

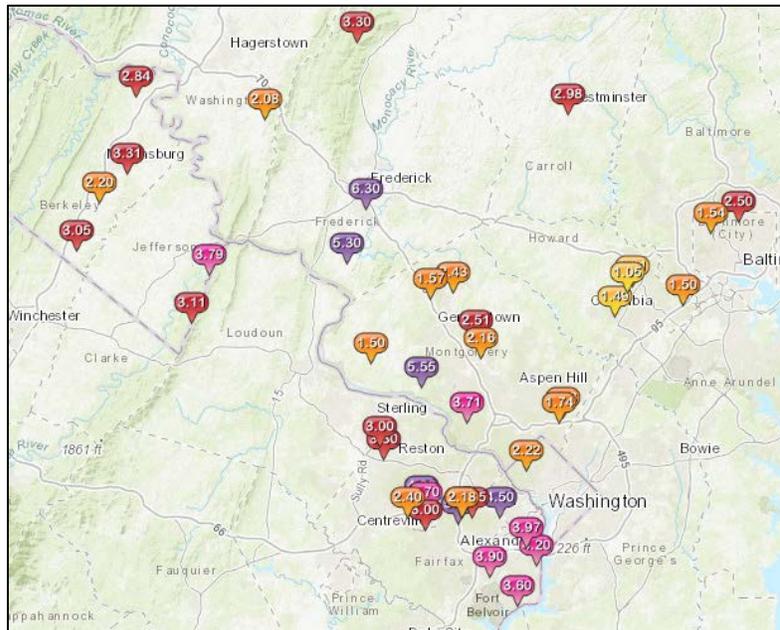
Water and Climate Update

July 11, 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
Drought	8	More Information	18

Historic flash flooding from heavy rainfall in Washington, D.C.



National Weather Service storm totals from July 8, 2019

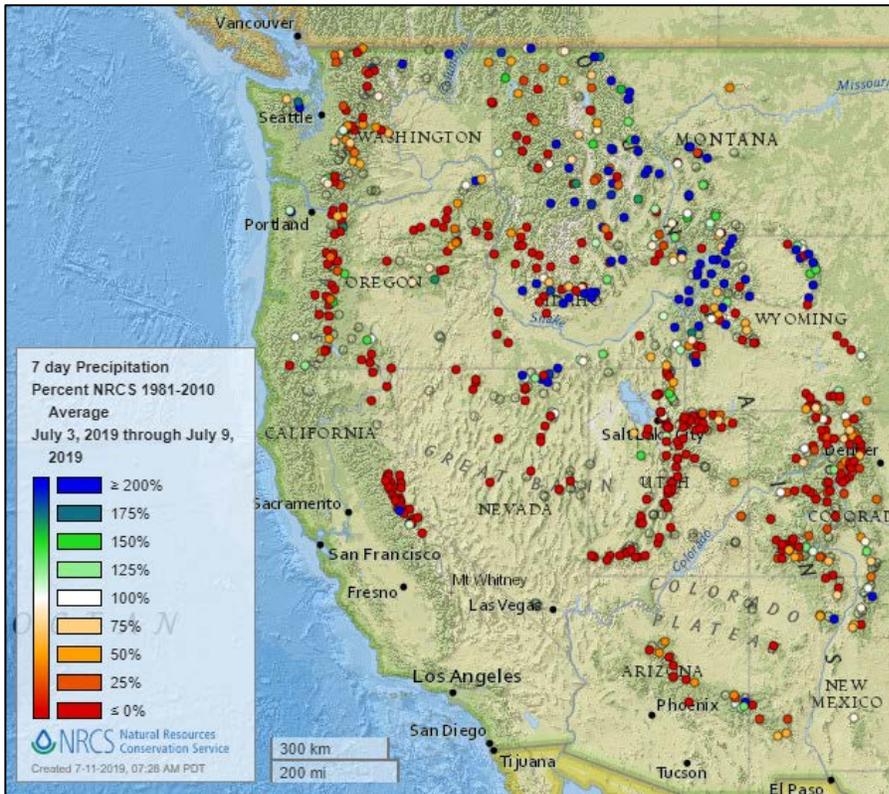
Thunderstorms and intense rainfall impacted Washington, D.C., this week with the National Weather Service reporting accumulated storm totals as high as 6.30 inches. On July 8, Reagan National Airport recorded 3.30 inches of rain in one hour. The 3.44 inches of precipitation in the nation’s capital was almost a month’s worth of rain in one morning and the 7th wettest July day on record. This resulted in the first-ever flash flood emergency issued for Washington, D.C. The storms in the area caused major disruption of roads and highways as well as train and air traffic delays. Power outages were widespread with downed power lines reported.

Related:

- [Updated forecast: After historic deluge, rain to ease this afternoon but expect residual areas of flooding](#) – The Washington Post
- [Historic Flash Flood Hits DC, Stranding Cars in High Water](#) – NBC Washington
- [Roads become rivers, drivers swim to safety in DC flood emergency](#) – WTOP News (D.C.)
- [Dangerous flash flooding hits Washington DC during morning commute](#) – ABC
- [Here Are Photos and Videos of the Crazy Flooding Around DC This Morning](#) - Washingtonian
- [Extreme flooding cripples Washington, DC](#) – TODAY on MSN.com

Precipitation

Last 7 Days, NRCS SNOTEL Network

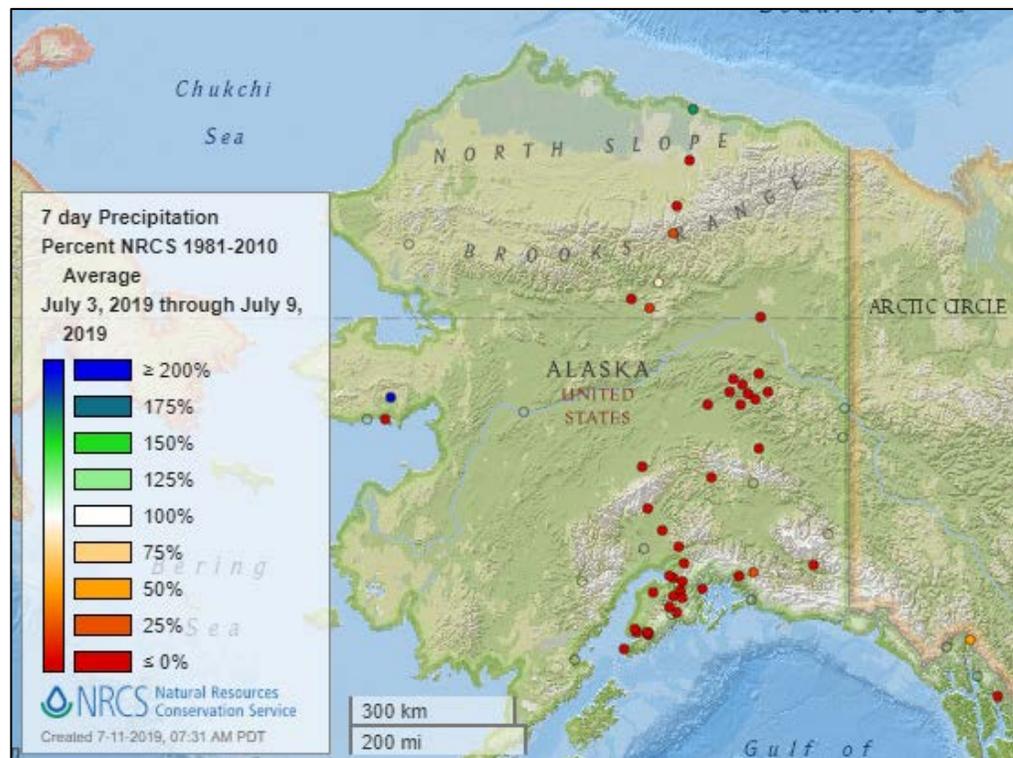


[7-day precipitation percent of average map](#)

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](#)



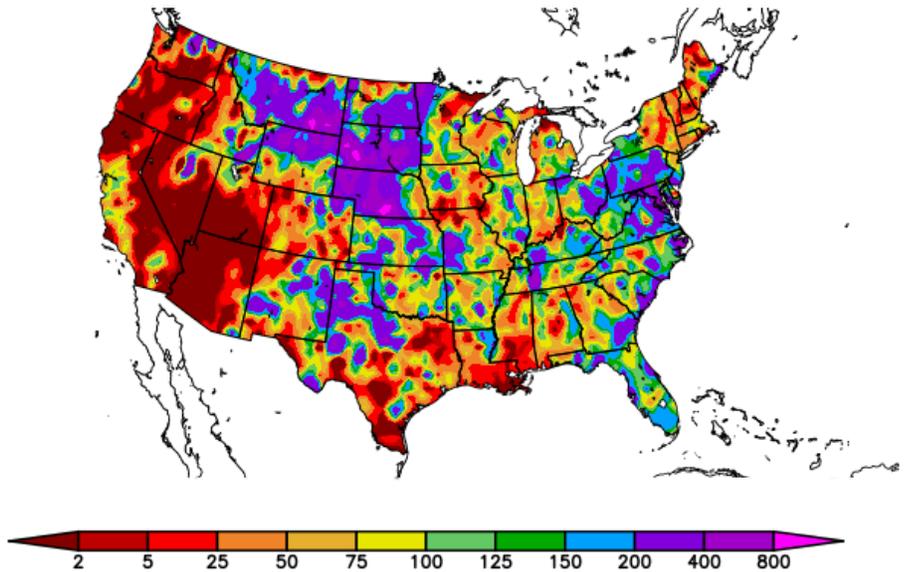
Last 7 Days, National Weather Service (NWS) Networks

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 (%)
7/3/2019 – 7/9/2019



Generated 7/10/2019 at HPRCC using provisional data.

