

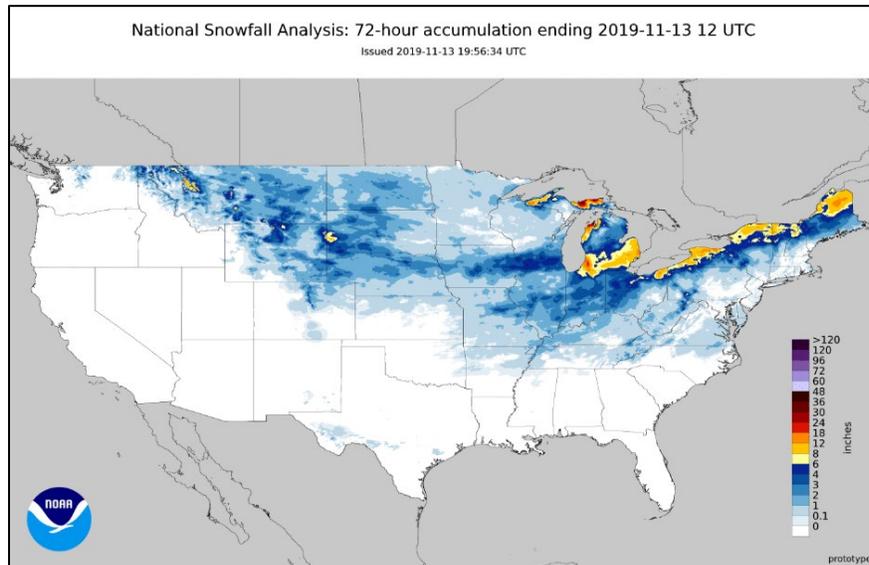
Water and Climate Update

November 14, 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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Precipitation	3	Short- and Long-Range Outlooks.....	16
Temperature.....	6	More Information	18
Drought	8		

Arctic cold and snow blanket much of the Midwest and eastern U.S.



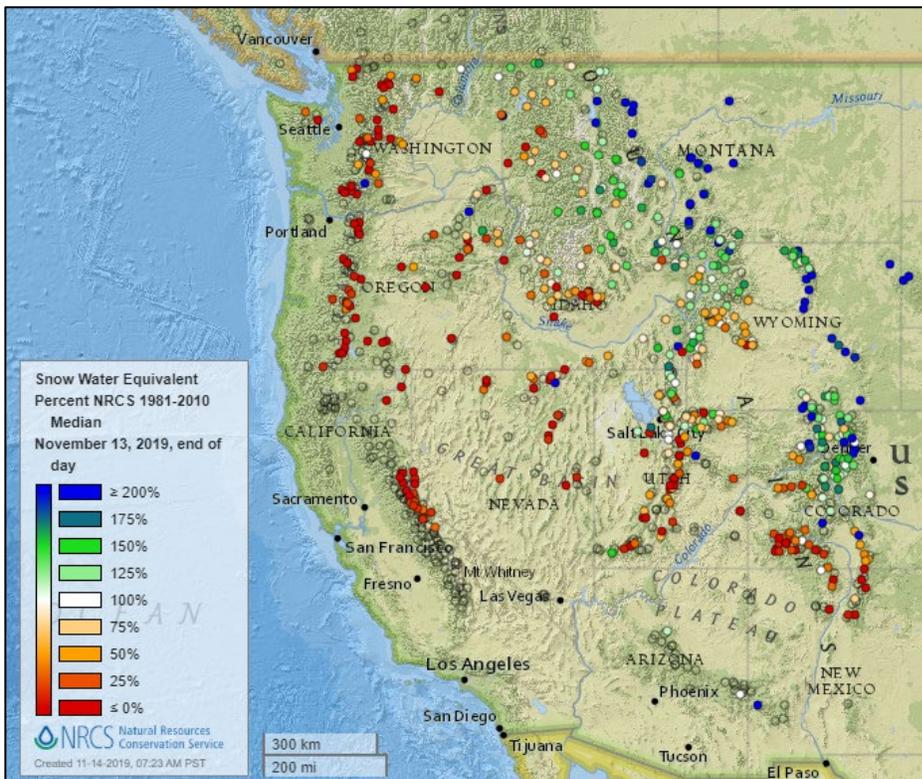
Brutally cold temperatures from an arctic air mass covered much of the central and eastern U.S. this week. Cold temperature records were set at over 300 weather stations from Canada to the deep South. The cold air mass brought snow to many areas. The National Weather Service reported that more than 30% of the country was covered in early-season snow with the deepest snow along the Great Lakes. Michigan reported over two feet of snowfall at several stations. In Ohio, whiteout conditions contributed to a more than 80 vehicle pileup. Freeze and hard-freeze warnings covered the deep South.

Related:

- [Farmers fight through snow, freezing weather to harvest crops](#) – UPI.com
- [Cold snap of historic proportions hits East Coast, over 300 records fall](#) – Washington Post
- [Unseasonable, record-breaking cold blamed for at least 8 deaths](#) – NBC News on MSN.com
- [Deadly Arctic blast brings 30 inches of snow to Michigan and 30-degree temps to Florida](#) – USA Today on MSN.com
- [Detroit's cold weather just broke a 108-year-old temperature record](#) – Detroit Free Press
- [Cities across U.S. experience record lows as Arctic blast brings snow and ice](#) – AOL
- [Deadly crashes mount across Midwest, Northeast as snow covers nearly 30% of US](#) - Yahoo
- [Record snow to record cold](#) – WNEM-TV (MI)

Snow

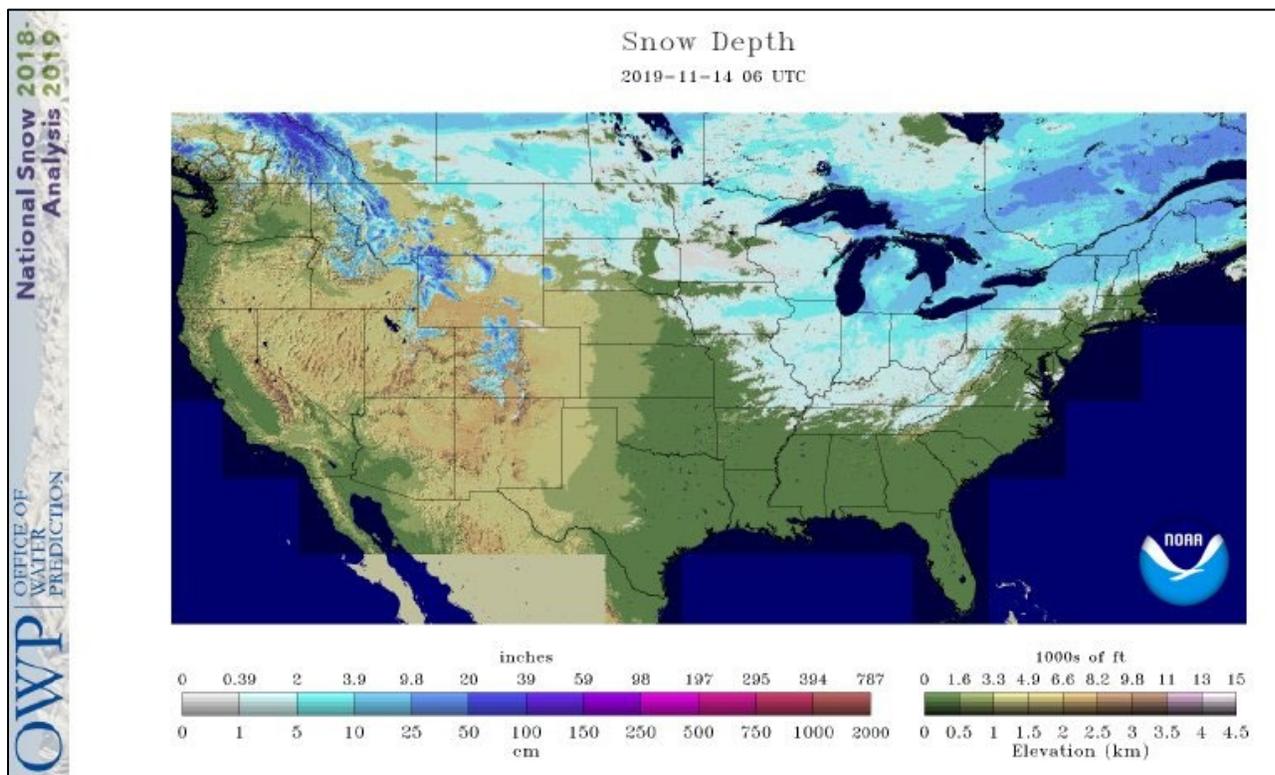
Current Snow Water Equivalent, NRCS SNOTEL Network



