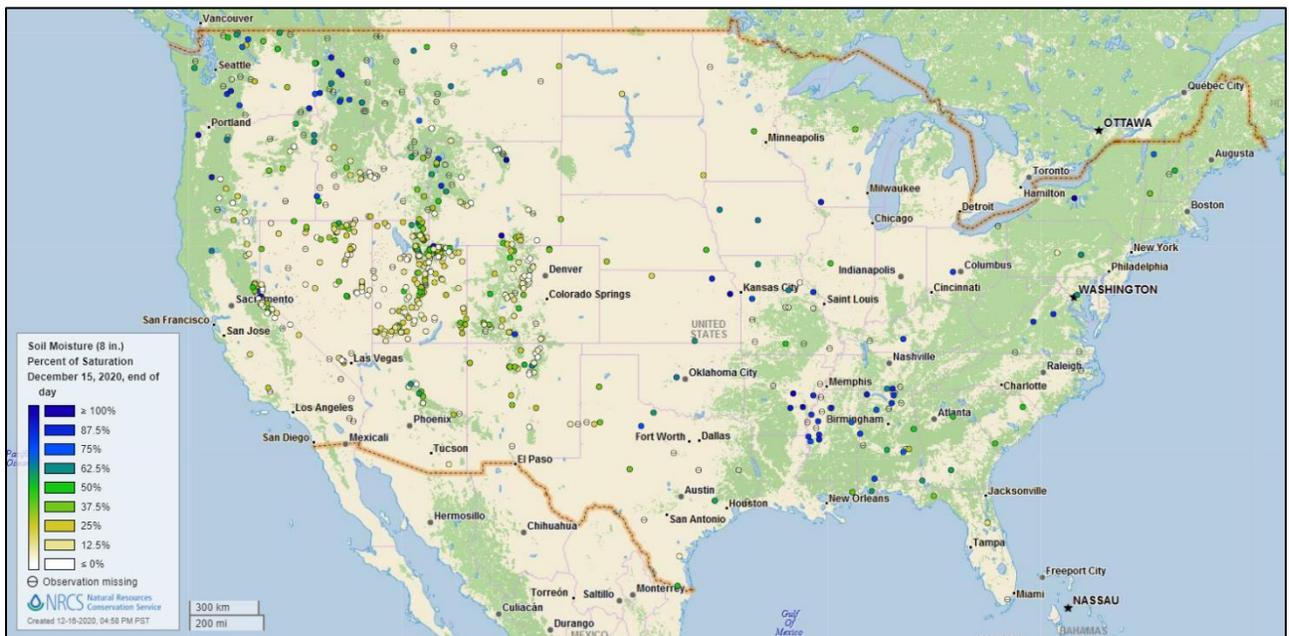
Source: NOAA National Centers for Environmental Prediction



