

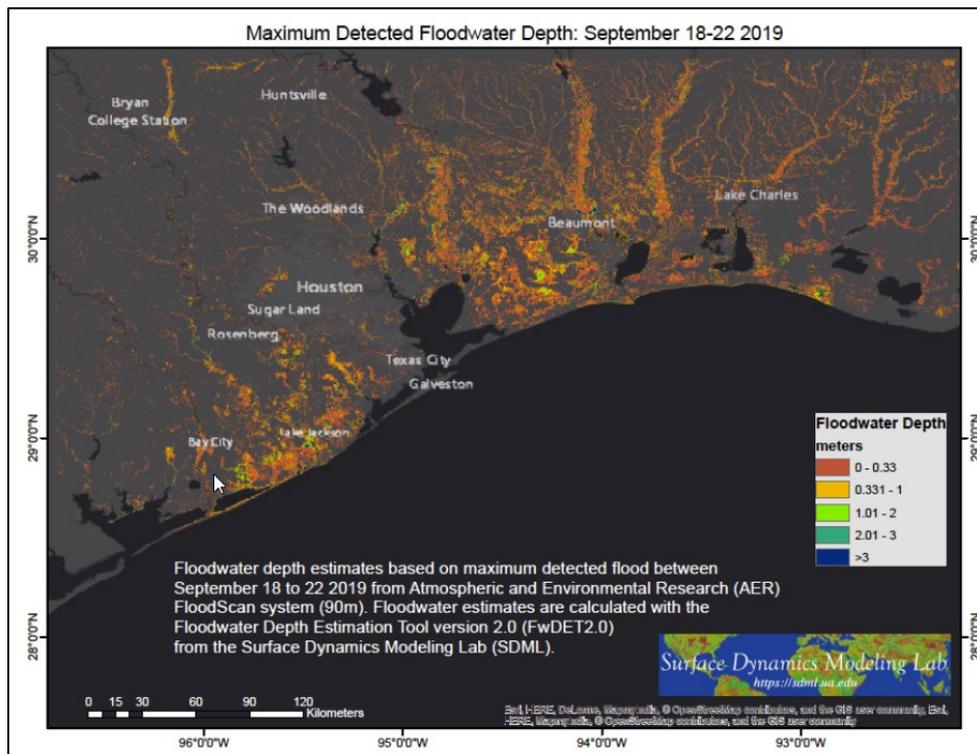
Water and Climate Update

September 26, 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.

Precipitation	2	Other Climatic and Water Supply Indicators	11
Temperature.....	6	Short- and Long-Range Outlooks.....	16
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Tropical Storm Imelda causes severe flooding in southeast Texas



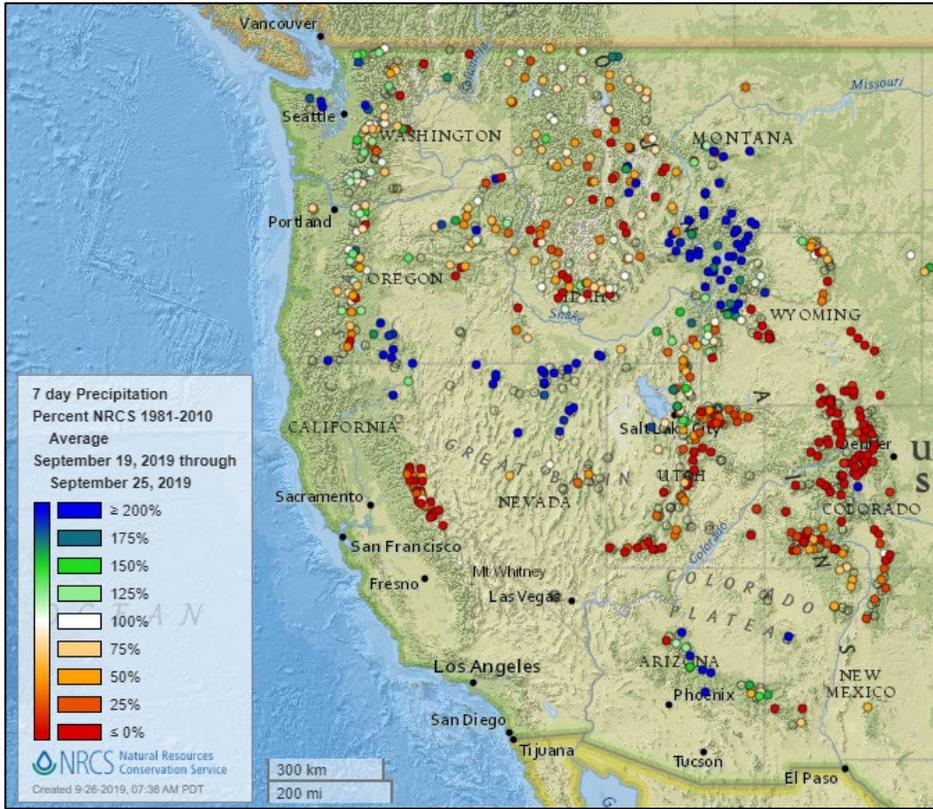
Tropical Storm Imelda delivered torrential rain across southeast Texas, with the highest rainfall topping out at 42.83 inches in Jefferson County. The flooding caused several deaths, submerged homes and businesses, and covered roads and highways, including in major cities such as Houston. The Dartmouth Flood Observatory located at INSTARR at the University of Colorado compiled several modeled flood inundation maps of the area, including this maximum inundation model. Floodwater depth estimates in some locations were over 3 meters (9.8 feet).

Related:

- [The Latest: 'Homes that did not flood in Harvey are flooding now'](#) – Houston Chronicle
- [Streets flood, but Houston's business districts escape Imelda's wrath](#) – Houston Chronicle
- [Hundreds of cars abandoned in Houston after drivers couldn't get through floodwaters](#) - CNN
- [Photos and videos show Imelda battering Texas with torrential rain and flash floods reminiscent of Hurricane Harvey](#) – Business Insider
- [Photos, Videos of Texas Flooding in Beaumont and Winnie Show Damage From Tropical Depression Imelda](#) – Newsweek

Precipitation

Last 7 Days, NRCS SNOTEL Network

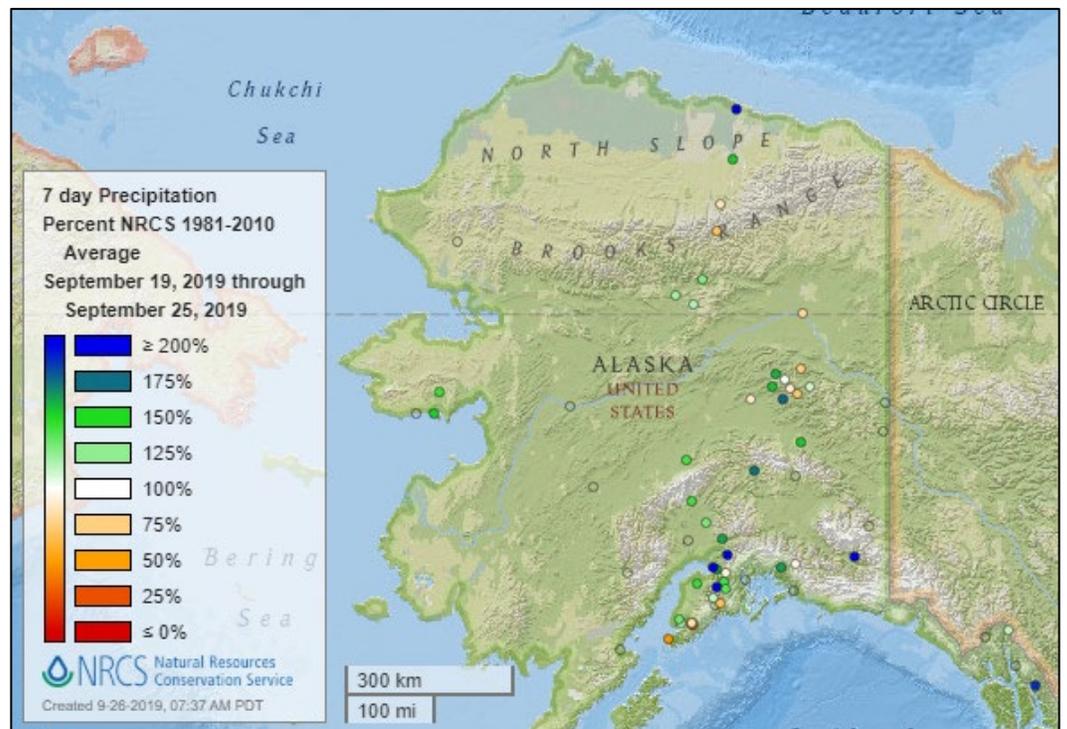


[7-day precipitation percent of average map](#)

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](#)



