



Natural Resources Conservation Service  
P.O. Box 2890  
Washington, D.C. 20013

## Weekly Water and Climate Update

### November 6, 2014

Agricultural Weather Highlights..... 1	National Long-Range Outlook ..... 15
Snow .....2	National Weather Hazards ..... 16
Temperature.....6	National Drought Summary ..... 16
Weather and Drought Summary .....8	Supplemental Drought Information ..... 18
Risk Management Web Resources.....9	National Fire Potential Outlook..... 19
U.S. Population in Drought ..... 12	Supplemental Drought-Agriculture News ..... 20
Changes in Drought Monitor Categories ..... 13	Tea Cup Reservoir Depictions..... 23
Soil Moisture.....14	California Reservoir Conditions ..... 24
Soil Climate Analysis Network (SCAN) ..... 14	State Activities ..... 24
Streamflow ..... 15	More Information ..... 24

### Agricultural Weather Highlights – Wednesday - November 5, 2014

- In the **West**, dry weather prevails, aside from a few sprinkles along the northern Pacific Coast. Late-season warmth accompanies the dry conditions, allowing fieldwork to proceed. On November 2 in California, the cotton harvest was 85% complete, while winter wheat was 45% planted—both ahead of the average pace.
- On the **Plains**, freeze warnings are in effect early today in southwestern Kansas and southeastern Colorado. Meanwhile, mild, breezy conditions are overspreading the northern Plains. Elsewhere, dry weather is returning to the West Texas cotton belt, but cool, rainy conditions linger across central and northeastern Texas.
- In the **Corn Belt**, rain is ending across the Ohio Valley, although fieldwork remains on hold in the wake of recent showers. A few showers are developing in the upper Midwest, but dry weather across the remainder of the Corn Belt favors summer crop harvesting. By November 2, the soybean harvest was at least 95% complete in Nebraska, Minnesota, and the Dakotas.
- In the **South**, rain stretches from Kentucky to Texas. Meanwhile in the Southeast, mild, dry weather favors winter wheat planting and summer crop harvesting. On November 2 in North Carolina, more than one-third (37%) of the winter wheat was planted, while harvest was complete for 96% of the corn, 80% of the peanuts, 50% of the cotton, and 30% of the soybeans.

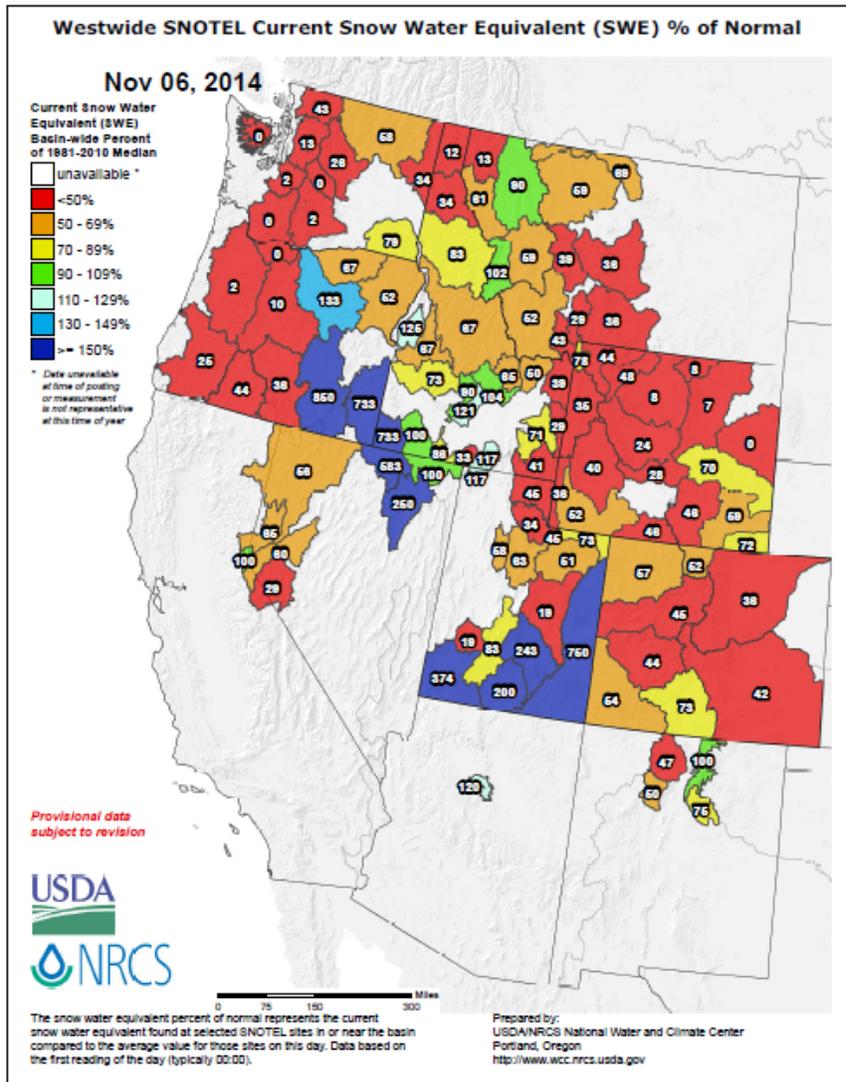
**Weather Outlook:** The interaction between tropical moisture and a cold front will result in additional rainfall totals of 2 to 5 inches in southern Texas and 1 to 2 inches from the Tennessee Valley into the Northeast. Late in the week, rain will end across southern Texas and change to snow from the Great Lakes region into New England. Elsewhere, periodic rain and snow showers will affect the nation’s northern tier, but dry weather will prevail from California to the central and southern Plains, and into the middle Mississippi Valley. The NWS 6- to 10-day outlook for November 10-14 calls for below-normal temperatures east of the Rockies, while warmer-than-normal weather will prevail in the West. Meanwhile, near- to below-normal precipitation across the majority of the U.S. will contrast with wetter-than-normal conditions across portions of the northern Plains, the western and central Gulf Coast regions, and from the Great Lakes region into the Northeast.”

**Contact: Brad Rippey, Agricultural Meteorologist, USDA/OCE/WAOB, Washington, D.C. (202-720-2397)** Website: <http://www.usda.gov/oce/weather/pubs/Daily/TODAYSWX.pdf>

The Natural Resources Conservation Service provides leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment

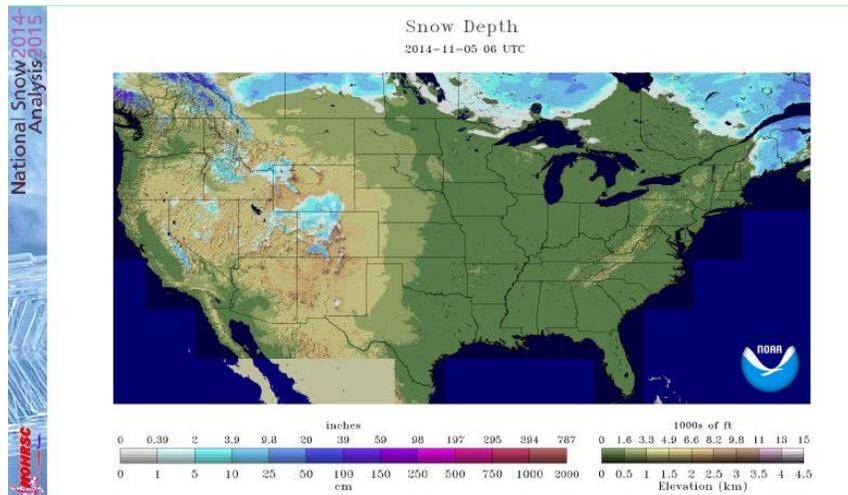
# Weekly Water and Climate Update

## Snow



For the [2015 Water Year](#) that began on October 1, 2015, a few areas in eastern Oregon, southern Idaho, northern Nevada, southern Utah and a basin in northern New Mexico recorded much above normal Snow Water Equivalent (SWE) values (dark blue areas).

The largest deficits are in western Washington and Oregon, northern Idaho, parts of Montana, Wyoming, and parts of Colorado. California, Nevada, Utah, and New Mexico also have below normal basins.



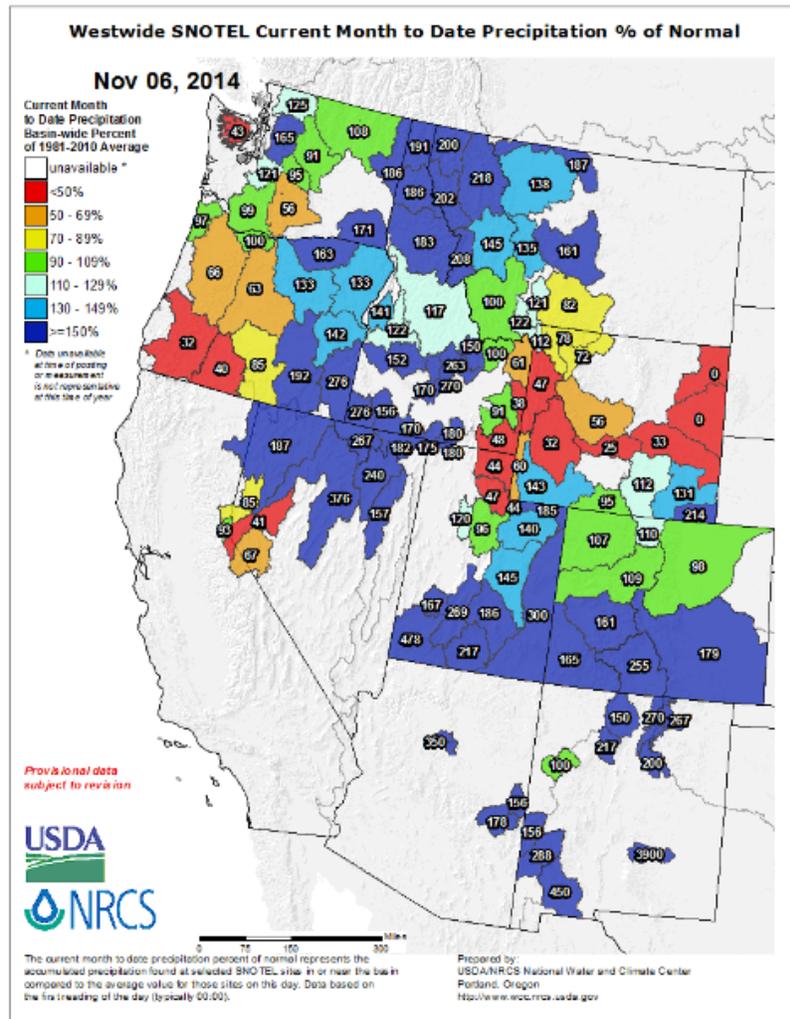
Snow depth from the [NWS NOHRSC](#) as of November 5, 2014. Cold over the Rocky Mountains, Sierra Nevada, eastern Great Basin, and the northern Cascades has produced snow across much of the western mountains.

# Weekly Water and Climate Update

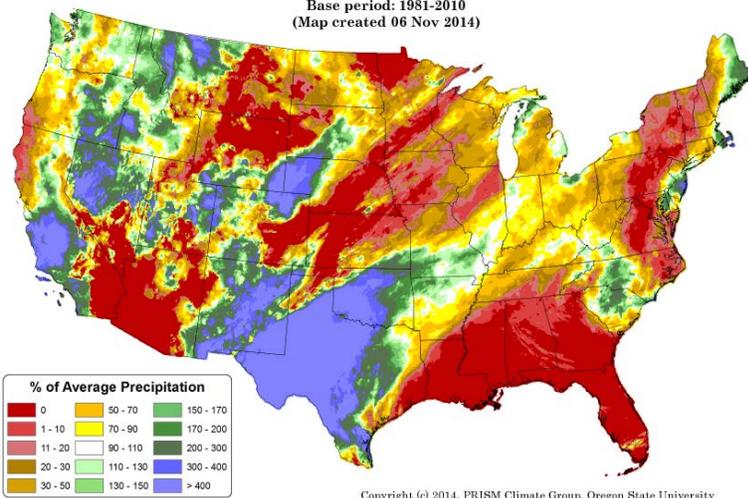
## Precipitation

In the West, the [SNOTEL](#) precipitation percent of normal map for the first few days in November shows most of Nevada, Utah, eastern Oregon, Idaho, Montana, Colorado, New Mexico, and Arizona are much above normal for the period. Near or below normal precipitation occurred in basins in western Oregon and Washington, Wyoming, southern Montana, and central California and Nevada. The percent of normal values (especially in the dark blue areas) may be amplified where normally very little precipitation falls during this time of year.

