

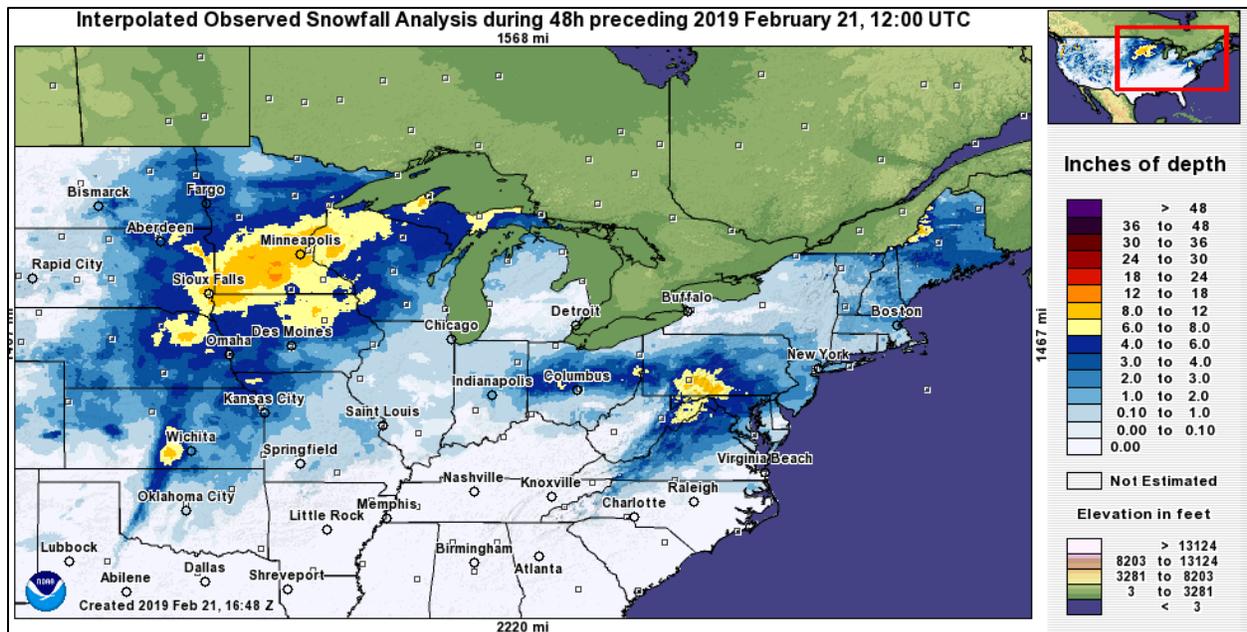
# Water and Climate Update

February 21, 2019

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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## Massive winter storm impacts millions in Midwest and East



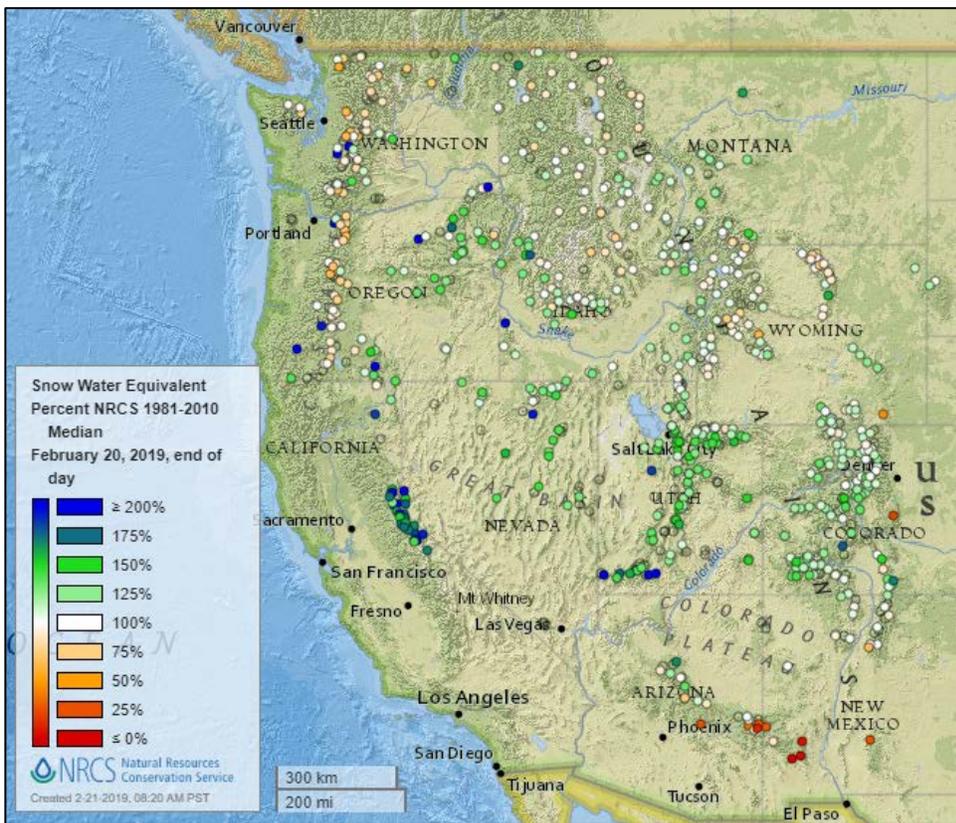
The most recent winter storm this week impacted 39 states and covered much of the country with fresh snow, ice, or heavy rain. An estimated 200 million people were impacted by the storm as it swept across the country. Several areas declared snow emergencies. Schools and offices were closed, transportation and flights interrupted, and power outages occurred as trees fell. The Twin Cities (MN) reported a new record snowiest February at 30.4 inches, so far.

**Related:**

- [Massive storm snarls travel, cancels flights and closes schools – CBS News](#)
- [Massive winter storm expected to dump rain, ice, snow on much of U.S. – NBC News](#)
- ['Ice can be unforgiving': Huge winter storm moves east as snow, sleet, heavy rain target 39 states – USA Today](#)
- [Massive winter storm hits Midwest, East Coast - Reuters](#)
- [Winter storm impacts millions across U.S. WTVF \(TN\)](#)
- [Wednesday's winter storm: Here's how much snow and ice to expect and when – The Washington Post](#)
- [Snow and bitter chill closes federal offices and schools as winter storm sweeps across the US – MSN](#)

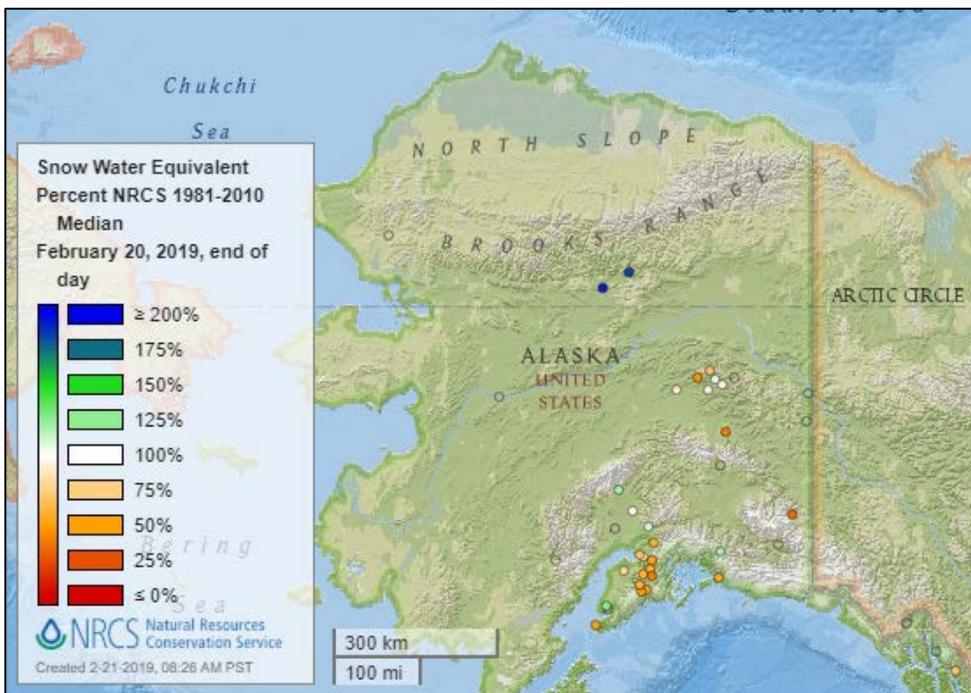
## Snow

### Current Snow Water Equivalent, NRCS SNOTEL Network



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

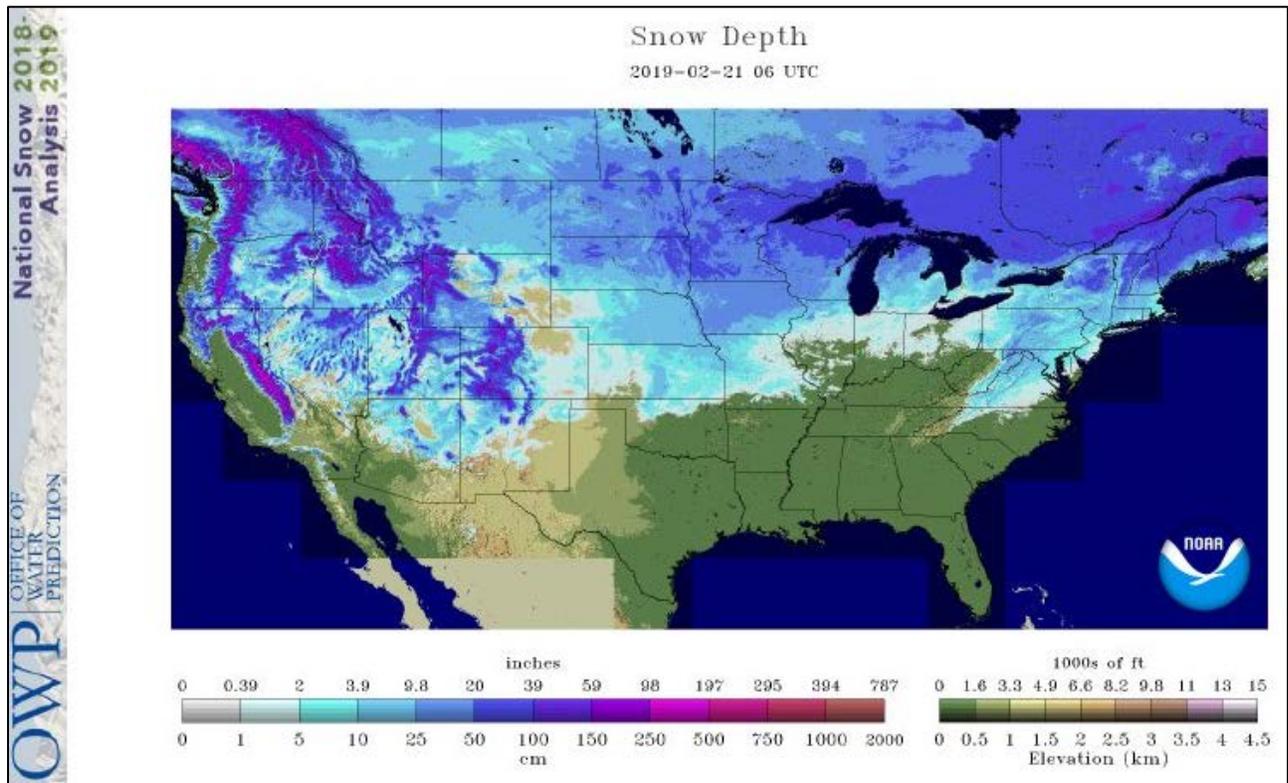
**See also:**  
[Snow water equivalent values \(inches\) map](#)