NOAA Regional Climate Centers

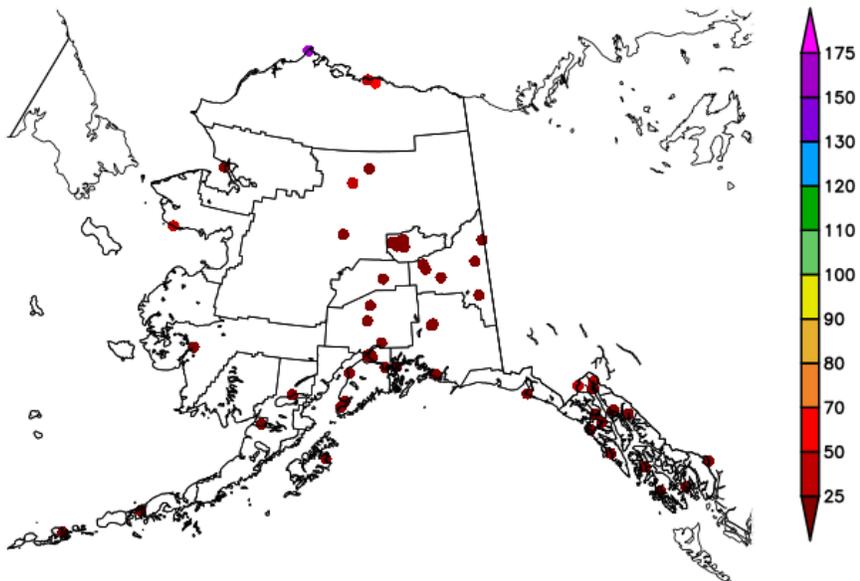
Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

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

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

Percent of Normal Precipitation (%)
7/3/2019 – 7/9/2019

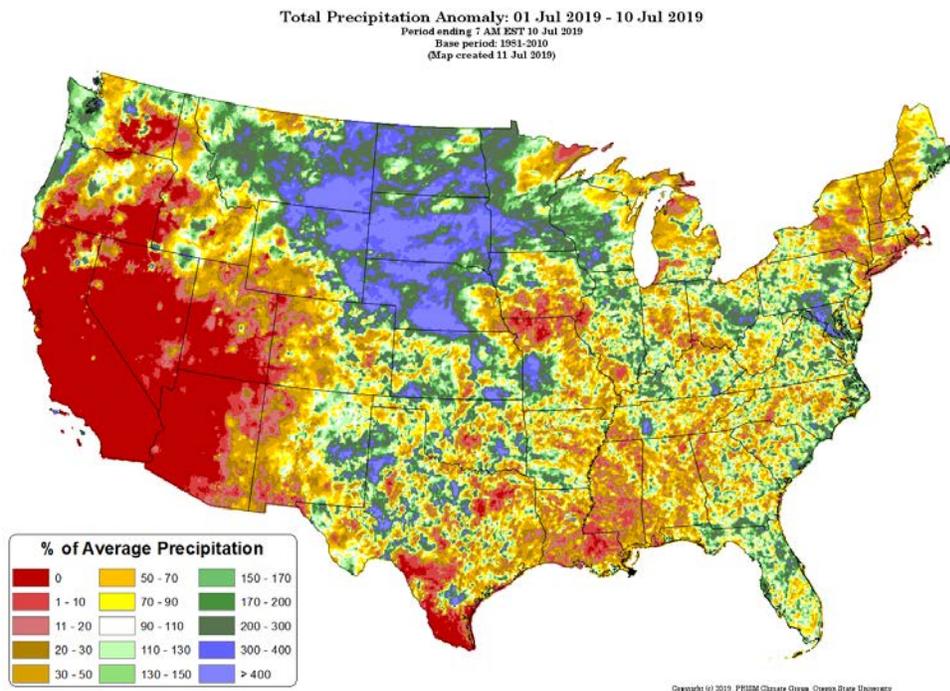


Generated 7/10/2019 at HPRCC using provisional data.

NOAA Regional Climate Centers

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

Source: PRISM

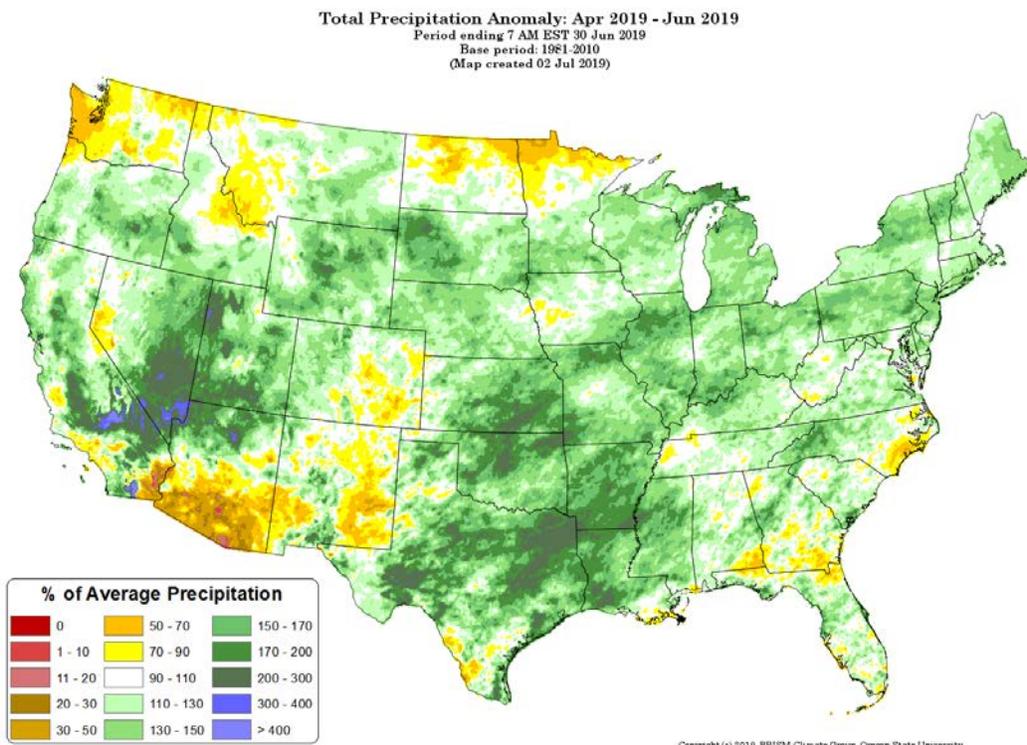


[Month-to-date national total precipitation percent of average map](#)

