



# Water and Climate Update

July 13, 2017

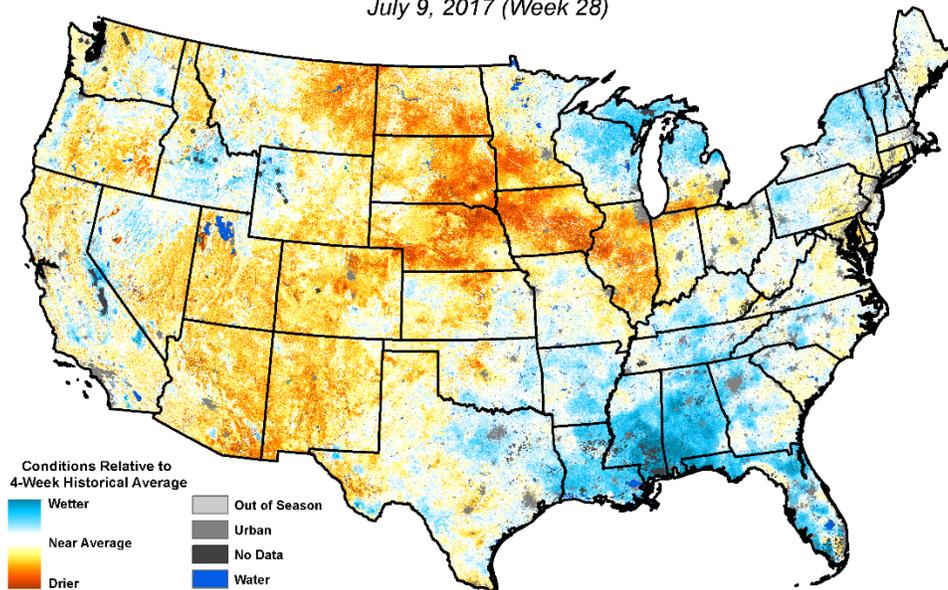
The Natural Resources Conservation Service produces this weekly report using data and products from the [National Water and Climate Center](#) and other agencies. The report focuses on seasonal snowpack, precipitation, temperature, and drought conditions in the U.S.

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## Drought intensifying in northern Great Plains

### Quick Drought Response Index (QuickDRI)

July 9, 2017 (Week 28)



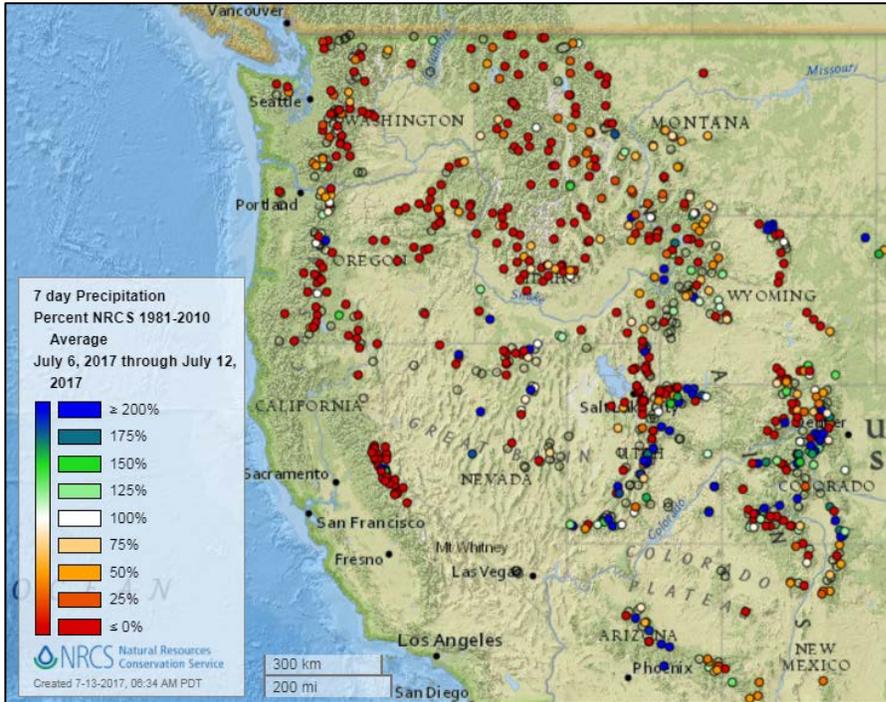
The map above of the Quick Drought Response Index ([QuickDRI](#)) indicates areas of short-term dryness and regions experiencing a “[flash drought](#).” Eastern Montana and the Dakotas are having a rapidly-developing drought emergency, according to the [National Drought Mitigation Center](#). The governors of all three states have declared a drought emergency to provide services to agricultural producers. The USDA has authorized emergency grazing on Conservation Reserve Program (CRP) lands in the hardest hit counties in these states.

### More information:

- [USDA Authorizes Emergency Grazing in Drought-Stricken Montana, North Dakota and South Dakota](#)
- [Drought and Climate for June 2017: Northern Plains see deteriorating conditions](#)
- [Extreme heat broils the Dakotas and Montana: flash drought takes toll on wheat crop](#)
- [USDA approves emergency haying in parts of Montana, the Dakotas due to continued drought conditions](#)

## Precipitation

### Last 7 Days, Western Mountain Sites (NRCS SNOTEL Network)

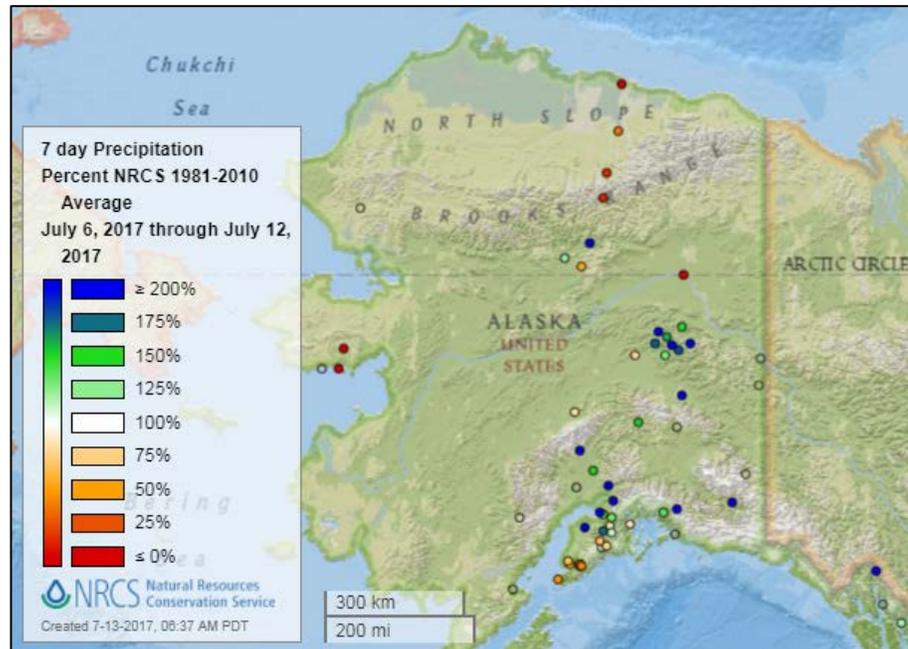


[7-day precipitation percent of average map](#)