*Click on most maps in this report to enlarge and see latest available update.*



**Total Precipitation Anomaly: 01 November 2014 - 05 November 2014**  
 Period ending 7 AM EST 05 Nov 2014  
 Base period: 1981-2010  
 (Map created 06 Nov 2014)



Copyright (c) 2014, PRISM Climate Group, Oregon State University

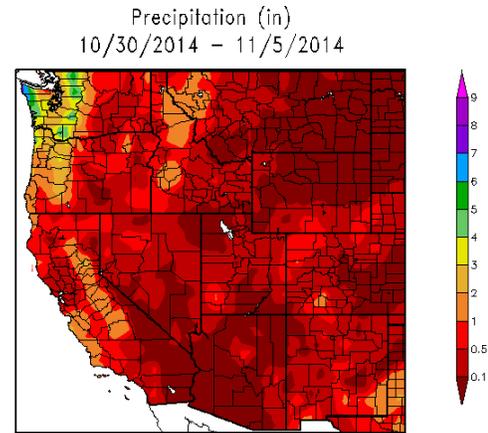
Thus far in November 2014, the national [precipitation anomaly](#) pattern reveals some higher than normal precipitation across the southwest and western U.S. The areas in southern California, New Mexico, Texas, Nebraska, and Montana received the most moisture. Parts of the Southwest, Southeast, and mid-Atlantic to the Northeast have seen little or no precipitation (red area).

*This preliminary daily PRISM precipitation anomaly map contains all available network data, including SNOTEL data, and is updated periodically as additional data become available and are quality controlled.*

## Weekly Water and Climate Update

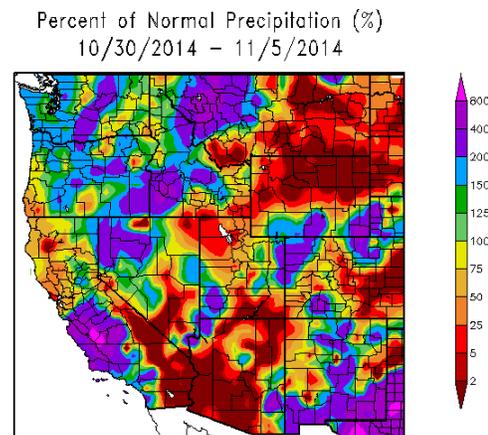
The [ACIS 7-day](#) total precipitation map for the western U.S. shows mainly dry conditions. Precipitation has fallen in a few scattered areas along the Olympics and Cascade Mountains in Washington and Oregon.

Other areas that received precipitation are in the Sierra Nevada in California, and the northern Rockies in Idaho and Montana. Scattered areas of precipitation occurred elsewhere in the West this week.

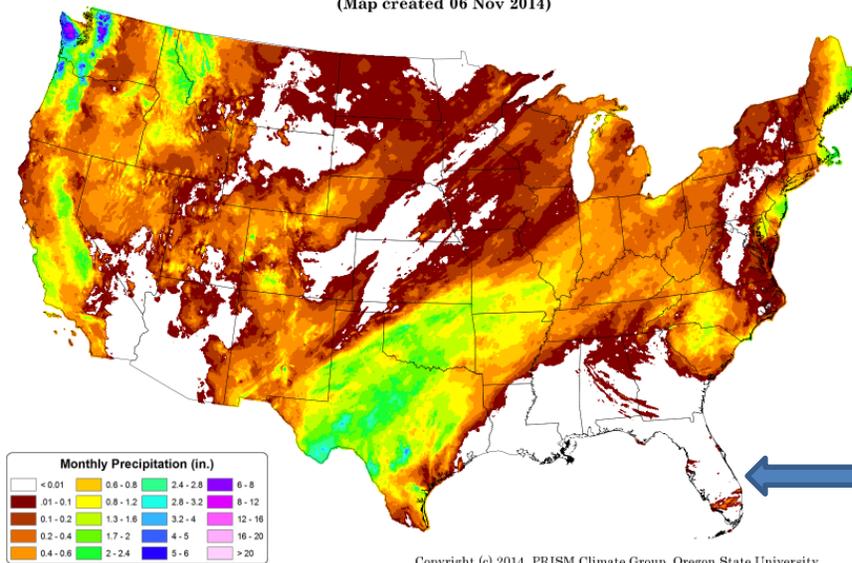


This percent of normal [map](#) of the West for the last seven days reflects heavy precipitation scattered across the region. The heaviest percent of normal precipitation fell in southern California and southwest Texas.

Percent of normal precipitation may be exaggerated in areas where the average for this period is at or near zero.



Total Precipitation: 01 November 2014 - 05 November 2014  
Period ending 7 AM EST 05 Nov 2014  
(Map created 06 Nov 2014)



For November 2014, the [total precipitation](#) across the continental U.S. was heaviest in the Pacific Northwest. Isolated high precipitation was also recorded in Texas, northern Idaho and Montana, California, and eastern New England. In contrast, much of the central U.S., Southwest, Southeast, and mid-Atlantic states were mainly dry.

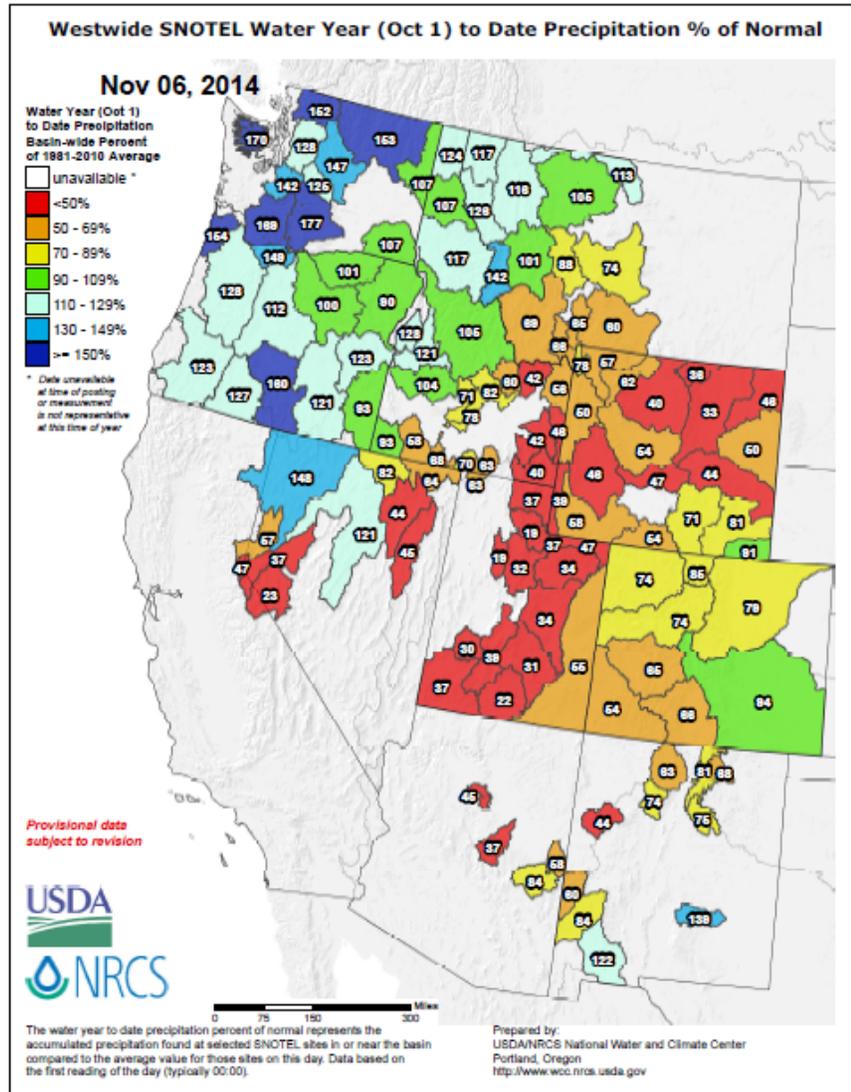
See [Go Hydrology](#) for current and forecast conditions over southern Florida.

## Weekly Water and Climate Update

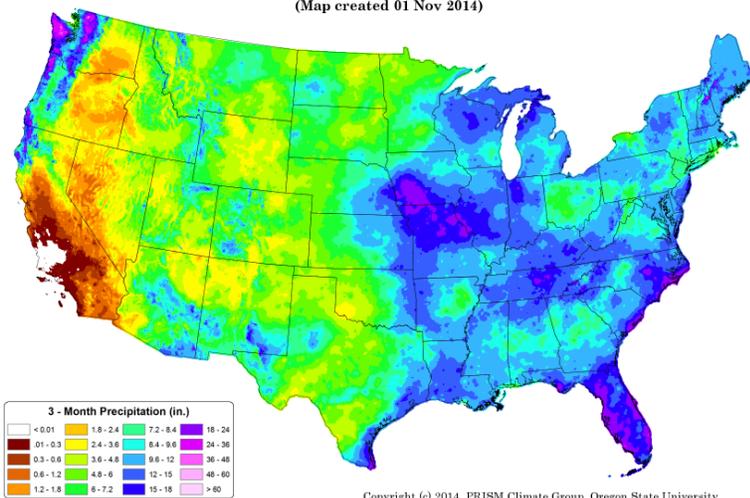
For the [2015 Water Year](#) that began on October 1, 2014, surpluses have occurred in a few basins in the West. Washington, Oregon, Idaho, Montana, and some basins in Nevada have received above normal precipitation.

Many basins across the West had very little precipitation in comparison to normal for the first month of the new Water Year. Utah, Wyoming, Colorado, Arizona, parts of New Mexico, and Nevada are below normal for this time in the Water Year.

At the beginning of the Water Year, basin conditions can change rapidly with small amounts of precipitation. As the Water Year advances, it becomes more difficult for river basins to change bin categories.



Total Precipitation: August 2014 - October 2014  
 Period ending 7 AM EST 31 Oct 2014  
 (Map created 01 Nov 2014)



The national map of the [three-month period](#) (August-October) shows that the eastern half of the nation received precipitation in the range from 6 inches to greater than 18 inches in Iowa, northern Missouri, Florida, the North and South Carolina coasts, Vermont, and Maine. In the West, Oregon and Washington received over 24 inches for the period.

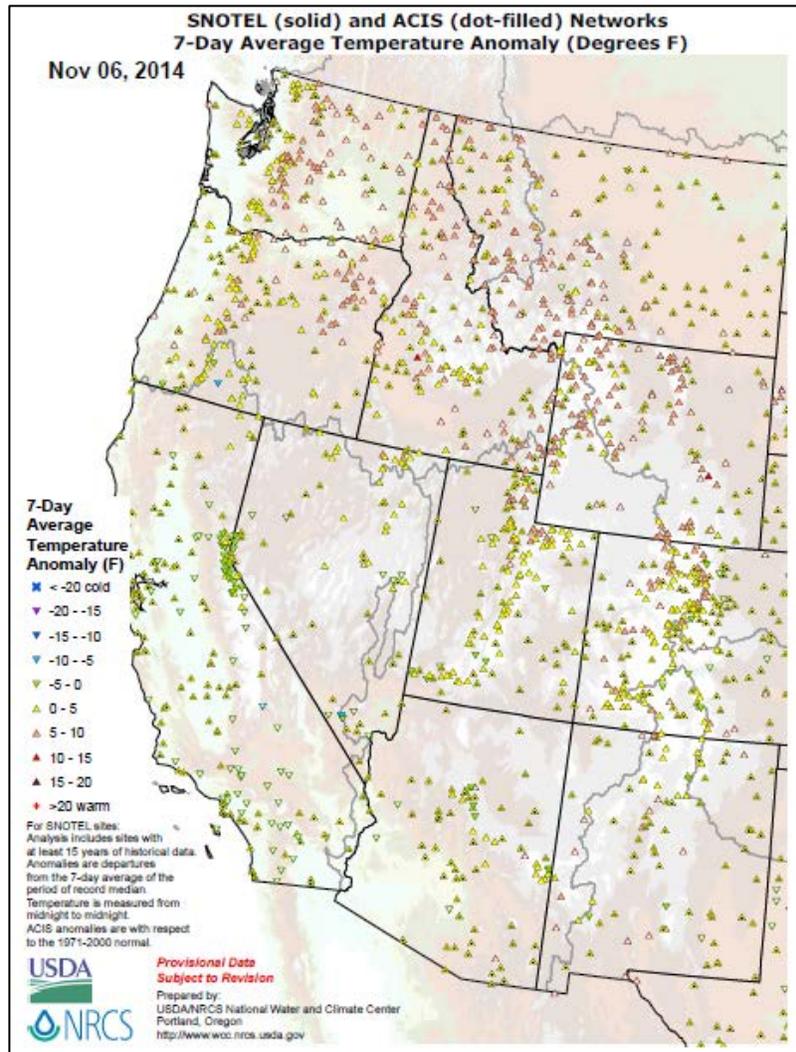
In contrast, parts of the West received totals of less than 1.8 inches. Central and southern California had little to no precipitation for the period.

