

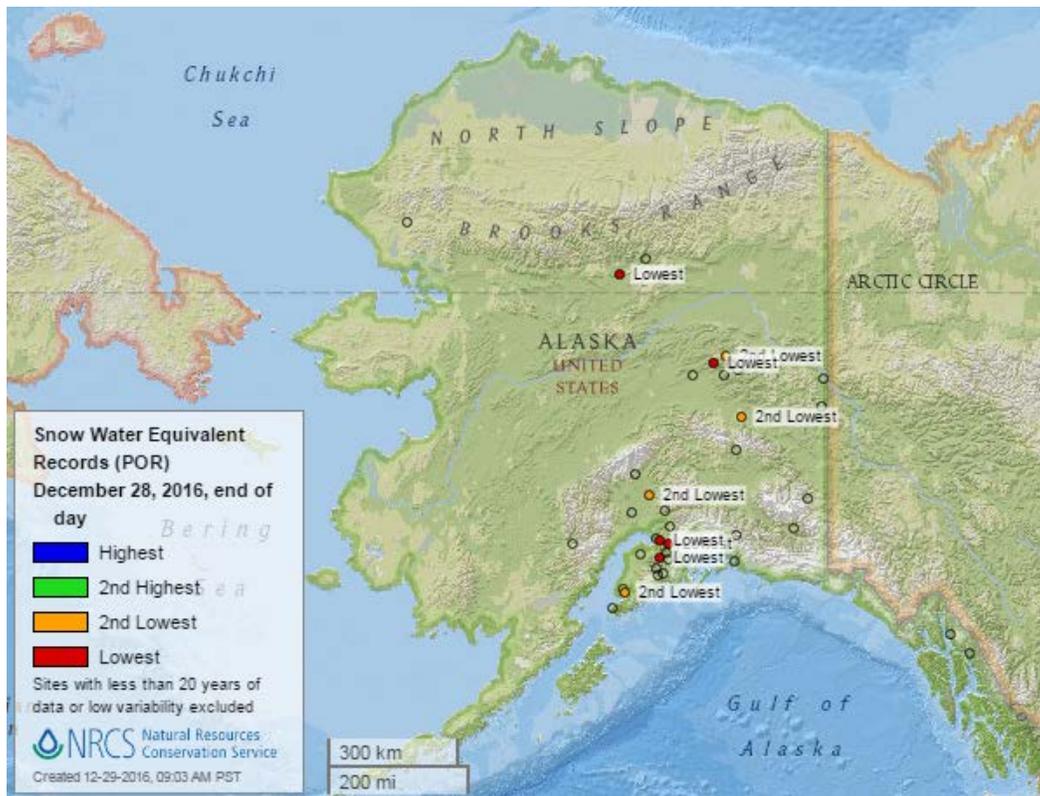
Water and Climate Update

December 29, 2016

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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Alaska: Record warm and dry start to winter



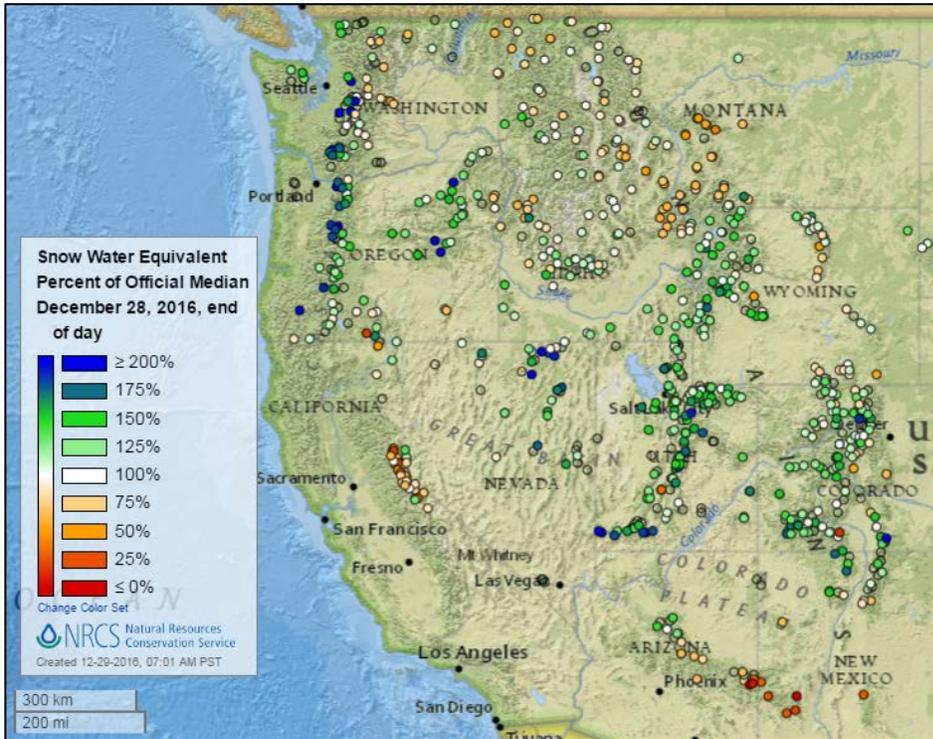
Extremely warm temperatures and dry conditions thus far in December have resulted in new- or near-record low snowpack as indicated by SNOTEL stations across the state. The National Weather Service forecast is for a significant storm to boost the snowpack in a wide area of the state in the next few days. However, warm temperatures are projected to return next week.

In the news:

- [Change in the Arctic this year was unlike any ever seen, scientists say](#)
- [The Arctic is 'behaving so bizarrely.' Here's how some scientists explain that](#)
- [Temperature near North Pole jumped to 32 degrees this week](#)
- [Trouble for Santa? North Pole forecast is for up to 50 degrees above normal](#)
- [Super-warm Arctic winter 'extremely unlikely' without climate change, scientists say](#)