[Modeled soil moisture percentiles](#) as of December 12, 2020

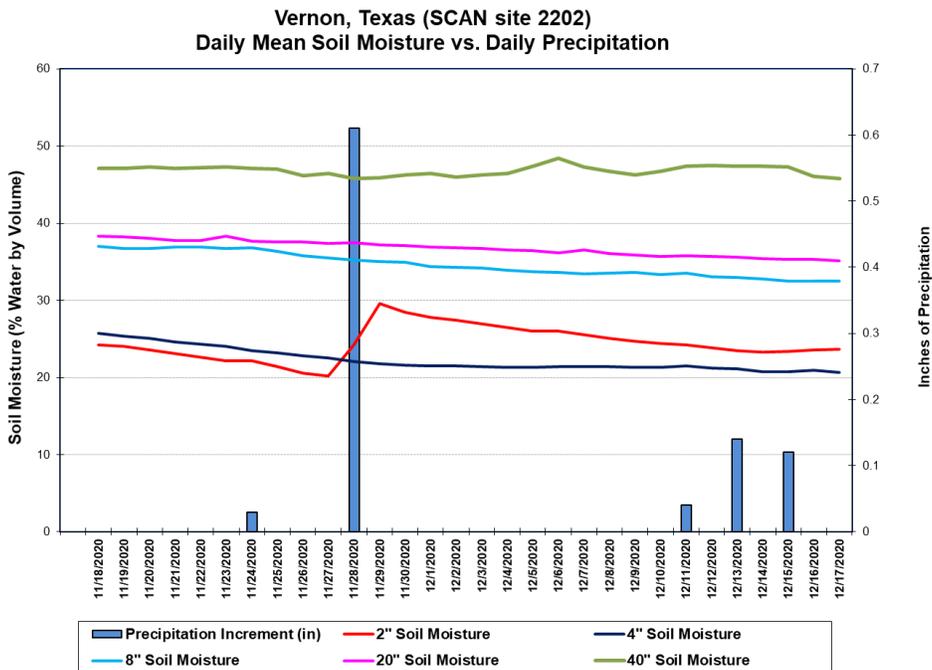
### Soil Moisture Percent of Saturation

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



**Soil Moisture**

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



This chart shows the precipitation and soil moisture for the last 30 days at the [Vernon](#) SCAN site in Texas. 0.61 inches of precipitation on November 28 increased the soil moisture at the -2-inch depth sensor, while there was no change for the rest of the depth sensors. Accumulated precipitation for the 30-day period was 0.94 inches.

**Soil Moisture Data Portals**

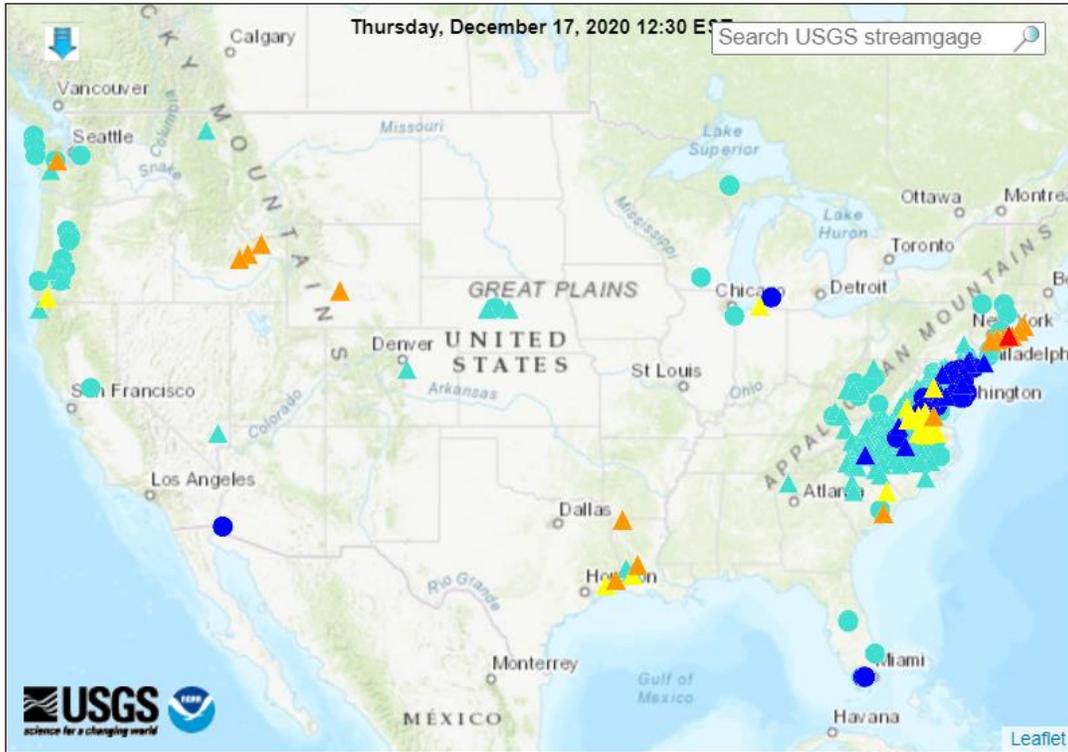
- [CRN Soil Moisture](#)
- [Texas A&M University North American Soil Moisture Database](#)
- [University of Washington Experimental Modeled Soil Moisture](#)

**Streamflow, Drought, Flood, and Runoff**

Source: U.S. Geological Survey

**Map of flood and high flow conditions**

(16 in floods [moderate: 1, minor: 15], 14 in near-flood)



Explanation - Percentile classes						
<95	95-98	>= 99	Above action stage	Above flood stage	Above moderate flood stage	Above major flood stage
△ Streamgauge with flood stage			○ Streamgauge without flood stage			

[WaterWatch: Streamflow, drought, flood, and runoff conditions](#)