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

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

Current Snow Depth, National Weather Service Snow Analysis



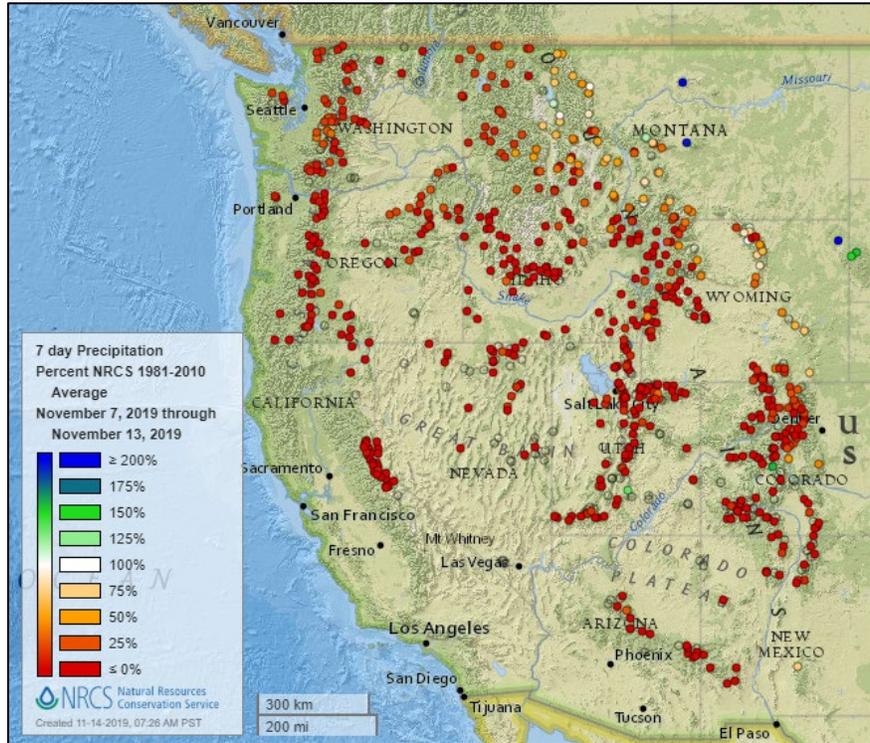
Precipitation

Last 7 Days, NRCS SNOTEL Network

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

See also:

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



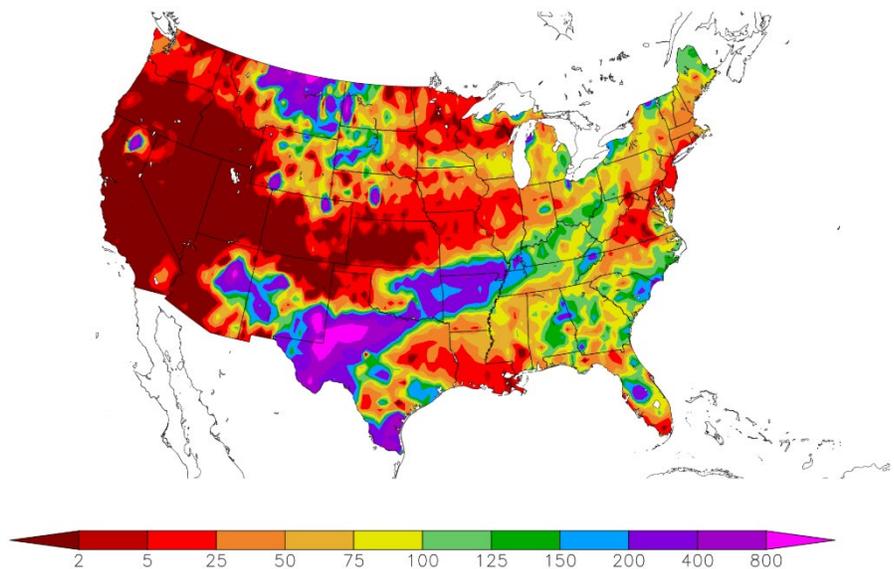
Last 7 Days, National Weather Service (NWS) Networks

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 (%)
11/6/2019 – 11/12/2019



Generated 11/13/2019 at HPRCC using provisional data.

NOAA Regional Climate Centers

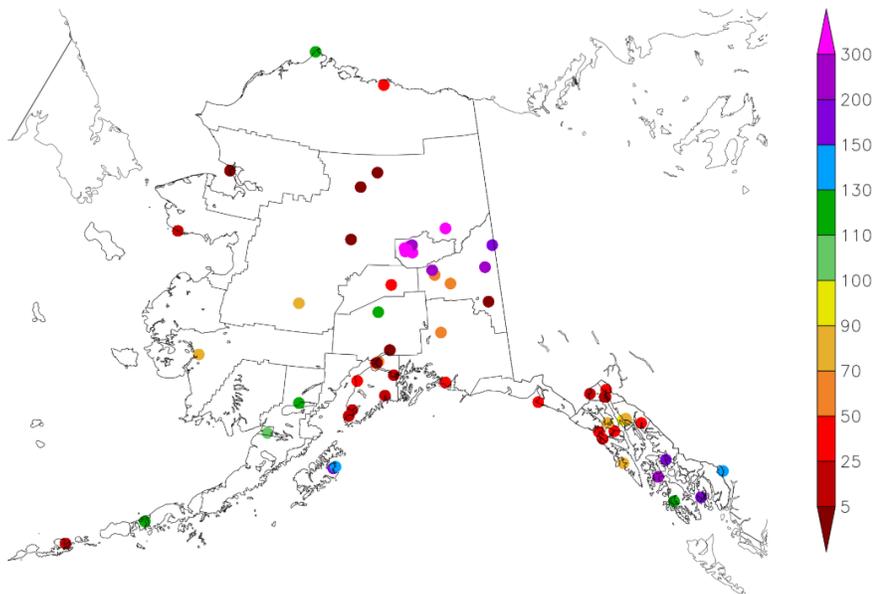
Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

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

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

Percent of Normal Precipitation (%)
 11/6/2019 – 11/12/2019



Generated 11/13/2019 at HPRCC using provisional data

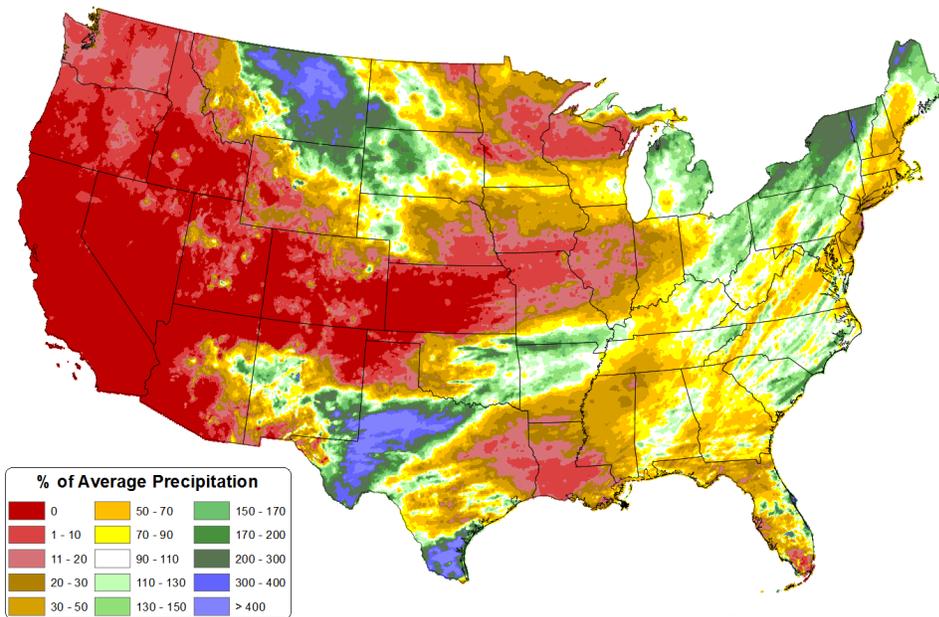
NOAA Regional Climate Centers

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

Source: PRISM

Total Precipitation Anomaly: 01 Nov 2019 - 13 Nov 2019
 Period ending 7 AM EST 13 Nov 2019
 Base period: 1951-2010
 (Map created 14 Nov 2019)

