United States Department of Agriculture

Water and Climate Update

September 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.

Super Typhoon Mangkhut, Tropical Storm Olivia, and Hurricane Florence impacting the U.S.

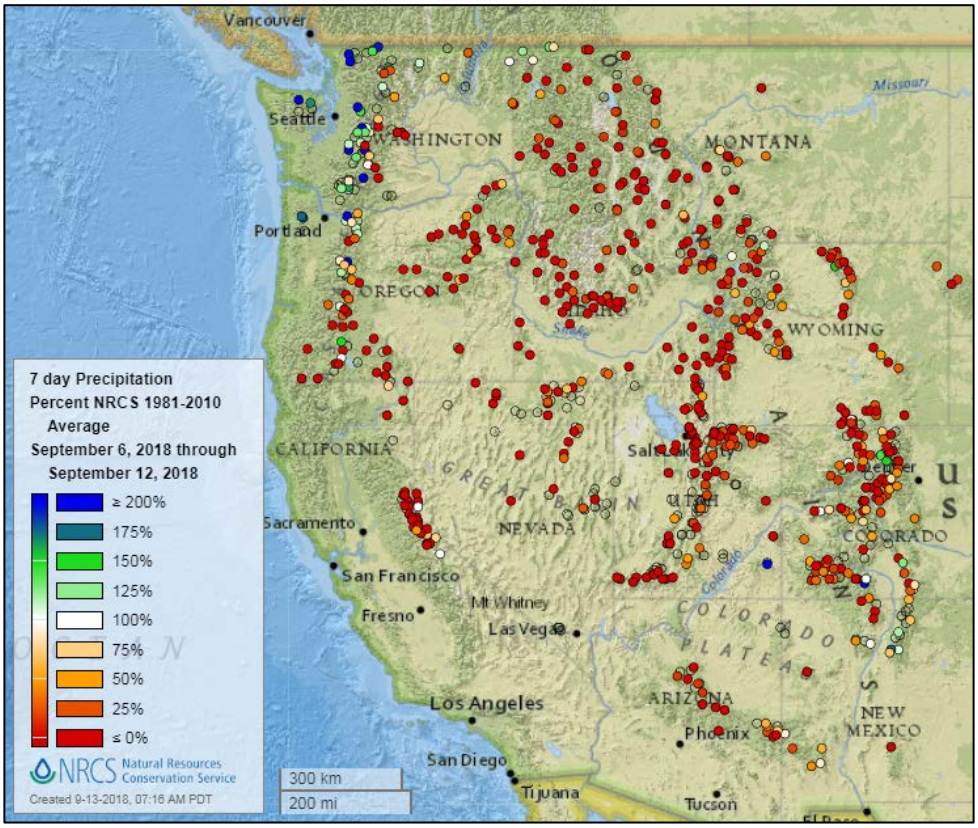
Three powerful storms have prompted officials to declare emergencies in portions of the U.S. and its territories. Typhoon Mangkhut arrived in Guam and the Mariana Islands on Monday. Over 2,000 residents filled shelters as the storm battered the Pacific islands, causing flash floods, downed trees, and power outages. In Hawaii, tropical storm Olivia arrived Wednesday, impacting Maui and the Big Island. This storm is forecast to bring 5 to 15 inches of precipitation to the islands, with powerful winds and possible widespread damage. The mainland U.S. is waiting for the arrival of massive Hurricane Florence, pictured above from the International Space Station. Florence is currently affecting millions as the outer bands of wind and rain have begun to reach the Carolinas.

Related:

Mangkhut leaves trail of debris, power outages -- Pacific Daily News
Pacific island chain asks Trump to declare emergency as typhoon strikes – Thomson Reuters F.
Tropical Storm Olivia dumping heavy rains on Maui, Hawaii's Big Island CBS News
Tropical Storm Olivia approaching Big Island, Maui County – KITV, HI
'Monster' Hurricane Florence to pummel U.S. Southeast for days – Reuters
FIRST ALERT: Florence weakens further to Category 2 storm as it continues to the Carolinas – Live 5 News
Hurricane Florence: North Carolina braces for impact, Duke Energy shuts down nuclear plant – The Greenville News - NC

Precipitation

Last 7 Days, NRCS SNOTEL Network

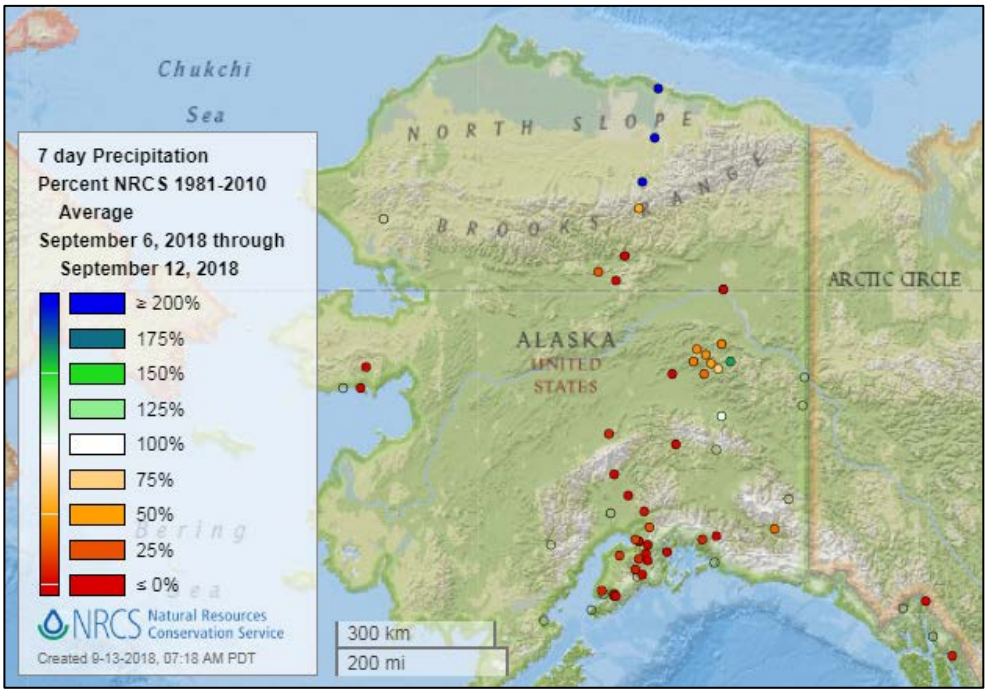


[7-day precipitation percent of average map]

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]

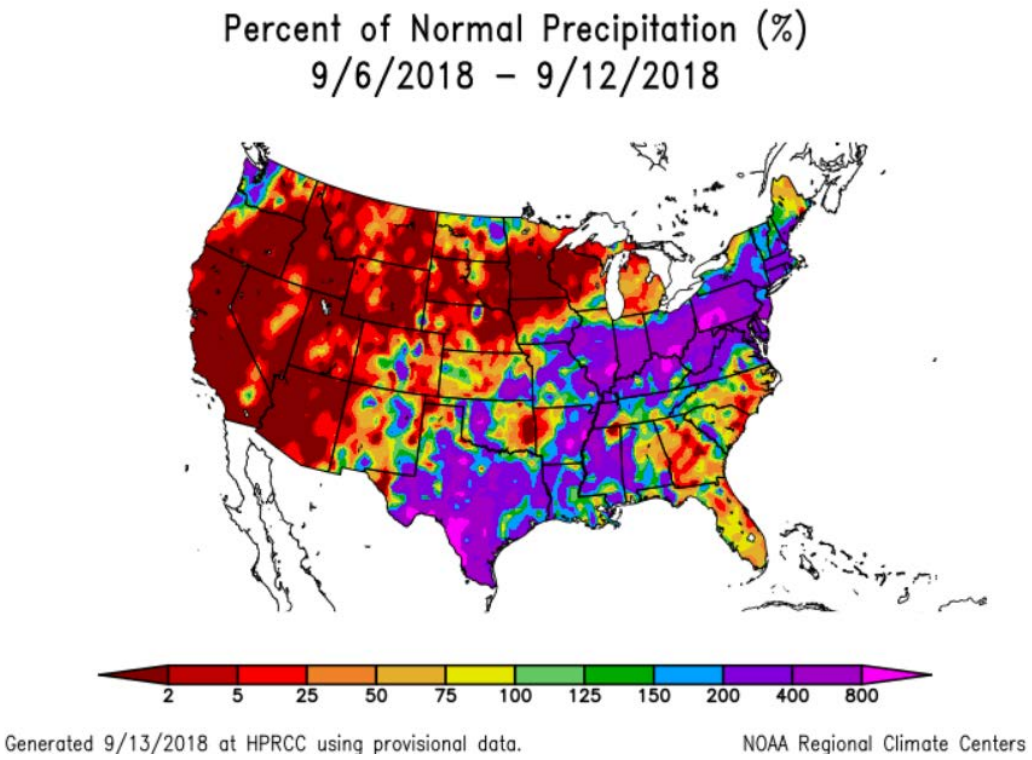


Last 7 Days, National Weather Service (NWS) Networks

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](#)