# Weekly Water and Climate Update

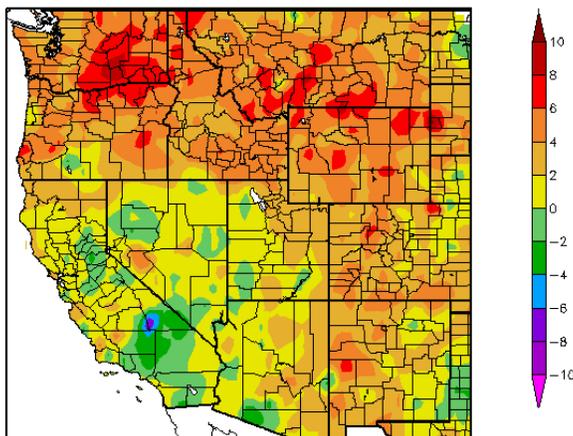
## Temperature

The SNOTEL and ACIS [7-day temperature anomaly](#) map for the western U.S. shows temperatures above normal for most of the northern tier of states including Washington, Oregon, Idaho, Montana, and Wyoming. Above normal temperatures also continued along the Rocky Mountains in Colorado and New Mexico.

The remainder of the West was near normal for the week.



Departure from Normal Temperature (F)  
10/30/2014 – 11/5/2014



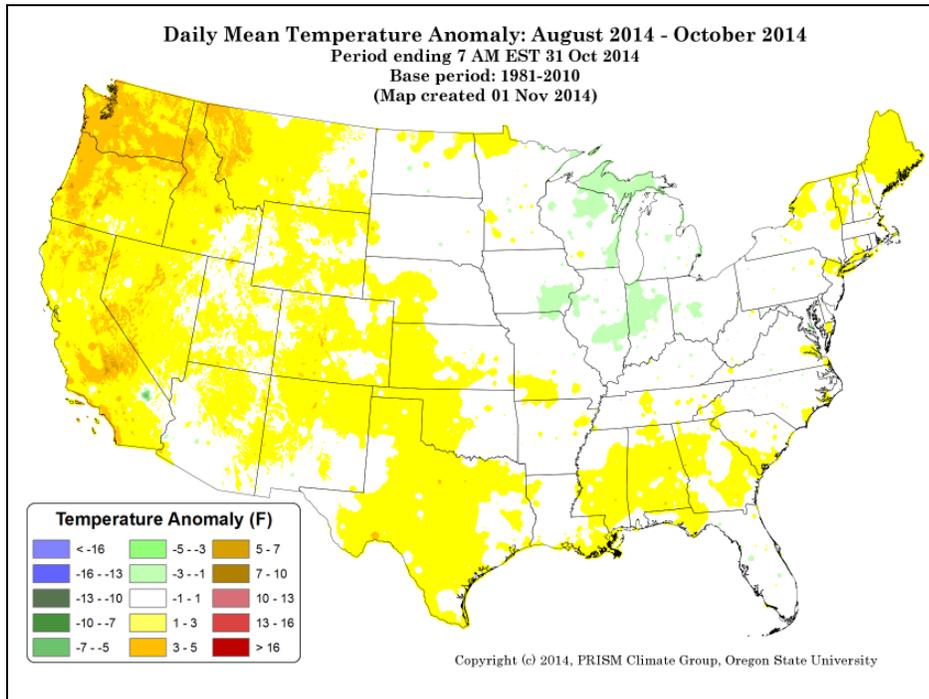
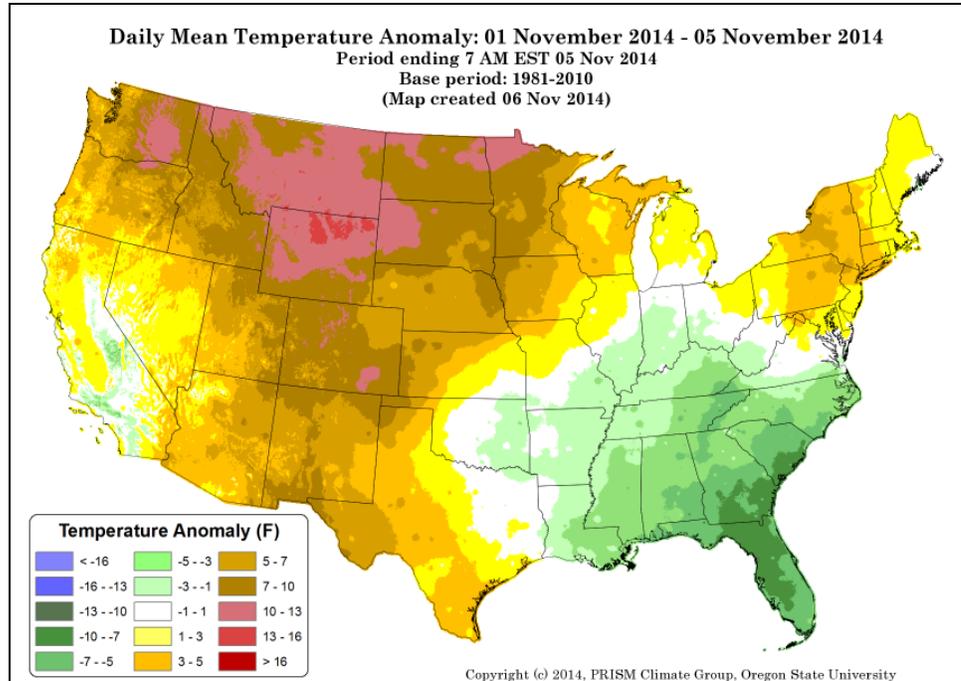
The [ACIS](#) map of the 7-day average temperature anomalies in the West ending November 5, shows the greatest negative temperature departures in California (<-6°F). The greatest positive temperature departures occurred in Washington and Montana (>+8°F). Much of the West experienced above normal temperatures.

Also, see [Dashboard](#) and the [Westwide Drought Tracker](#)

## Weekly Water and Climate Update

This preliminary [PRISM](#) temperature map contains all available network data, including SNOTEL data, and will be updated periodically as additional data become available and are quality controlled.

Thus far in November 2014, the national daily mean temperature anomaly [map](#) shows a cool pattern in the Southeast, centered in Florida ( $<-7^{\circ}\text{F}$ ). Above normal temperatures were recorded in many areas of the country. Areas in Wyoming and Montana had the highest warm anomalies ( $>+13^{\circ}\text{F}$ ).



August - October national daily mean temperature anomalies for the U.S. in this [climate map](#) show the west coast had slightly to above normal temperatures, in California, Oregon, Idaho, and Washington ( $>+5^{\circ}\text{F}$ ). The north central portion of the country reported normal to slightly cooler than normal temperatures for this period, with the coolest temperatures in Michigan, Wisconsin, Iowa, Illinois, and Indiana ( $<-1^{\circ}\text{F}$ ).

# Weekly Water and Climate Update

## Weather and Drought Summary

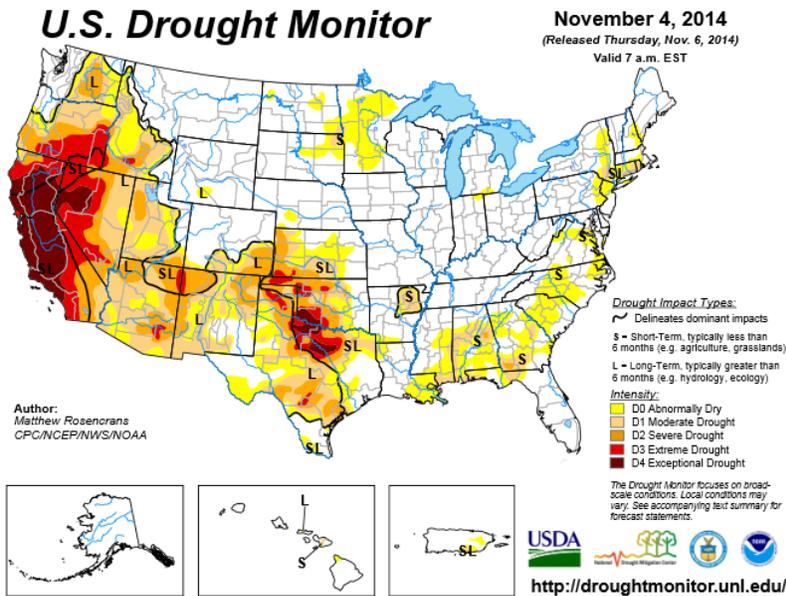
### National Drought Summary – November 4, 2014

The following **Weather and Drought Summary** is provided by this week's NDMC Drought Author, Matthew Rosencrans, NOAA/NWS/NCEP/CPC

USDM Map Services: contains [archived maps](#)

“For the contiguous 48 states, the U.S. Drought Monitor showed 29.86 percent of the area in moderate drought or worse, compared with 29.61 percent a week earlier. Drought now affects 71,694,027 people, compared with 70,929,858 a week earlier.

For all 50 U.S. states and Puerto Rico, the U.S. Drought Monitor showed 24.95 percent of the area in moderate drought or worse, compared with 24.74 percent a week earlier. Drought now affects 71,764,941 people, compared with 71,000,771 a week earlier.”



See: Latest Drought [Impacts](#) during the past week.

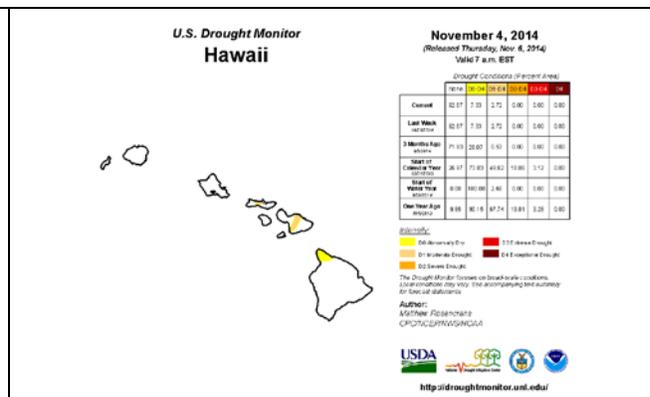
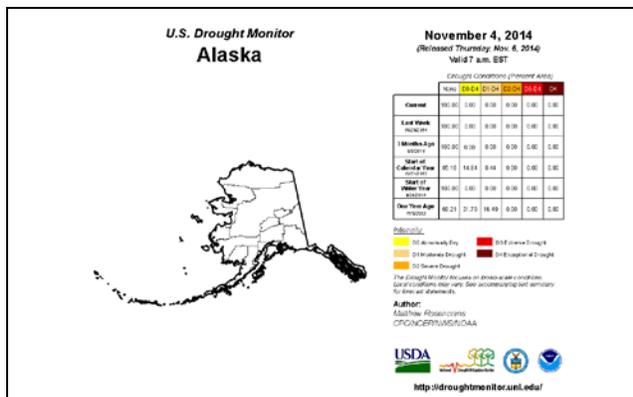
[Current Drought Monitor](#) weekly summary. The exceptional D4 levels of drought are scattered across CA, NV, TX, and OK.