**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](#)

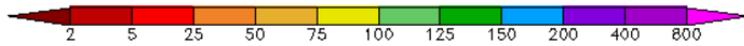
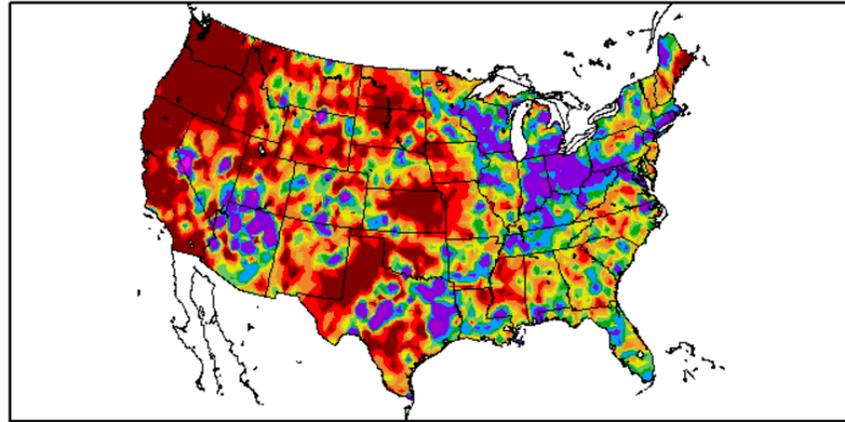


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

[7-day precipitation percent of normal map](#) for the continental U.S.

Percent of Normal Precipitation (%)  
7/6/2017 - 7/12/2017



Generated 7/13/2017 at HPRCC using provisional data.

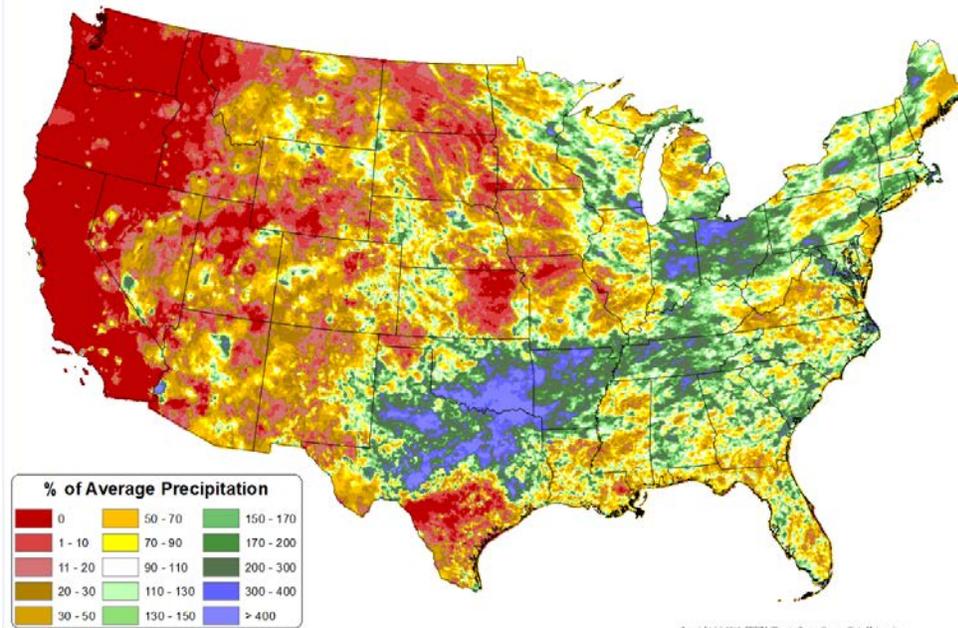
Regional Climate Centers

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

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

Source: PRISM

Total Precipitation Anomaly: 01 July 2017 - 12 July 2017  
Period ending 7 AM EST 12 Jul 2017  
Base period: 1981-2010  
(Map created 10 Jul 2017)

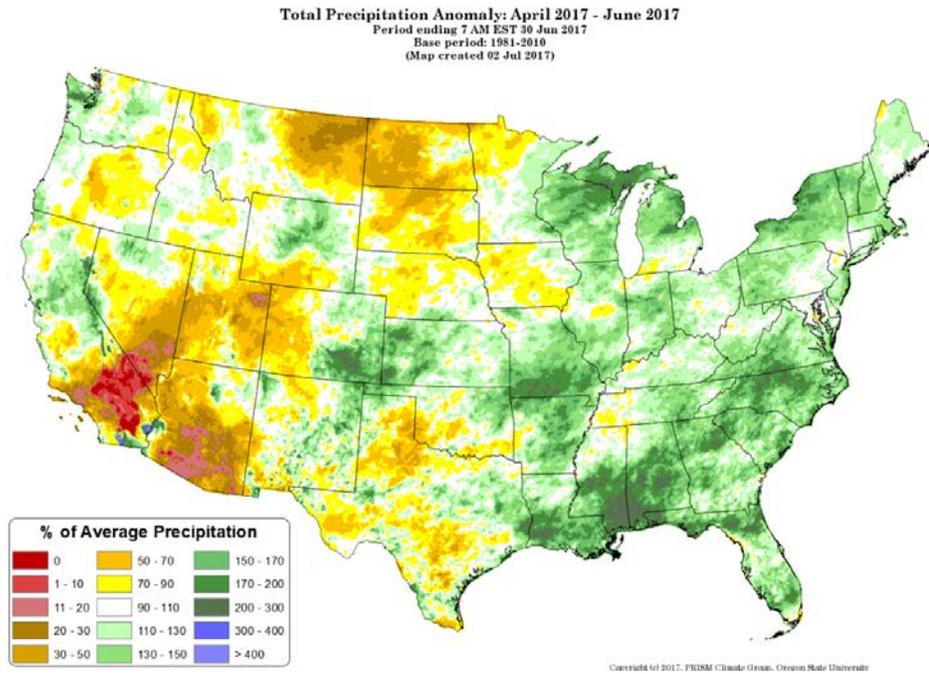


[Month-to-date national precipitation percent of average map](#)

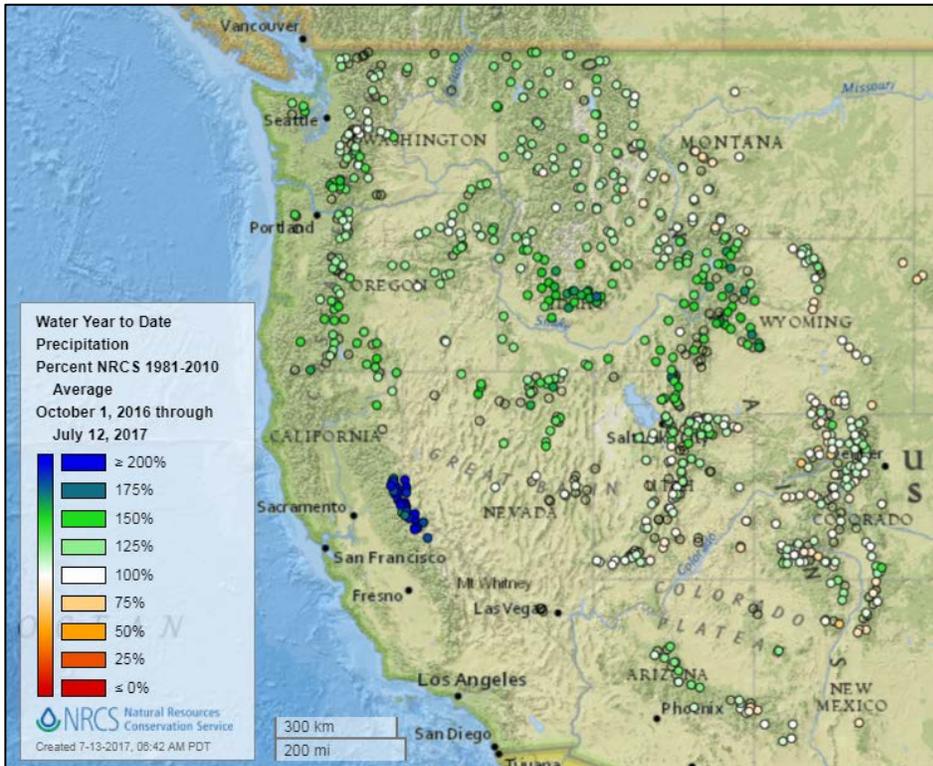
Last 3 Months, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