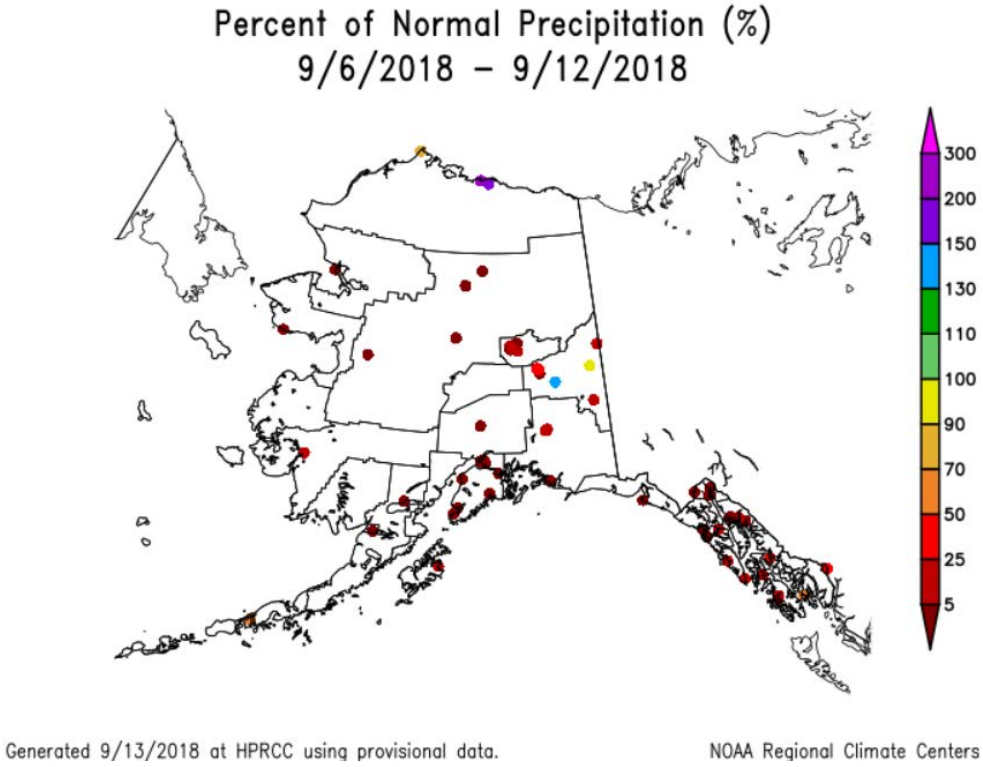


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

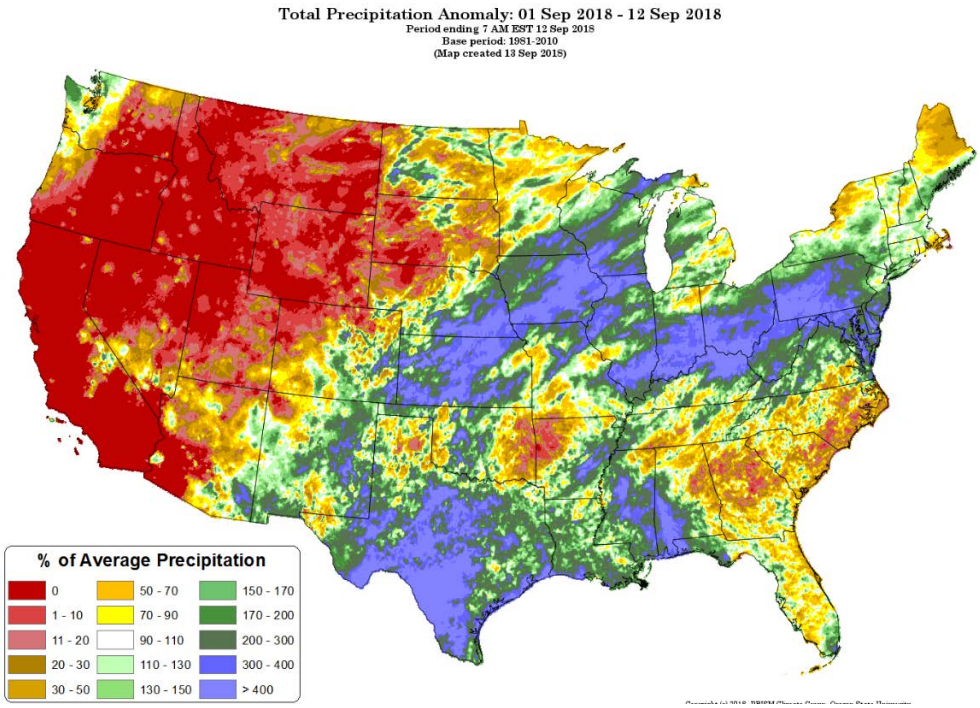
[7-day precipitation anomaly map](#) for Alaska.

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



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

Source: PRISM

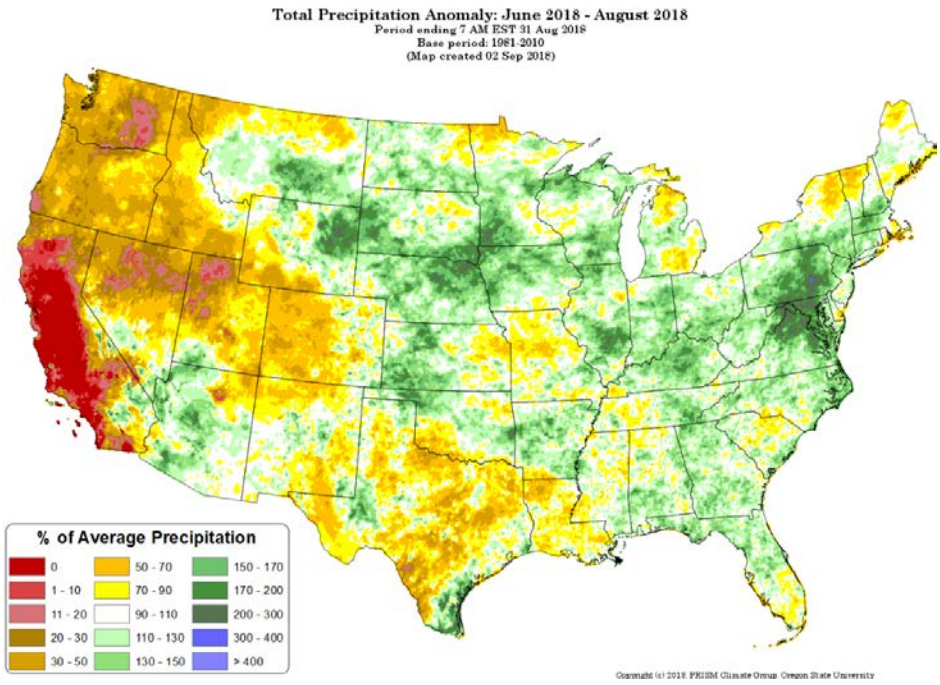


[Month-to-date national total precipitation percent of average map]

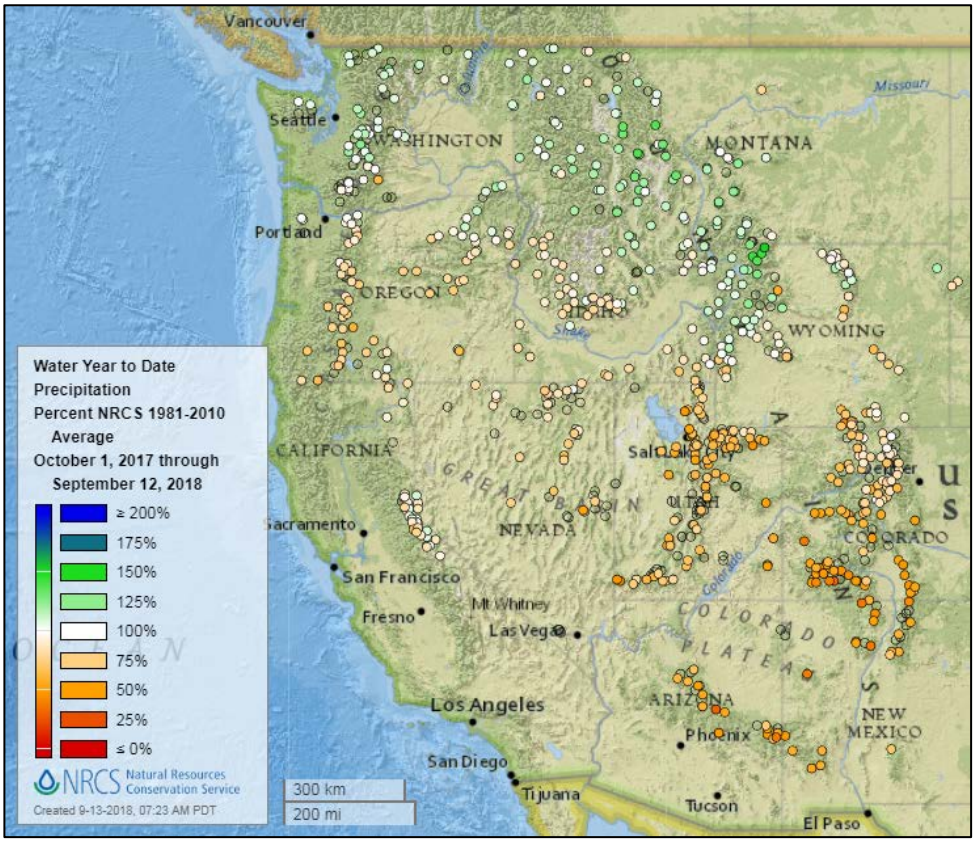
Last 3 Months, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