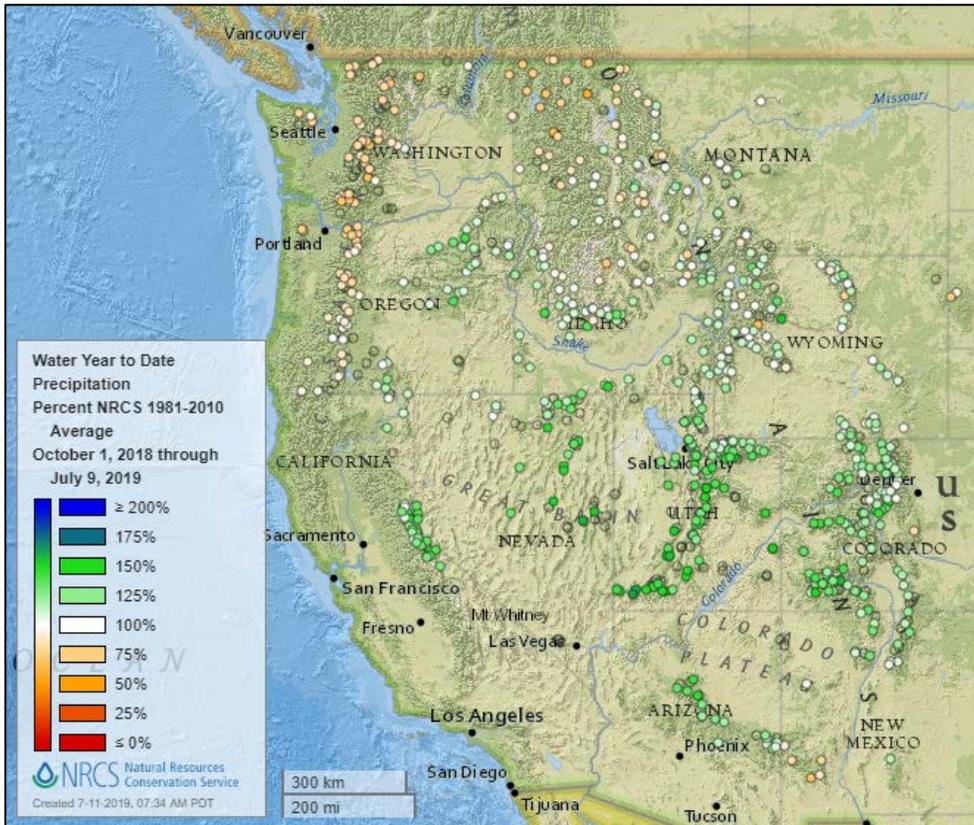
Last 3 Months, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

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



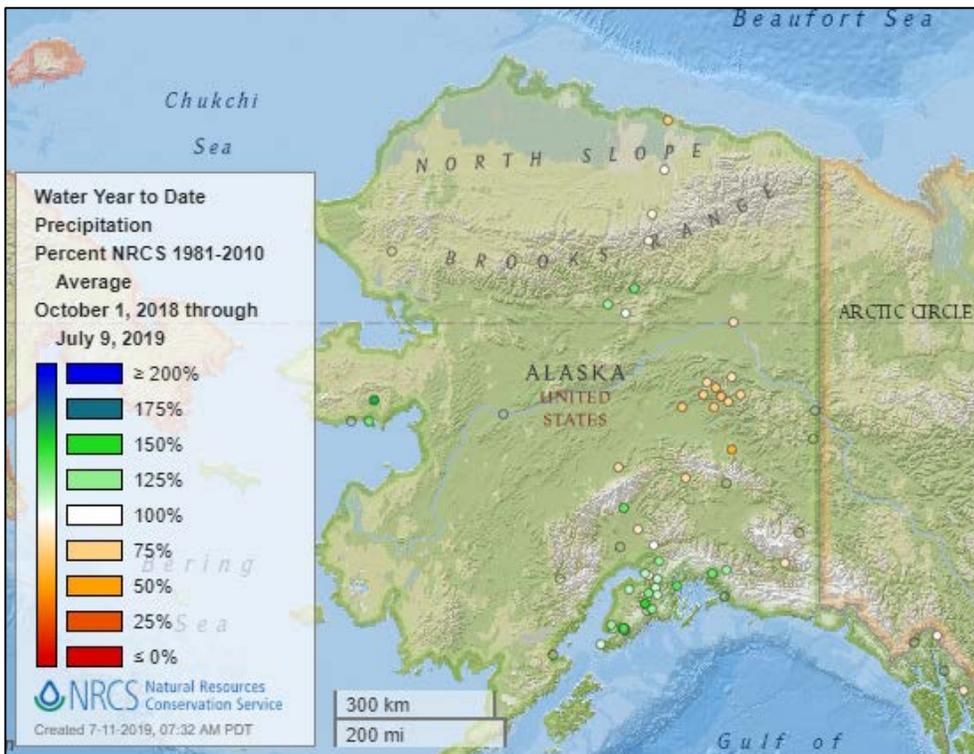
Water Year-to-Date, NRCS SNOTEL Network



[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

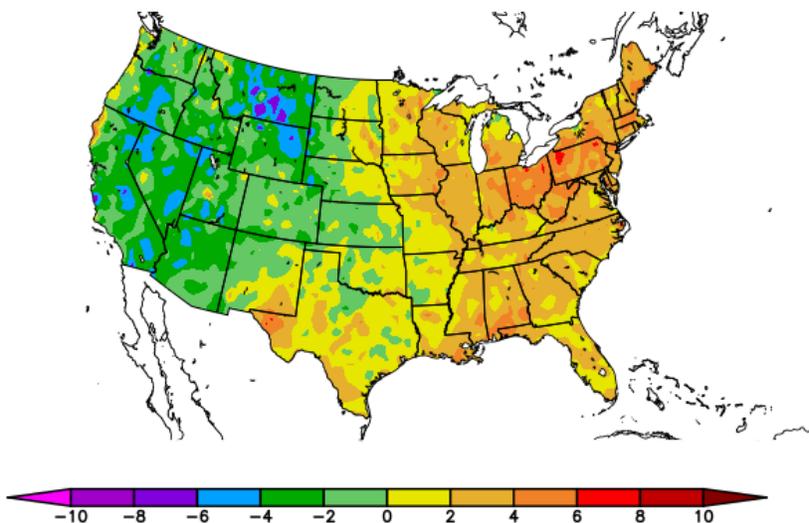
Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

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

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

Departure from Normal Temperature (F)
7/3/2019 – 7/9/2019



Generated 7/10/2019 at HPRCC using provisional data.

NOAA Regional Climate Centers

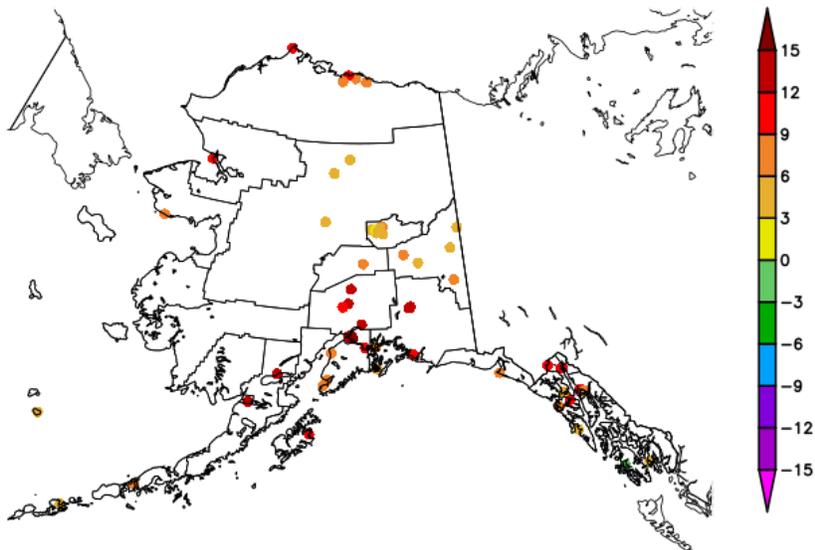
Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

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

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

Departure from Normal Temperature (F)
7/3/2019 – 7/9/2019



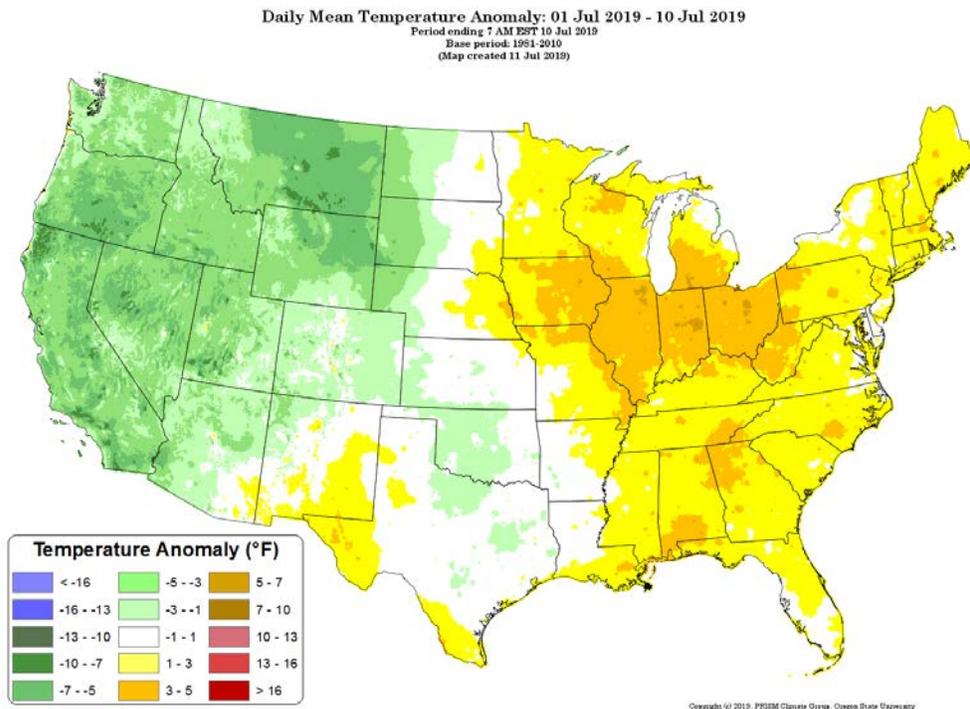
Generated 7/10/2019 at HPRCC using provisional data.