[April through June 2017 daily mean precipitation anomaly map](#)



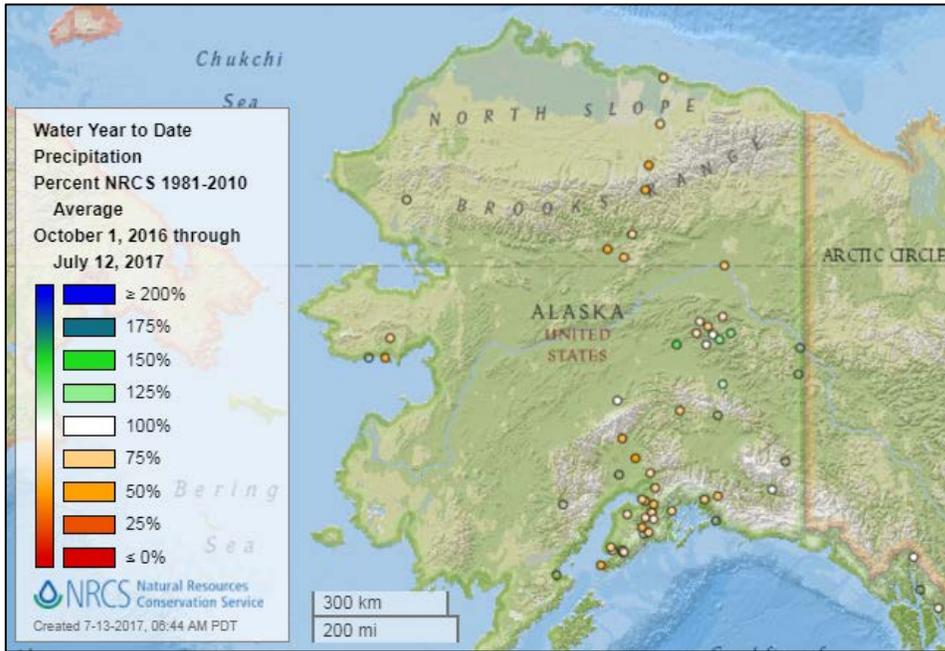
Water Year-to-Date, Western Mountain Sites (NRCS SNOTEL Network)



[2017 water year-to-date precipitation percent of average map](#)

See also: [2017 water year-to-date precipitation values \(inches\)](#)

# Water and Climate Update



[Alaska 2017 water year-to-date precipitation percent of average map](#)

**See also:** [Alaska 2017 water year-to-date precipitation values \(inches\) map](#)

## Temperature

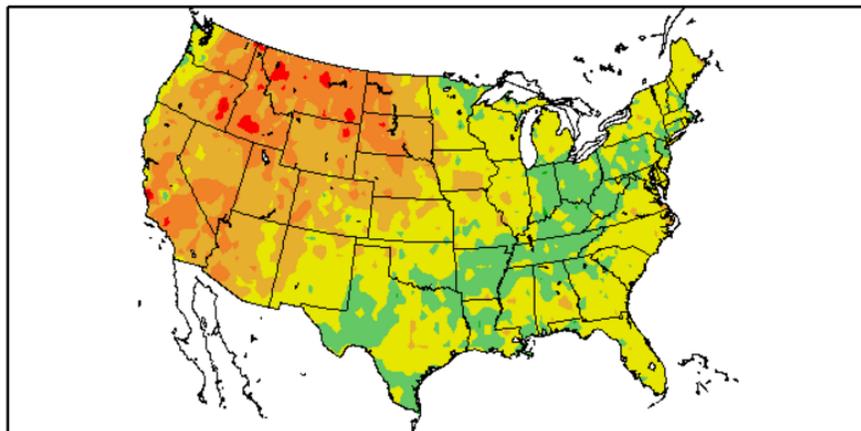
Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

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

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

Departure from Normal Temperature (F)  
7/6/2017 – 7/12/2017



Generated 7/13/2017 at HPRCC using provisional data.

Regional Climate Centers

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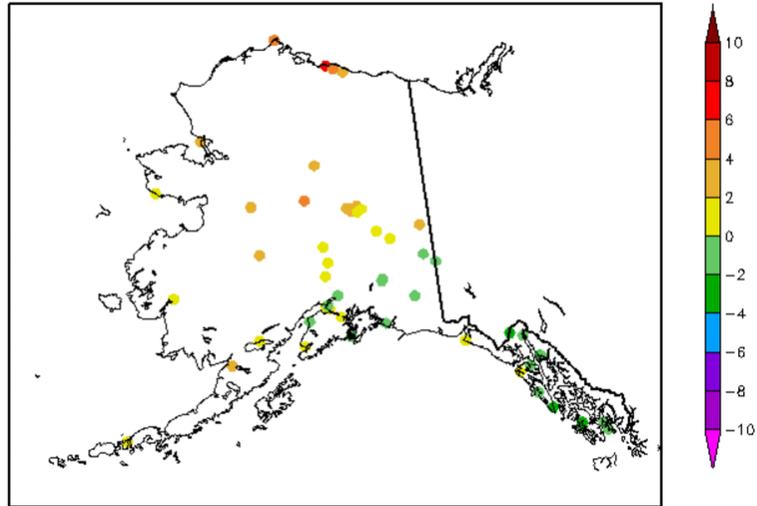
## Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

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

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

Departure from Normal Temperature (F)  
7/6/2017 – 7/12/2017



Generated 7/13/2017 at HPRCC using provisional data.

