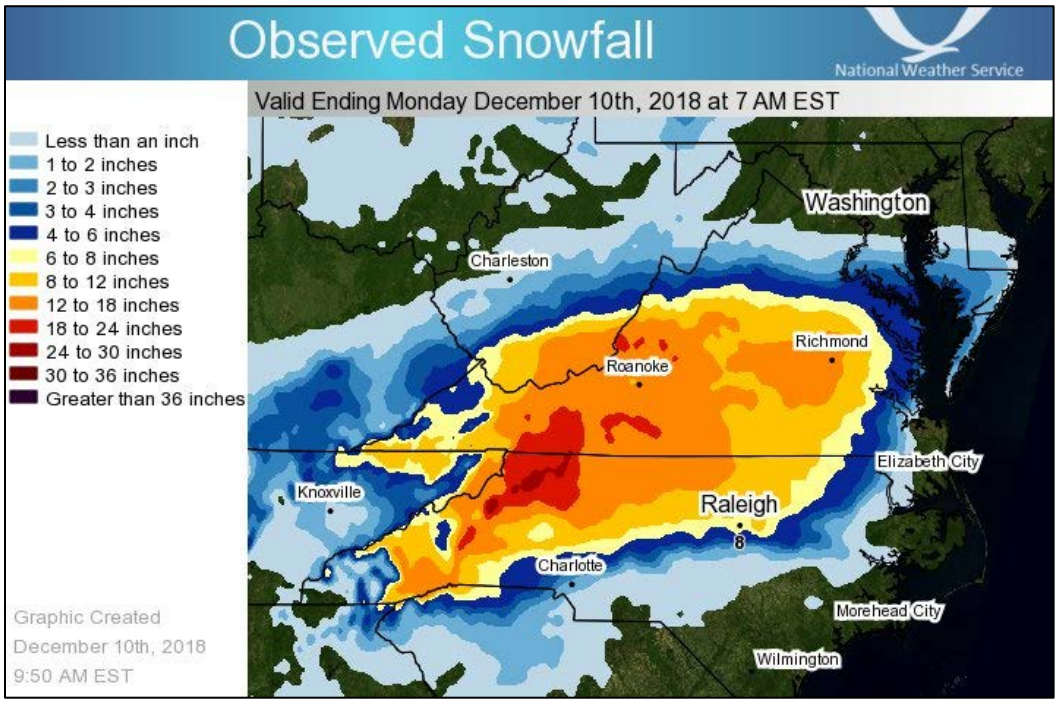
United States Department of Agriculture

Water and Climate Update

December 13, 2018

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.

Extreme early snowfall in North Carolina and Virginia



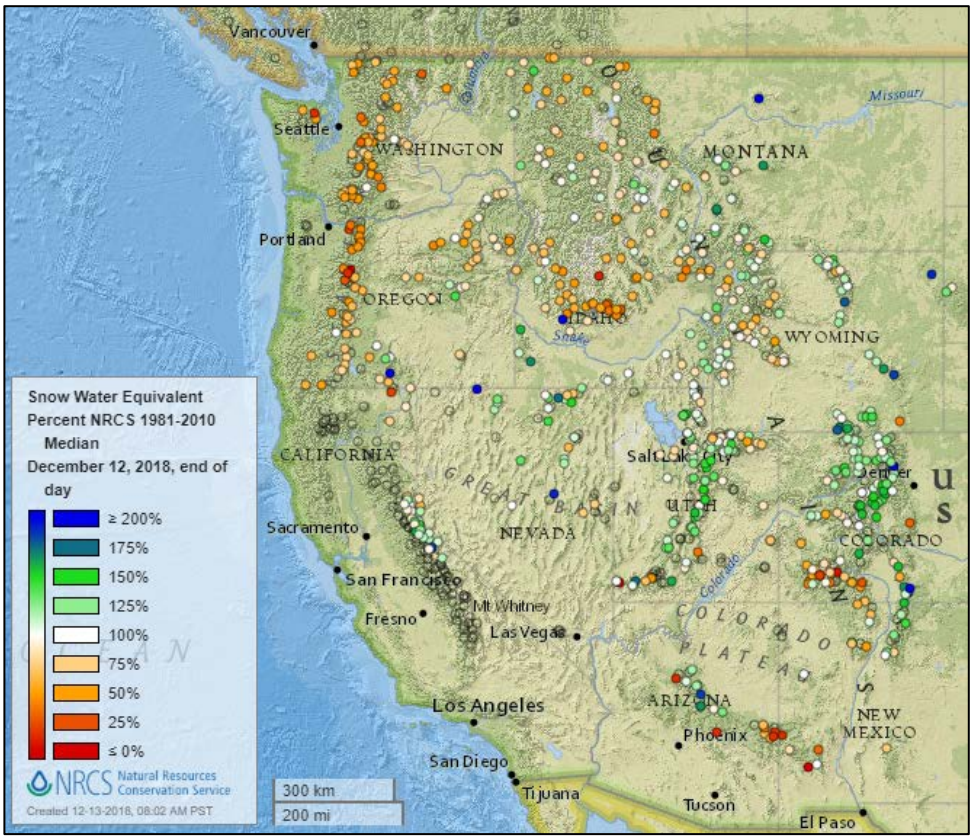
A record-breaking snowstorm produced 12 to 24 inches of heavy snow from Tennessee across North Carolina and Virginia, creating widespread disruptions. Over 200,000 homes and businesses were without power, with many roads and schools closed. Several counties in western North Carolina declared emergencies, deploying National Guard units to help respond to calls for assistance. In the map above, the areas in red received over 18 inches of snow in 48 hours. One North Carolina town in the Pisgah National Forest recorded 34 inches of snow.

Related:

Massive winter storm kills three, causes travel havoc in the Southeast – NBC News
Winter storm dumped nearly 3 feet of snow on tiny NC town, earning national attention – The Charlotte Observer (NC)
South digs out from record-breaking snowstorm, endures bitter cold – USA Today
NC mountains crippled with 18+ inches of snow; roads impassable, power outages climb – CBS17.com
Winter storm dumps heavy snow on Southwest Virginia – The Roanoke Times (VA)

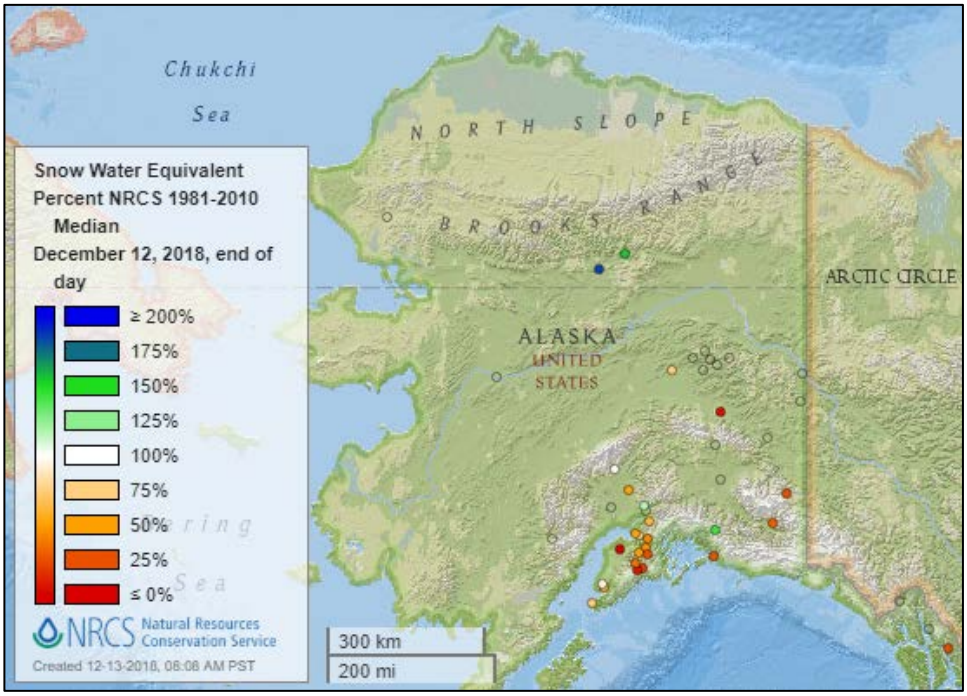
Snow

Current Snow Water Equivalent, NRCS SNOTEL Network



[Snow water equivalent percent of median map]

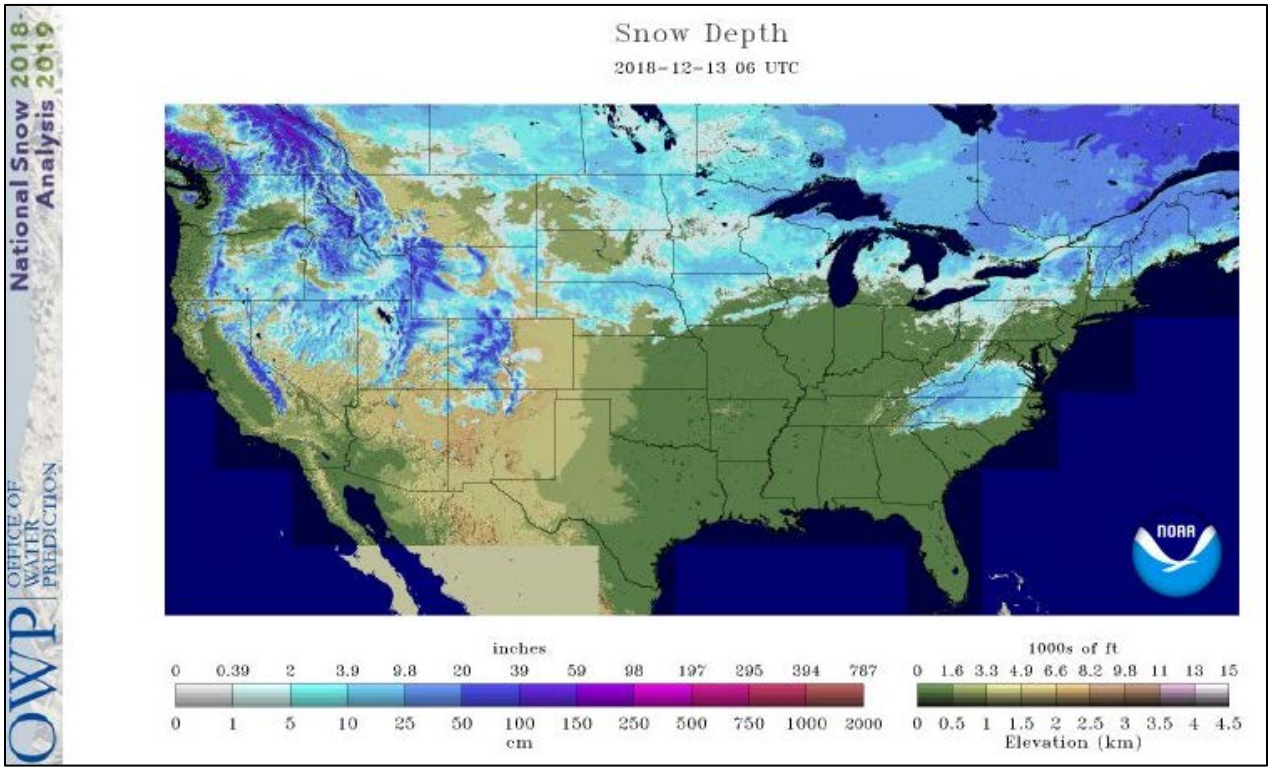
See also:
[Snow water equivalent values (inches) map]