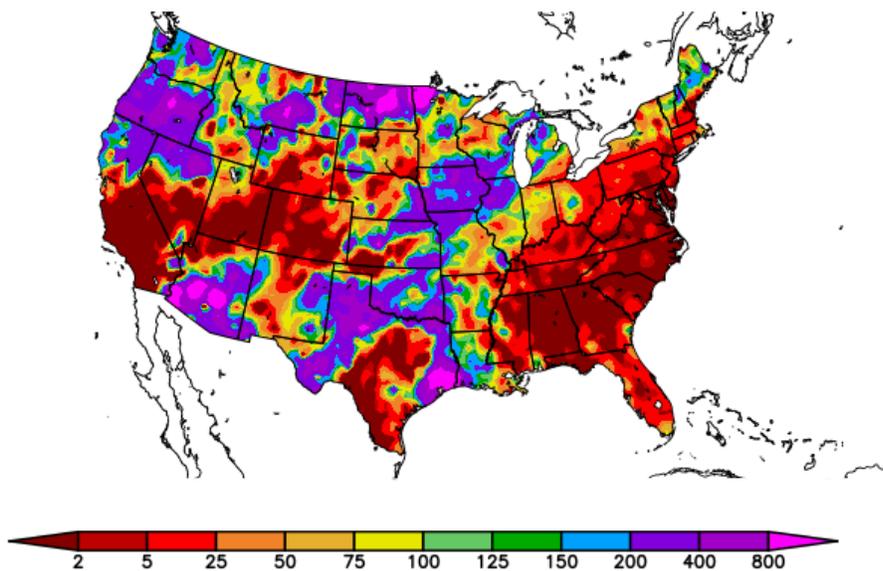
Last 7 Days, National Weather Service (NWS) Networks

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 (%)
9/18/2019 – 9/24/2019



Generated 9/25/2019 at HPRCC using provisional data.

NOAA Regional Climate Centers

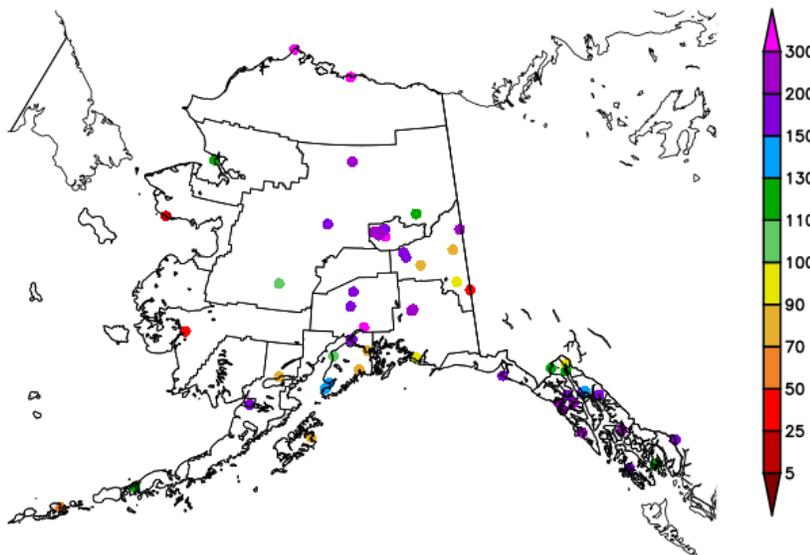
Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

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

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

Percent of Normal Precipitation (%)
9/18/2019 – 9/24/2019



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NOAA Regional Climate Centers

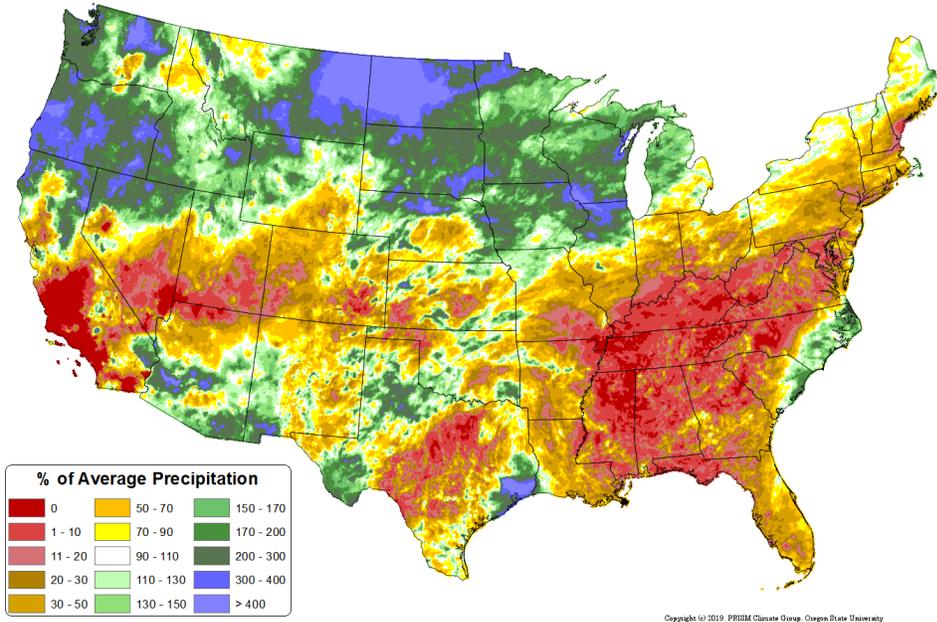
Water and Climate Update

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

Source: PRISM

Total Precipitation Anomaly: 01 Sep 2019 - 25 Sep 2019
Period ending 7 AM EST 25 Sep 2019
Base period: 1981-2010
(Map created 26 Sep 2019)

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



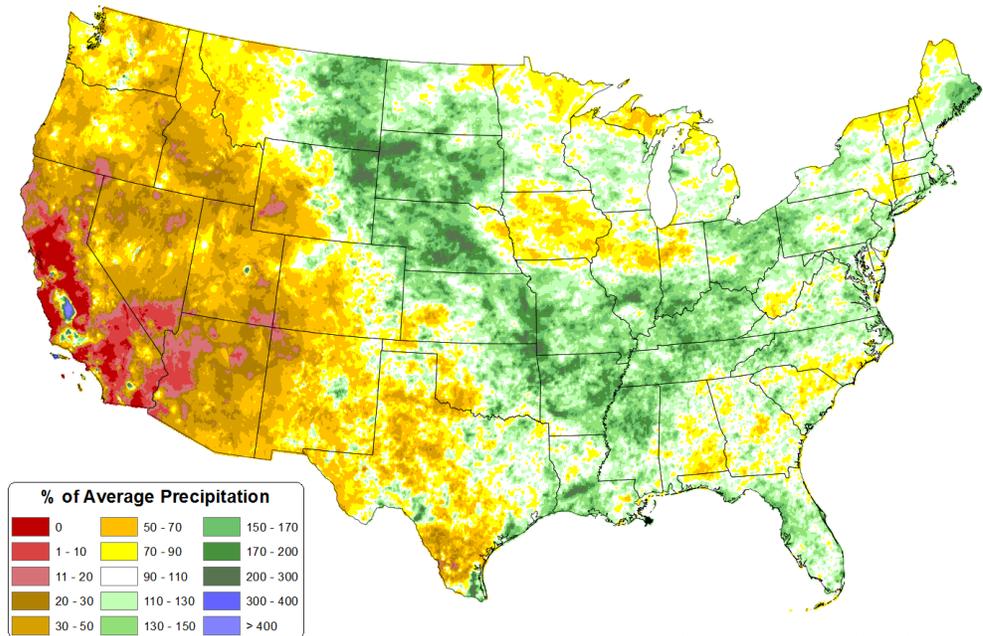
Copyright (c) 2019, PRISM Climate Group, Oregon State University

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

Source: PRISM

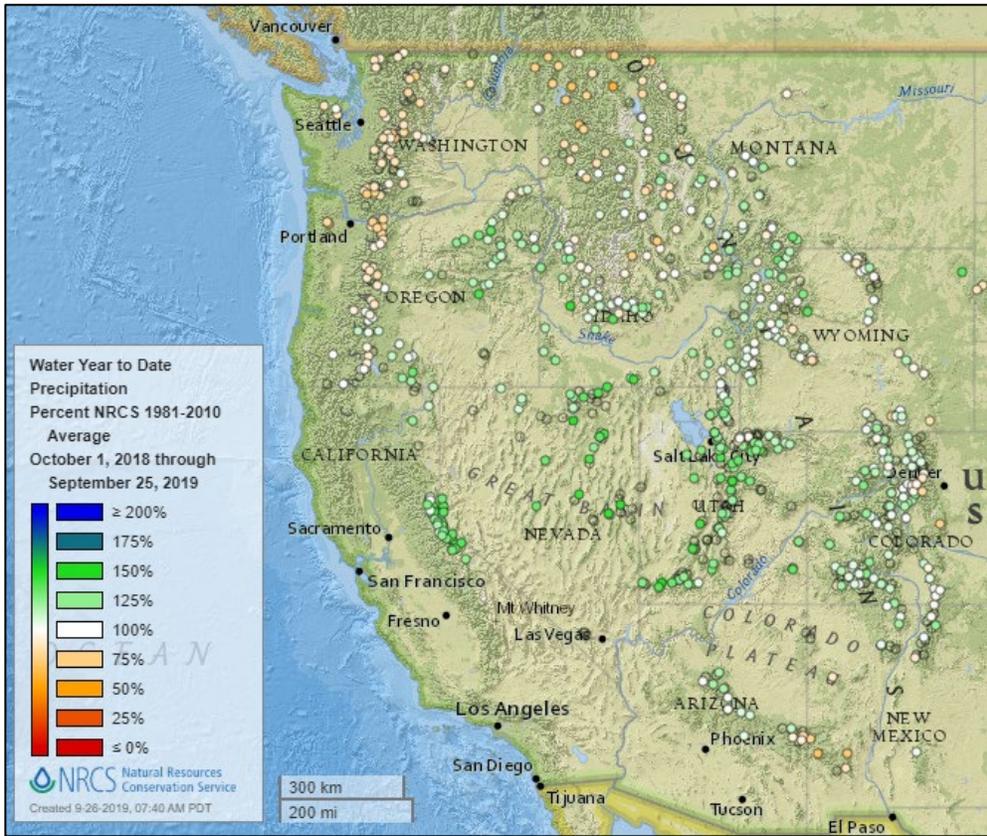
[June through August 2019 total precipitation percent of average map](#)