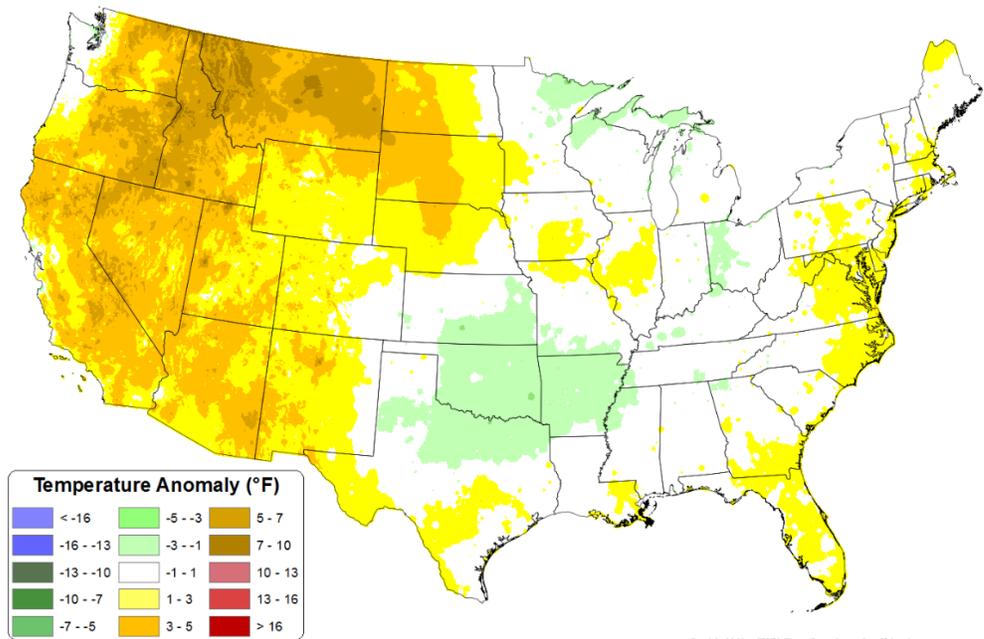
Regional Climate Centers

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

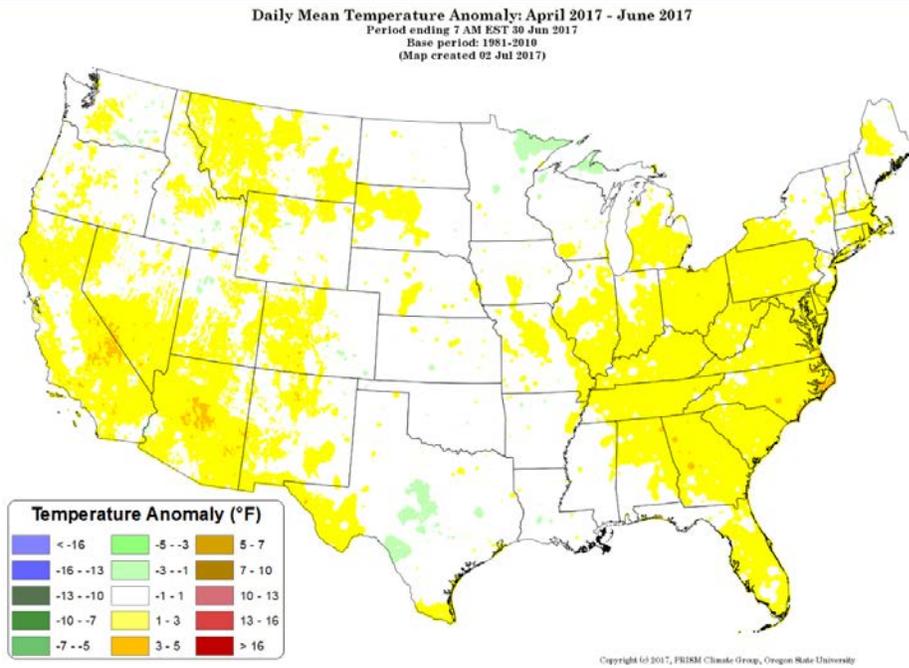
Source: PRISM

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

Daily Mean Temperature Anomaly: 01 July 2017 - 12 July 2017  
Period ending 7 AM EST 12 Jul 2017  
Base period: 1981-2010  
(Map created 13 Jul 2017)



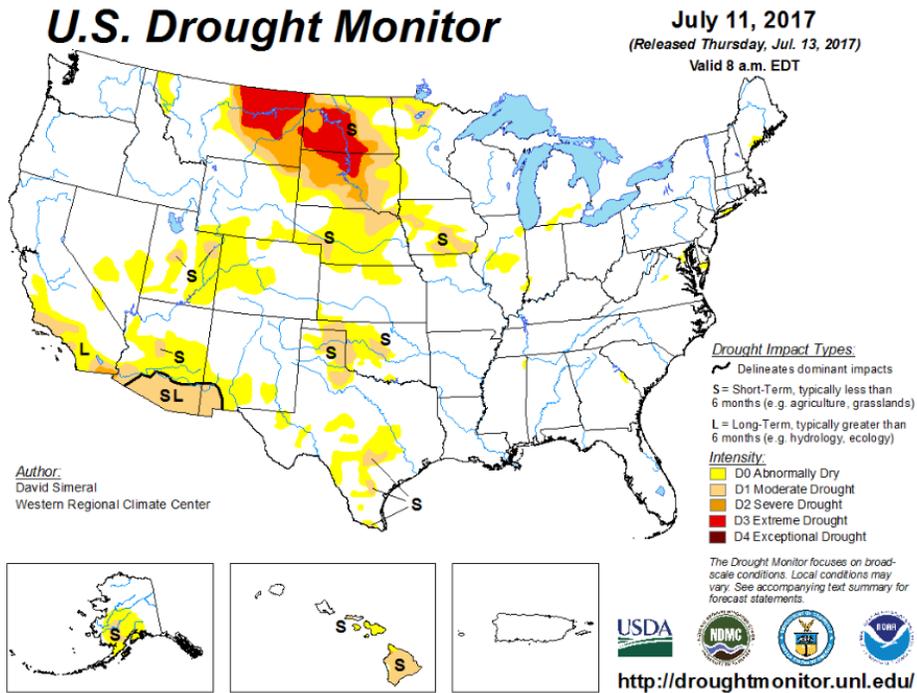
Copyright © 2017, PRISM Climate Group, Oregon State University



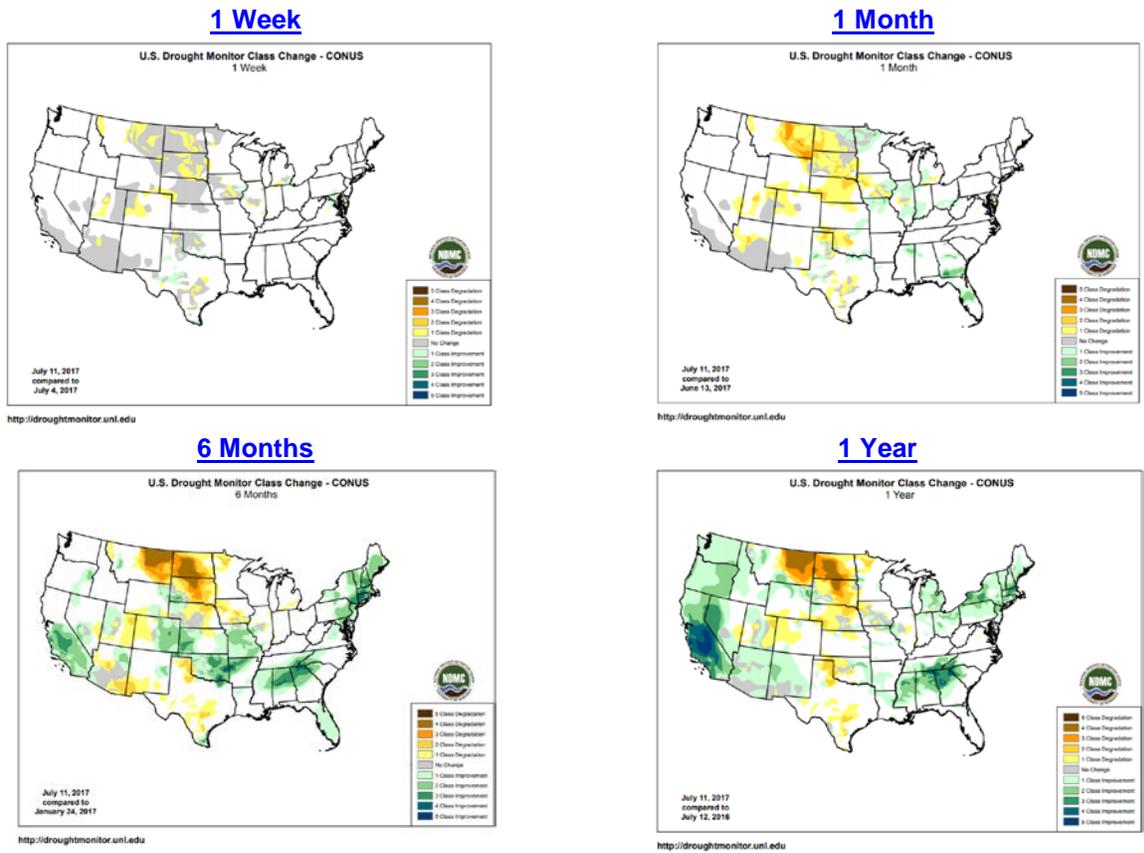
[April through June 2017 daily mean temperature anomaly map](#)

## Drought

[U.S. Drought Monitor](#) Click on map below. [U.S. Drought Portal](#) Comprehensive drought resource.



