

# Water and Climate Update

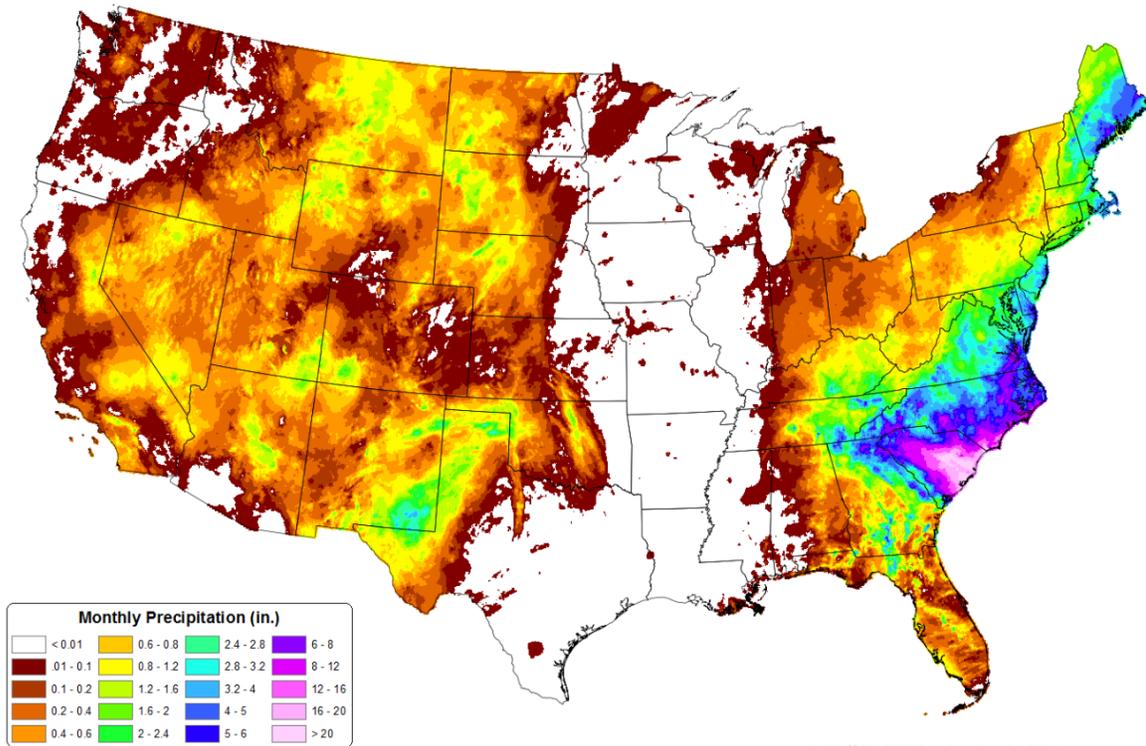
October 8, 2015

The Natural Resources Conservation Service produces this weekly report using data and products from the National Water and Climate Center and information provided by other agencies. The report focuses on current precipitation, seasonal snowpack, temperature, and drought conditions in the U.S.

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## Weekly Highlight: Extreme rainfall and flooding in South Carolina

**Total Precipitation: 01 October 2015 - 06 October 2015**  
 Period ending 7 AM EST 06 Oct 2015  
 (Map created 07 Oct 2015)

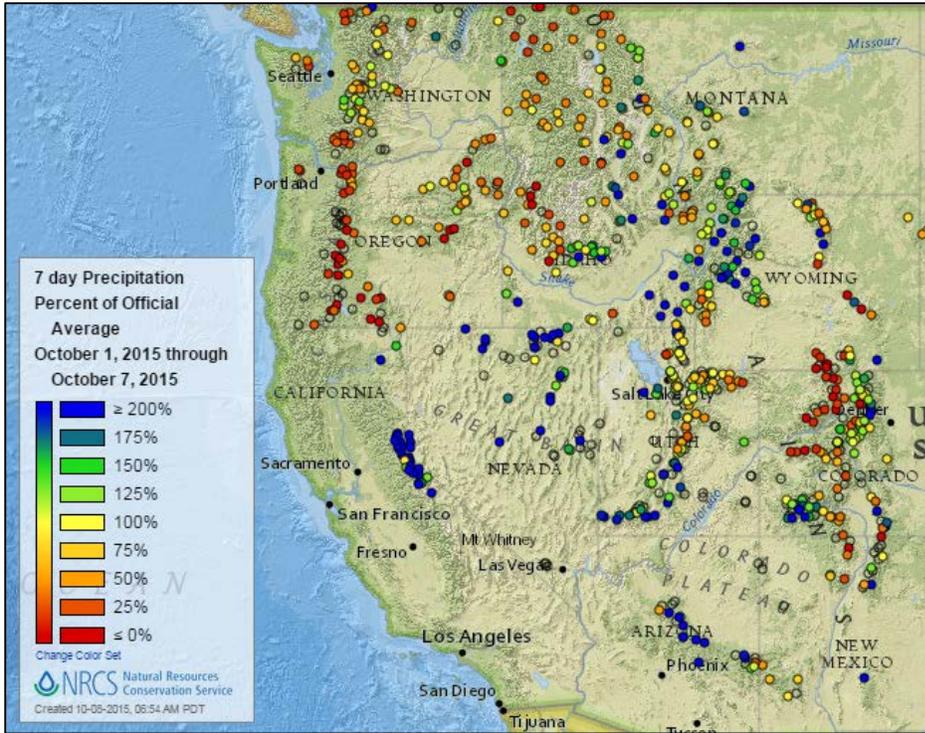


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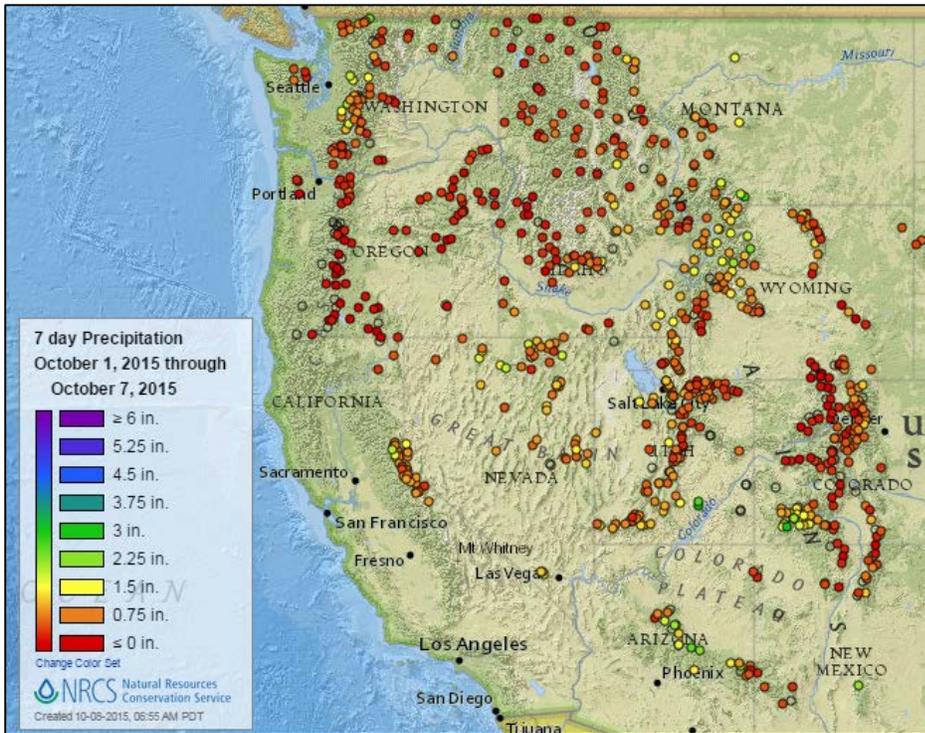
The big story this week is the extreme rainfall and flooding in South Carolina. The [precipitation map](#) (which also appears later in this report) shows the large rainfall totals during the first six days of October. Ironically, until this past week, South Carolina has been shown as a drought region in the U.S. Drought Monitor.