**Reservoir Storage**

**Hydromet Teacup Reservoir Depictions**

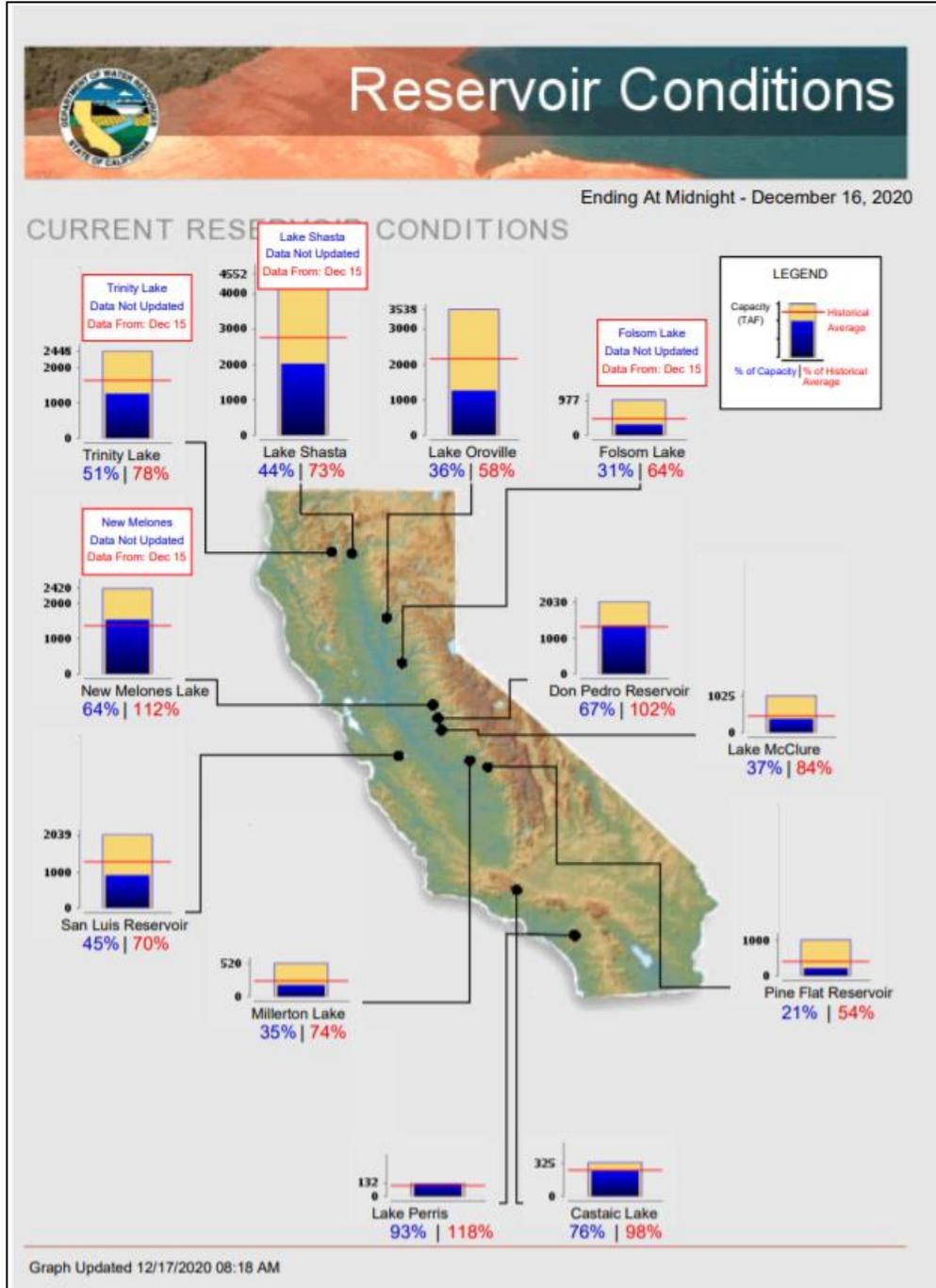
Source: U.S. Bureau of Reclamation

- [Upper Colorado](#)
- [Pacific Northwest/Snake/Columbia](#)
- [Sevier River Water, Utah](#)
- [Upper Missouri, Kansas, Oklahoma, Texas](#)

# Water and Climate Update

## 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 17, 2020:** “For today, heavy snow and high winds will gradually subside along the northern Atlantic Coast. Meanwhile, a Pacific storm system will push further inland across the West, producing rain and snow showers as far south as central California and the Great Basin. Subsequently, precipitation will retreat to the Pacific Northwest, where the passage of multiple storms during the next few days could lead to local flooding. Much of the remainder of the country, including southern California, the Desert Southwest, and large sections of the Plains and upper Midwest, will receive little or no precipitation during the next 5 days. The NWS 6- to 10-day outlook for December 22 – 26 calls for the likelihood of near- or above-normal temperatures nationwide, except for cooler-than-normal conditions across the lower Southeast. Meanwhile, near- or below-normal precipitation from the Pacific Coast to the Plains, Midwest, and mid-South should contrast with wetter-than-normal weather in the East.”