Changes in Drought Monitor Categories over Time



[Changes in drought conditions over the last 12 months](#)

**Current National [Drought Summary](#), July 11, 2017**

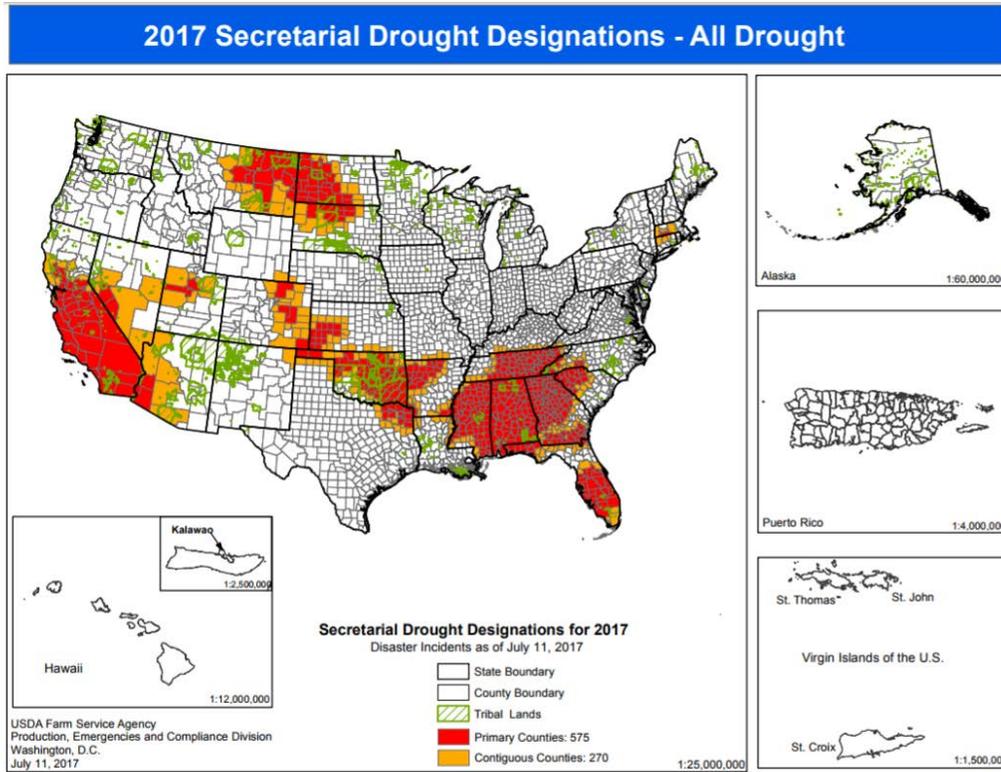
Author: David Simeral, Western Regional Climate Center

“This U.S. Drought Monitor week saw hot and dry conditions persist across the western U.S as a ridge of high pressure anchored over the region exacerbated drought conditions in eastern Montana as well as elevating fire danger across the region. According to the National Interagency Fire Center, ~70 large wildfires are currently burning across the West. On Friday and Saturday, daily high-temperature records were broken at various locations including: Las Vegas (116°F), Los Angeles (98°F), Phoenix (118°F), Reno (104°F), Boise (104°F), and Salt Lake City (104°F). Some relief from the heat came as monsoonal circulation returned to the Southwest bringing scattered showers and thunderstorms to portions of the Southwest and eastern Great Basin, although accumulations were generally less than 1 inch for the week. In drought-stricken areas of eastern Montana and the Dakotas, excessive heat continued to deplete soil moisture and further stressed rain-fed crops, pastures, and rangelands. In South Dakota, 72% of the spring wheat crop is currently rated as poor to very poor while Montana is not far behind at 62%, according the U.S. Department of Agriculture (USDA). Overall, declining conditions have resulted in the U.S. spring wheat crop being rated at 39% in poor to very poor condition. Further south in Oklahoma, rainfall during the past several weeks has led to improvements in soil moisture in eastern and southern portions of the state. Elsewhere, short-term precipitation deficits and dry soils led to expansion of areas of moderate drought in Iowa while the eastern U.S. remained drought-free on this week’s map.”