Total Precipitation Anomaly: Jun 2019 - Aug 2019
Period ending 7 AM EST 31 Aug 2019
Base period: 1981-2010
(Map created 03 Sep 2019)



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

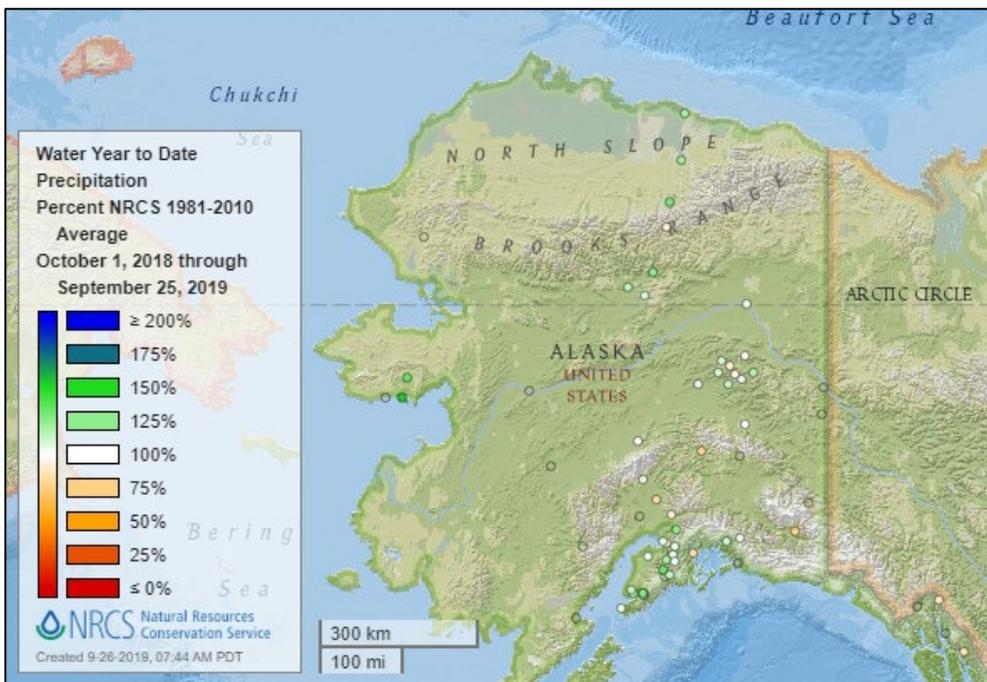
Water Year-to-Date, NRCS SNOTEL Network



[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

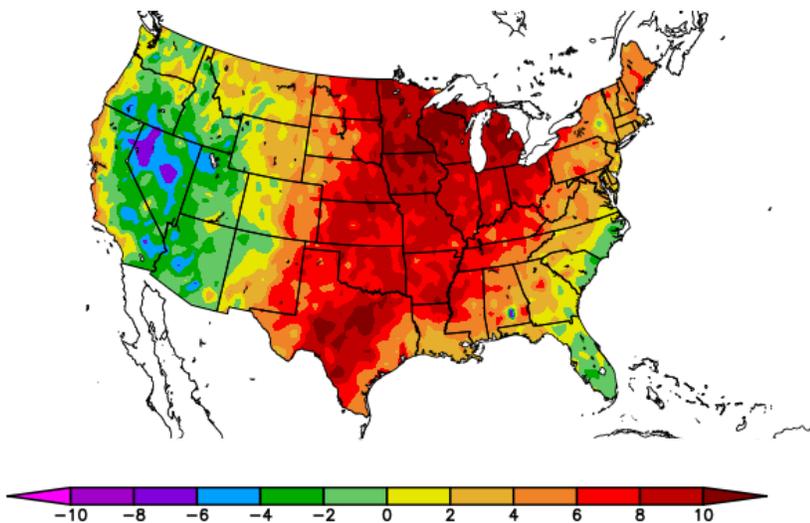
Last 7 Days, National Weather Service (NWS) Networks

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)
9/19/2019 – 9/25/2019



Generated 9/26/2019 at HPRCC using provisional data.

NOAA Regional Climate Centers

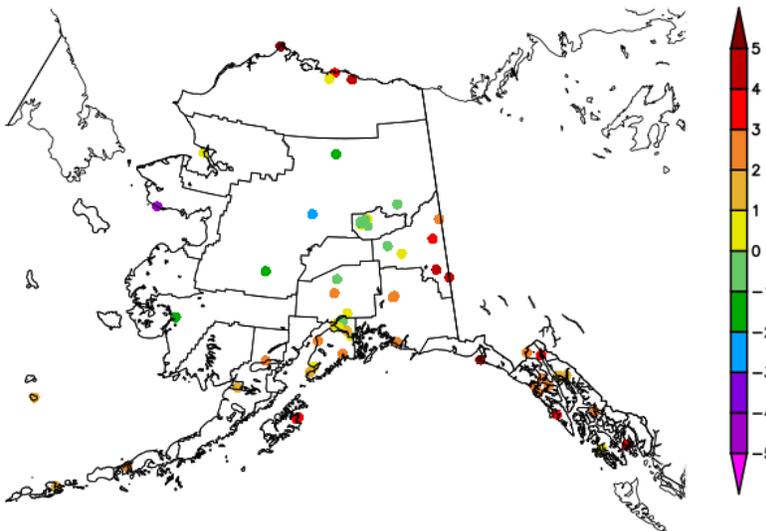
Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

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

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

Departure from Normal Temperature (F)
9/19/2019 – 9/25/2019



Generated 9/26/2019 at HPRCC using provisional data.