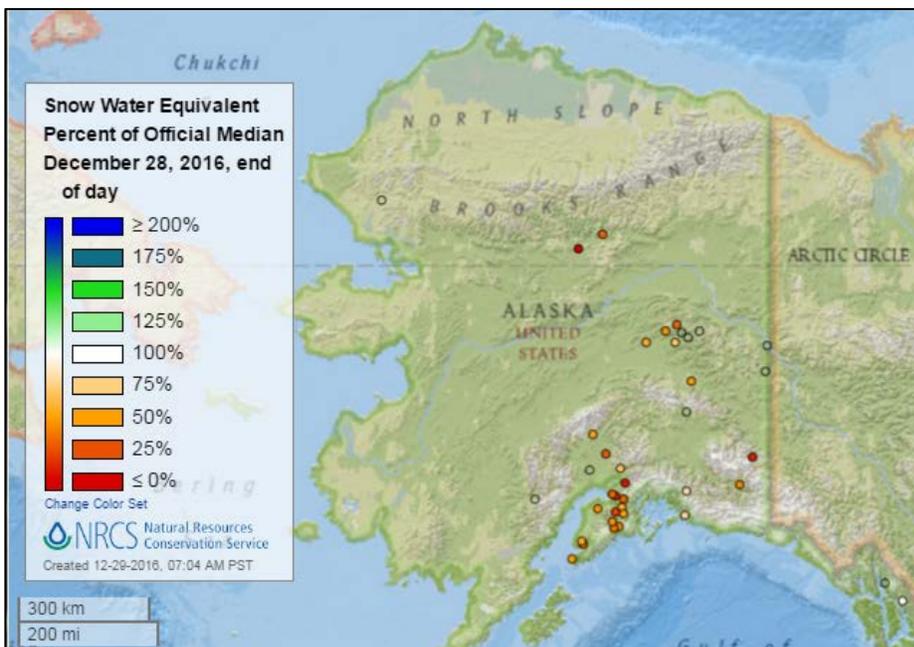
Snow

Current Snow Water Equivalent, NRCS SNOTEL Network



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

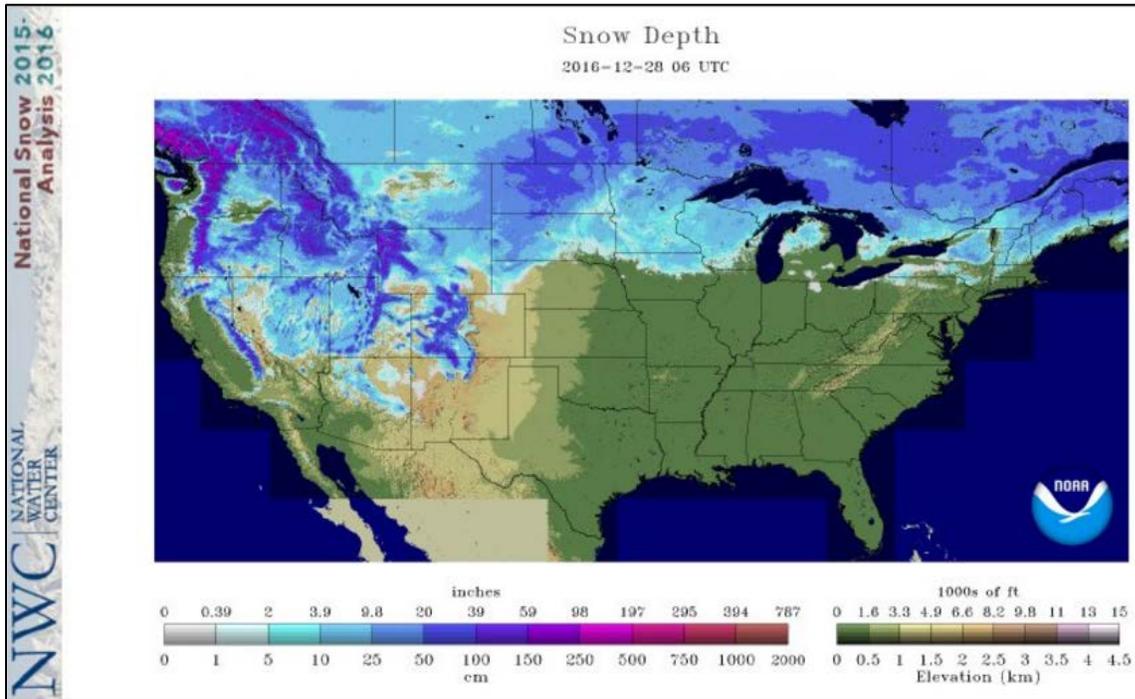
See also:
[Snow water equivalent values \(inches\) map](#)



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

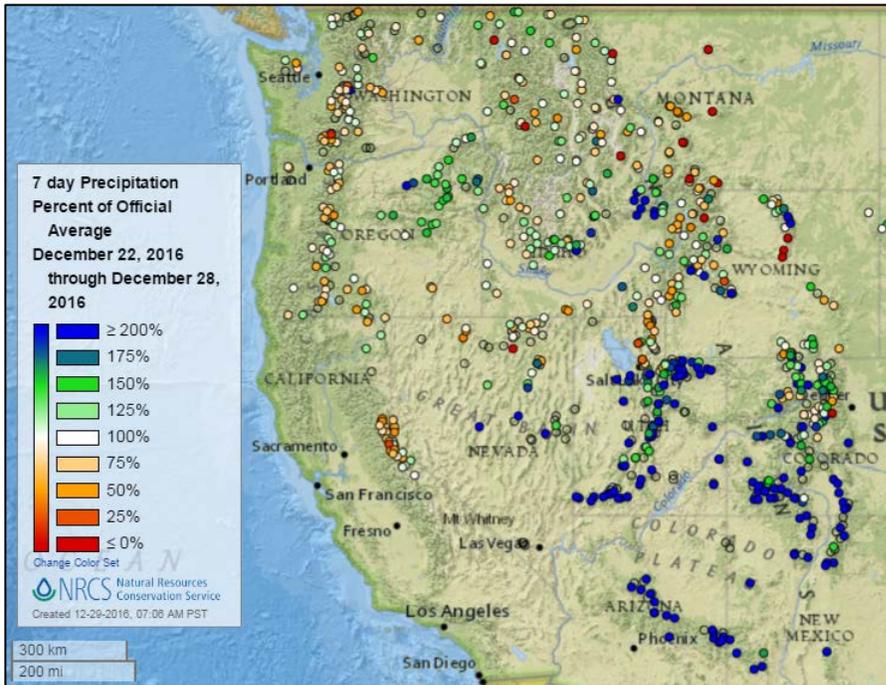
See also:
[Alaska snow water equivalent values \(inches\) map](#)

Current Snow Depth, National Weather Service (NWS) Networks



Precipitation

Last 7 Days, Western Mountain Sites (NRCS SNOTEL Network)



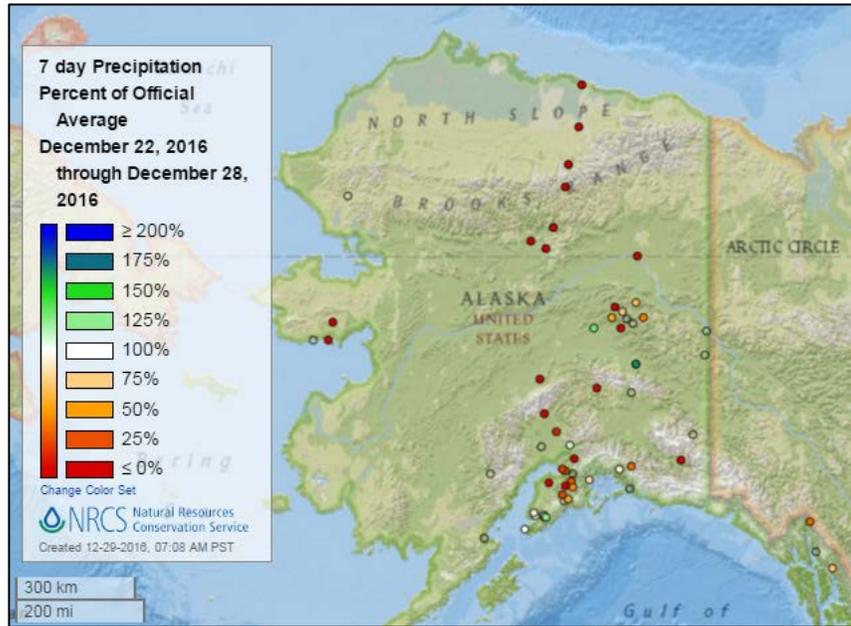
[7-day precipitation percent of average map](#)

