



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

## Weekly Water and Climate Update

### Thursday, January 8, 2015

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### **NRCS Snow Survey and Water Supply Forecasting [Photo Contest](#)**

#### **3rd Place – Category: Transportation**

Dan Kenney Enroute to Nugget Bench Aerial Marker, Peter Hills, Alaska

Photographer: Daniel Fisher

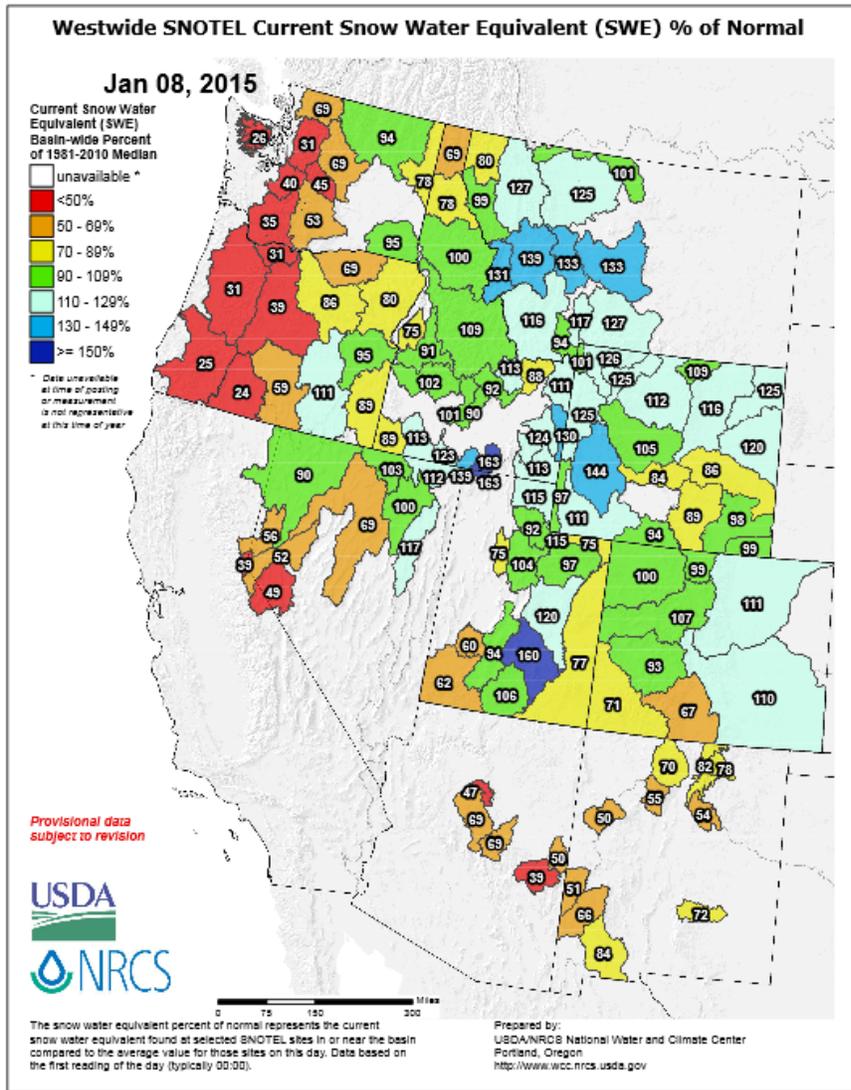
**U.S. Weather Outlook:** “Surges of frigid air will continue to arrive across the central and eastern U.S., although temperatures will moderate slightly by early next week. Snow showers and squalls will be a companion to the cold weather downwind of the Great Lakes. Meanwhile, moisture will surge northeastward from the Rio Grande Valley, starting during the weekend. This push of moisture across cold air could lead to freezing rain spreading northeastward from Texas. Elsewhere, mild weather will persist in the West, although rain and snow showers can be expected—especially in the Intermountain region—early next week. The NWS 6- to 10-day outlook for January 13-17 calls for below-normal temperatures in most areas east of a line from Texas to Wisconsin, while warmer-than-normal weather can be expected across the northern High Plains and the West. Meanwhile, below-normal precipitation across the northern half of the nation, as well as southern California and environs, will contrast with wetter-than-normal conditions in the southern Atlantic States and southern portions of the Rockies and High Plains.”

**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

Snow

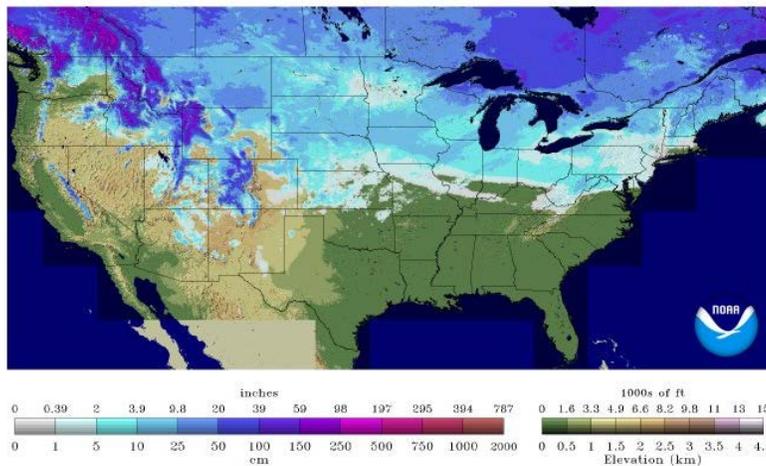


For the [2015 Water Year](#) that began on October 1, 2014, basins in Wyoming, Montana, Idaho, Nevada, Oregon, Colorado, and Utah have recorded above normal Snow Water Equivalent (SWE) values (blue areas) at this time.

The largest snowpack deficits (red areas) are in the Cascades and Olympics of Oregon and Washington, the Sierra Nevada in Nevada and California, and two basins in Arizona. This is in contrast to the high precipitation that fell in this area (see following maps) from the recent warm storms. The mountainous regions in central Nevada, Arizona, and New Mexico also have below normal snowpacks. Northern Idaho, southern Utah, southern Colorado, and a few basins in Wyoming have less than normal snowpacks as well at this time.

National Snow 2014 Analysis 2015

Snow Depth  
 2015-01-08 06 UTC



Snow depth map of the U.S. as reported from [NWS NOHRSC](#) for January 8, 2015. Snow is reported across much of the mountains in the West, the upper Midwest, much of the central and northern Great Plains, and the Northeast. Areas with a substantial snowpack include the Upper Peninsula of Michigan, the Rocky Mountains in Colorado, Wyoming, Montana, and central Idaho. The North Cascades in Washington and northern Maine also have substantial snow.

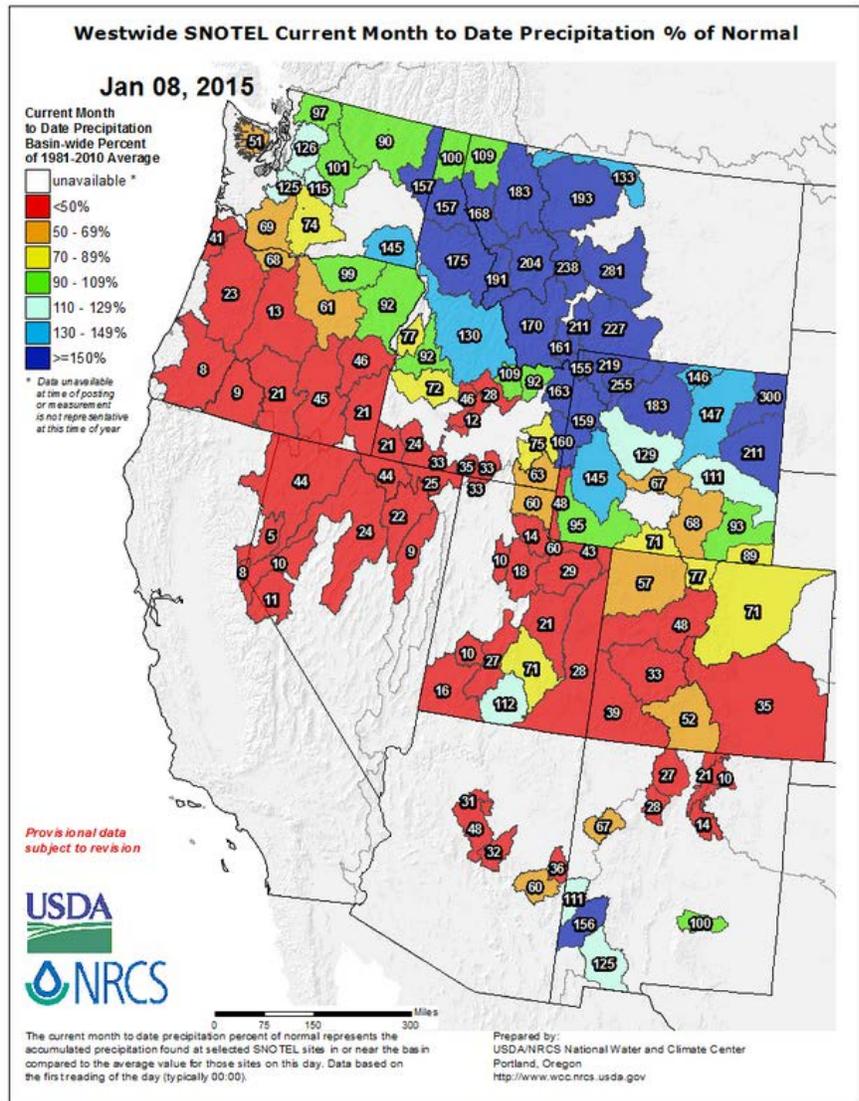
**Precipitation**

In the West, the [SNOTEL](#) precipitation percent of normal map shows a substantial increase in precipitation for the first week of January. Above and much above normal precipitation is reported in Washington, Idaho, Montana, and Wyoming. Southern Utah has one basin above normal, and southwest New Mexico has three basins above to much above normal for the period.