The latest [drought indicator blend and component percentiles](#) spreadsheet is a great resource for climate division drought statistics. This link is for the latest [Drought Outlook](#) (forecast). See [climatological rankings](#).

For more drought news, see [Drought Impact Reporter](#).  
New: [ENSO Blog](#).

#### Drought Management Resources:

- ✓ <http://www.usda.gov/oce/weath/Drought/AgInDrought.pdf>
- ✓ [Watch AgDay TV](#)
- ✓ [Drought Impacts Webinar Series](#)
- ✓ [NIDIS Quarterly Climate Impacts and Outlook](#)
- ✓ [The Spring 2014 edition of DroughtScope](#)
- ✓ [U.S.Crops in Drought](#)



“The [49th](#) and [50th](#) States show normal to moderate drought conditions. No changes were noted for Alaska or Hawaii this week. A comprehensive narrative describing drought conditions across other parts of the nation can be found toward the end of this document. For drought impacts definitions for the figures that follow, click [here](#).”

## Weekly Water and Climate Update

### U.S. Drought Monitor West

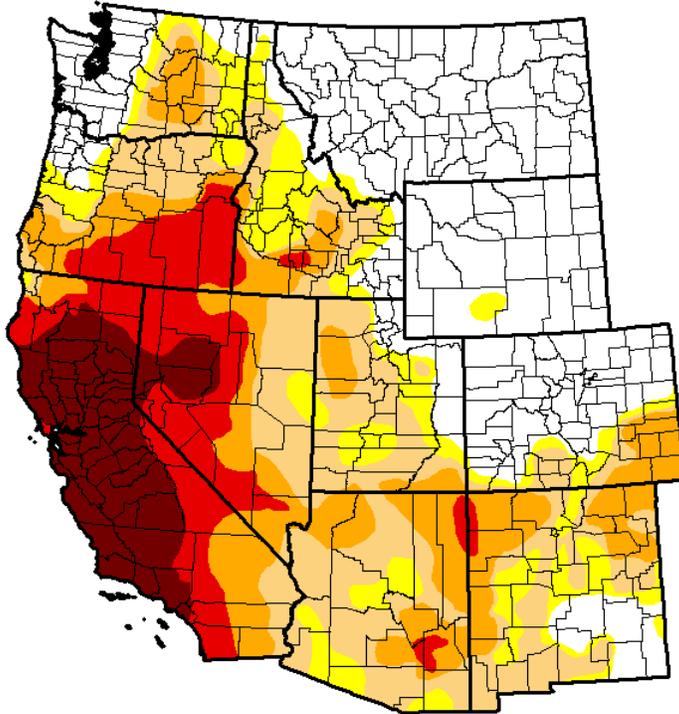
**November 4, 2014**

(Released Thursday, Nov. 6, 2014)

Valid 7 a.m. EST

*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	34.59	65.41	54.48	34.16	18.75	8.45
<b>Last Week</b> <i>10/28/2014</i>	34.52	65.48	55.05	34.64	19.08	8.90
<b>3 Months Ago</b> <i>8/5/2014</i>	27.71	72.29	60.17	43.74	21.35	8.94
<b>Start of Calendar Year</b> <i>12/31/2013</i>	22.20	77.80	51.44	31.11	7.75	0.63
<b>Start of Water Year</b> <i>9/30/2014</i>	31.48	68.52	55.57	35.65	19.95	8.90
<b>One Year Ago</b> <i>11/5/2013</i>	28.07	71.93	51.93	32.22	5.34	0.63



*Intensity:*

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.*

**Author:**

*Matthew Rosencrans  
CPC/NCEP/NWS/NOAA*



<http://droughtmonitor.unl.edu/>

A slight decrease in D1 – D4 categories occurred in the West during this past week. D0 remained unchanged, and the drought-free area increased slightly.

*Click to enlarge maps*

### Risk Management Web Resources

- Drought Monitor for the [Western States](#)
- Drought Impact Reporter for [New Mexico](#)
- [California Data Exchange Center & Flood Management](#)
- [Intermountain West Climate Dashboard](#)
- [California Sierra Nevada-related snow pack](#)

U.S. [Impacts](#) during the past week:

[Drought Monitor: Midwest Light on Rain while West Coast Sees Some Drought Relief – Oct 30](#)

VA - [Strasburg issues drought watch](#) Oct 28

AZ - [Water wells drying up on Tucson's fringes](#) – Oct 25

# Weekly Water and Climate Update

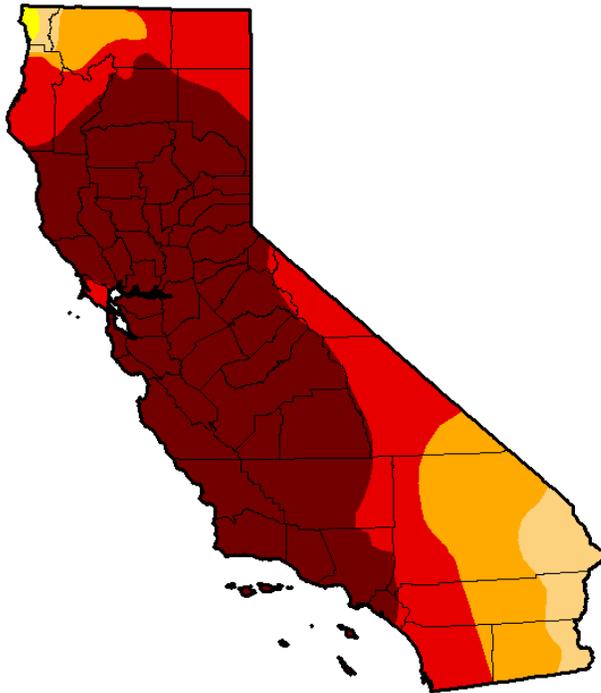
State with D-4 Exceptional Drought

## U.S. Drought Monitor California

**November 4, 2014**

(Released Thursday, Nov. 6, 2014)

Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	0.00	100.00	99.71	94.42	79.69	55.08
<b>Last Week</b> <i>10/29/2014</i>	0.00	100.00	100.00	95.04	81.92	58.41
<b>3 Months Ago</b> <i>8/5/2014</i>	0.00	100.00	100.00	99.80	81.92	58.41
<b>Start of Calendar Year</b> <i>1/2/2013</i>	2.61	97.39	94.25	87.53	27.59	0.00
<b>Start of Water Year</b> <i>9/30/2014</i>	0.00	100.00	100.00	95.04	81.92	58.41
<b>One Year Ago</b> <i>11/5/2013</i>	2.62	97.38	95.98	84.12	11.36	0.00

*Intensity:*

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.*

**Author:**

Matthew Rosenkrans  
CPC/NCEP/NWS/NOAA



<http://droughtmonitor.unl.edu/>

**D1 – D4 decreased slightly in California this past week. D0 remained unchanged.**

[CA Drought Information Resources](#)

[Drought News from California:](#)

[California drought squeezes olive oil makers](#) – Oct 24

[California Drought Takes Bite out of Rice Harvest](#) – Oct 29

[Farmers sue state over drought water decisions](#) – Oct 28

[Sacramento Valley farmers are asked: Help the ducks](#) – Oct 28

[California drought boosts South Bay synthetic turf businesses as homeowners turn to artificial grass](#) – Oct 27

[Yosemite rangers try to keep hungry bears at bay](#) – Oct 25

[Temporary moratorium for new water service connections ordered in Hidden Valley Lake](#) – Oct 28

[Water agency approves \\$1.8M for conservation programs](#) – Oct 28

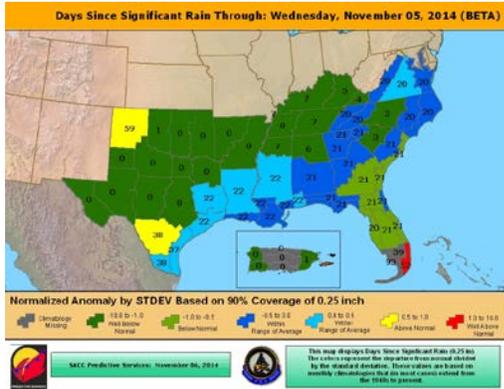
[Lake Mission Viejo isn't feeling California drought — yet](#) – Oct 30

[Nevada Irrigation District suspends some fall water deliveries](#) – Oct 28

# Weekly Water and Climate Update

Texas Drought [Website](#).  
[Texas Reservoirs](#).  
[Texas Drought Monitor Coordination Conference Call](#): on Monday's 2:00 PM - 3:00 PM CST

**Texas Drought News:**  
[Deaths of Galveston Bay clams may signal trouble- Oct 31](#)  
[Land appraisals disputed as drought shrinks lake n – Oct 27](#)  
[As rain stays away, a parched region seeks relief – Oct 27](#)

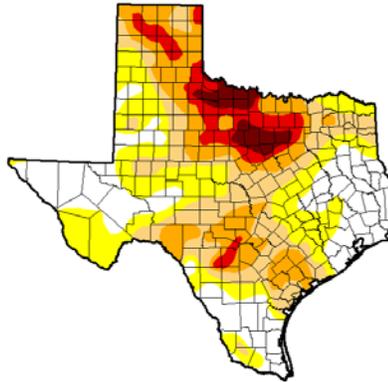


[Days since Significant Rain Summary](#)

## State with D-4 Exceptional Drought

### U.S. Drought Monitor Texas

November 4, 2014  
 (Released Thursday, Nov. 6, 2014)  
 Valid 7 a.m. EST



	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	26.33	73.67	48.48	20.39	10.81	3.62
Last Week 10/28/14	24.84	75.16	49.20	27.86	11.90	3.62
3 Months Ago 05/01/14	17.20	82.80	56.88	36.52	13.87	2.86
Start of Calendar Year 01/01/14	28.48	71.52	43.84	21.15	5.62	0.70
Start of Water Year 05/01/14	28.92	71.08	48.95	29.54	11.26	2.69
One Year Ago 11/05/13	20.07	79.93	50.49	23.81	5.43	0.49

**Intensity:**  
 D0 Abnormally Dry  
 D1 Moderate Drought  
 D2 Severe Drought  
 D3 Extreme Drought  
 D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:  
 Matthew Rosenkrans  
 CPC/NCEP/NOAA

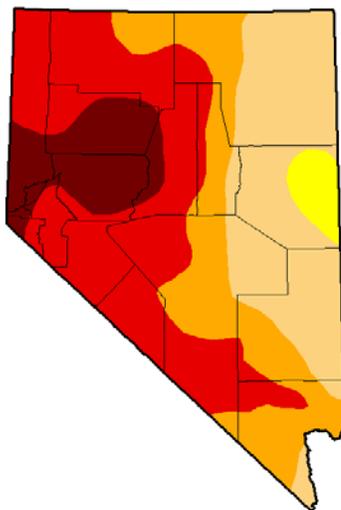
USDA  
 National Drought Mitigation Center  
<http://droughtmonitor.unl.edu/>

There was a decrease in D0, D1, D3, and D4 in Texas this past week. D2 and the drought-free areas increased slightly.

## State with D-4 Exceptional Drought

### U.S. Drought Monitor Nevada

November 4, 2014  
 (Released Thursday, Nov. 6, 2014)  
 Valid 7 a.m. EST



	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	97.07	89.89	48.38	11.89
Last Week 10/28/14	0.00	100.00	97.07	89.89	40.30	11.89
3 Months Ago 05/01/14	0.00	100.00	100.00	88.92	55.21	11.89
Start of Calendar Year 01/01/14	0.39	99.61	96.01	77.66	20.55	5.37
Start of Water Year 05/01/14	0.00	100.00	97.04	89.89	40.30	11.89
One Year Ago 11/05/13	0.39	99.61	96.01	79.11	20.55	5.37

**Intensity:**  
 D0 Abnormally Dry  
 D1 Moderate Drought  
 D2 Severe Drought  
 D3 Extreme Drought  
 D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:  
 Matthew Rosenkrans  
 CPC/NCEP/NOAA

USDA  
 National Drought Mitigation Center  
<http://droughtmonitor.unl.edu/>

There was no change in Nevada drought conditions this past week.