[June through August 2018 total precipitation percent of average map]

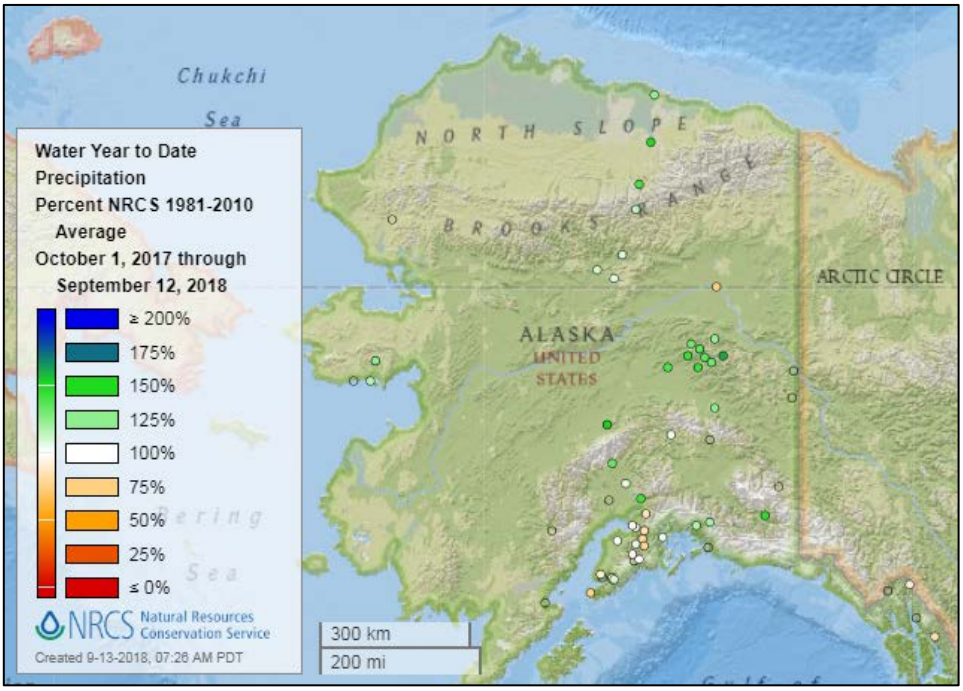


Water Year-to-Date, NRCS SNOTEL Network



[2018 water year-to-date precipitation percent of average map]

See also: [2018 water year-to-date precipitation values (inches) map]



[Alaska 2018 water year-to-date precipitation percent of average map]

See also: [Alaska 2018 water year-to-date precipitation values (inches) map]

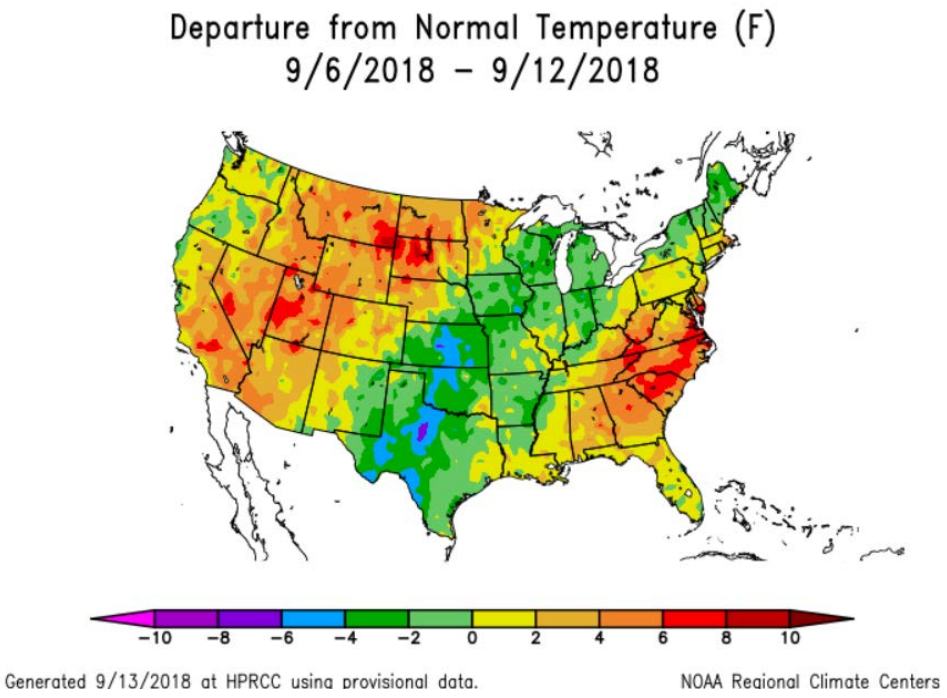
Temperature

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]

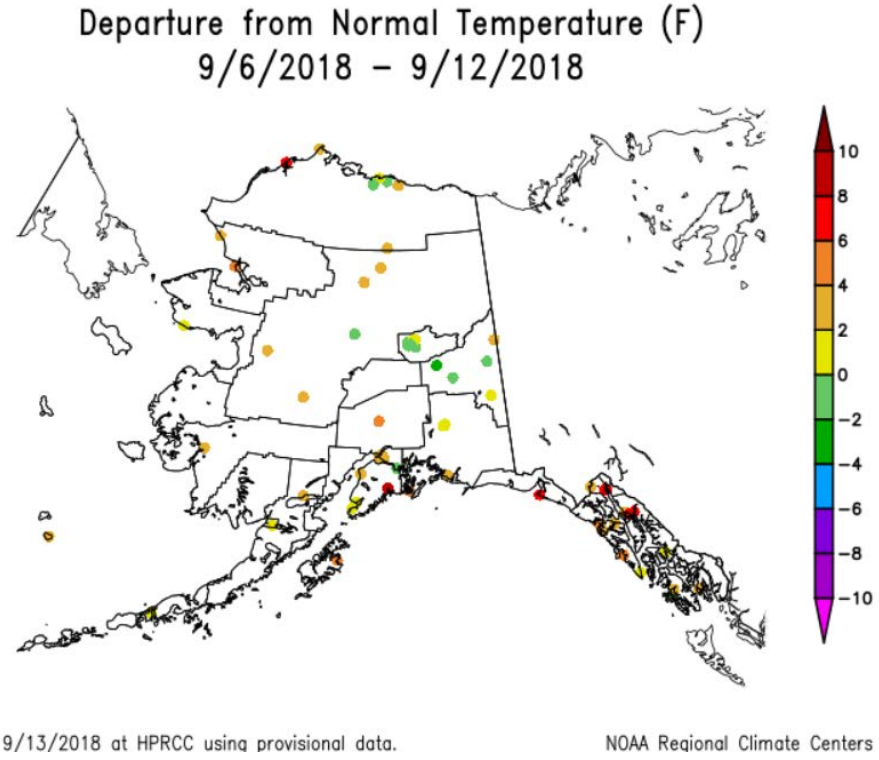


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

[7-day temperature anomaly map] for Alaska.

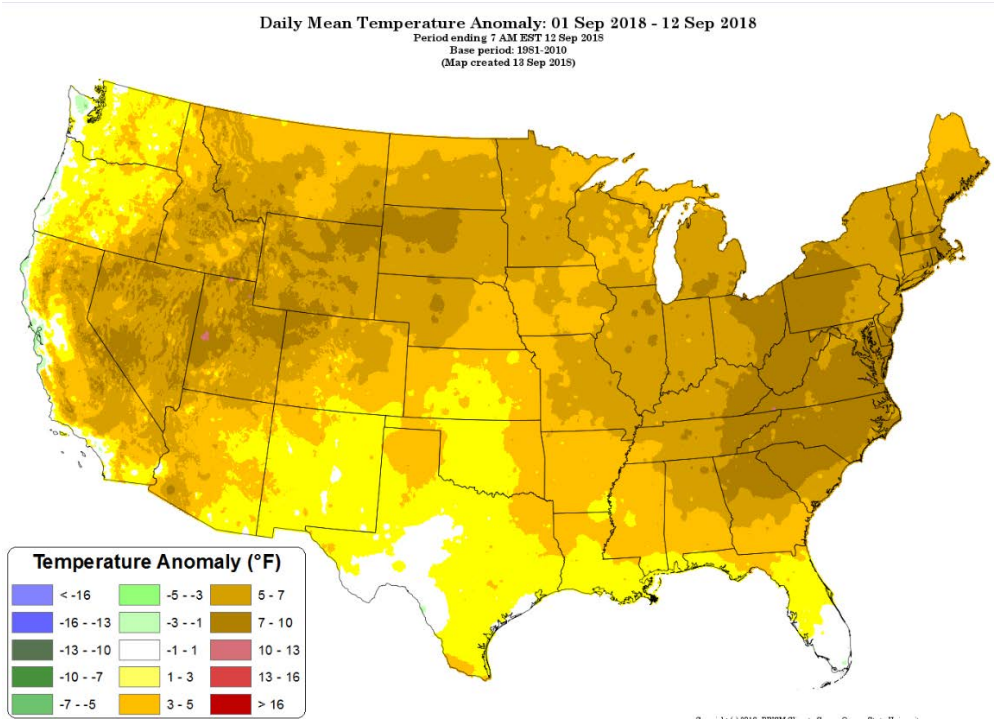
See also: [7-day temperature (° F) map]