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

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

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



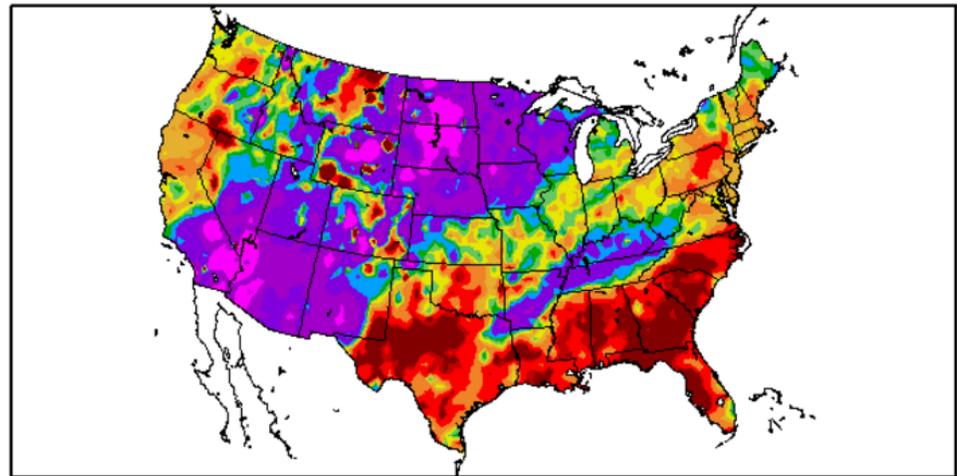
Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

[7-day precipitation percent of normal map](#) for the continental U.S.

Percent of Normal Precipitation (%)
12/22/2016 – 12/28/2016

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



Generated 12/29/2016 at HPRCC using provisional data.

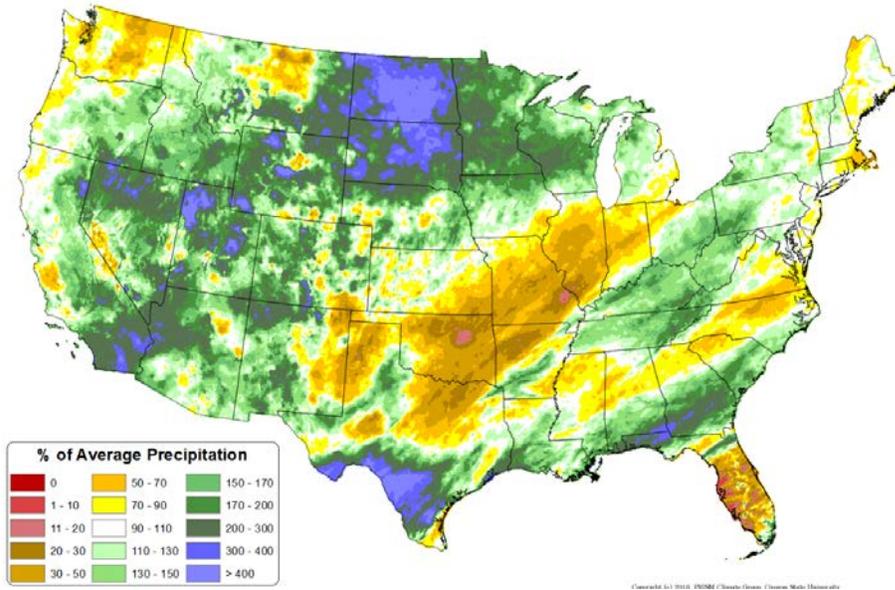
Regional Climate Centers

Water and Climate Update

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

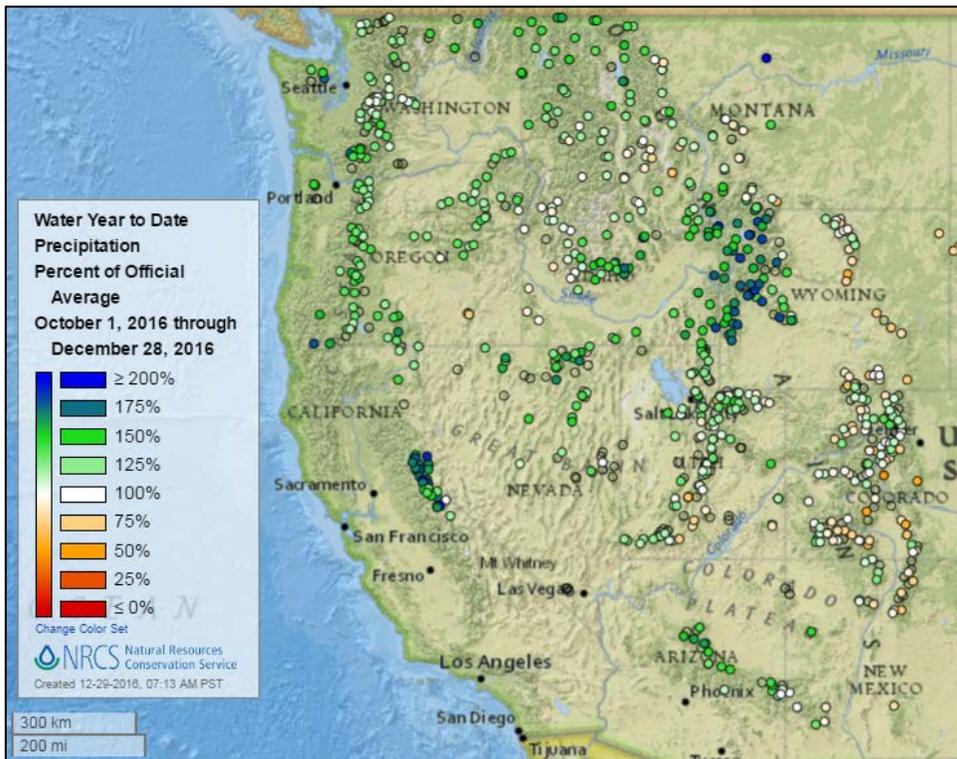
Source: PRISM

Total Precipitation Anomaly: 01 December 2016 - 28 December 2016
Period ending 7 AM EST 28 Dec 2016
Base period: 1981-2010
(Map created 29 Dec 2016)



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

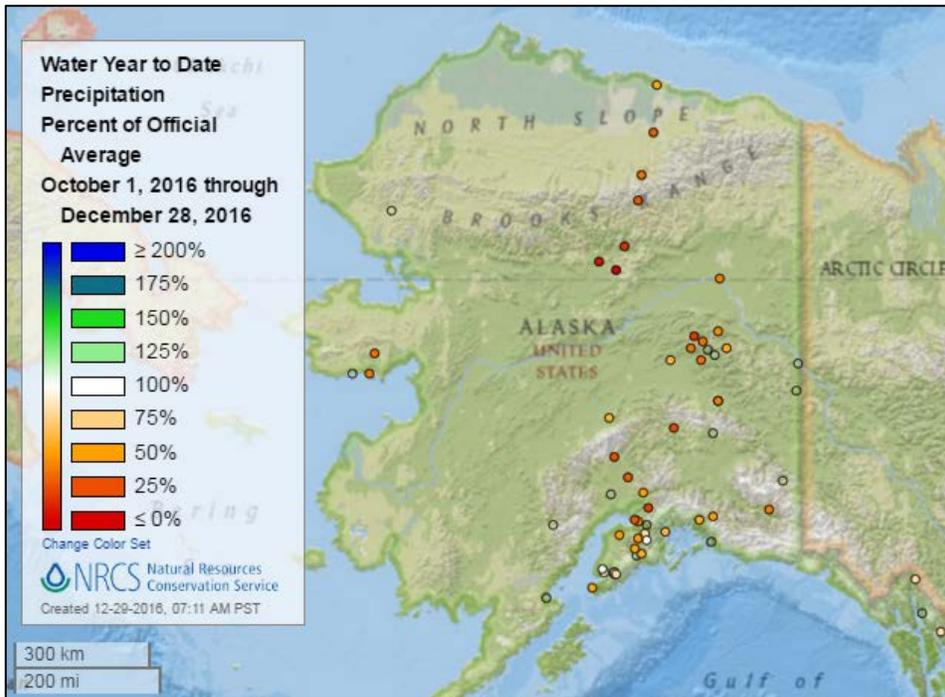
Water Year-to-Date, Western Mountain Sites (NRCS SNOTEL Network)