### Weather Hazards Outlook: [December 19 – 23, 2020](#)

Source: NOAA Weather Prediction Center

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

[About the Hazards Outlook](#)

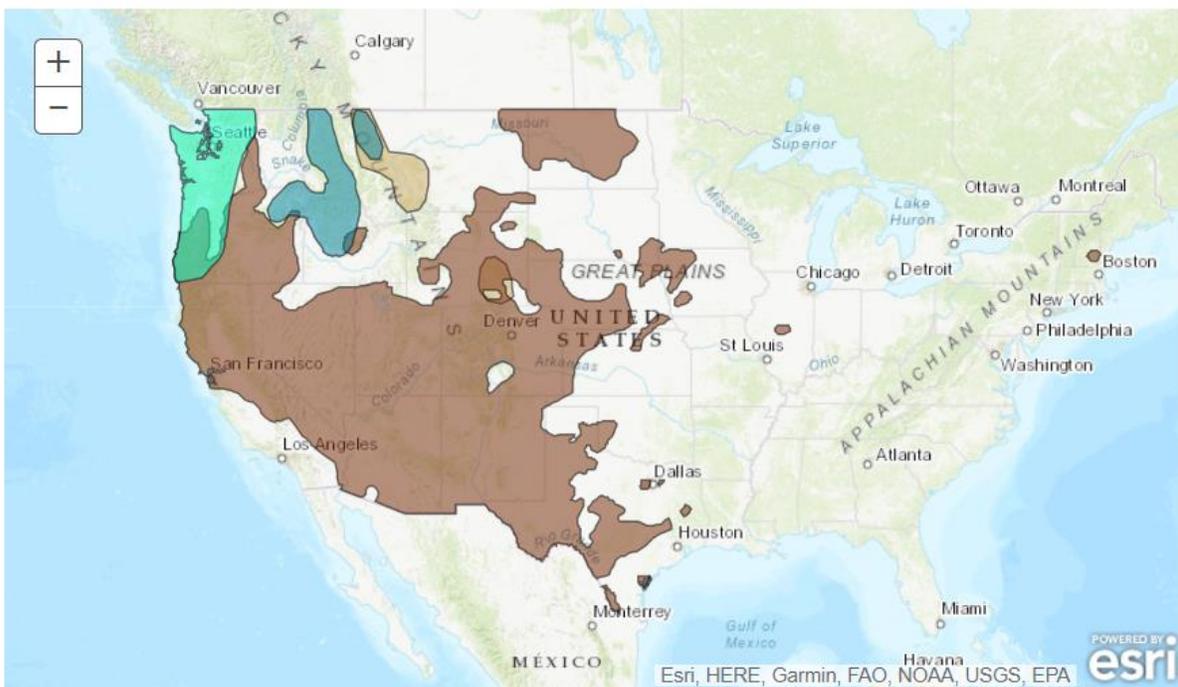
Created December 16, 2020

**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 19, 2020 - December 23, 2020

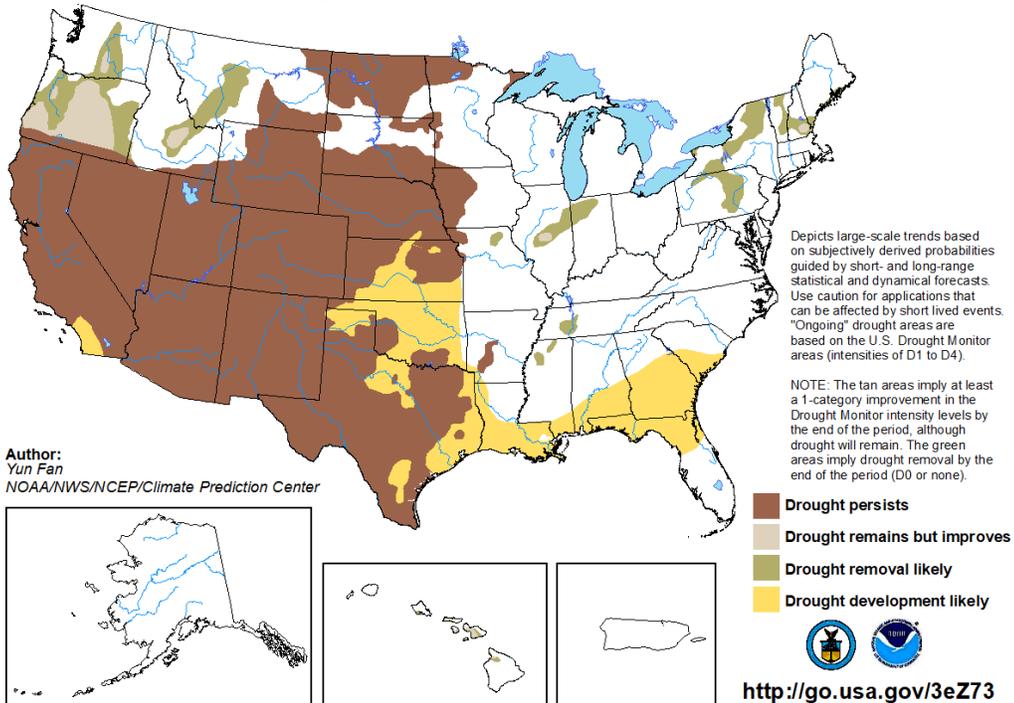


