

# Water and Climate Update

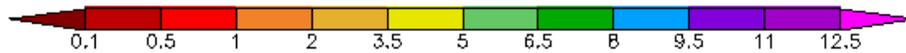
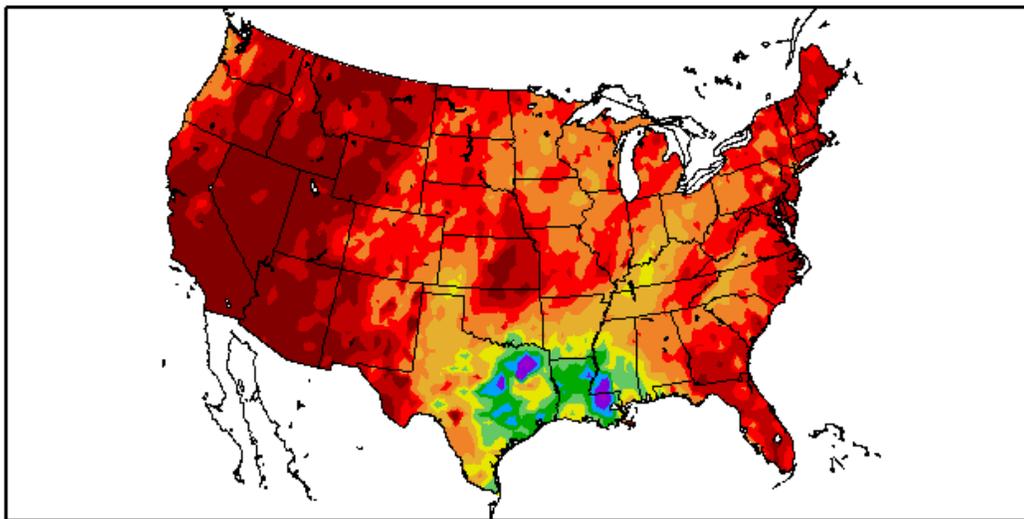
October 29, 2015

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: Remnants of Hurricane Patricia produce heavy rain and flooding in the South

Precipitation (in)  
10/22/2015 – 10/28/2015



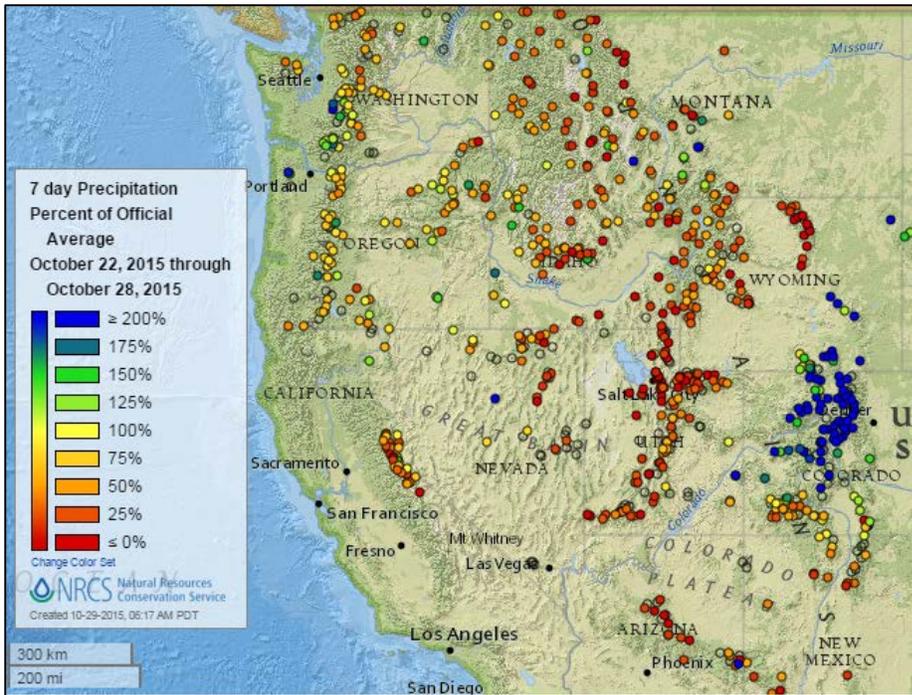
Generated 10/29/2015 at HPRCC using provisional data.

Regional Climate Centers

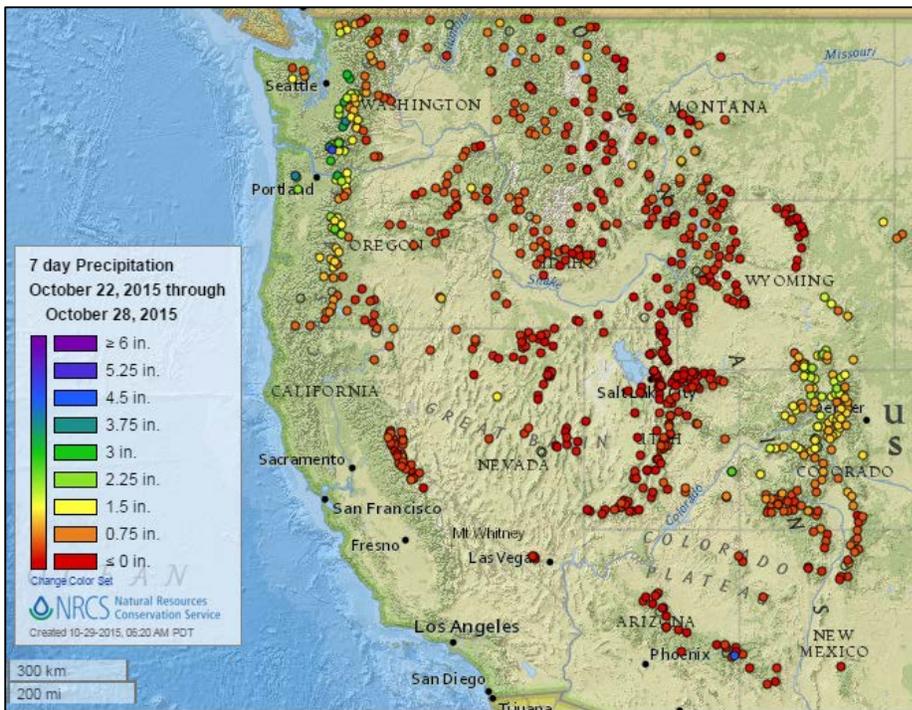
The [7-day total precipitation](#) map shows that the remnants of Hurricane Patricia produced the largest rainfall of over 12.5 inches in eastern Texas and southeast Louisiana, with lesser amounts in a large region of the lower Mississippi Valley.