[Alaska snow water equivalent percent of median map]

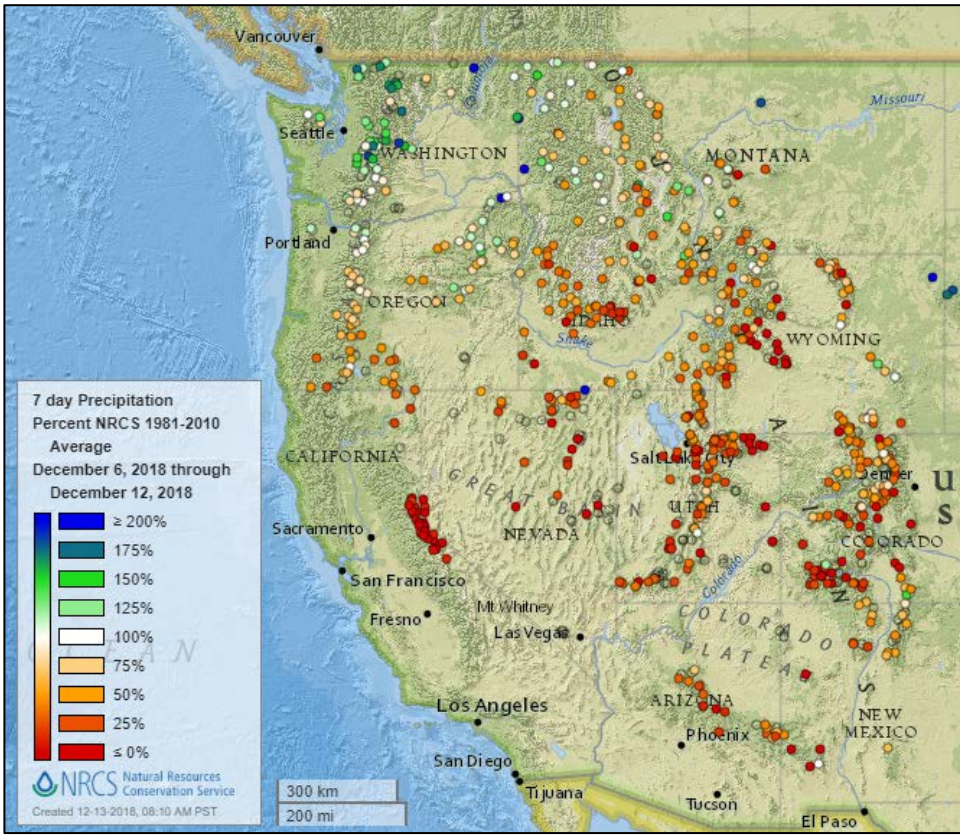
See also:
[Alaska snow water equivalent values (inches) map]

Current Snow Depth, National Weather Service Snow Analysis



Precipitation

Last 7 Days, NRCS SNOTEL Network

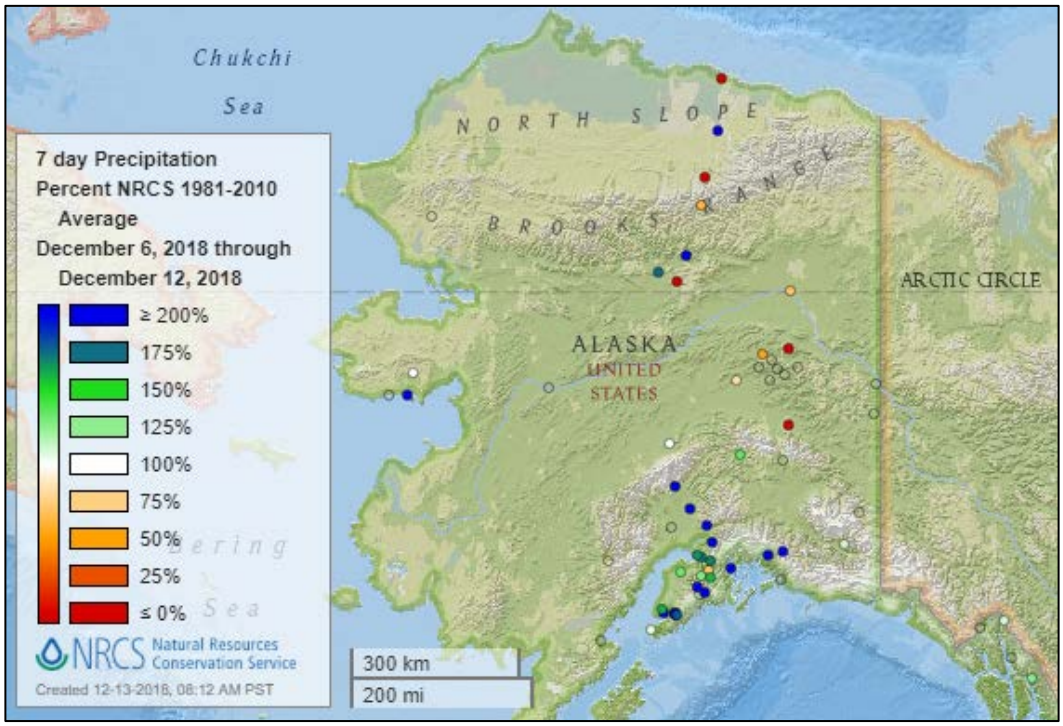


[7-day precipitation percent of average map]

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]

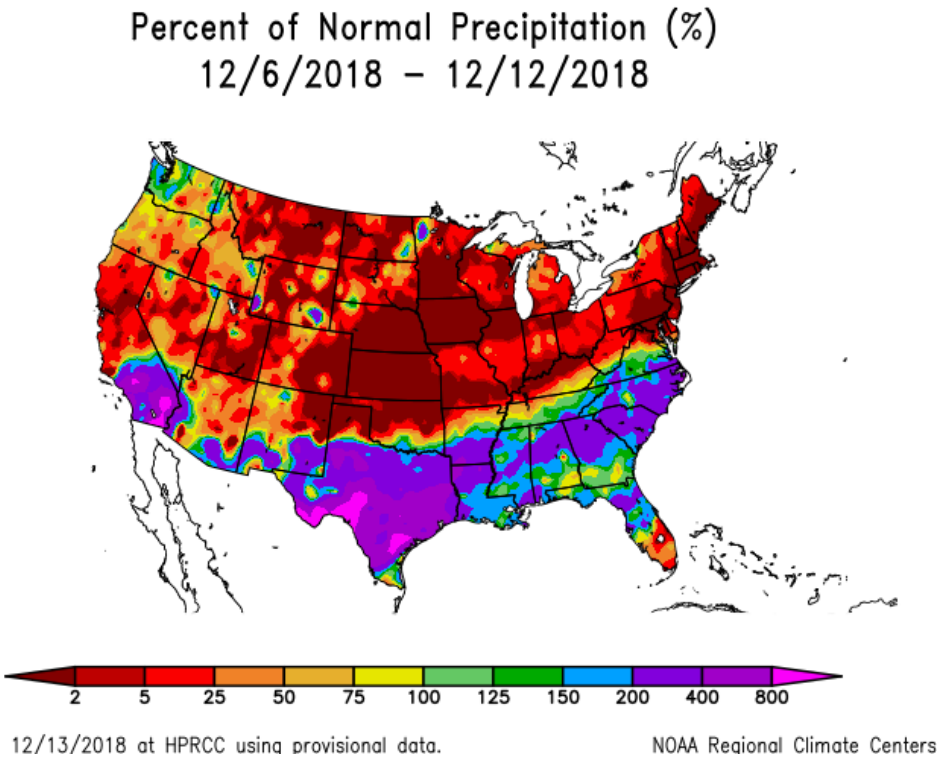


Last 7 Days, National Weather Service (NWS) Networks

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](#)