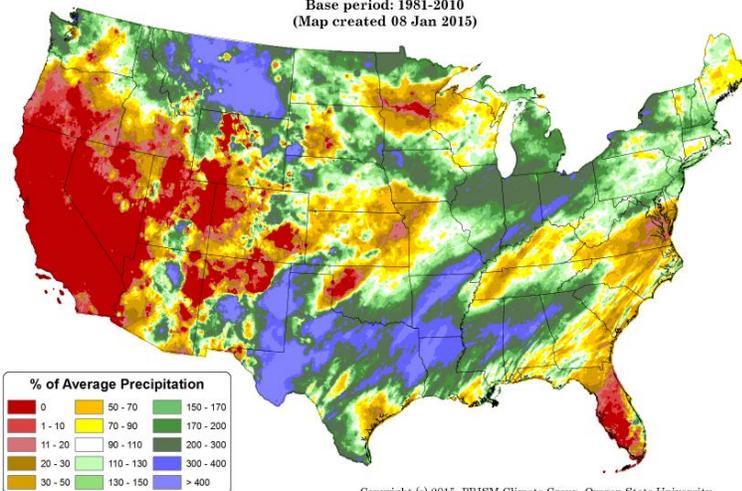
Below normal precipitation is located across most of Oregon, Nevada, southern Idaho, Utah, Arizona, Colorado, and northern New Mexico.

The percent of normal values (especially 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 the latest available update.*



Total Precipitation Anomaly: 01 January 2015 - 07 January 2015  
 Period ending 7 AM EST 07 Jan 2015  
 Base period: 1981-2010  
 (Map created 08 Jan 2015)



Copyright (c) 2015, PRISM Climate Group, Oregon State University

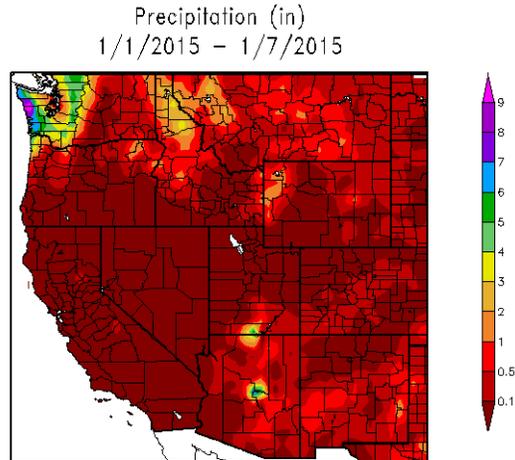
Thus far in January 2105, the national [precipitation anomaly](#) pattern reveals some higher than normal precipitation, primarily in central Montana, central and eastern New Mexico, Texas, Louisiana, Arkansas, central Mississippi, and Alabama. A few isolated areas of Arizona, Utah, and Wyoming also received above normal precipitation. There was little or no precipitation in California, Oregon, Nevada, Utah, western Colorado, northern New Mexico, central Minnesota, and central Florida (red areas).

*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 scattered precipitation concentrated in the Pacific Northwest, eastward to central Montana. Over nine inches of precipitation fell in western Washington this past week. Significant precipitation has fallen in western Washington, northern Idaho, Montana, western Wyoming, southern Utah, and central Arizona.

Little to no precipitation fell in California, Nevada, most of Arizona, northern New Mexico, northern Utah, southern Idaho, central Wyoming, and northern Colorado.

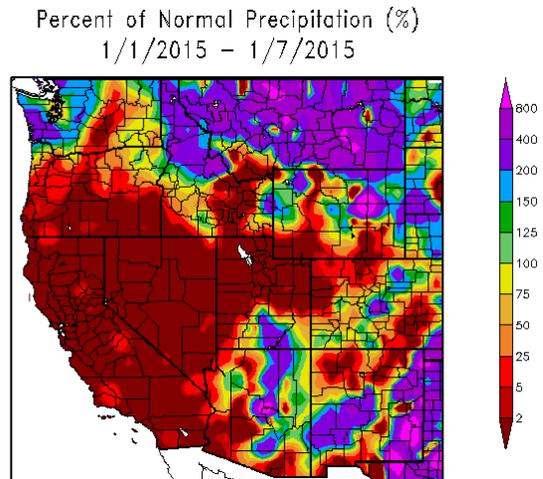


Generated 1/8/2015 at HPRCC using provisional data.

Regional Climate Centers

This percent of normal [map](#) of the West for the last seven days reflects heavy precipitation scattered across the northern and southern part of the region. The heaviest percent of normal precipitation fell in scattered areas of Montana, northern Idaho, central Wyoming, central Arizona, and eastern New Mexico. Montana, Wyoming, and Arizona had areas with over 800% of normal (pink area). The largest contiguous areas of little to no precipitation were in California, Nevada, southern Oregon, and central and northern Utah. Other smaller areas in the West also had little to no precipitation (red areas).

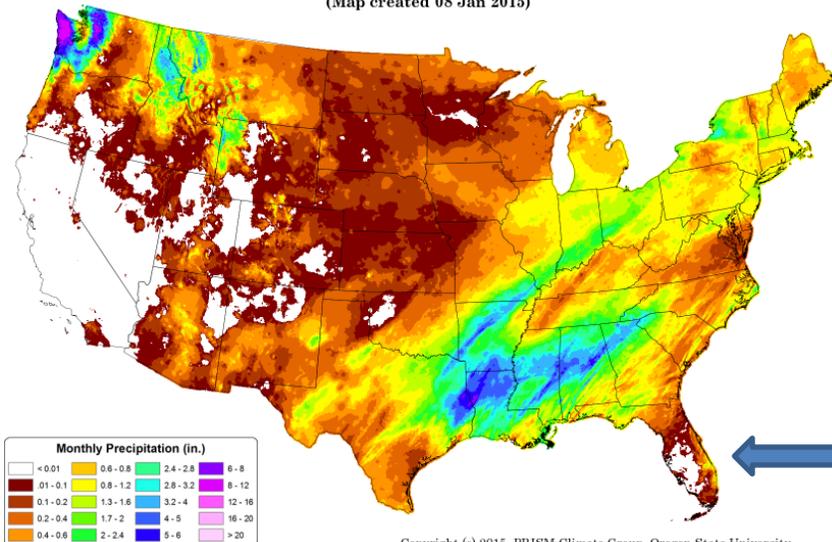
Percent of normal precipitation may be exaggerated in areas where the average for this period is at or near zero.



Generated 1/8/2015 at HPRCC using provisional data.

Regional Climate Centers

Total Precipitation: 01 January 2015 - 07 January 2015  
Period ending 7 AM EST 07 Jan 2015  
(Map created 08 Jan 2015)



Copyright (c) 2015, PRISM Climate Group, Oregon State University

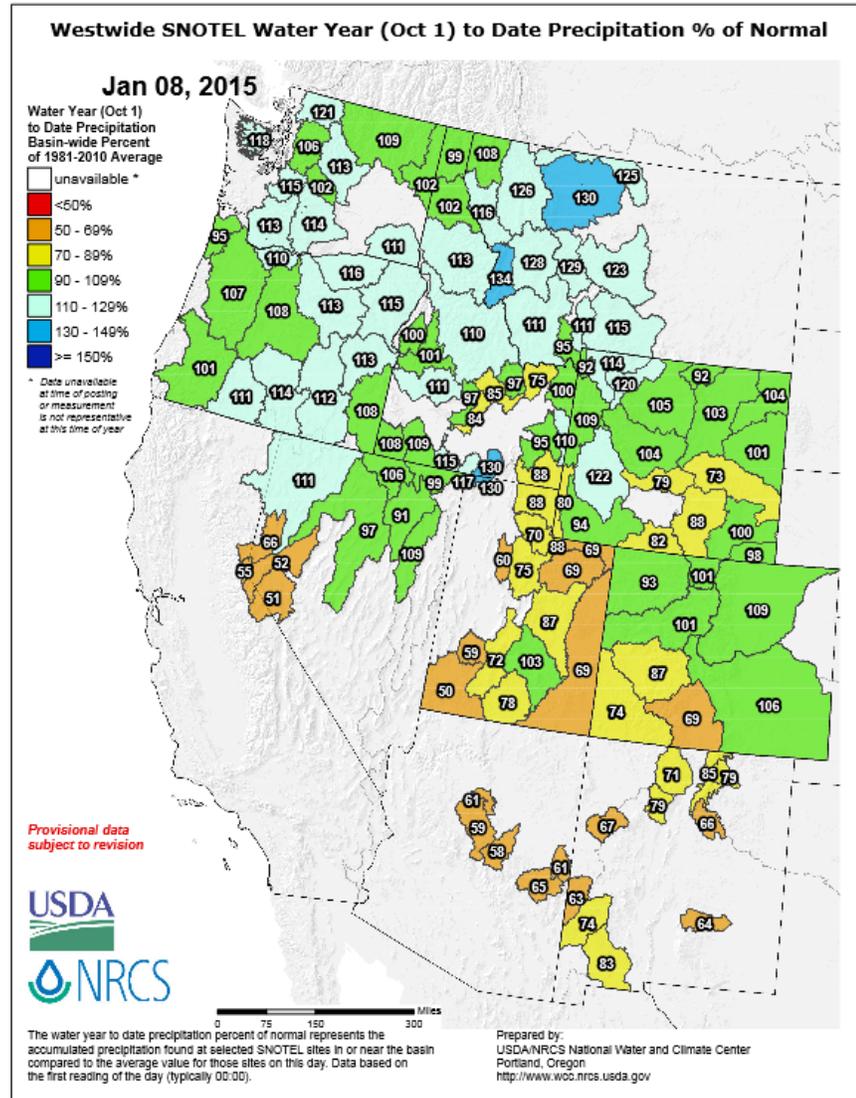
So far in January 2015, the [total precipitation](#) across the continental U.S. was heaviest in northwest Washington with over eight inches recorded. Eastern Texas and central Louisiana also had a small area of precipitation above six inches for the week. In contrast, much of California, Nevada, southern Oregon, northern Utah, and parts of Wyoming, Colorado, Arizona, New Mexico, Oklahoma, and Florida were mainly dry.