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



Copyright (c) 2019, PRISM Climate Group, Oregon State University

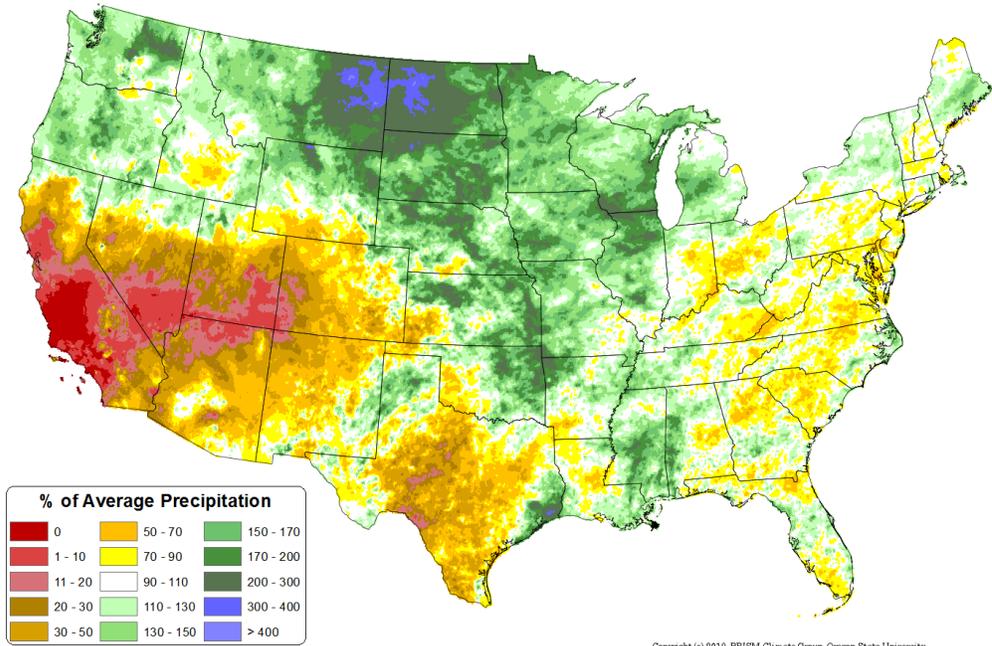
Water and Climate Update

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

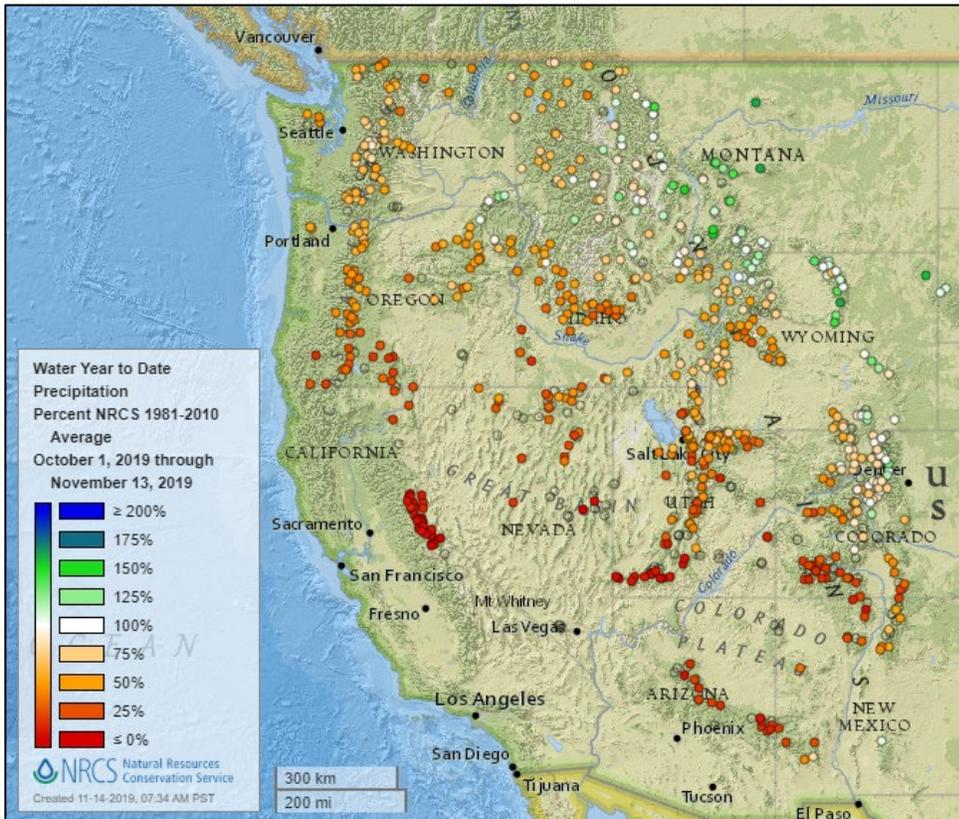
Source: PRISM

[August through October 2019 total precipitation percent of average map](#)

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



Water Year-to-Date, NRCS SNOTEL Network



[2020 water year-to-date precipitation percent of average map](#)

See also:

[2020 water year-to-date precipitation values \(inches\) map](#)

Temperature

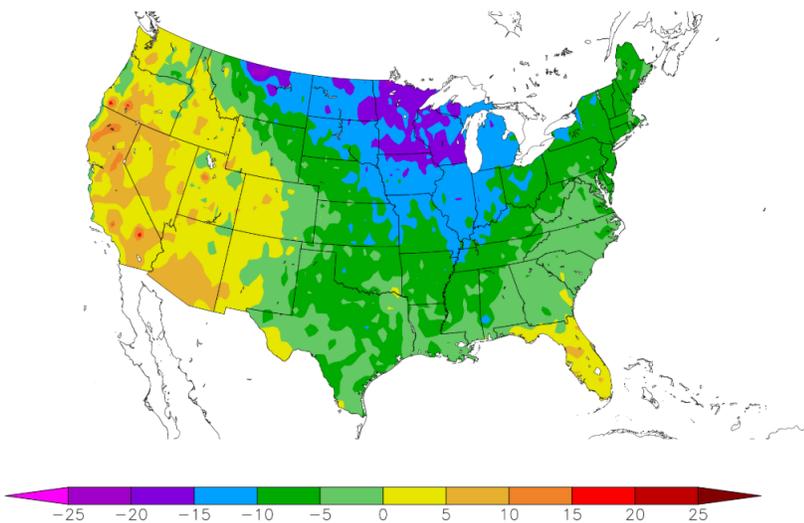
Last 7 Days, National Weather Service (NWS) Networks

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)
11/6/2019 – 11/12/2019



Generated 11/13/2019 at HPRCC using provisional data.

NOAA Regional Climate Centers

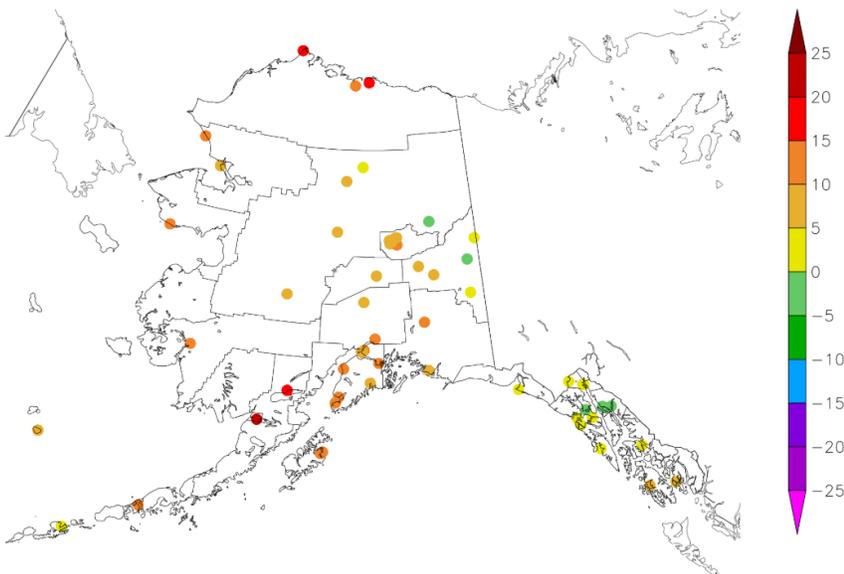
Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

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

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

Departure from Normal Temperature (F)
11/6/2019 – 11/12/2019



Generated 11/13/2019 at HPRCC using provisional data.

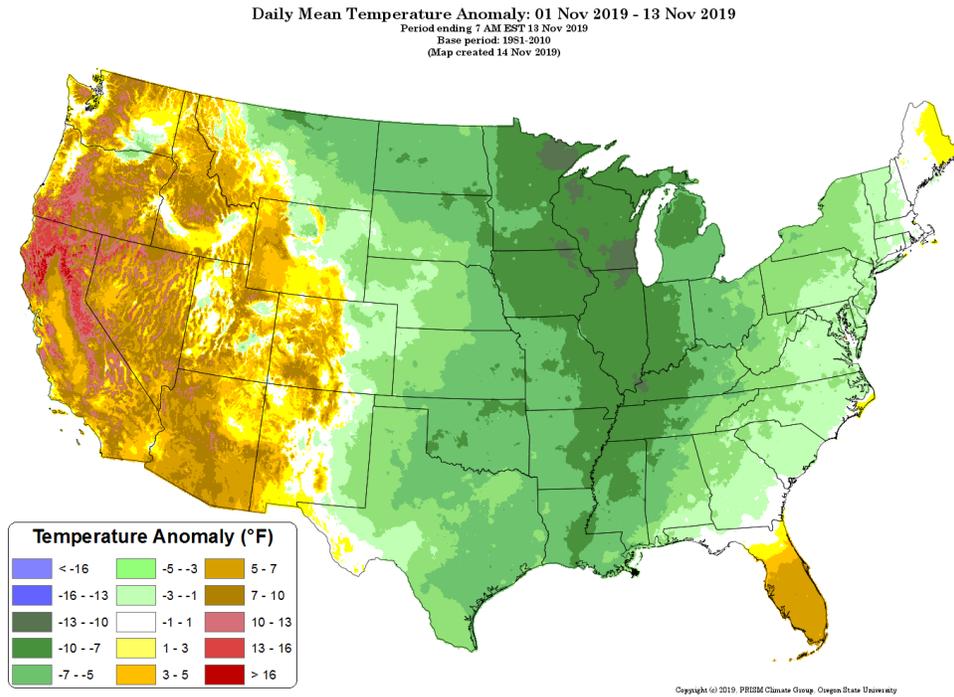
NOAA Regional Climate Centers

Water and Climate Update

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

Source: PRISM

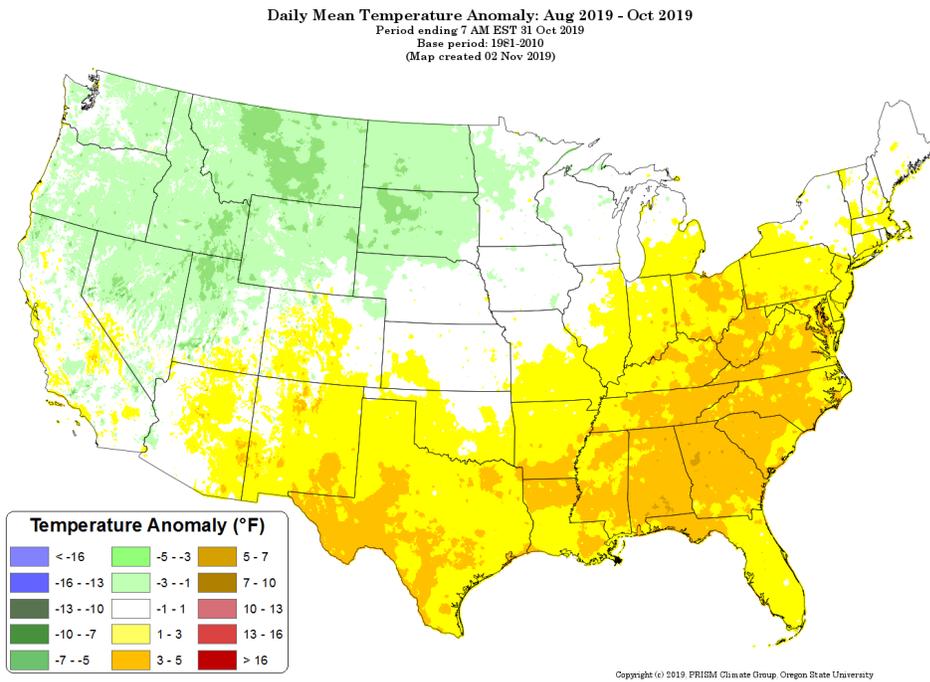
[Month-to-date national daily mean temperature anomaly map](#)