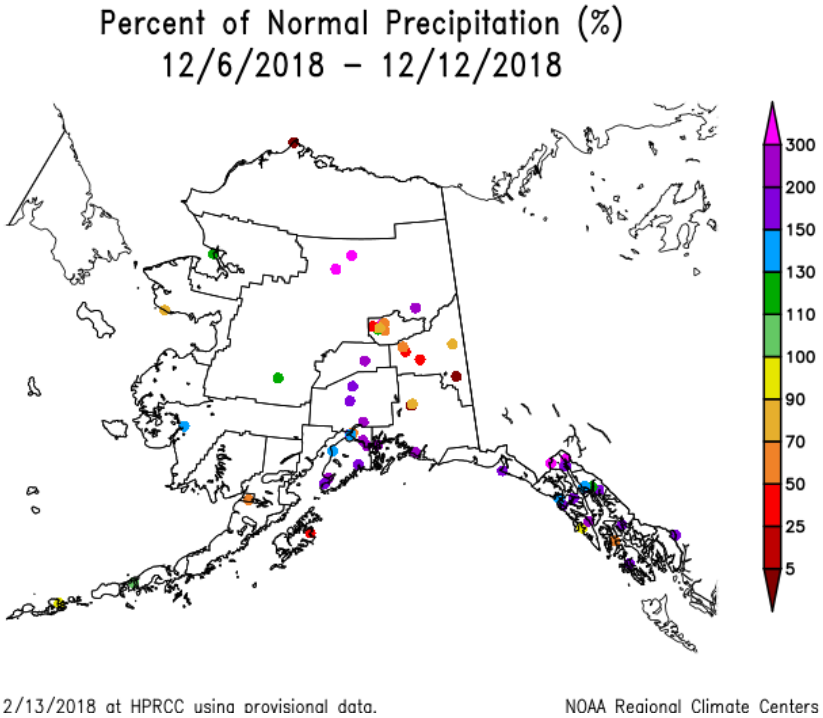


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

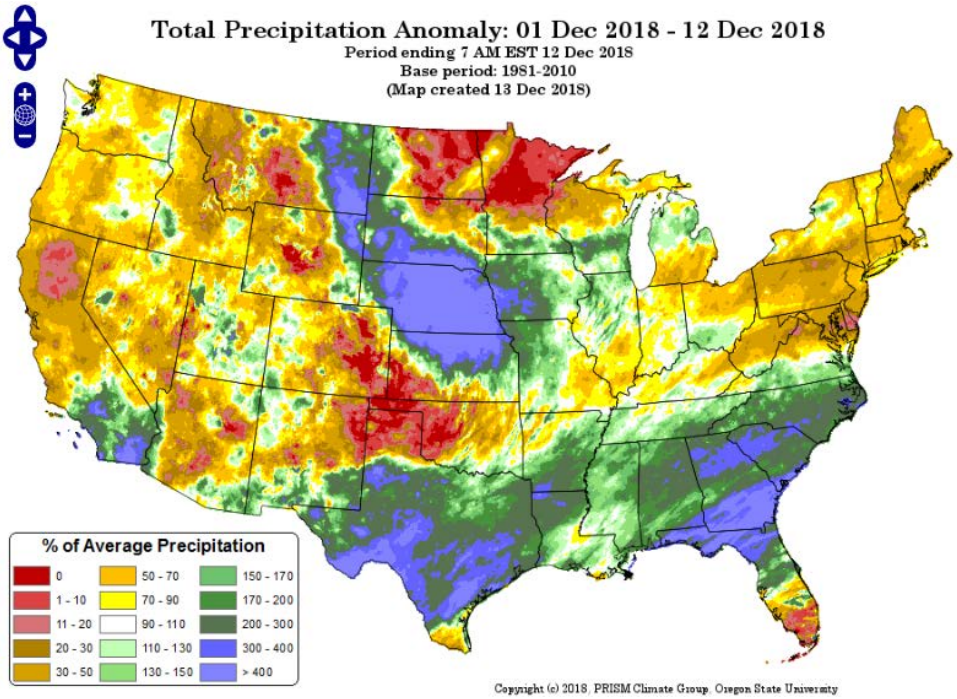
[7-day precipitation anomaly map](#) for Alaska.

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



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

Source: PRISM

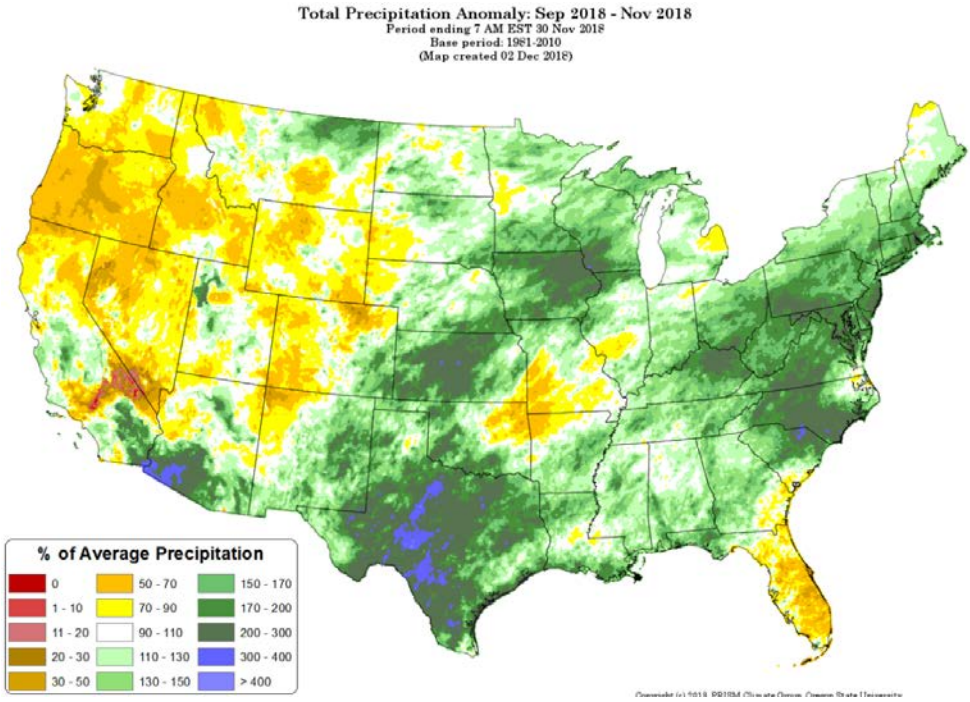


Month-to-date national total precipitation percent of average map

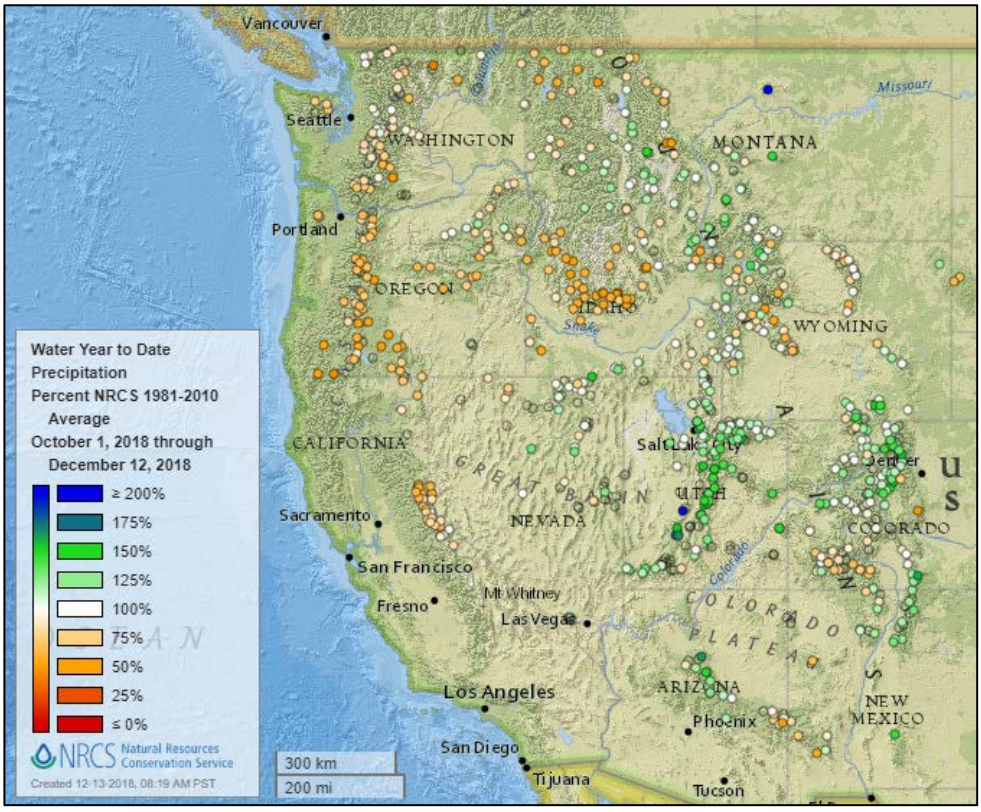
Last 3 Months, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

September through November 2018 total precipitation percent of average map

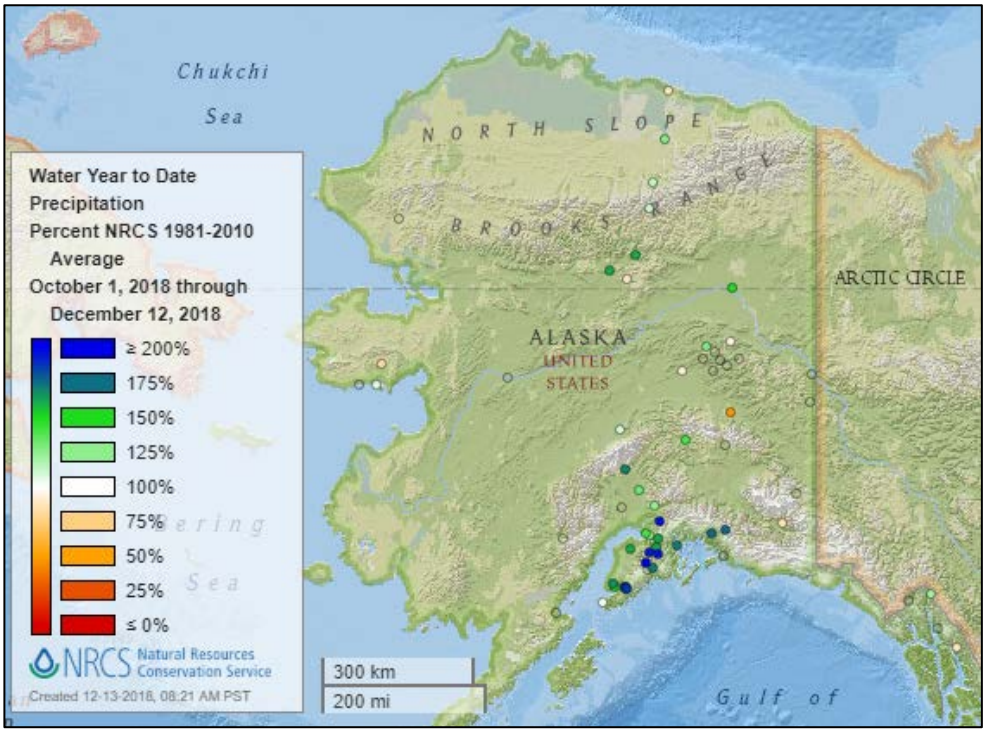


Water Year-to-Date, NRCS SNOTEL Network



[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]

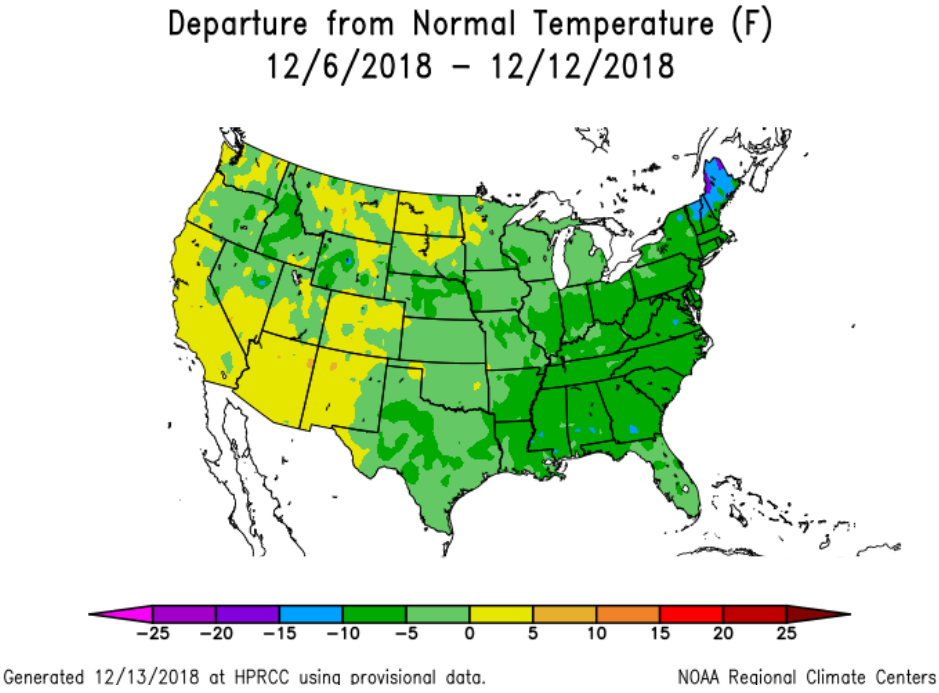
See also: [Alaska 2019 water year-to-date precipitation values (inches) map]