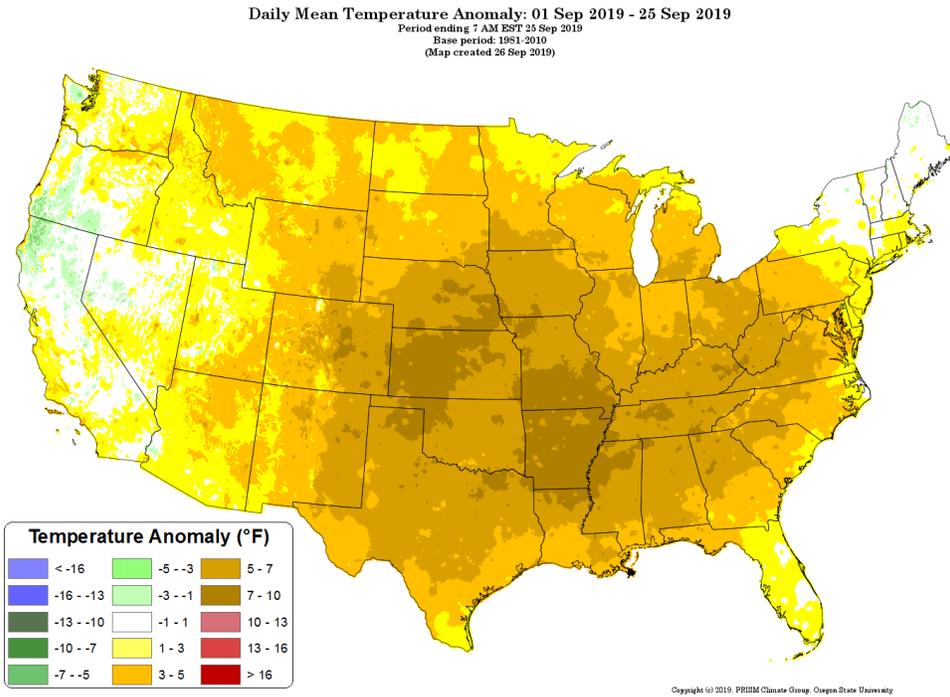
NOAA Regional Climate Centers

Water and Climate Update

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

Source: PRISM

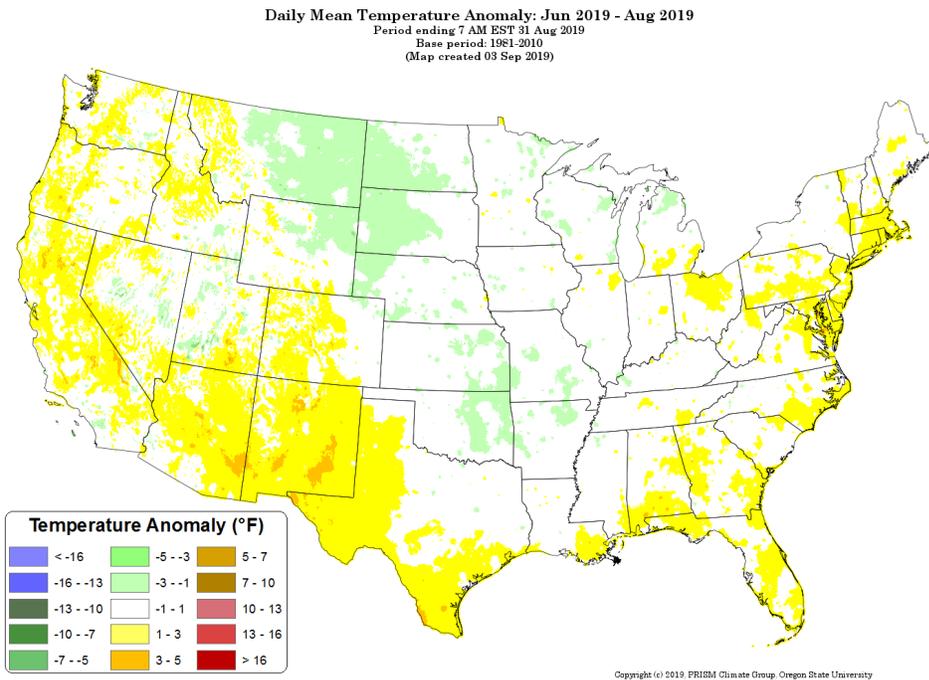
[Month-to-date national daily mean temperature anomaly map](#)



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

Source: PRISM

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



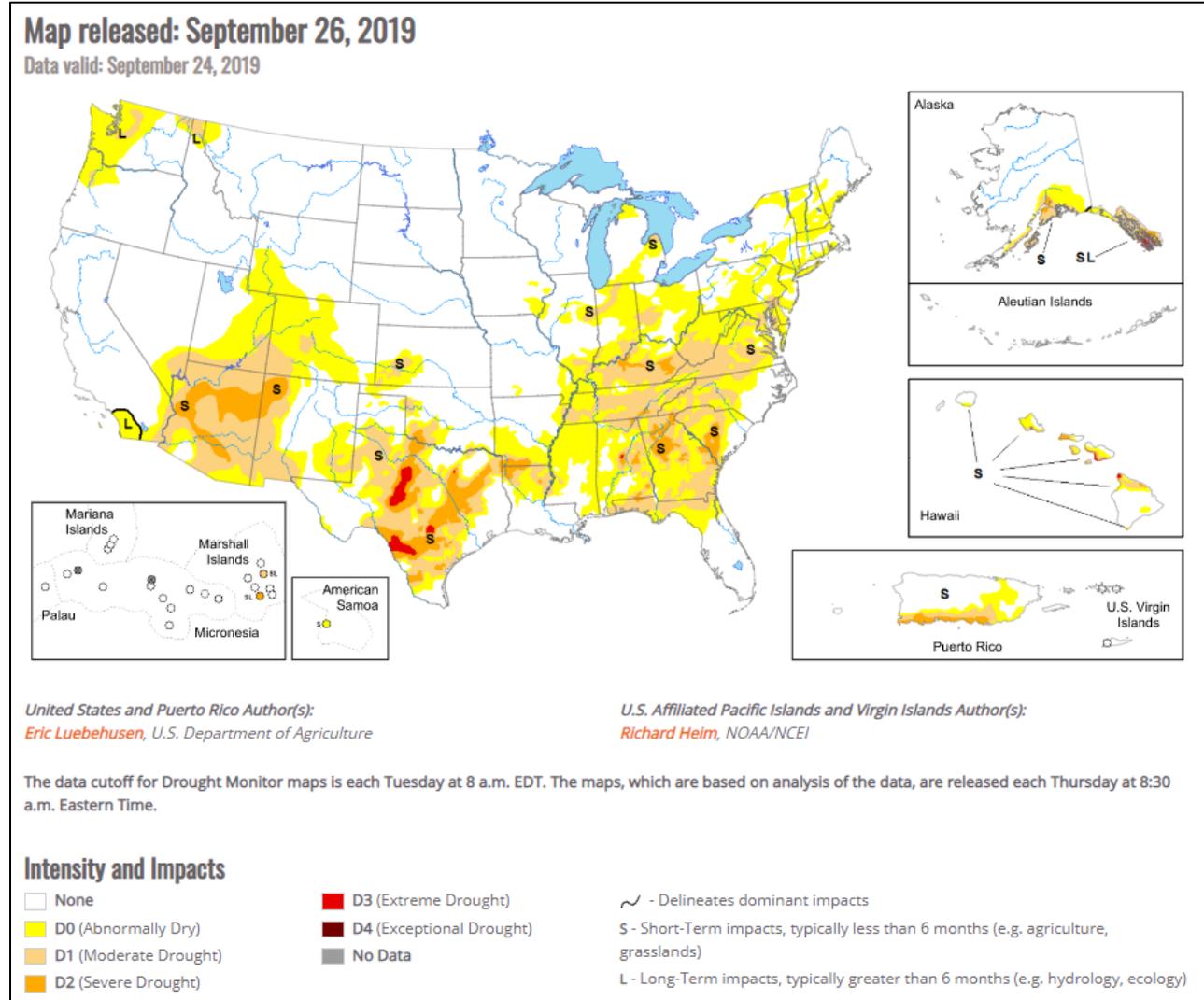
Drought

[U.S. Drought Monitor](#)

Source: National Drought Mitigation Center

[U.S. Drought Portal](#)

Source: NOAA



[Current National Drought Summary, September 26, 2019](#)

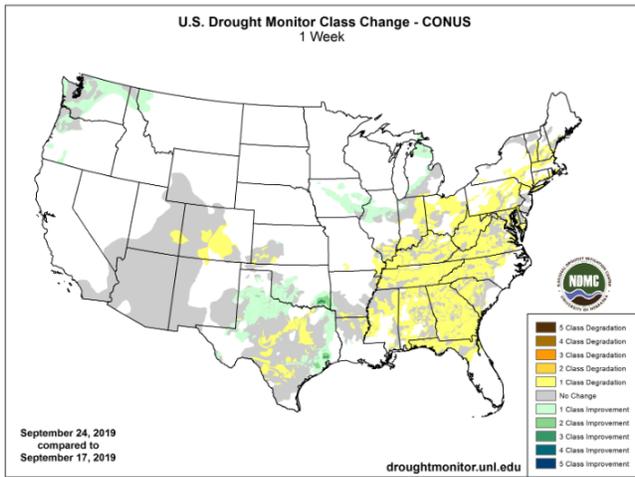
Source: National Drought Mitigation Center

“Rapidly intensifying ‘flash drought’ — attributed in part to extreme late-summer heat — continued to afflict many areas from the lower Midwest and Mid-Atlantic States to the Gulf Coast. Conversely, heavy to excessive rainfall associated with the remnants of Tropical Storm Imelda eradicated drought but caused locally catastrophic flooding in southeastern Texas and western Louisiana. Farther west, late-season showers on the heels of an abysmal Southwestern monsoon (to-date) helped stem drought increases in the Four Corners region, while rain and mountain snow further reduced lingering drought in the northwestern quarter of the nation. Meanwhile, additional moderate to heavy rain eased or alleviated dryness and drought from the Northwest into the Great Lakes. Outside of the lower 48, additional heavy rainfall eased lingering drought and dryness in south-central Alaska. Elsewhere, short-term drought persisted across the Hawaiian Islands, while Puerto Rico was mostly dry; rain arrived in Puerto Rico after the monitoring period ended (Tuesday morning).”

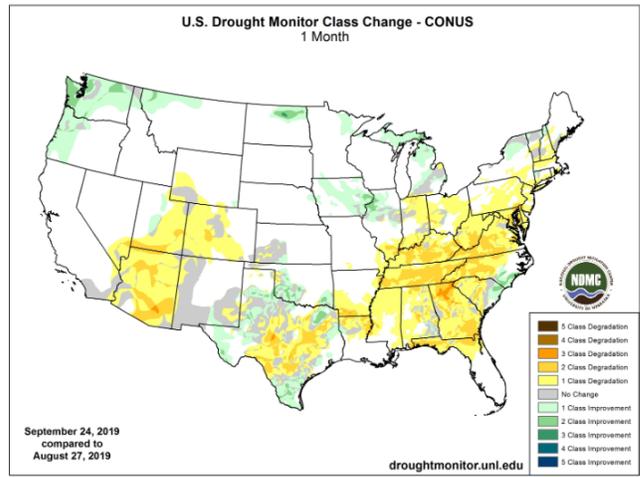
Changes in Drought Monitor Categories over Time