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

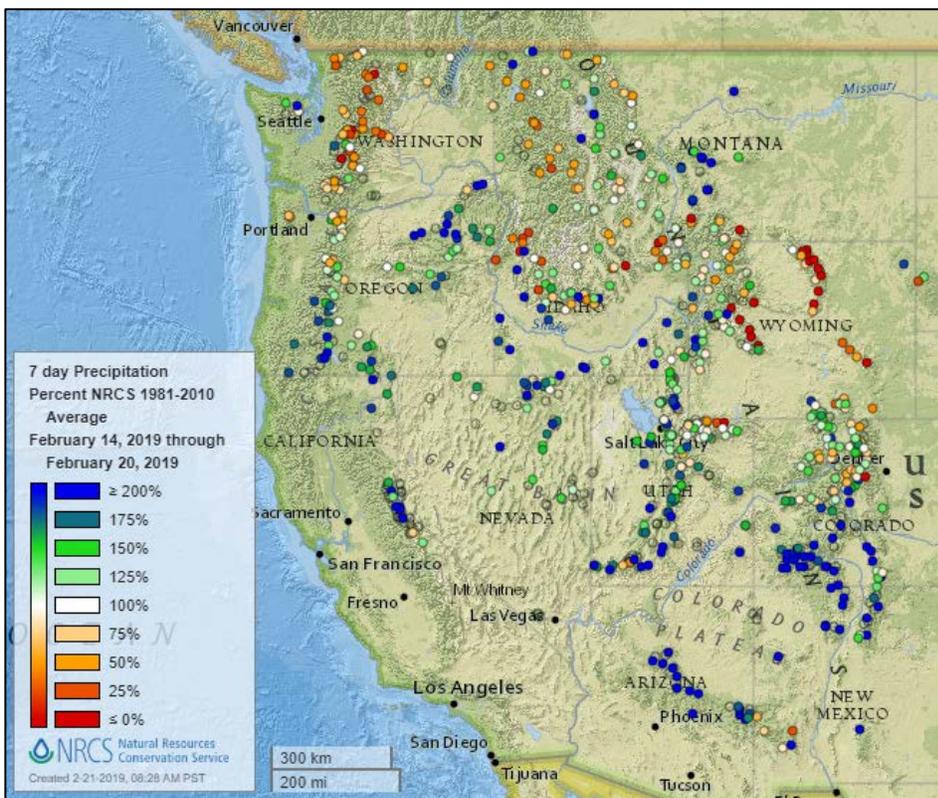
**See also:**  
[Alaska snow water equivalent values \(inches\) map](#)

Current Snow Depth, National Weather Service Snow Analysis



## Precipitation

### Last 7 Days, NRCS SNOTEL Network

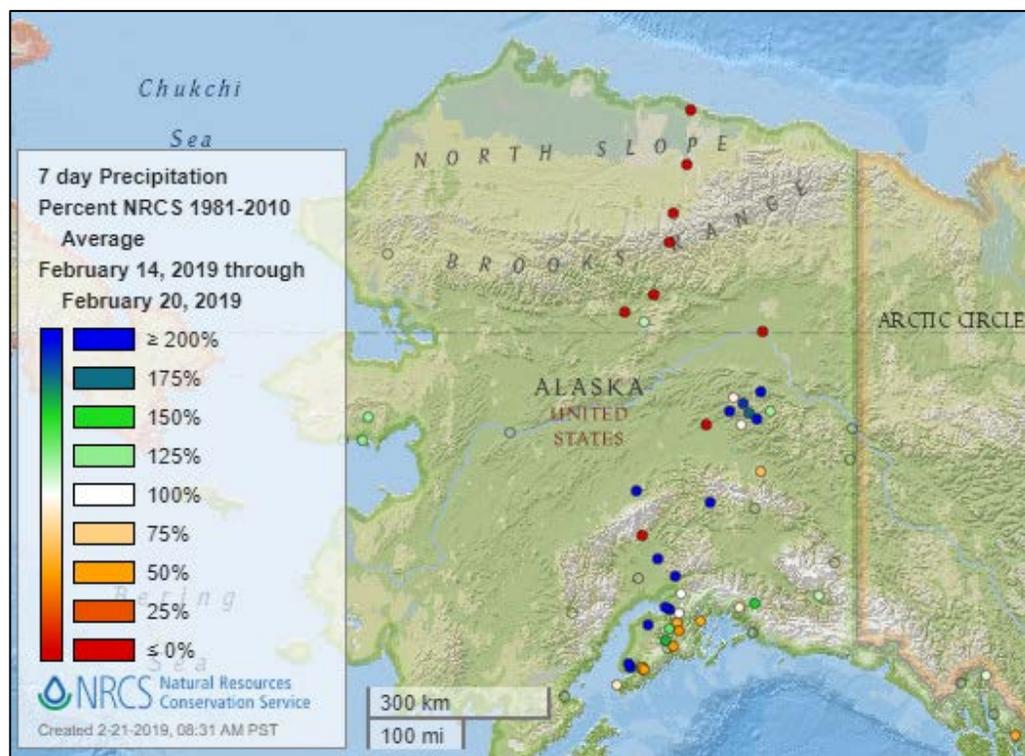


[7-day precipitation percent of average map](#)

**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](#)



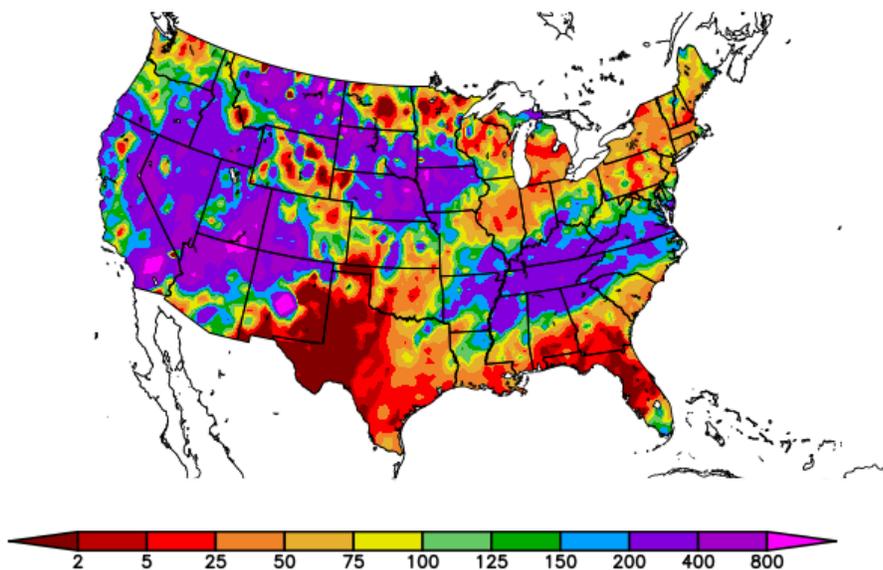
**Last 7 Days, National Weather Service (NWS) Networks**

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 (%)  
2/14/2019 – 2/20/2019



Generated 2/21/2019 at HPRCC using provisional data.

NOAA Regional Climate Centers

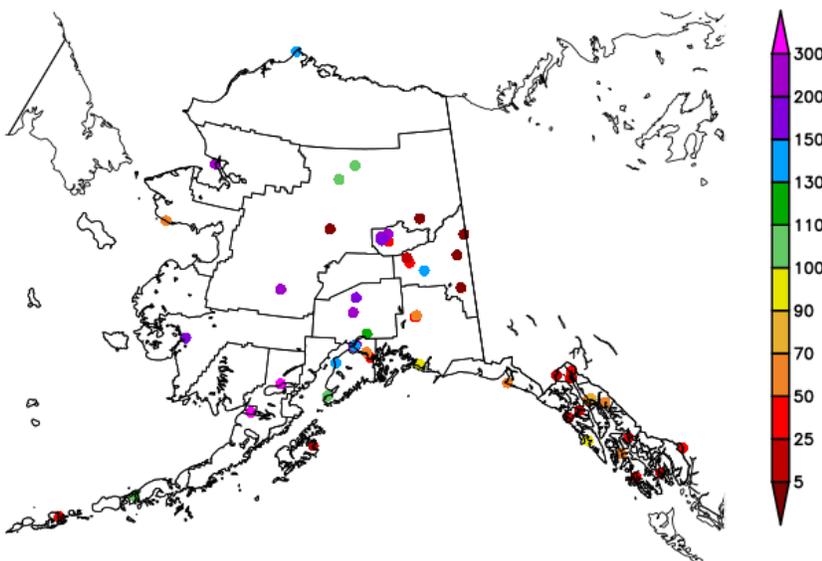
**Last 7 Days, National Weather Service (NWS) Networks**

Source: Regional Climate Centers

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

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

Percent of Normal Precipitation (%)  
2/14/2019 – 2/20/2019



Generated 2/21/2019 at HPRCC using provisional data.