Temperature

Last 7 Days, National Weather Service (NWS) Networks
Source: Regional Climate Centers

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

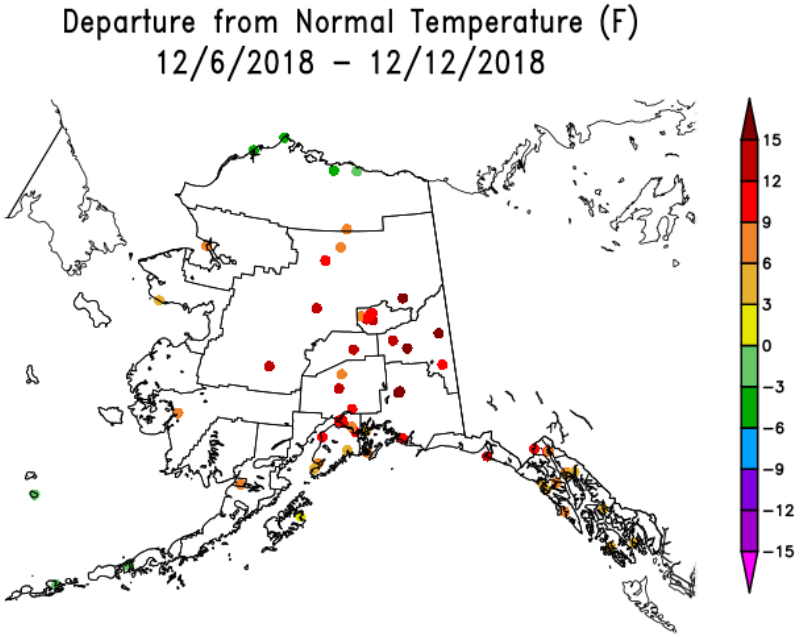
See also: [7-day temperature (° F) map]



Last 7 Days, National Weather Service (NWS) Networks
Source: Regional Climate Centers

[7-day temperature anomaly map] for Alaska.

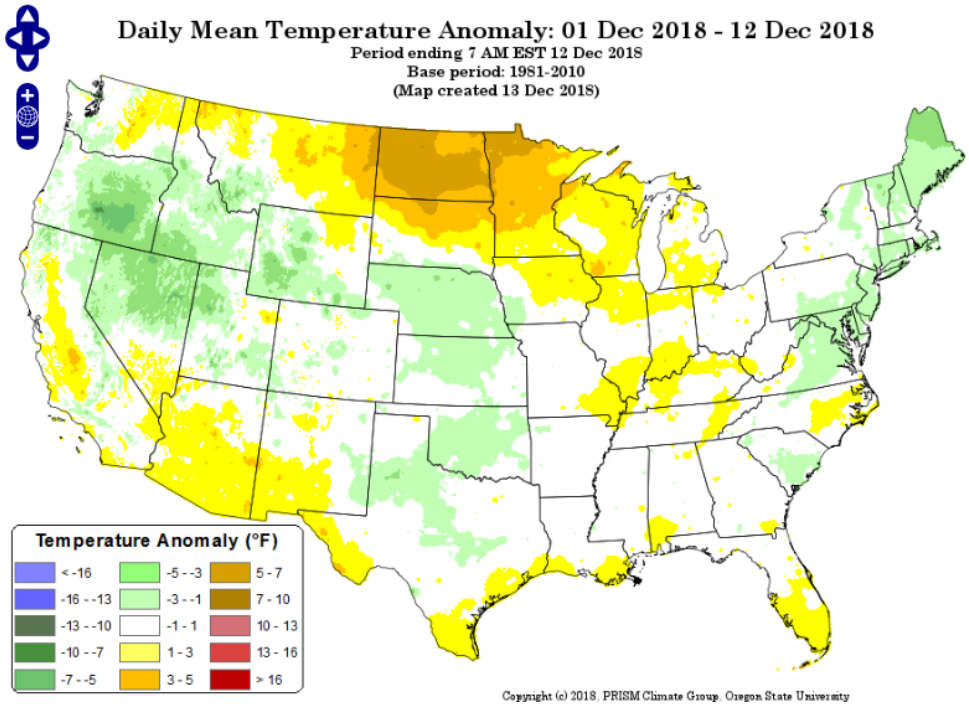
See also:
[7-day temperature (° F) map]



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

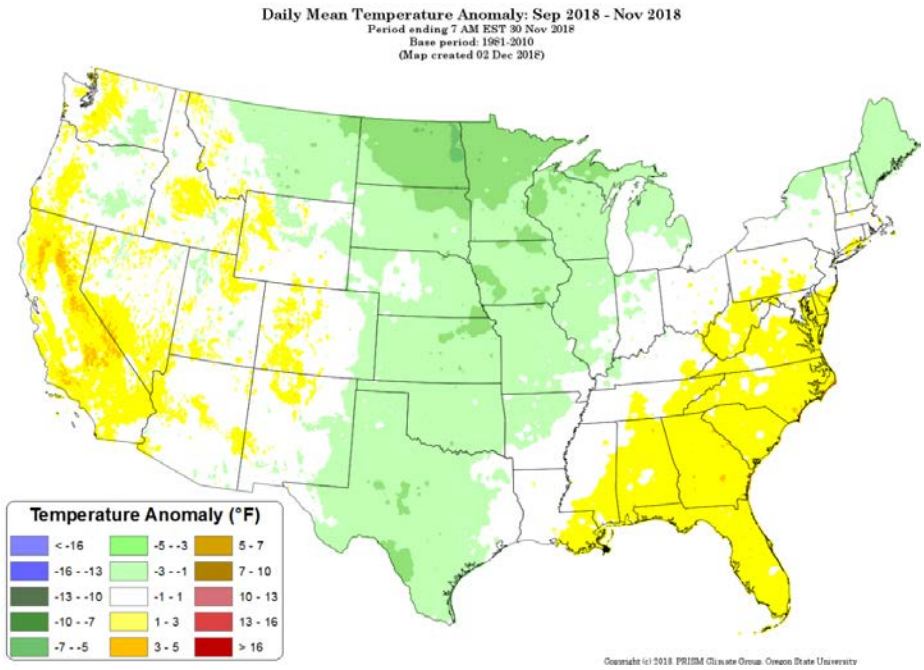
Source: PRISM

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



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

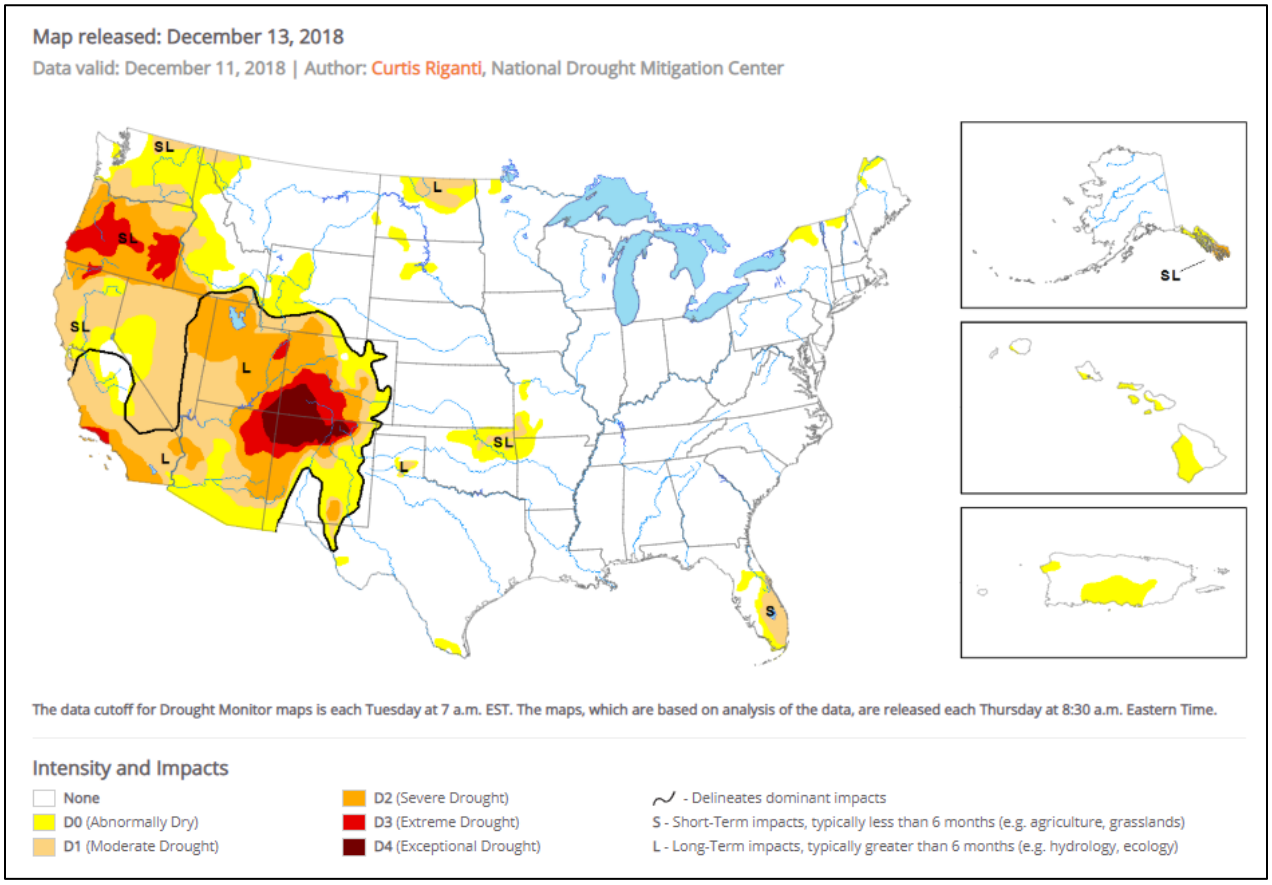
Source: PRISM



[September through November 2018 daily mean temperature anomaly map]

Drought

U.S. Drought Monitor Select map below. **U.S. Drought Portal** Comprehensive drought resource.