## Precipitation

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



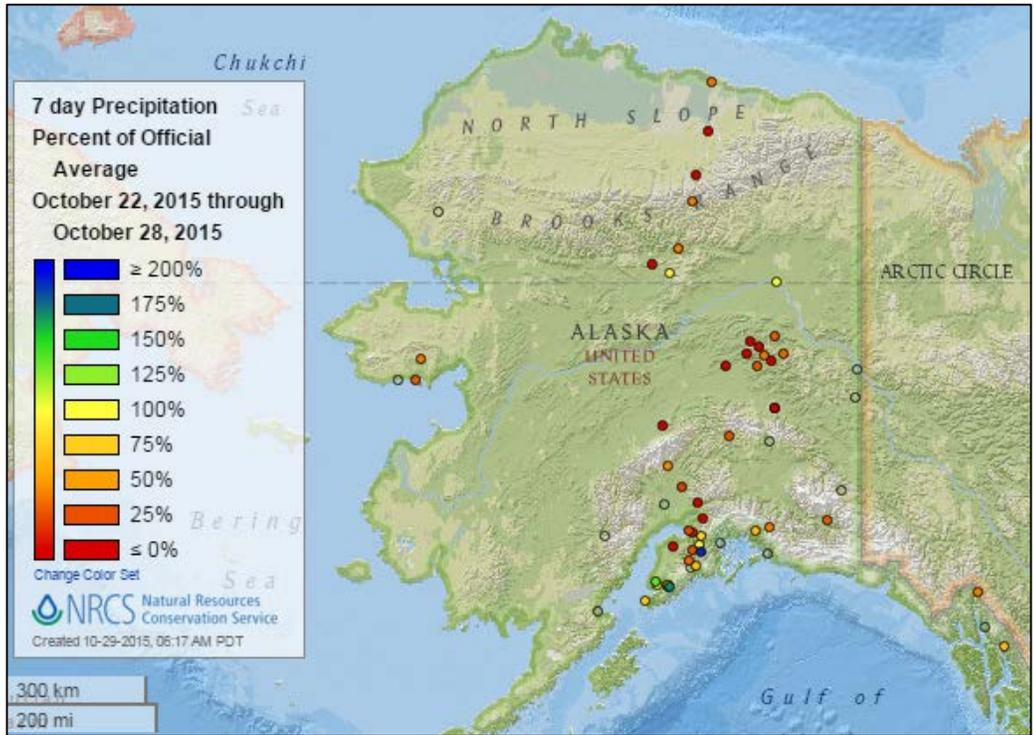
The 7-day [precipitation percent of average](#) map shows primarily drier than average conditions across much of the West. Well above average precipitation fell in northern Colorado, eastern Wyoming, and a few other scattered locations.



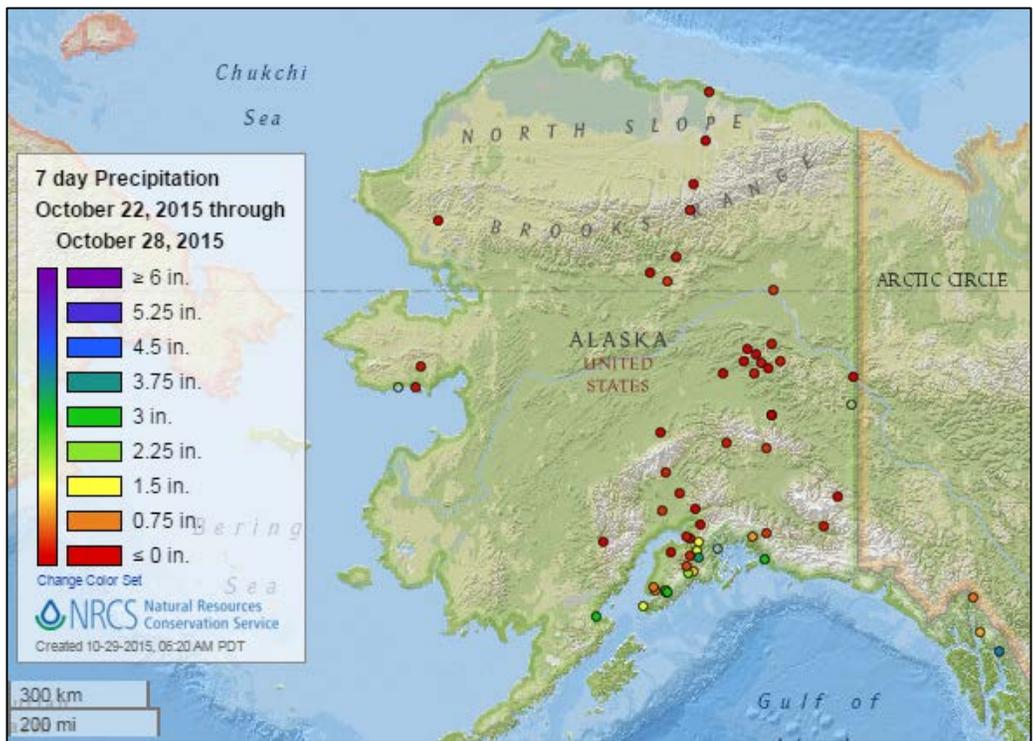
The [total precipitation](#) map shows little to no precipitation for most of the West. The areas that received precipitation are in western Oregon and Washington, northern Colorado, and eastern Wyoming. Precipitation in these areas was primarily less than 2.25 inches, with some scattered higher amounts up to 4.5 inches in the central Cascades of northern Oregon and southwest Washington.

# Water and Climate Update

The Alaska [precipitation percent of average](#) map for the last seven days shows much of Interior and western Alaska reporting below average precipitation for the week. South and southeast Alaska and a few stations in the Interior had near to much above average precipitation.



The Alaska [total precipitation](#) map shows generally no precipitation for the Interior regions and less than 3.75 inches in south and southeast Alaska.



Last 7 Days, National Weather Service (NWS) Networks

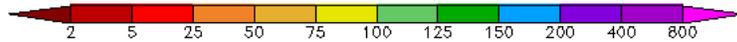
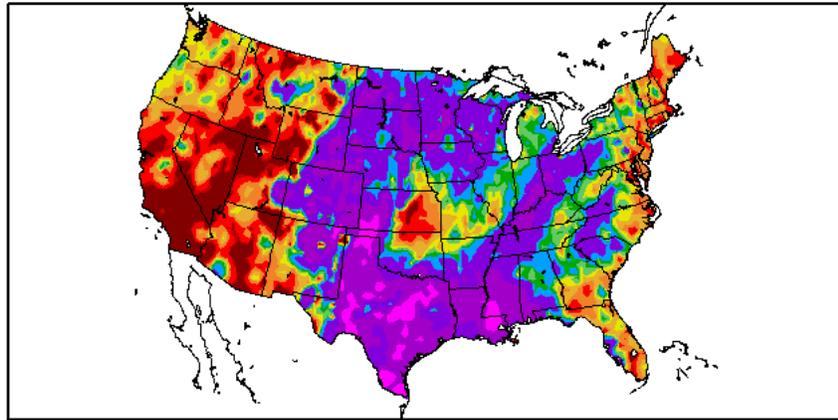
Source: Regional Climate Centers

The [percent of normal precipitation](#) map shows well above normal precipitation across a large part of the central U.S.

Precipitation in Texas, Louisiana, Mississippi, western Oklahoma, and southwest Kansas topped 800 percent of normal due to the effects of Hurricane Patricia.

The West, East coast, and a bullseye in eastern Kansas were primarily much below normal for the week.