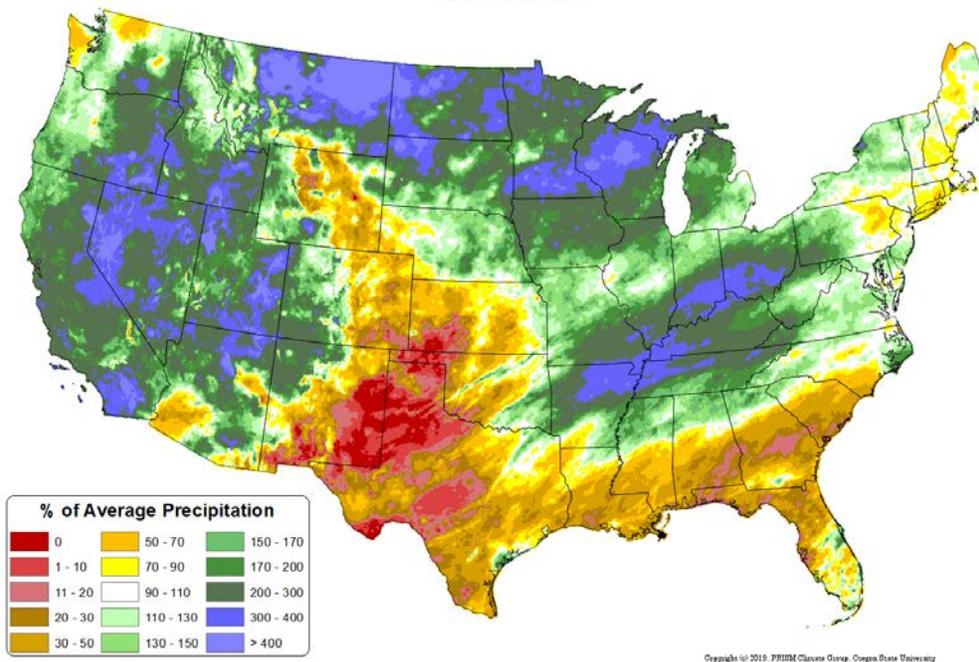
NOAA Regional Climate Centers

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

Source: PRISM

Total Precipitation Anomaly: 01 Feb 2019 - 20 Feb 2019  
 Period ending 7 AM EST 20 Feb 2019  
 Base period: 1981-2010  
 (Map created 21 Feb 2019)

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

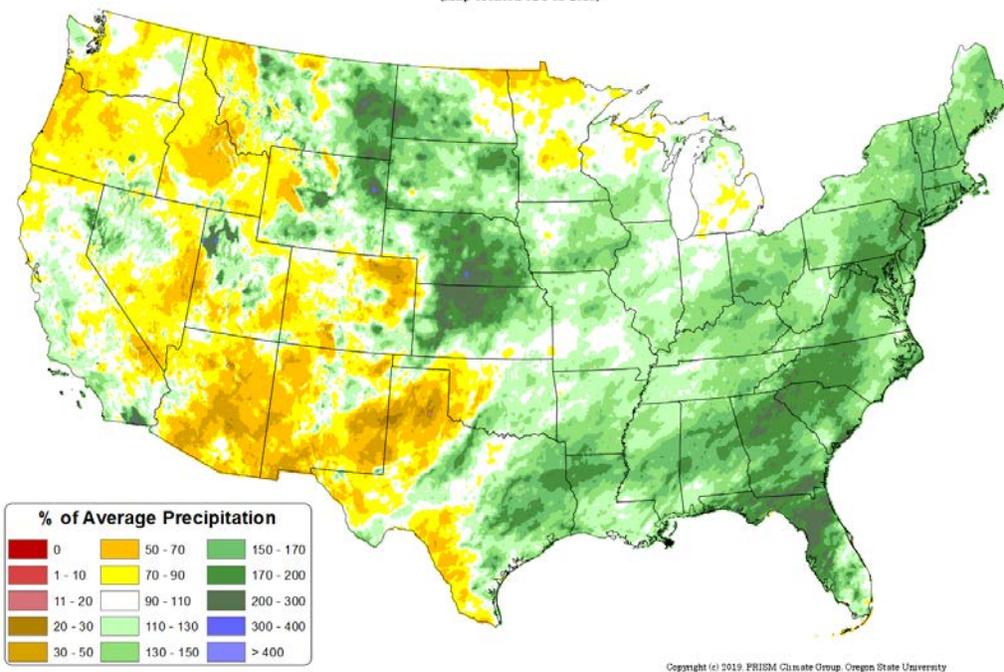


Last 3 Months, All Available Data Including SNOTEL and NWS Networks

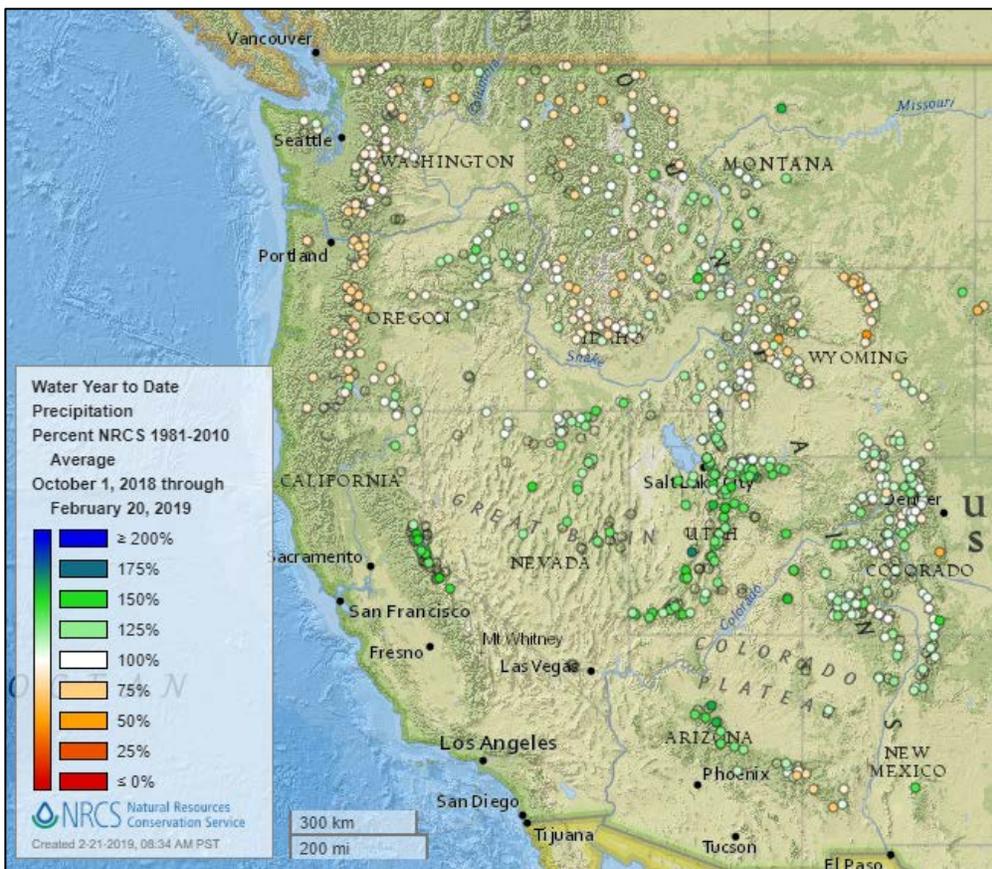
Source: PRISM

[November 2018 through January 2019 total precipitation percent of average map](#)

Total Precipitation Anomaly: Nov 2018 - Jan 2019  
 Period ending 7 AM EST 31 Jan 2019  
 Base period: 1981-2010  
 (Map created 02 Feb 2019)

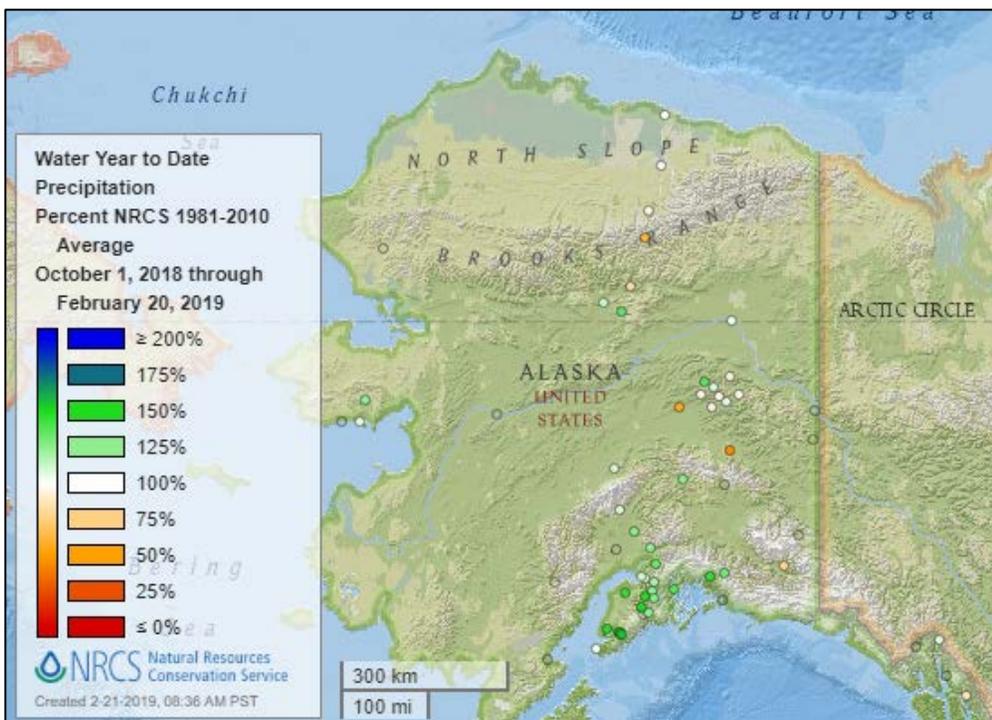


Water Year-to-Date, NRCS SNOTEL Network



[2019 water year-to-date precipitation percent of average map](#)

**See also:**  
[2019 water year-to-date precipitation values \(inches\) map](#)



[Alaska 2019 water year-to-date precipitation percent of average map](#)

**See also:** [Alaska 2019 water year-to-date precipitation values \(inches\) map](#)

## Temperature

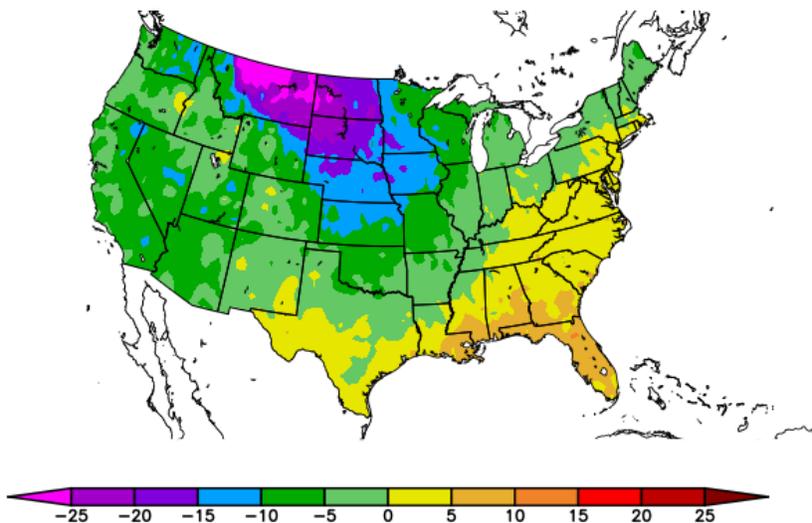
### Last 7 Days, National Weather Service (NWS) Networks

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)  
2/14/2019 – 2/20/2019



Generated 2/21/2019 at HPRCC using provisional data.