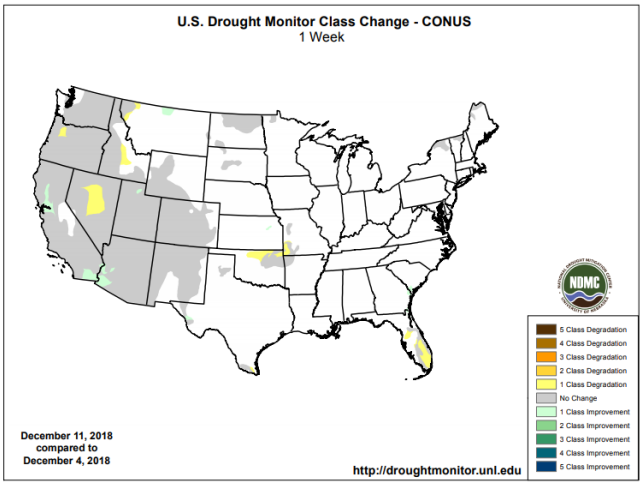
Current National Drought Summary, December 13, 2018

Author: Curtis Riganti, National Drought Mitigation Center

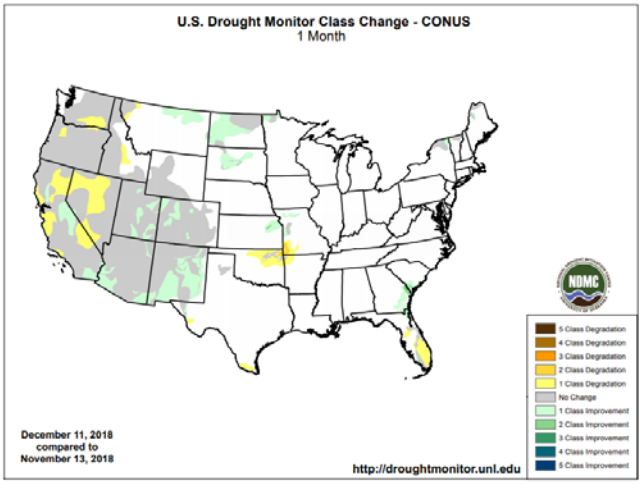
“Over the past week, moderate to heavy precipitation fell over much of the southern tier of the United States. The highest amounts occurred from eastern Texas through the Carolinas, and relatively high amounts also fell in southern California and southwestern Arizona. Elsewhere, precipitation also fell in the Coastal Ranges from northern California to the Canadian border. Cooler than normal weather occurred over most of the United States east of the Continental Divide, while warmer conditions were found in parts of California, Arizona, and southeastern New Mexico. Improvements in drought conditions occurred in the Mojave Desert regions of California and Arizona, from San Francisco Bay into the Central Valley. Drought developed or worsened in central Nevada, northwestern Oregon, from northeastern Oklahoma into southwestern Missouri, and in the Florida Peninsula.”

Changes in Drought Monitor Categories over Time

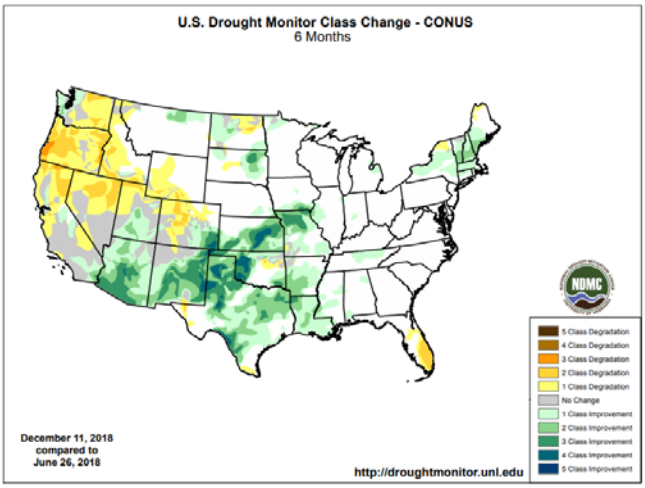
1 Week



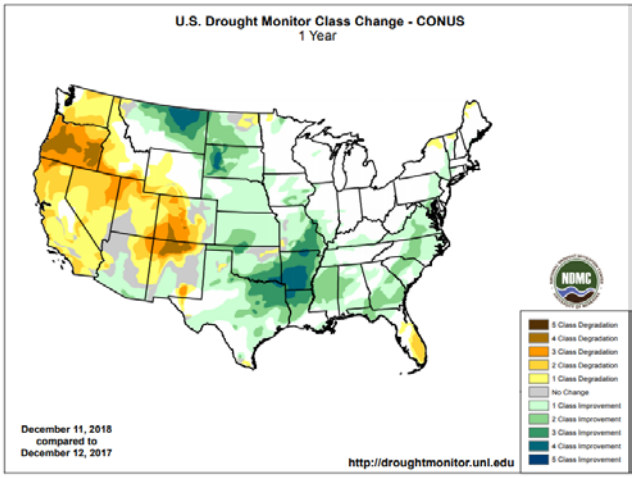
1 Month



6 Months



1 Year

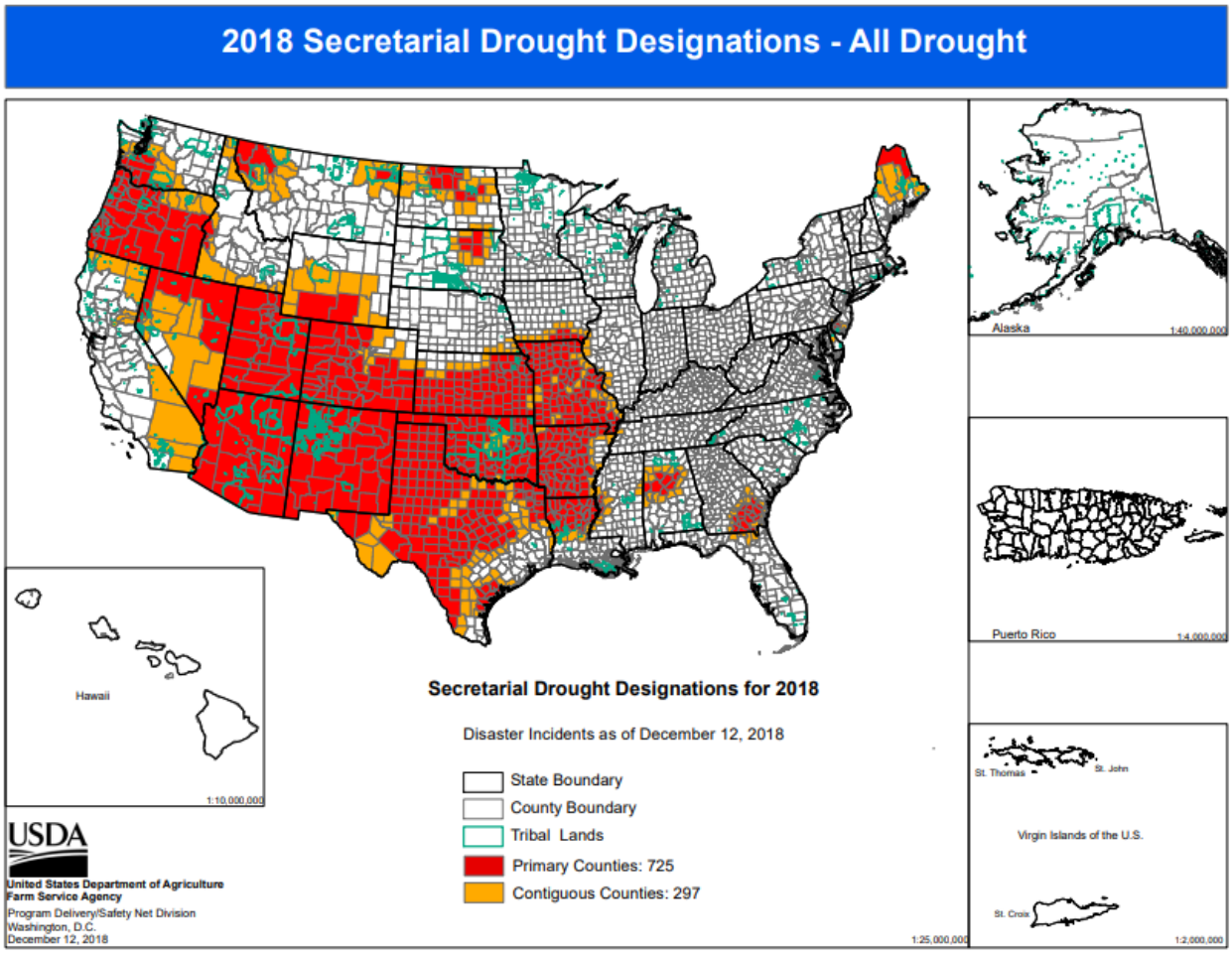


Changes in drought conditions over the last 12 months

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

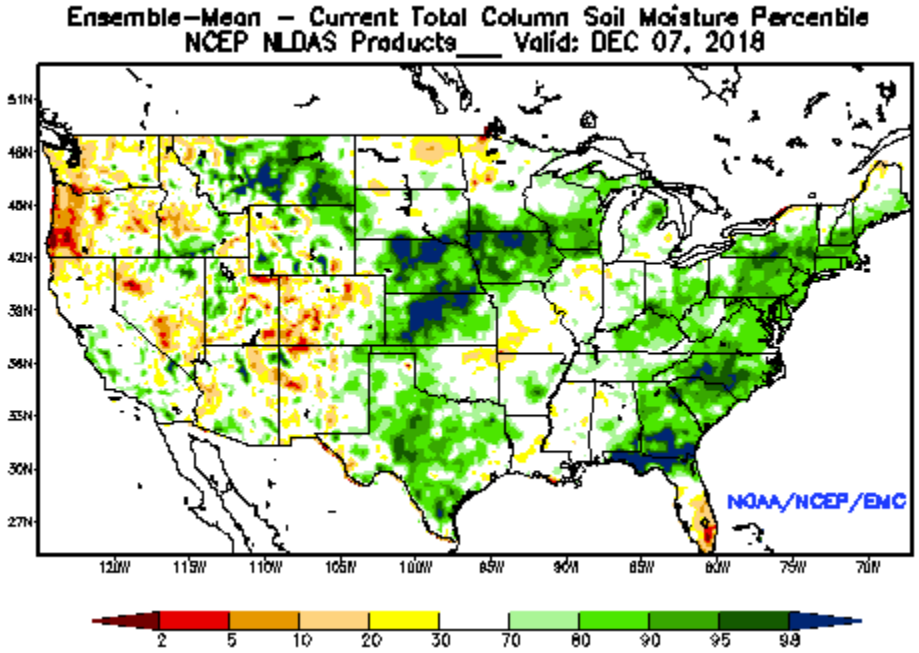
USDA 2018 Secretarial Drought Designations