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

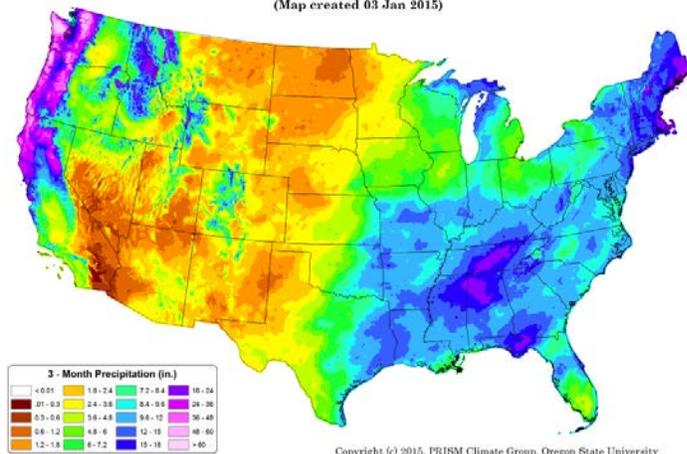
## Weekly Water and Climate Update

For the [2015 Water Year](#) that began on October 1, 2014, the highest precipitation surpluses (over 130%) are reported in two basins in Montana and one basin in southern Idaho.

Many basins across the West have near to above normal conditions for this part of the Water Year (mapped in green and light blue). A few areas have less than normal precipitation for the Water Year. These include basins in eastern Idaho, eastern Wyoming, Utah, California, Nevada, Arizona, and New Mexico (mapped in yellow and orange).



**Total Precipitation: October 2014 - December 2014**  
Period ending 7 AM EST 31 Dec 2014  
(Map created 03 Jan 2015)

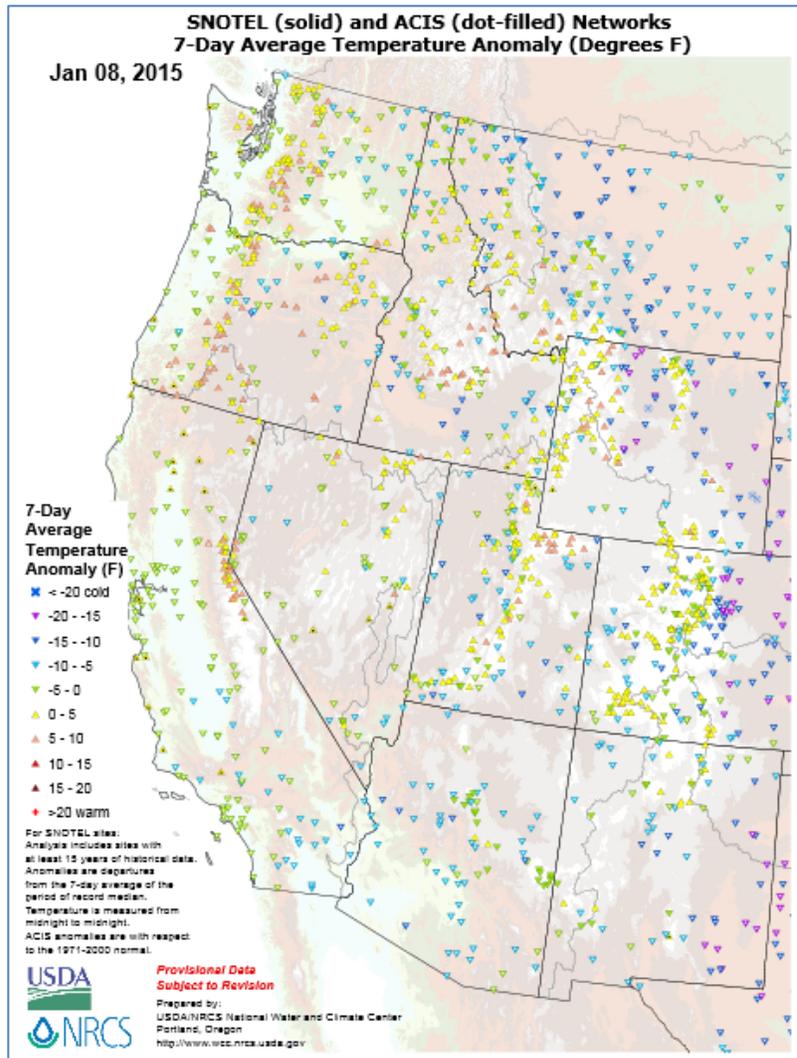


# Weekly Water and Climate Update

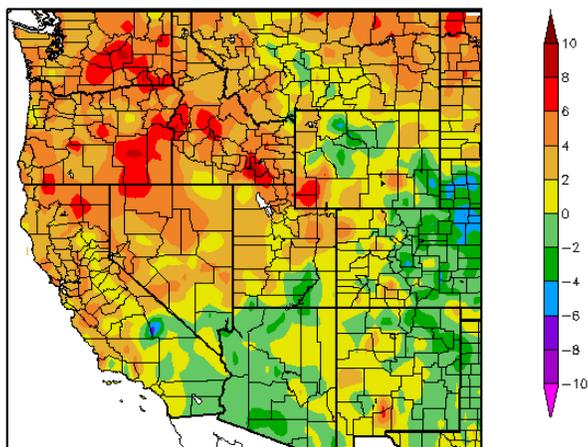
## Temperature

The SNOTEL and ACIS [7-day temperature anomaly](#) map for the western U.S. shows most of the West was near normal to cool and even cold for the week. The warmest recorded temperature anomalies were in the central Sierra Nevada in Nevada and California, the Cascade regions of Oregon and Washington. Scattered higher temperatures also occurred in eastern Oregon, central Idaho and southwest Montana, as well as some warm temperatures mixed in the mountains of western Wyoming and northern Utah. These anomalies across the west were only slightly warmer than normal in the 5 to 10 degree range.

The coolest anomalies in the West were east of the Rockies in Montana, Wyoming, Colorado, and eastern New Mexico where temperature departures topped 15 degrees. Other cool anomalies were recorded in all the rest of the western states.



Departure from Normal Temperature (F)  
12/9/2014 – 1/7/2015



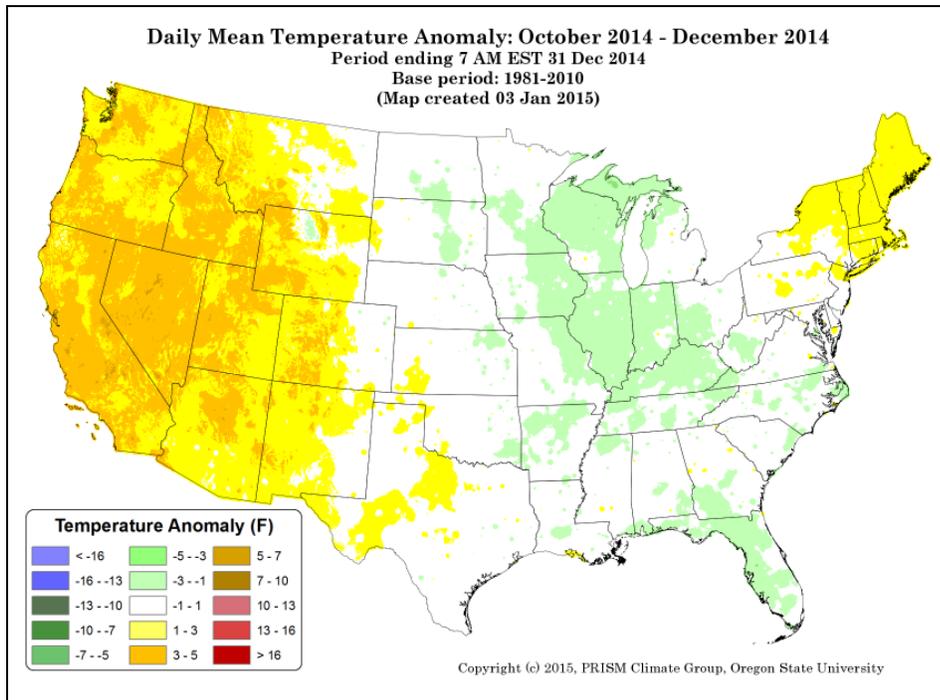
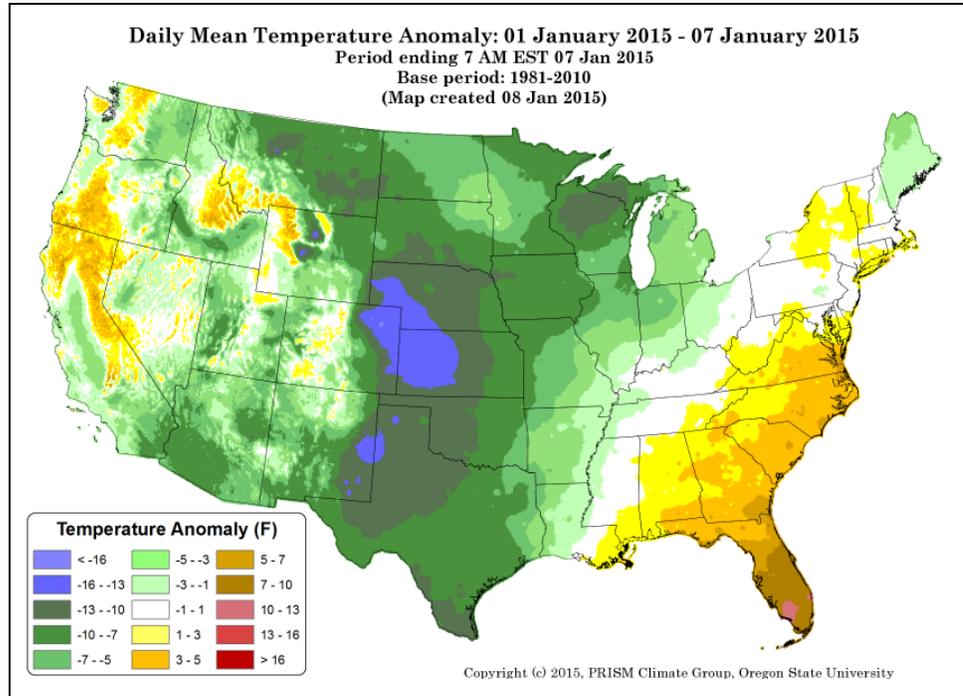
The [ACIS](#) map of the 7-day average temperature anomalies in the West ending January 7, shows that the greatest positive temperature departures occurred in Washington, Oregon, and Idaho ( $>+8^{\circ}\text{F}$ ). There were negative temperature departures in central and eastern Wyoming, eastern Colorado, southern Arizona, and southern California ( $<-4^{\circ}\text{F}$ ).