Percent of Normal Precipitation (%)  
10/22/2015 – 10/28/2015



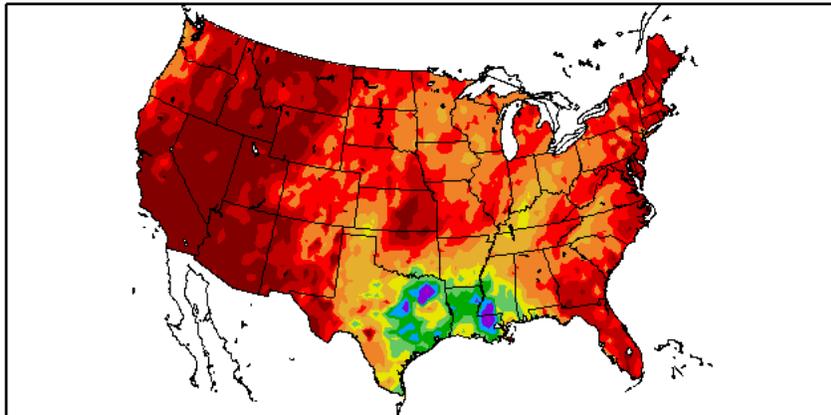
Generated 10/29/2015 at HPRCC using provisional data.

Regional Climate Centers

The [7-day total precipitation](#) map shows the largest rainfall of over 12.5 inches fell in eastern Texas and southeast Louisiana, with lesser amounts in a large region of the lower Mississippi Valley due to the remnants of Hurricane Patricia.

Large portions of the country had little to no precipitation for the week.

Precipitation (in)  
10/22/2015 – 10/28/2015



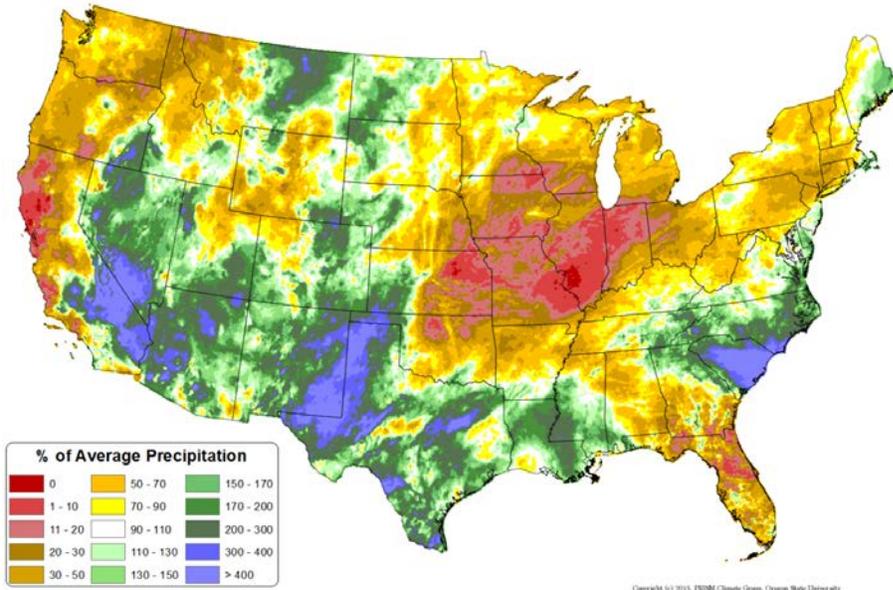
Generated 10/29/2015 at HPRCC using provisional data.

Regional Climate Centers

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

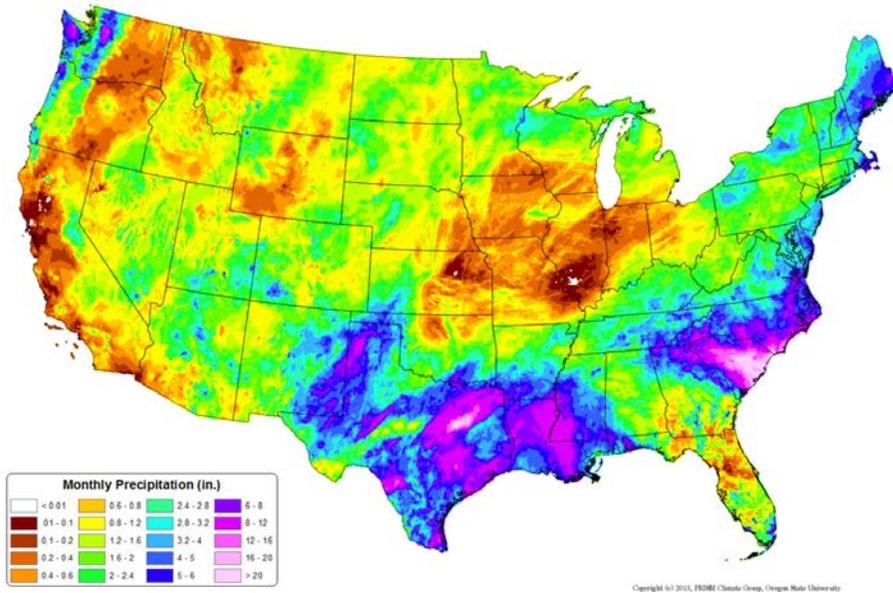
Source: PRISM

Total Precipitation Anomaly: 01 October 2015 - 27 October 2015  
 Period ending 7 AM EST 27 Oct 2015  
 Base period: 1981-2010  
 (Map created 28 Oct 2015)



For the month of October, the national [total precipitation anomaly](#) map shows high percent of normal precipitation fell in the Carolinas, central Montana, and in areas of the Southwest from California to Texas. The central U.S. and northern California to the Northeast were drier than normal for the month.

Total Precipitation: 01 October 2015 - 27 October 2015  
 Period ending 7 AM EST 27 Oct 2015  
 (Map created 28 Oct 2015)



The October month-to-date [total precipitation map](#) shows a very high precipitation total in the Carolinas where up to 20 inches of rain fell from the storms during the first week of the month. Recently, precipitation in Texas has also topped 20 inches

Other areas that received precipitation were in the Northeast, Northwest, and Southwest into Texas.

The central U.S. and some areas of the West have been drier than normal during October.

**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 coincides exactly with the month-to-date. Therefore, water year-to-date maps will not be included until November.

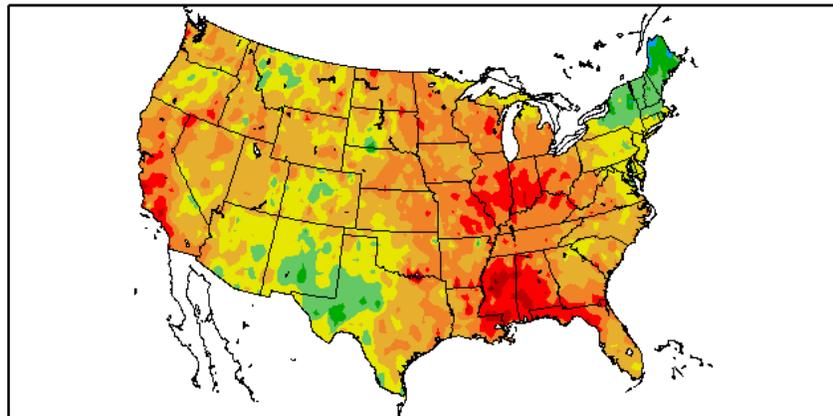
**Temperature**

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

Source: Regional Climate Centers

Departure from Normal Temperature (F)  
10/22/2015 – 10/28/2015

The map of the [average temperature anomalies](#) for the past week shows much of the West, the Southeast, and Ohio Valley reporting a warmer than normal week, with readings up to 8 degrees above normal. The Northeast and west Texas had cooler than normal temperatures. Northern Maine reported temperatures of more than 4 degrees cooler than normal.



Generated 10/29/2015 at HPRCC using provisional data.