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

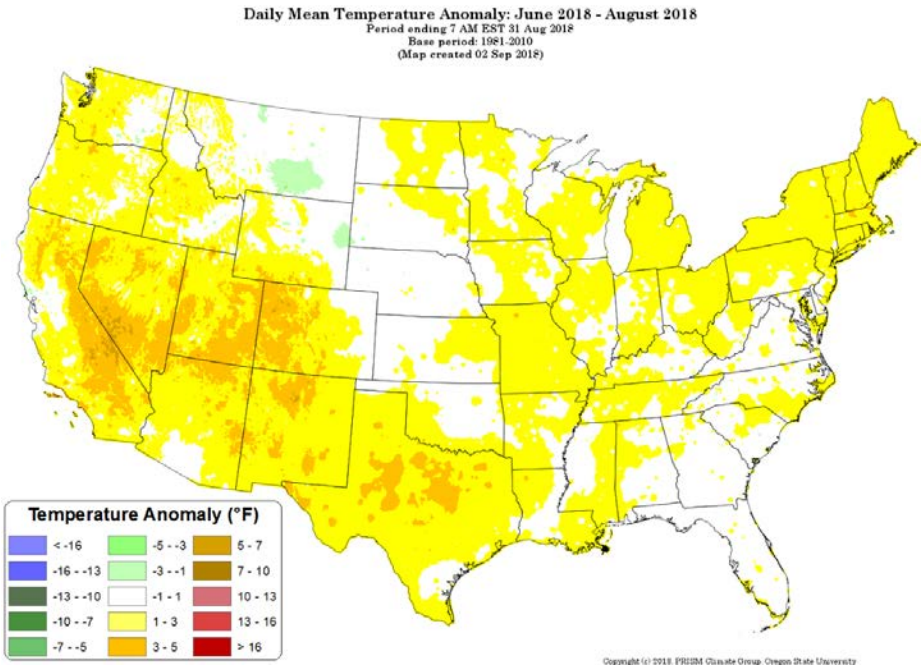
Source: PRISM

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



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

Source: PRISM

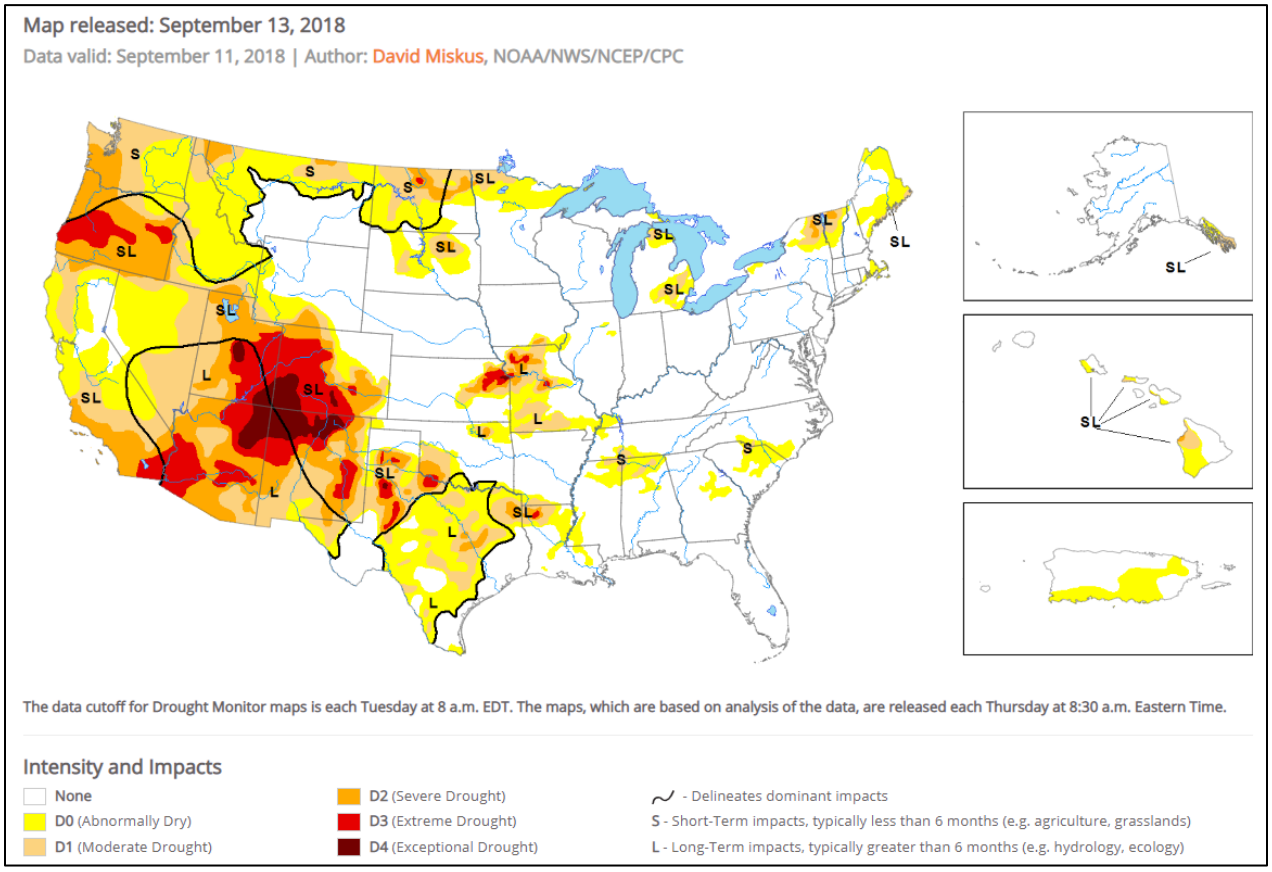


[June through August 2018 daily mean temperature anomaly map]

Drought

U.S. Drought Monitor Select map below.

U.S. Drought Portal Comprehensive drought resource.



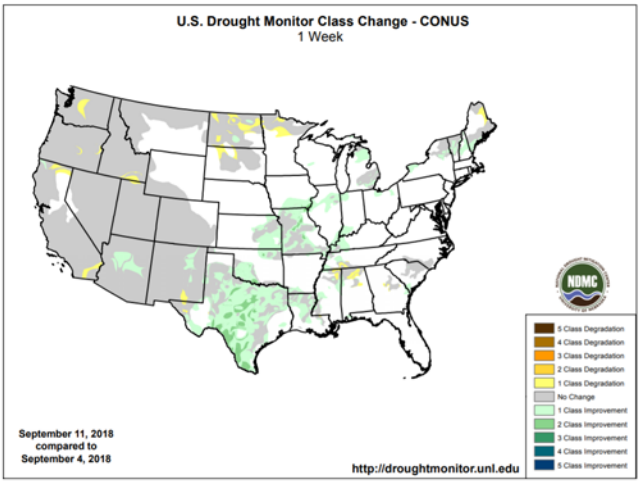
Current National Drought Summary, September 13, 2018

Author: David Miskus, NOAA/NWS/NCEP/CPC

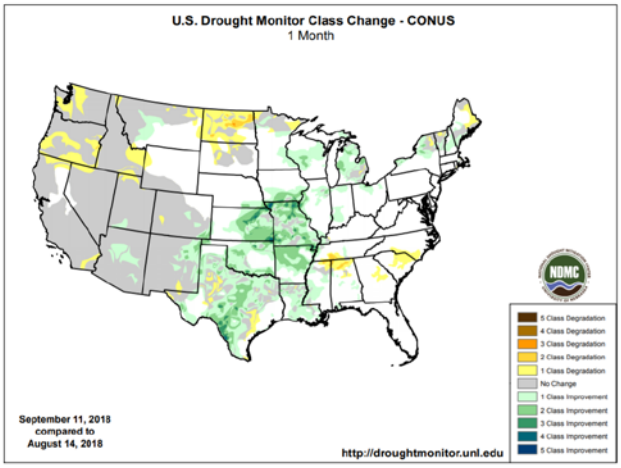
“A stalled cold front draped across the southern Plains, middle Mississippi and Ohio Valleys, and mid-Atlantic, plus ample Gulf moisture from Tropical Storm Gordon, was the focal point for moderate to heavy showers and thunderstorms. Widespread amounts of 2-4 inches, with locally 6-12 inches, were common in the southern and central Great Plains, along the Gulf Coast (Gordon), in the lower and middle Mississippi, Tennessee, and Ohio Valleys, western Great Lakes region, and the mid-Atlantic. Similar to last week, additional improvements were made in the Midwest, but this week, major modifications (improvements) were also done in the southern Plains (especially Texas) and lower Mississippi Valley. Elsewhere, little or no precipitation fell across the western third of the Nation, although some light showers finally dampened western Washington. In addition, the northern Plains, parts of the Southeast (Georgia and Carolinas), and extreme northern New England saw little or no rain. Temperatures averaged below-normal across the middle third of the Nation and in New England, and above-normal in most of the West, Southeast, and mid-Atlantic.”