NOAA Regional Climate Centers

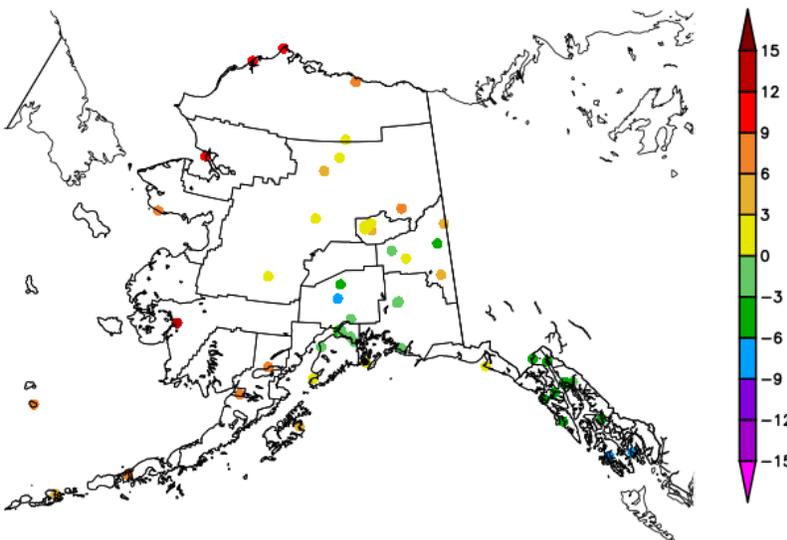
### Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

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

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

Departure from Normal Temperature (F)  
2/14/2019 – 2/20/2019



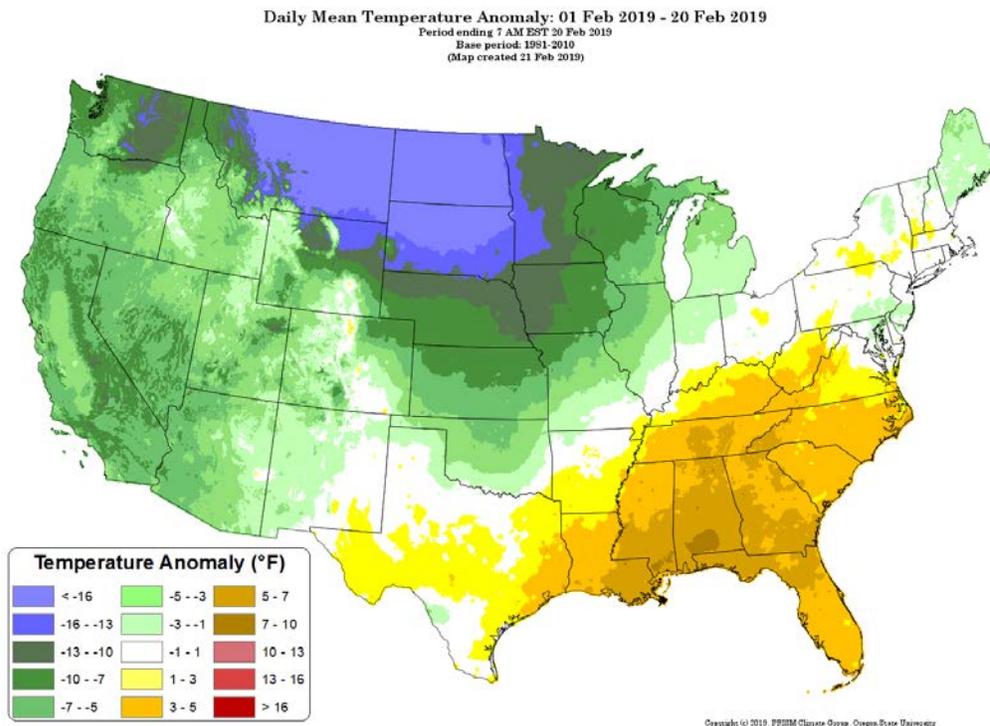
Generated 2/21/2019 at HPRCC using provisional data.

NOAA Regional Climate Centers

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

Source: PRISM

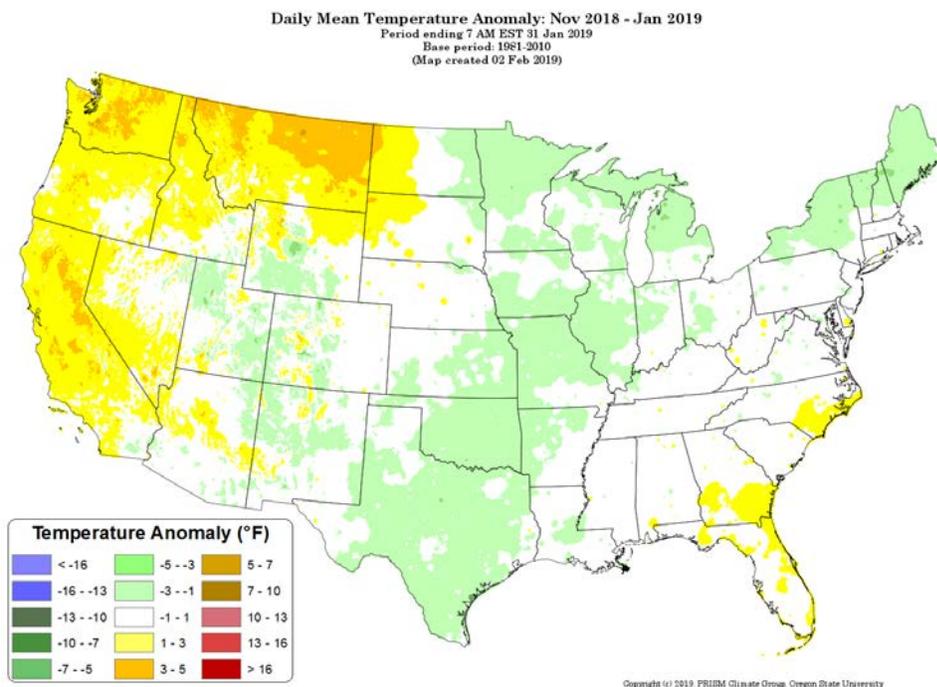
[Month-to-date national daily mean temperature anomaly map](#)



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

Source: PRISM

[November 2018 through January 2019 daily mean temperature anomaly map](#)