# Precipitation

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



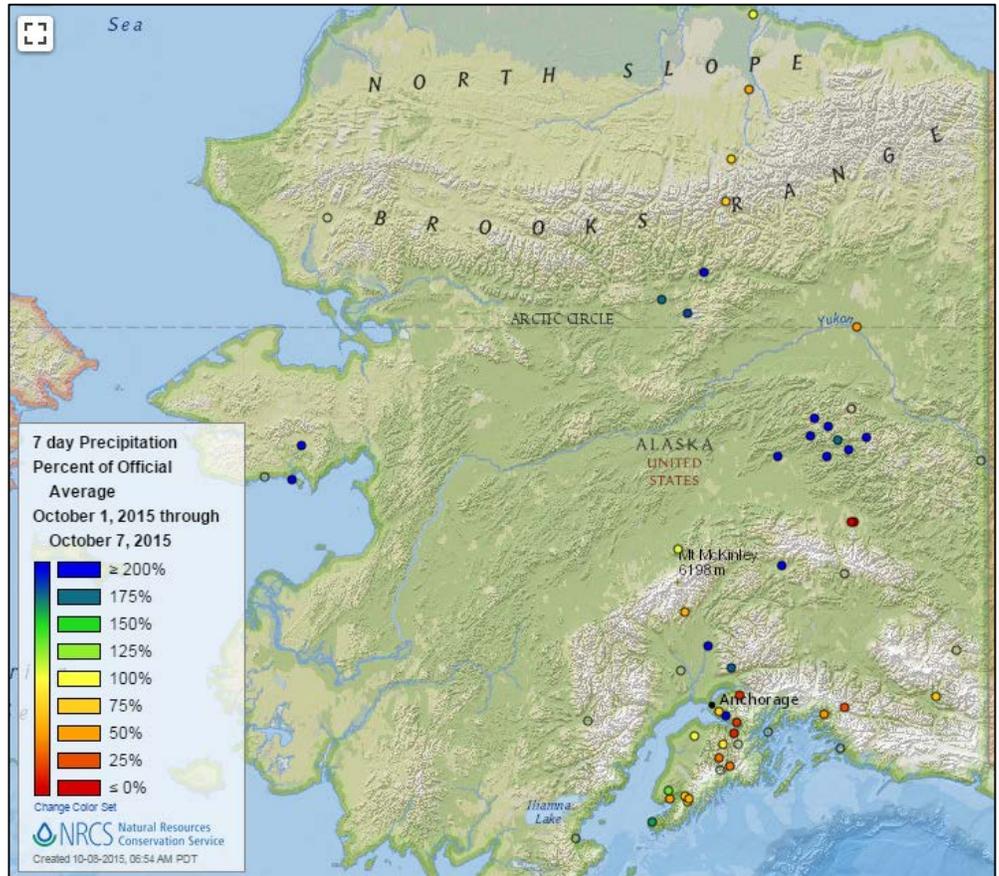
The 7-day [precipitation percent of average](#) map shows high variability across the West, with some areas well below average and some areas well above average.



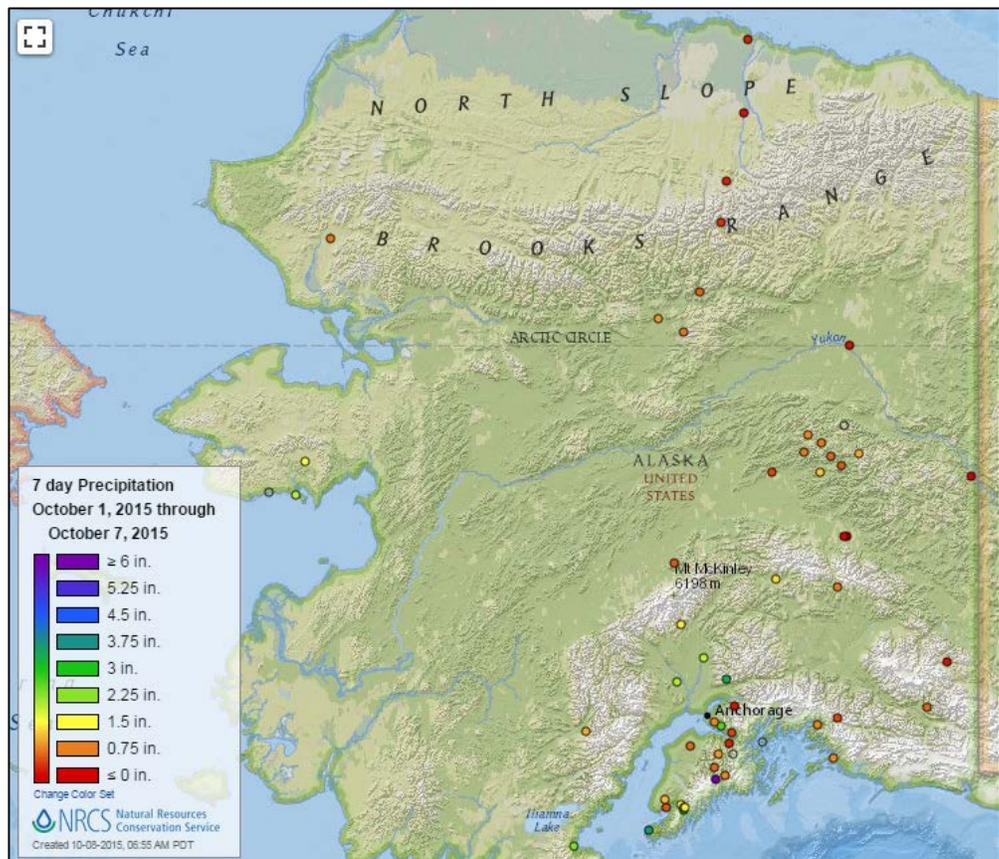
The [total precipitation](#) map shows the amounts for areas of above average precipitation are mostly in the 1- to 2-inch range.

## Water and Climate Update

The Alaska [precipitation percent of average](#) map for the last seven days shows above average precipitation in the Interior and mostly below average in the Southcentral region.



The Alaska [total precipitation](#) map shows amounts generally less than an inch in the Interior with spotty, but somewhat larger, amounts in the Southcentral region.

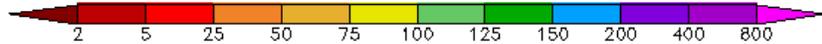
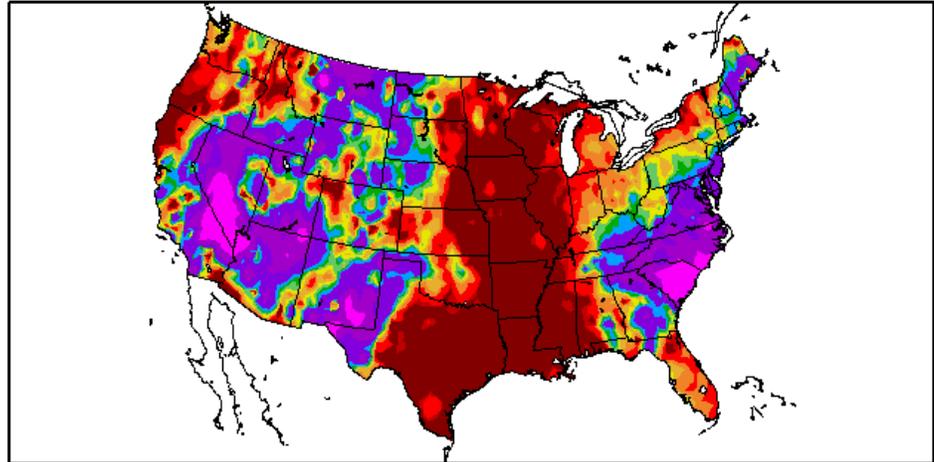


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

Percent of Normal Precipitation (%)  
10/1/2015 – 10/7/2015

The [percent of normal precipitation](#) map shows well above average precipitation in the Carolinas as well as scattered areas throughout the interior West, including parts of California. In contrast, much of the Great Plains and the Pacific Northwest were well below average.