NOAA Regional Climate Centers

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

Source: PRISM

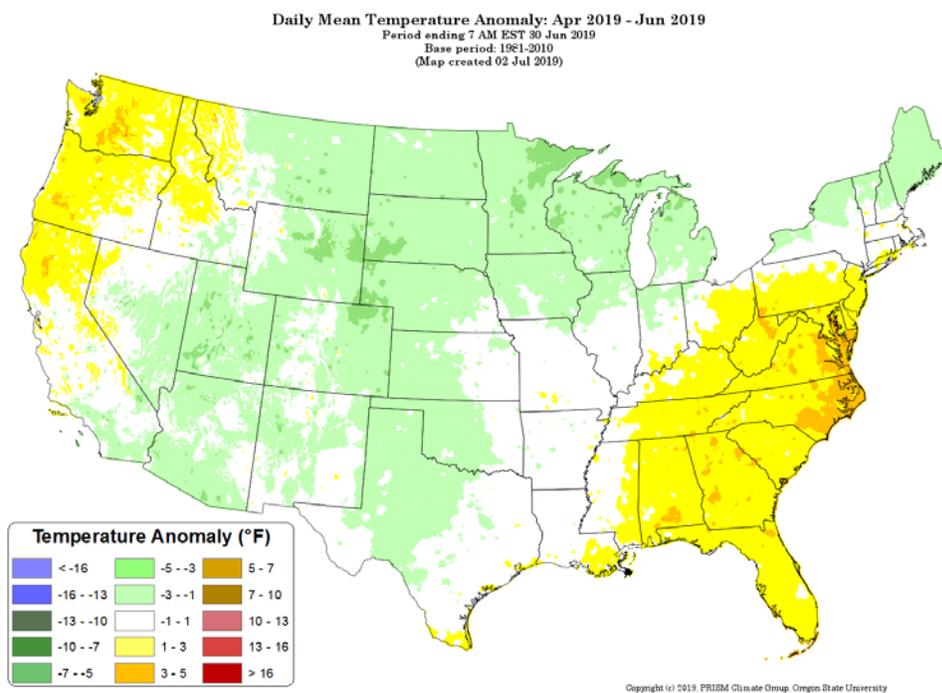
[Month-to-date national daily mean temperature anomaly map](#)



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

Source: PRISM

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



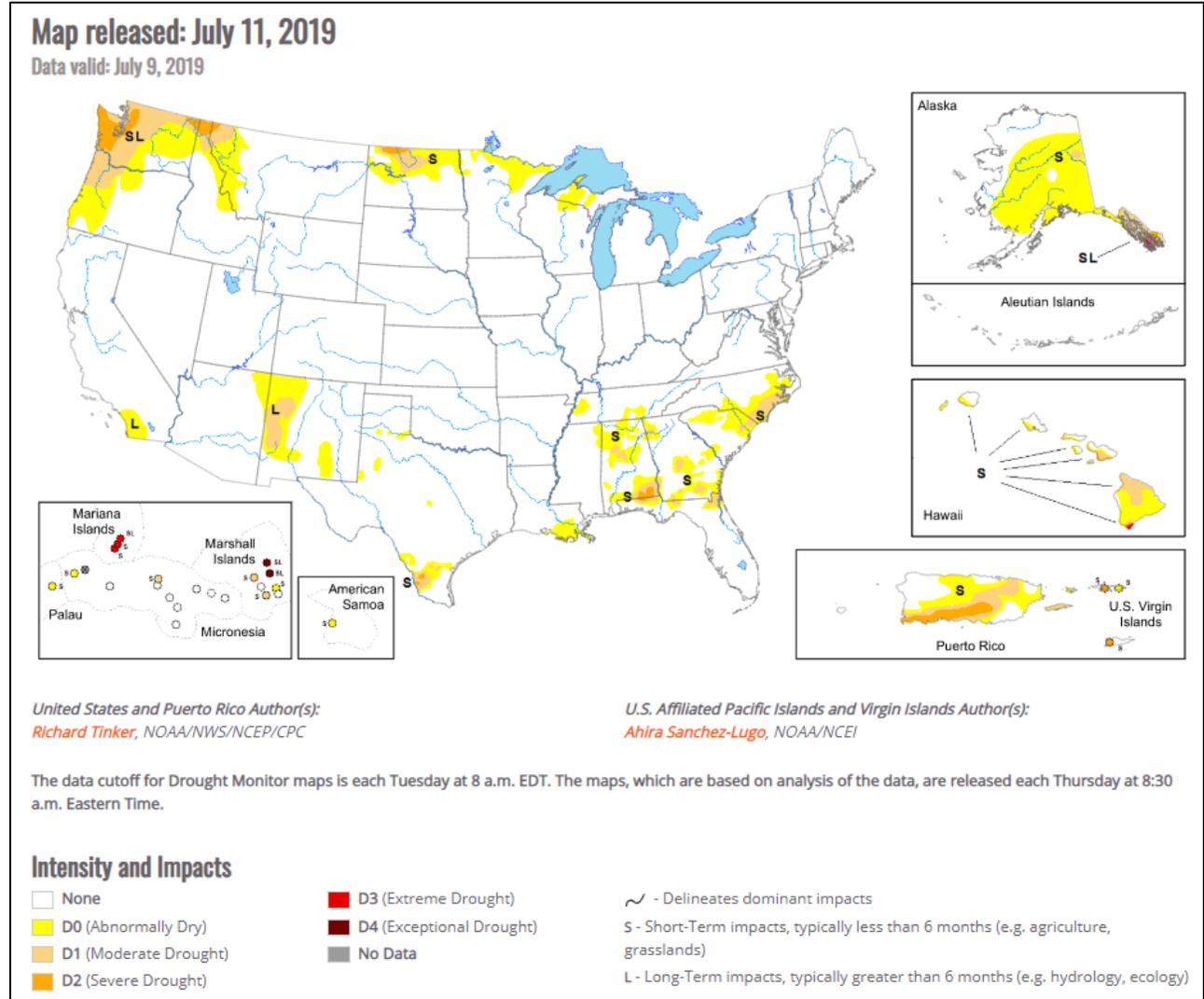
Drought

[U.S. Drought Monitor](#)

Source: National Drought Mitigation Center

[U.S. Drought Portal](#)

Source: NOAA



Current [National Drought Summary](#), July 11, 2019

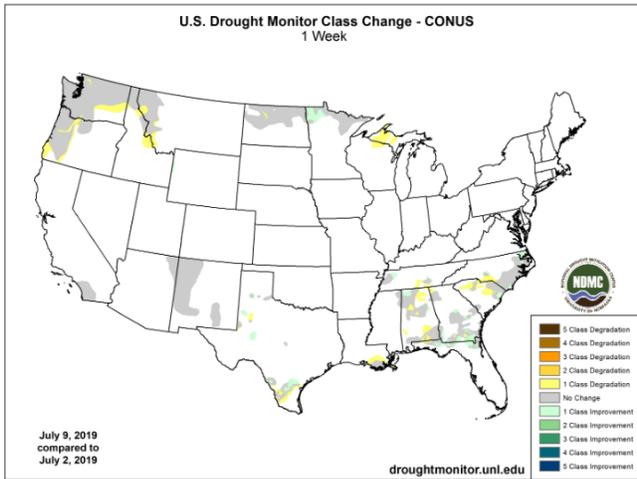
Source: National Drought Mitigation Center

“A broken, highly-variable rainfall pattern predominated across the Country. Most areas where conditions are often dry during the summer followed this pattern, with little or no precipitation falling across the Far West and the northern Intermountain West. Other areas receiving subnormal precipitation – generally only a few tenths of an inch – included north-central North Dakota, most of northeastern Minnesota, part of the Upper Peninsula of Michigan and adjacent Wisconsin, central and southern Texas, and many areas across Louisiana and Mississippi. Farther east, rainfall was highly variable across the Southeast from Alabama through the Carolinas. Most of this area recorded at least a few tenths of an inch of rain, and roughly half received at least an inch. The heaviest amounts (2 to locally 6 inches) were concentrated along the Georgia/Florida border and the coastal Carolinas while totals on the low side were somewhat more common in south-central and northeastern Alabama, northwestern and east-central Georgia, upstate South Carolina, and a stripe across interior western North Carolina.”