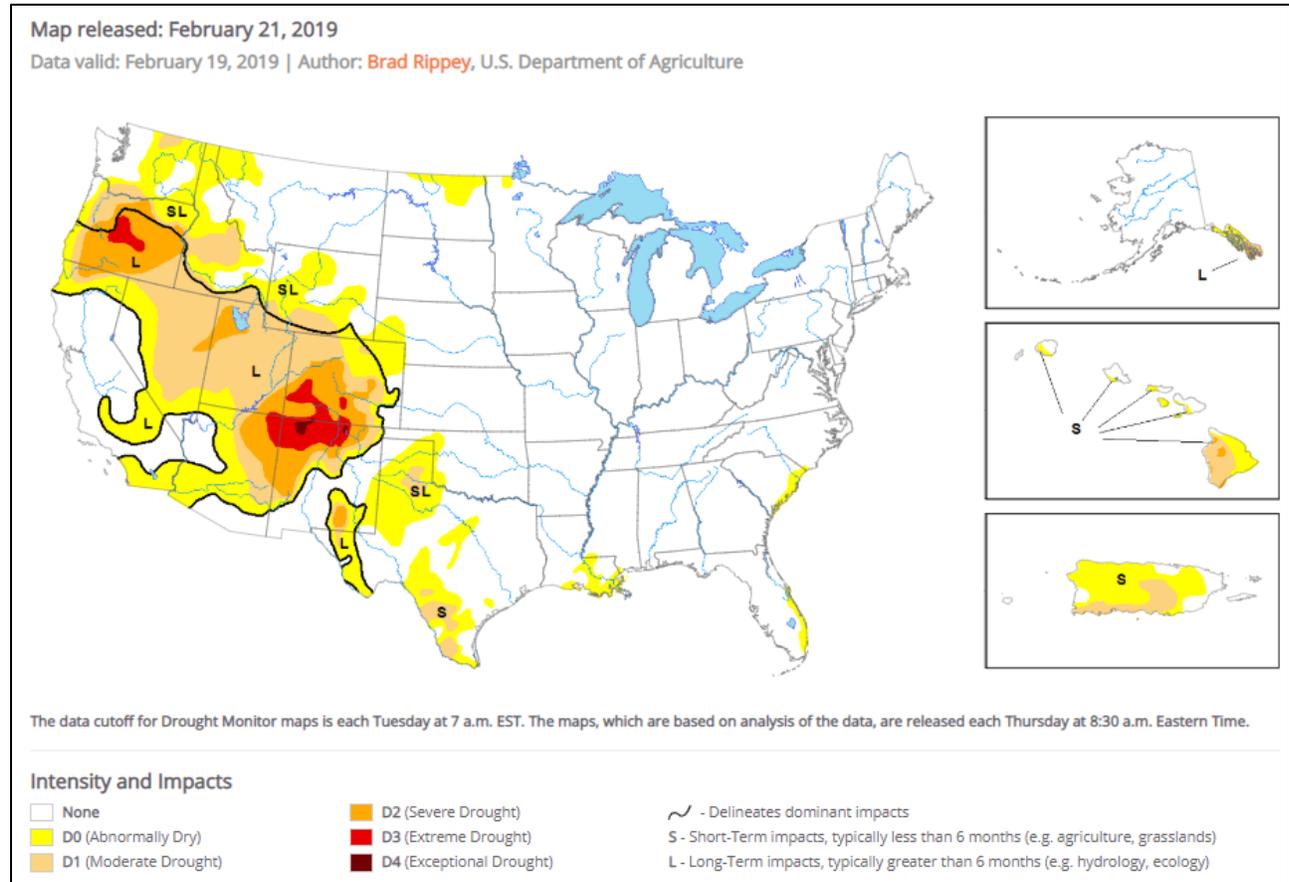
## Drought

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

Source: National Drought Mitigation Center

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

Source: NOAA



### Current [National Drought Summary](#), February 21, 2019

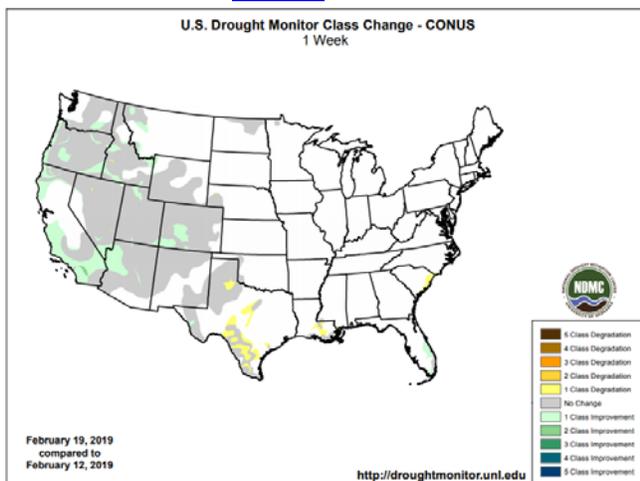
Author: Brad Rippey, U.S. Department of Agriculture

“Powerful, late-winter storms crossed the country, delivering periods of heavy precipitation in much of the West; significant snow across the North; and additional rain in the Ohio Valley and mid-South. Lowland flooding affected several river basins in the central and eastern Corn Belt, extending southward into the northern Mississippi Delta. Meanwhile, much of the North remained under a thick blanket of snow. Extremely heavy snow, totaling a foot or more, fell across portions of the upper Great Lakes region on February 12. The following day, snow spread into the Northeast. Later, snow returned across portions of the northern Plains and upper Midwest from February 14-16. Elsewhere, the average water content of the Sierra Nevada snowpack reached 30 inches by mid-February, according to the California Department of Water Resources. This was up from 17 inches at the beginning of the month—and exceeds the normal Sierra Nevada snow-water equivalency for an entire winter. California’s heaviest precipitation fell on February 13-14, resulting in flash flooding and debris flows. One of the most damaging mudslides struck in Sausalito, California, near San Francisco.”

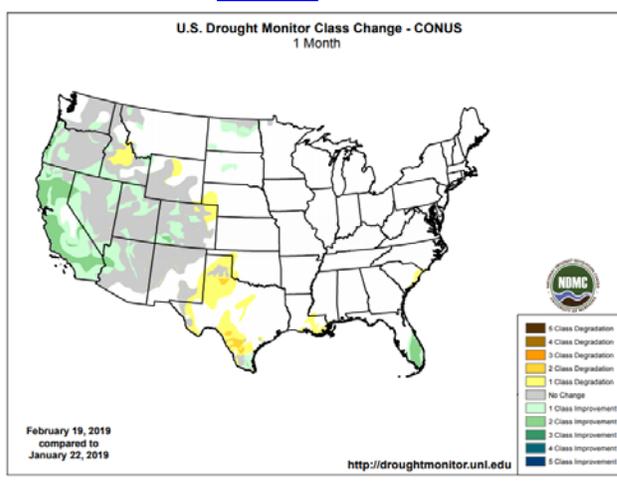
## Changes in Drought Monitor Categories over Time

Source: National Drought Mitigation Center

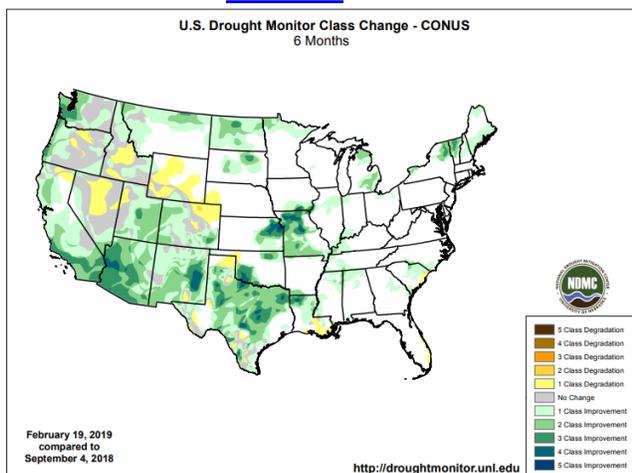
### 1 Week



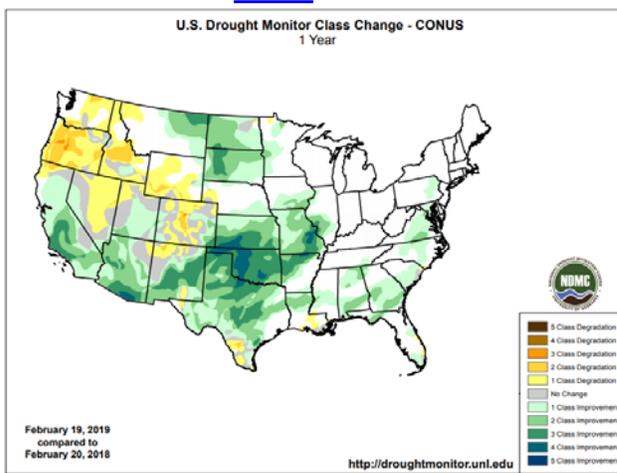
### 1 Month



### 6 Months



### 1 Year



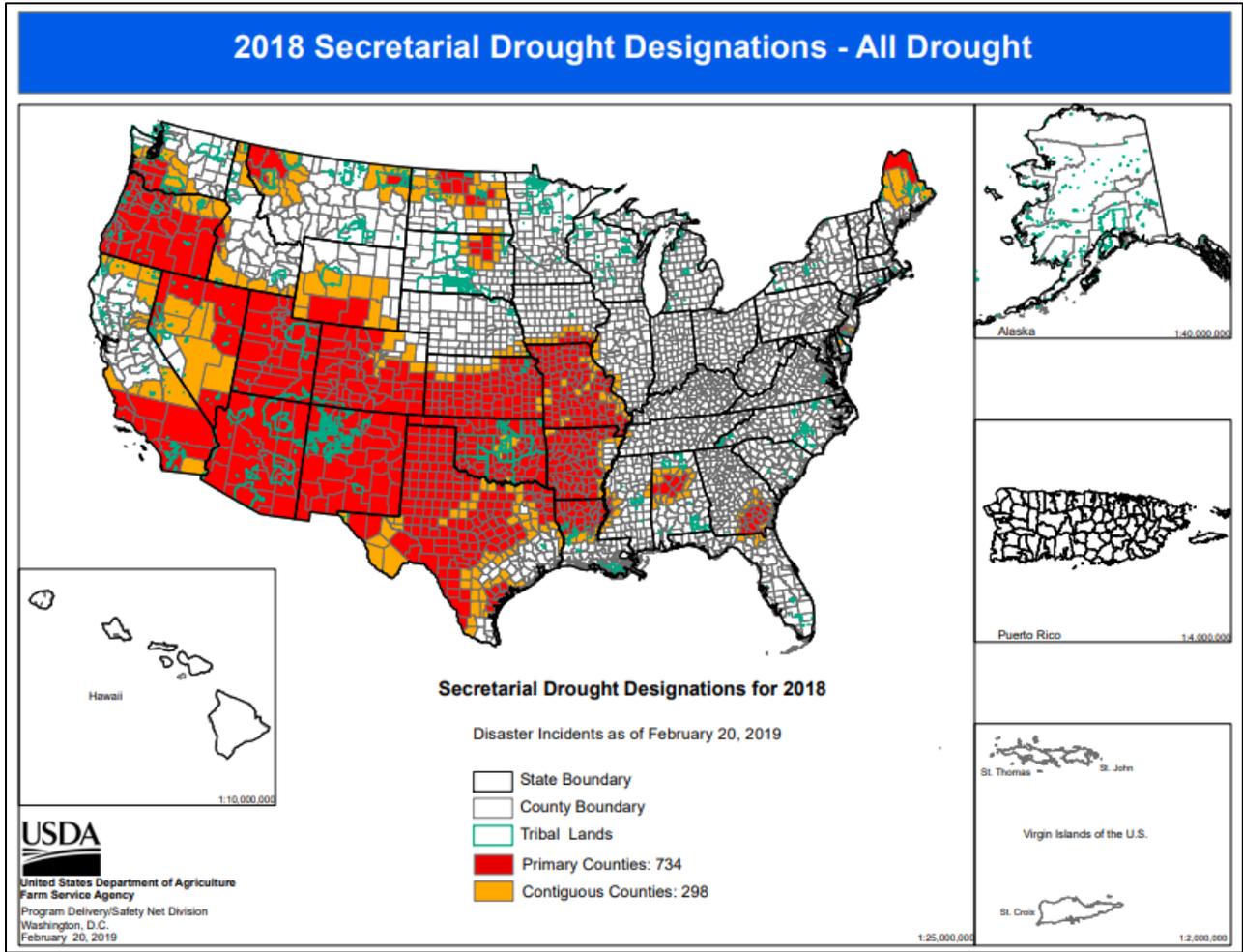
[Changes in drought conditions over the last 12 months for the contiguous U.S.](#)