Regional Climate Centers

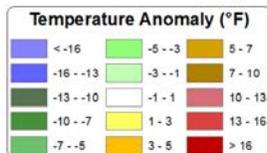
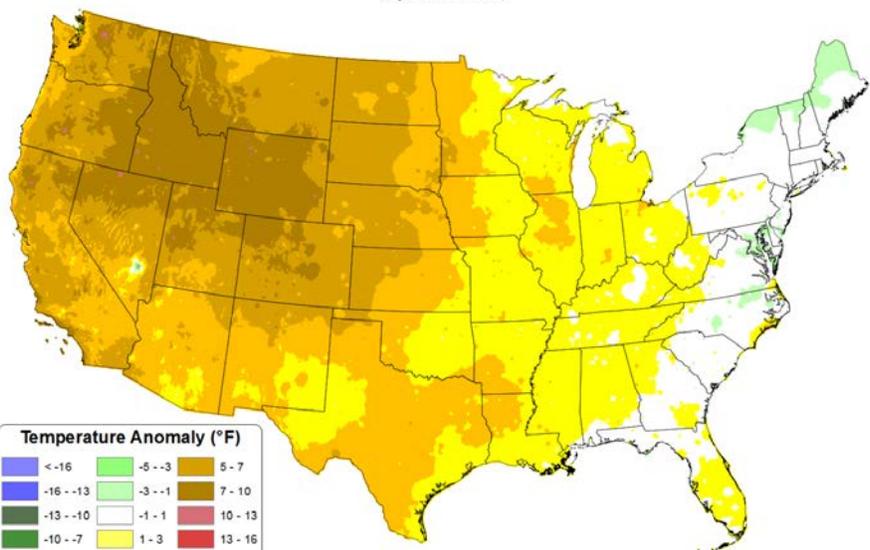
**Month-to-Date, All Available Data Including SNOTEL and NWS Networks**

Source: PRISM

For October 2015, the national [daily mean temperature anomaly](#) map shows above normal temperatures across most of the West, with some temperatures topping 7 degrees F. The warm temperatures gradually decreased moving east, until most of the central U.S. east to the Atlantic coast was near normal for the month.

A few slightly cooler than normal areas were in the northeast and along the Mid Atlantic coast.

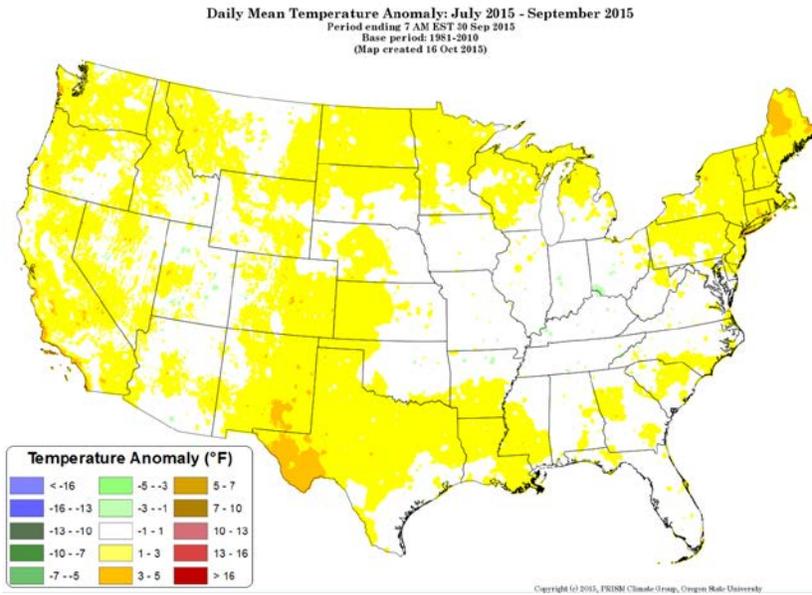
Daily Mean Temperature Anomaly: 01 October 2015 - 27 October 2015  
Period ending 7 AM EST 27 Oct 2015  
Base period: 1981-2010  
(Map created 28 Oct 2015)



Copyright © 2015, PRISM Climate Group, Oregon State University

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

Source: PRISM

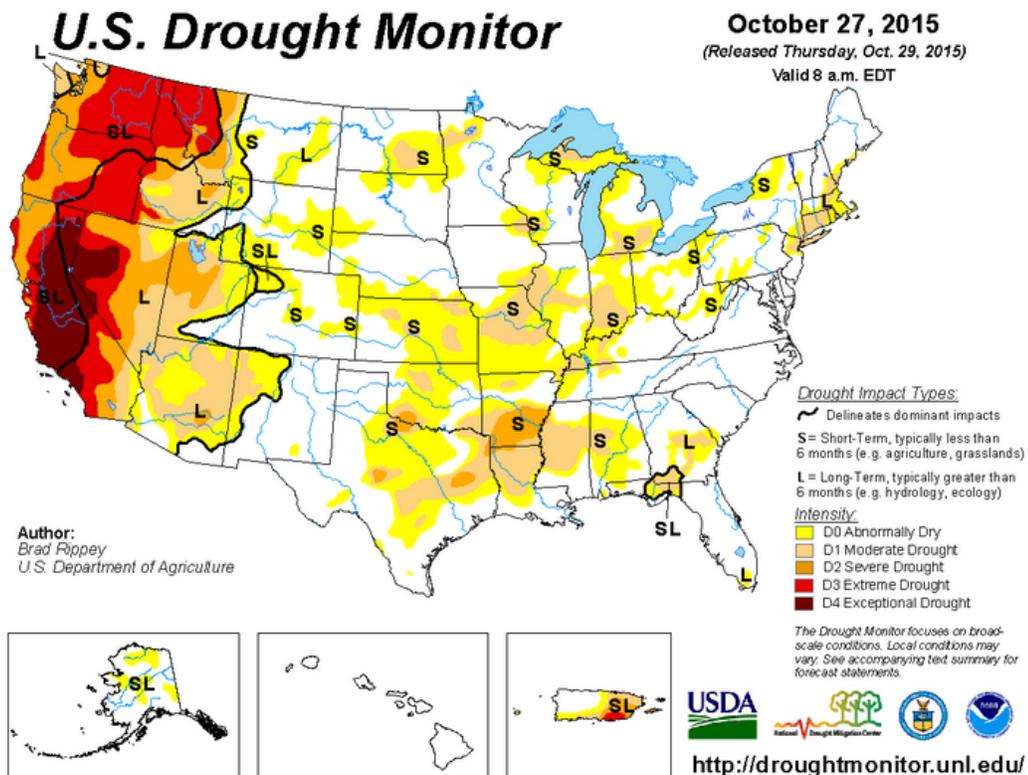


The July through September national [daily mean temperature anomalies](#) shows most of the U.S. was near normal or slightly warmer than normal for the month. The largest area of high temperature anomaly was in western Texas and southeast New Mexico and northern Maine, where temperatures were 3 degrees above normal.

## 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 in California, Nevada, Oregon, Washington, western and northern Idaho, northwest Montana, and southeast Puerto Rico.