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 January 2015, the national daily mean temperature anomaly [map](#) shows a very large slightly cool pattern over the central U.S. ( $<-13^{\circ}\text{F}$ ). Above normal temperatures were recorded in the southeast and parts of the West, with the warmest areas in Florida. ( $>+10^{\circ}\text{F}$ ).



The October - December national daily mean temperature anomalies for the U.S. in this [climate map](#) show the western U.S. had slightly to above normal temperatures ( $>+7^{\circ}\text{F}$ ). The central portion of the country reported normal to slightly cooler than normal temperatures for this period, with the coolest temperatures in a small area of northern Michigan, ( $<-3^{\circ}\text{F}$ ).

# Weekly Water and Climate Update

## Weather and Drought Summary

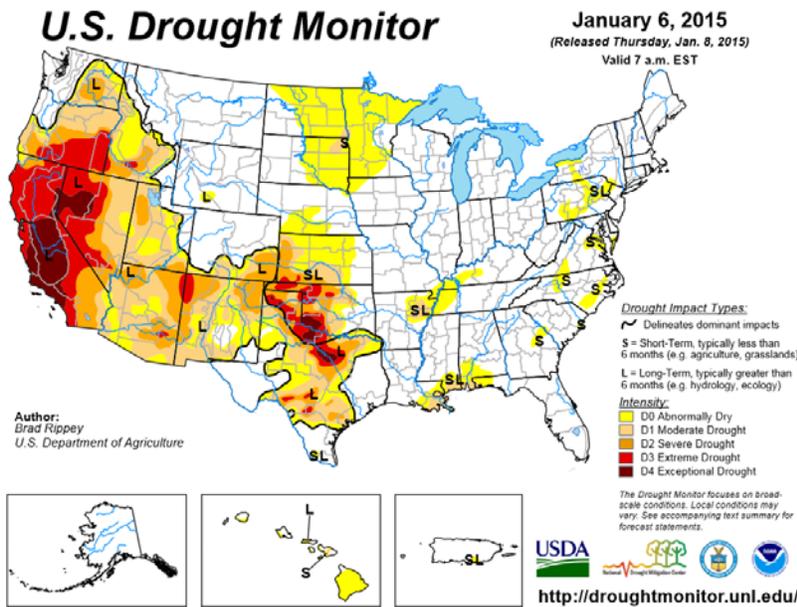
### National Drought Summary – January 6, 2015

The following **Weather and Drought Summary** is provided by this week's NDMC Drought Author, Brad Rippey, U.S. Department of Agriculture.

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

"For the contiguous 48 states, the U.S. Drought Monitor showed 28.10 percent of the area in moderate drought or worse, compared with 28.68 percent a week earlier. Drought now affects 65,357,178 people, compared with 66,376,575 a week earlier.

For all 50 U.S. states and Puerto Rico, the U.S. Drought Monitor showed 23.48 percent of the area in moderate drought or worse, compared with 23.96 percent a week earlier. Drought now affects 65,380,730 people, compared with 66,400,128 a week earlier."



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

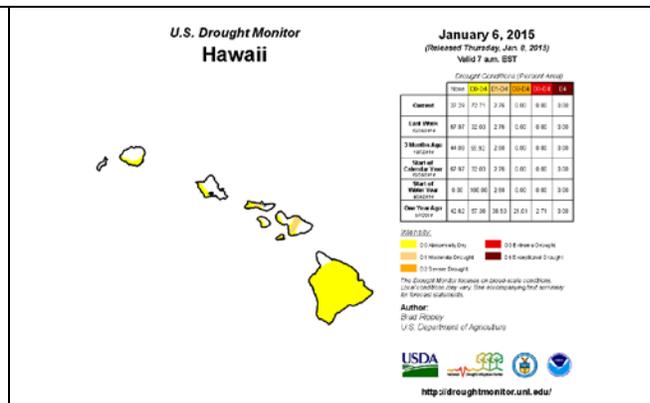
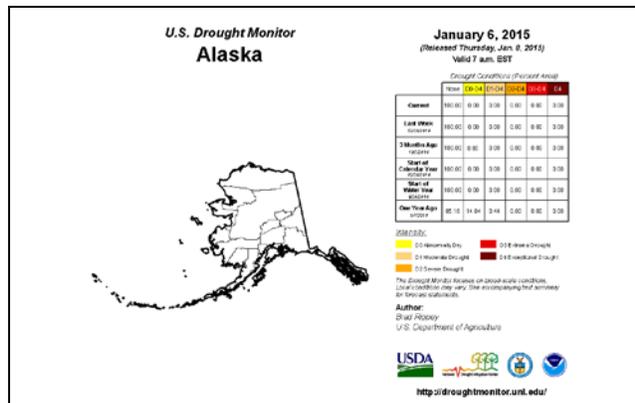
[Current Drought Monitor](#) weekly summary. The exceptional D4 levels of drought are scattered across CA, NV, TX, and OK.

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/weather/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](#)

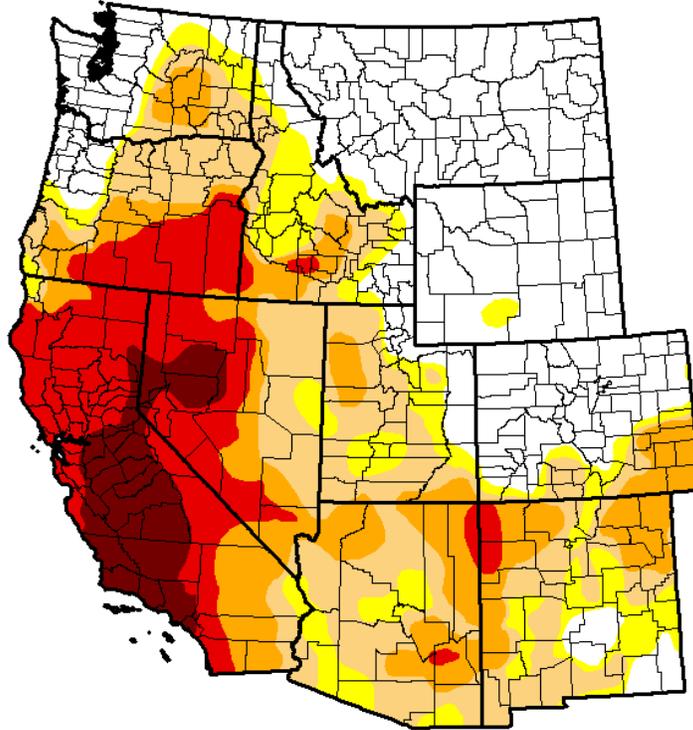


"The [49th](#) and [50th](#) States show normal to moderate drought conditions. No changes were noted for Alaska, while Hawaii had a large increase in DO designation this week. A comprehensive narrative describing drought conditions across other parts of the nation can be found toward the end of this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

# Weekly Water and Climate Update

## U.S. Drought Monitor West

**January 6, 2015**  
(Released Thursday, Jan. 8, 2015)  
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	34.82	65.18	54.24	33.31	18.57	5.40
<b>Last Week</b> <i>12/30/2014</i>	34.76	65.24	54.48	33.50	18.68	5.40
<b>3 Months Ago</b> <i>10/7/2014</i>	31.51	68.49	55.52	35.65	19.95	8.90
<b>Start of Calendar Year</b> <i>12/30/2014</i>	34.76	65.24	54.48	33.50	18.68	5.40
<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>1/7/2014</i>	18.66	81.34	57.47	32.31	8.20	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:**  
Brad Rippey  
U.S. Department of Agriculture



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

There was a slight decrease in D0 – D3 drought categories in the West this week. D4 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](#)

# Weekly Water and Climate Update

State with D-4 Exceptional Drought

## U.S. Drought Monitor California

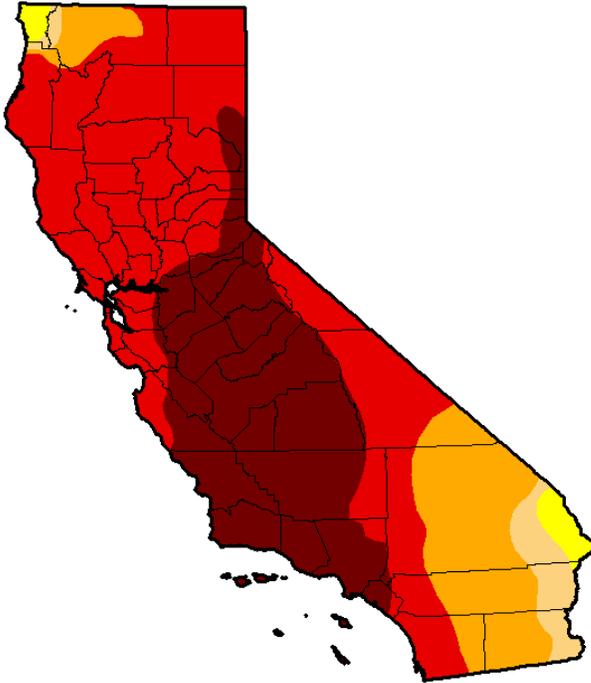
**January 6, 2015**

(Released Thursday, Jan. 8, 2015)