[2017 water year-to-date precipitation percent of average map](#)

See also: [2017 water year-to-date precipitation values \(inches\)](#)

Water and Climate Update



[Alaska 2017 water year-to-date precipitation percent of average map](#)

See also: [Alaska 2017 water year-to-date precipitation values \(inches\) map](#)

Temperature

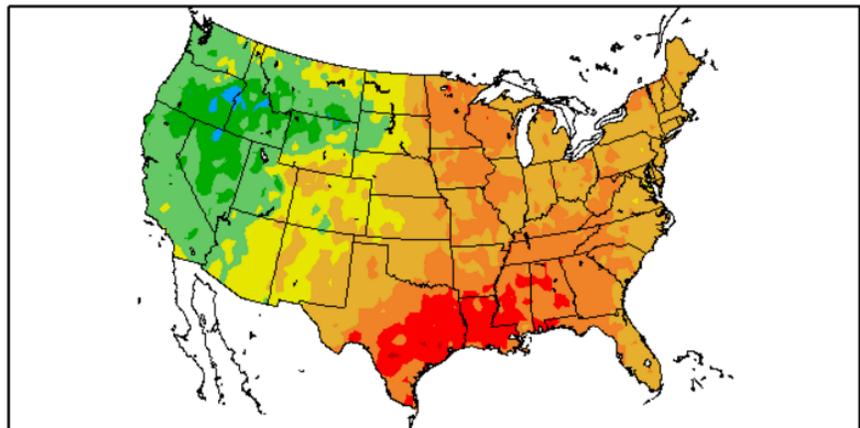
Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

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

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

Departure from Normal Temperature (F)
12/22/2016 - 12/28/2016



Generated 12/29/2016 at HPRCC using provisional data.

Regional Climate Centers

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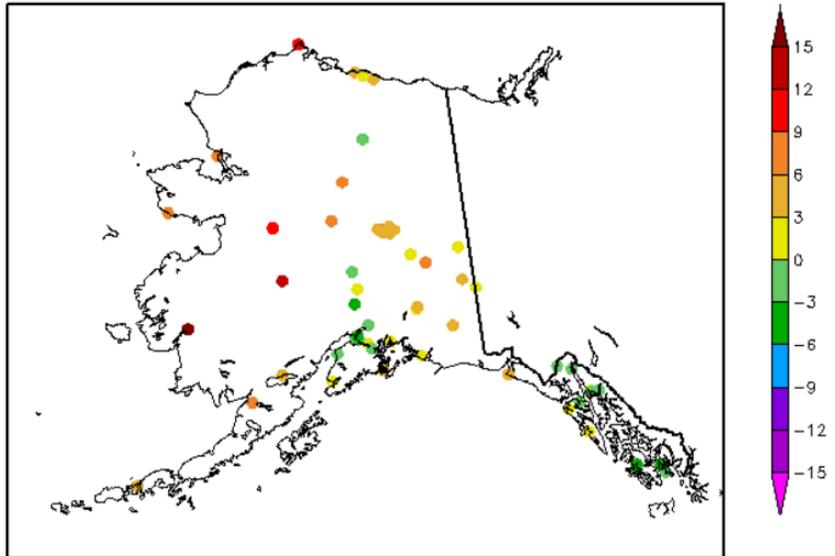
Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

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

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

Departure from Normal Temperature (F) 12/22/2016 – 12/28/2016

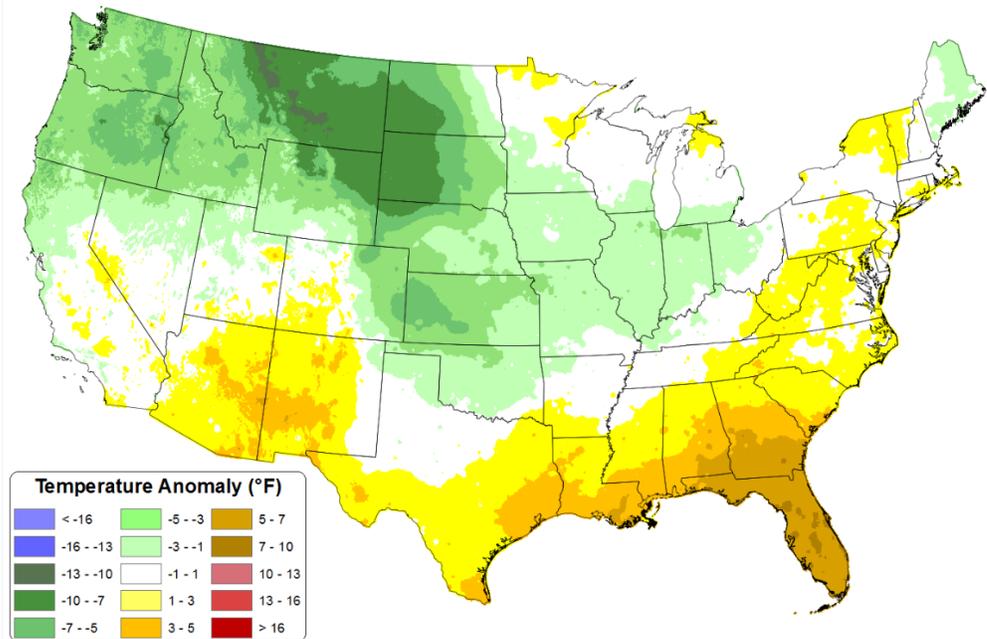


Month-to-Date, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

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

Daily Mean Temperature Anomaly: 01 December 2016 - 28 December 2016 Period ending 7 AM EST 28 Dec 2016 Base period: 1981-2010 (Map created 29 Dec 2016)

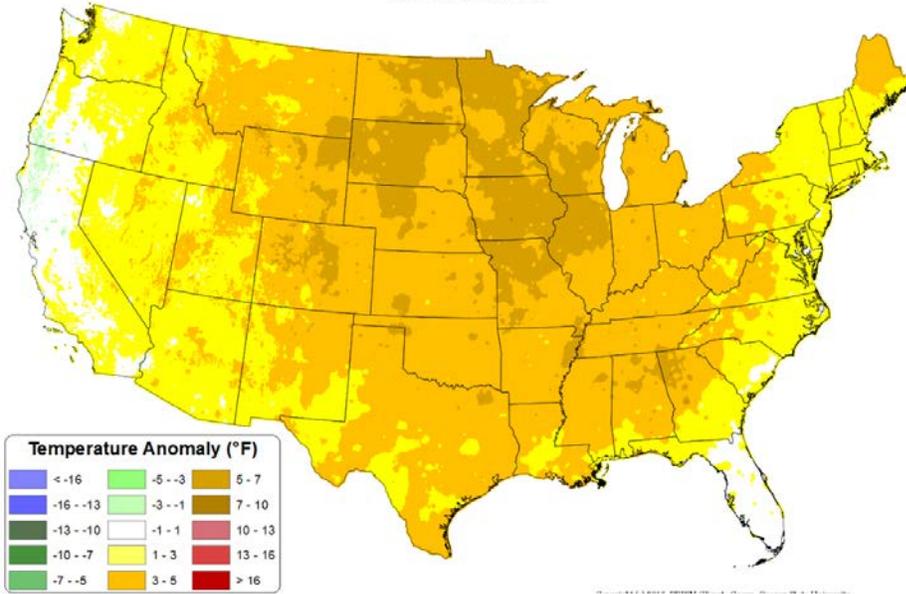


Last 3 Months, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

Daily Mean Temperature Anomaly: September 2016 - November 2016
Period ending 7 AM EST 30 Nov 2016
Base period: 1981-2010
(Map created 02 Dec 2016)