## Nevada Drought News:

["Bear Selfies" Fad Could Turn Deadly, Warn Nevada Wildlife Officials – Oct 28](#)

[Western drought disrupts Nevada duck migration Oct 29](#)

# Weekly Water and Climate Update

## Related Area News:

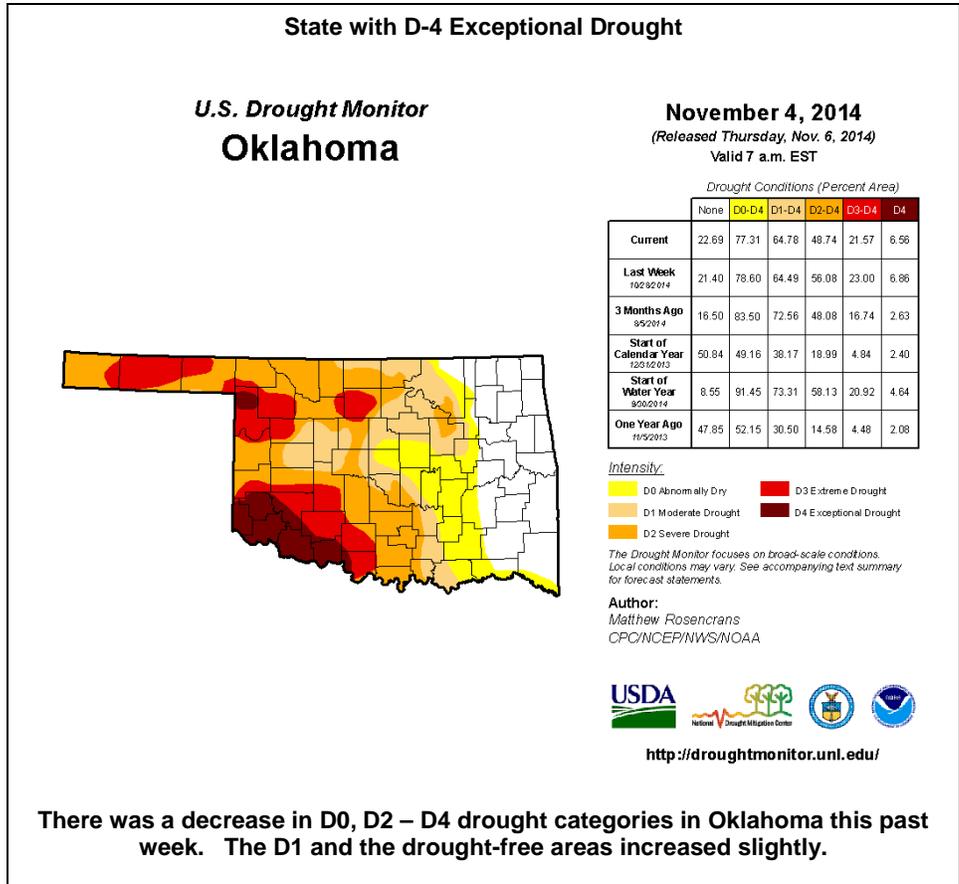
[2014 Kansas Drought Report and Summary](#)

- [Past 30 days precipitation totals](#)
- [Past 30 days precipitation percent of normal](#)
- [Calendar Year precipitation totals](#)
- [Calendar Year Precip percent of normal](#)
- [Short Crop ET](#)

## Oklahoma News:

[Drought continues to worsen across Oklahoma – Oct 30](#)

[Winter unlikely to bring drought relief to Oklahoma – Oct 29](#)



## U.S. Population in Drought

**Number of people in each drought category in the U.S. for the week ending November 4, 2014**

Week	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
2014-11-04	172,880,383	132,517,072	71,694,028	51,544,855	40,735,830	29,587,691
2014-10-28	176,916,294	128,481,160	70,929,858	52,025,923	40,825,019	29,703,073

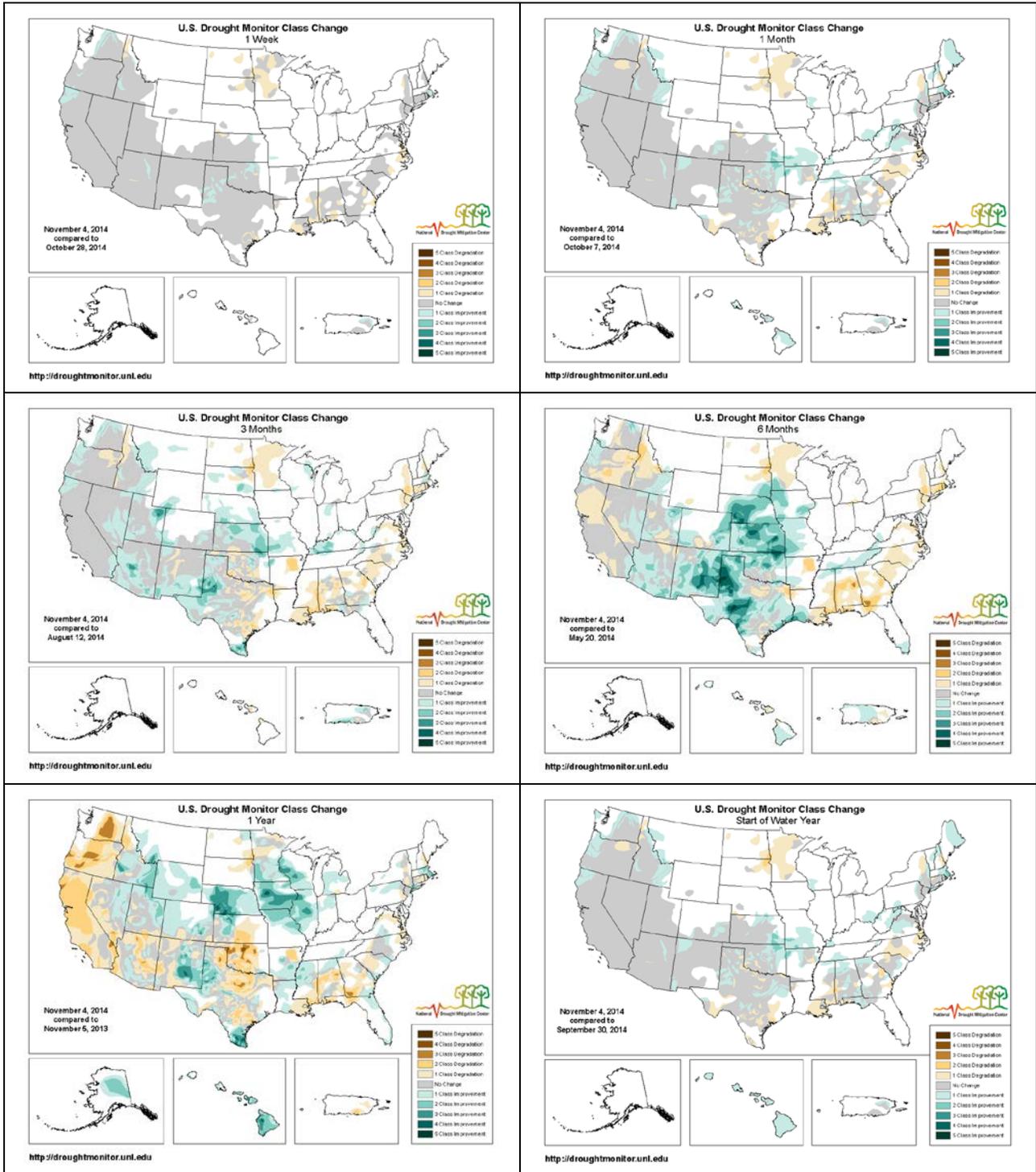
**Population figures affected by drought in the U.S. Drought Monitor website show that for this week, more than 71,000,000 people in the United States are in a drought-affected area, which was increased slightly by over 750,000 people from last week.**

Population Statistics Methodology:  
The U.S. Drought Monitor population statistics are calculated at the county level, and aggregated to the state, regional, and national levels. The population densities have been calculated for each county. The proportion of the physical area of the county that is in drought is multiplied by the uniform population density in order to obtain a number for each county. The county values are then summed at the state, regional, and national level.

# Weekly Water and Climate Update

## Changes in Drought Monitor Categories

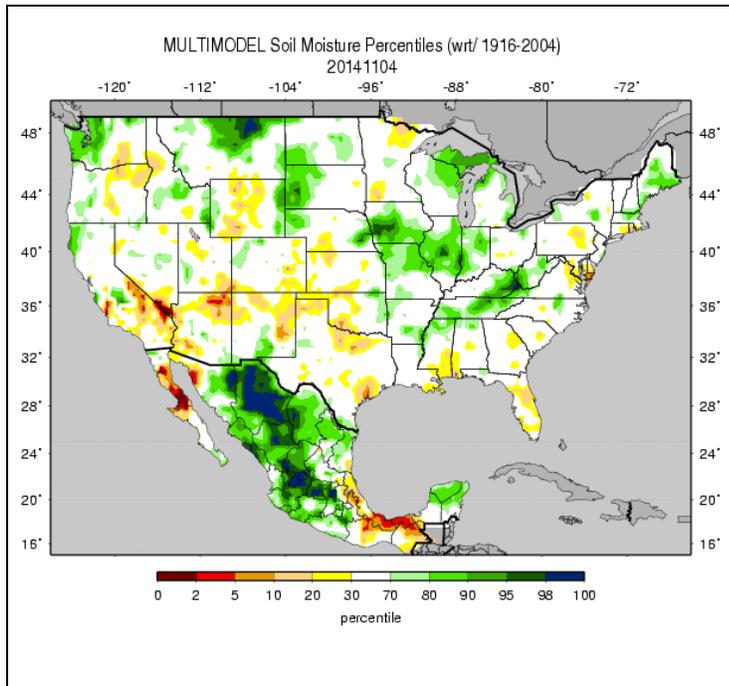
### Over Various Time Periods



Click on any of these maps to enlarge. Note how the conditions over the Rockies and northern Great Plains have improved between 6 to 12 months (middle right to lower left maps). However, also note that since a year ago, conditions over the Northeast, Southeast, parts of the southern Great Plains, and the Pacific coast states have deteriorated significantly (lower left map).

# Weekly Water and Climate Update

## Soil Moisture

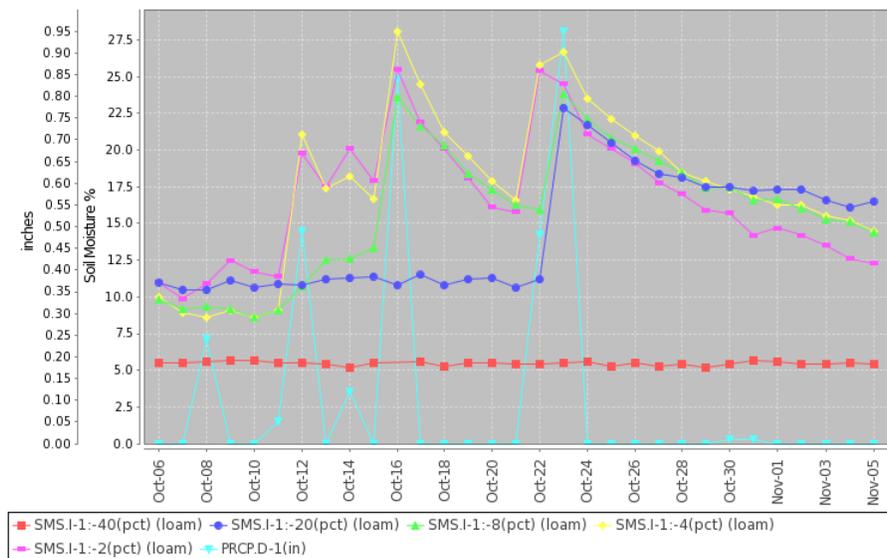


The national soil moisture model ranking in [percentile](#) as of November 4, 2014, shows dryness over the southern U.S. The driest areas are centered in southern California and Arizona. There are also scattered dry areas that continue across the South through Texas and Florida. Another exceptionally dry area is in Maryland and southern New England. Moist soils dominate central Montana, much of the Midwest, and the Great Lakes states. The wettest locations were located in western South Dakota, north-central Montana, northern Michigan, northern Wisconsin, Kentucky, Tennessee, northern Missouri, Illinois, and Iowa.