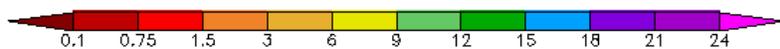
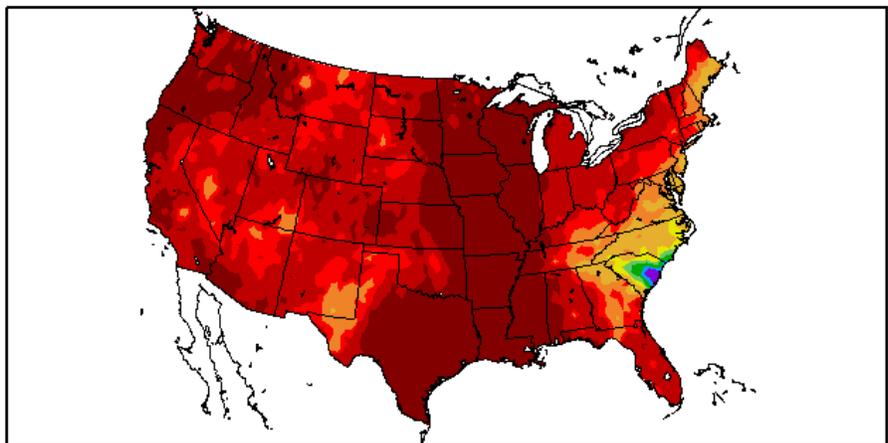


Generated 10/8/2015 at HPRCC using provisional data.

Regional Climate Centers

Precipitation (in)  
10/1/2015 – 10/7/2015

The [7-day total precipitation](#) map draws the focus to South Carolina, with some areas in the 20-inch range. Other areas received lesser amounts, including elsewhere on the eastern seaboard and in the interior West.



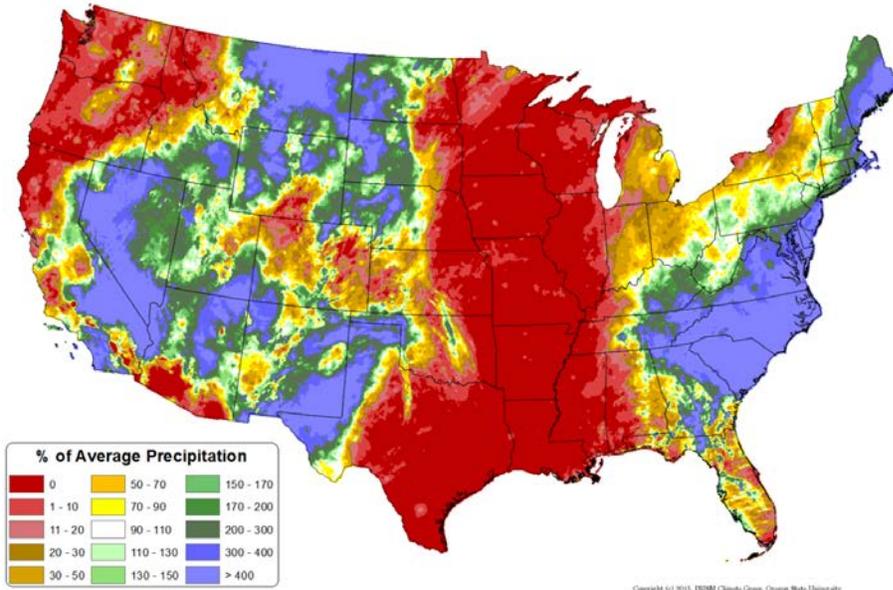
Generated 10/8/2015 at HPRCC using provisional data.

Regional Climate Centers

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

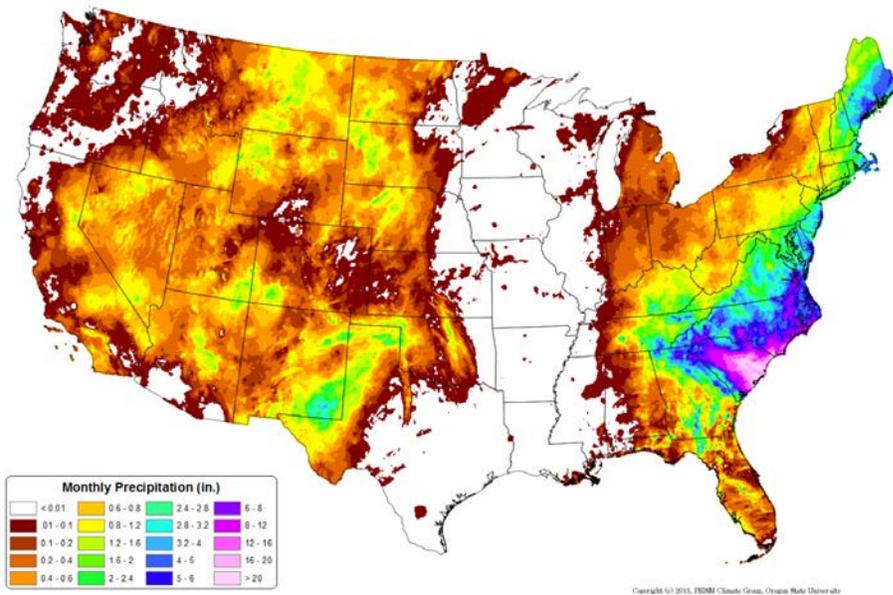
Source: PRISM

Total Precipitation Anomaly: 01 October 2015 - 06 October 2015  
 Period ending 7 AM EST 06 Oct 2015  
 Base period: 1981-2010  
 (Map created 07 Oct 2015)



For the month of October, the national [total precipitation percent of average](#) map covers the same time period as those for the past seven days, shown in the previous map, and therefore appears nearly the same.

Total Precipitation: 01 October 2015 - 06 October 2015  
 Period ending 7 AM EST 06 Oct 2015  
 (Map created 07 Oct 2015)



The October month-to-date [total precipitation](#) also covers essentially the same time period as the corresponding 7-day map. Rainfall totals of 20 inches or more in South Carolina are the most striking feature of this week's map.

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

Note: Because the 2016 Water Year began on October 1, the water year-to-date this week coincides exactly with the month-to-date. Therefore, water year-to-date maps are not included in this week's report. These maps will appear next week.