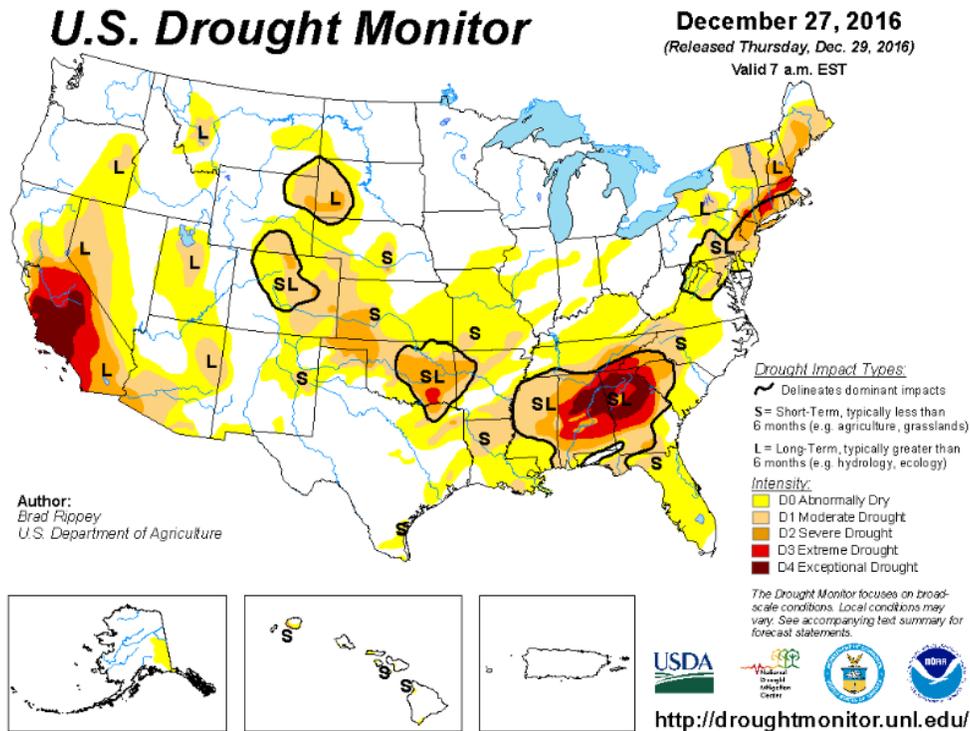
[September through November daily mean temperature anomaly map](#)



Drought

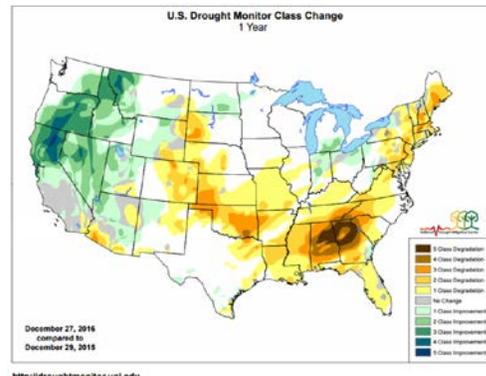
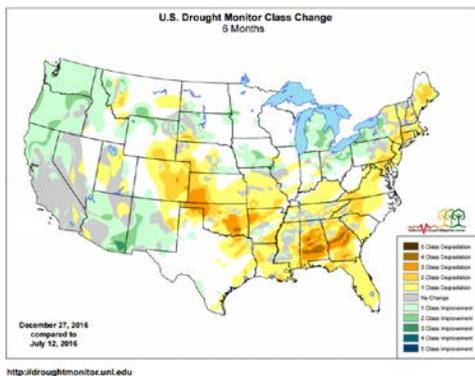
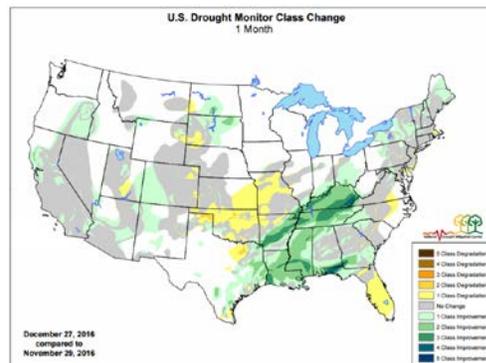
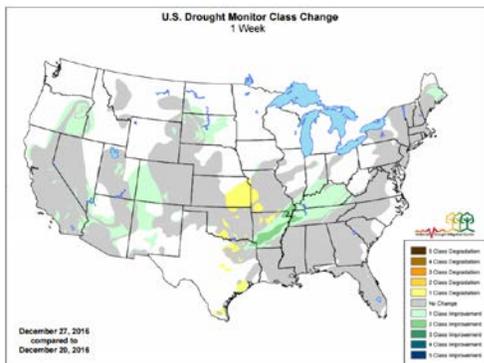
[U.S. Drought Monitor](#) See map below.

[U.S. Drought Portal](#) Comprehensive drought resource.



Changes in Drought Monitor Categories over Time

Click any map to enlarge



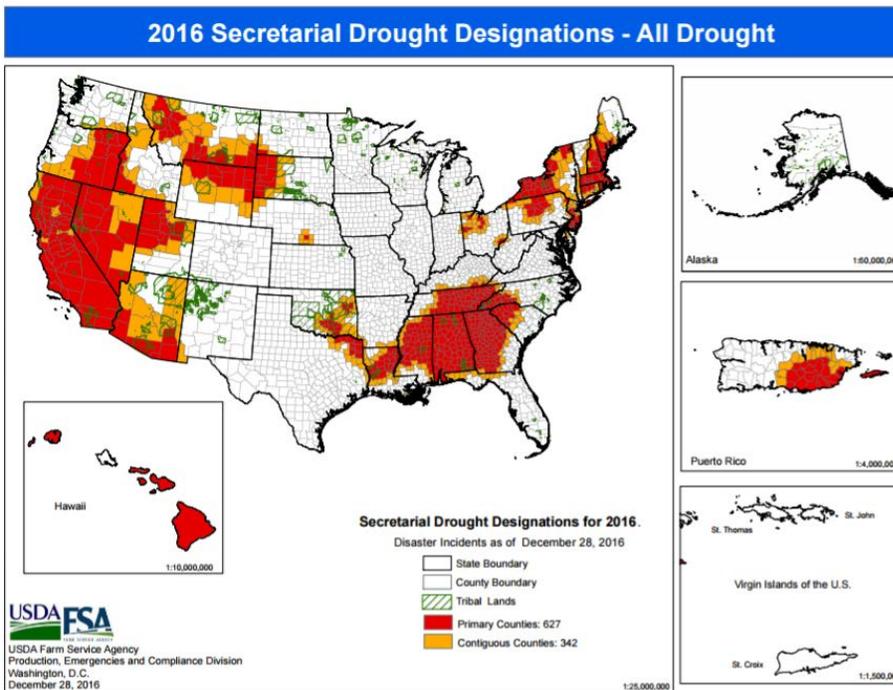
[Changes in drought conditions over the last 12 months](#)