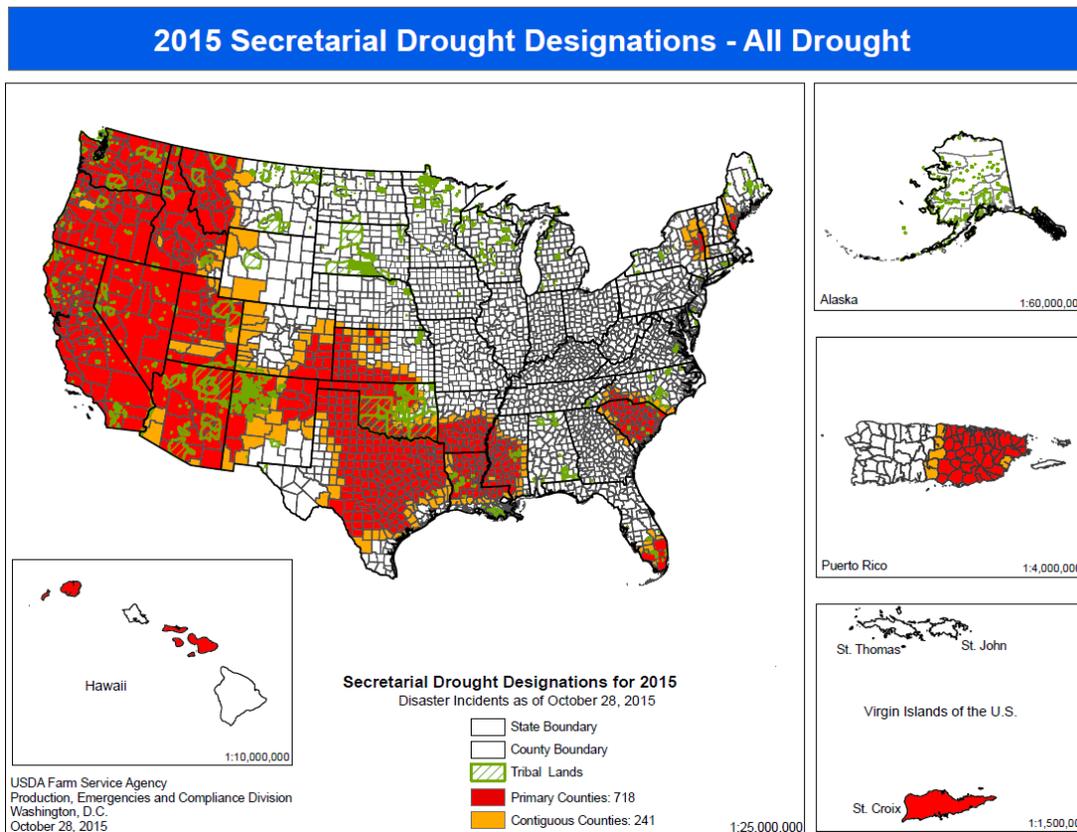
**Current National [Drought Summary](#), October 27, 2015**

Author: Brad Rippey, U.S. Department of Agriculture

“A slow-moving storm that had first arrived in California on October 15 drifted eastward across the southwestern and south-central U.S., generating heavy showers. Eventually, the storm lifted northward across the Plains, providing beneficial moisture for emerging winter wheat. However, rain mostly bypassed a few areas, including eastern Kansas and north-central Oklahoma. Farther south, the storm’s trailing cold front became infused with tropical moisture from Patricia, the strongest hurricane on record. (On the morning of October 23, several hours prior to crossing the southwestern coast of Mexico, Patricia’s sustained winds peaked at 200 mph and the central barometric pressure plummeted to 25.96 inches, or 879 millibars. When Patricia made landfall later that day near Cuixmala, Mexico, winds were estimated at 165 mph and the central pressure was 27.17 inches, or 920 millibars.) In part due to the influx of tropical moisture, October 22-25 rainfall topped 20 inches at a few locations in northeastern Texas. Storm-total rainfall reached 5 inches or more in a broader area covering much of eastern Texas, as well as portions of Oklahoma, Arkansas, Louisiana, and Mississippi. Consequently, areas of the South that had received little rainfall in the last 4 months were suddenly deluged by flooding rains. Significant rain began to overspread parts of the Midwest and Southeast on October 27, after the drought-monitoring period ended, and will be reflected in next week’s U.S. Drought Monitor.”

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

**2015 USDA Drought Designations**

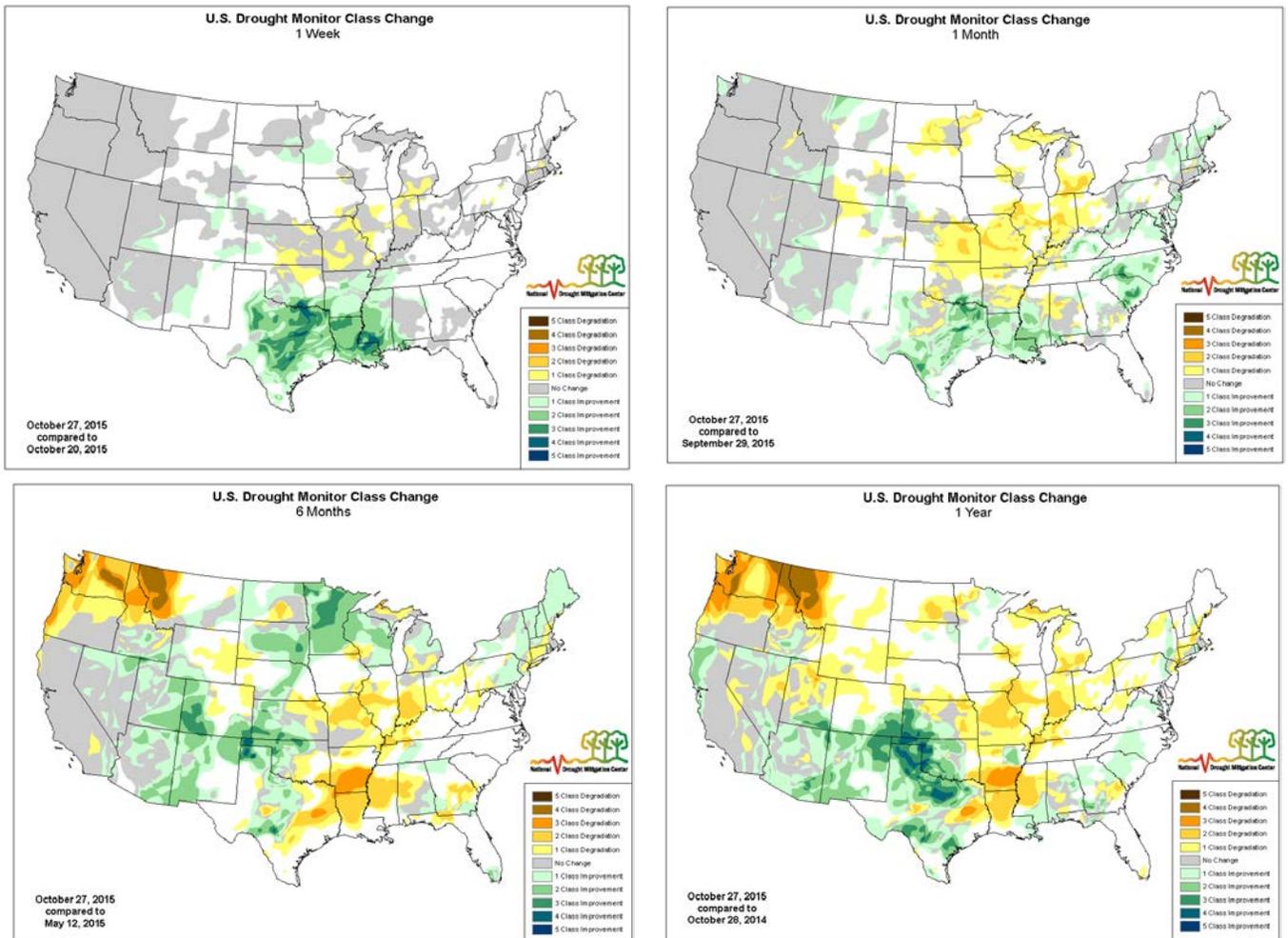


[Drought Designations as of October 28, 2015](#)