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	98.12	94.34	77.94	32.21
<b>Last Week</b> <i>12/30/2014</i>	0.00	100.00	98.12	94.34	77.94	32.21
<b>3 Months Ago</b> <i>10/7/2014</i>	0.00	100.00	100.00	95.04	81.92	58.41
<b>Start of Calendar Year</b> <i>12/30/2014</i>	0.00	100.00	98.12	94.34	77.94	32.21
<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>1/7/2014</i>	1.43	98.57	94.25	87.53	27.59	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:**

Brad Rippey  
U.S. Department of Agriculture



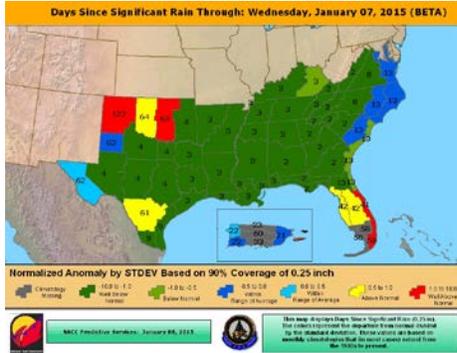
<http://droughtmonitor.unl.edu/>

**There was no change in California this past week.**

[CA Drought Information Resources](#)

# 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



[Days since Significant Rain Summary](#)

## State with D-4 Exceptional Drought

### U.S. Drought Monitor Texas

**January 6, 2015**  
(Released Thursday, Jan. 8, 2015)  
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	38.95	61.05	41.81	24.07	10.72	2.47
<b>Last Week</b> 12/29/2014	34.37	65.63	44.68	25.73	11.70	3.17
<b>3 Months Ago</b> 10/02/14	29.64	70.36	49.29	29.49	11.78	2.88
<b>Start of Calendar Year</b> 12/02/14	34.37	65.63	44.68	25.73	11.70	3.17
<b>Start of Water Year</b> 9/02/14	28.92	71.08	48.95	29.54	11.26	2.69
<b>One Year Ago</b> 1/7/14	28.13	71.87	43.89	20.84	5.92	0.78

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

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

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

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

**There was a slight decrease in all drought categories in Texas this past week. The drought-free area also increased.**

## State with D-4 Exceptional Drought

### U.S. Drought Monitor Nevada

**January 6, 2015**  
(Released Thursday, Jan. 8, 2015)  
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	96.98	68.25	48.38	11.89
<b>Last Week</b> 12/29/2014	0.00	100.00	96.98	68.25	48.38	11.89
<b>3 Months Ago</b> 10/7/2014	0.00	100.00	97.07	69.89	48.38	11.89
<b>Start of Calendar Year</b> 12/2/2014	0.00	100.00	96.98	68.25	48.38	11.89
<b>Start of Water Year</b> 9/2/2014	0.00	100.00	97.04	69.89	48.38	11.89
<b>One Year Ago</b> 1/7/2014	0.00	100.00	96.81	80.30	28.55	5.37

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

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

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

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

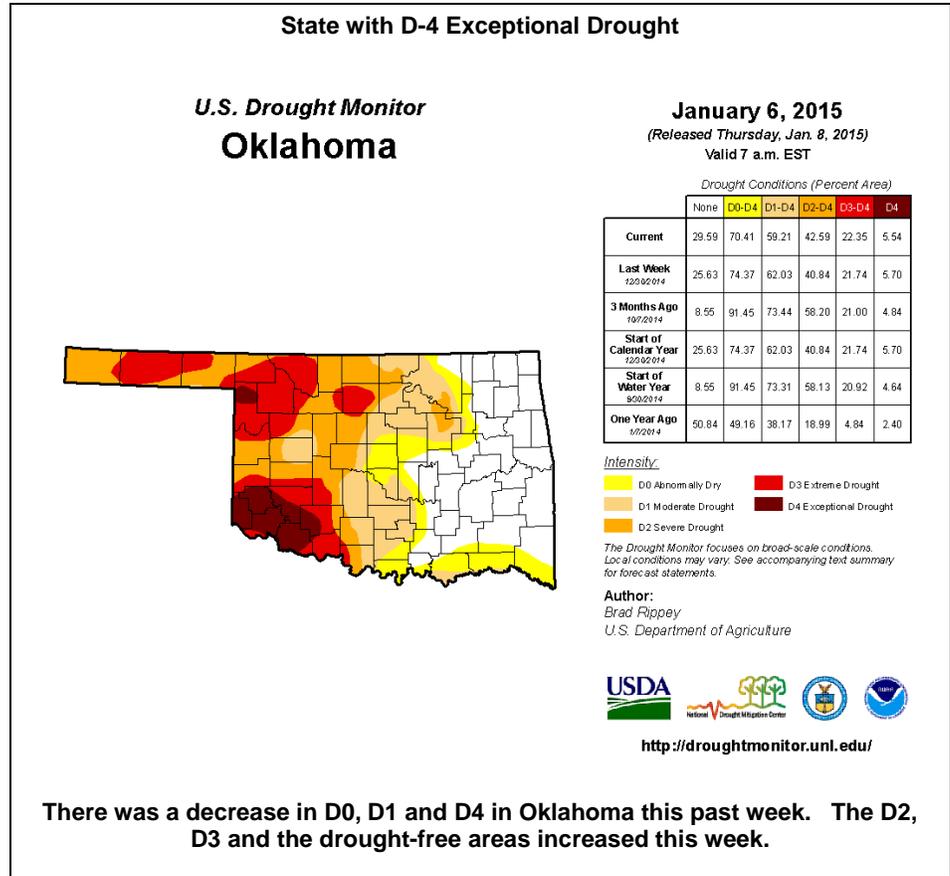
**There was no change in Nevada this past week.**

# 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](#)



## U.S. Population in Drought

**Number of people in each drought category in the U.S. for the week ending December 23, 2014**

Week	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
2015-01-06	212,867,550	92,529,905	65,357,178	48,954,980	38,640,675	19,053,615
2014-12-30	208,152,290	97,245,164	66,376,576	49,366,413	40,283,097	20,399,088

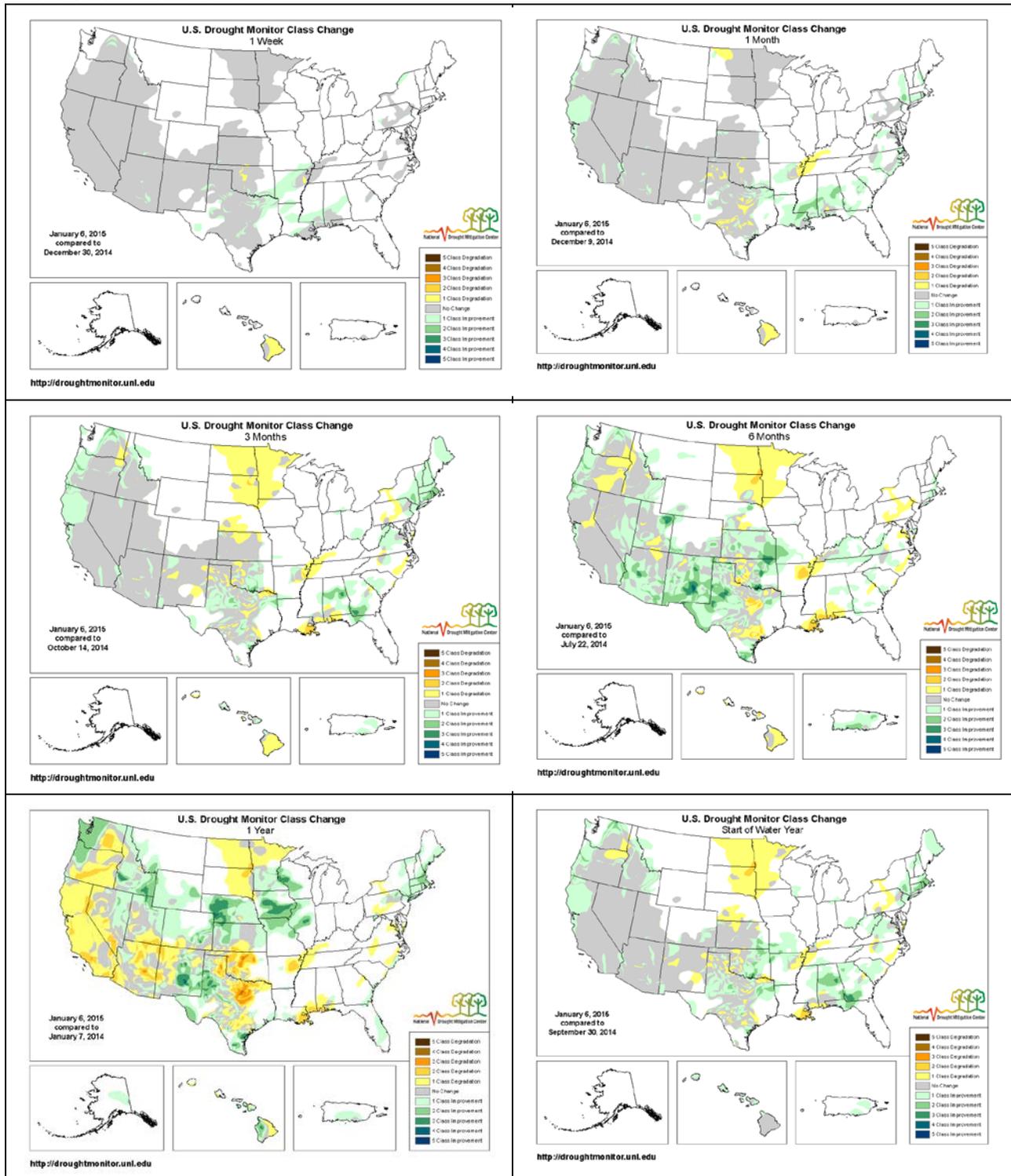
**Population figures affected by drought in the U.S. Drought Monitor website show that for this week, more than 65,300,000 people in the United States were in a drought-affected area, which decreased by over 1,090,000 people from last week.**