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

Source: PRISM

[August through October 2019 daily mean temperature anomaly map](#)



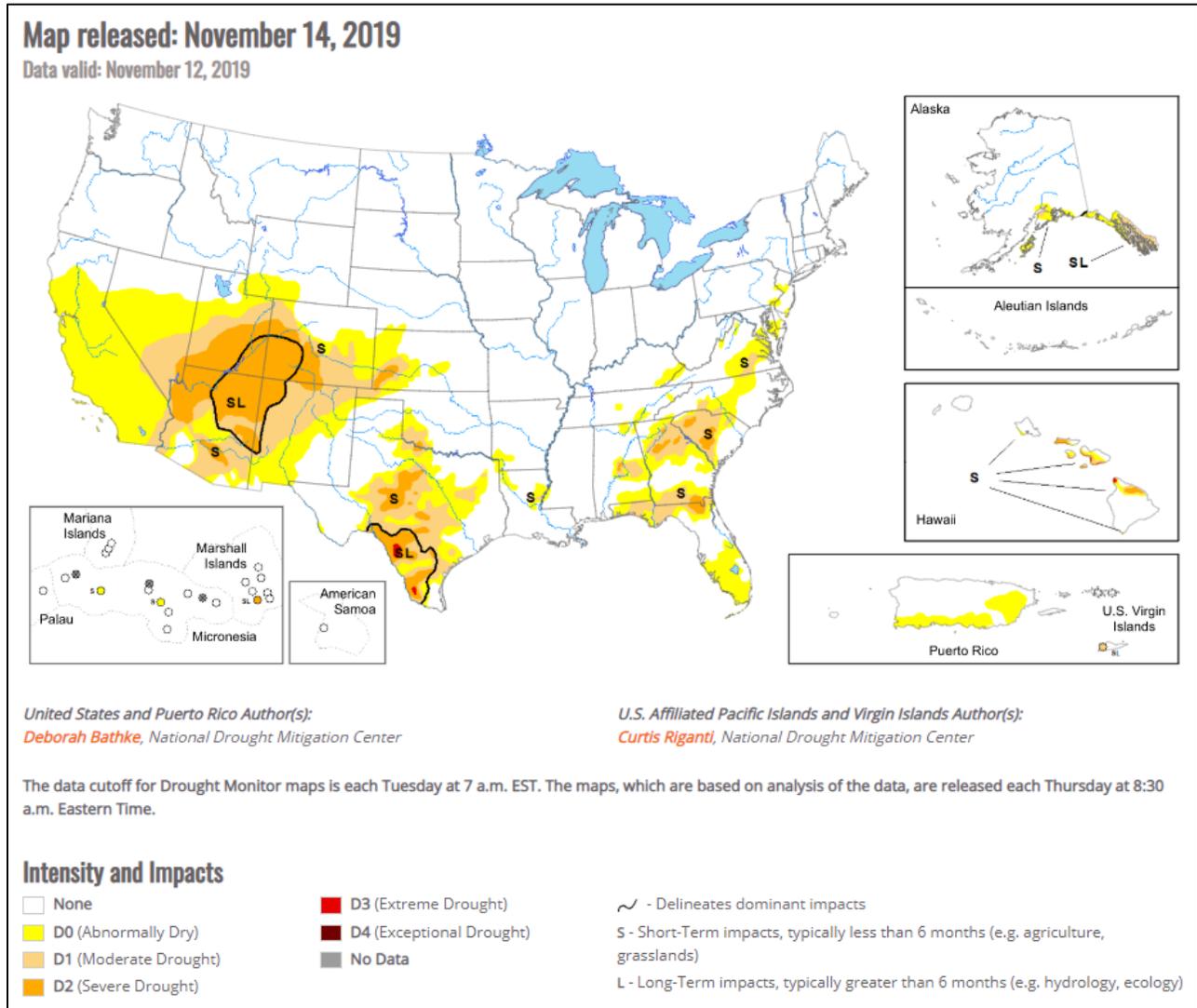
Drought

[U.S. Drought Monitor](#)

Source: National Drought Mitigation Center

[U.S. Drought Portal](#)

Source: NOAA



Current [National Drought Summary](#), November 14, 2019

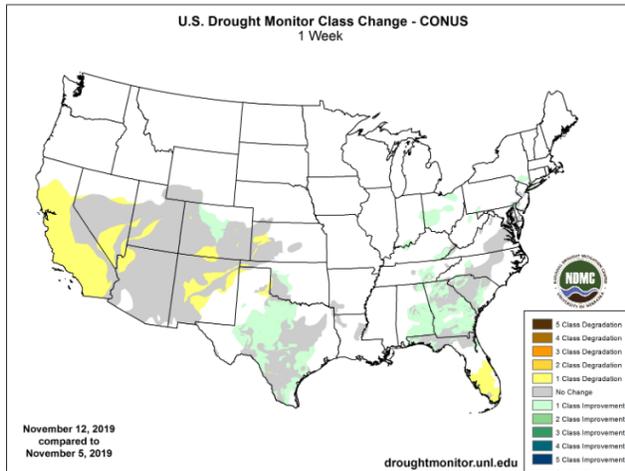
Source: National Drought Mitigation Center

“Much of the eastern half of the country saw widespread snow and rain combined with record-breaking cold during the Drought Monitor week ending Tuesday, November 12. The combination helped alleviate short-term dryness and drought in much of Texas, the Ohio River Valley, the Mid-Atlantic, and Southeast. Meanwhile, the dry pattern continued across California and the Great Basin, leading to a deterioration in conditions. Six weeks into the water year, many parts of the country have yet to see any precipitation, while higher than normal temperatures have kept evaporative demand high.”

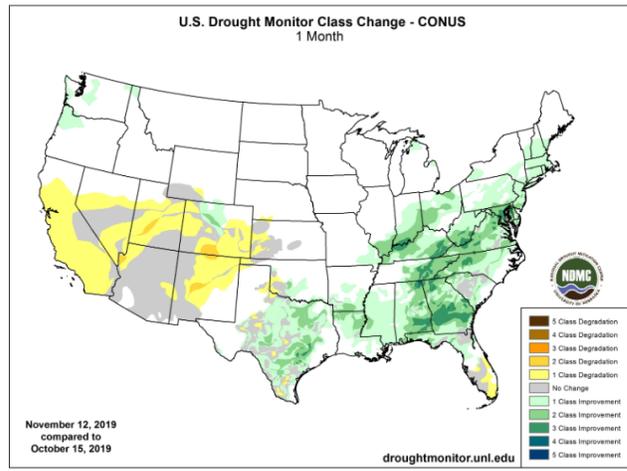
Changes in Drought Monitor Categories over Time