Other Climatic and Water Supply Indicators

Soil Moisture

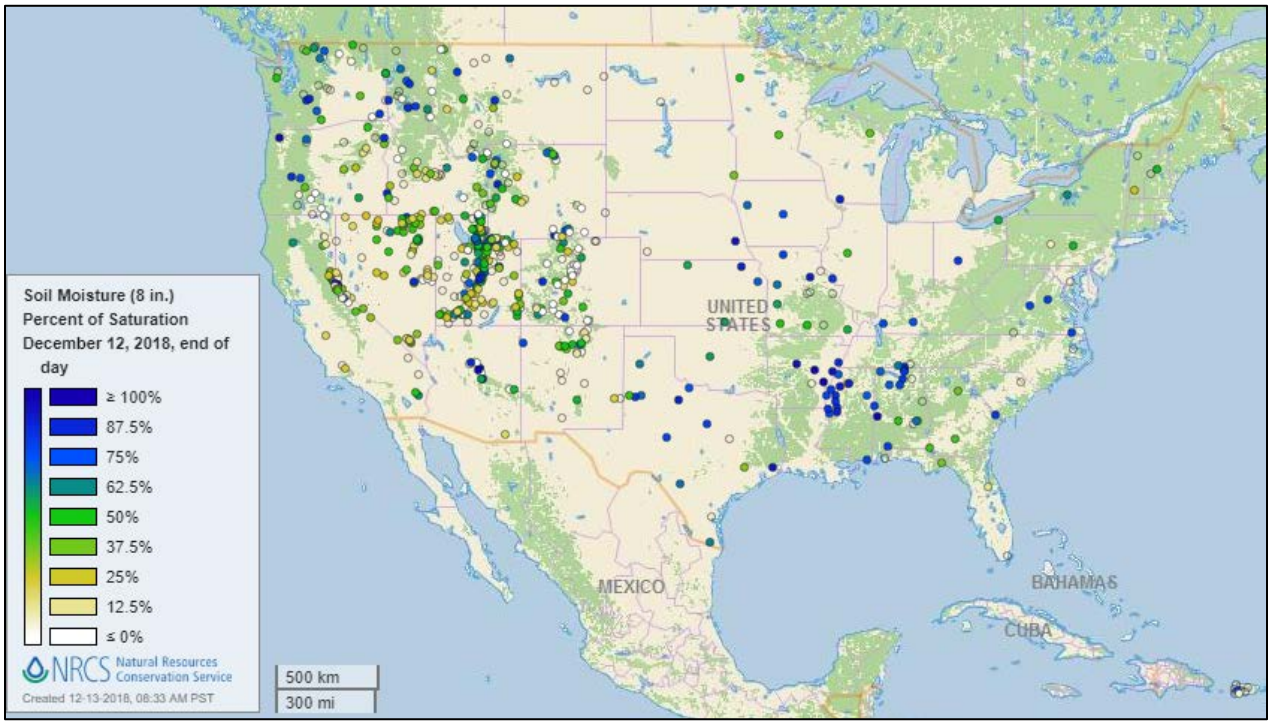
Source: NOAA National Centers for Environmental Prediction



Modeled soil moisture percentiles as of December 7, 2018

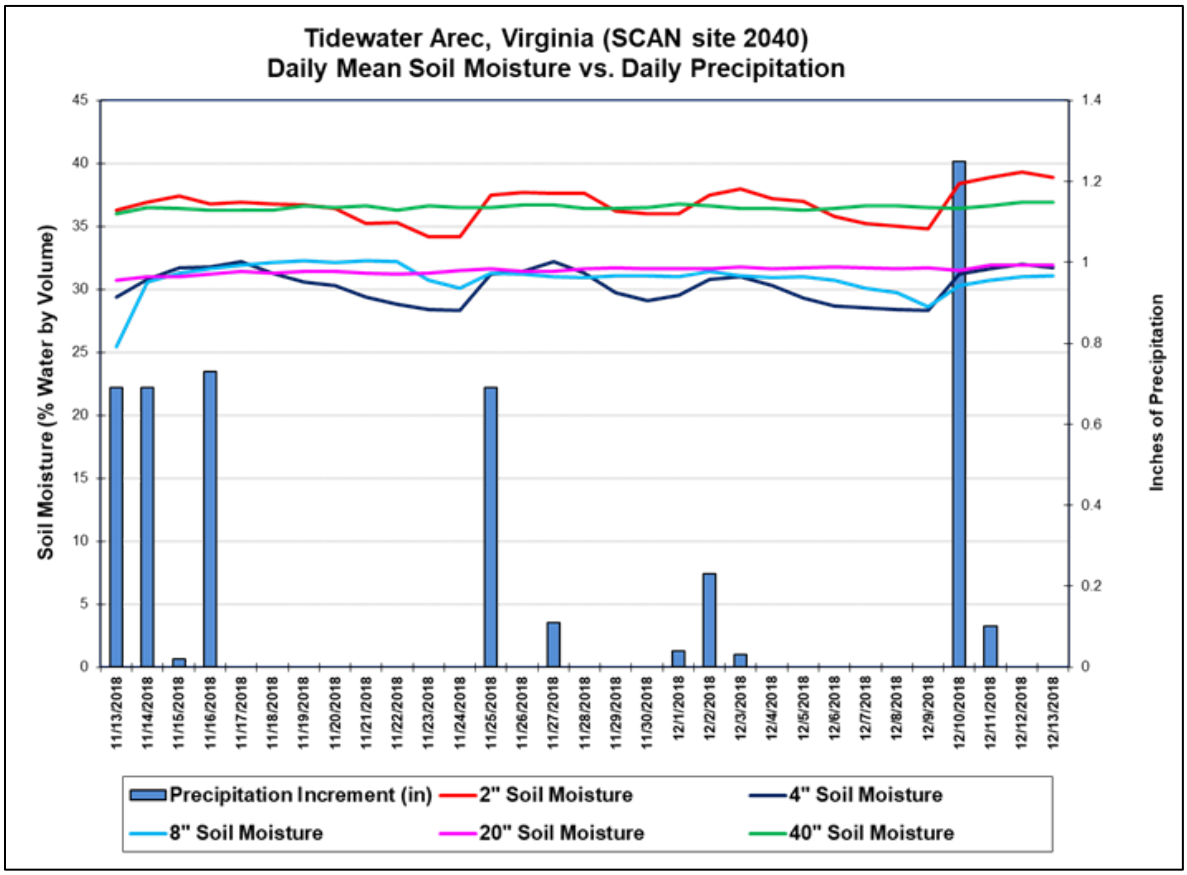
NEW! Soil Moisture Percent of Saturation

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



Soil Moisture Data

Source: NRCS Soil Climate Analysis Network (SCAN)



This chart shows the precipitation and soil moisture for the last 30 days at the Tidewater Arec SCAN site in Virginia. On December 10-11, accumulated precipitation totaled 1.35 inches and the soil moisture percentage increased at the 2-, 4-, and 8-inch sensor depths. There was a delayed, but very slight, soil moisture increase at deeper sensor depths.

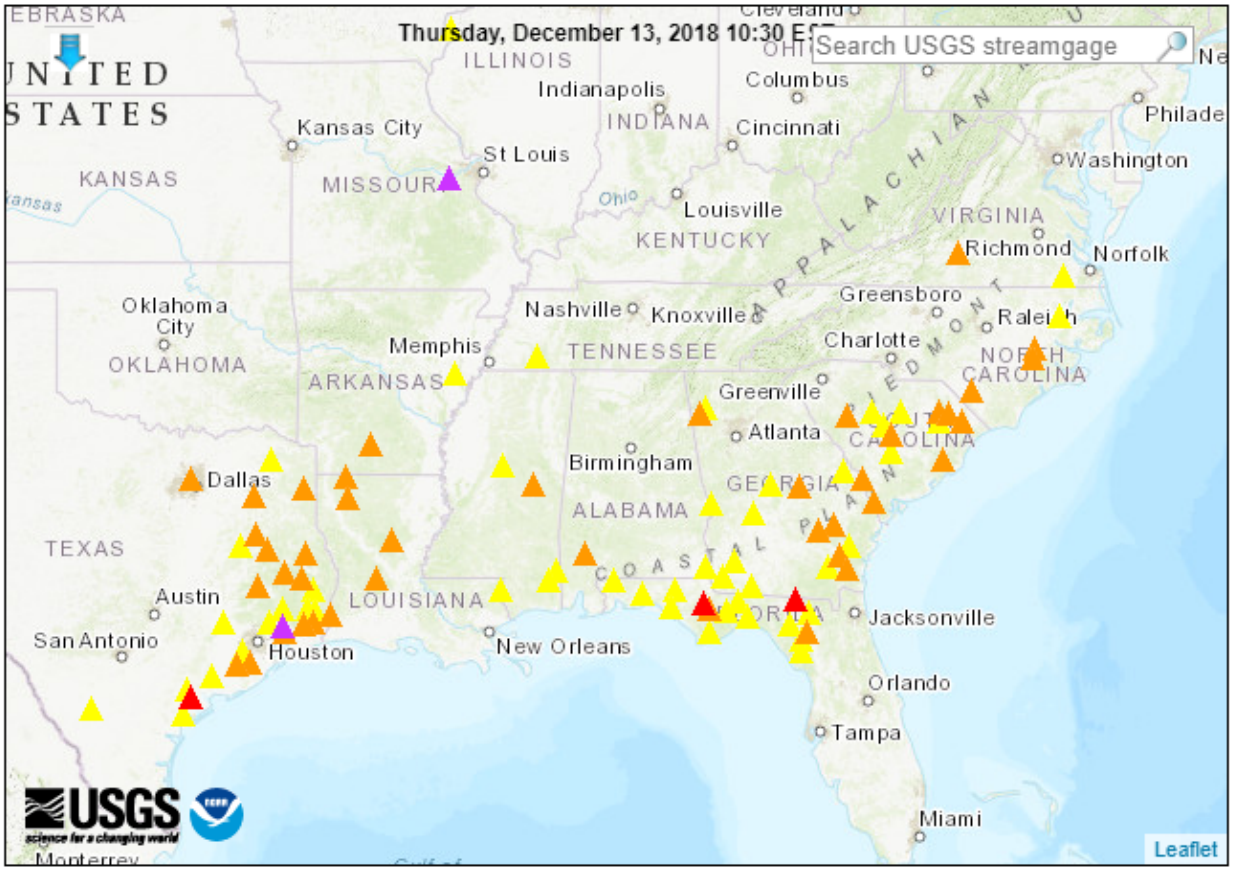
Soil Moisture Data Portals

- CRN Soil Moisture
- Texas A&M University North American Soil Moisture Database
- University of Washington Experimental Modeled Soil Moisture