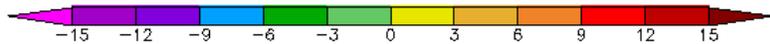
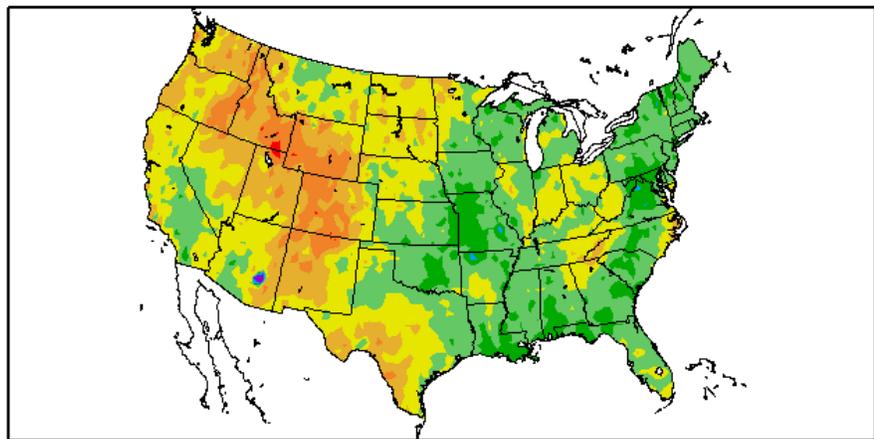
**Temperature**

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

Source: Regional Climate Centers

Departure from Normal Temperature (F)  
10/1/2015 – 10/7/2015

The map of the [average temperature anomalies](#) for the past week shows, in general, a few degrees warmer than average in much of the West and near average or a few degrees cooler than average in the eastern half of the country.



Generated 10/8/2015 at HPRCC using provisional data.

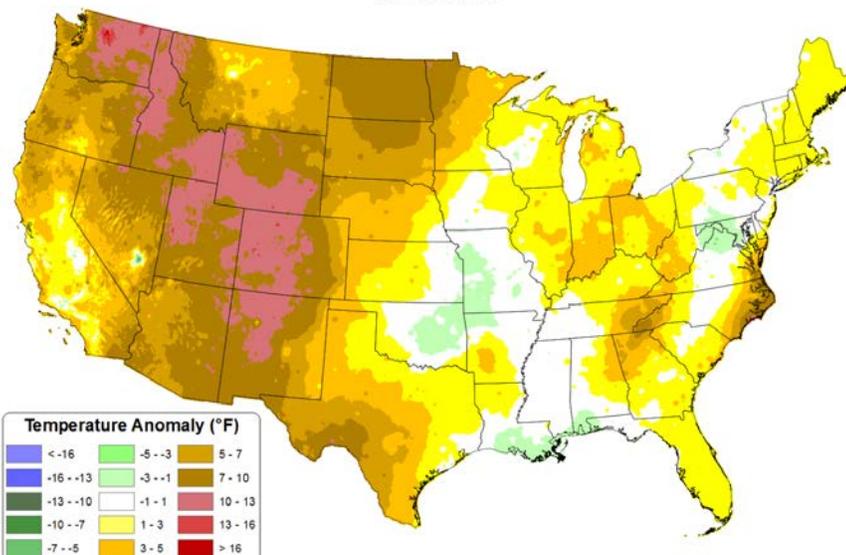
Regional Climate Centers

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

Source: PRISM

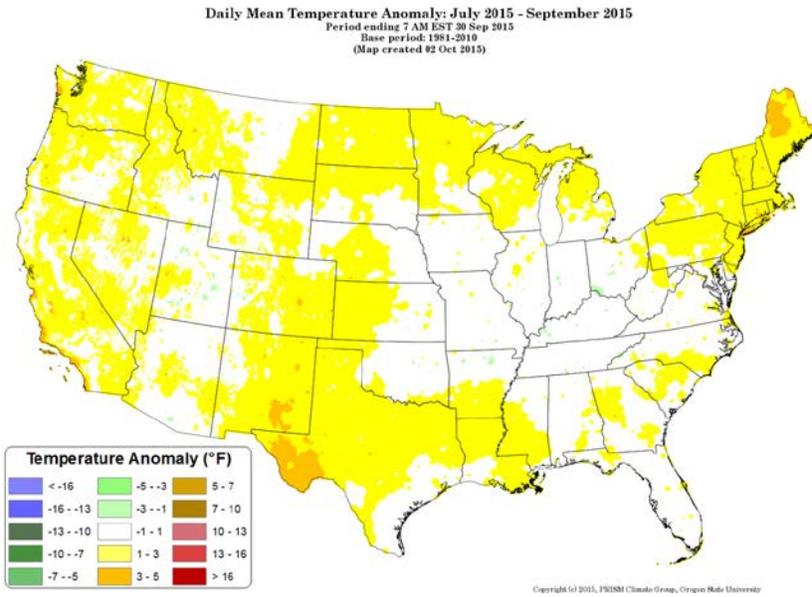
For October 2015, the national [daily mean temperature anomaly](#) map shows similar patterns as the map above because the same time period is covered. The finer categories in this map, however, give somewhat more detail. The warm West shows clearly, as in the map above, but the eastern half of the country was closer to average.

Daily Mean Temperature Anomaly: 01 October 2015 - 06 October 2015  
Period ending 7 AM EST 06 Oct 2015  
Base period: 1981-2010  
(Map created 07 Oct 2015)



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

Source: PRISM

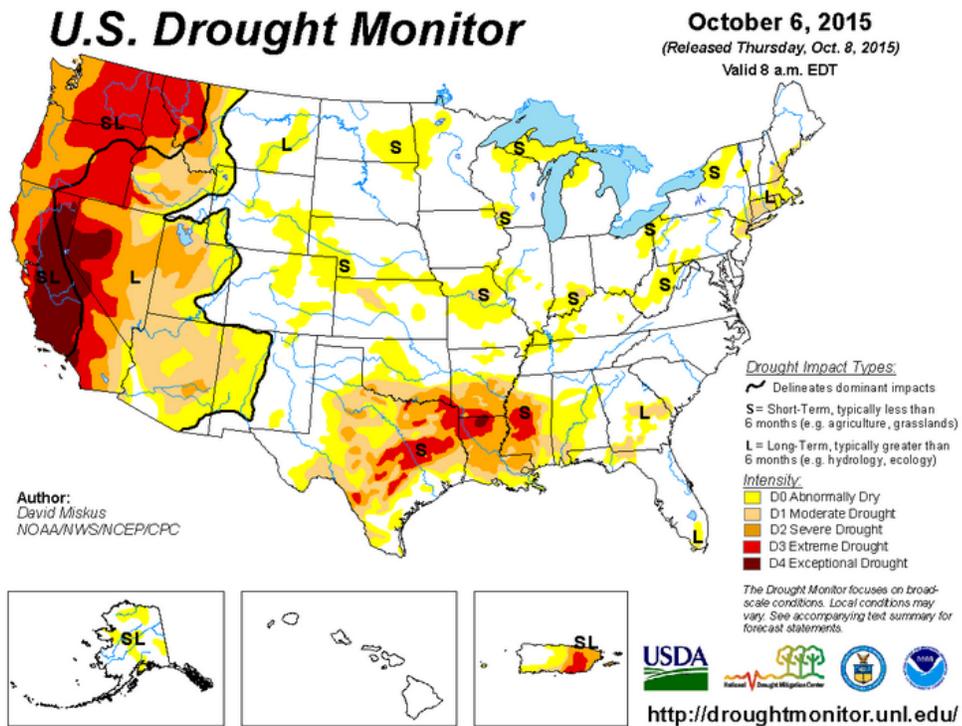


The July through September national **daily mean temperature anomalies** shows areas that were either above average or near average. That is, there were no areas cooler than average. The above average areas occurred mostly in the West, the upper Midwest, and the Northeast.

## Drought

[U.S. Drought Portal](#) Comprehensive drought resource

[U.S. Drought Monitor](#) See map below. Exceptional levels of drought continue in California and Nevada with extreme drought continuing in the Pacific Northwest, the south-central U.S., and the eastern half of Puerto Rico. Drought designations have been removed from South Carolina due to the extreme rainfall that has occurred there during the past week. To view regional drought conditions, select a region on the map. State maps are available from regional maps.