Source: National Drought Mitigation Center

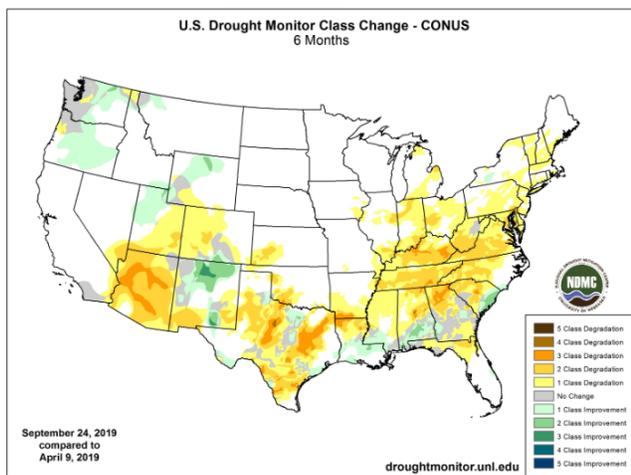
1 Week



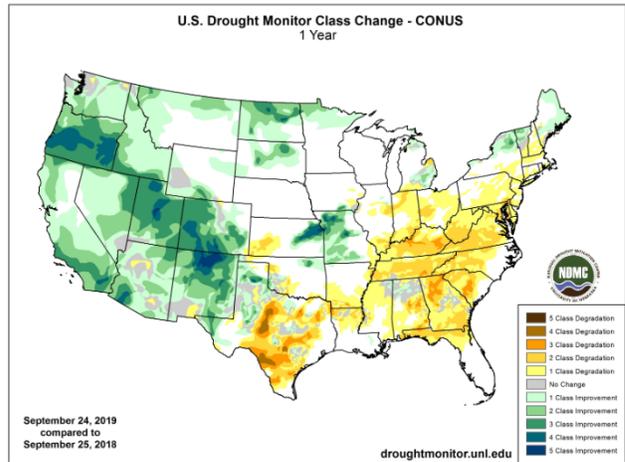
1 Month



6 Months



1 Year



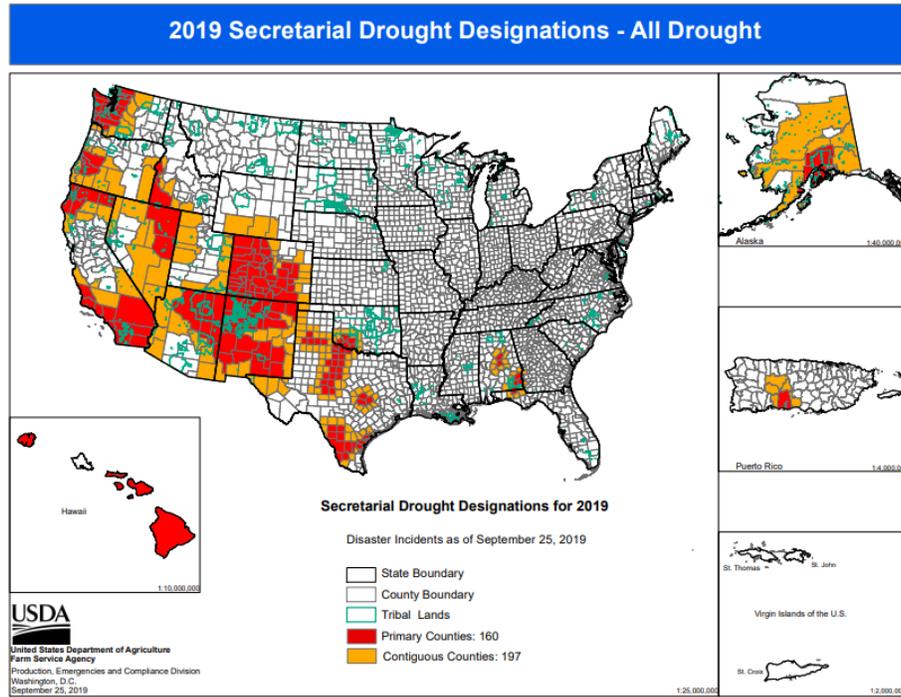
[Changes in drought conditions over the last 12 months for the contiguous U.S.](#)

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



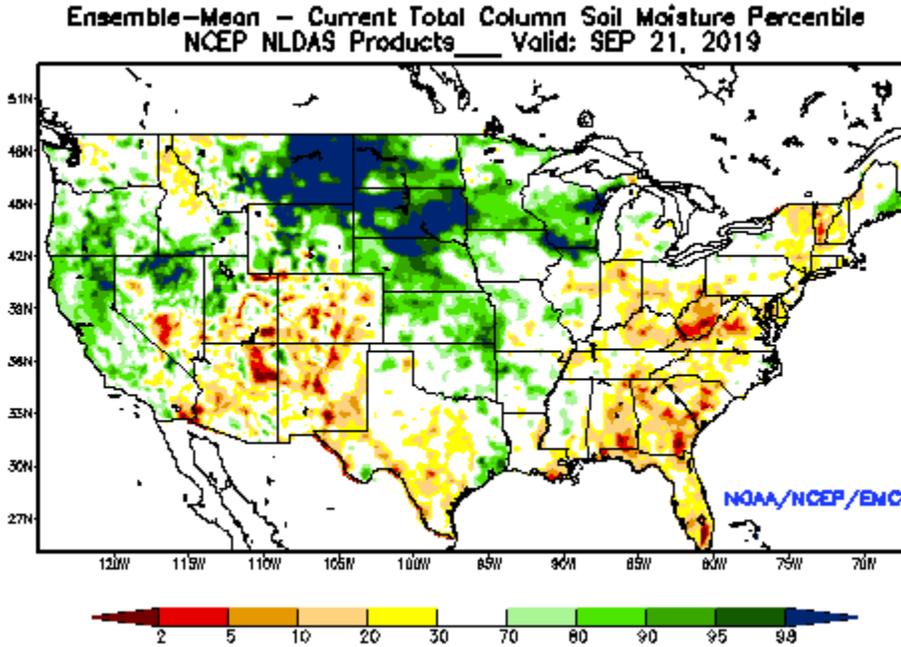
Highlighted Wildfire Resources

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

Other Climatic and Water Supply Indicators

Soil Moisture

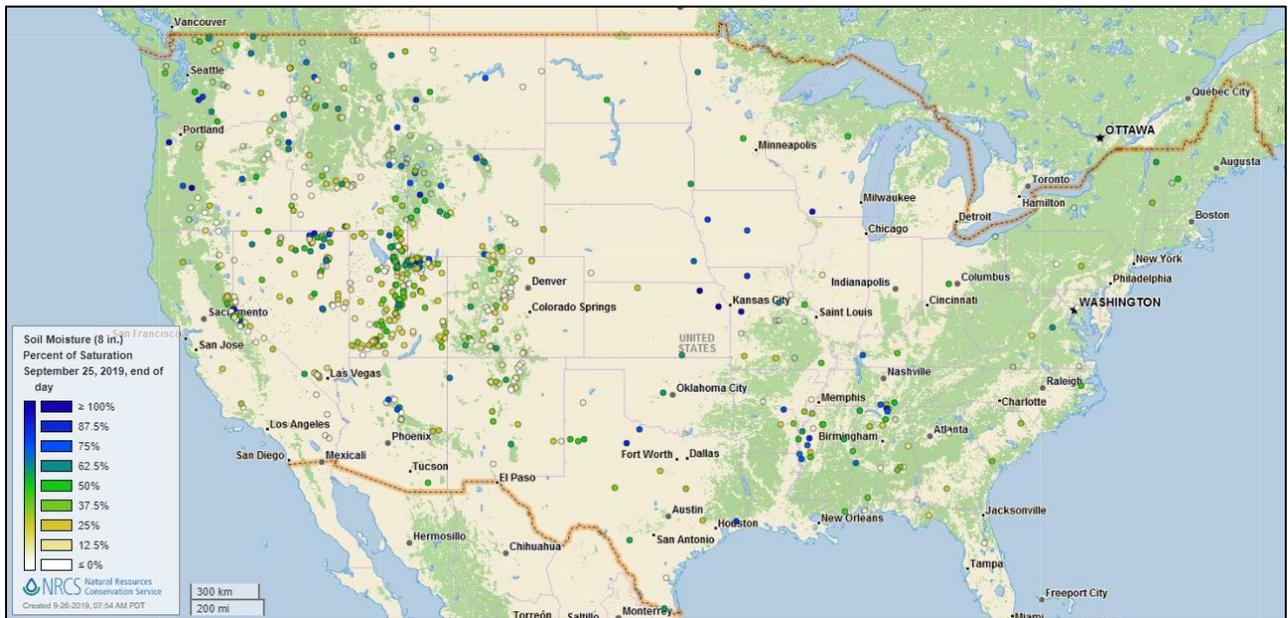
Source: NOAA National Centers for Environmental Prediction