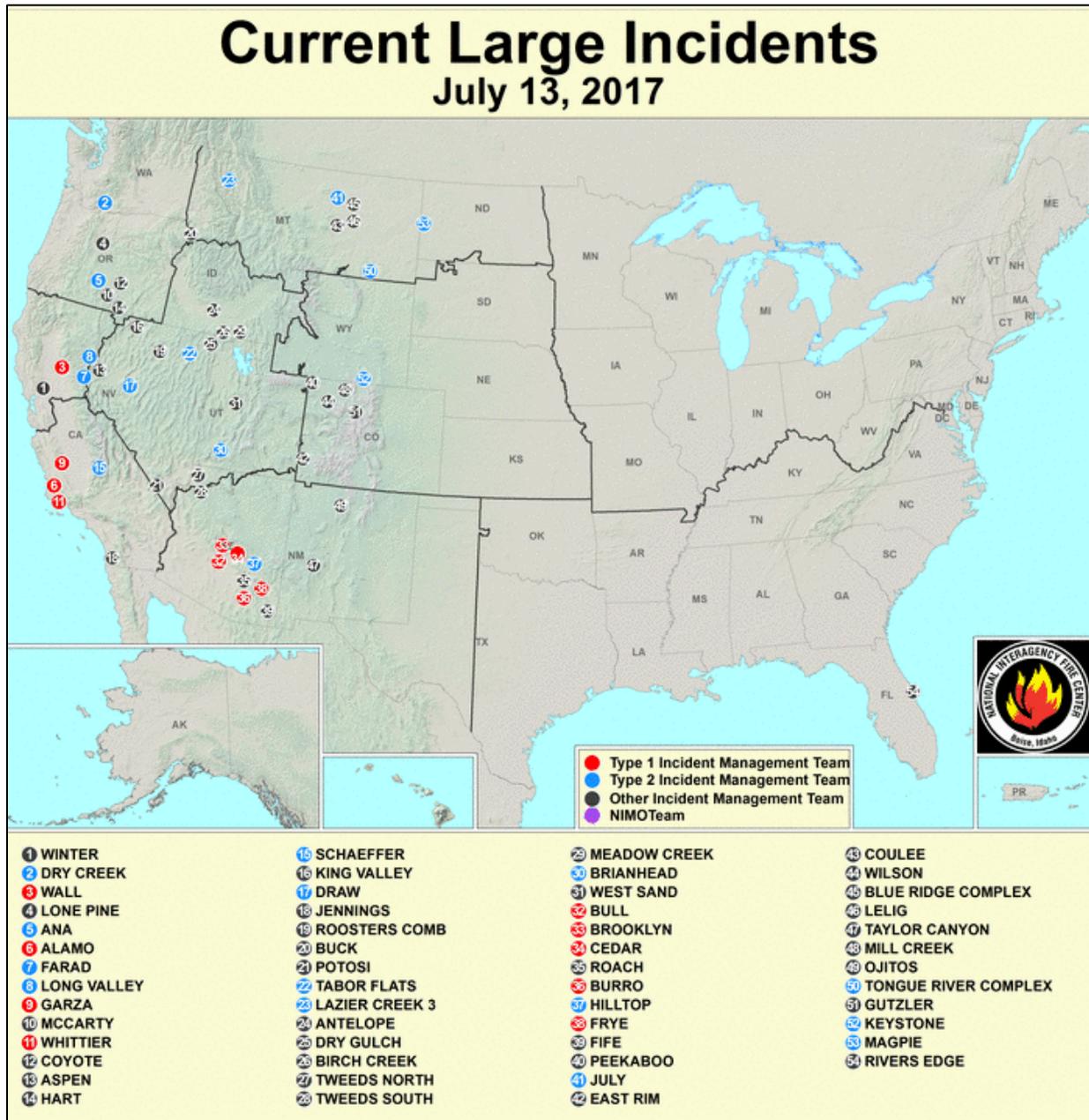
### Highlighted Drought Resources

- [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 2017 Secretarial [Drought Designations](#)

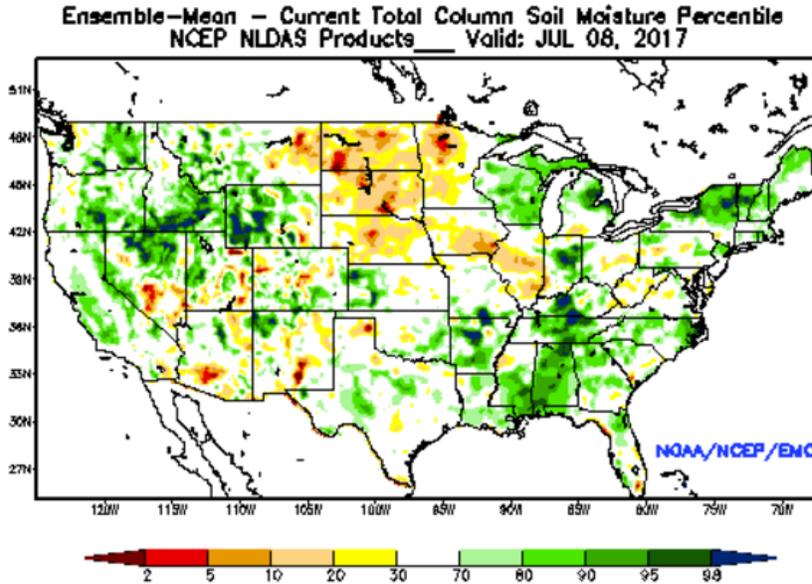


Wildfires: [USDA Forest Service Active Fire Mapping](#)



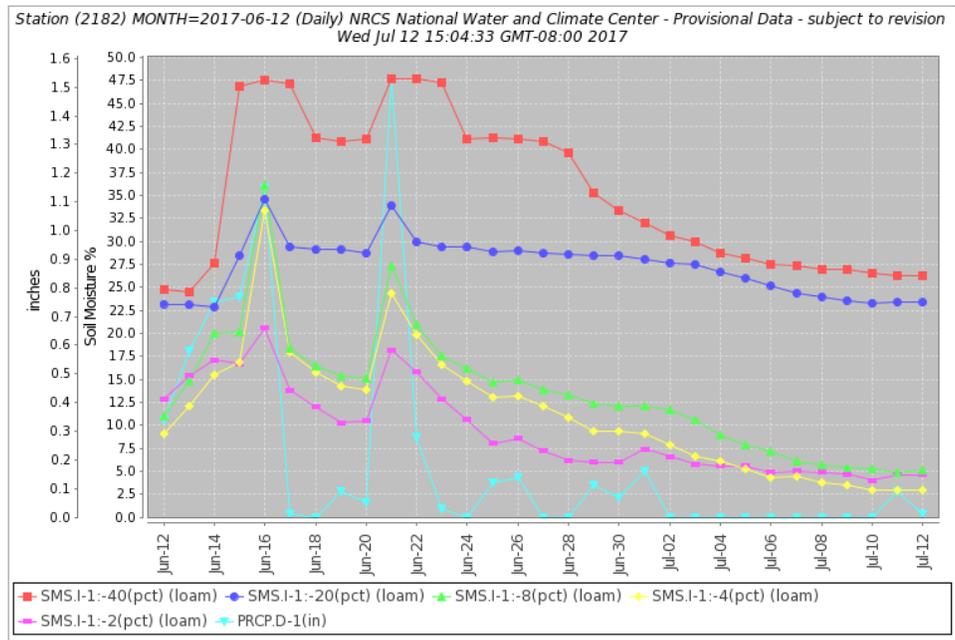
## Other Climatic and Water Supply Indicators

### Soil Moisture



[Modeled soil moisture percentiles](#) as of July 8, 2017.

### Soil Moisture Data: NRCS [Soil Climate Analysis Network \(SCAN\)](#)



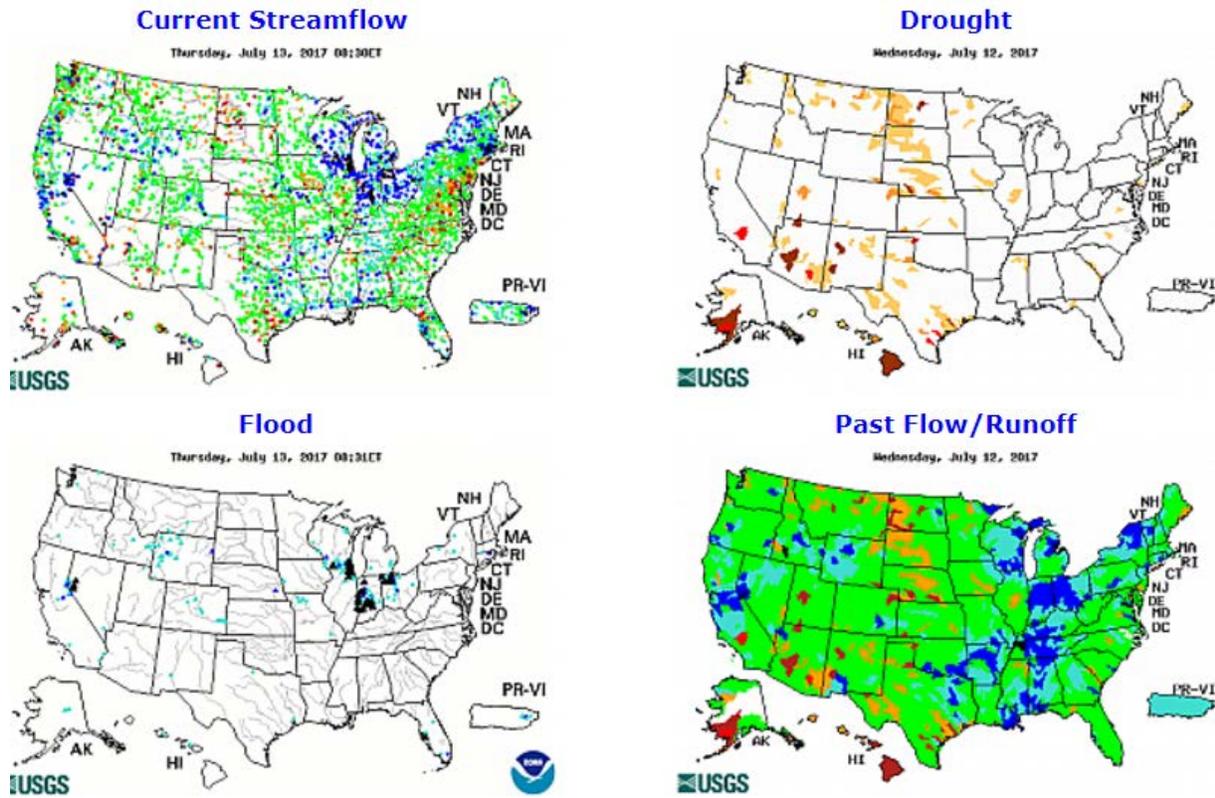
Soil moisture (at 2-, 4-, 8-, 20-, and 40-inch depths) and precipitation for the past 30 days at the [River Road Farms SCAN site 2182](#) in Alabama. The almost daily rain in the last half of June increased the soil moisture at all sensor depths. With the light to no rain since then, the soil moisture has been decreasing.