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

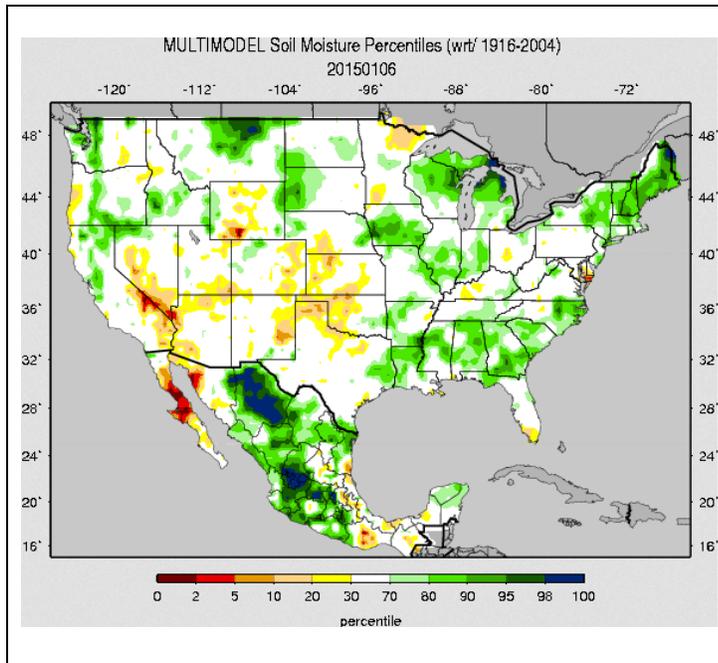
### Over Various Time Periods



Click on any of these maps to enlarge. Note how the conditions over the Rockies and central 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 parts of the Northeast, the South, parts of the southern Great Plains, and the Pacific coast states have deteriorated significantly (lower left map).

# Weekly Water and Climate Update

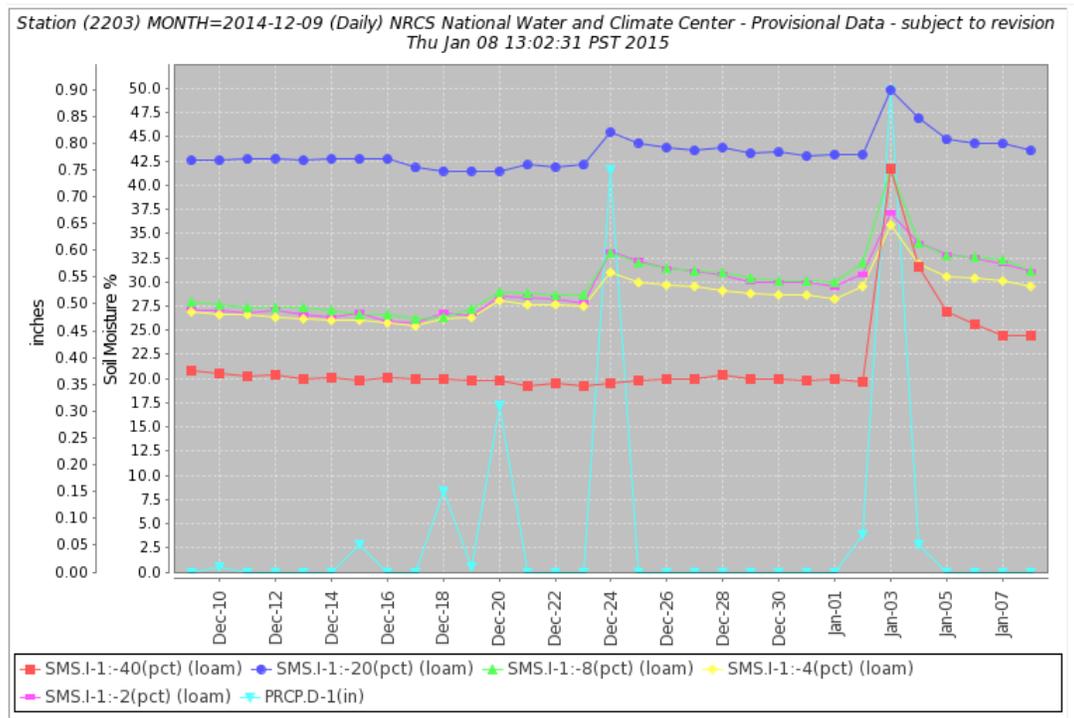
## Soil Moisture



The national soil moisture model ranking in [percentile](#) as of January 6, 2015, shows dryness over most of the south central and southwest U.S. The driest areas are in southern Wyoming, southern Nevada, southern California, and southeast Maryland. There were additional dry areas elsewhere. Moist soils dominated north central Montana, northwestern Washington, western South Dakota, southeast Arkansas, Maine, New Hampshire, and North Carolina. Slightly moist soils were also scattered elsewhere throughout the country, especially in the Northeast and Southeast.

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)

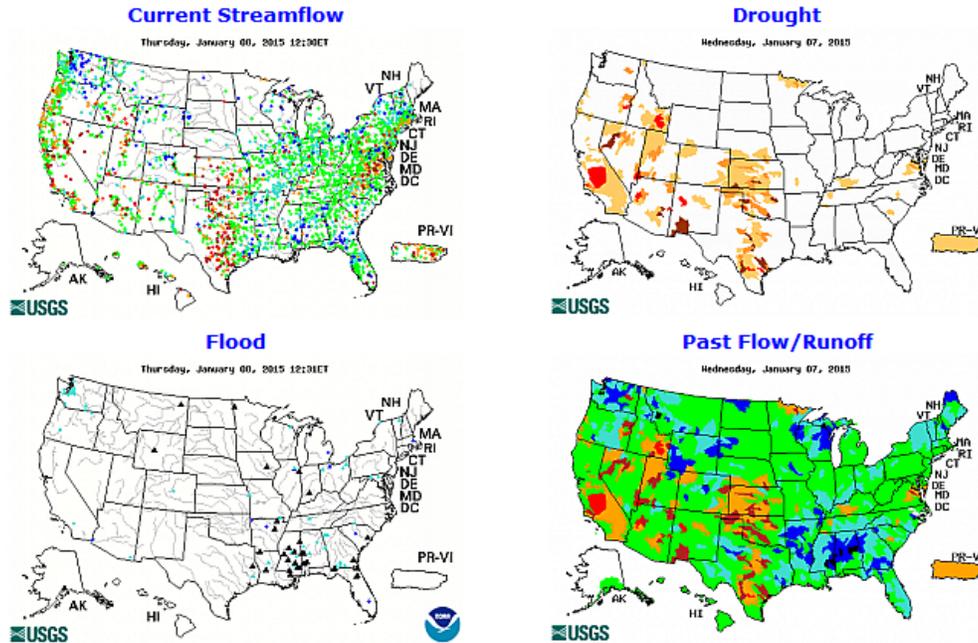


This NRCS resource shows the past month soil moisture data for [Texas \(CST\) SCAN Site Stephenville \(2203\)](#). The area had a several December precipitation events, with larger storms on December 24 and January 3 (graphed in light blue). This rainfall resulted in an increase in soil moisture at 2-, 4-, 8-, and 20-inch depths, and the event on January 3 also appeared at the 40-inch soil moisture depth. Since that time, the soil moisture has steadily decreased.

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



Scattered gages in many parts of the U.S. are reporting above normal streamflow. Some gages in the northern states are now frozen, so may not relate to the precipitation and snow conditions in that area. The rivers above flood stage are the Poplar River near Poplar, MT, Wind River at Riverton, WY, Snake R above Warren, MN, Mississippi R at St. Cloud, MN, Kankakee R at Momence, IL, EF White R near Bedford, IN, as well as 2 stations in Arkansas, 1 station in Texas, 4 stations in Louisiana, 4 in Alabama, 2 in Georgia, 1 in South Carolina, and 6 stations in Florida.

## National Long-Range Outlook



Click map 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).

According to the National Weather Service, during the next three months, there is a risk of flooding in much of the eastern U.S. The Southeast and the Midwest, have gauges with a slight to higher risk of flooding. Currently, **2** gauges have a greater than 50% chance to experience major flooding; **22** gauges for moderate flooding, and **228** gauges for minor flooding.

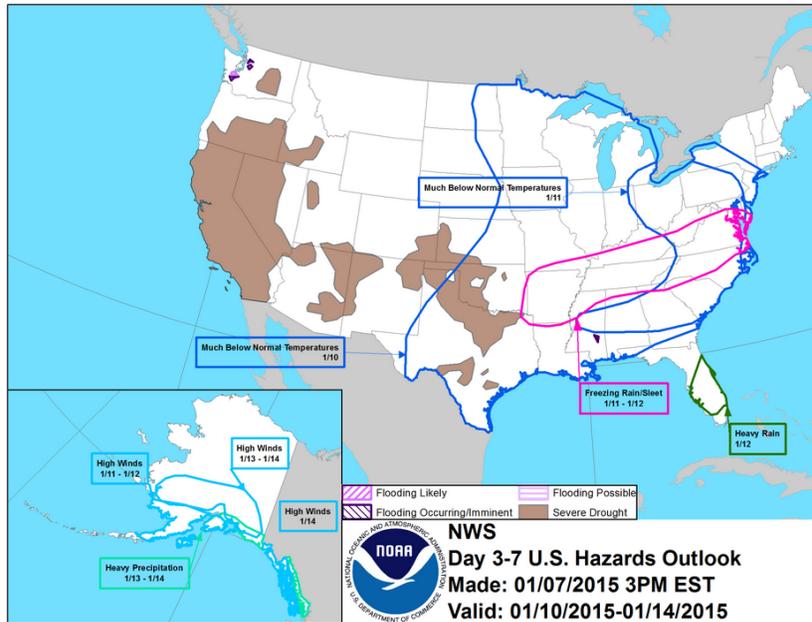
These numbers represent a **68** gage increase in the greater than 50 percent chance of minor flooding category since December 24, 2014.