**Seasonal Drought Outlook: [December 17, 2020 – March 31, 2021](#)**

Source: National Weather Service

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

Valid for December 17, 2020 - March 31, 2021  
Released December 17, 2020

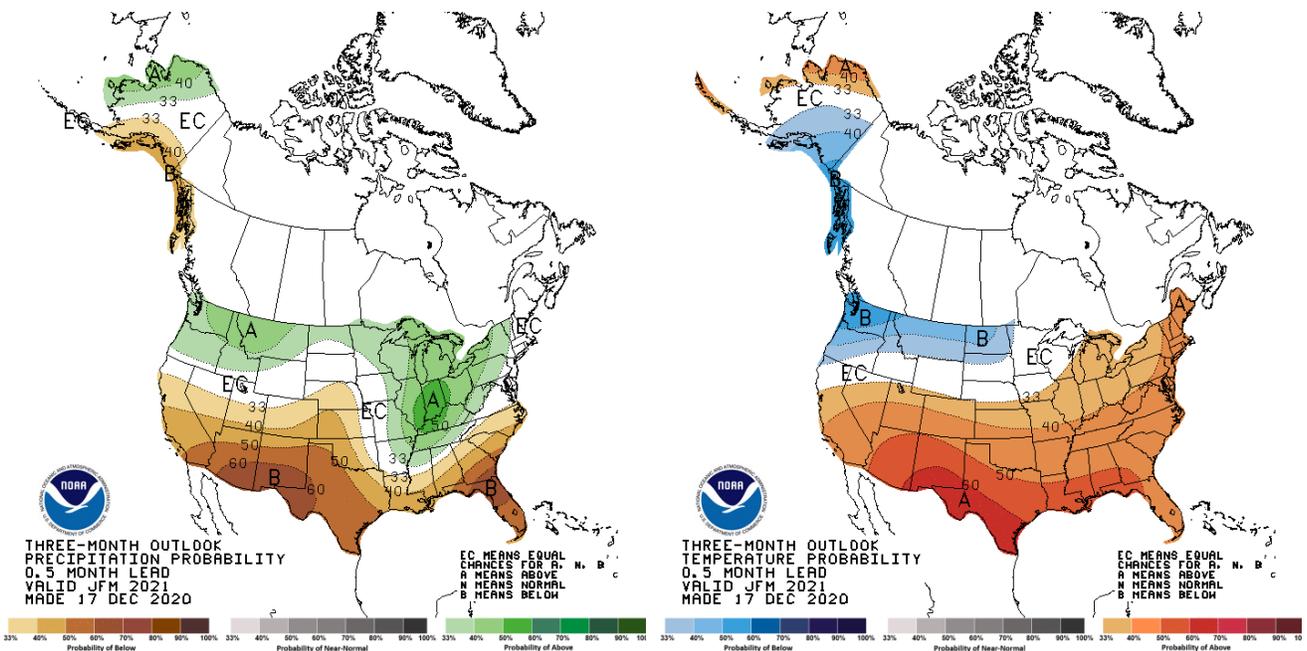


**Climate Prediction Center 3-Month Outlook**

Source: National Weather Service

Precipitation

Temperature



[January-February-March \(JFM\) 2021 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](#).