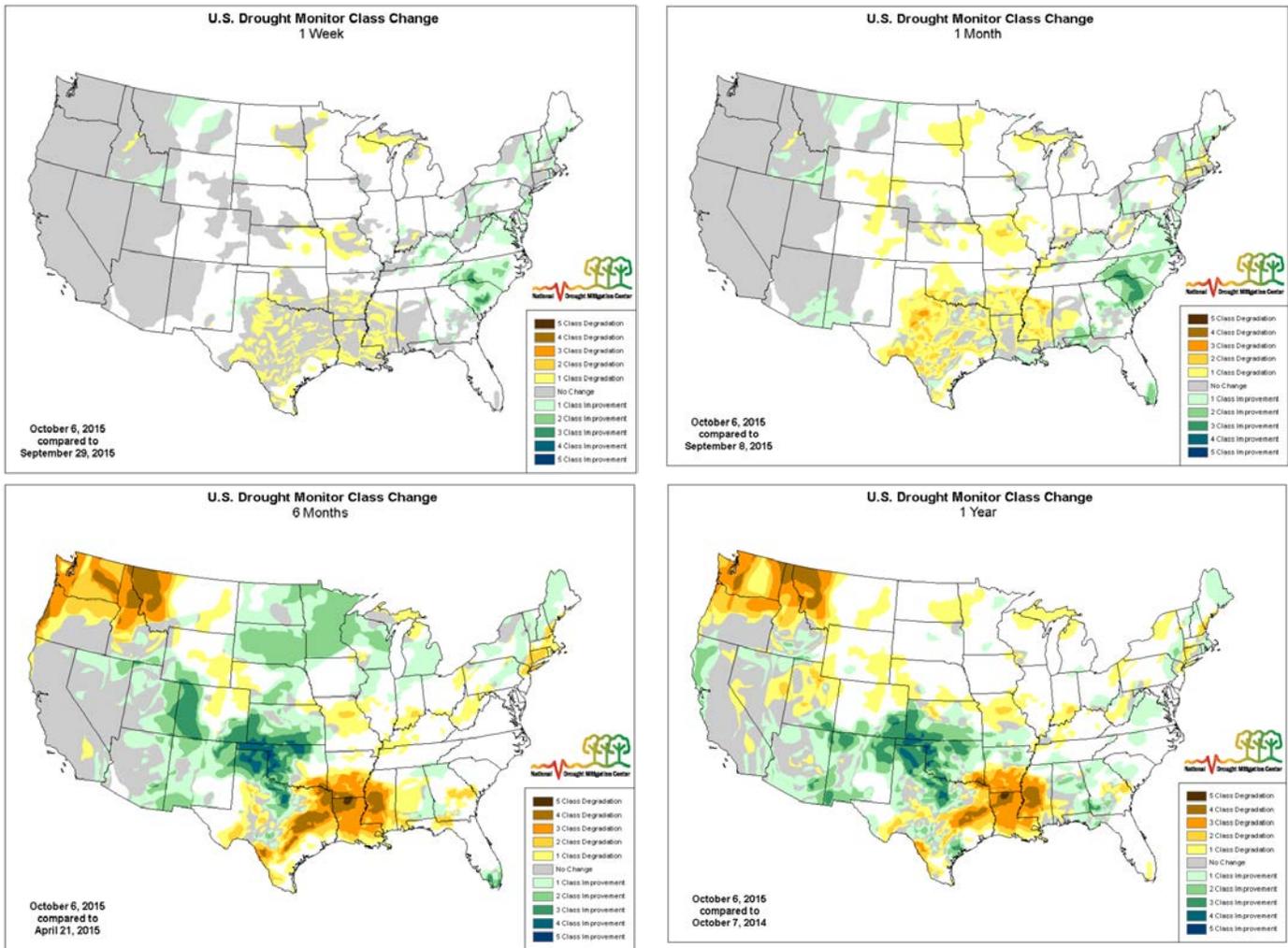
**Current National [Drought Summary](#), October 6, 2015**

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

“Record rains and flooding inundated much of eastern and central South Carolina and extreme southeastern North Carolina as a very slow moving upper-air low over the Southeast funneled tropical moisture from Hurricane Joaquin (stalled over the central Bahamas) into the southern Atlantic Coast region for several days. More than 10 inches of rain fell on the eastern half of South Carolina, and well over 20 inches drenched east-central sections of the state. During the first 6 days of October, maximum Carolina storm amounts totaled 26.88 inches at Mt. Pleasant, SC, and 22.25 inches at Calabash, NC. Heavy rains (more than 2 inches) also fell across much of the eastern third of the Nation, easing or eliminating lingering short-term drought and dryness. An unsettled weather pattern in the West and High Plains also brought unseasonably heavy rains to parts of California, the Great Basin, Southwest, and northern third of the Rockies and Plains. Tropical moisture from former Pacific Hurricane Marty fueled heavy rains in New Mexico and west Texas. Wet weather continued across most of Alaska and Hawaii easing drought and dryness while light to moderate showers across southern Puerto Rico maintained conditions. In sharp contrast, mostly dry weather occurred throughout the Pacific Northwest, Great Plains, and Mississippi Valley. Ever since record wet May and June rains eliminated long-term drought in Texas and Oklahoma, very little precipitation has fallen in parts of the southern Great Plains and lower Mississippi Valley since early July, creating large short-term (at 2- and 3-months) deficits and extreme drought, especially from eastern Texas into central Mississippi.”

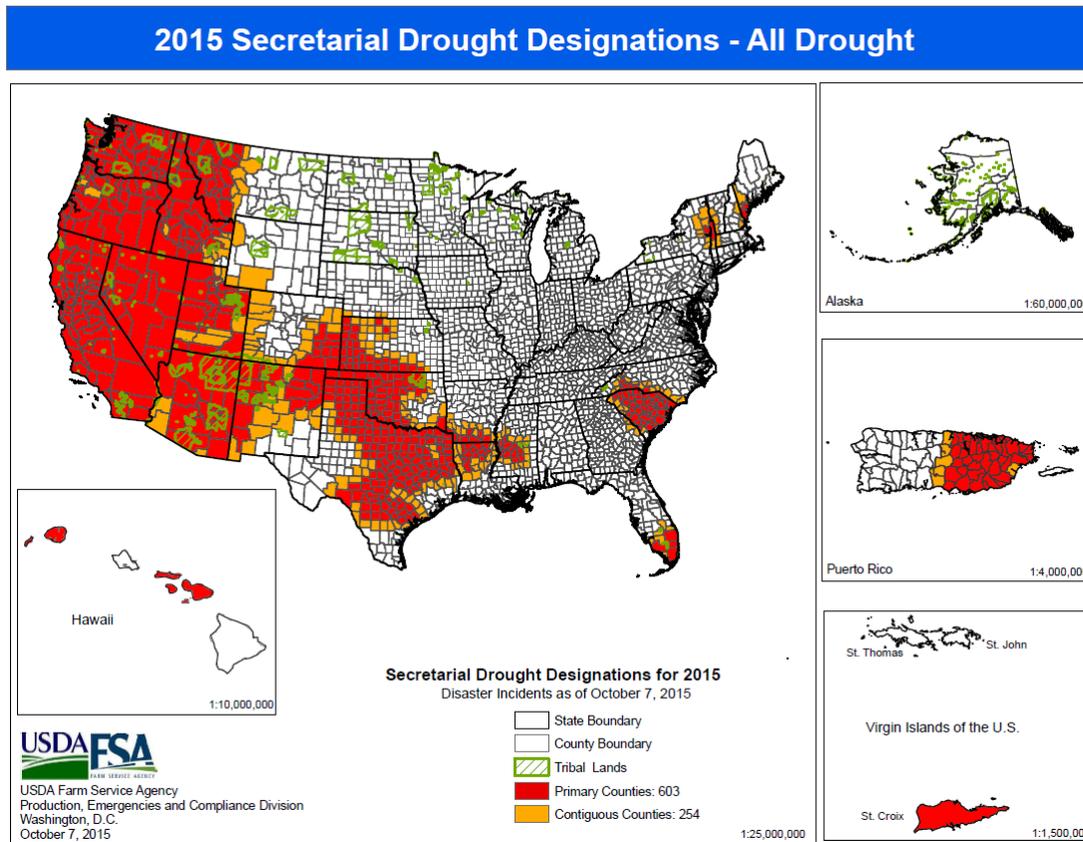
Detailed regional drought narratives for the last week are [here](#).