## Weekly Water and Climate Update

### National [Weather Hazards](#)

Much below average temperatures are expected in a large area of the central and eastern U.S. extending from Canada to Texas and East (in dark blue) (1/10-11). Freezing rain is predicted in the East (in dark pink) (1/11-12). In Alaska, high winds are expected starting in the West, across the western, southern and southeast regions (1/11-14), as well as heavy precipitation in Southeast (1/13-14).

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



### [National Drought Summary for January 6, 2015](#)

Prepared by the Drought Monitor Author: Brad Rippey, U.S. Department of Agriculture.

#### Summary

“Very cold weather returned to the western and central U.S. in late December and early January, accompanied by light precipitation. From January 2-5, snow covered at least 50% of the contiguous U.S. By the afternoon of January 6, the NWS had issued wind chill advisories for Deep South Texas and along and east of a line from eastern Montana to the central Gulf Coast, excluding southern Florida. The sudden return to frigid weather, accompanied by occasional snow, increased livestock stress across the Plains and Midwest. Portions of the southern High Plains experienced a protracted winter weather event, with periods of freezing and frozen precipitation occurring from December 30 – January 2. Later, on January 5-6, a fast-moving storm left a stripe of snow from the northern Rockies into the Midwestern and mid-Atlantic States. Meanwhile, Western precipitation was generally light, although snow fell at unusually low elevations in the Southwest. Some producers in California and the Desert Southwest had to take protective measures to guard against freeze damage to citrus and vegetables. In California’s key watershed areas, mostly dry weather prevailed for a second consecutive week, following a highly beneficial, 3-week wet spell. By January 4, heavy precipitation briefly overspread non-drought areas of the Pacific Northwest, leading to melting snow, local flooding, and mudslides. Farther east, soaking rains returned across much of the South, erasing most of the lingering concerns about dryness and drought. Some of the heaviest rain, generally 2 to 4 inches or more, fell from eastern Texas to the southern Appalachians. In contrast, Florida’s peninsula experienced an extended period of warm, mostly dry weather, although colder air arrived late in the drought-monitoring period. Elsewhere, mostly dry weather in the upper Midwest contrasted with periods of precipitation from the Ohio Valley into the Northeast.

#### Central and Southern Plains

Changes across the southern Plains were mostly in the direction of slight improvement, while “status quo” was the rule for the central Plains. During the drought-monitoring period, significant precipitation fell across southeastern Oklahoma and parts of Texas. A protracted winter storm brought damaging accumulations of freezing rain to portions of the southern High Plains, including the Midland, Texas, area, especially on January 2. In addition, parts of the central and southern Plains received some snow on January 3, with daily-record amounts reported in locations such as Dalhart, Texas (4.0 inches); and Wichita, Kansas (3.9 inches). In the wake of the Plains’ snow, 54.1% of the contiguous U.S. was covered by snow on January 4, according to the NWS. Farther east, an area of heavy rain covered much of eastern Texas and the southeastern corner of Oklahoma. Despite the early-January rainfall, long-term precipitation deficits

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persisted across many areas of the southern Plains, including northeastern Texas. For example, Dallas-Ft. Worth ended 2014 with a precipitation total of 21.32 inches (59% of normal), followed by 1.29 inches from January 1-6. At the end of 2014, cumulative reservoir storage in Texas was 62.6% of capacity, compared to 64.3% at the end of 2013. Historically, reservoirs in Texas are collectively about 80% full in late December.

### Hawaii and Puerto Rico

A strong cold front swept through the Hawaiian Islands on January 2-3, producing widespread showers and high winds. During the high-wind event, Hawaiian gusts were clocked to 155 mph near the summit of Mauna Kea; 64 mph at Maui's Kaupo Gap; and 57 mph at Wheeler Army Airfield on Maui. Kaupo Gap also reported a 24-hour rainfall of 3.53 inches on January 2-3. In the front's wake, Lihue, Kauai, notched three consecutive daily-record lows (56, 54, and 57°F, respectively) from January 3-5. The early-January rainfall staved off the expansion of dryness (D0), except on the Big Island. For example, D0 returned to windward sections of the Big Island, where Hilo's rainfall in November-December 2014 totaled 15.13 inches (56% of normal). In contrast, early-January rainfall on Maui led to the cutting of the existing area of D0 into two pieces.

In late December and early January, showers in Puerto Rico were mostly confined to northern and eastern sections of the island. As a result, abnormal dryness (D0) remained intact in part of southeastern Puerto Rico, owing to rainfall deficits at both short- and long-term time periods.

### Mid-South

Hit-or-miss rainfall brought a reduction in the coverage of dryness (D0) in some areas, including southeastern Missouri. However, rain largely bypassed northeastern Arkansas and western Tennessee. As a result, the eastern edge of moderate drought (D1) expanded slightly in northeastern Arkansas. From northeastern Arkansas to western Kentucky, dryness appears at a variety of time scales, including all periods from 30 to 180 days. Jonesboro, Arkansas, recently completed its sixth consecutive month with below-normal precipitation, receiving just 14.03 inches of rain (61% of normal) during the second half of 2014.

### Northeast

Occasional precipitation continued to chip away at dryness (D0) in the Northeast. In northern New York, Massena received precipitation totaling 1.01 inches on January 3-4, following a rather dry finish to 2014. During the last 4 months of the year (September-December 2014), Massena's precipitation totaled 5.68 inches, or 46% of normal.

### Northern Plains and Upper Midwest

No changes were made across the northern Plains and upper Midwest, where "deep freeze" conditions returned in late December and early January. Effectively, short-term precipitation deficits are "frozen in place" until warmer weather returns. From October 1, 2014 – January 6, 2015, Fargo, North Dakota, received precipitation totaling just 1.33 inches—just 32% of normal for that 14-week period.

### Southeast

Yet another round of heavy rain swept across the South, further reducing the coverage of dryness (D0) and moderate drought (D1). Near the edge of the remaining small area of D1, New Orleans, Louisiana, received 1.27 inches of rain in early January. However, from October 1, 2014 – January 6, 2015, rainfall in New Orleans totaled 9.21 inches, or 65% of normal. Much more impressive rain fell early in the New Year in other areas of the Southeast. For example, daily-record rainfall totals for January 3 included 4.35 inches in Meridian, Mississippi; 2.47 inches in Tuscaloosa, Alabama; and 2.46 inches in Lake Charles, Louisiana. The southern tip of Florida has missed out on the recent rainfall. In West Palm Beach, Florida, rainfall in November-December 2014 totaled just 3.70 inches, or 46% of normal. Abnormal dryness (D0) has not yet been added, given that hydrological indicators do not pinpoint any drought-related concerns, as well as the fact that southern Florida is in the midst of its dry season. However, this area remains on a "watch list," especially if dryness continues and impacts begin to appear.

### The West, Including California

Aside from a few small improvements in Arizona, the Southwestern storm of late-December 2014 and early-January 2015 did not provide enough moisture to dent long-term drought. Nevertheless, the storm produced some unusual weather in the Desert Southwest, including some rare snow. In Needles,

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California, where 0.3 inch fell on December 31, snow had not fallen since February 2, 1985. Needles had never before received measurable snow in December, and had not seen a greater amount since January 25, 1949, when 2.0 inches fell. Similarly, an inch of snow fell on New Year's Eve in Bullhead City, Arizona, marking the first accumulation in that area since January 11, 1949. Laughlin, Nevada, and Lake Havasu City, Arizona, both reported a trace of snow on December 31 and January 1; snow had not been observed in Laughlin since February 26, 1987, or in Lake Havasu City since January 24-25, 1949. Meanwhile, Flagstaff, Arizona, reported a 17.3-inch snowfall on December 31 – January 1. Looking at the drought from a longer-term perspective, statewide reservoir levels remained very low in New Mexico and somewhat low in Arizona. Based on preliminary information, New Mexico's storage on December 31 was 53% of average, compared to 51% a year ago. In Arizona, statewide storage stood at 73% of average at the end of the year, down from 85% on December 31, 2013.

Farther north and west, the drought situation remained largely unchanged, although enough precipitation fell across the western slopes of the northern Rockies to further trim abnormal dryness (D0) and moderate drought (D1). In north-central Washington, east of the Cascades, an end-of-year assessment led to a small reduction in the coverage of moderate to severe drought (D1 to D2). End-of-year reservoir reports have begun to trickle in and indicate the statewide storage was higher on December 31, 2014, than a year ago in Wyoming (124% of average vs. 92%), Montana (112 vs. 104%), Idaho (106 vs. 84%), Colorado (103 vs. 88%), Washington (99 vs. 76%), Utah (98 vs. 91%), and Oregon (79 vs. 68%). Nevertheless, one concern facing the Northwest—especially in the Cascades and coastal ranges—is the lack of snowpack due to periods of warmth and the large number of “warm” storms. In early-January 2015, the basin-average water content of the snowpack was mostly less than half of normal for this time of year from the Cascades westward, despite above-normal precipitation since October 1, 2014.

The drought depiction in California and Nevada was not changed. Nevada's reservoir storage remained extremely low—only 21% of average at the end of 2014, compared to 30% on December 31, 2013. (California's end-of-year reservoir information has not yet been published.) By January 6, the average water content of the high-elevation Sierra Nevada snowpack averaged just 5 inches—43% of normal for this time of year. According to the California Department of Water Resources, the water content of the Sierra Nevada snowpack in an average year typically approaches 30 inches by April 1. In other words, the current Sierra Nevada snowpack contains only 17% of the water typically available when the melt season begins in the spring. Closer to the northern Pacific Coast, water systems that are not dependent on Sierra Nevada runoff are faring better than inland basins. For example, storage in Marin County's seven reservoirs was 99.9% of capacity on January 4, 2015—well above last year's 56.0% and the average of 74.8%—following runoff from heavy, late-autumn rainfall. However, average, end-of-year storage in Marin County only represents a tiny fraction (less than three-tenths of 1%) of California's total average reservoir holdings. In addition, ongoing impacts of the 3½-year drought along California's northern coast—and elsewhere in the state—include low groundwater reserves and stress on native vegetation and perennial crops such as orchards and vineyards.