Useful Hydrological Links: [Crop Moisture Index](#); [Palmer Drought Severity Index](#); [Standardized Precipitation Index](#); [Surface Water Supply Index](#); [Weekly supplemental maps](#), [Minnesota Climate Working Group](#); [Experimental High Resolution Drought Trigger Tool](#); [NLDAS Drought Monitor](#); [Soil Moisture](#)

## Soil Climate Analysis Network (SCAN)

Station (2049) MONTH=2014-10-06 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision  
Wed Nov 05 22:25:32 PST 2014

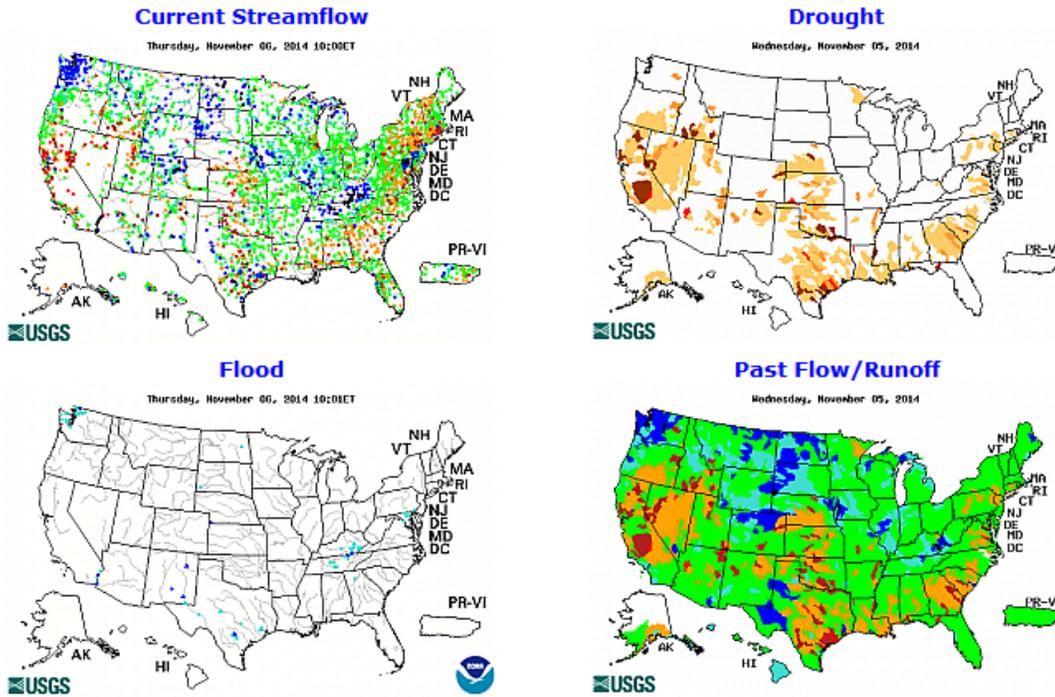


This NRCS resource shows soil moisture data at the [Powder Mill \(2049\) SCAN site](#) in Maryland. The precipitation in the area was heavy on the 16<sup>th</sup> and 22<sup>nd</sup>-23<sup>rd</sup> of October (graphed in light blue). This resulted in increased soil moisture for the 2-, 4-, and 8-inch sensors, with the 20-inch sensor responding to the precipitation that occurred Oct. 22<sup>nd</sup>-23<sup>rd</sup>. The 2-inch sensor responded to the heavy rain on the 22<sup>nd</sup>-23<sup>rd</sup>. The 40-inch sensor has remained steady throughout the month. Since that time, all depths except the 40-inch sensor are drying out.

Useful Agriculture Links: [Vegetation Drought Response Index](#); [Evaporative Stress Index](#); [Vegetation Health Index](#); [NDVI Greenness Map](#); [GRACE-Based Surface Soil Moisture](#); [North American Soil Moisture Network](#). [Monthly Wild Fire Forecast Report](#).

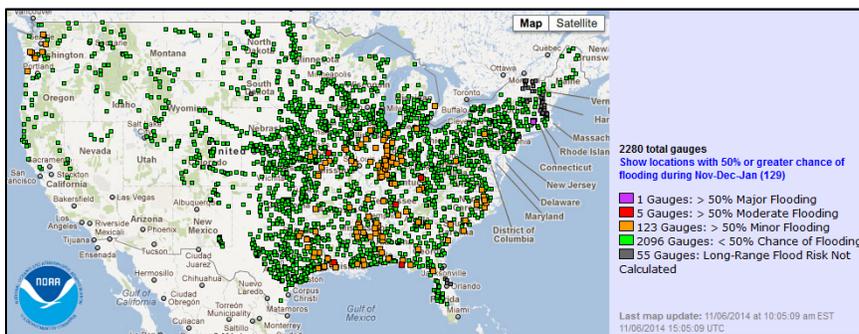
# Weekly Water and Climate Update

## Streamflow



The rivers are high over most of the central U.S. The Pacific Northwest, northern Great Plains, the central Rockies, the upper Ohio River, parts of the Southwest, and central Florida are also reporting higher than normal streamflow due to recent precipitation (left maps). Oahu and Maui, Hawaii, and central Puerto Rico are also reporting a few rivers with high streamflow. There is no river above flood stage in the U.S. at this time.

## National Long-Range Outlook



Click maps to enlarge and update

Currently the Upper Midwest part of the map has not been calculated for the long range flood outlook (dark gray dots).

During the next three months, there is a risk of flooding in some central and southern Mississippi and lower Missouri Rivers, the Southeast, the Connecticut River, and western Washington. Currently, **1** gage has a greater than 50% chance to experience major flooding; **5** gages for moderate flooding, and **123** gages for minor flooding.

These numbers represent a 1 gage increase in the greater than 50 percent chance of minor flooding category in the last week.

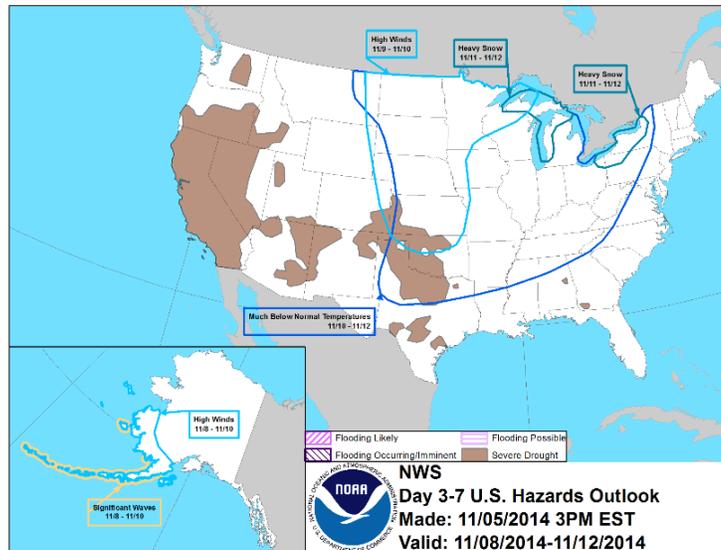
## Weekly Water and Climate Update

### National [Weather Hazards](#)

Heavy lake-effect snow (outlined in medium blue) is expected during the next week in Wisconsin, Michigan, northeast Ohio, northwest Pennsylvania, and western New York (11/11 -12). Much below average temperatures are expected in much of the central U.S., from eastern Montana to New York and south to central Texas and the southeast (11/10-12). High winds are forecast for the area from eastern Montana to Wisconsin and south to Oklahoma (11/9–10).

In Alaska, high winds and significant waves are expected along the west coast, and the Aleutian Islands (11/8-10).

Severe drought remains a large issue in much of the south-central and western U.S.



### [National Drought Summary for November 4, 2014](#)

Prepared by the Drought Monitor Author: Matthew Rosencrans, NOAA/NWS/NCEP/CPC.

#### Summary

“Early in the period, a cold front moved from the Appalachians to the East Coast. During the latter portions of last week, the pattern amplified, with an intense low pressure system developing over the Great Lakes and another moving into the Pacific Northwest. The storm in the east pushed record cold temperatures as far south as the Everglades and snowfall from the southern Appalachians to New England, while the western storm brought much needed rain to many portions of the West. The western storm system then moved eastward and tapped into moisture from the Gulf of Mexico, spreading rains from Texas to the Great Lakes.

#### New England and mid-Atlantic

A deep low-pressure system moved up the East Coast and spread precipitation (0.5 – 2.4 inches) up across eastern New England. Some of it fell as snow, which has a slower impact on drought reduction, so only a small section of the abnormal dryness (D0) was trimmed from Massachusetts and Rhode Island. The precipitation associated with the low-pressure system did not spread to the Mid-Atlantic Coast. Dryness is relatively short lived, mainly evident in 30- and 60-day plots of percent of normal precipitation (PnP), which the 30-day PnP of 50 percent or less was used as the demarcation threshold. The National Weather Service Office in Raleigh reported that total rainfall at Fayetteville was about 1.3 inches for the month of October, of which almost 1.1 inches of the monthly total fell on the 14th and 15th. Soil moisture maps presented by the NWS Raleigh office also indicate reductions in the top layers of the soil column. Additionally, across northeastern North Carolina and southeastern Virginia, D0 was expanded down the mainland and across portions of the Delmarva Peninsula. AHPS (Advanced Hydrological Prediction System) 60-day percent of normal precipitation seems to mask the deepening dryness that has settled across this area. However, it was pointed out by the NWS Wakefield that much of the 60-day total is attributed to a storm system on September 9 which produced high amounts of rainfall across that region.

#### Ohio and Tennessee Valleys

No changes were made to the drought conditions in this region, as precipitation during the past 30 days was at least 50 percent of normal. At longer time periods, precipitation is mostly above average.

#### Pacific Northwest and California

Moderate to heavy rains fell across the area from northern California to western Washington. Weekly rainfall totals for northern California top out at 2.3 inches, while rains further north, across the Olympic

## Weekly Water and Climate Update

Peninsula and Cascades, exceed 9 inches. Feedback from California included some reports detailing improvements to stream flows while other reports only greening of small plants and grasses, not indicating deeper soil moisture recharge. The rains had an abrupt cutoff across Mendocino County. Northern Mendocino County reported near normal precipitation for October, but Southern Mendocino County was drier (below normal). Local lawns are greening up from the weekend rain which saturated the upper soils. During the past 2 months precipitation amounts for Del Norte, Siskiyou, Humboldt, Trinity and Northern Shasta Counties have been 150-250% of normal. On the north coast Gasquet is at 200% of Sept/October normal (8" over normal). Trinity Reservoir is currently at 106 percent of normal inflow for October. Finally saw some river rises from the weekend storms, after the rises the rivers returned to new elevated baseflow levels. Drought reductions were depicted for areas with rains in excess of 1.5 inches and 30-day PnP greater than 200 percent of normal across Northern California.

AHPS is showing heavy rains across Wheeler County Oregon, but ground reports do not corroborate those estimates. No change was made to the depiction in eastern Oregon.

Across Washington and Northern Idaho, reductions in drought conditions were made. Almost a 1-category improvement was made across the Cascades. Orographically enhanced precipitation fell across portions of Central Idaho, so D1 was removed from near Clearwater County and also around the Boise area. Boise is reporting above-average precipitation for the year, despite below-average snowfall totals. Precipitation missed many portions of northern Idaho, where D0 and D1 were expanded to account for the ongoing dryness, mainly evident in AHPS data out to 60 days and NLDAS Soil Moisture models.

### **Puerto Rico**

Moderate to heavy rains (0.5 – 4.3 inches) were reported across the island. Drought reductions were made where 7-day accumulations were greater than 3 inches, prompting the removal of D0 from northeastern portions of the island. Abnormal dryness was retained anywhere rains measured less than 3.0 inches and 30-, 60-, 90-day precipitation totals were still well below average.

### **Southeast**

Abnormal dryness (D0) and moderate drought (D1) were expanded across portions of Georgia, Alabama, Mississippi, and Louisiana. AHPS precipitation and SPI values (60-, 90-, and 120-day) from the High Plains Regional Climate Center (HPRCC) indicated at least D1 conditions across many portions of Georgia, with an intensification toward the shorter time periods. Dryness increased markedly across western Alabama, southern and eastern Mississippi, and southeastern Louisiana during the past 60 days, with D3 (extreme drought) conditions indicated by HPRCC SPI values across east- central Mississippi, but other tools indicating less severity in the drought.