## 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](#)

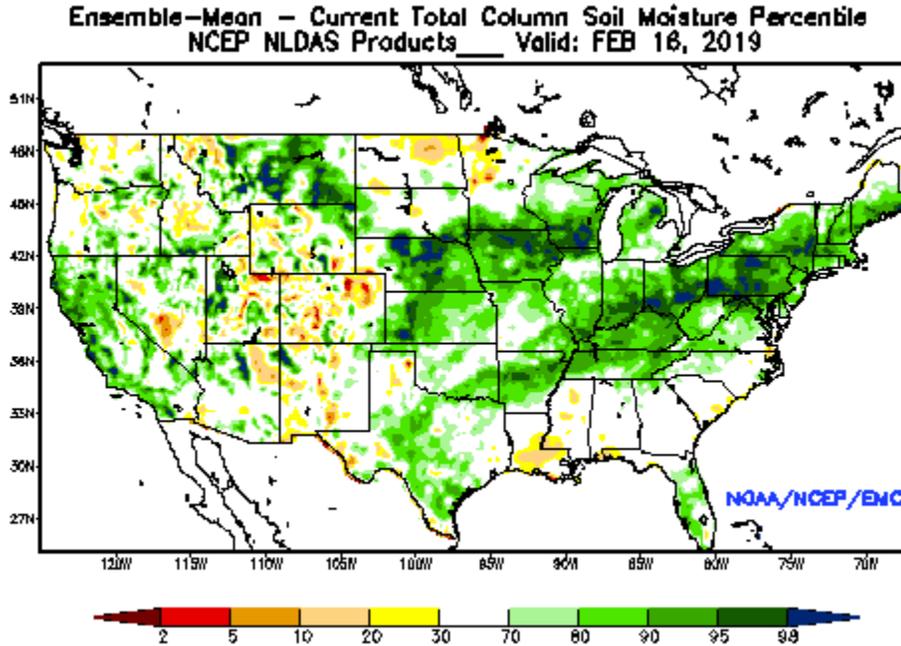
Source: USDA Farm Service Agency



## Other Climatic and Water Supply Indicators

### Soil Moisture

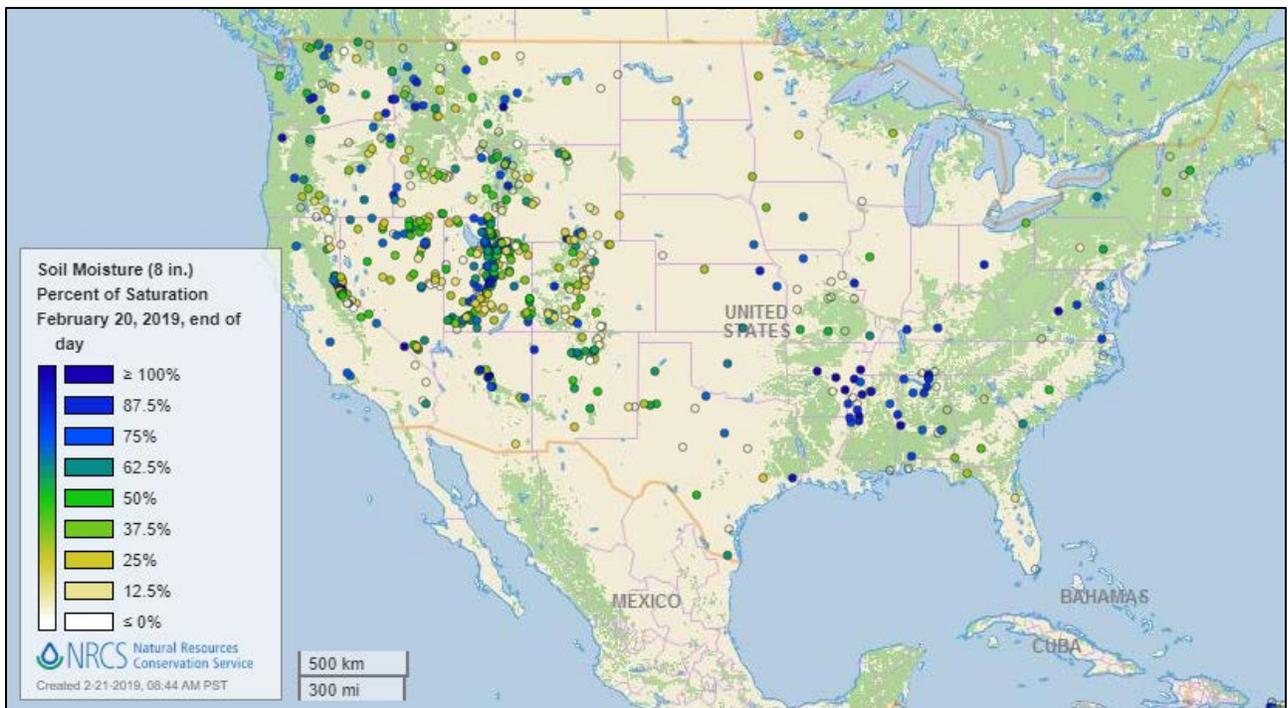
Source: NOAA National Centers for Environmental Prediction



[Modeled soil moisture percentiles](#) as of February 16, 2019

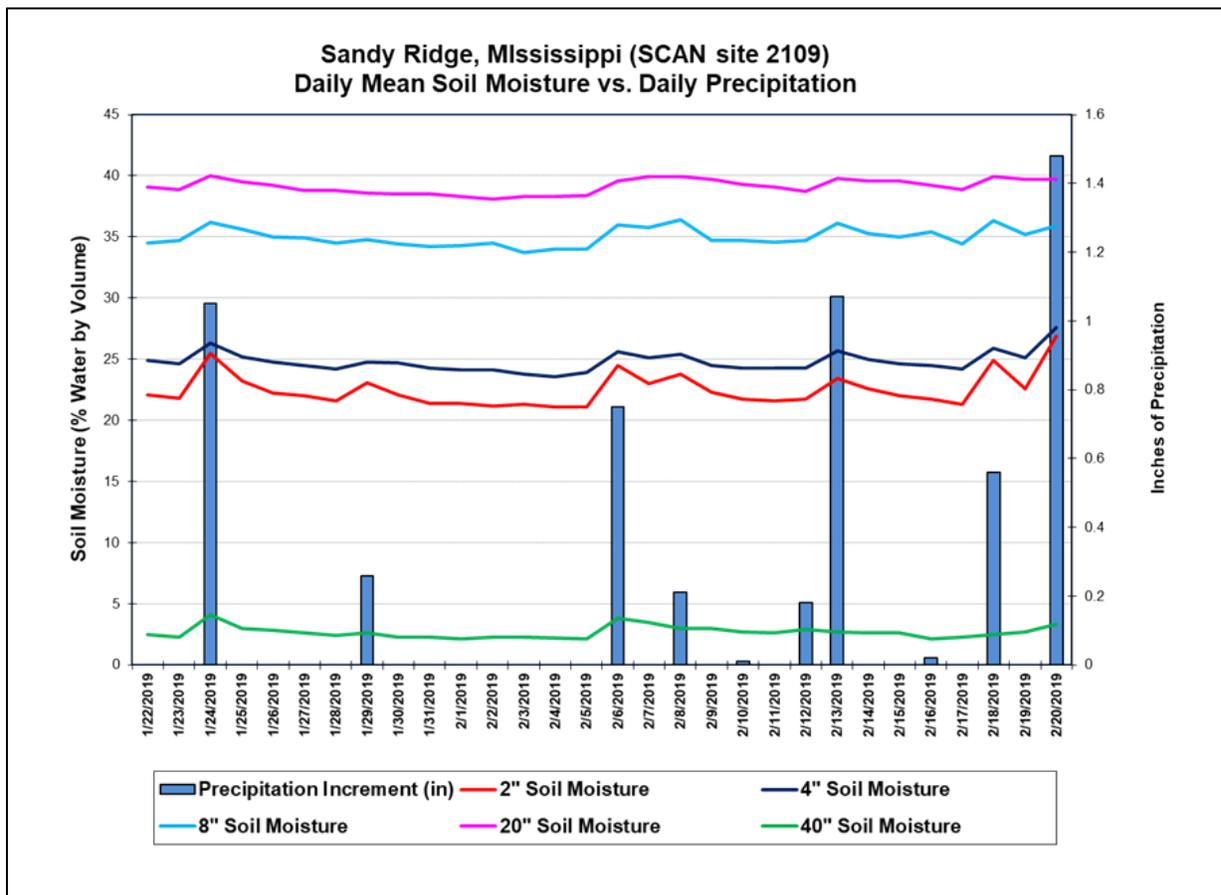
### Soil Moisture Percent of Saturation

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



**Soil Moisture Data**

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



This graph shows the precipitation and soil moisture during the last 30 days at the [Sandy Ridge SCAN site](#) in Mississippi. On February 20, 2019, accumulated precipitation totaled 1.48 inches. This rain event was followed by an increase in soil moisture at the 2-, 4-, and 8-inch sensor levels.