Changes in Drought Monitor Categories over Time

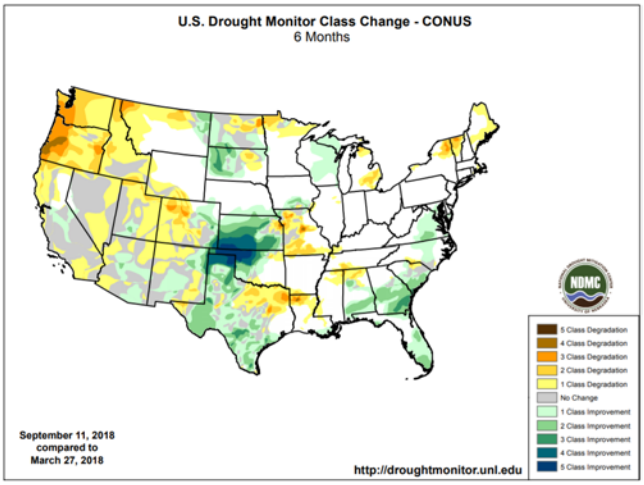
1 Week



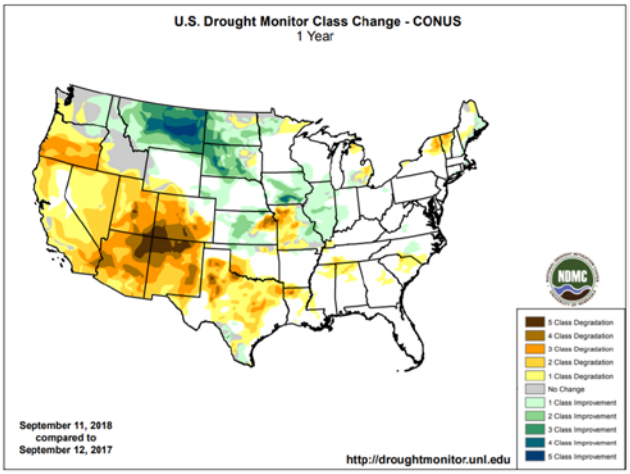
1 Month



6 Months



1 Year

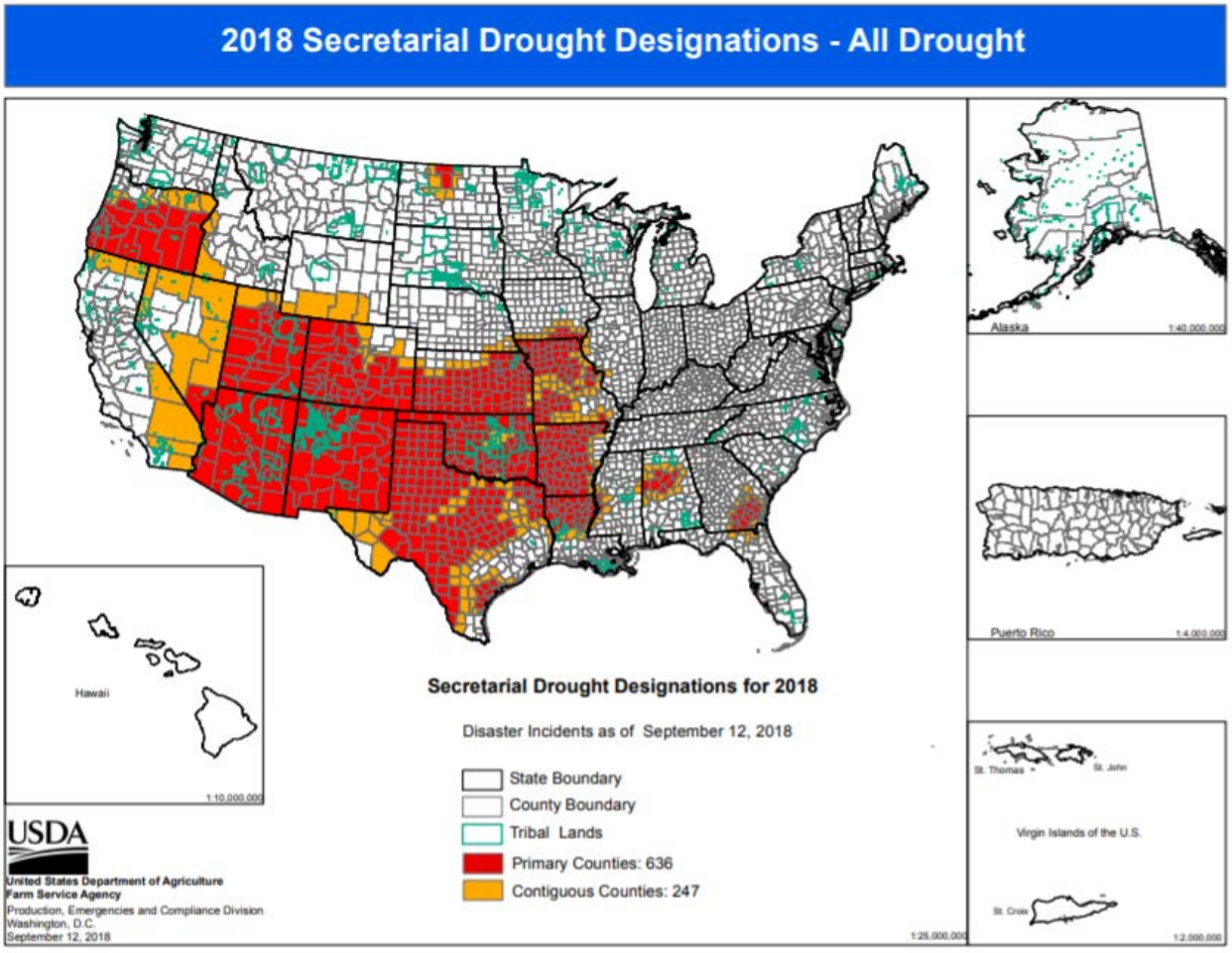


Changes in drought conditions over the last 12 months

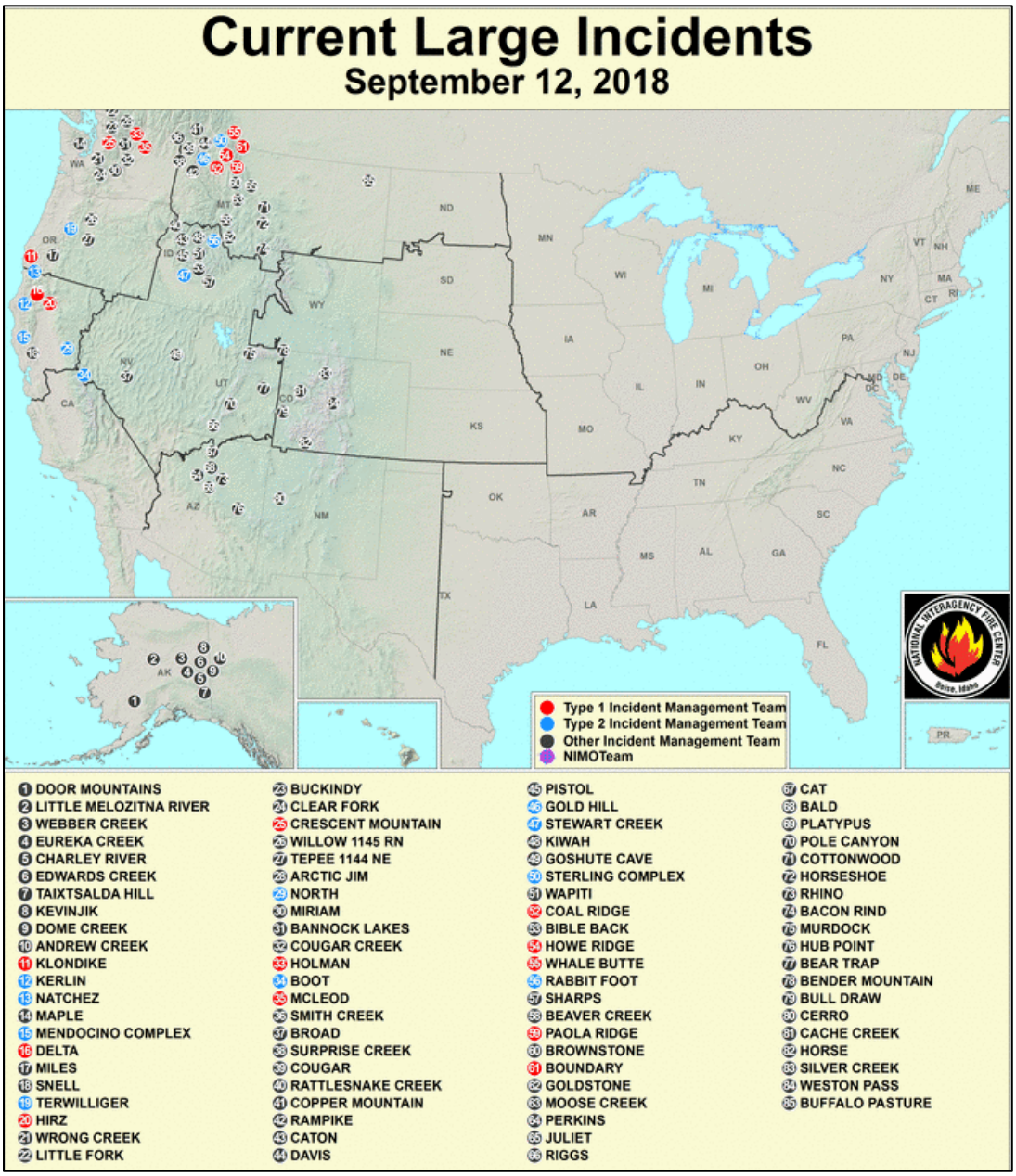
Highlighted Drought Resources

- 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



Wildfires: [USDA Forest Service Active Fire Mapping]