Source: National Drought Mitigation Center

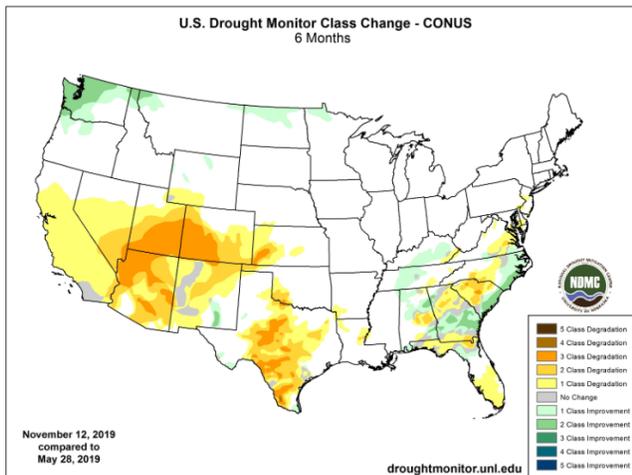
1 Week



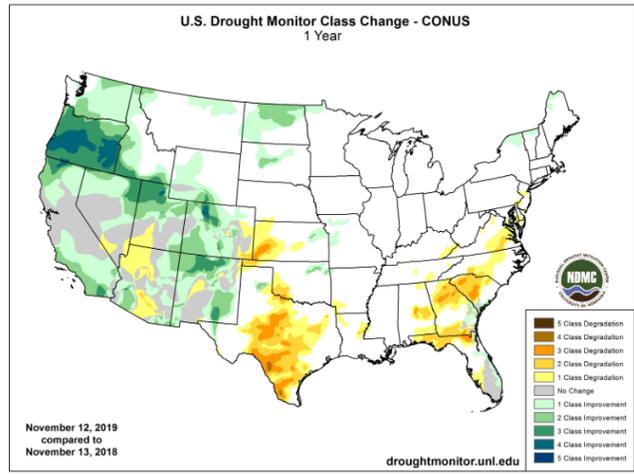
1 Month



6 Months



1 Year



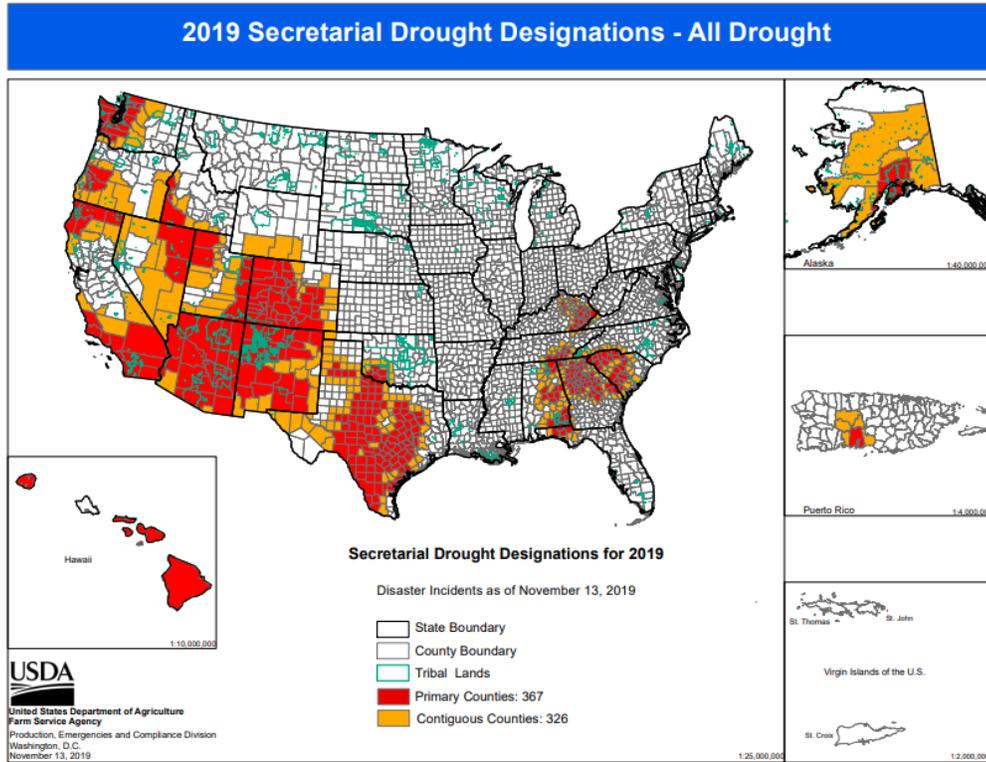
[Changes in drought conditions over the last 12 months for the contiguous U.S.](#)

Highlighted Drought Resources

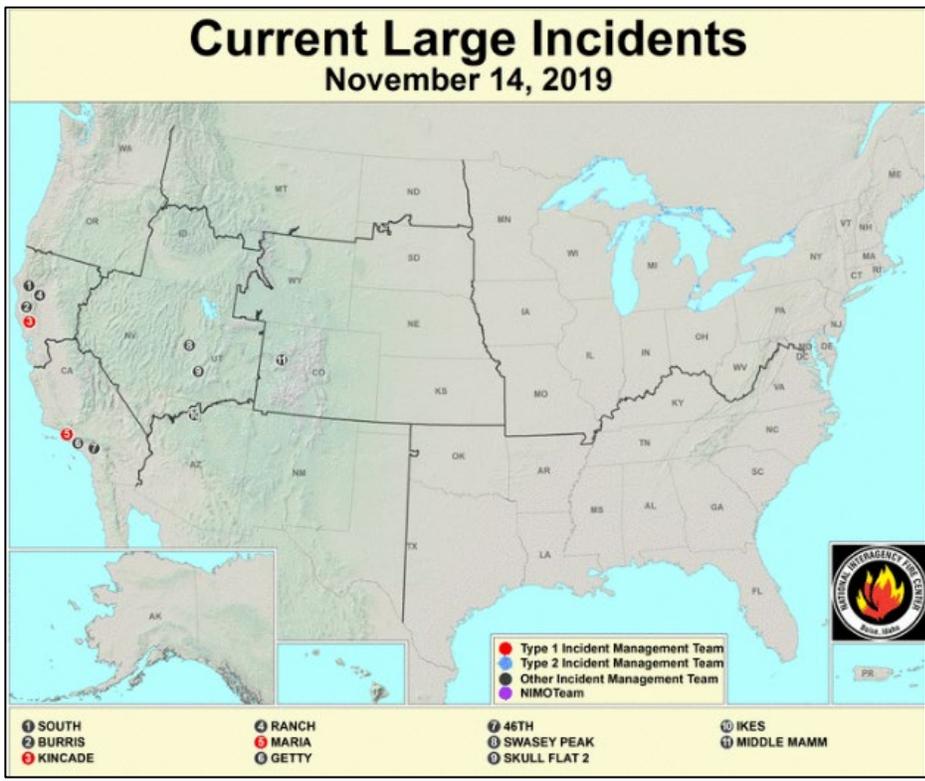
- [Drought Impact Reporter](#)
- [Quarterly Regional Climate Impacts and Outlook](#)
- [U.S. Drought Portal Indicators and Monitoring](#)
- [U.S. Population in Drought, Weekly Comparison](#)
- [USDA Disaster and Drought Information](#)

Secretarial Drought Designations

Source: USDA Farm Service Agency



Wildfires: USDA Forest Service Active Fire Mapping



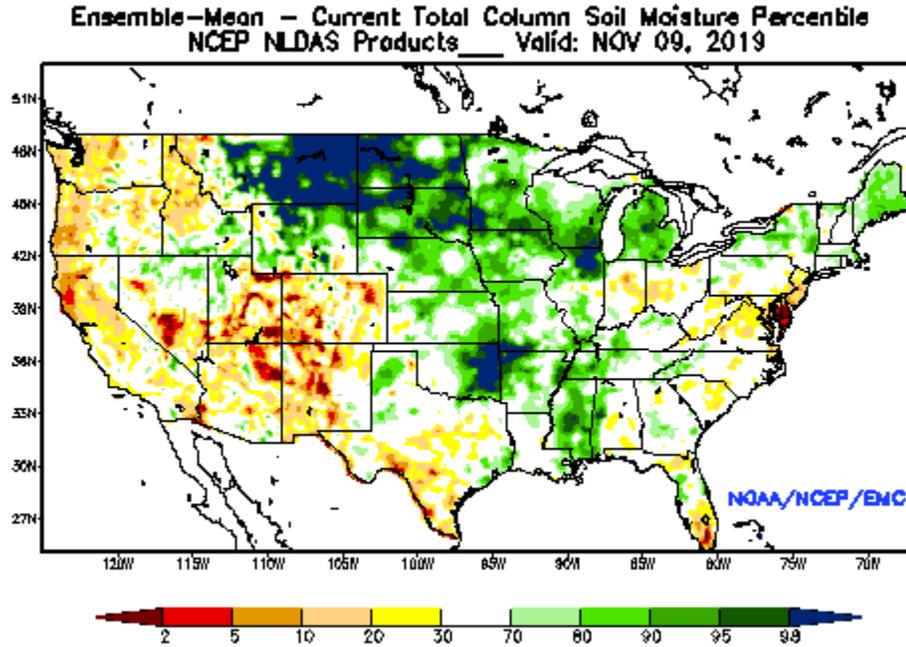
Highlighted Wildfire Resources

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

Other Climatic and Water Supply Indicators

Soil Moisture

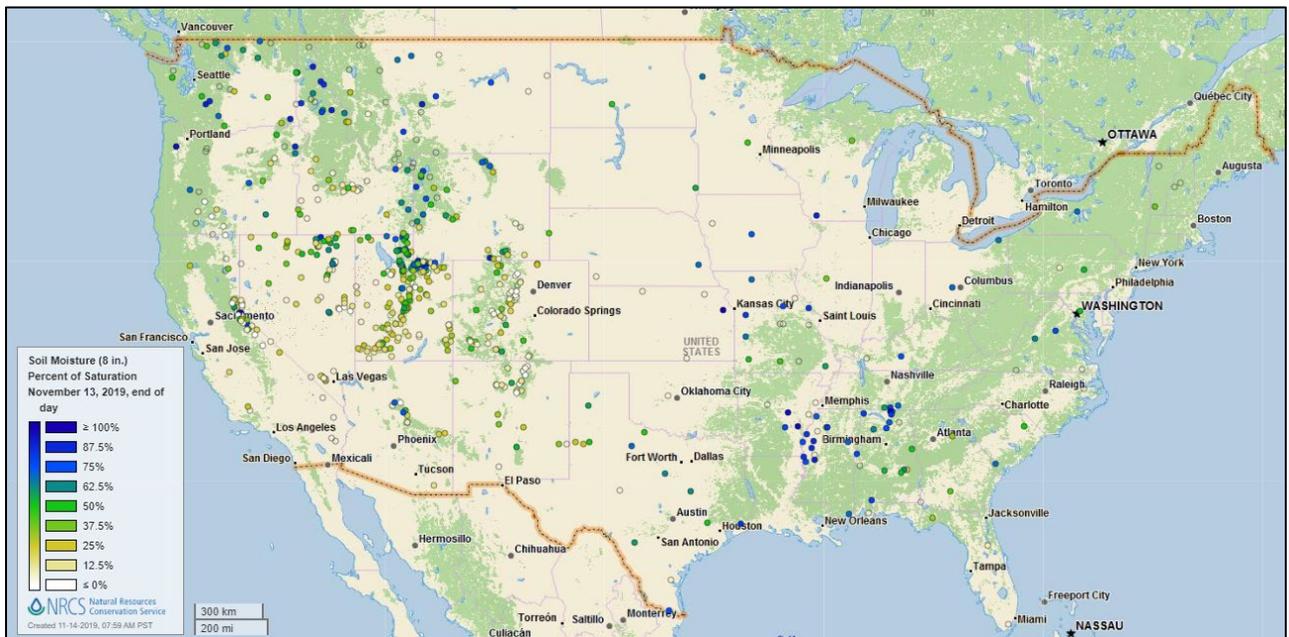
Source: NOAA National Centers for Environmental Prediction