### **Southern and Central Plains**

Widespread rains (1.0 – 2.1 inches) fell across the area from northwestern Texas to Missouri, prompting some improvements across those areas. The rains were ongoing at the data cutoff time of 12Z on Tuesday, November 4. Some reductions in drought intensity and coverage were made over the Texas Panhandle, partly due to recent rains and partly due to a reassessment of conditions in conjunction with the Texas State Climatologist. Improvements were also made to southwest Missouri, where recent rains have ameliorated any lingering dryness.

Across central and eastern Oklahoma, recent rains (0.5 – 2.6 inches) prompted some small areas of 1-category reduction in drought. No changes were made across southeast Oklahoma. In contrast, dryness continued across Arkansas and northwest Louisiana, so D0 was expanded to cover the areas showing less than 50 percent of normal precipitation at the 30 through 90 day time intervals. Some reduction in drought coverage was made across eastern New Mexico, as 30-, 60-, and 90-day precipitation totals were well above average. Drought conditions in Colorado showed little signs of change during the past week. The areas around Las Animas and Conejos Counties have competing signals (dry long-term, wetter short-term). If the trend toward wetter conditions continues, the drought conditions will need to be reassessed.

### **Southwest and Great Basin**

No changes were made to the drought depiction across Nevada, Utah, or Arizona. The Nevada State Climatologist requested no changes, pending evaluation of impacts of recent light rains (less than 1.0 inch).

## Weekly Water and Climate Update

### Looking Ahead

During November 6-10, wet weather is forecast for the eastern third of the Nation, Pacific Northwest, and parts of the southern Great Plains. Rainfall totals are likely to exceed 4.0 inches across Texas as the moisture is likely to have a tropical source. Lake enhanced precipitation is also likely near the Great Lakes as a low-pressure system is forecast to move from the Great Lakes to the Canadian Maritime Provinces during the next 3 days. During the early to middle portions of next week, a cold front is forecast to traverse the contiguous 48 states, ushering in drier and cooler conditions.

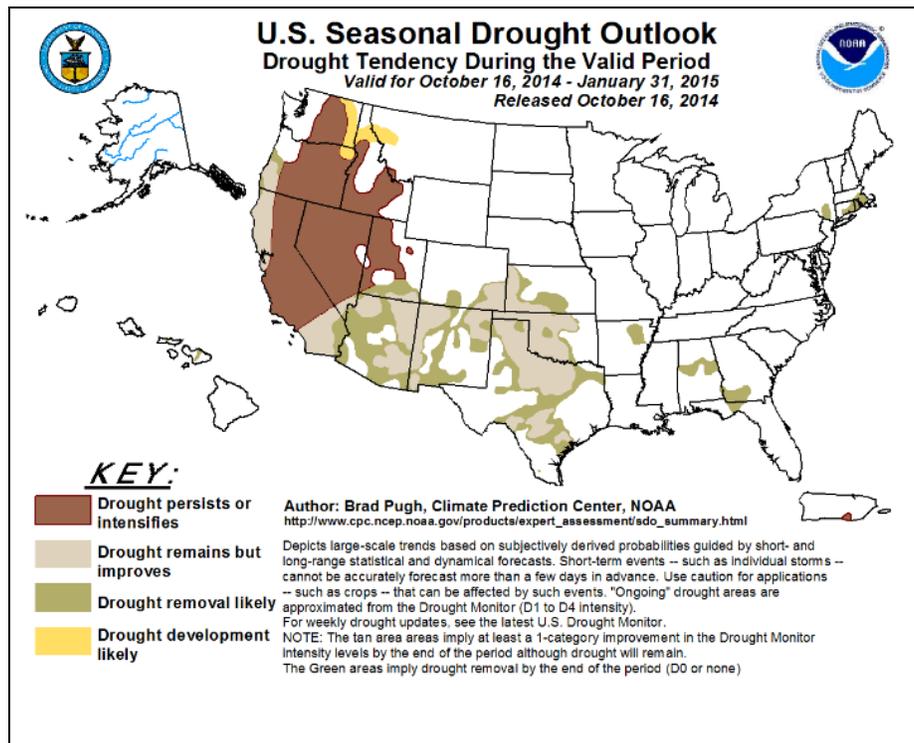
For the ensuing 5-day period, November 11-15, odds favor below normal temperatures east of the Rockies, with above normal temperatures west of the Continental Divide. Below median precipitation is favored for much of the contiguous 48 states, except near the Great Lakes, New England, and South Texas. Above median rains are favored for most of Alaska, except the interior basin, north of the Alaska range."

## Supplemental Drought Information

### National Seasonal Drought Outlook

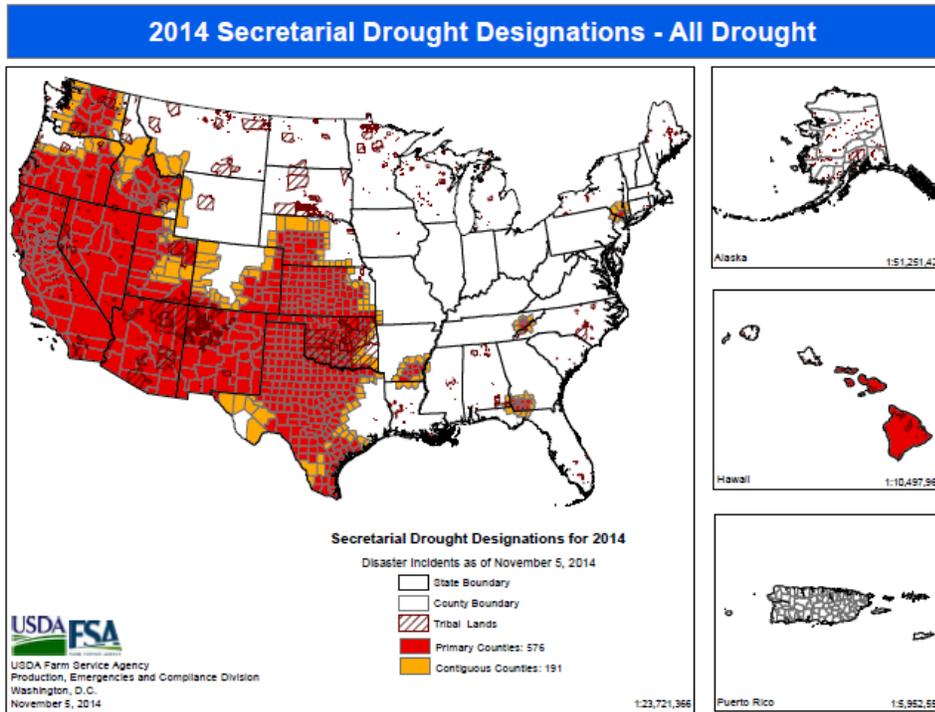
Nationally, [drought](#) is expected to persist or intensify over a small area of Puerto Rico and much of the West, including California, Oregon, Washington, Idaho, and Utah. Improvements are expected in the central Pacific coast, and from the Southwest to Oklahoma and Texas, a few areas of the Southeast, and southern New England.

Also see: [National Significant Wildland Fire Potential Outlook](#) (updated on the **first** of each month) contains a content summary of the previous month's conditions.



# Weekly Water and Climate Update

## 2014 USDA Secretarial Drought Designations

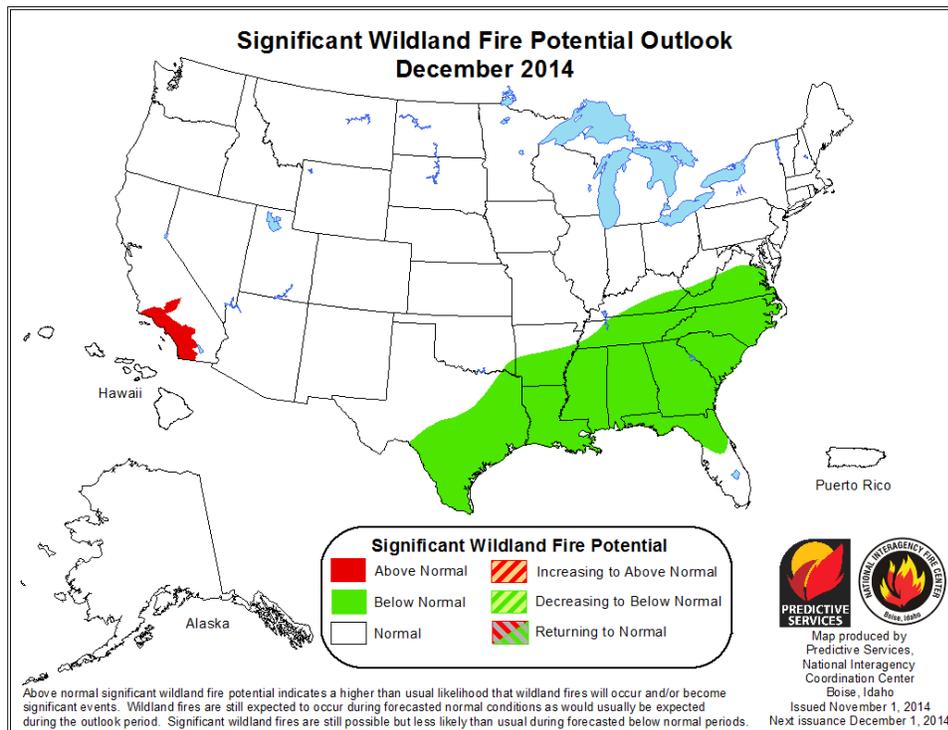


Refer to the USDA Drought Assistance [website](#) and [National Sustainable Agriculture Information Service](#).

Read about the new [USDA Regional Climate Hubs](#).

[New useful resource: NASS Quick Stats](#)

## National Fire Potential Outlook



### December Fire Forecast

In December, above normal [fire potential](#) will persist in parts of California.

The below normal fire potential area in green on the map is forecast for Texas, through the Southeast, to the mid-Atlantic states.

## Weekly Water and Climate Update

### Additional Maps

U.S. Maps PowerPoint presentation: <http://dmcommunity.unl.edu/maps/US-Maps.ppt>.

Regional zooms of ACIS station data percent-of-normal precipitation:  
<http://dmcommunity.unl.edu/maps/All-CONUS-ACIS-PNP.pptx>.

National Water and Climate Center (NWCC) Surface Water Supply Index (SWSI) maps:  
<http://www.wcc.nrcs.usda.gov/wsf/swsi.html>

### Supplemental Drought-Agriculture News

Download [archived](#) "U.S. Crops in Drought" files.

The following is a collection of drought-related news stories from the past seven days or so. Impact information from these articles is entered into the [Drought Impact Reporter](#). A number of these articles will also be posted on the [Drought Headlines](#) page at the NDMC website. The list is compiled by Denise D. Gutzmer, Drought Impact Specialist, and National Drought Mitigation Center.

### California

#### "Litigation over California water decisions

Growers in the Friant Water Authority have sued the State Water Resources Control Board over water supply decisions, which left them with no federal water this year after the board illegally denied water to the San Joaquin River Exchange Contractors who have senior water rights. Water from Millerton Lake was then given to the SJREC, rather than the East Side farmers. The decision to withhold the water must not be allowed to happen again, say the East Side farmers.

The Friant Water Authority provides water to 15,000 growers who purchase water from Millerton Lake and cultivate 1 million acres from Chowchilla to Bakersfield.

#### California olive crop down

Drought and the olive fruit fly reduced the California olive harvest by about one-third in 2014. The harvest began about a week earlier than usual. Low humidity in December, related to the drought, allowed temperatures to fall and freeze many of the buds.

#### California synthetic turf industry benefitting from drought

The synthetic turf industry is benefitting from the California drought because sales are skyrocketing. A Redondo Beach landscaper said that annual revenues have climbed from under \$300,000 in 2012 to more than \$2.5 million in the first nine months of this year. Artificial grass supplier, DuraTurf, with its West Coast headquarters in Torrance, reported that turf sales in 2013 amounted to 625,000 square feet and that sales look to be double that of last year.



From the [North Coast County Water District website](#).