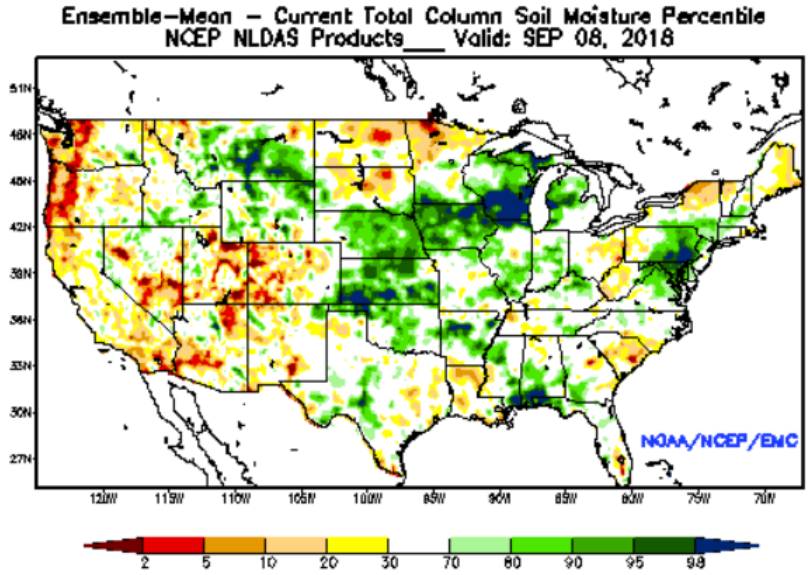
Highlighted Wildfire Resources

- [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



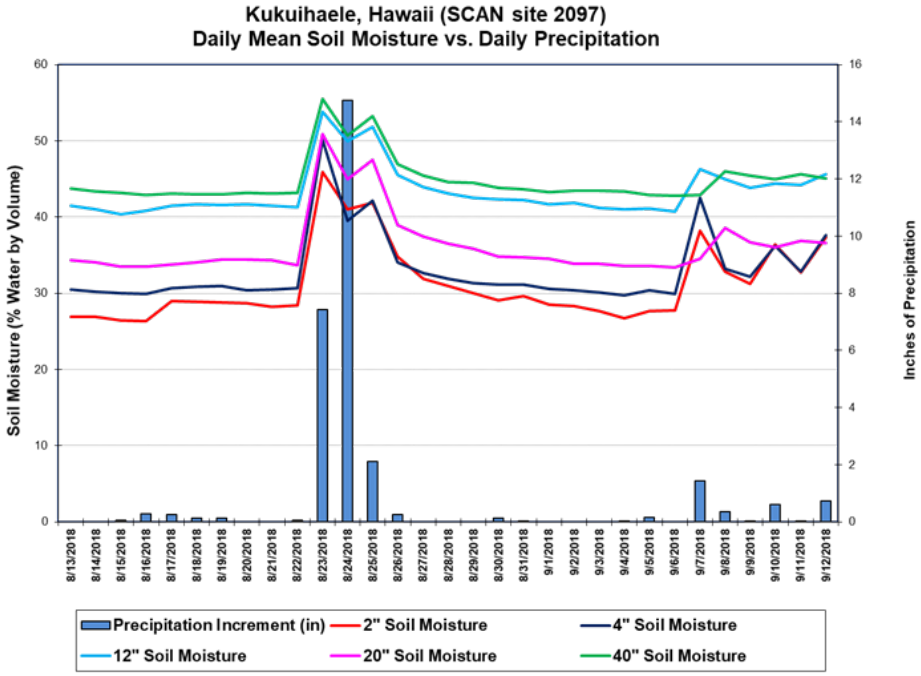
[Modeled soil moisture percentiles](#) as of September 8, 2018

Soil Moisture Data Portals

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

Soil Moisture Data

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

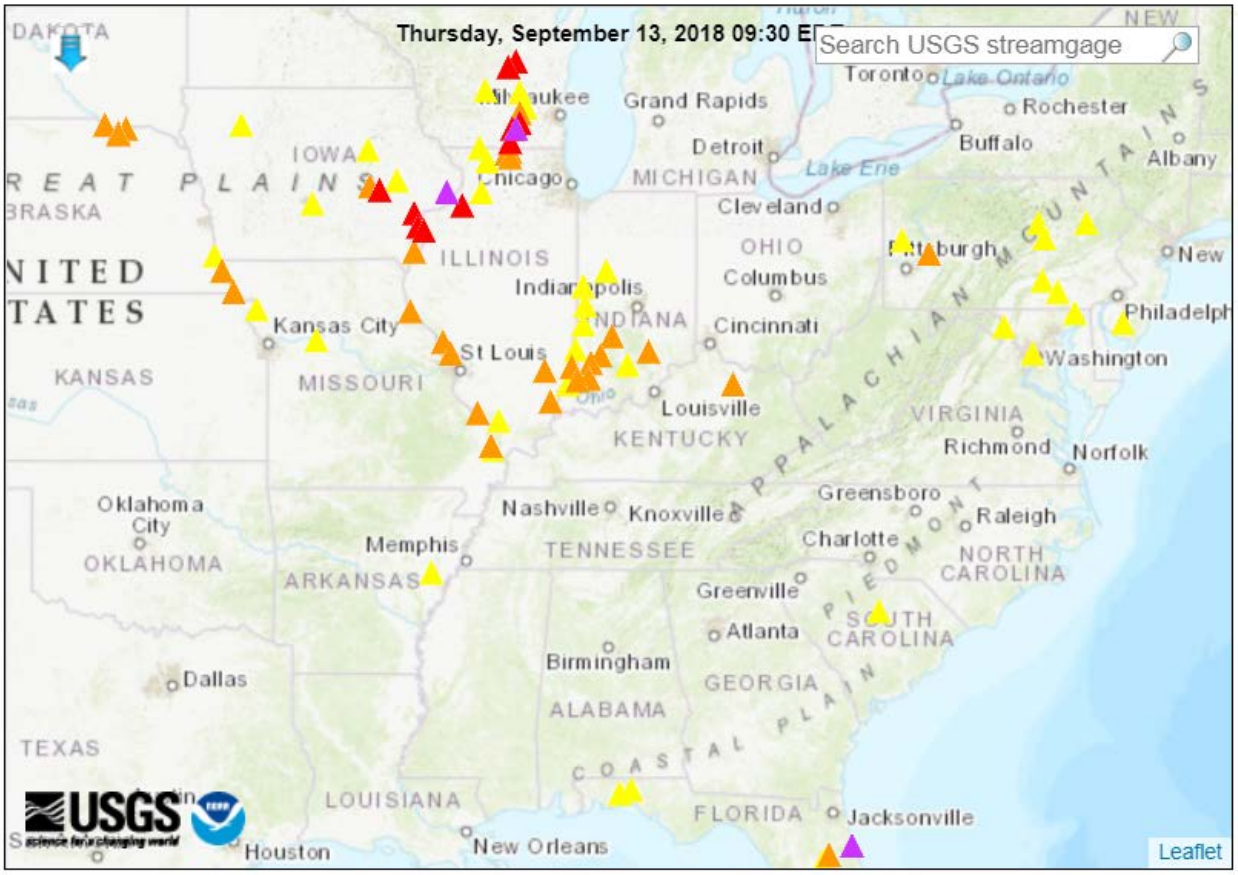


This chart shows the precipitation and soil moisture for the last 30 days at the [Kukuihaele SCAN site 2097](#) in Hawaii. During the events of Hurricane Lane (8/23/18-8/25/18), accumulated precipitation totaled 24.29 inches and soil moisture levels increased at all depths.