[USDA Disaster and Drought Information](#)

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

## Changes in Drought Monitor Categories over Time



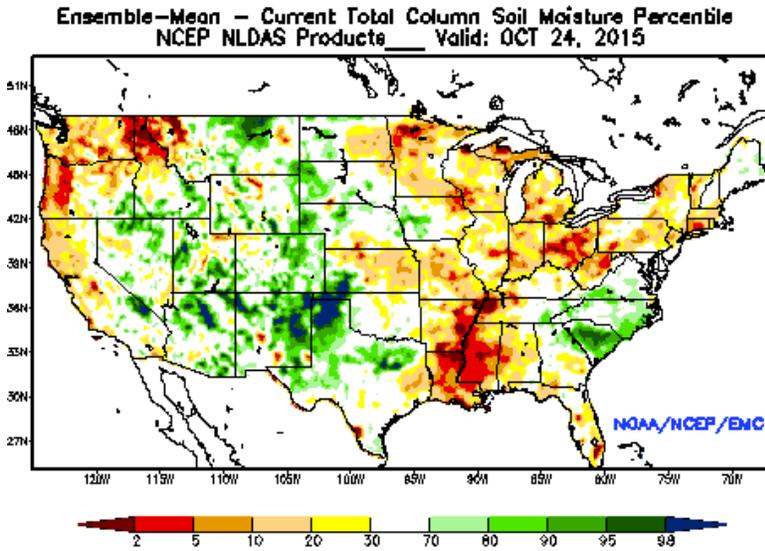
[Persistent, dry conditions](#) are particularly notable in the West, Northwest, and parts of the South and Southeast. Conditions have improved in the lower Mississippi Valley and Texas during the past month, and in the southern Great Plains and the Southwest during the past 6-12 months.

### 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



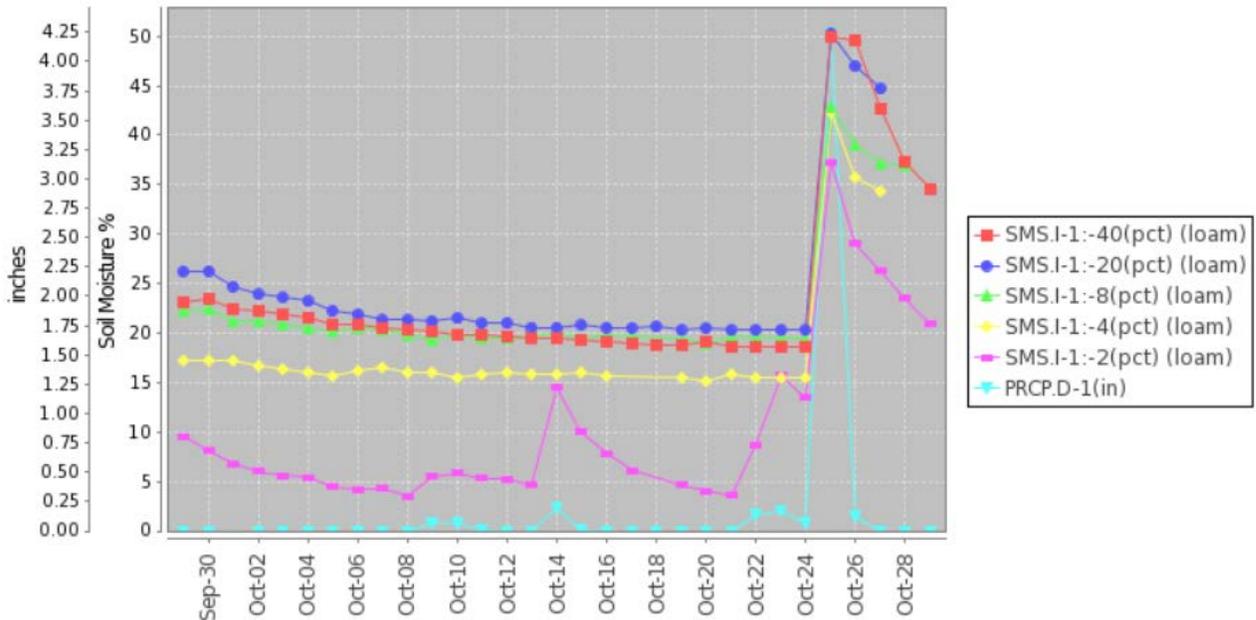
The modeled [soil moisture percentiles](#) as of October 24, 2015 show dryness in the far West, northern Rockies, the upper Midwest, and areas in the South.

Areas of above average soil moisture include parts of the central and southern Rocky Mountains, the northern Plains, northern Texas, western Oklahoma, eastern New Mexico, and the Carolinas.

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

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

Station (2206) MONTH=2015-09-29 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision  
Thu Oct 29 09:52:09 PDT 2015



This graph shows soil moisture (2-, 4-, 8-, 20-, and 40-inch depth) and precipitation for the last 30 days at the SCAN site in [Kingsville \(2206\)](#), in south central Texas. The precipitation of 4.25 inches at the site on October 25 has caused an increase in soil moisture at the all sensor depths.