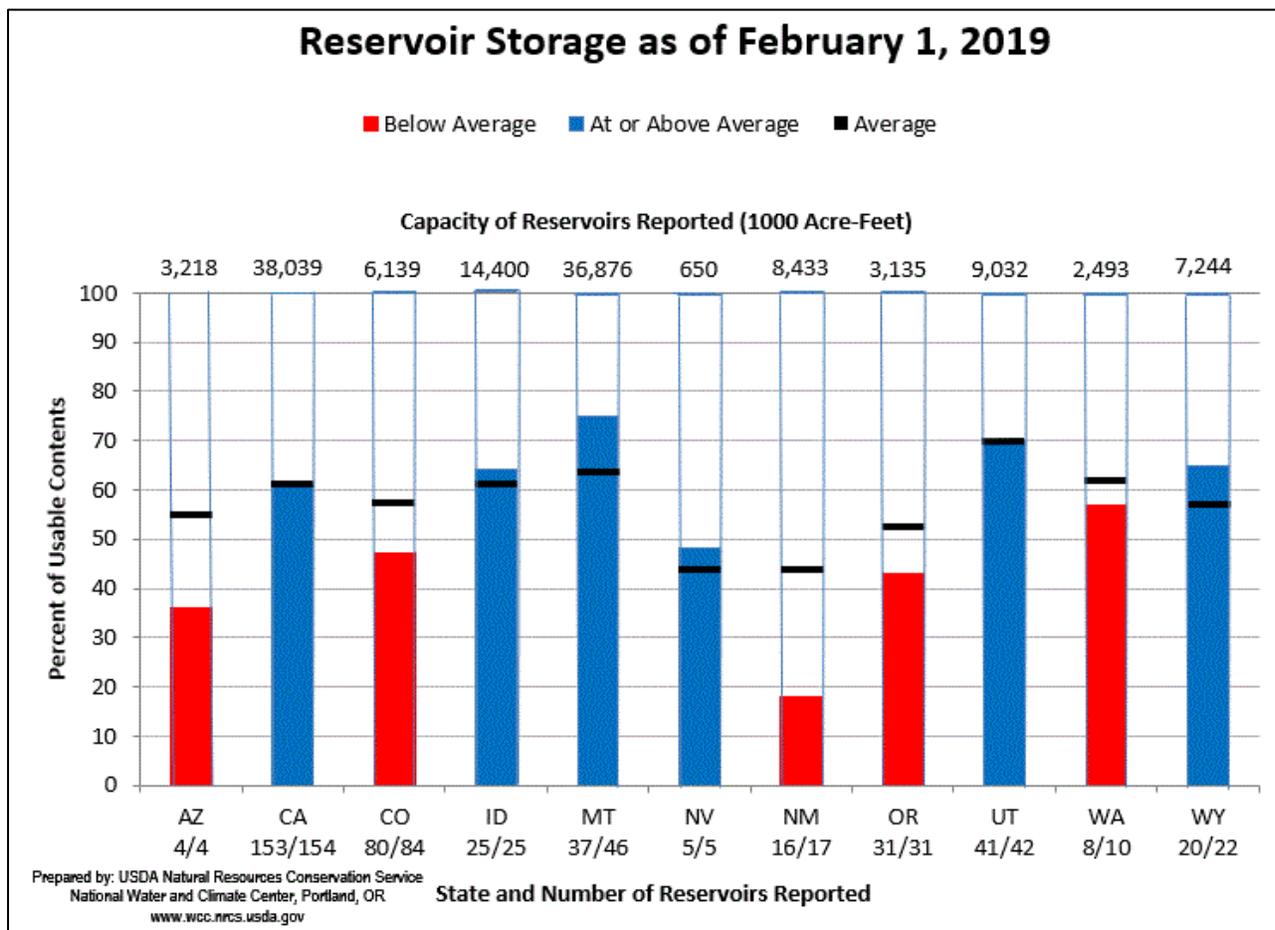
**Soil Moisture Data Portals**

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

## Reservoir Storage

### Western States Reservoir Storage

Source: NRCS National Water and Climate Center



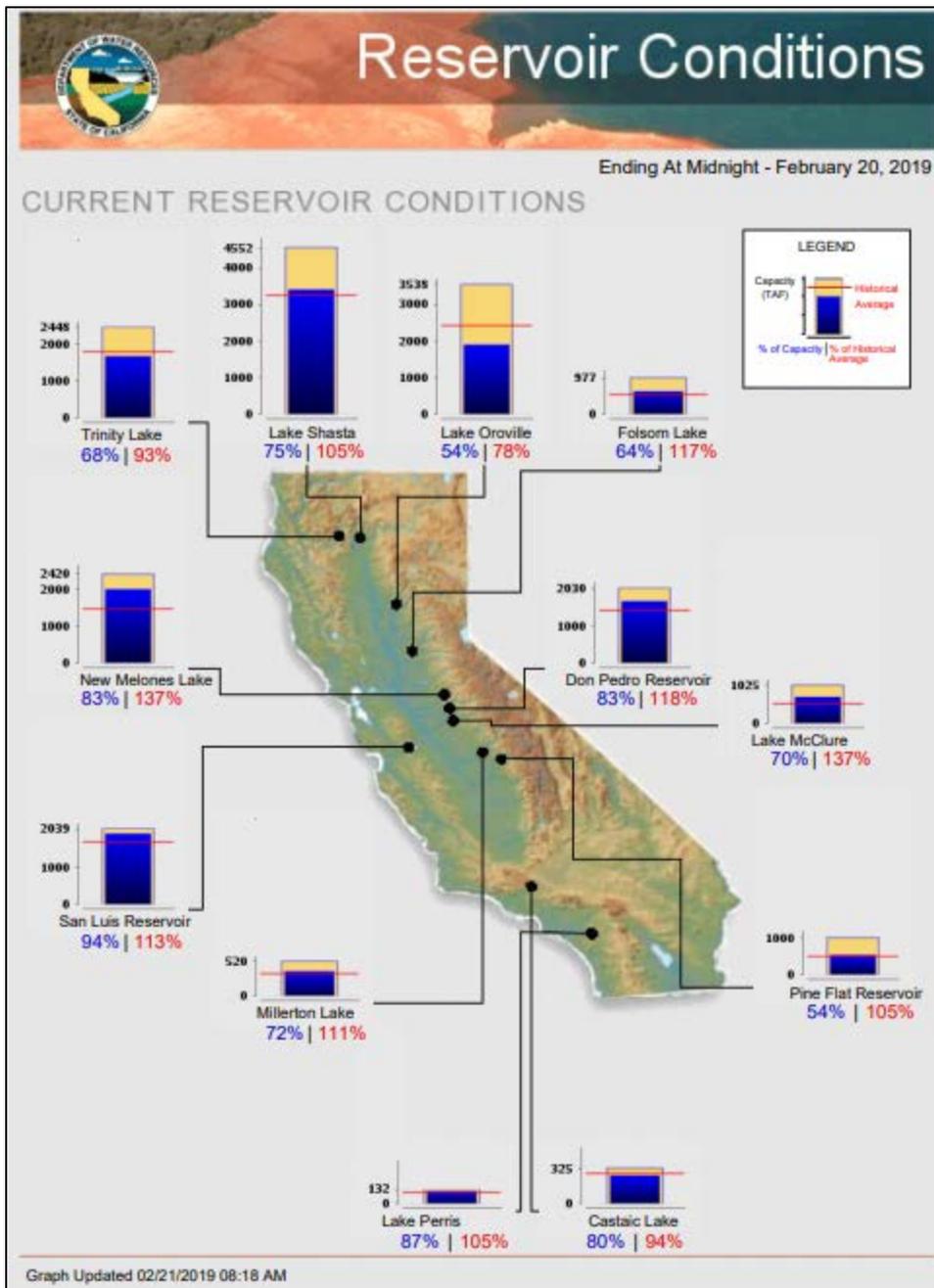
February 1, 2019 Reservoir Storage: [Chart](#) | [Dataset](#)

### Hydromet Tea Cup 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](#)

## Short- and Long-Range Outlooks

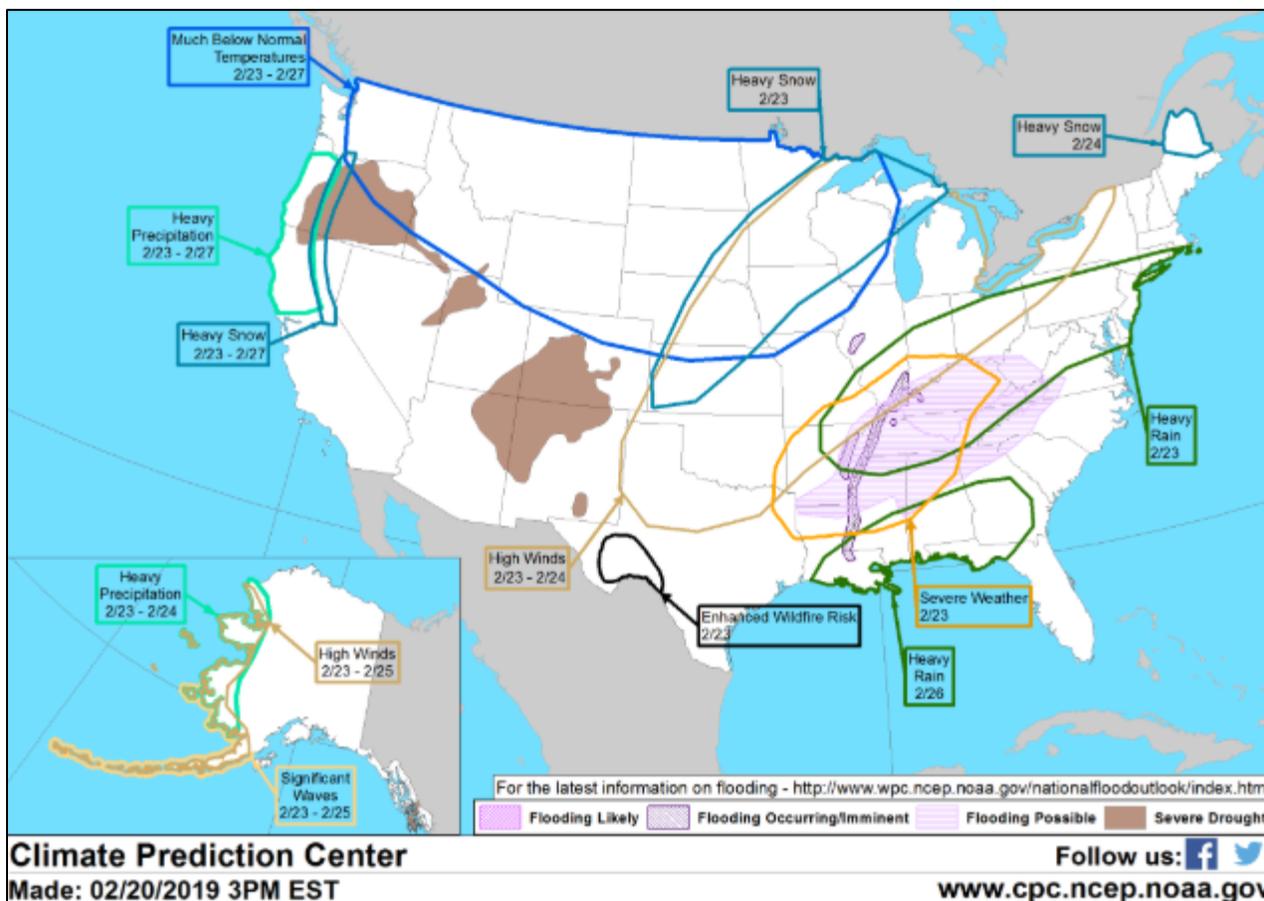
### Agricultural Weather Highlights

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

**National Outlook, Thursday, February 21, 2019:** “Another impressive storm, similar to the previous system, will cross the Southwest today and Friday, reach the central Plains on Saturday, and intensify across the upper Great Lakes region by Sunday. Significant snow will fall in several areas, including the Southwest, the central Plains, and the upper Midwest, while blowing and drifting snow could result in livestock stress and travel disruptions. Farther east, storm-total rainfall of 2 to 5 inches across the interior Southeast could result in widespread flooding. During the weekend, a Pacific storm will arrive in the Northwest, delivering a new round of rain and snow. Meanwhile, cold air will remain entrenched across the West during the next several days, while another Arctic blast will reach the northern Plains on Saturday and expand to cover the upper Midwest early next week. The NWS 6- to 10-day outlook for February 26 – March 2 calls for the likelihood of near- or below-normal temperatures nationwide, except for warmer-than-normal weather across the lower Southeast. Meanwhile, near- or above-normal precipitation across most of the U.S. should contrast with drier-than-normal conditions from southern California to the southern Plains and parts of the mid-South.”