Current National [Drought Summary](#), December 27, 2016

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

“Numerous storms brought changeable weather to many parts of the country, including significant precipitation in parts of the West, Northeast, and mid-South. Late in the drought-monitoring period, a particularly powerful winter storm produced heavy precipitation from California into the Southwest—and later resulted in a holiday blizzard across the north-central U.S. Meanwhile, the interior Southeast continued to experience varying degrees of drought relief, although streaks of significant rain notably bypassed core drought areas in northern and central Alabama and northern Georgia. In addition, Florida’s peninsula received little rain, exacerbating the effects of short-term dryness.”

USDA 2016 Secretarial [Drought Designations](#)

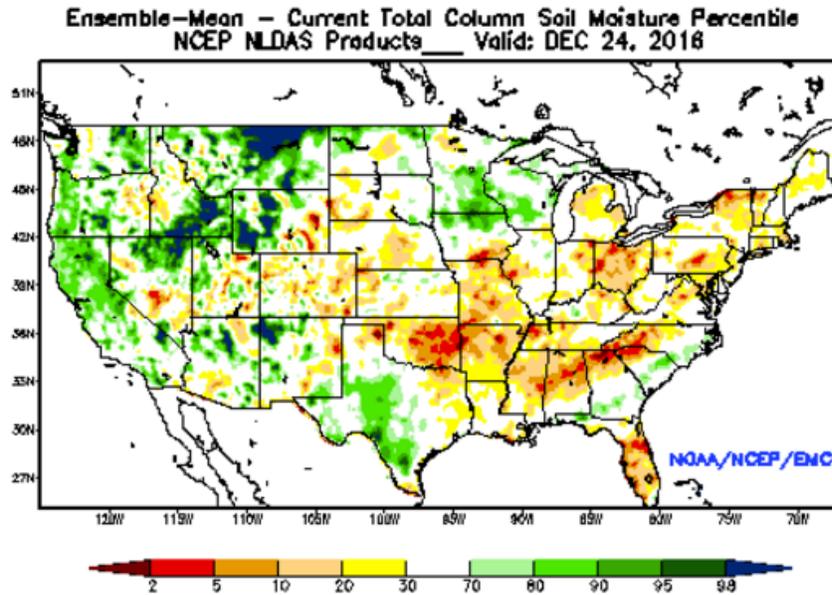


Highlighted Drought Resources

- [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](#)

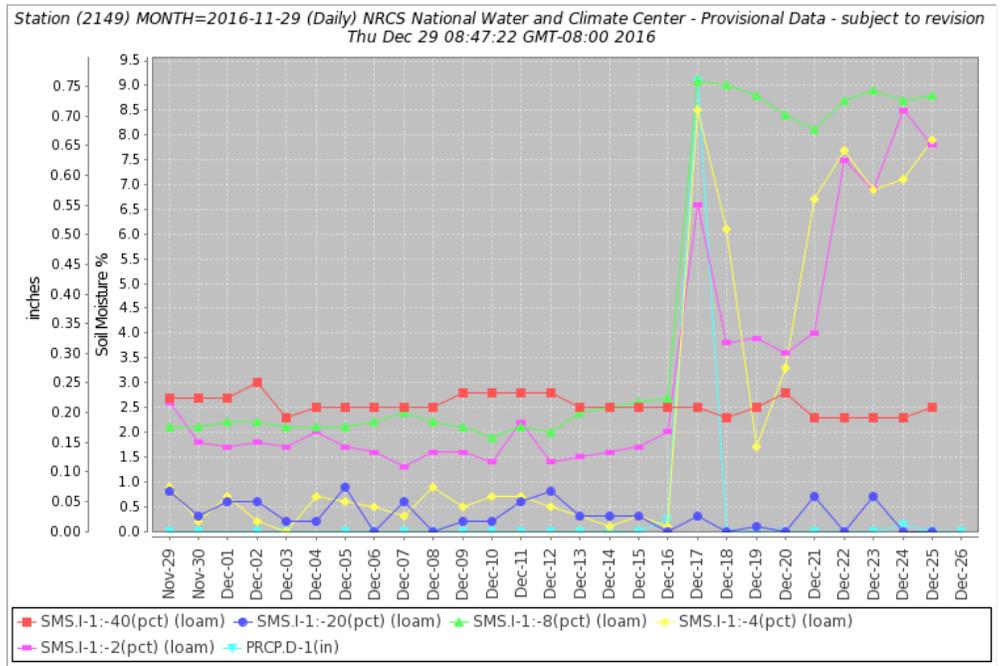
Other Climatic and Water Supply Indicators

Soil Moisture



[Modeled soil moisture percentiles](#) as of December 24, 2016.

Soil Moisture Data: NRCS [Soil Climate Analysis Network \(SCAN\)](#)



Soil moisture (at 2-, 4-, 8-, 20-, and 40-inch depths) and precipitation for the last 30 days at the [Marble Creek SCAN station 2149](#) in California. The precipitation in mid-December resulted in an increase in soil moisture at the 2-, 4-, and 8-inch depth sensors. However, the 20- and 40-inch sensors showed little change, with the deeper soil moisture remaining at less than 3 percent.