[Modeled soil moisture percentiles](#) as of September 21, 2019

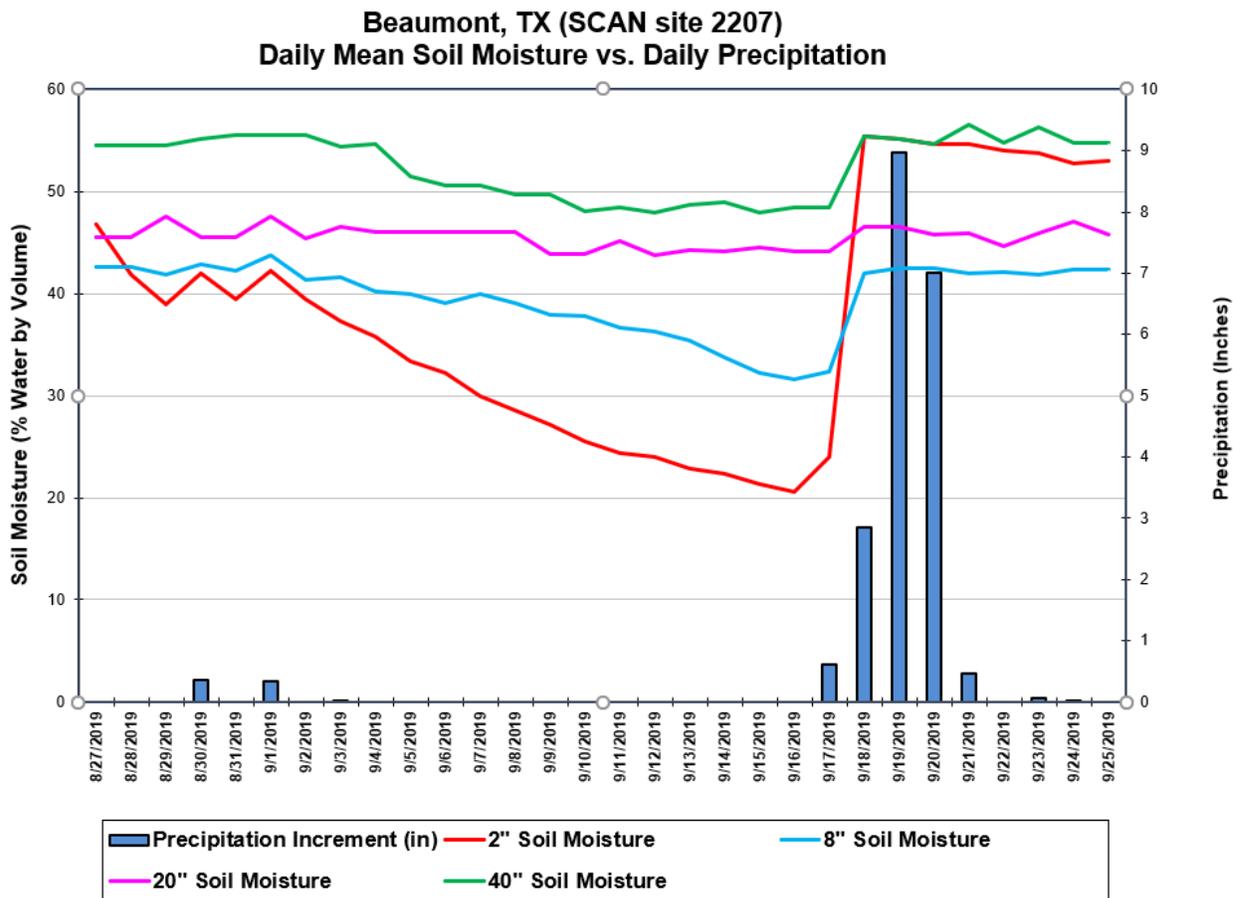
Soil Moisture Percent of Saturation

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 [Beaumont, Texas SCAN site](#) where the effects of Tropical Storm Imelda are evident. Accumulated precipitation from September 17 – 21 was 19.87 inches. Soil moisture sensors at all depths responded to this large precipitation event, with several of the sensors at the saturation point.

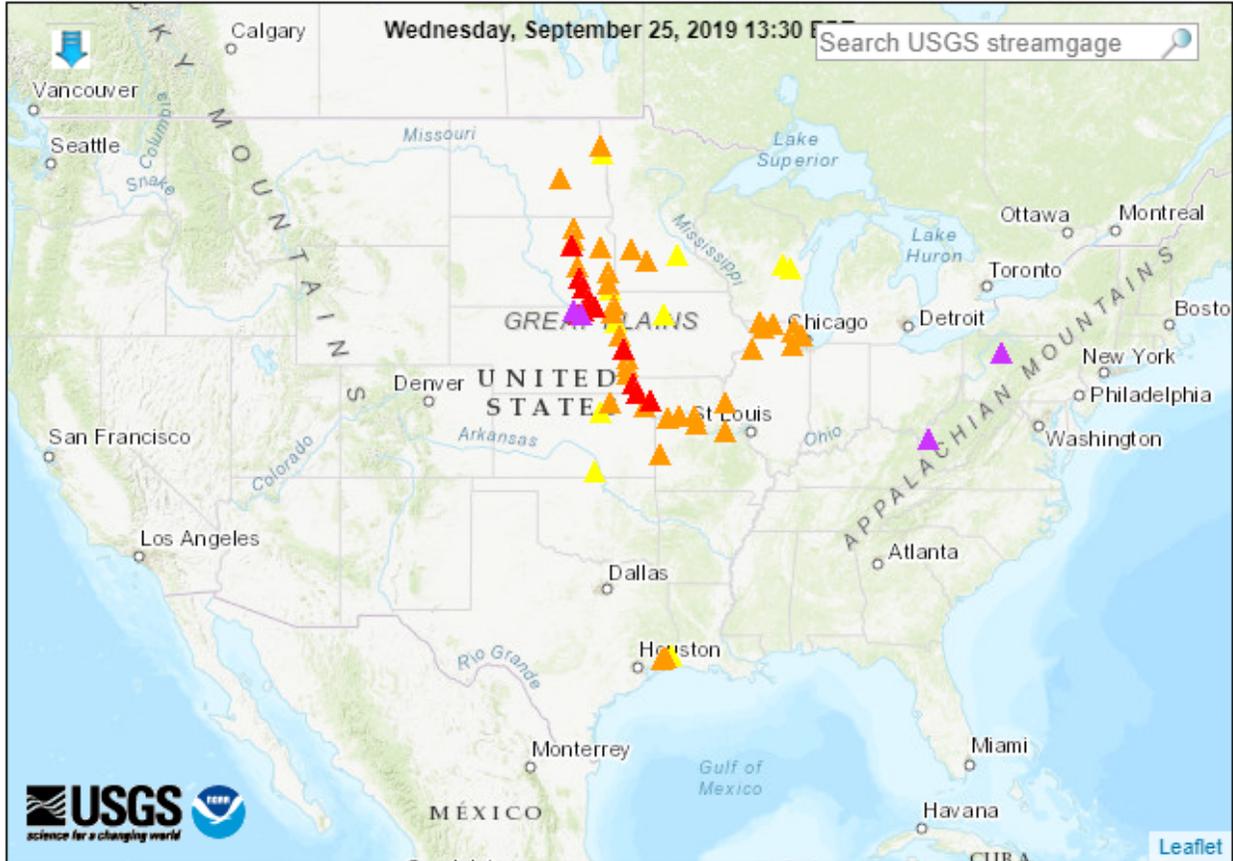
Soil Moisture Data Portals

- [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
 (51 in floods [major: 4, moderate: 11, minor: 36], 10 in near-flood)



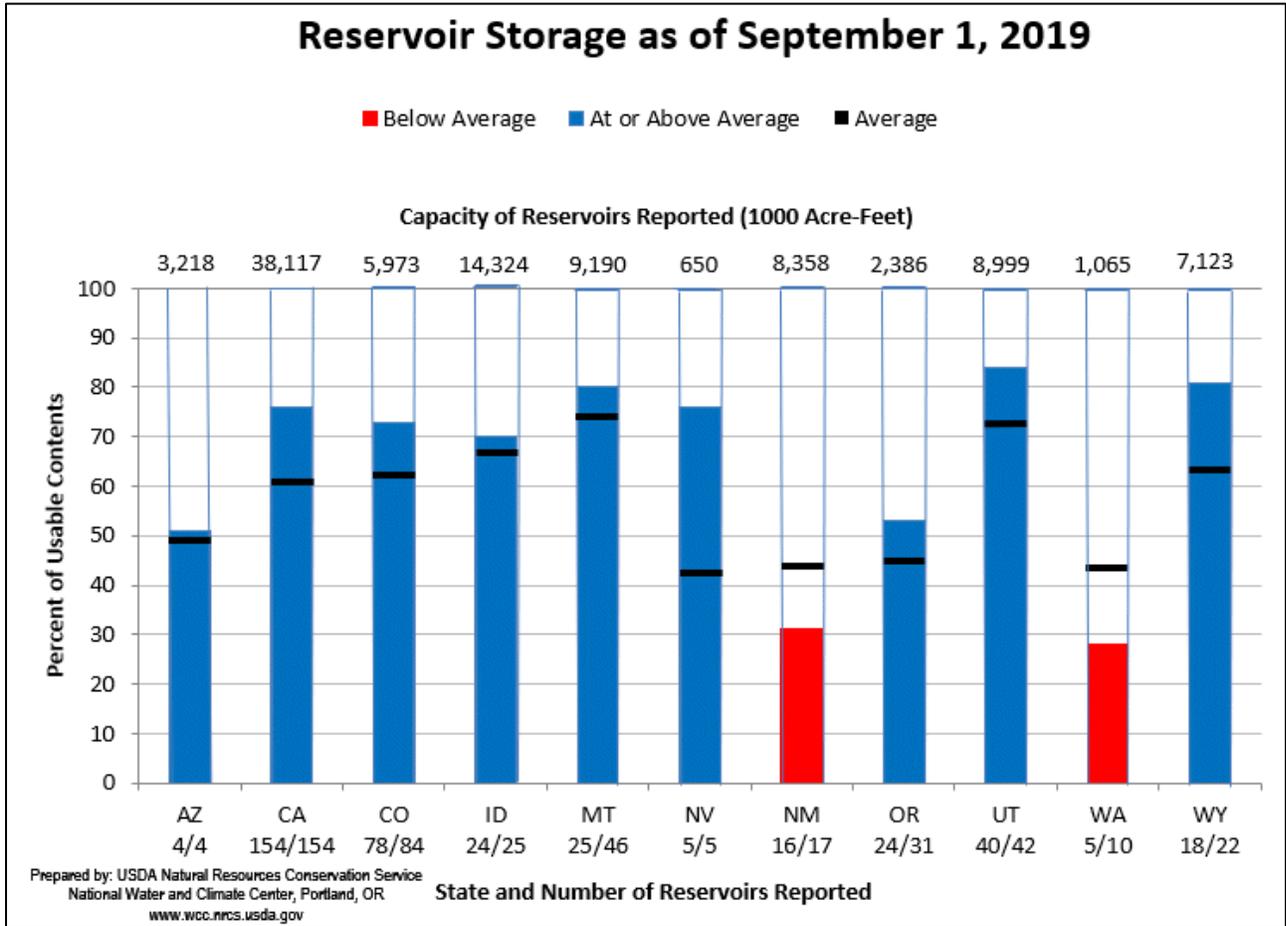
Explanation - Percentile classes						
<95	95-98	>= 99	Above action stage	Above flood stage	Above moderate flood stage	Above major flood stage
▲ Streamgage with flood stage ○ Streamgage without flood stage						