### 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: USGS



[Current streamflow maps](#) Click image to enlarge and display legends

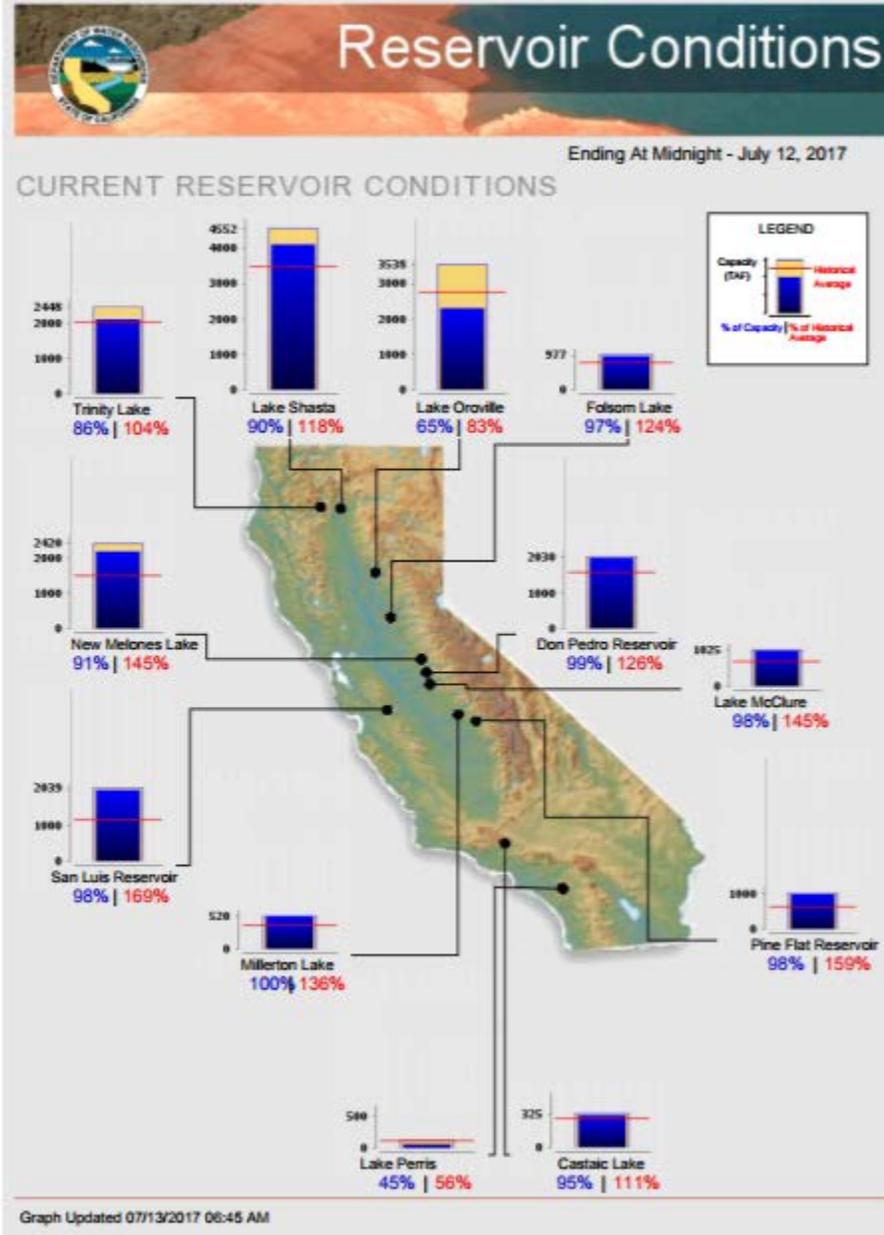
Reservoir Storage

[National Water and Climate Center Reservoir Data](#)

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](#)