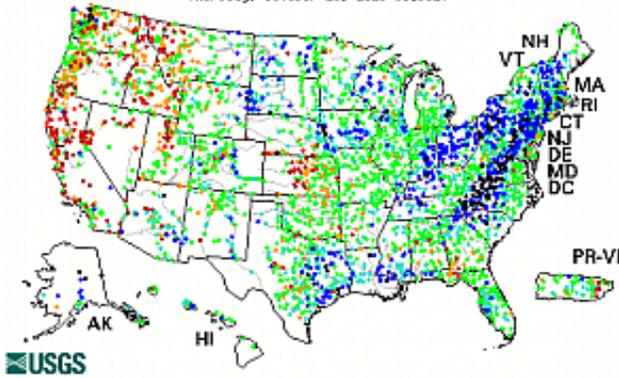
### Soil Moisture Data Portals

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

Streamflow

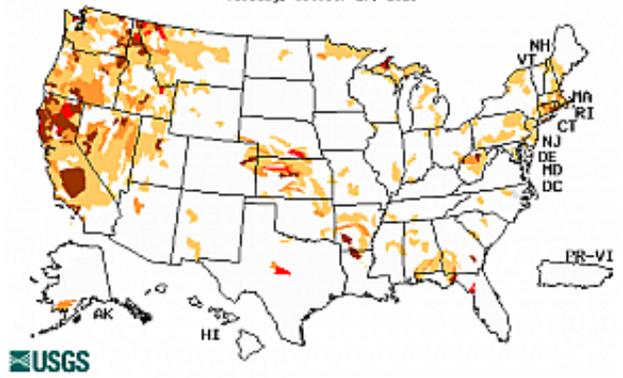
**Current Streamflow**

Thursday, October 29, 2015 09:00ET



**Drought**

Tuesday, October 27, 2015



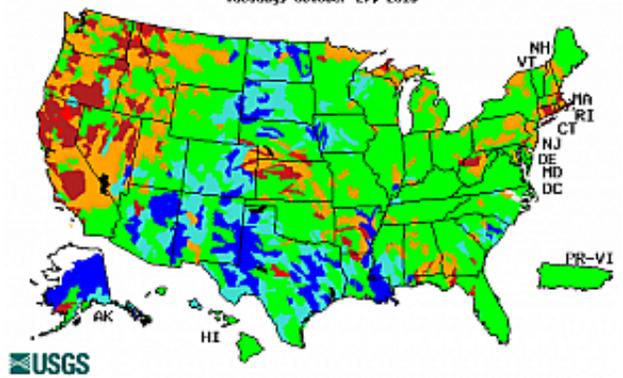
**Flood**

Thursday, October 29, 2015 08:00ET



**Past Flow/Runoff**

Tuesday, October 27, 2015



[Streamflow](#) remains below normal in most of the far West. High flows have occurred in much of the eastern U.S. and Puerto Rico. Flooding is occurring in Texas and along the Gulf coast to northern Florida.

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:

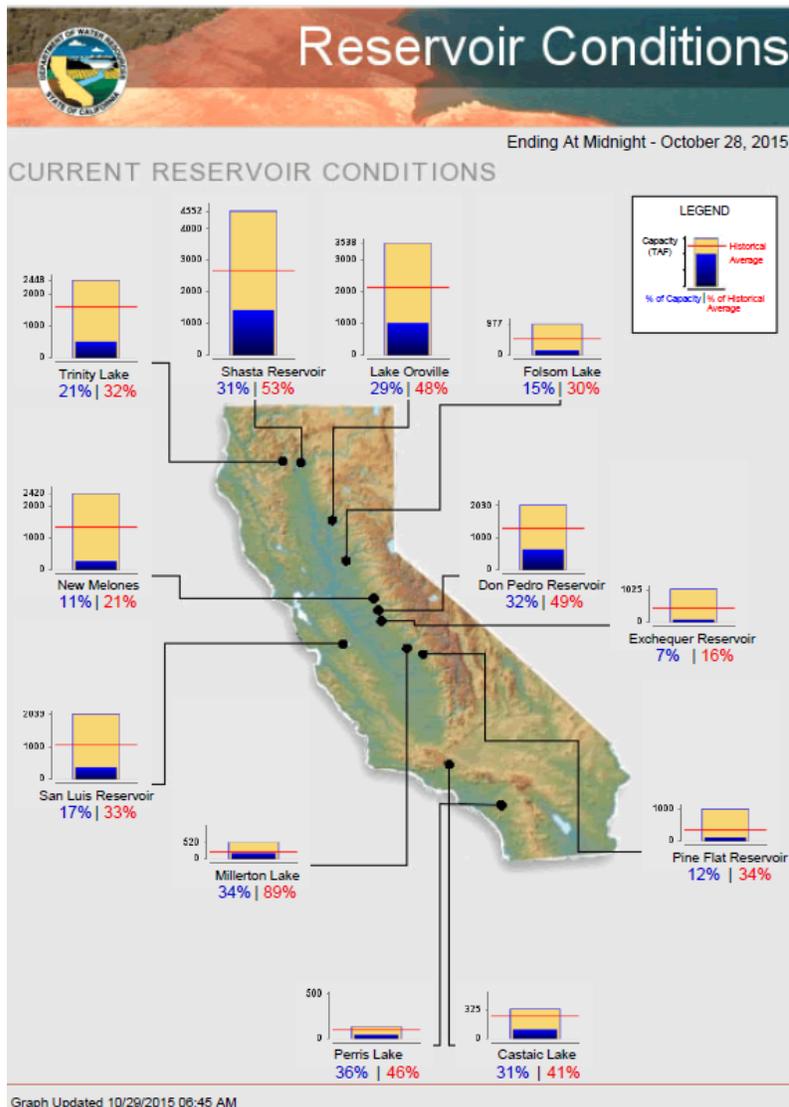
[Upper Colorado](#)

[Pacific Northwest/Snake/Columbia](#)

[Sevier River Water, Utah](#)

[Upper Missouri, Kansas, Oklahoma, Texas](#)

### [California Reservoir Conditions](#)



## Short- and Long-Range Forecasts

### Agricultural Weather Highlights

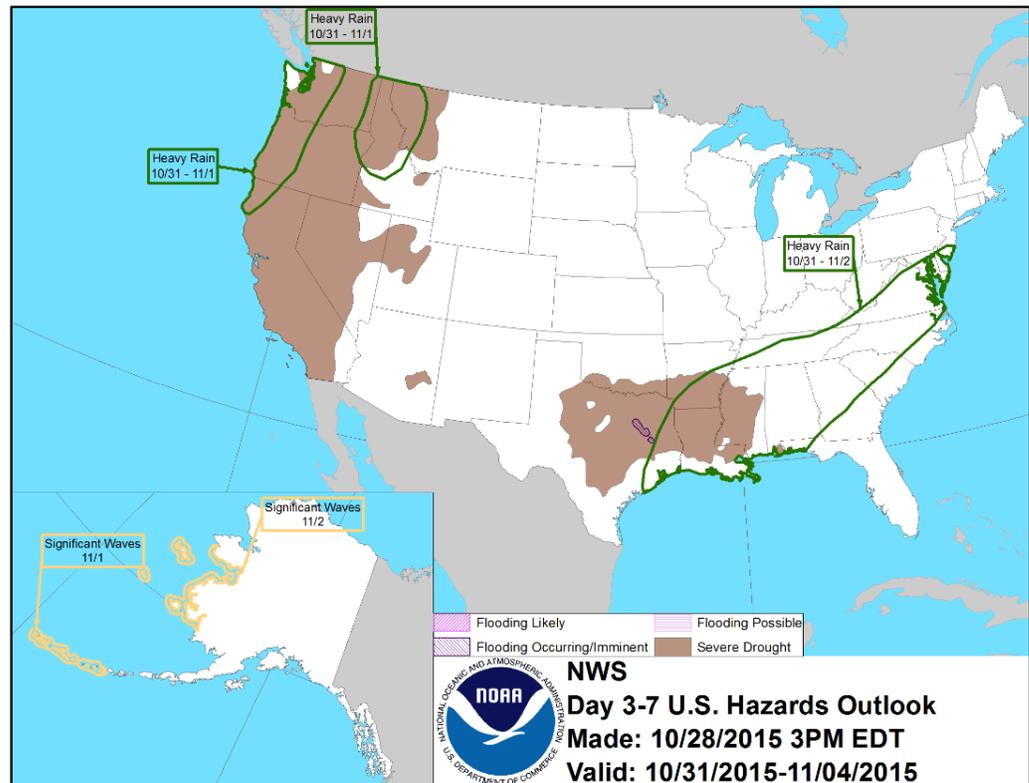
Author: Brad Rippey, Agricultural Meteorologist, USDA/OCE/WAOB, Washington, D.C.