Streamflow

Source: U.S. Geological Survey

Map of flood and high flow conditions



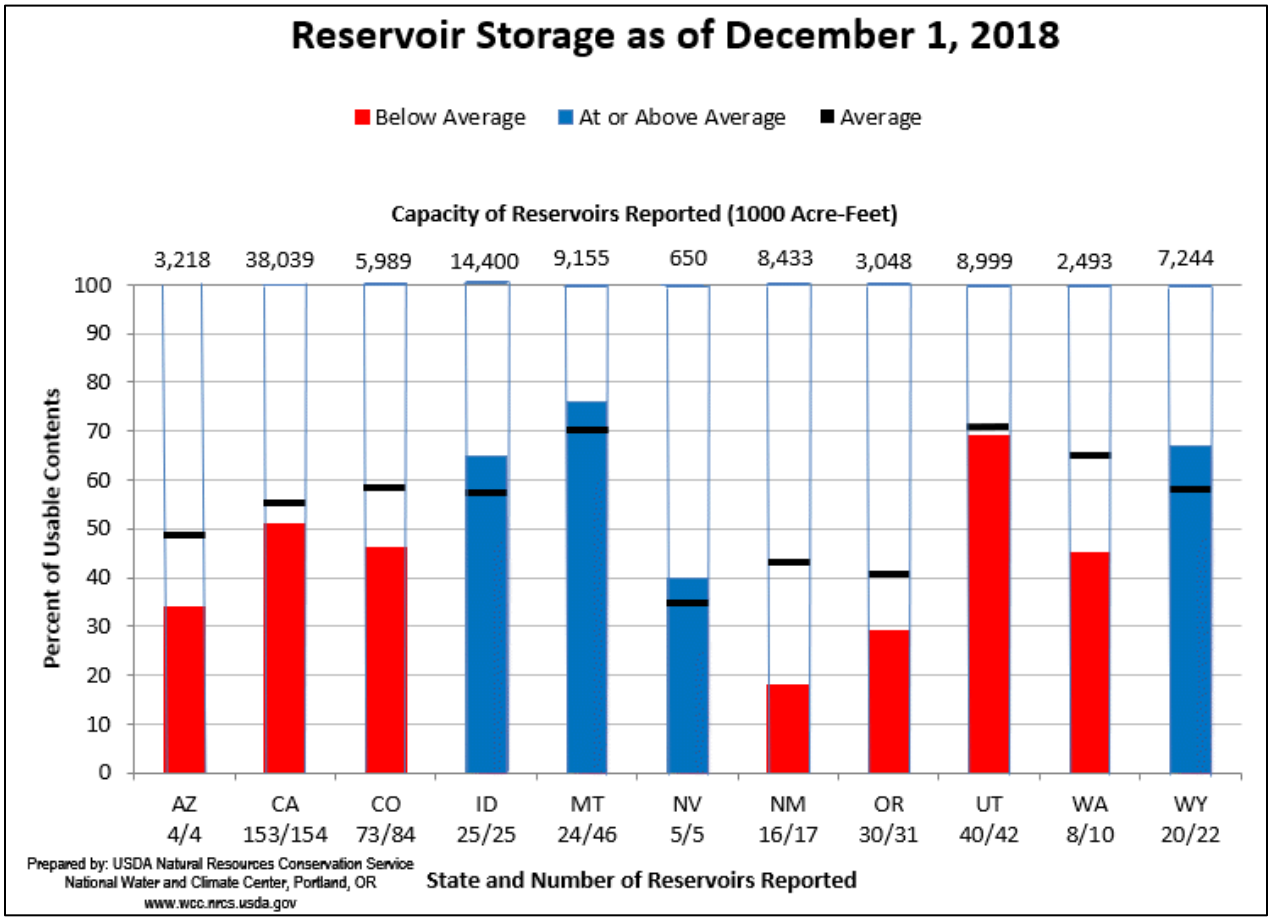
Explanation - Percentile classes						
<95	95-98	>= 99	Above action stage	Above flood stage	Above moderate flood stage	Above major flood stage
△ Streamgage with flood stage ○ Streamgage without flood stage						

[WaterWatch: Streamflow, drought, flood, and runoff conditions]

Reservoir Storage

Western States Reservoir Storage

Source: NRCS National Water and Climate Center



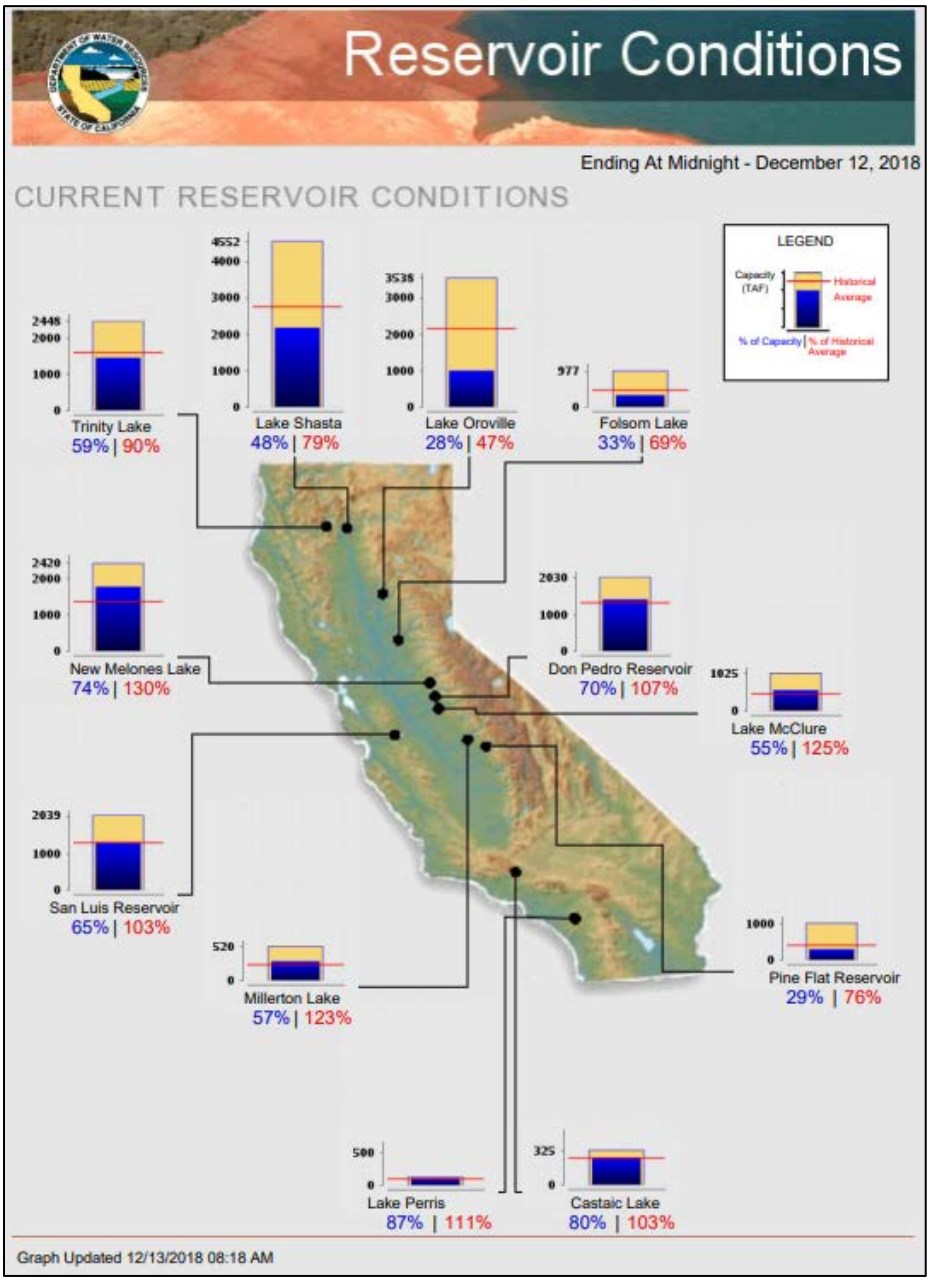
December 1, 2018 Reservoir Storage: Chart | Dataset