### **Looking Ahead**

For the upcoming 5-day period (January 8-12), very cold weather will continue to dominate the central and eastern U.S. During the cold snap, snow showers and squalls will rage downwind of the Great Lakes. In contrast, mild, dry weather will prevail in much of the West. During the weekend, rain will develop in the western Gulf Coast region. As precipitation spreads northeastward early next week, the interaction between moisture and lingering cold air could result in snow, sleet, and freezing rain across parts of the South, East, and lower Midwest.

The NWS 6- to 10-day outlook for January 13-17 calls for the likelihood of below-normal temperatures in most areas east of a line from Texas to Wisconsin, while warmer-than-normal weather can be expected across the northern High Plains and the West. Meanwhile, below-normal precipitation will be the probable outcome across the northern half of the nation, as well as southern California and environs, but wetter-than-normal conditions will likely prevail in the southern Atlantic States and southern portions of the Rockies and High Plains.”

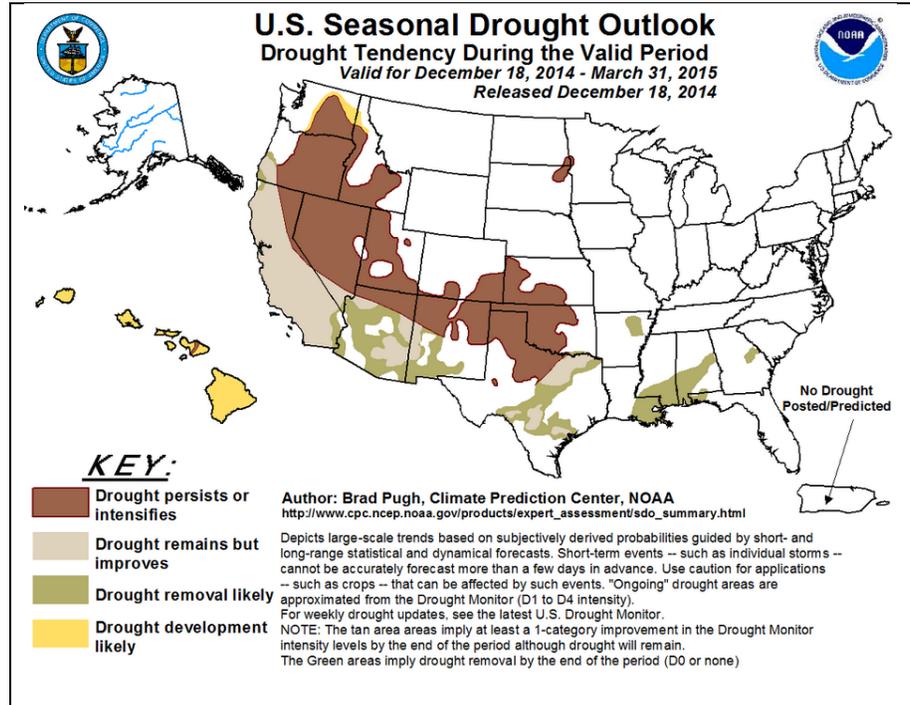
## Weekly Water and Climate Update

### Supplemental Drought Information

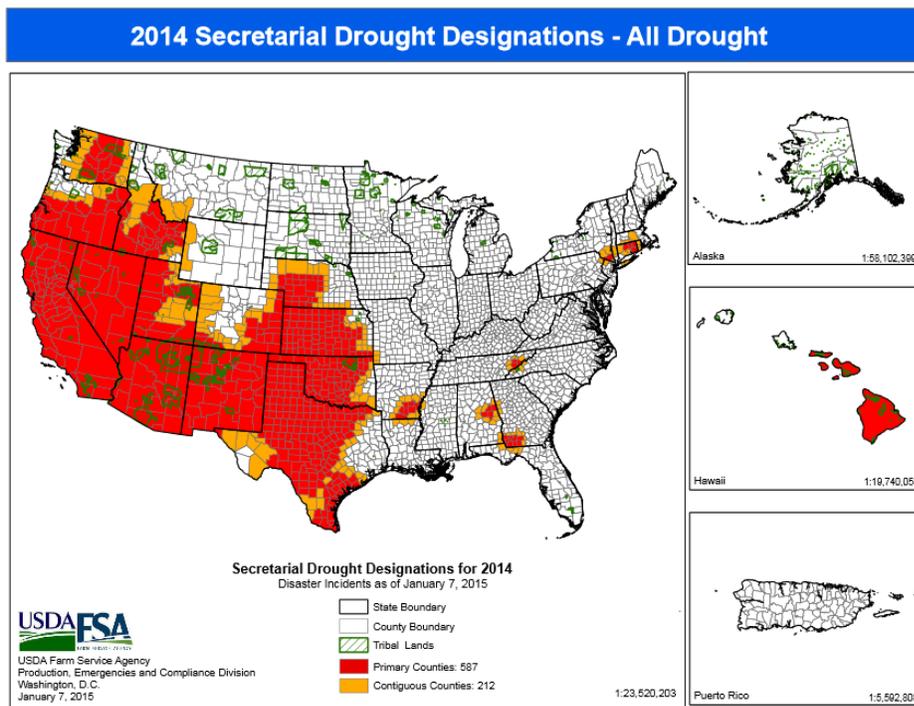
### National Seasonal Drought Outlook

Nationally, [drought](#) is expected to persist or intensify over much of the West and south central U.S., including Nevada, Oregon, Washington, Idaho, Utah, Arizona, New Mexico, Texas, Oklahoma, Nebraska, and Colorado. Improvements are expected in California and in parts of the Southwest and Texas. Some areas of drought are likely to develop in Washington.

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.



### 2014 USDA Secretarial Drought Designations, as of January 7, 2015



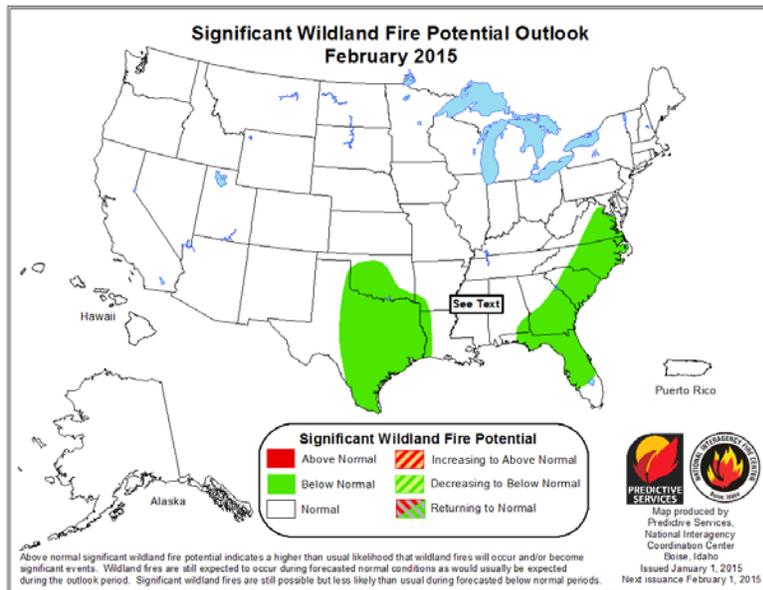
Refer to the USDA Drought Assistance [website](#) and [National Sustainable Agriculture Information Service](#).

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

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

## Weekly Water and Climate Update

### National Fire Potential Outlook



### February Fire Forecast

In January, much of the U.S. has normal [fire potential](#).

The below normal fire potential area in green on the map is forecast for Texas, and the Southeast, to the Mid-Atlantic States.

### 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>

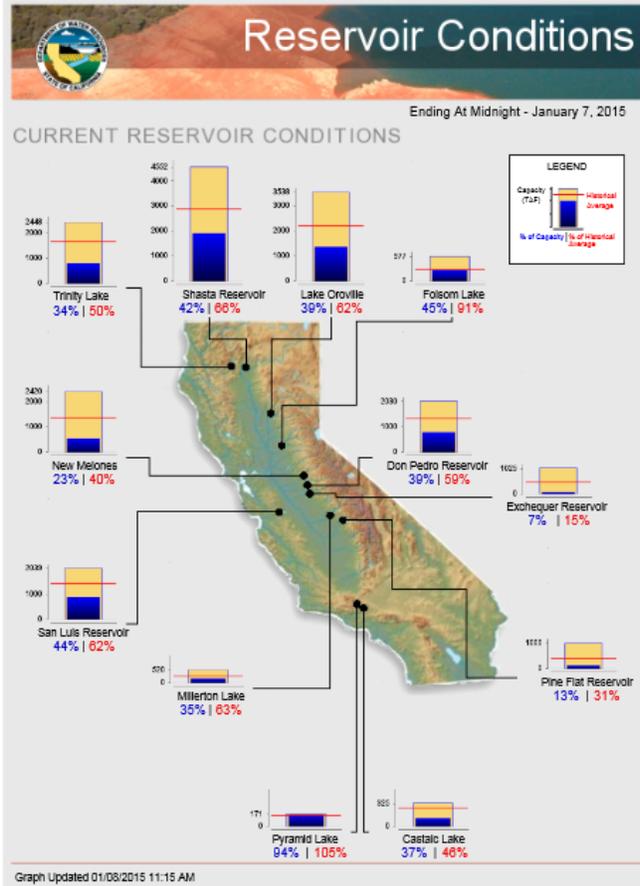
### Tea Cup Reservoir Depictions

- <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