California Current Reservoir Conditions



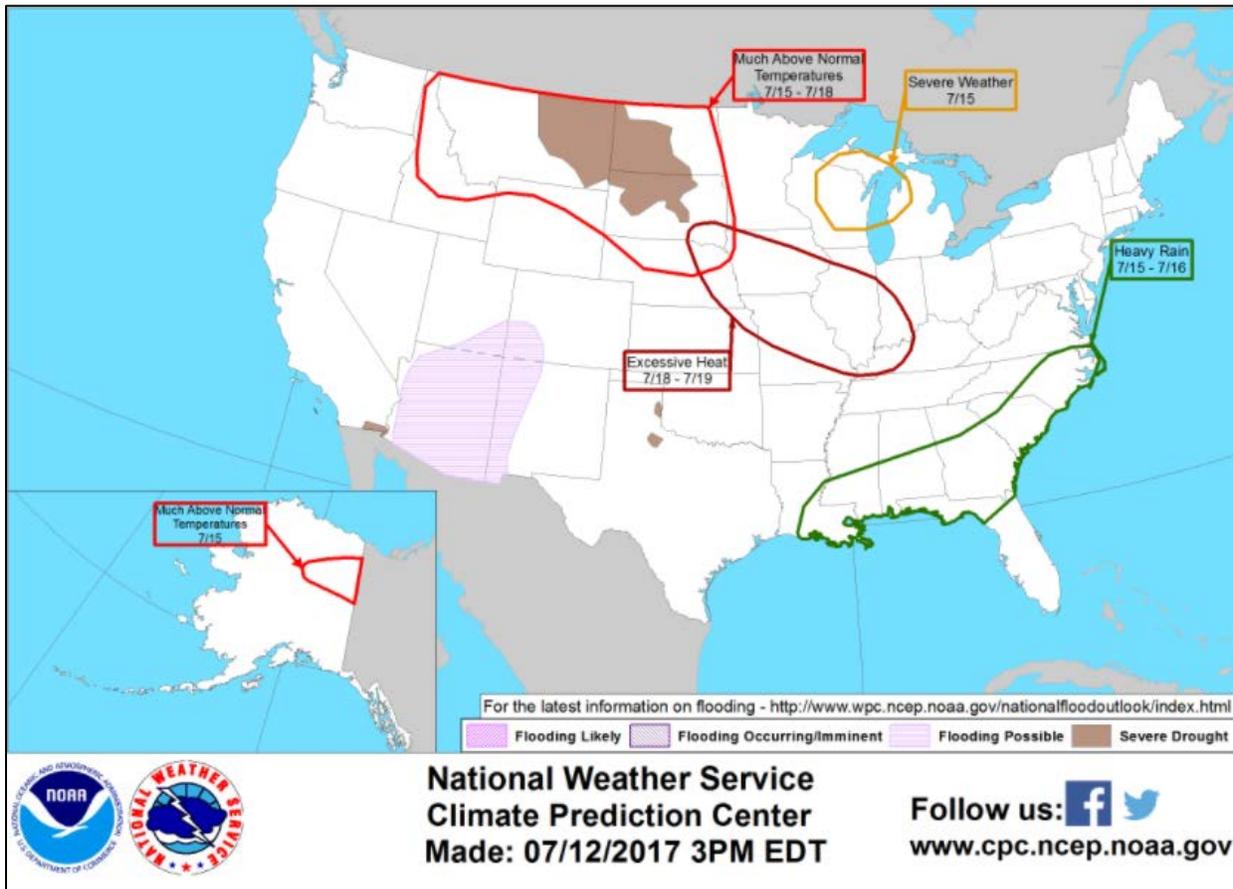
## Short- and Long-Range Outlooks

### Agricultural Weather Highlights

Authors: Brad Rippey and Seth Cohen, Meteorologists, USDA/OCE/WAOB

[National Outlook, Thursday, July 13, 2017](#): “A cold front sweeping across the Midwest and into the South and East will bring an end to a brief heat wave. Rainfall totals associated with the front could reach 1 to 3 inches, mainly across the South, East, and lower Midwest. By week’s end, near- or slightly below-normal temperatures should cover much of the South and East. In contrast, heat will quickly return across the northern Plains and intensify in the West. As a result, drought impacts will continue to mount in Montana and the Dakotas. Elsewhere, monsoon-related showers will dot the Southwest and briefly affect the central Plains, while mostly dry weather should prevail in the Far West. The NWS 6- to 10- day outlook for July 18 – 22 calls for the likelihood of near- to above-normal temperatures and near- to below normal rainfall across the majority of the U.S. Cooler-than-normal conditions will be limited to the Desert Southwest and Pacific Northwest, while wetter-than-normal weather should be confined to the Deep South and a broad area stretching from the Southwest to the upper Great Lakes region.”

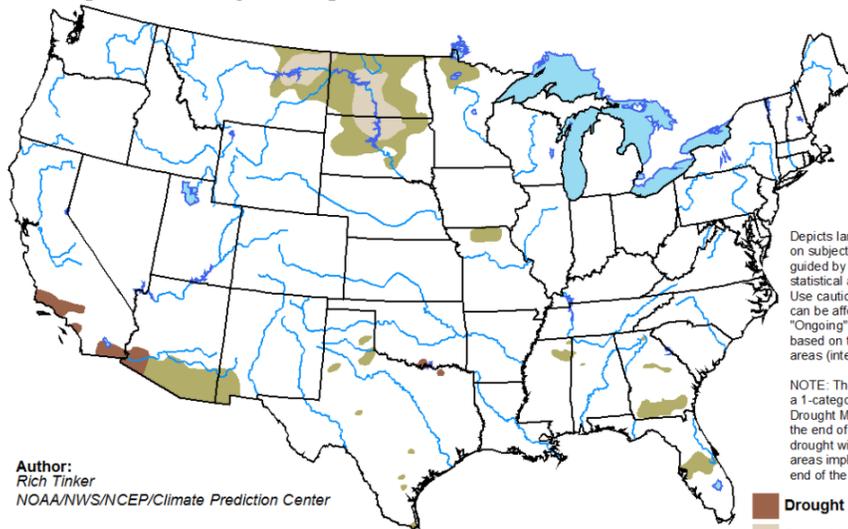
### NWS Climate Prediction Center Weather Hazard Outlook: [July 15 - 19, 2017](#)



NWS Seasonal Drought Outlook: [June 15 - September 30, 2017](#)

**U.S. Seasonal Drought Outlook**  
Drought Tendency During the Valid Period

Valid for June 15 - September 30, 2017  
Released June 15, 2017



Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

Author:  
Rich Tinker  
NOAA/NWS/NCEP/Climate Prediction Center



- Drought persists
- Drought remains but improves
- Drought removal likely
- Drought development likely

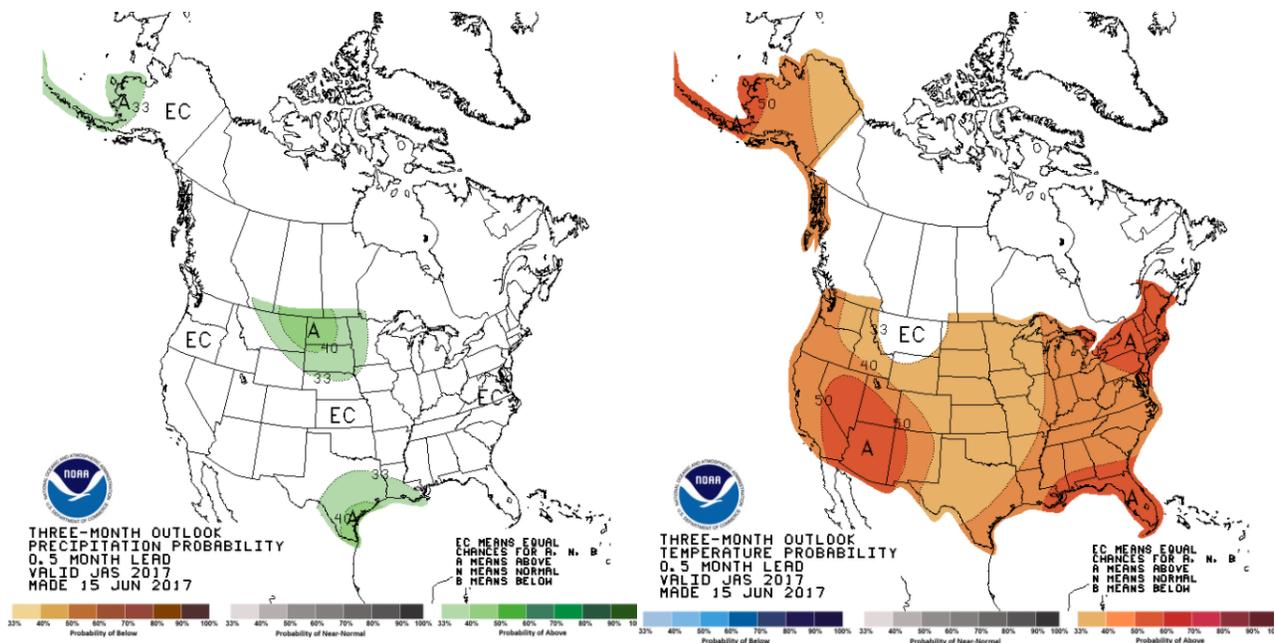


<http://go.usa.gov/3eZ73>

NWS Climate Prediction Center 3-Month Outlook

[Precipitation](#)

[Temperature](#)



THREE-MONTH OUTLOOK  
PRECIPITATION PROBABILITY  
0.5 MONTH LEAD  
VALID JAS 2017  
MADE 15 JUN 2017

EC MEANS EQUAL CHANCES FOR A, N, B  
A MEANS ABOVE  
N MEANS NORMAL  
B MEANS BELOW

THREE-MONTH OUTLOOK  
TEMPERATURE PROBABILITY  
0.5 MONTH LEAD  
VALID JAS 2017  
MADE 15 JUN 2017

EC MEANS EQUAL CHANCES FOR A, N, B  
A MEANS ABOVE  
N MEANS NORMAL  
B MEANS BELOW

[July-August-Sep \(JAS\) 2017 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](#).