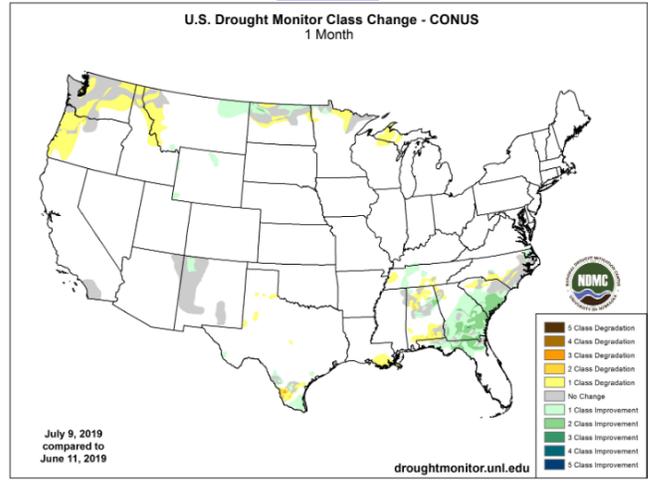
Changes in Drought Monitor Categories over Time

Source: National Drought Mitigation Center

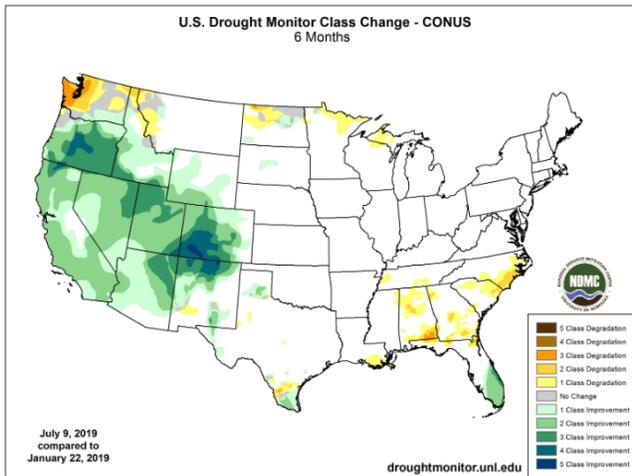
1 Week



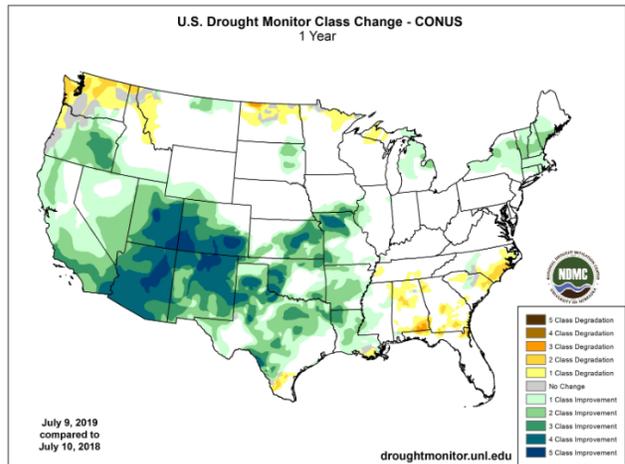
1 Month



6 Months



1 Year



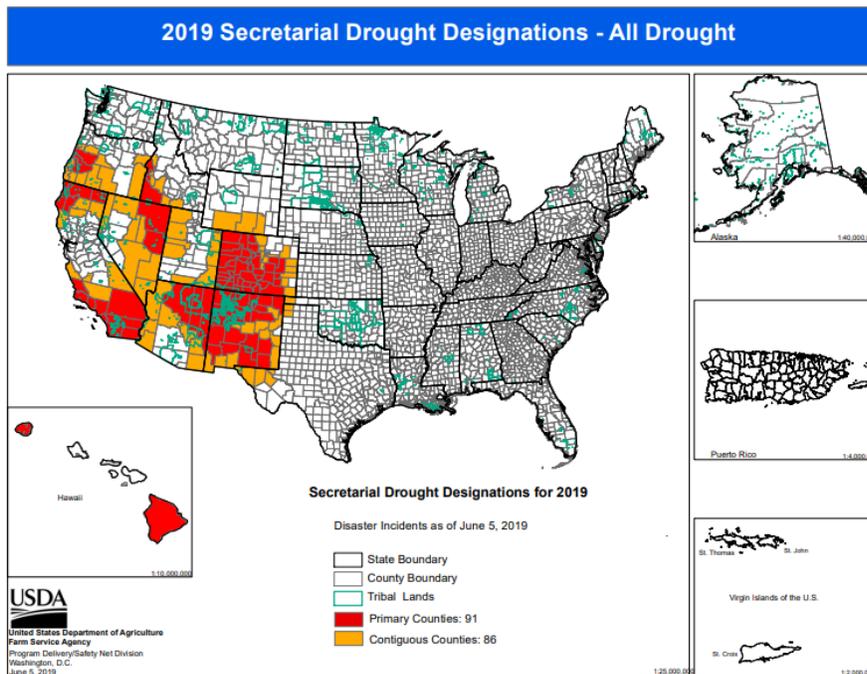
[Changes in drought conditions over the last 12 months for the contiguous U.S.](#)