### Changes in Drought Monitor Categories over Time



Persistent, dry conditions are particularly notable in the Northwest and parts of the South and Southeast. Conditions have improved significantly in the southern Great Plains and the Southwest during the past 6-12 months and in the Carolinas during the past month.

## 2015 USDA Drought Designations



[Drought Designations as of October 7, 2015](#)

[USDA Disaster and Drought Information](#)

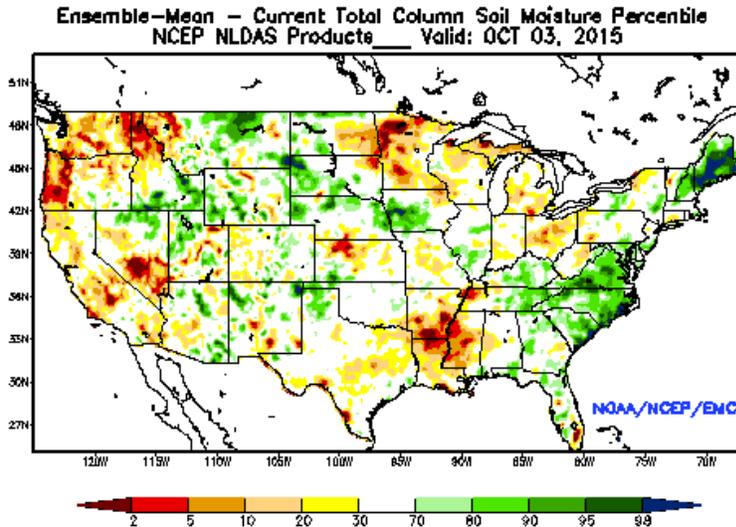
[U.S. Population in Drought, Weekly Comparison](#)

## Highlighted Drought Resources

- [Drought Impact Reporter](#)
- [Quarterly Regional Climate Impacts and Outlook](#)
- [U.S. Drought Portal Indicators and Monitoring](#)

## Other Climatic and Water Supply Indicators

### Soil Moisture

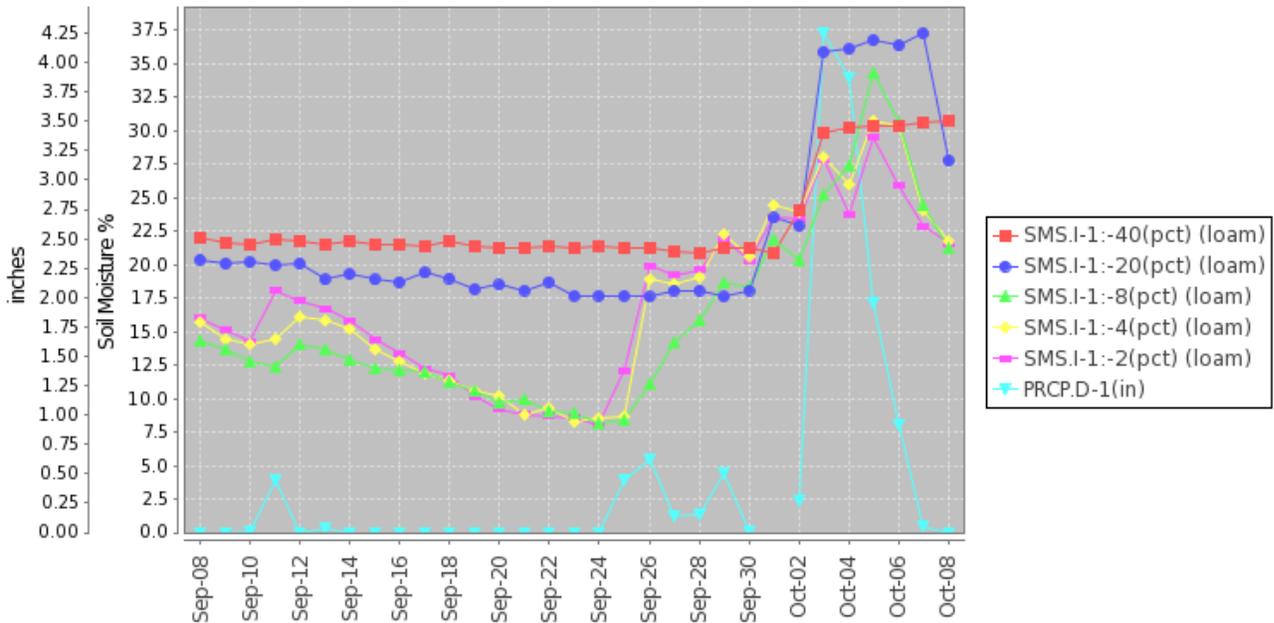


The modeled [soil moisture percentiles](#) as of October 3, 2015 show dryness in the far West, the upper Midwest, and some areas in the South. Areas of above average soil moisture include much of the Rocky Mountains, the northern Great Plains, and much of the eastern seaboard.

[University of Washington Experimental Modeled Soil Moisture](#)

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

Station (2037) MONTH=2015-09-08 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision  
Thu Oct 08 07:22:04 PDT 2015



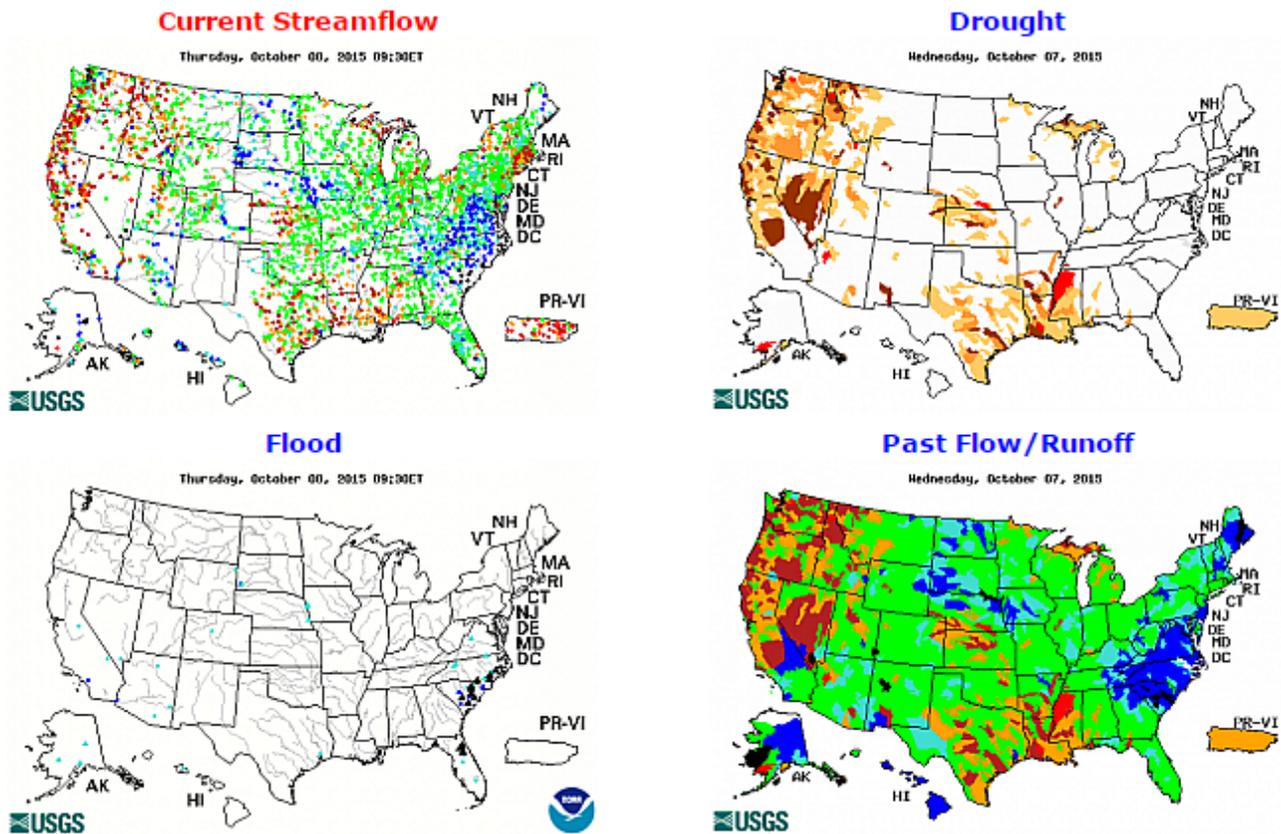
This graph shows soil moisture (2-, 4-, 8-, 20-, and 40-inch depth) and precipitation for the last month at the [Pee Dee SCAN site](#) (station number 2037) in South Carolina. The very large precipitation amounts during October 3-6 have caused an increase in soil moisture at all depths.