Streamflow

Source: USGS

Map of flood and high flow conditions



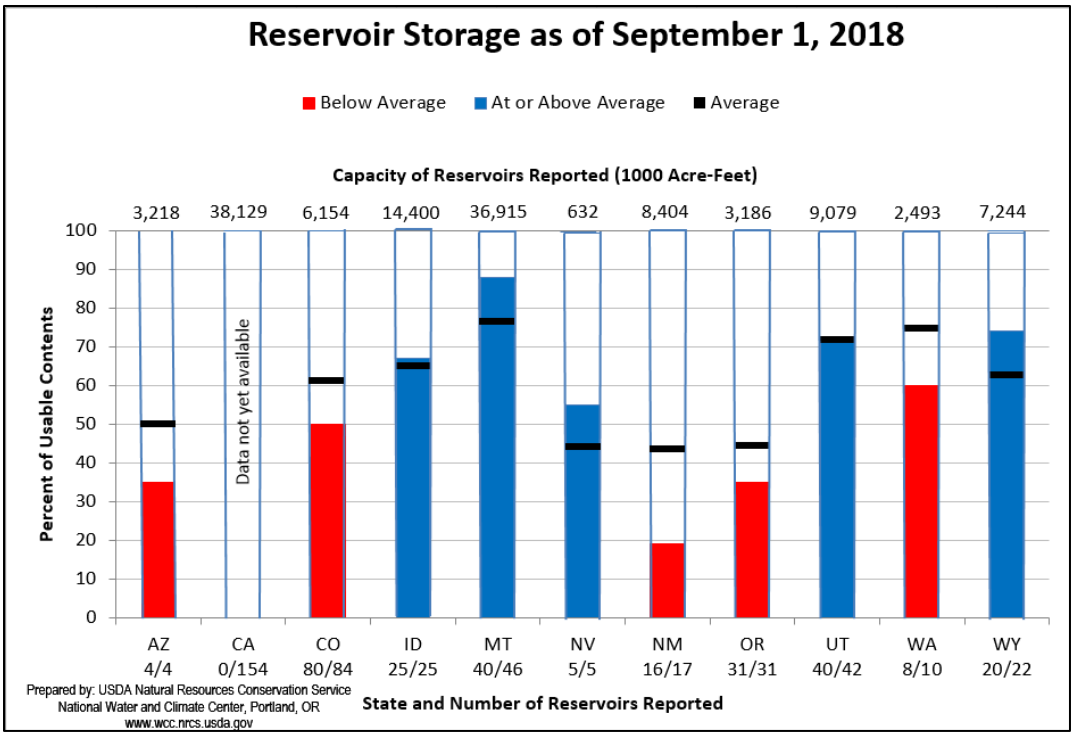
Explanation - Percentile classes						
<95	95-98	>= 99	Above action stage	Above flood stage	Above moderate flood stage	Above major flood stage
△ Streamgage with flood stage ○ Streamgage without flood stage						

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

Reservoir Storage

Western States Reservoir Storage

Source: NRCS National Water and Climate Center

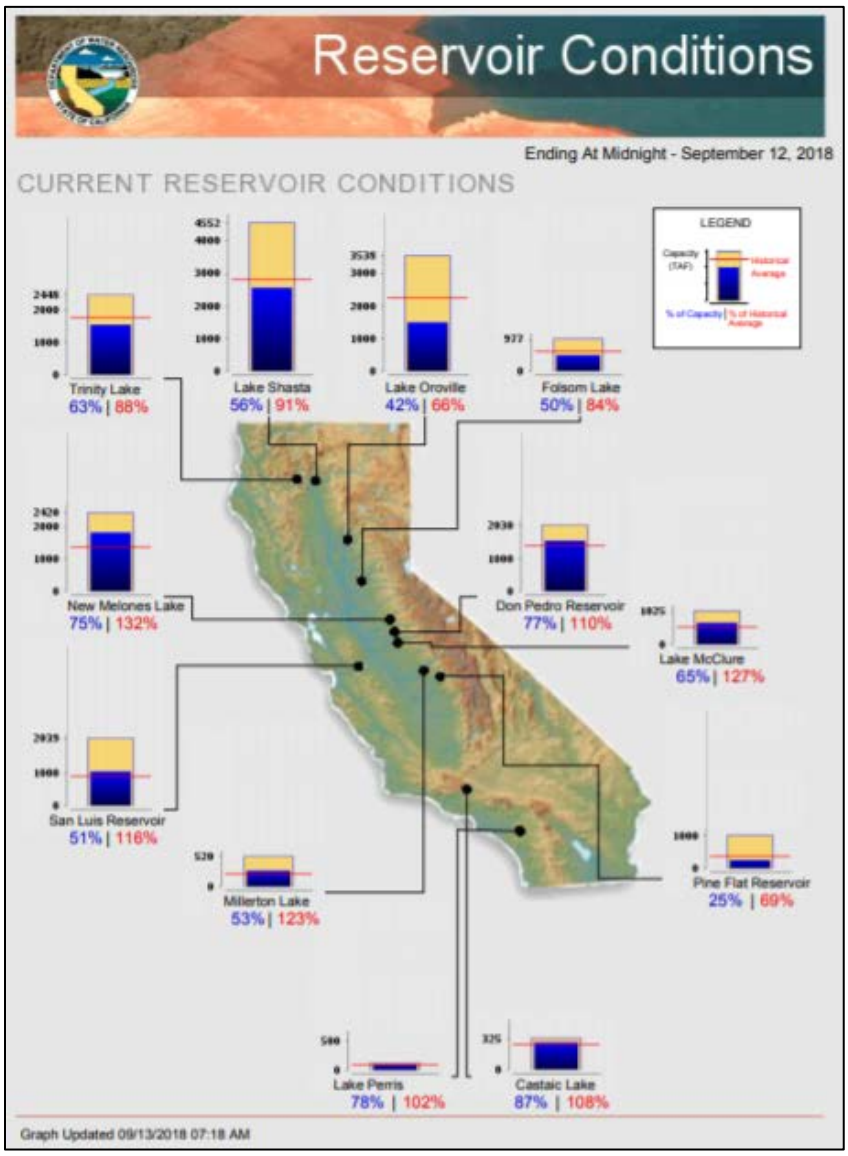


September 1, 2018 Reservoir Storage: Chart | Dataset

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

Current California Reservoir Conditions Source: California Department of Water Resources