[Modeled soil moisture percentiles](#) as of November 9, 2019

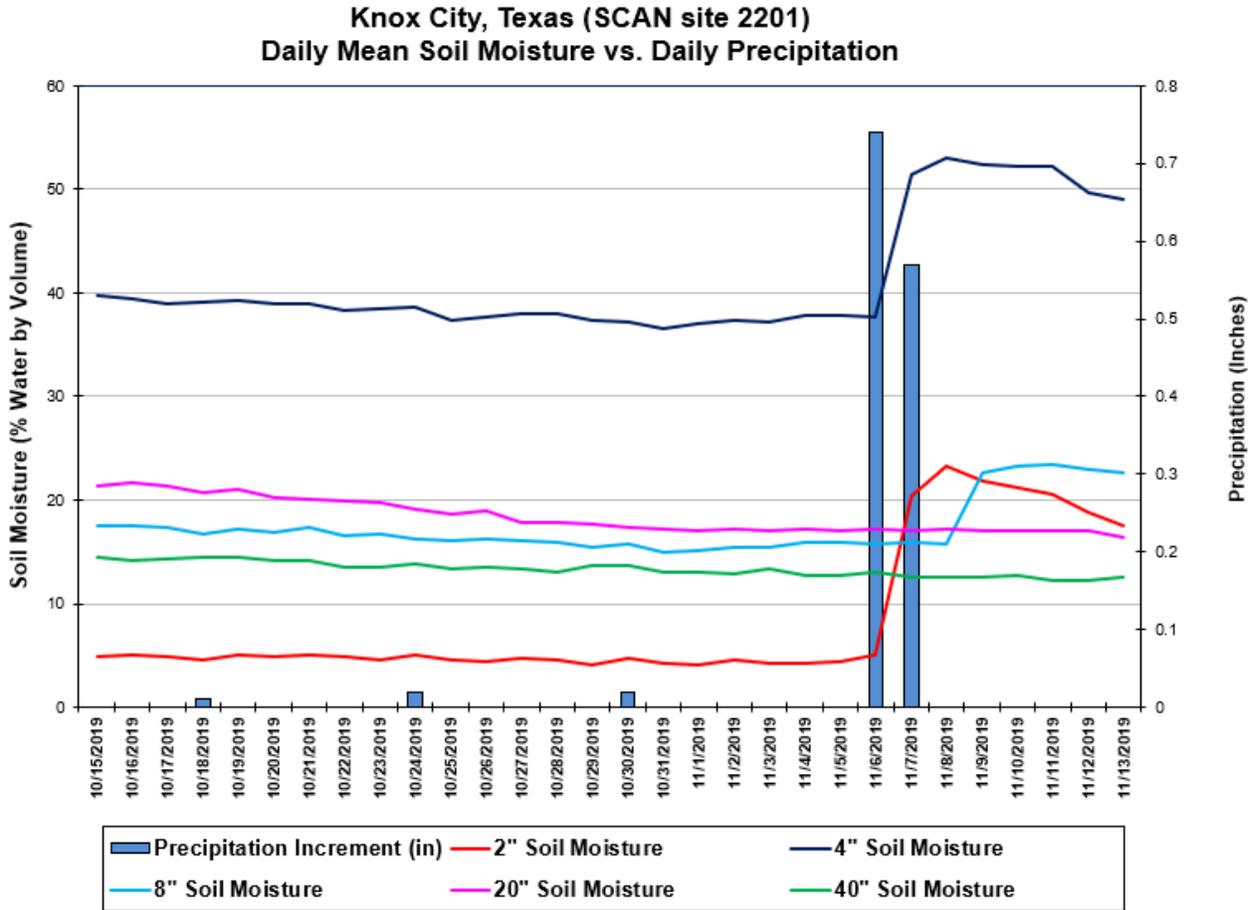
Soil Moisture Percent of Saturation

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



Soil Moisture Data

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



This chart shows the soil moisture and precipitation for the last 30 days at the [Knox City SCAN site](#) in Texas. Accumulated precipitation of 1.31 inches on October 16-17 resulted in increased soil moisture at the -2", -4", and -8" sensor depths. The -20" and -40" sensors did not respond to the precipitation events.

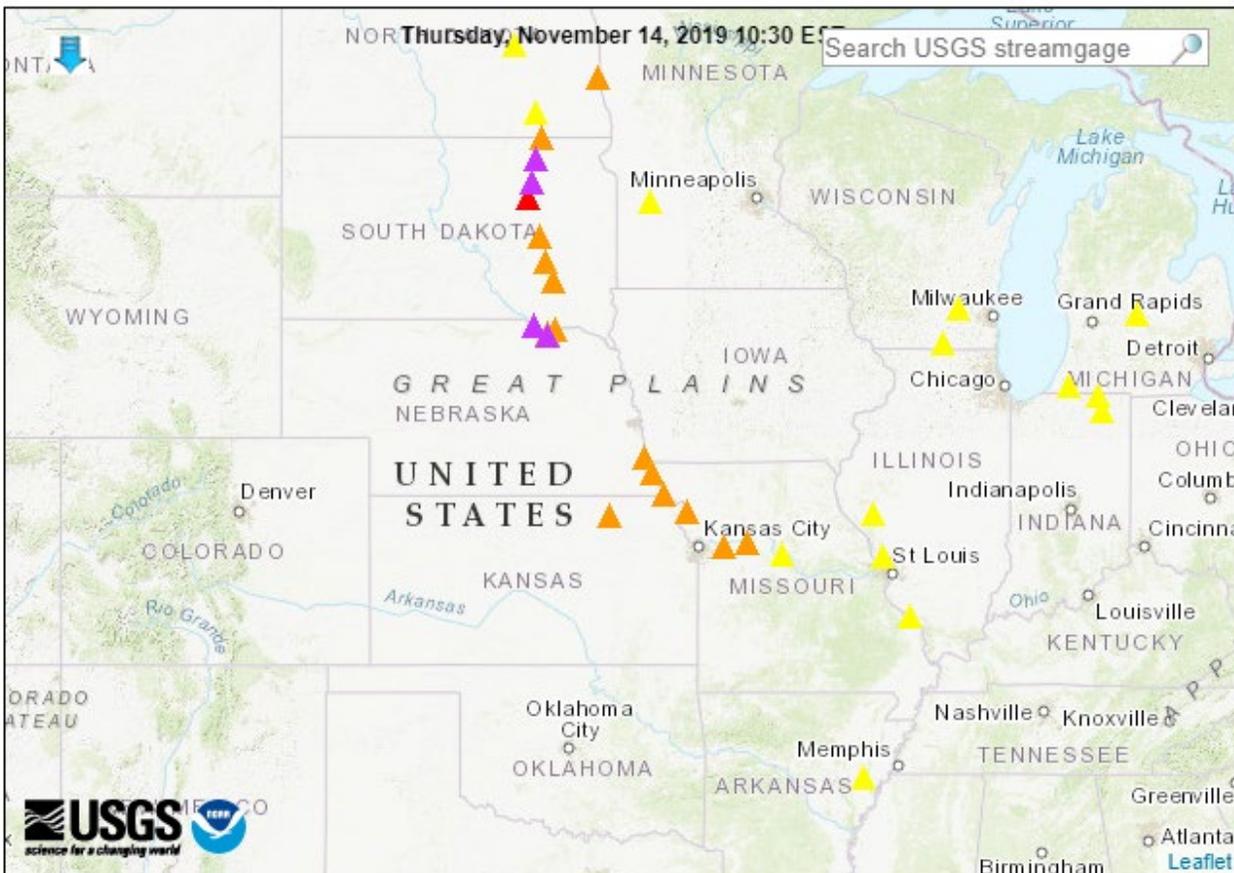
Soil Moisture Data Portals

- [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
 (22 in floods [major: 4, moderate: 1, minor: 17], 14 in near-flood)