### Soil Moisture Data Portals

[CRN Soil Moisture](#)

[Texas A&M University North American Soil Moisture Database](#)

## Streamflow



[Streamflow](#) remains below normal in parts of the far West and the South, whereas high flows and flooding have occurred on the eastern seaboard, centered on the Carolinas.

From the USGS web site, select any individual map to enlarge and display a legend.

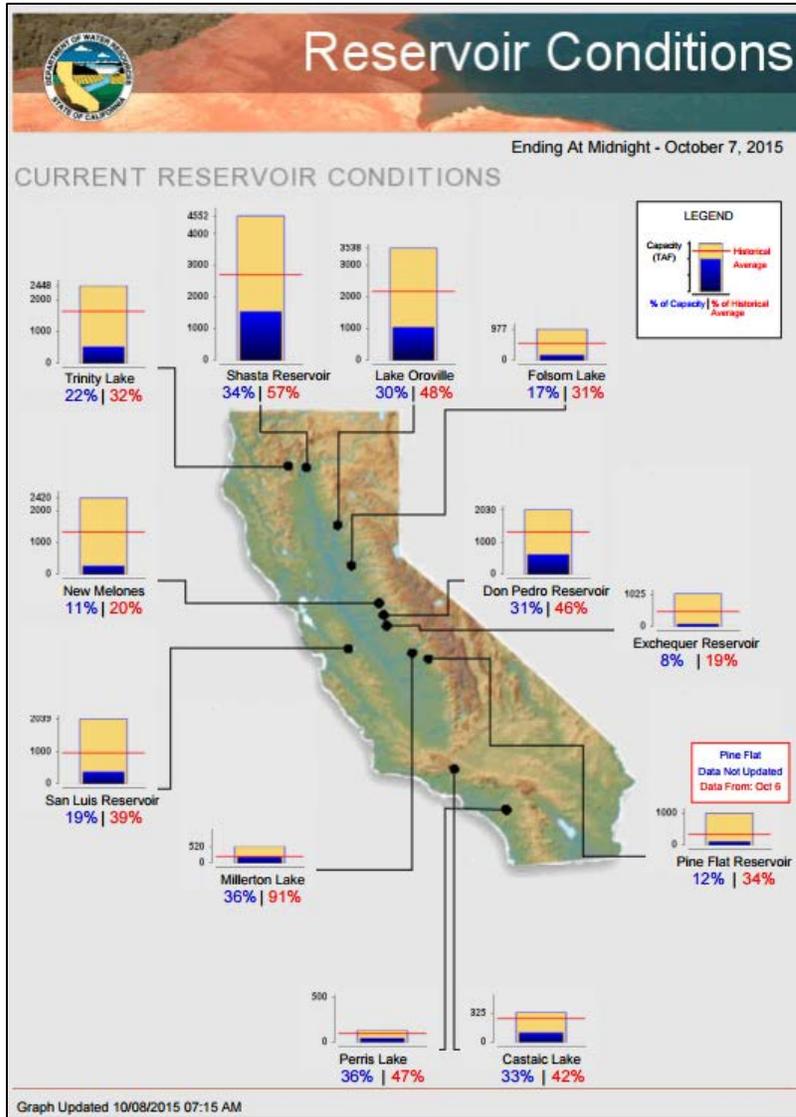
## Current Reservoir Storage

[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 Reservoir Conditions



## Short- and Long-Range Forecasts

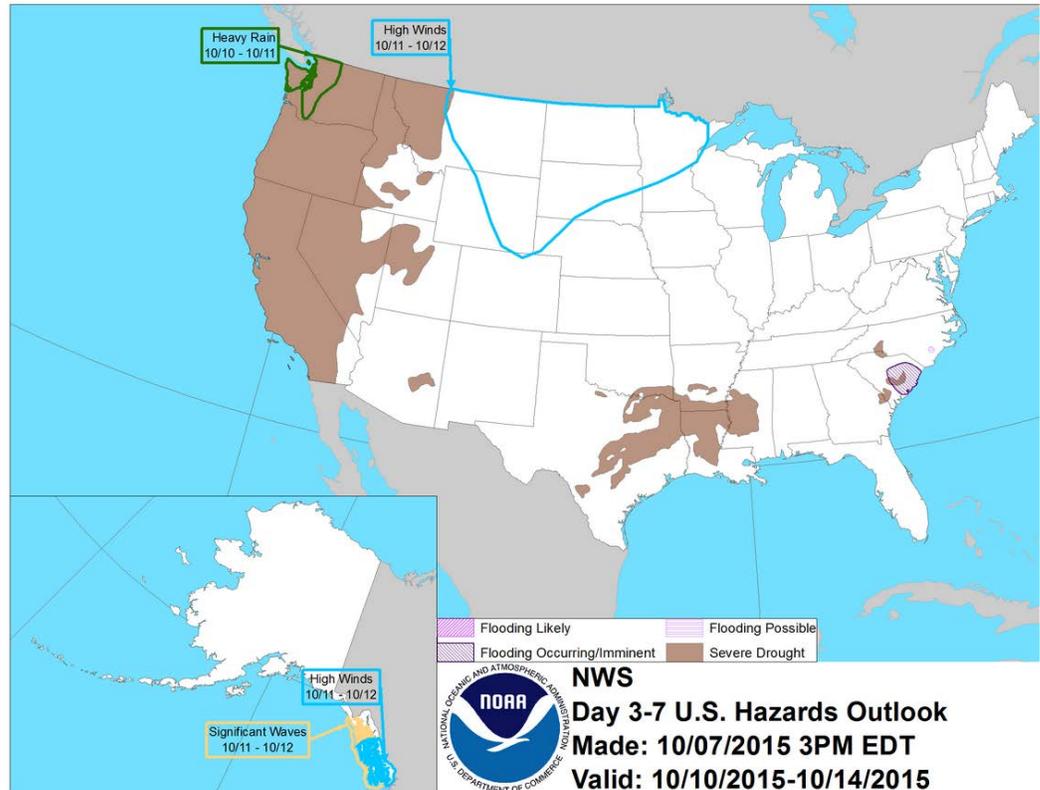
### Agricultural Weather Highlights

Author: Eric Luebehusen, USDA Agricultural Meteorologist

**National Outlook, October 8, 2015:** “The effects of a slow-moving storm system will linger through week’s end across the Rio Grande Valley, where an additional 1 to 3 inches of rain could fall. Meanwhile, a cold front crossing the Midwest and East will spark scattered showers, although rainfall will total mostly an inch or less. A few heavier showers may develop during the weekend along the southern Atlantic Coast. Mild, mostly dry weather will prevail across the remainder of the U.S., except for some heavy rain in the Pacific Northwest. The Northwestern rain will be partly associated with Hurricane Oho’s remnants, which are expected to reach the coast of British Columbia on Friday. The NWS 6- to 10-day outlook for October 13 – 17 calls for above-normal temperatures nearly nationwide, with the greatest likelihood of warm weather across the western and central U.S. Meanwhile, below-normal precipitation in the Southeast and Northwest will contrast with wetter-than-normal conditions from the Southwest to the western Corn Belt, including the central and southern Plains.”