Current California Reservoir Conditions

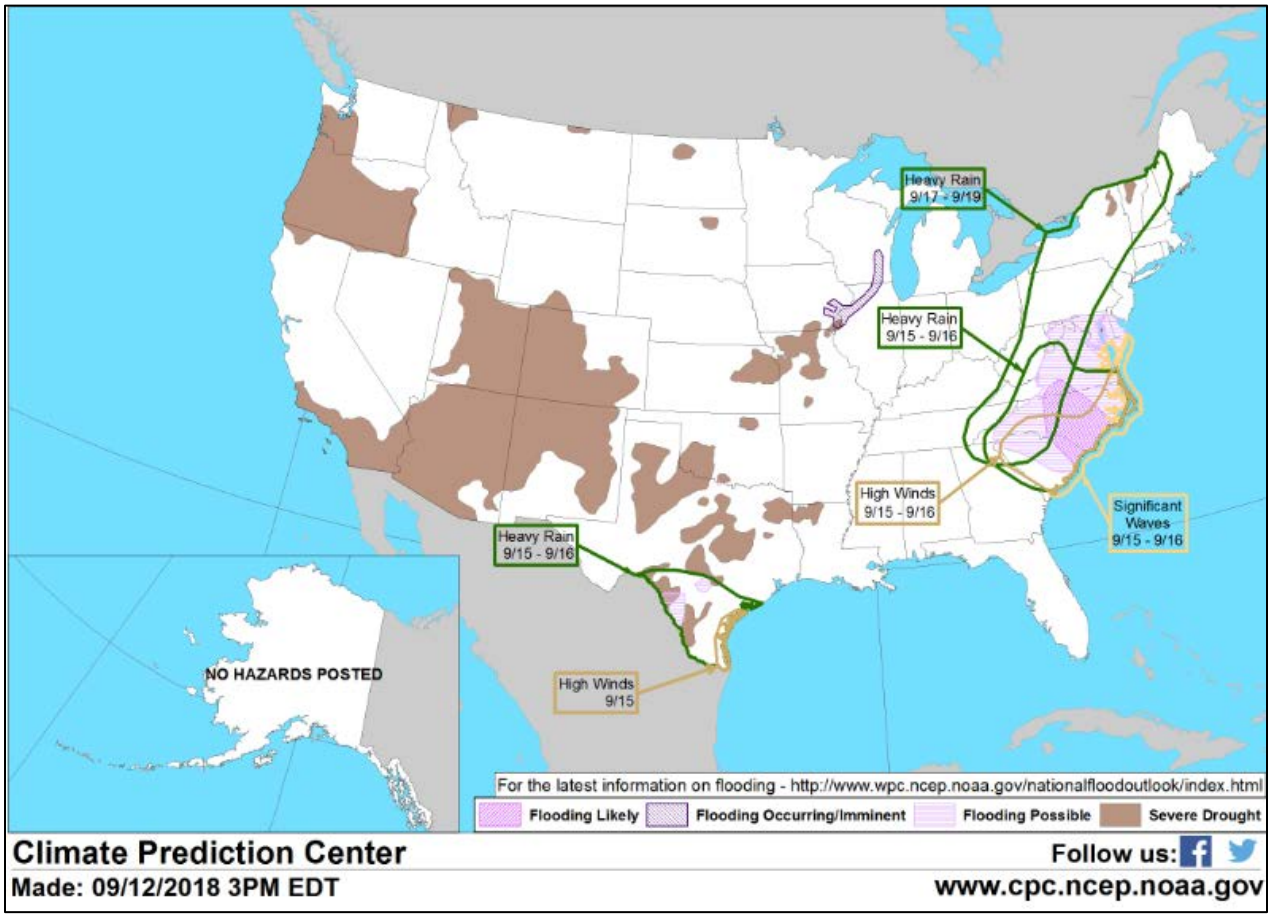
Short- and Long-Range Outlooks

Agricultural Weather Highlights

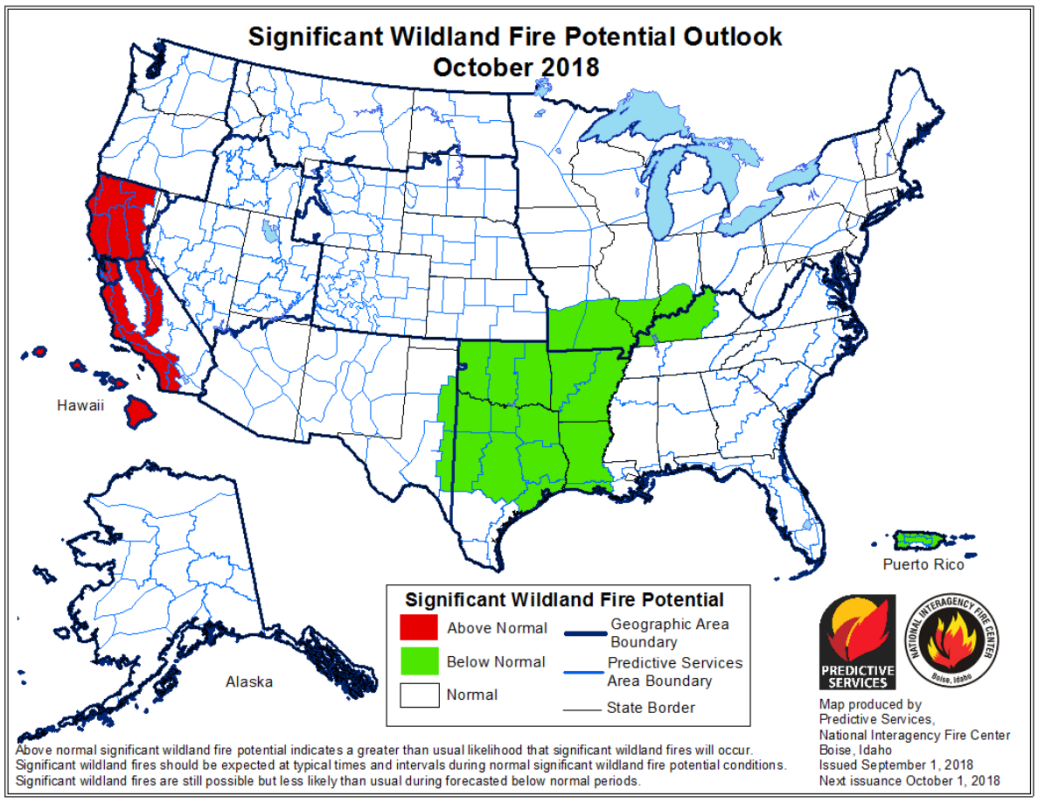
Author: Eric Luebehusen, Agricultural Meteorologist, USDA/OCE/WAOB

National Outlook, Thursday, September 13: "Hurricane Florence, which weakened slightly overnight, is currently centered about 170 miles east-southeast of Wilmington, North Carolina, with maximum sustained winds of 110 m.p.h. The Category 2 storm will reach the North Carolina coast early Friday, and is expected to produce potentially devastating coastal damage due to wind, waves, and storm surge. Even greater impacts may occur after Florence moves inland and slows or stalls, leading to potentially catastrophic flooding; total rainfall is expected to top 20 inches in parts of the southern MidAtlantic region. Outside of Florence, a tropical disturbance will likely produce periods of heavy rain in parts of Texas and environs, while a cold front triggers locally heavy showers from the Pacific Northwest into the northern Great Lakes. The NWS 6- to 10-day outlook for September 18 – 22 calls for above-normal temperatures over much of the Nation, with cooler-than-normal conditions limited to areas from the central and northern Pacific Coast into the upper Midwest. Wetter-than-normal weather is expected from the Appalachians eastward and over the western Corn Belt. Conversely, drier-than-normal weather is anticipated across much of the West and in the lower and middle Mississippi Valley"

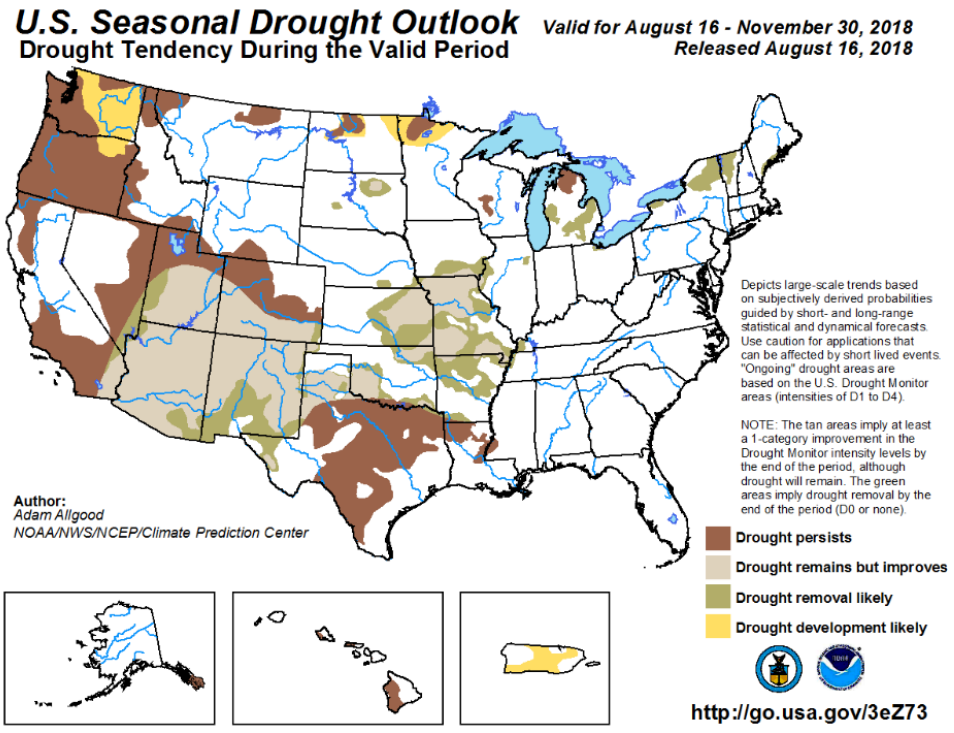
Weather Hazard Outlook September 15 – 19, 2018 Source: Climate Prediction Center



Significant Wildland Fire Potential Outlook Source: National Interagency Fire Center



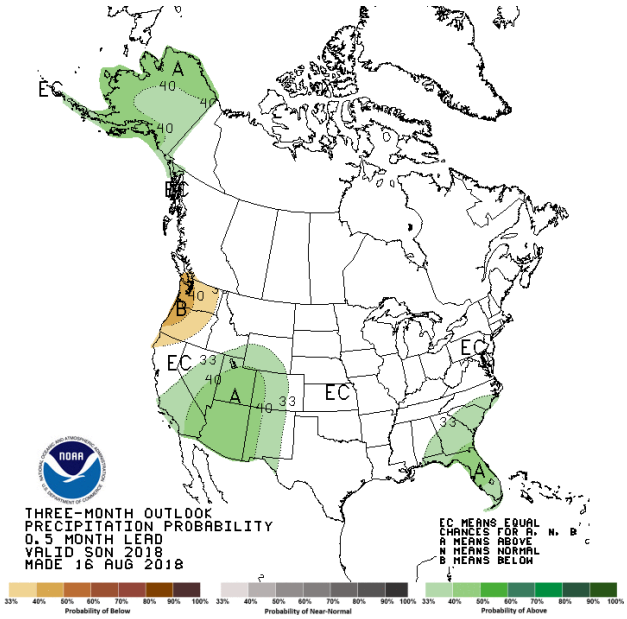
Seasonal Drought Outlook: August 16 - November 30, 2018 Source: National Weather Service



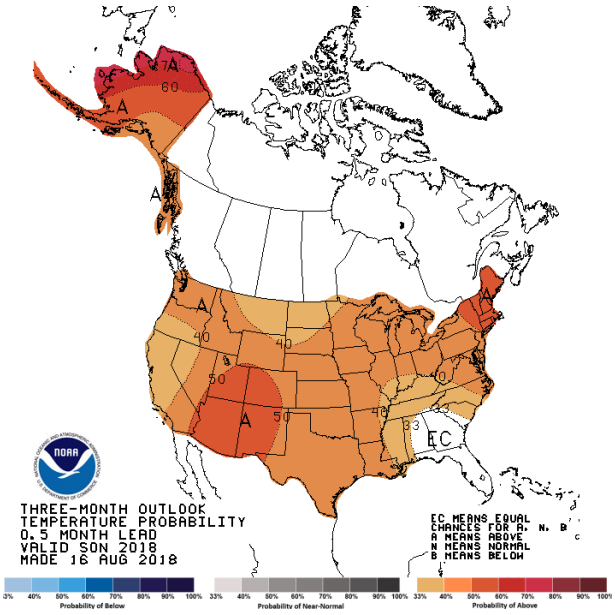
Climate Prediction Center 3-Month Outlook

Source: National Weather Service

Precipitation



Temperature



September-October-November (SOM) 2018 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.