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

Reservoir Storage

Western States Reservoir Storage

Source: NRCS National Water and Climate Center



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

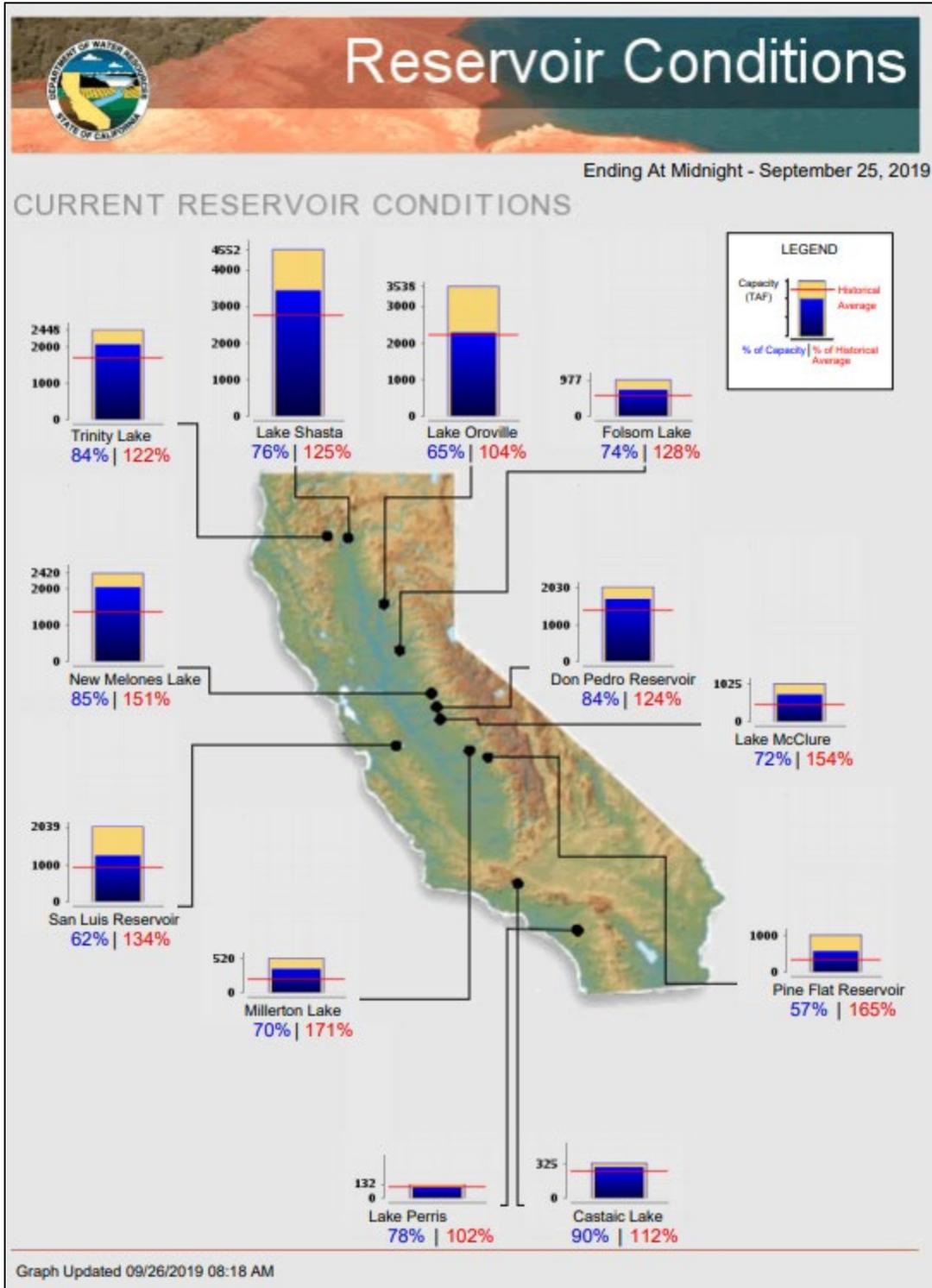
Hydromet Tea Cup Reservoir Depictions

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

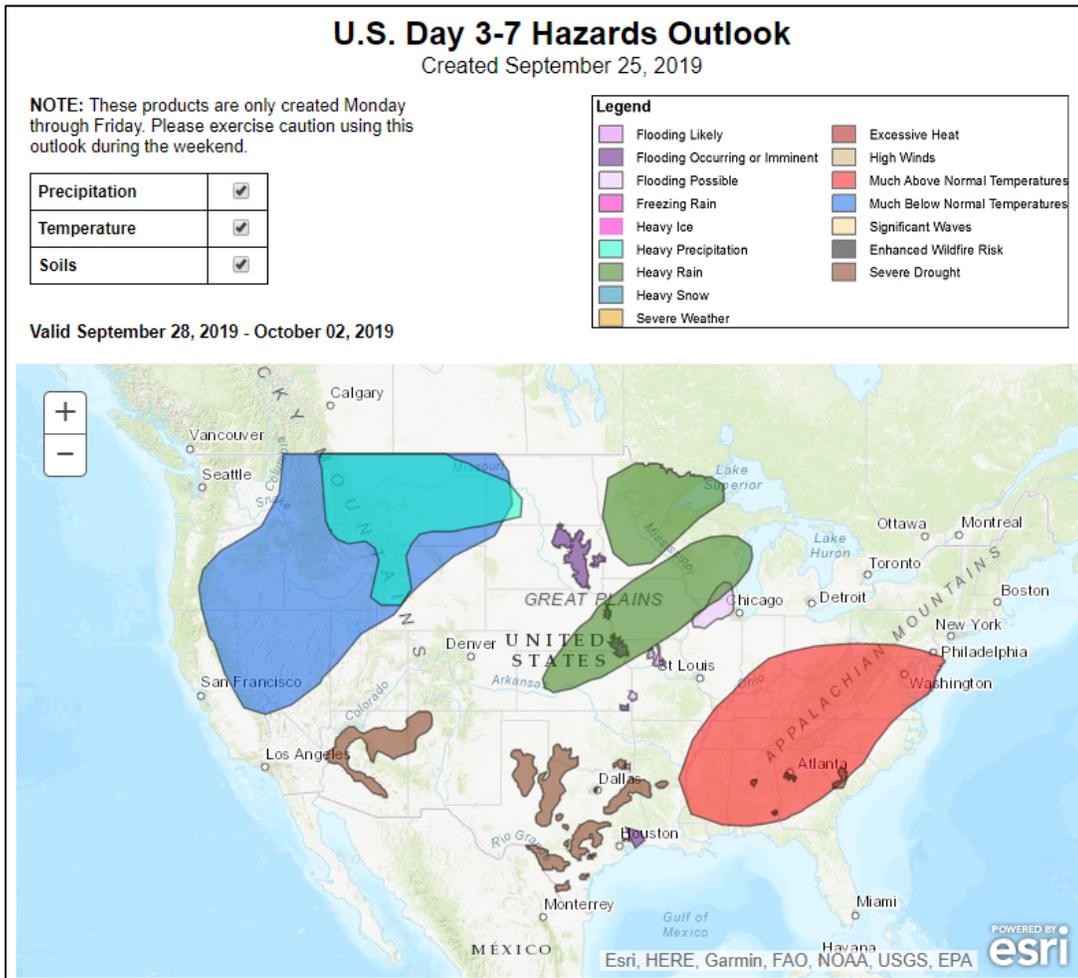
Agricultural Weather Highlights

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

National Outlook, Thursday, September 26, 2019: “Cool air will continue to overspread roughly the northwestern half of the country, while late-season warmth will persist across the South. During the weekend and early next week, widespread freezes can be expected across the northern High Plains and much of the interior Northwest. Scattered frost could reach the upper Midwest, but the Corn Belt’s growing season will largely continue into early October. Late-week and weekend precipitation could become heavy from the northern Rockies into the upper Midwest, with 1 to 3 inches possible in some locations. The precipitation will include early-season snow and wind across the northern Rockies and northern High Plains, leading to travel disruptions and possible power outages. On the northern Plains, the latest round of precipitation will be another impediment to producers attempting to complete small grain harvesting. In contrast, mostly dry weather will prevail during the next 5 days from the Ohio Valley southward to the Gulf Coast, leading to further drought development, expansion, and intensification. The NWS 6- to 10-day outlook for October 1 – 5 calls for the likelihood of below-normal temperatures across the northern half of the Plains and much of the West, while warmer-than-normal weather will prevail in the southern Rockies and along and east of a line from the Texas to Michigan. Meanwhile, near- or above-normal precipitation across most of the U.S. will contrast with drier-than-normal conditions in the Southeast.”