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



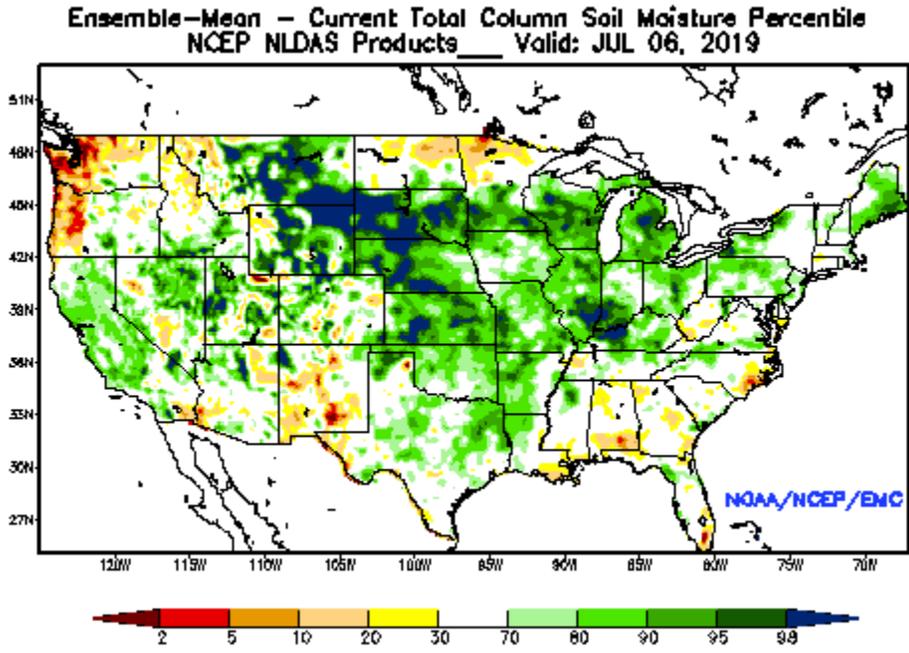
Highlighted Wildfire Resources

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

Other Climatic and Water Supply Indicators

Soil Moisture

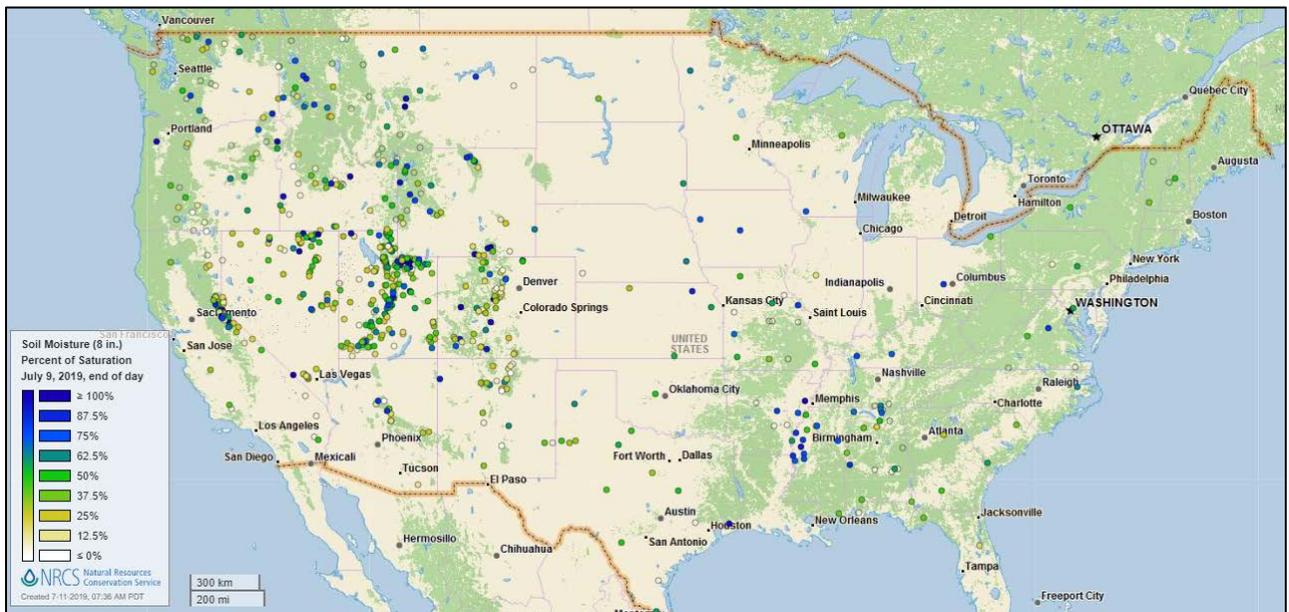
Source: NOAA National Centers for Environmental Prediction



[Modeled soil moisture percentiles](#) as of July 6, 2019

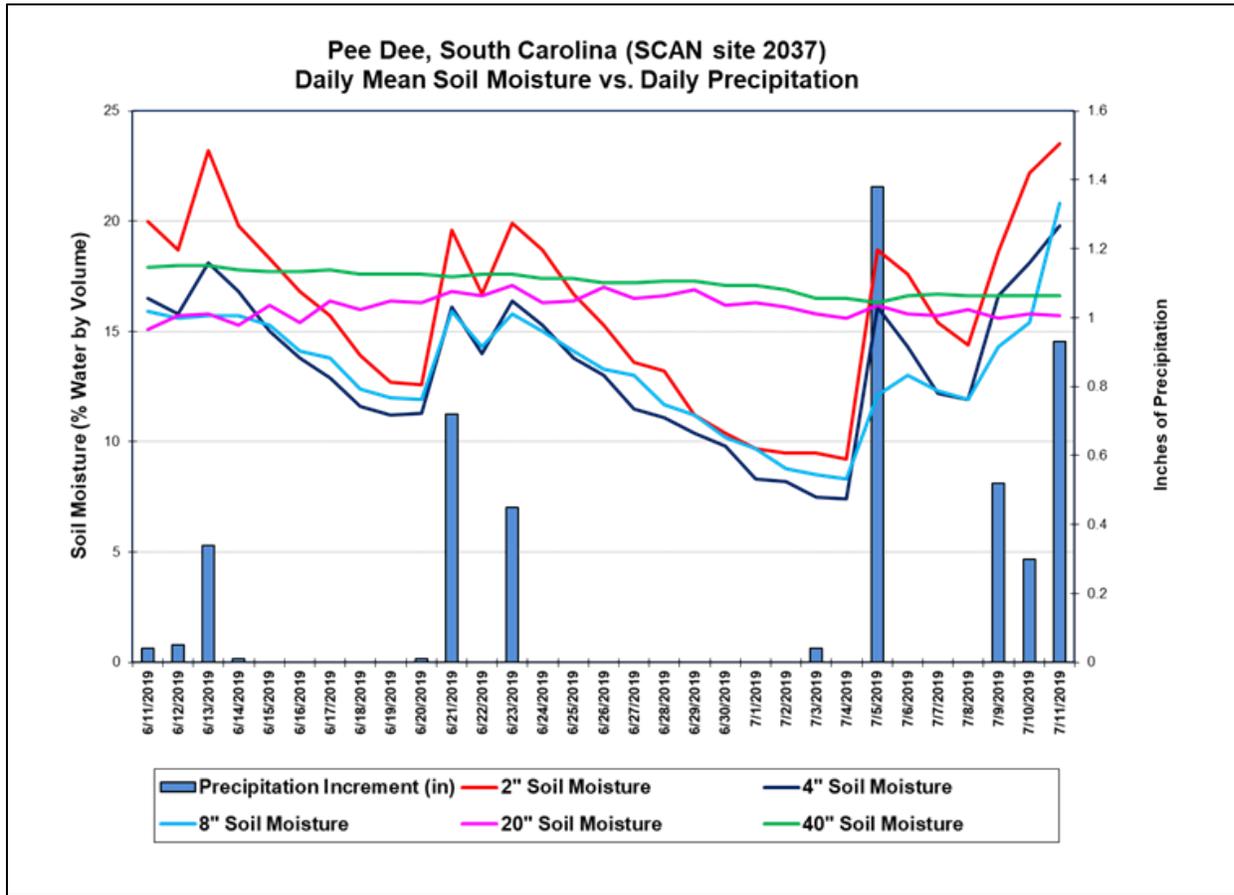
Soil Moisture Percent of Saturation

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 [Pee Dee SCAN site 2037](#) in South Carolina. Between 7/9/19 and 7/11/19, the accumulated precipitation totaled 1.75 inches followed by an increase in soil moisture at the -2", -4", and -8" sensor levels.

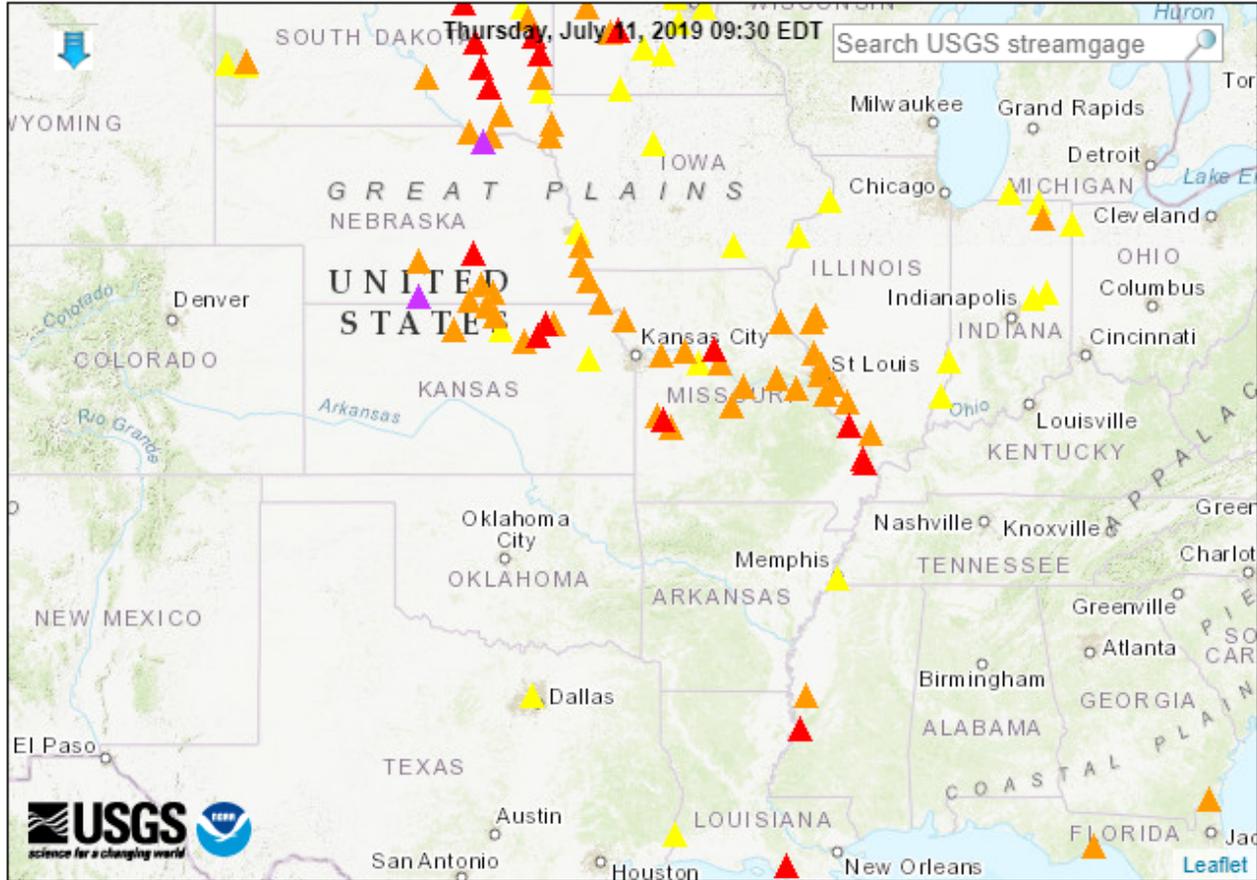
Soil Moisture Data Portals

- [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
 (2 in major flood, 20 in moderate flood, 53 in minor flood, 34 in near flood)