Soil Moisture Data Portals

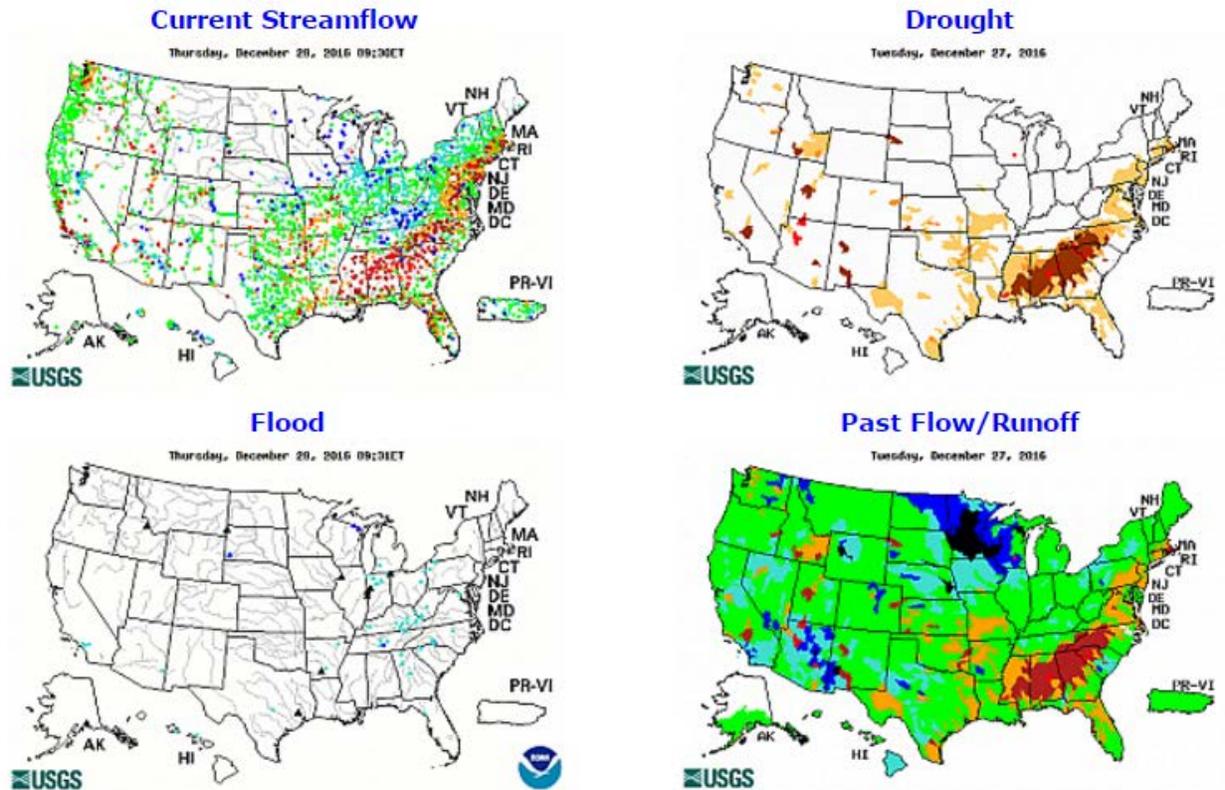
[CRN Soil Moisture](#)

[Texas A&M University North American Soil Moisture Database](#)

[University of Washington Experimental Modeled Soil Moisture](#)

Streamflow

Source: USGS



Click to enlarge and display legends

[Current streamflow maps](#)

Current Reservoir Storage

[National Water and Climate Center Reservoir Data](#)

U.S. Bureau of Reclamation Hydromet Tea Cup Reservoir Depictions:

[Upper Colorado](#)

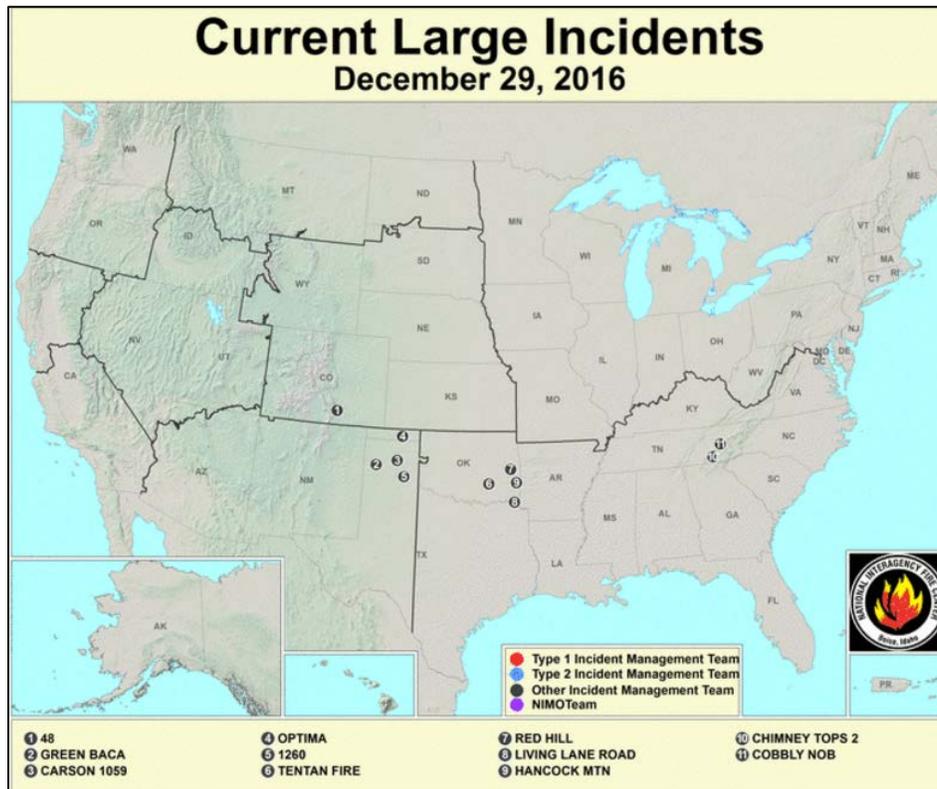
[Pacific Northwest/Snake/Columbia](#)

[Sevier River Water, Utah](#)

[Upper Missouri, Kansas, Oklahoma, Texas](#)

[California Reservoir Conditions](#)

Wildfires: [USDA Forest Service Active Fire Mapping](#)