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

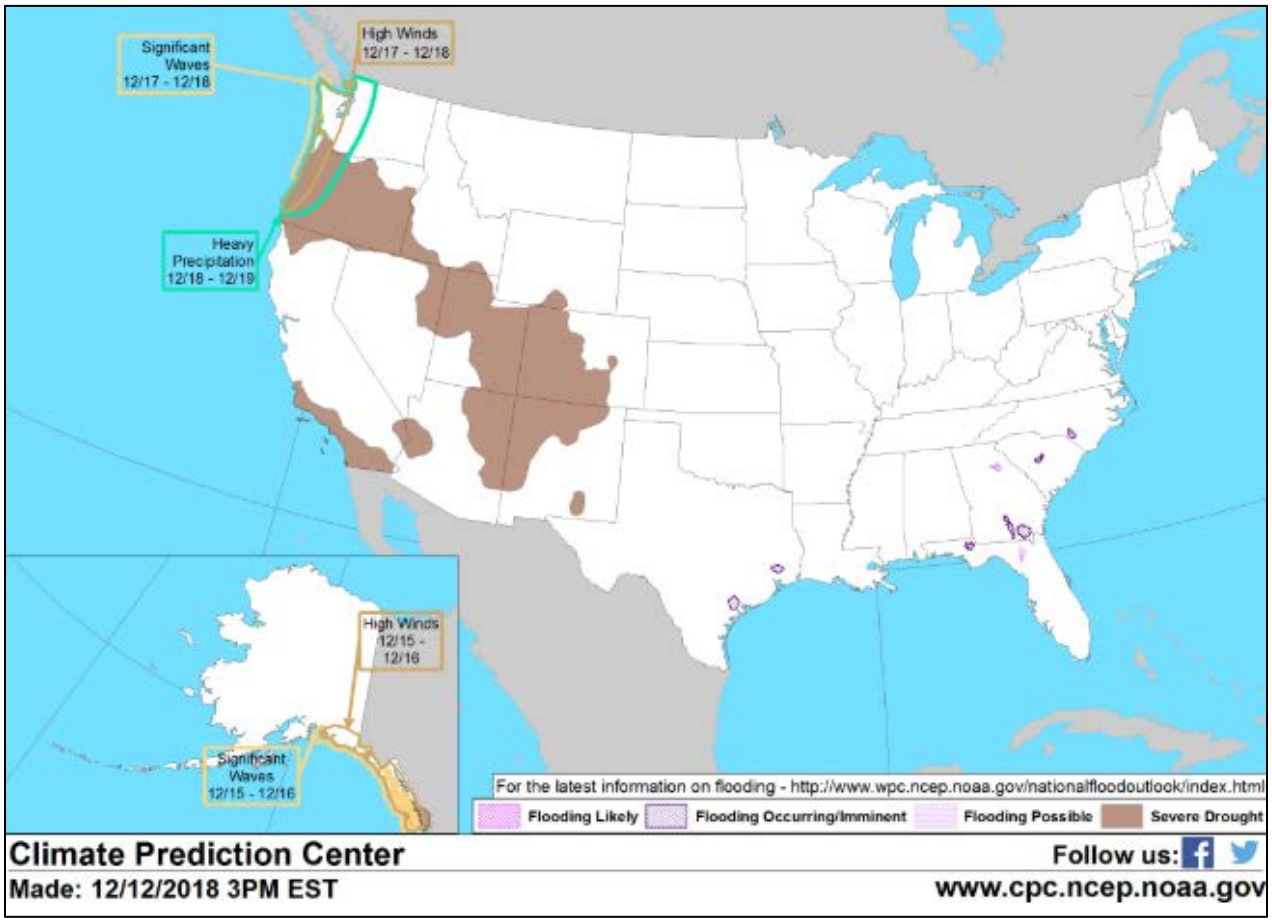
Agricultural Weather Highlights

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

National Outlook, Thursday, December 13: “A storm system currently intensifying over Texas will drift eastward, crossing the lower Mississippi Valley on Friday and reaching the southern and central Appalachians by Saturday. Wind-driven snow could affect portions of central Texas and environs later today, but the bulk of the precipitation associated with the storm should fall as rain. Storm-total rainfall could reach 1 to 3 inches or more from the mid-South into the middle and southern Atlantic States. Most of the remainder of the country will experience mild, dry weather, but periods of locally heavy precipitation will affect northern California and the Pacific Northwest. The NWS 6- to 10-day outlook for December 18 – 22 calls for the likelihood of warmer-than-normal weather nationwide, except for near-normal temperatures across southern Florida. Meanwhile, below-normal precipitation in most areas of the country should contrast with wetter-than-normal conditions in the Rio Grande Valley and from the Pacific Northwest to the northernmost Rockies.”

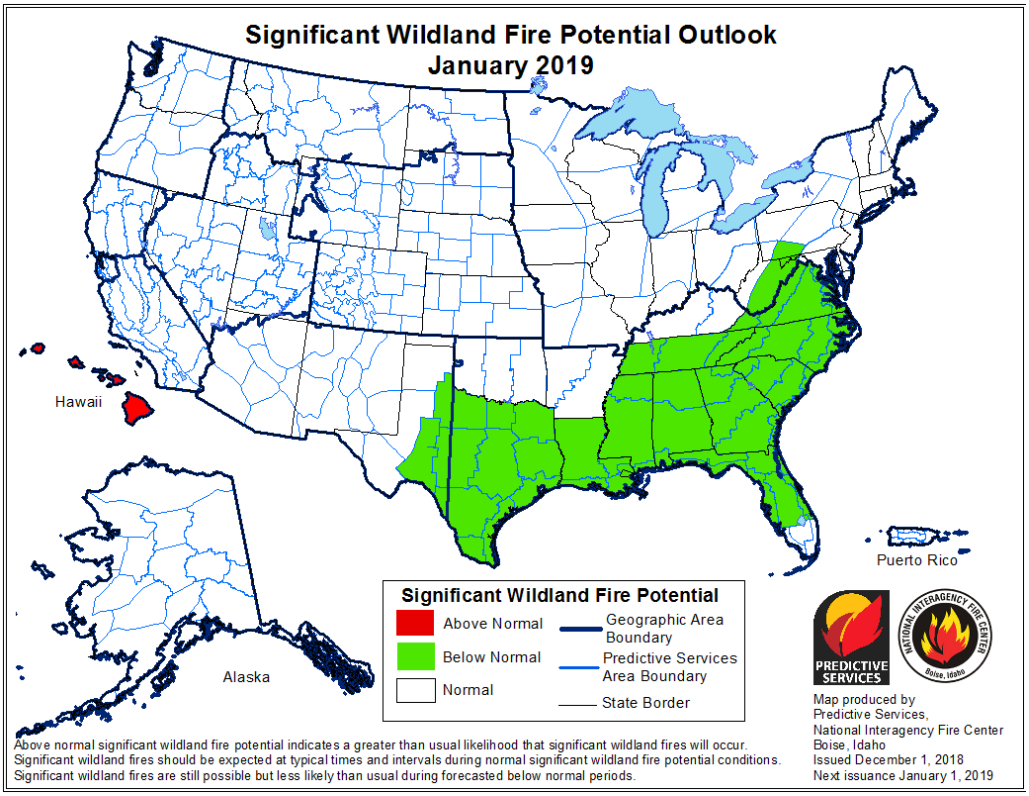
Weather Hazards Outlook December 15 – 19, 2018

Source: Climate Prediction Center



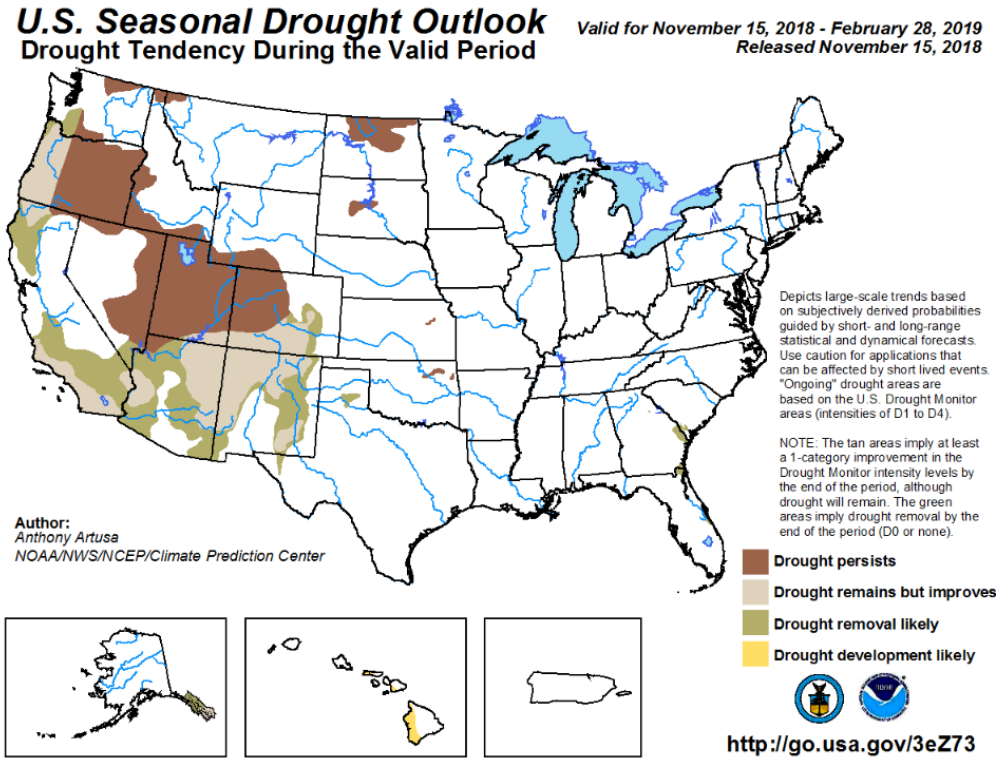
Significant Wildland Fire Potential Outlook

Source: National Interagency Fire Center



Seasonal Drought Outlook: November 15, 2018 – February 28, 2019

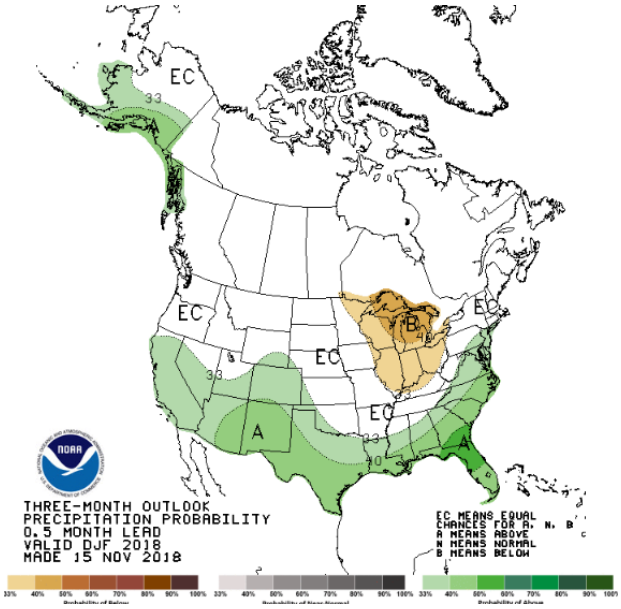
Source: National Weather Service



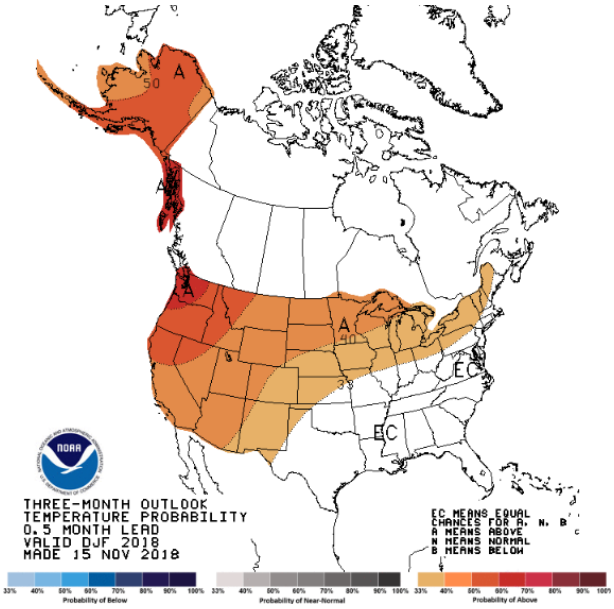
Climate Prediction Center 3-Month Outlook

Source: National Weather Service

Precipitation



Temperature



December-January-February (DJF) 2018-2019 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.