**National Outlook, October 29, 2015:** “An active weather pattern will continue. A storm system currently centered over the Great Lakes region will drift northward into Canada, bringing a return to dry weather across the eastern U.S. Meanwhile, the first in a series of Pacific storms will quickly cross the Southwest, with locally heavy rain returning to the south-central U.S. by Friday. Five-day rainfall totals could reach 1 to 4 inches from the southern Plains into the Southeast, excluding Florida’s peninsula. Farther west, multiple storms could lead to 5-day totals of 5 to 10 inches or more in the Pacific Northwest and 2 to 5 inches in the northern Rockies. In contrast, only light precipitation can be expected from the northern Plains into the Northeast. The NWS 6- to 10-day outlook for November 3 – 7 calls for the likelihood of warmer-than-normal weather across the eastern two-thirds of the U.S., while below-normal temperatures will cover much of the West. Meanwhile, wetter-than-normal conditions across the majority of the nation will contrast with below-normal precipitation in the Pacific Coast States and parts of the Northeast and Southeast.”

### National Weather Hazards

The outlook for [weather hazards](#) over the next week show heavy rain is expected over a large area of the Southeast (10/31-11/2) and in the Pacific Northwest and northern Rockies (10/31-11/1). Flooding is occurring in eastern Texas. Continued drought covers much of the far West and parts of the South.

In Alaska, significant waves (11/1-2) are forecast for the western Aleutians and along the western Alaska coast.



### Seasonal Drought Outlook

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

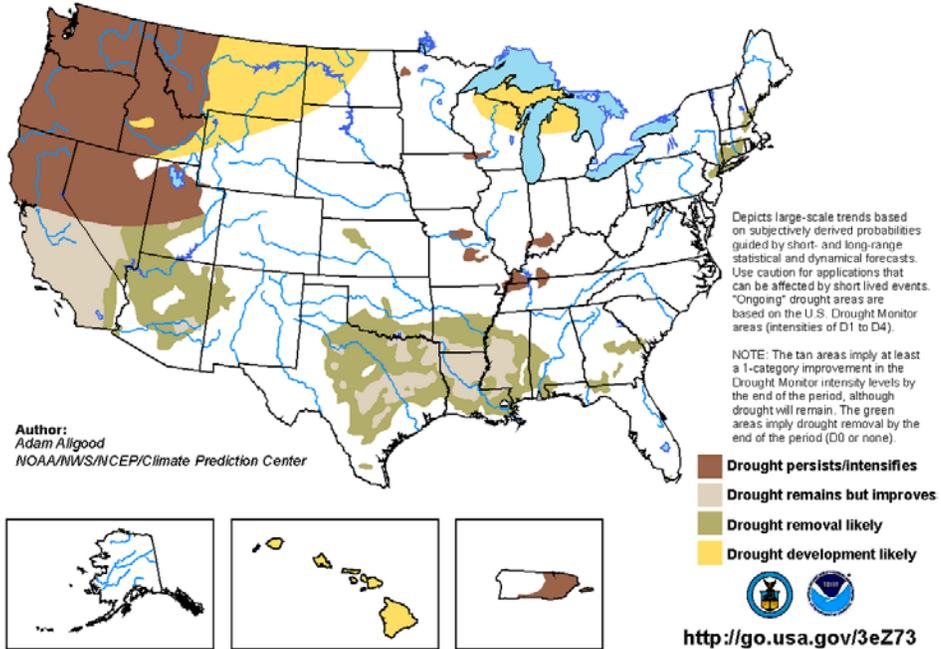
Drought remains, but is improving, in parts of the Southwest, and the South.

Drought removal is likely in the parts of the Southwest, South and New England.

Drought development is likely from eastern Idaho to central North Dakota, in northern Wisconsin and Michigan, and across Hawaii.

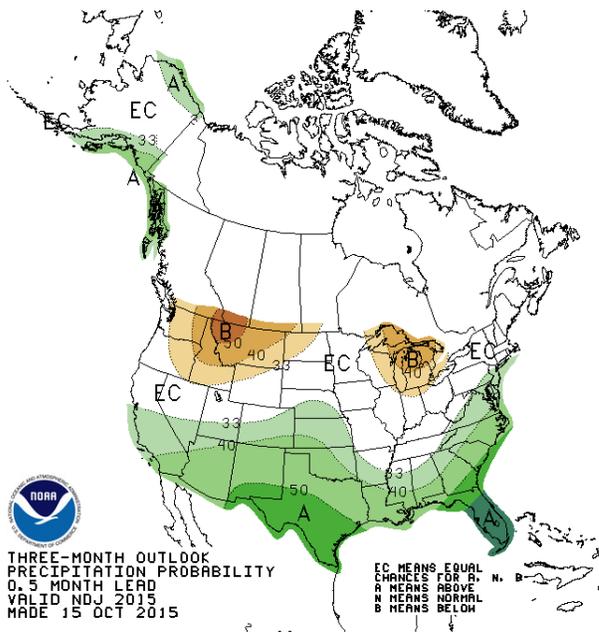
### U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

Valid for October 15 - January 31, 2016  
Released October 15, 2015

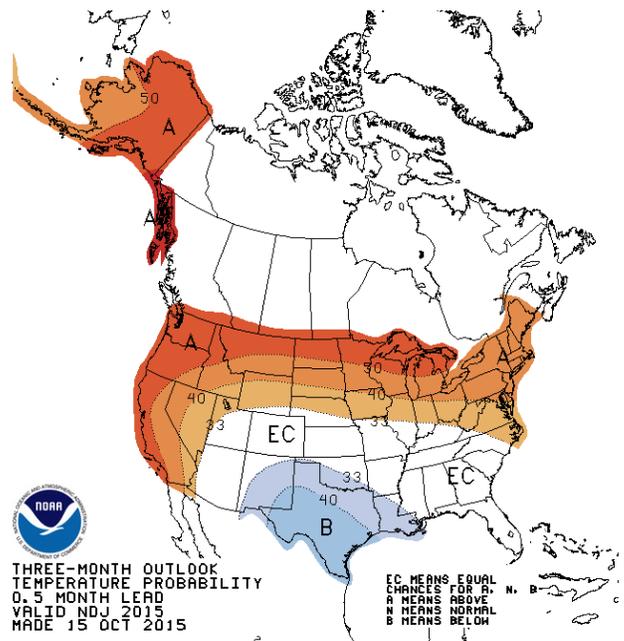


### NWS Climate Prediction Center 3-Month Outlook

#### Precipitation



#### Temperature



### Outlook Summary

NWS Climate Prediction Center:

“[The October-November-December \(OND\) 2015 precipitation outlook](#) indicates enhanced probabilities of above-median precipitation amounts for central and southern California, the Southwest, parts of the central and southern Plains, the lower Mississippi valley, the southeast northward to the Mid-Atlantic. Above-median precipitation amounts are also most likely for the southern and northern coasts of Alaska. Below-median precipitation amounts are most likely for parts of the Pacific Northwest, northern Rockies and Great Lakes.”

“[The October-November-December \(OND\) 2015 temperature outlook](#) indicates enhanced probabilities of above-normal temperatures for the far West, across the northern contiguous U.S. to the Northeast, and southward to the Mid-Atlantic. Within the contiguous U.S., the chances of above-normal temperatures are greatest along the Pacific coast and along the northern tier from the Pacific Northwest to the Great Lakes with probabilities exceeding 50 percent. Below-normal temperatures are favored from New Mexico to Louisiana while above-normal temperatures are also most likely for Alaska.”

### 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](#).