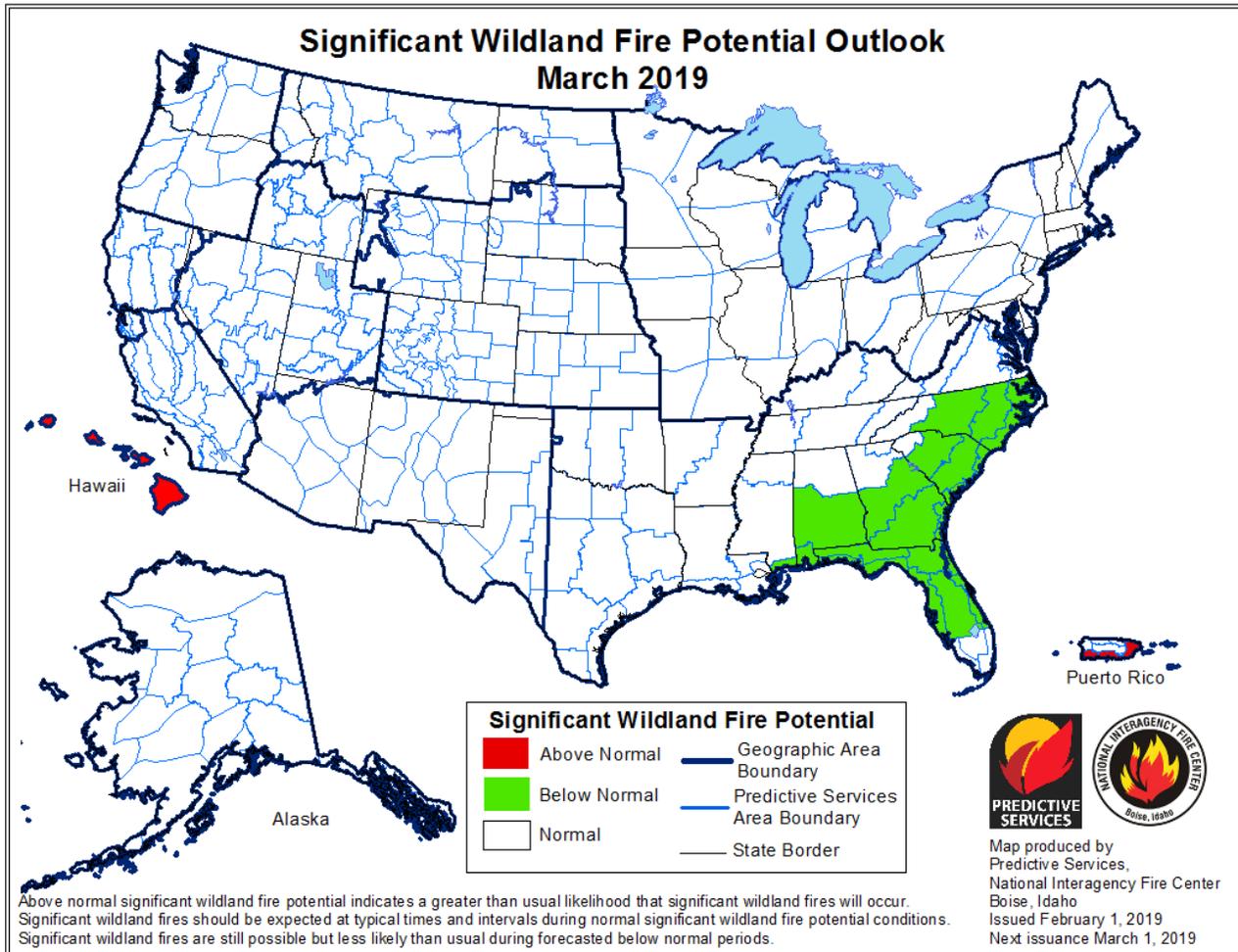
### Weather Hazards Outlook: February 23 – 27, 2019

Source: Climate Prediction Center



### Significant Wildland Fire Potential Outlook

Source: National Interagency Fire Center

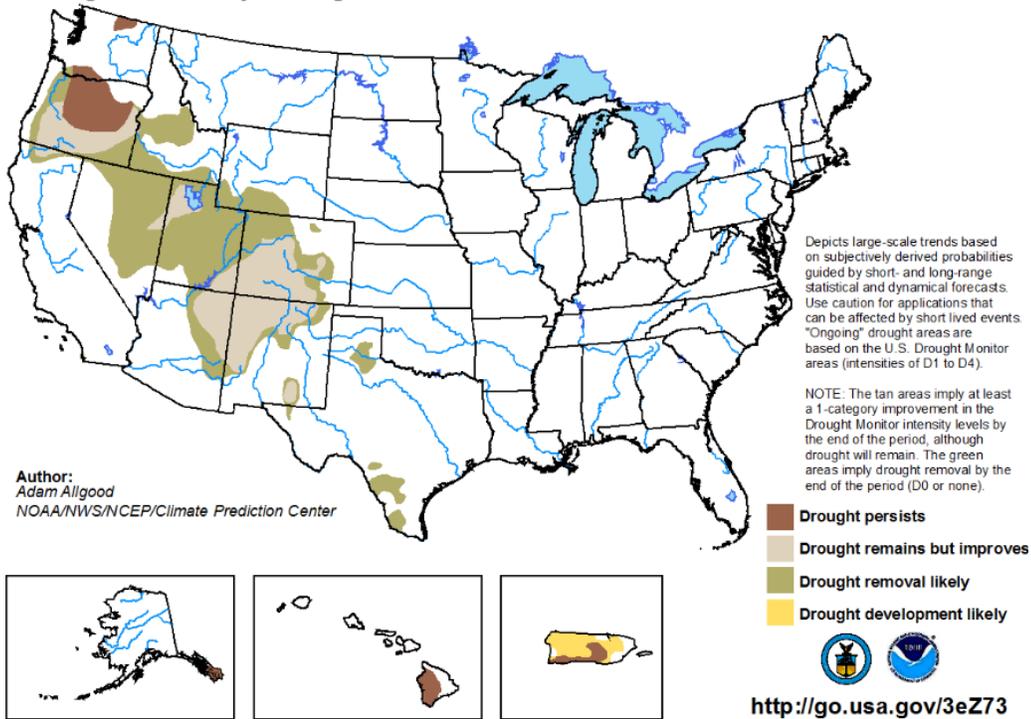


Seasonal Drought Outlook: [February 21 – May 31, 2019](#)

Source: National Weather Service

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

Valid for February 21 - May 31, 2019  
Released February 21

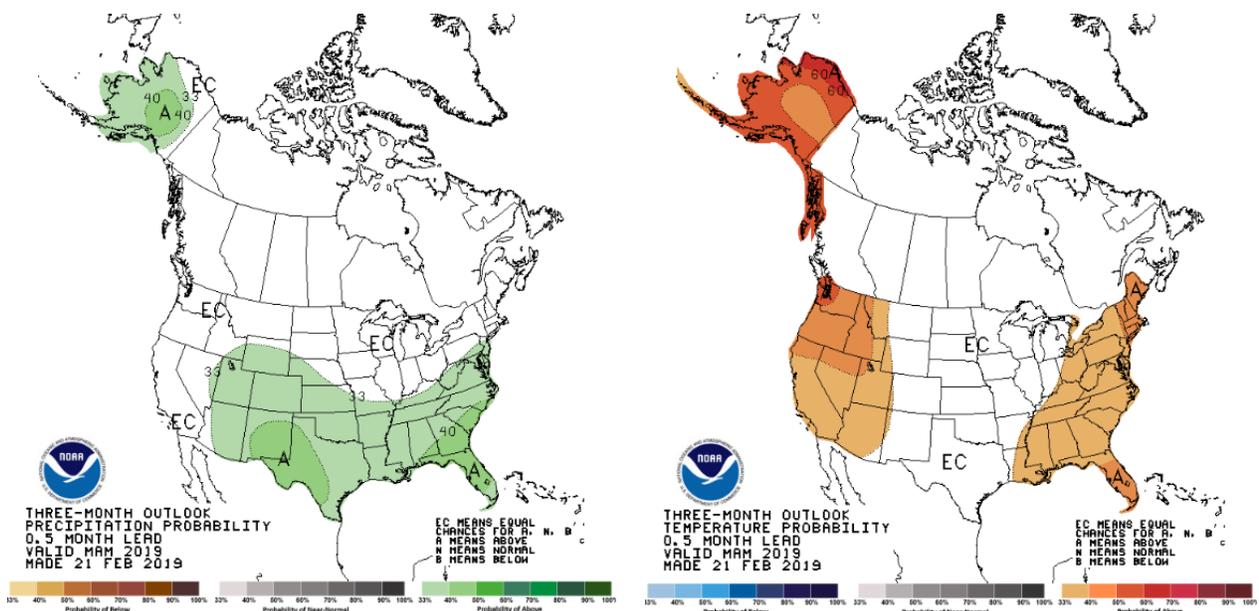


Climate Prediction Center 3-Month Outlook

Source: National Weather Service

[Precipitation](#)

[Temperature](#)



[March-April-May \(MAM\) 2019 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](#).