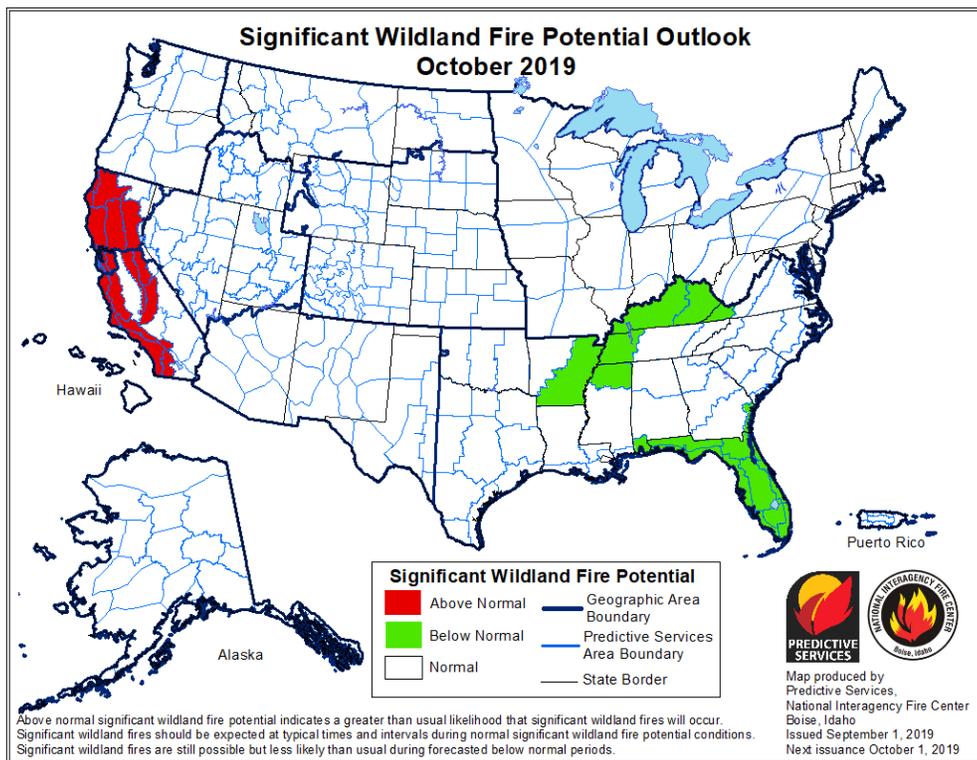
Weather Hazards Outlook: [September 28 – October 2, 2019](#)

Source: NOAA Climate Prediction Center



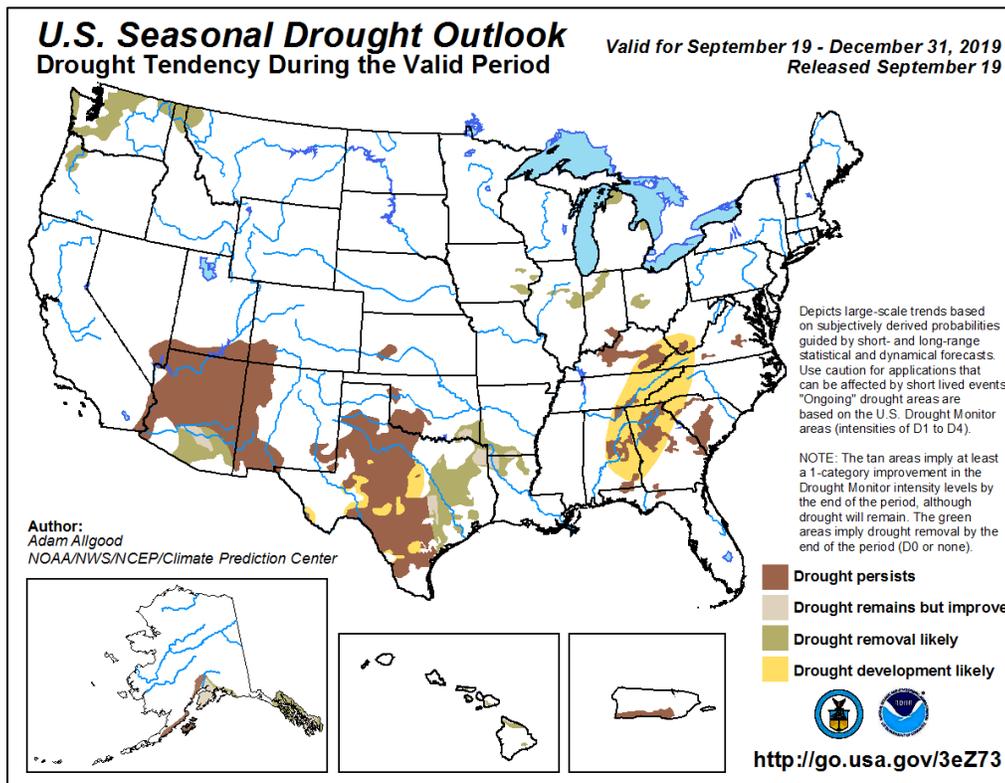
Significant Wildland [Fire Potential Outlook](#)

Source: National Interagency Fire Center



Seasonal Drought Outlook: [September 19 – December 31, 2019](#)

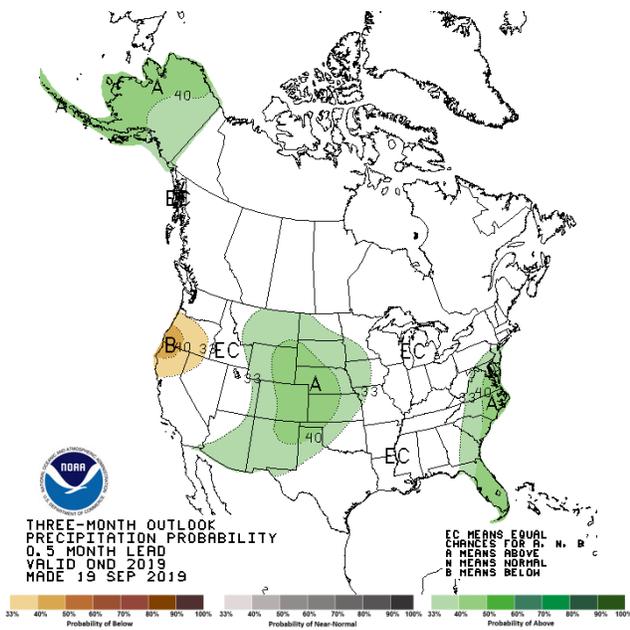
Source: National Weather Service



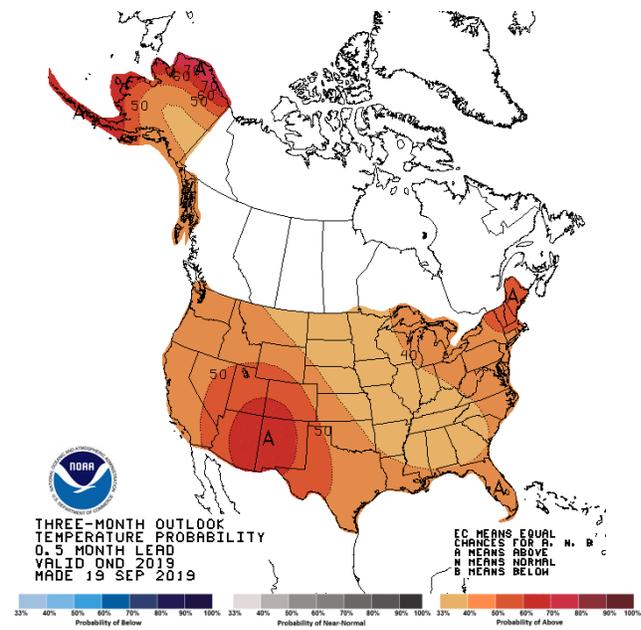
Climate Prediction Center 3-Month Outlook

Source: National Weather Service

[Precipitation](#)



[Temperature](#)



[October-November-December \(OND\) 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](#).