## **Weekly Water and Climate Update**

### **Temporary moratorium on new water service connections in 22 California water districts**

The Hidden Valley Lake Community Services District was ordered to stop allowing new service connections to its water system because there was insufficient water to meet demand. The State Water Resources Control Board issued the temporary service connection moratorium on Oct. 17. The district must find an alternate water source before the moratorium will be lifted.

Twenty-one other water districts in California also received such orders.

### **No fall irrigation water in Nevada Irrigation District in California**

The Nevada Irrigation District will not deliver fall irrigation water because the district does not have enough storage and supply to do so and also because the State Water Resources Control Board curtailed thousands of water rights across the state earlier this year, leaving the district unsure of whether it has the legal right to divert and deliver water from Sierra Nevada streams.

### **Lake Mission Viejo envy in California**

Envious eyes are again turning toward Lake Mission Viejo as water becomes scarcer in California. The lake holds 1.2 billion gallons of potable water that is reserved for the elite living around the recreational lake, while some California communities' wells and water supplies have dried up.

There was scandal about filling the lake in 1977 during a historic drought, which led to an order from the California Water Board to stop filling the lake. When the drought eased one year later, the lake was filled with water from the Colorado River.

### **Attempts to create more habitat for migratory waterfowl in California**

The California Natural Resources Conservation Service has offered \$53 per acre to farmers in Butte, Colusa, Glenn, Sutter, Yolo and Yuba counties to flood rice fields through Feb. 1 to provide more habitat for migrating waterfowl. Typically, Valley rice farmers flood about 300,000 acres to encourage the decomposition of rice stubble, but this year, the California Rice Commission estimated that about 50,000 acres will be flooded, due to drought.

## **Texas**

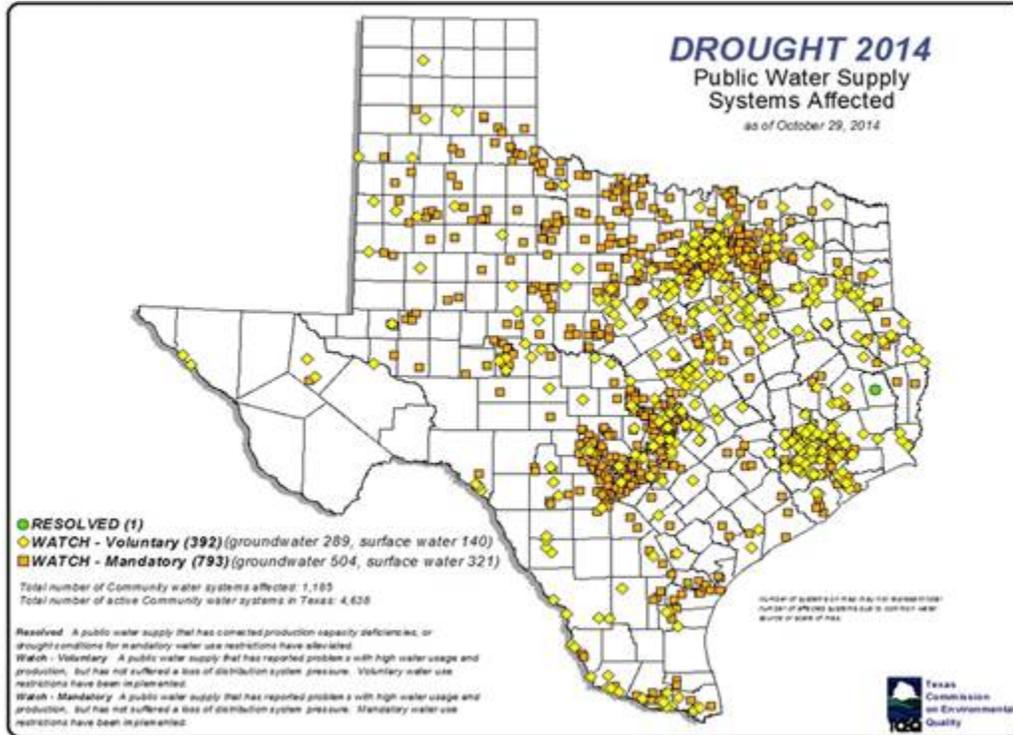
### **Texas water supplies**

Nearly four years of drought have taken a harsh toll on Northwest Texas water supplies. Residents of Rule in Haskell County are asked to use no more than 5,000 gallons of water per month. Wichita Falls remain in a Stage 5 drought catastrophe. Officials in Mineral Wells banned outdoor watering in September. Water restrictions remained in effect for customers in the North Central Texas Municipal Water Authority since they were asked to reduce their water use by 25 percent in 2013.

In Texas, 792 water systems had mandatory water restrictions in effect, including 322 that depend on surface water, according to the Texas Commission on Environmental Quality.

## Weekly Water and Climate Update

[Water Systems under Water Use Restriction](#) from the Texas Commission on Environmental Quality



### Property valuations around Lake Travis near Austin, Texas

Property valuations around Lake Travis continued to rise, despite the low level of the lake and increasing distances from the shoreline for homes that were once waterfront property. Lake Travis has fallen to 41 feet below average. Some residents have appealed the appraisal of their land and received decreases on the assessments of their property.

### Fewer rangia clams in Galveston Bay, Texas

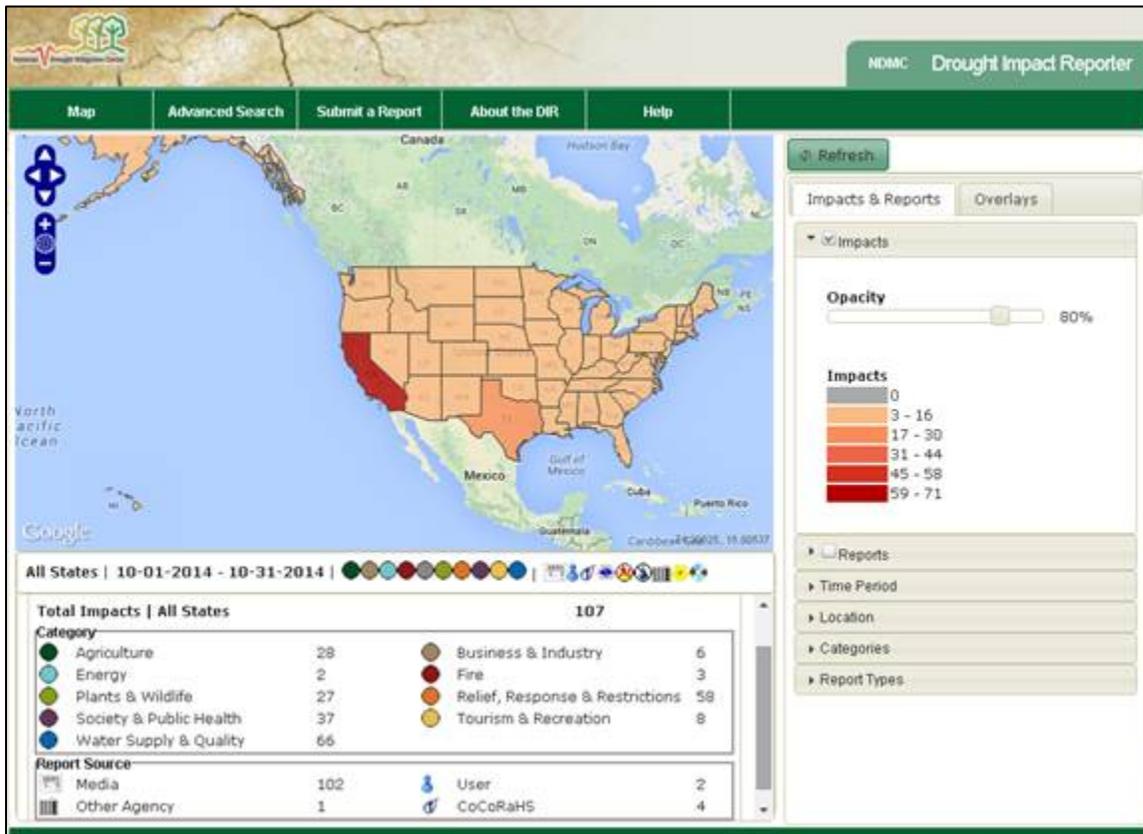
Fewer rangia clams exist in the northeast inlet of Galveston Bay, suggesting to scientists that there was not enough fresh water flowing into the bay from the Trinity River. Rangia clams are found near sources of fresh water and do not reproduce or mature when the water is too salty. Because the mollusk is not commercially harvested, its location and abundance has not been closely monitored, except in connection with oyster surveys.

### Numerous wells running dry on the outskirts of Tucson, Arizona

Homeowners on all sides of Tucson have been hauling water because their wells have run dry. Numerous wells have been dug to access water, but they do not remain productive for long. Area aquifers are shallow and respond to groundwater pumping and drought, leaving many people replenishing water tanks on weekends. Arizona water officials say it's possible that the dry wells may indicate trouble ahead for the entire region, said the Arizona Department of Water Resources' chief hydrologist.

More details can be found in the [Drought Impact Reporter](#)

## Weekly Water and Climate Update



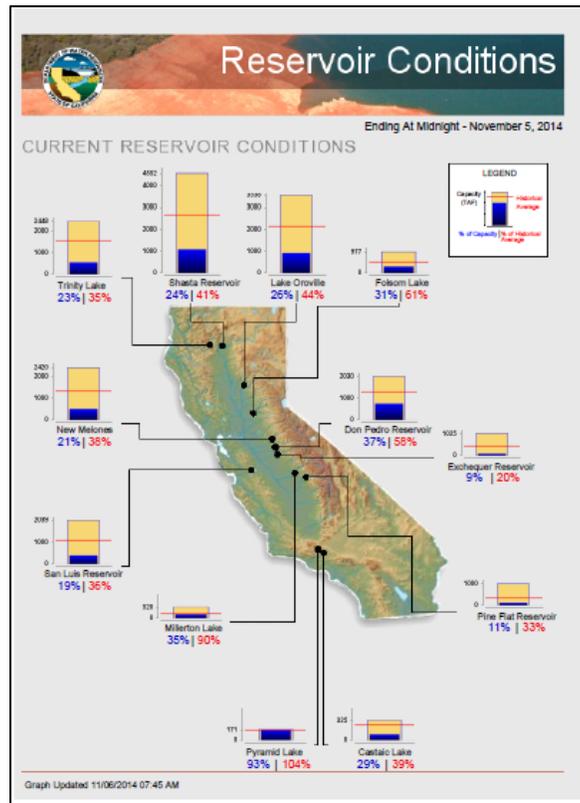
### Tea Cup Reservoir Depictions

- <http://www.usbr.gov/uc/water/basin/> ← Upper Colorado
- [http://www.usbr.gov/uc/wcao/water/basin/tc\\_gr.html](http://www.usbr.gov/uc/wcao/water/basin/tc_gr.html); ← Upper Snake
- <http://www.usbr.gov/pn/hydromet/burtea.html> ← Upper Colorado
- [http://www.usbr.gov/uc/water/basin/tc\\_cr.html](http://www.usbr.gov/uc/water/basin/tc_cr.html) ← Upper Colorado
- <http://www.usbr.gov/pn/hydromet/select.html> ← Pacific Northwest
- <http://www.sevierriver.org/reservoirs/teacup-diagram-of-reservoirs/> ← Sevier River Water (UT)

# Weekly Water and Climate Update

## California Reservoir Conditions

[California Major Reservoir conditions from the CA Department of Water Resources](#)



### State Activities

[State government drought activities](#) can be tracked through their drought plans. NRCS Snow Survey and Water Supply Forecasting (SSWSF) Program State Office personnel are participating in state drought committee meetings and providing the committees and media with appropriate SSWSF information. Additional information describing the [tools](#) available from the Drought Monitor can also be found at the [U.S. Drought Portal](#).

### More Information

The National Water and Climate Center (NWCC) [Homepage](#) provides the latest available snowpack and water supply information. This document is available [weekly](#). CONUS Water and Climate Updates from 2007 are available online. Reports from 2001-2006 are available on request.

This report uses data and products provided by the Interagency Drought Monitor Consortium members and the National Interagency Fire Center.

/s/

David W. Smith

Deputy Chief, Soil Science and Resource Assessment