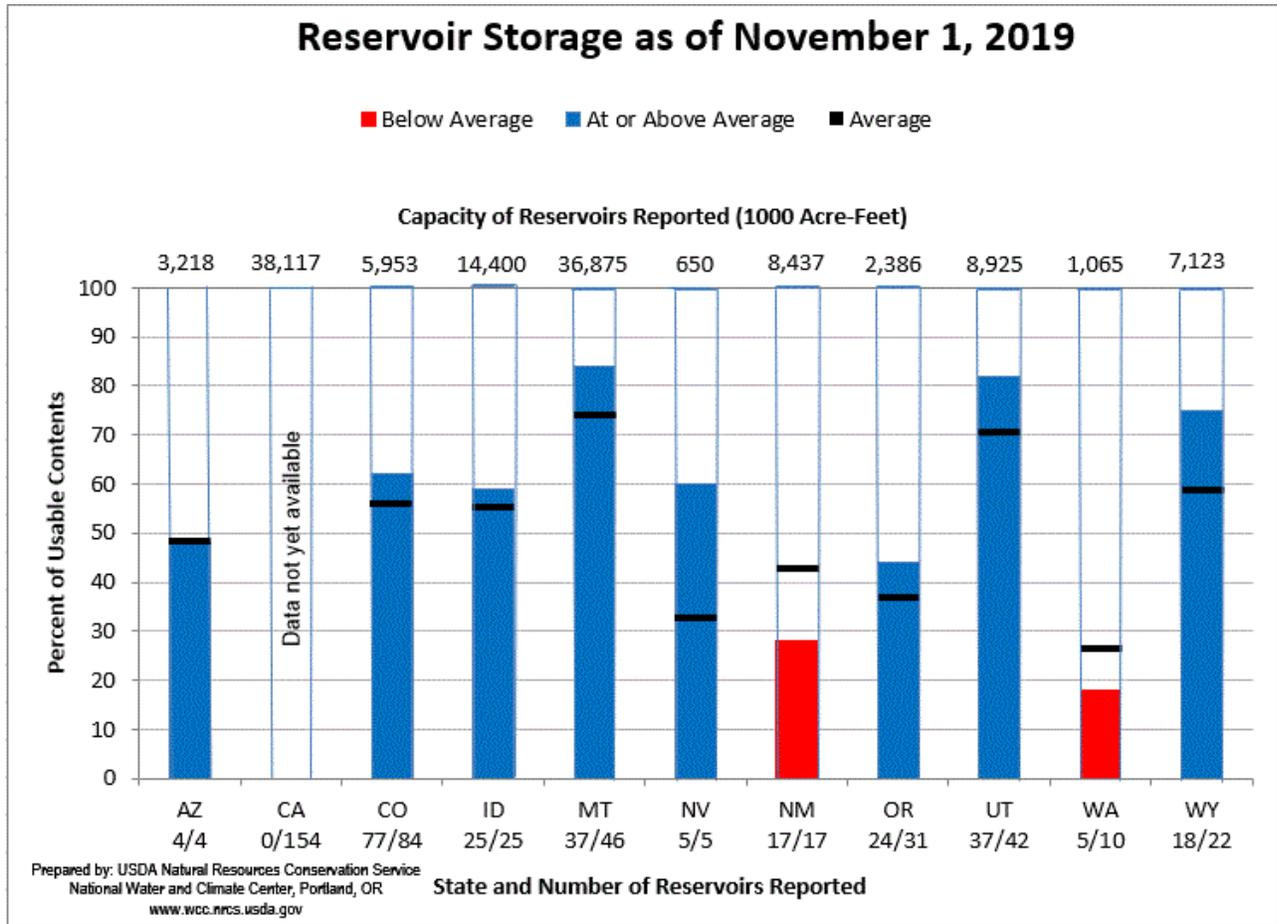
Explanation - Percentile classes						
<95	95-98	>= 99	Above action stage	Above flood stage	Above moderate flood stage	Above major flood stage
			▲ Streamgage with flood stage ○ Streamgage without flood stage			