### National Weather Hazards

The outlook for [weather hazards](#) over the next week includes continued flooding in South Carolina, heavy rain in Washington, high winds in the northern Great Plains, and continued drought in the West and parts of the South. High winds and significant waves are expected in the Alaska Panhandle.



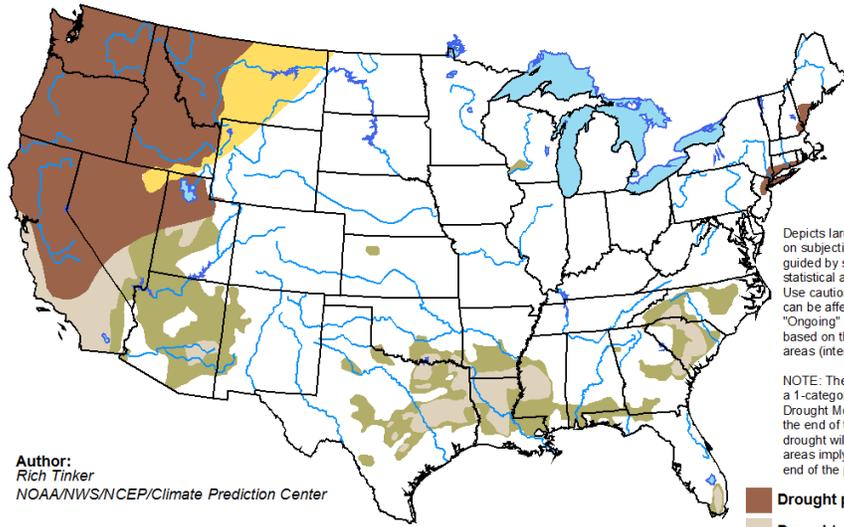
### Seasonal Drought Outlook

During the next three months, **drought** will persist or intensify over the West, parts of the Northeast, and eastern Puerto Rico.

Drought remains, but is improving, in parts of the Southwest and the South.

Drought development is likely in eastern Montana.

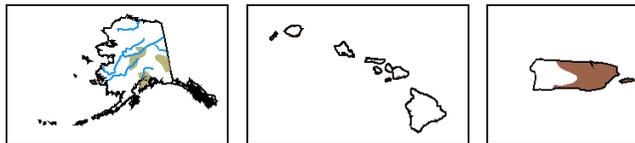
### U.S. Seasonal Drought Outlook valid for September 17 - December 31, 2015 Drought Tendency During the Valid Period Released September 17, 2015



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).

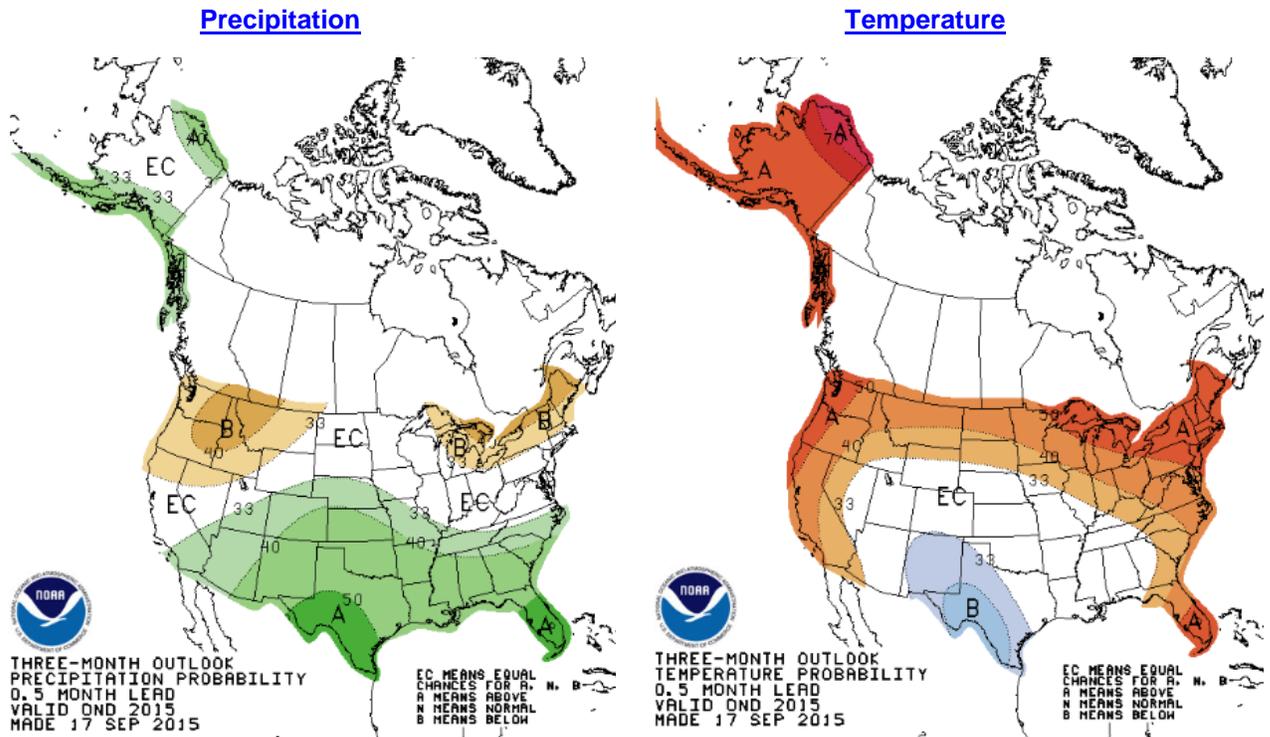
Author:  
Rich Tinker  
NOAA/NWS/NCEP/Climate Prediction Center

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



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

NWS Climate Prediction Center 3-Month Outlook



**Outlook Summary**

Author: NWS Climate Prediction Center

“[The October-November-December \(OND\) 2015 precipitation outlook](#) indicates enhanced probabilities of above-median precipitation amounts for southern California, the Southwest, the central and southern Plains, the lower Mississippi valley, and the Southeast. Above-median precipitation amounts are also most likely for the southern and northern coasts of Alaska. Below-median precipitation amounts are most likely for the Pacific Northwest, and from the eastern Great Lakes into New York state and northern New England.”

“[The October-November-December \(OND\) 2015 temperature outlook](#) indicates enhanced probabilities of above-normal temperatures west of the Rocky Mountains, across the northern contiguous U.S. to the Northeast, and southward along the East Coast. Within the contiguous U.S., the chances of above-normal temperatures are greatest along the Pacific coast in the Northwest, in the Northeast, and for the southern Florida peninsula, with probabilities exceeding 50 percent. Above-normal temperatures are also most likely for Alaska, with probabilities exceeding 70 percent for the North Slope. Below-normal temperatures are most likely in New Mexico and parts of west Texas.

**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](#).