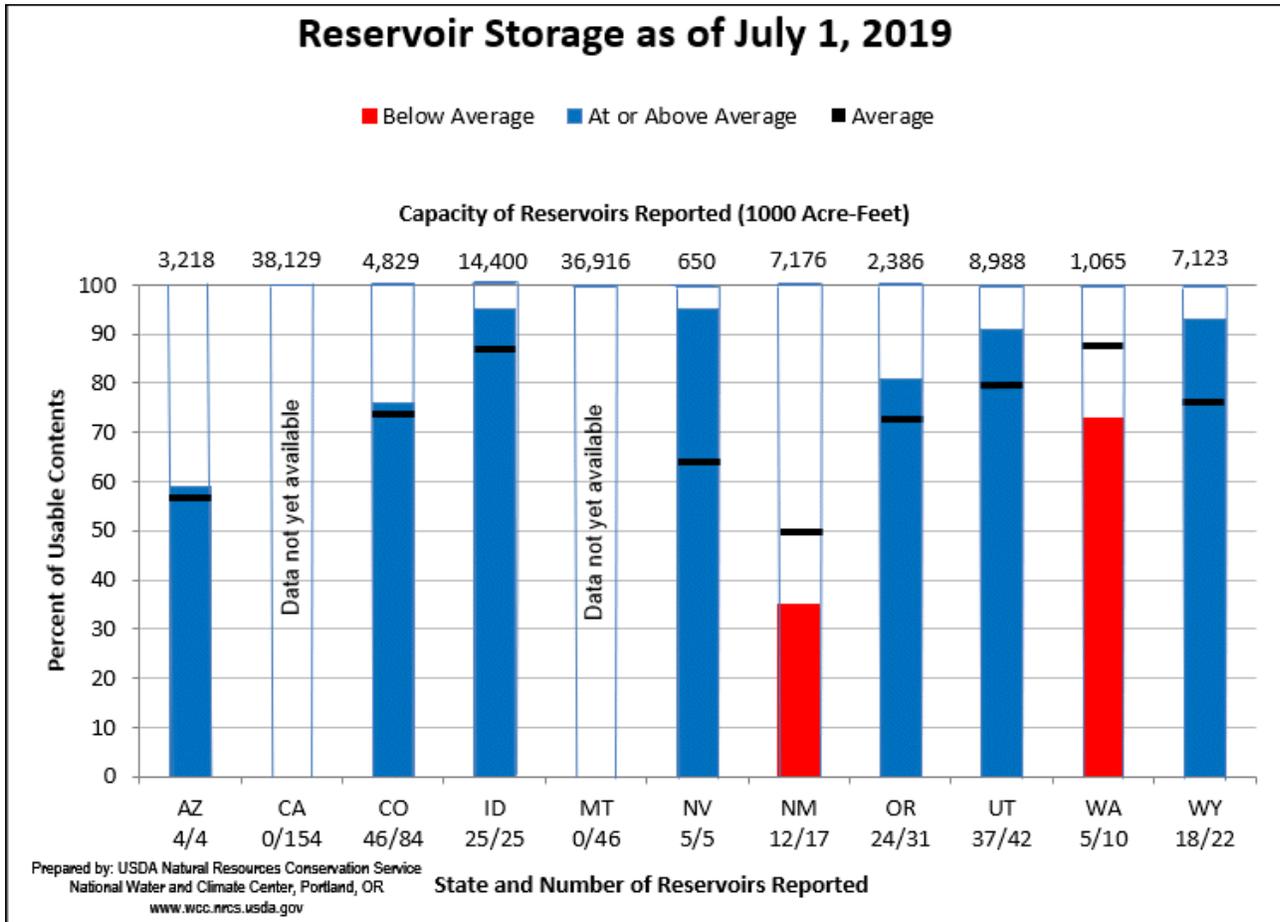
Explanation - Percentile classes						
<95	95-98	>= 99	Above action stage	Above flood stage	Above moderate flood stage	Above major flood stage
			△ Streamgage with flood stage	○ Streamgage without flood stage		