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

Reservoir Storage

Western States Reservoir Storage

Source: NRCS National Water and Climate Center



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

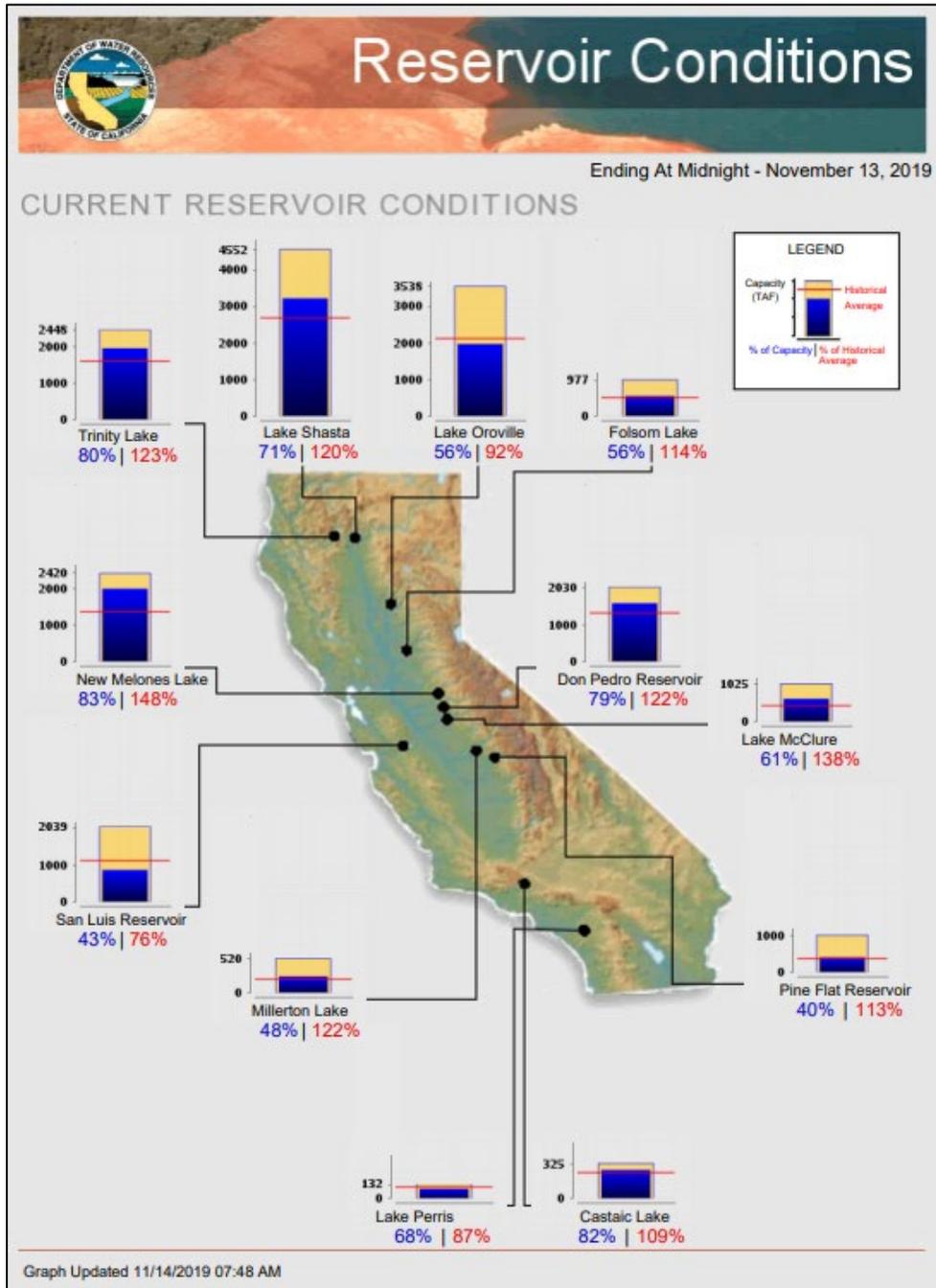
Hydromet Tea Cup Reservoir Depictions

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

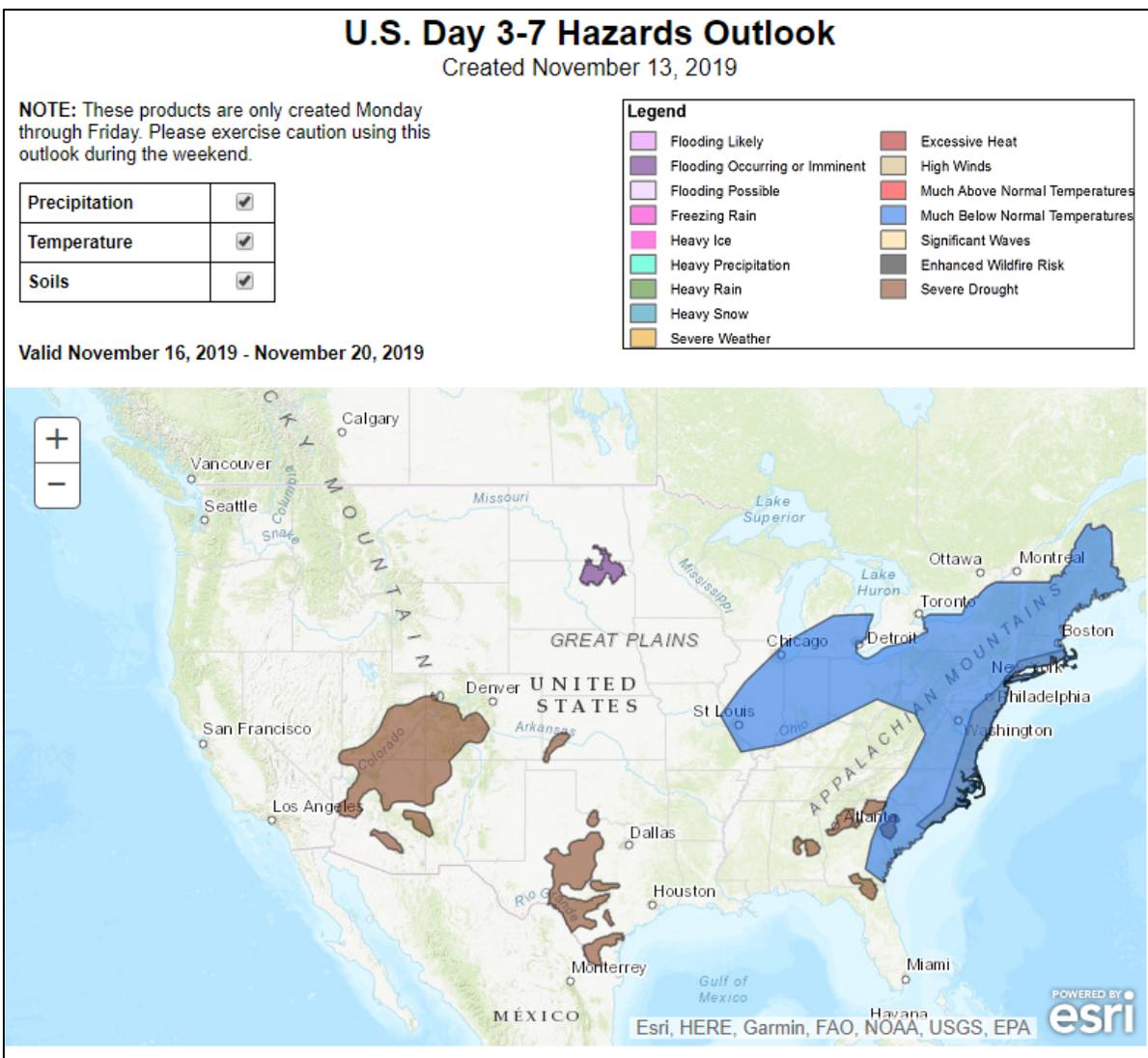
Agricultural Weather Highlights

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

National Outlook, Thursday, November 14, 2019: “A storm system developing near the western Gulf Coast will move eastward, delivering wind and rain to the southern Atlantic region during the weekend. Early next week, the storm will produce some rain and snow in the Northeast. Meanwhile, Western warmth will gradually expand eastward, encompassing the Plains by early next week. Chilly conditions will linger, however, across the eastern one-third of the country. Elsewhere, precipitation will be mostly light and confined to the North. One exception will be the Pacific Northwest, where locally heavy rain (and high-elevation snow) will fall from the northern Cascades westward. The NWS 6- to 10-day outlook for November 19 – 23 calls for near- or below-normal temperatures from the Mississippi Valley eastward, while warmer-than-normal weather will cover much of the western and central U.S. Meanwhile, near- or above-normal precipitation across much of the country, including the Plains, Midwest, Southwest, and Northeast, should contrast with drier-than-normal conditions in northern California, the Northwest, and most of the Southeast.”

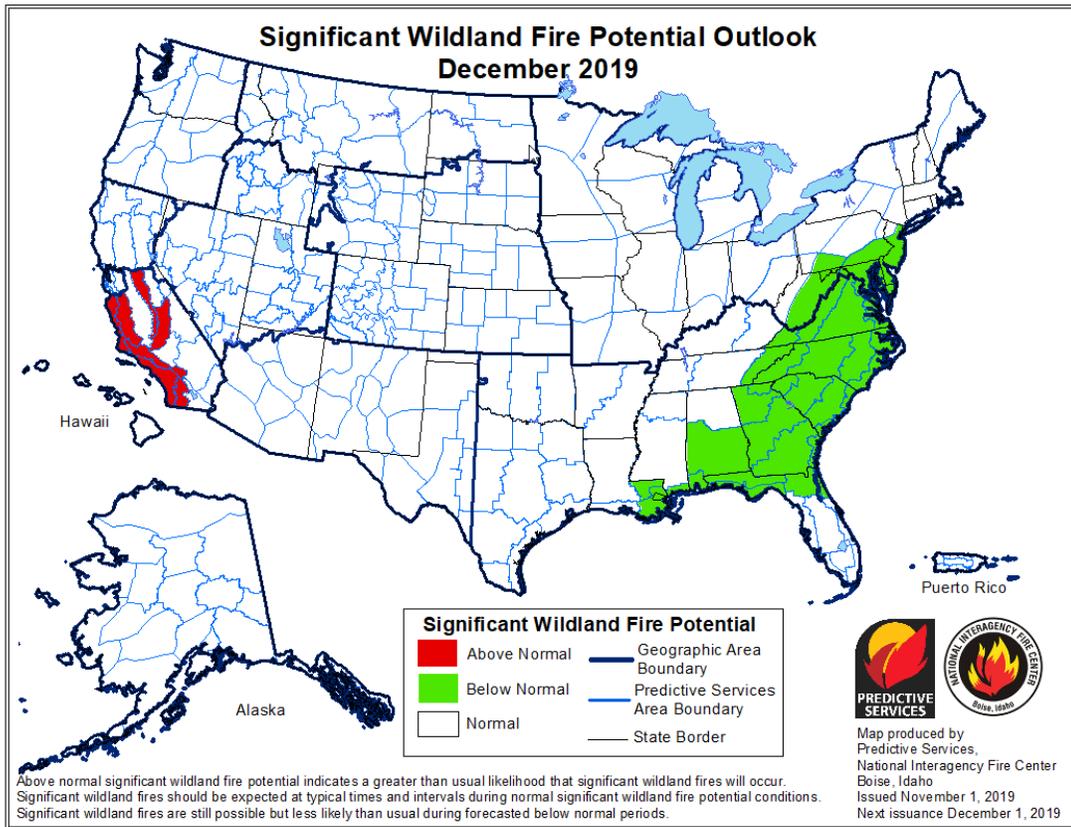
Weather Hazards Outlook: [November 16 - 20, 2019](#)

Source: NOAA Climate Prediction Center



Significant Wildland [Fire Potential Outlook](#)

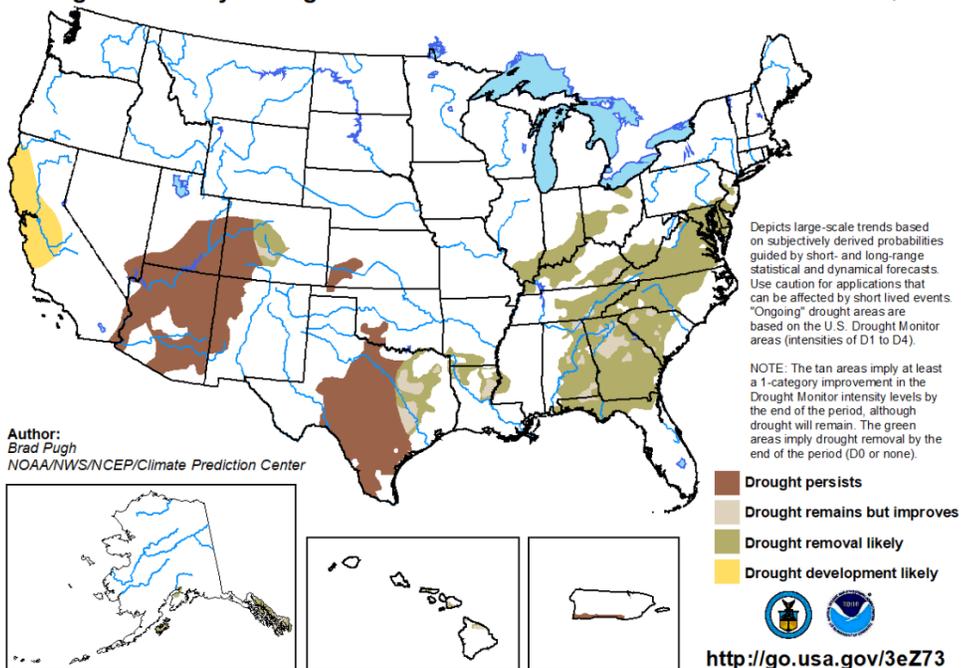
Source: National Interagency Fire Center



Seasonal Drought Outlook: [October 17, 2019 – January 31, 2020](#)

Source: National Weather Service

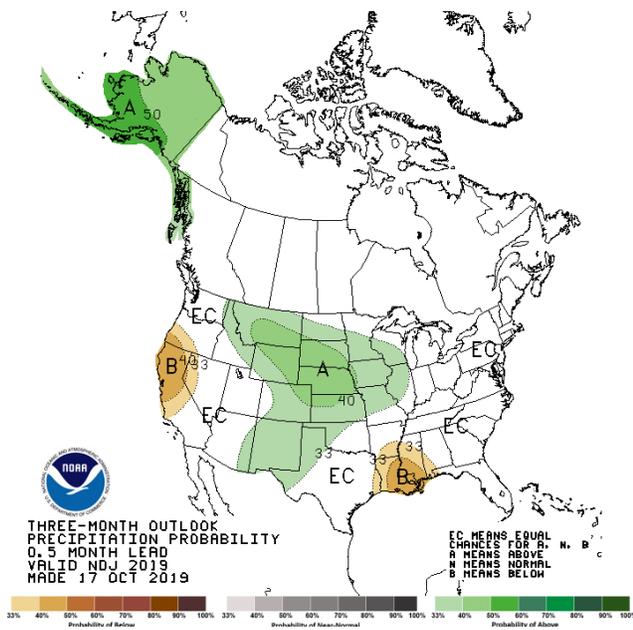
U.S. Seasonal Drought Outlook Valid for October 17, 2019 - January 31, 2020
Drought Tendency During the Valid Period Released October 17, 2019



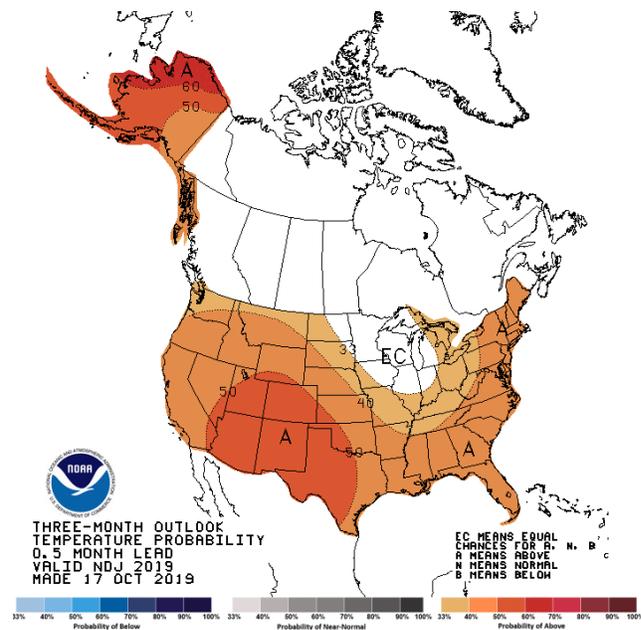
Climate Prediction Center 3-Month Outlook

Source: National Weather Service

Precipitation



Temperature



[November-December-January \(NDJ\) 2019/2020 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](#).