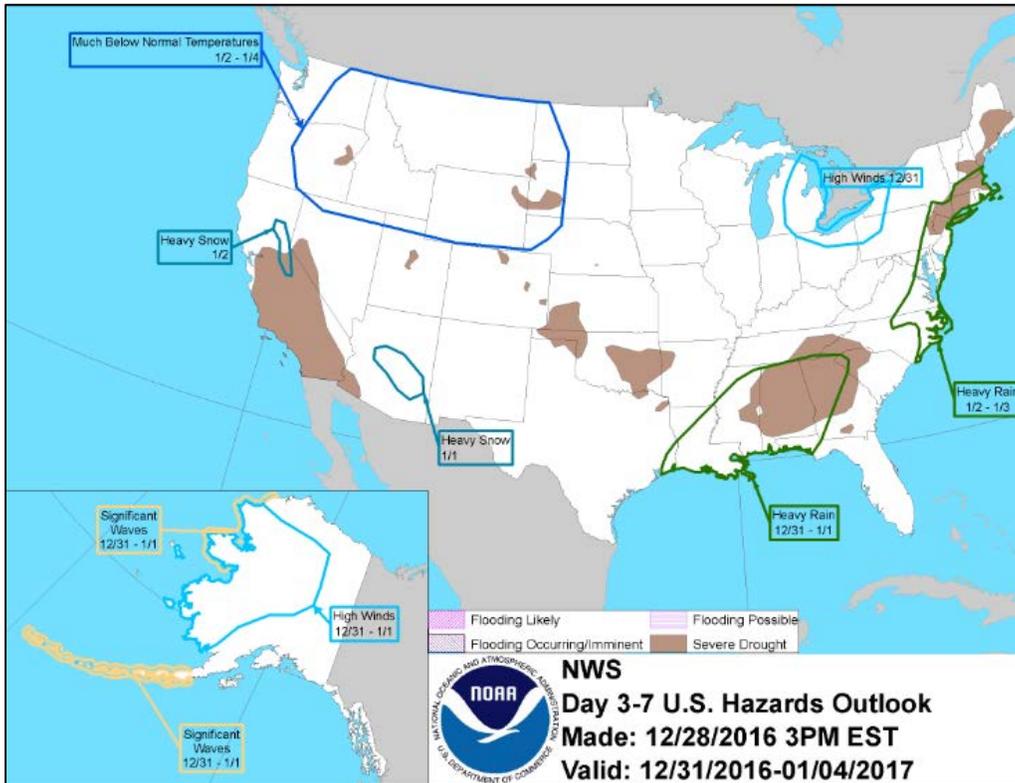
Short- and Long-Range Outlooks

Agricultural Weather Highlights

Author: Eric Luebehusen, Agricultural Meteorologist, USDA/OCE/WAOB

[National Outlook, December 29, 2016](#): “A strengthening winter storm will result in heavy precipitation — mostly snow — across the Northeast into Friday, while brisk, cold winds behind the storm enhance snow showers and squalls leeward of the Great Lakes, as far south as the central Appalachians. Another disturbance and its associated cold front will follow storm, bringing additional weekend snow from the Great Lakes region into the Northeast, starting on New Year’s Eve. Farther south, locally heavy rain will fall in the Southeast both today and during the upcoming holiday weekend, resulting in 5-day totals that could reach 2 to 5 inches from the central Gulf Coast to the southern Appalachians. Farther west, however, mostly dry weather will prevail through the weekend across drought-affected sections of the central and southern Plains. Elsewhere, several disturbances crossing the West will result in widespread but generally light rain and snow showers. Late in the weekend, bitterly cold air will return to the northern Plains and the Northwest, preceded by snow. The NWS 6- to 10-day outlook for January 3 – 7, 2017, calls for the likelihood of above-normal temperatures along the Atlantic Seaboard, while colder-than-normal conditions can be expected across the remainder of the country. Meanwhile, odds will be tilted toward wetter-than-normal weather across most of the U.S., but below-normal precipitation should occur in much of Texas, northern California, and the Northwest.”

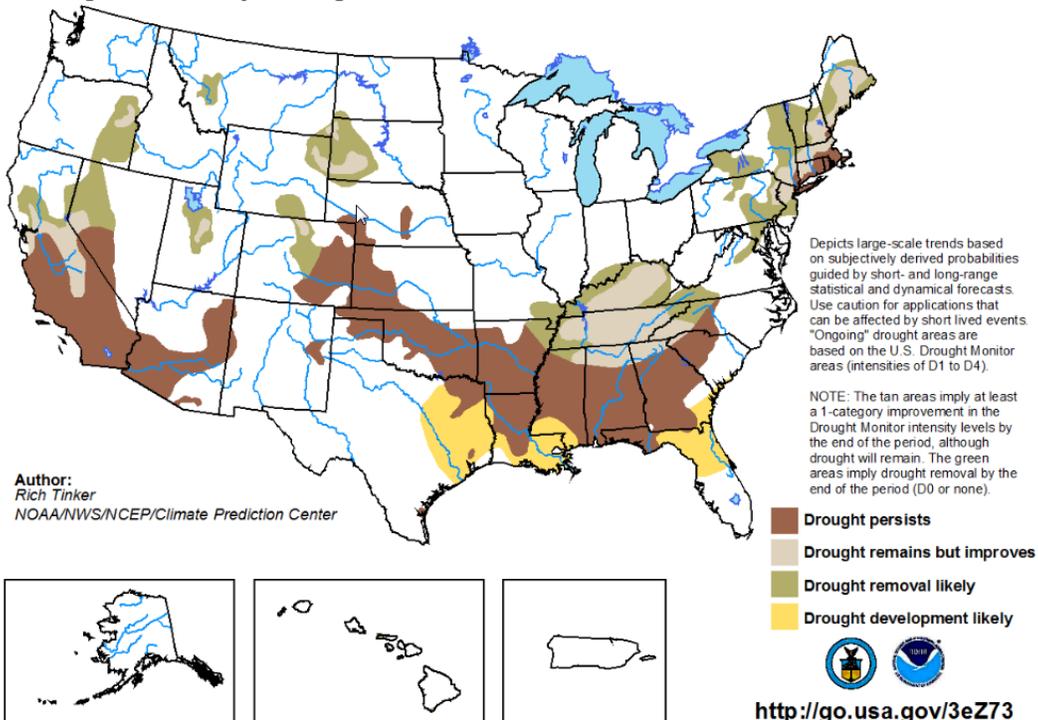
NWS Climate Prediction Center [Weather Hazard Outlook: 12/31/2016-1/4/2017](#)



Seasonal Drought Outlook: [December 15, 2016 – March 31, 2017](#)

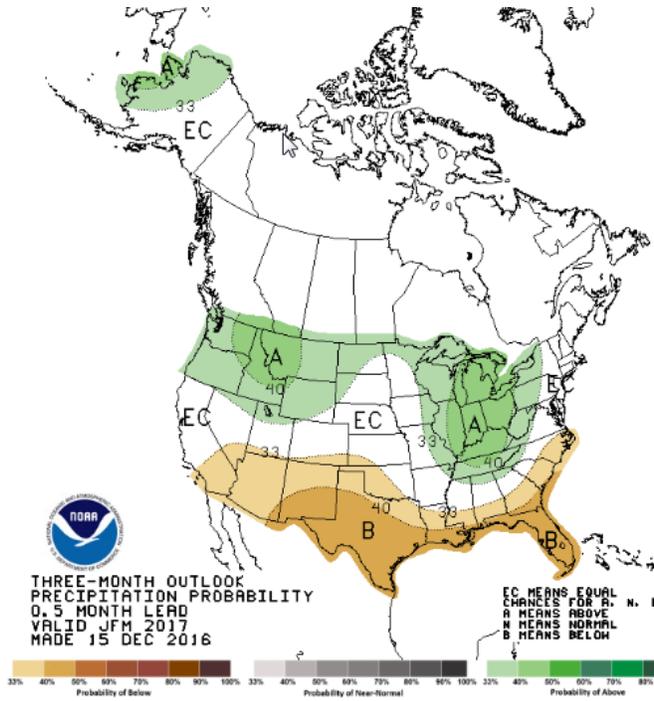
U.S. Seasonal Drought Outlook
 Drought Tendency During the Valid Period

Valid for December 15 - March 31, 2017
 Released December 15, 2016



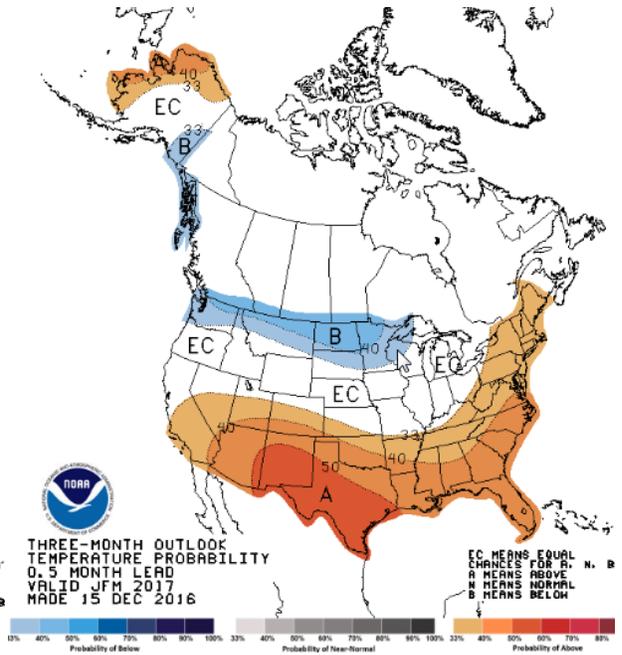
NWS Climate Prediction Center 3-Month Outlook

[Precipitation](#)



[January-February-March \(JFM\) 2017 precipitation outlook summary](#)

[Temperature](#)



[January-February-March \(JFM\) 2017 temperature outlook summary](#)

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](#).