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

Reservoir Storage

Western States Reservoir Storage

Source: NRCS National Water and Climate Center



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

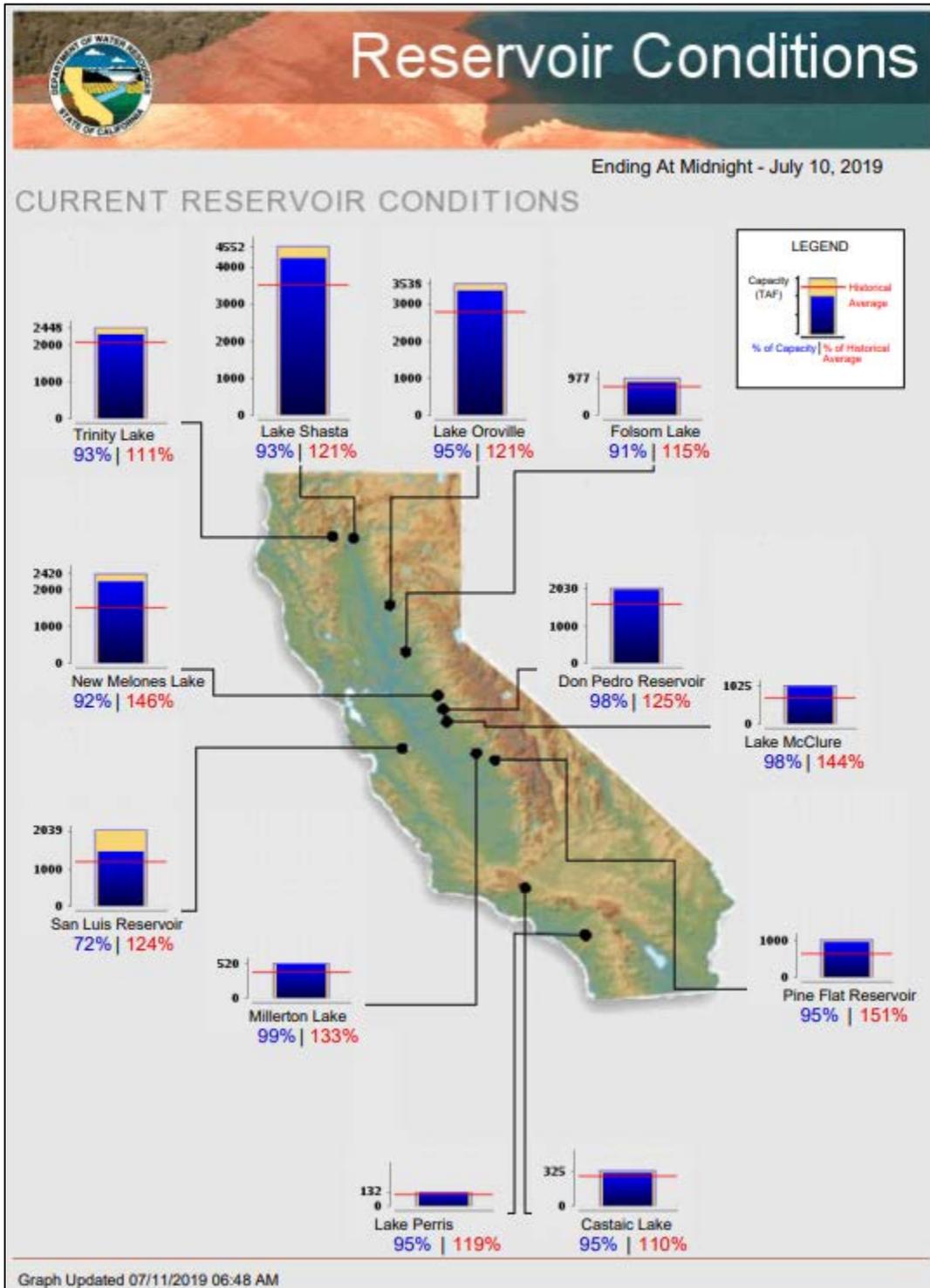
Hydromet Tea Cup Reservoir Depictions

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

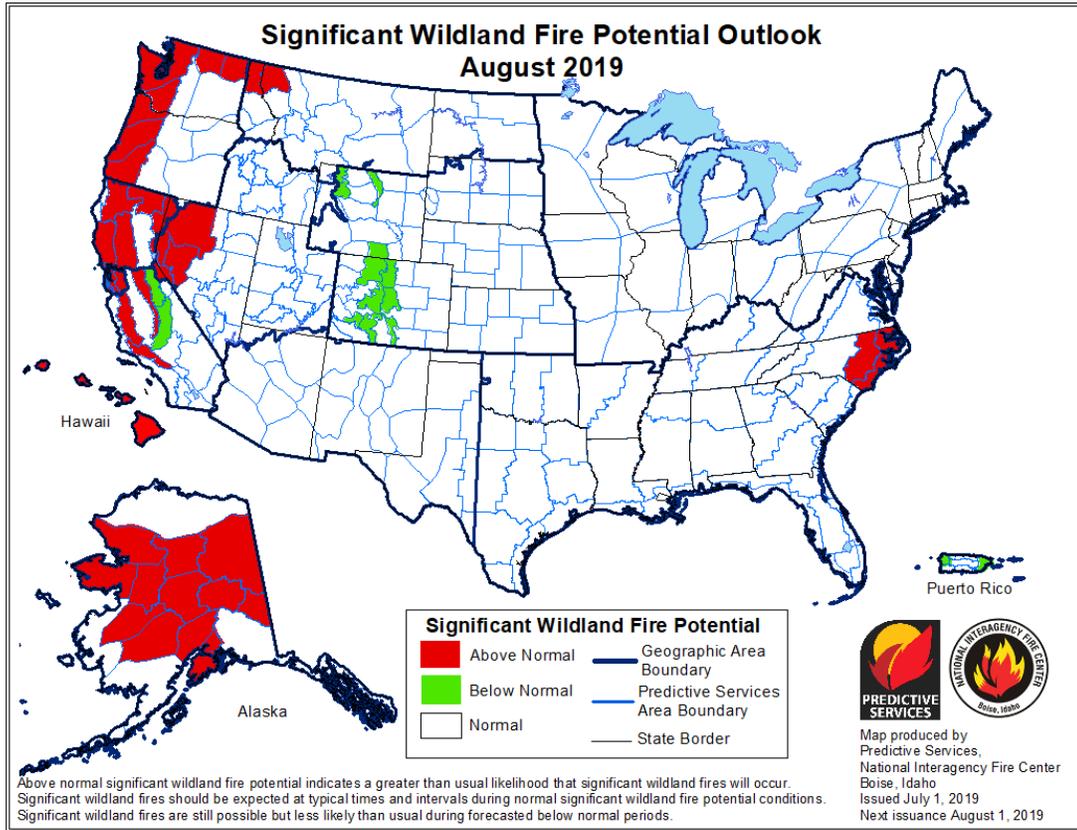
Source: California Department of Water Resources



[Current California Reservoir Conditions](#)

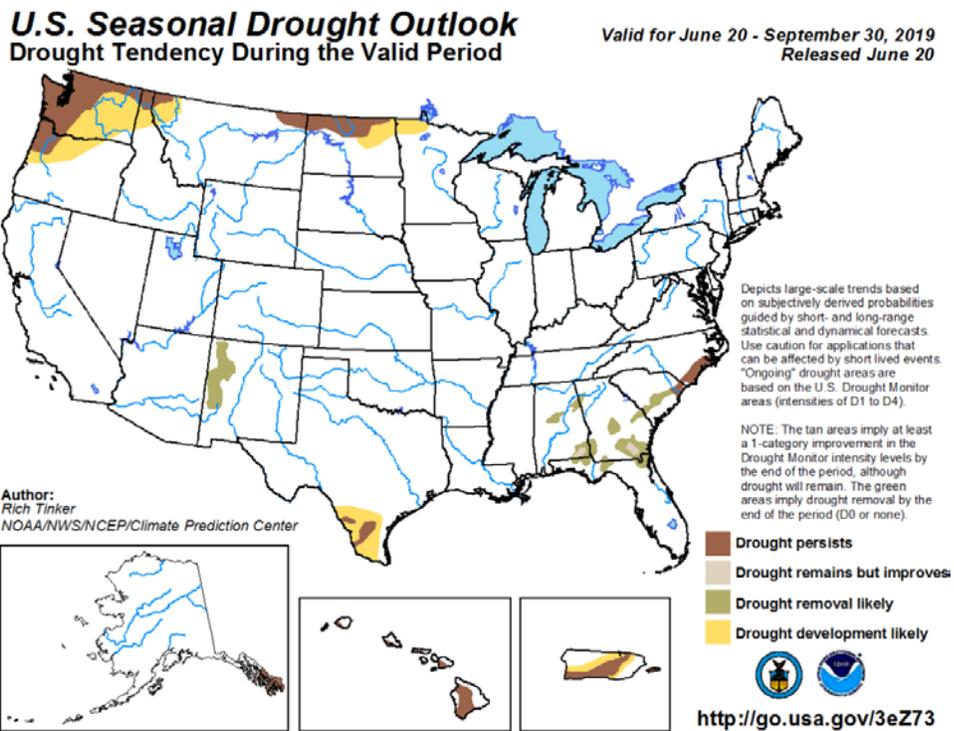
Significant Wildland Fire Potential Outlook

Source: National Interagency Fire Center



Seasonal Drought Outlook: June 20 – September 30, 2019

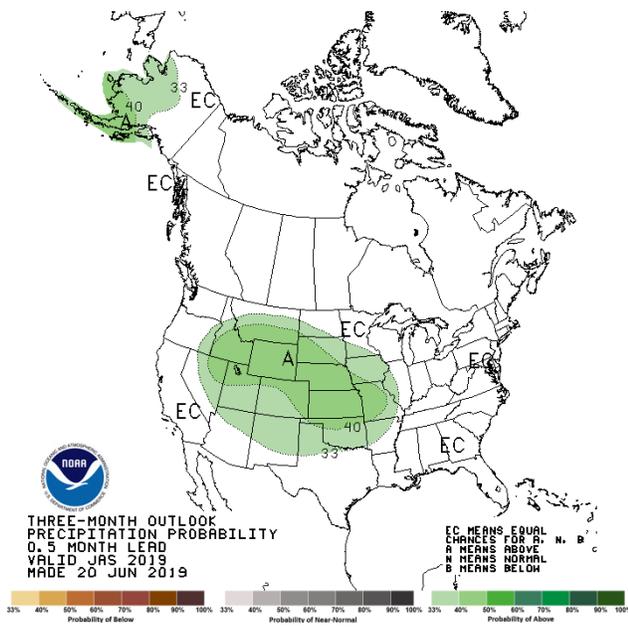
Source: National Weather Service



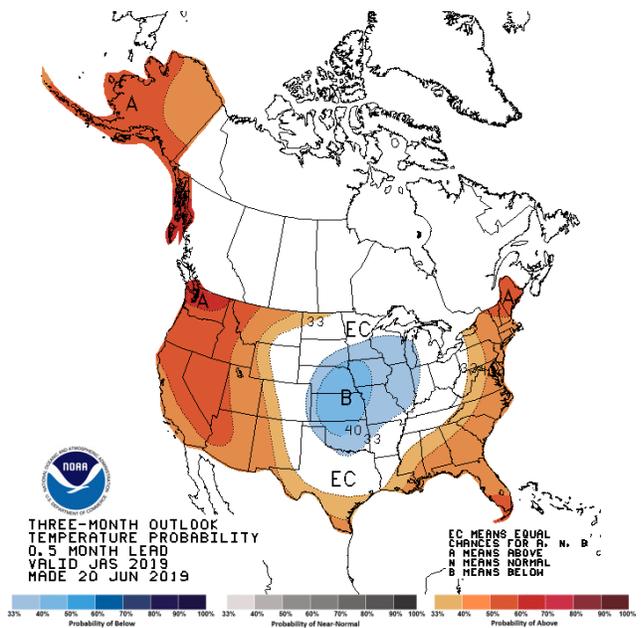
Climate Prediction Center 3-Month Outlook

Source: National Weather Service

Precipitation



Temperature



[July-August-September \(JAS\) 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](#).