



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

## Weekly Water and Climate Update Thursday, February 26, 2015

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

**2013 Scenery 2nd Place**  
Wasatch Plateau Overlooking Philadelphia Flats to Haystack Mountain (March 2013)

**Photographer** Randy Julander

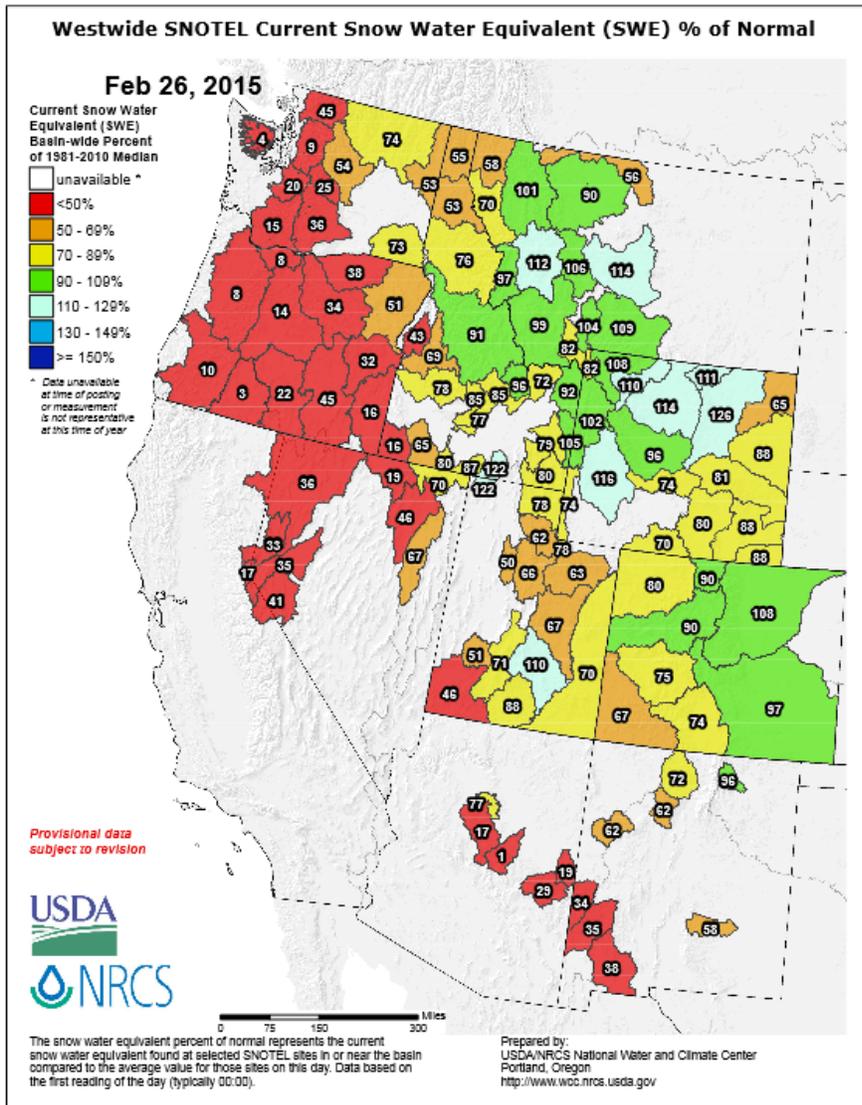
**Outlook:** “Cold weather will dominate most of the U.S., although warmth will overspread the Deep South early next week. The current cold snap will peak across the Plains on February 27 and the Midwest on February 28. Lows could dip to 0°F or below as far south

as the central Plains and the Ohio Valley. After snow ends later today in the Mid-Atlantic States, the focus for precipitation will shift westward. Five-day totals could reach 2 to 5 inches or more in the Four Corners States, but no more than 1 to 2 inches will dampen California, the Great Basin, and the Pacific Northwest. Early next week, a new storm will take aim on the South, East, and lower Midwest, with the threat of additional wintry precipitation in some areas. The NWS 6-10 day outlook for March 3-7 calls for below- normal temperatures nationwide, except for warmer-than-normal weather across the lower Southeast. Meanwhile, below-normal precipitation in southern Florida and most areas from the Pacific Coast into the upper Midwest will contrast with wetter-than-normal conditions across the Ohio Valley and much of the southern and eastern U.S.”

**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



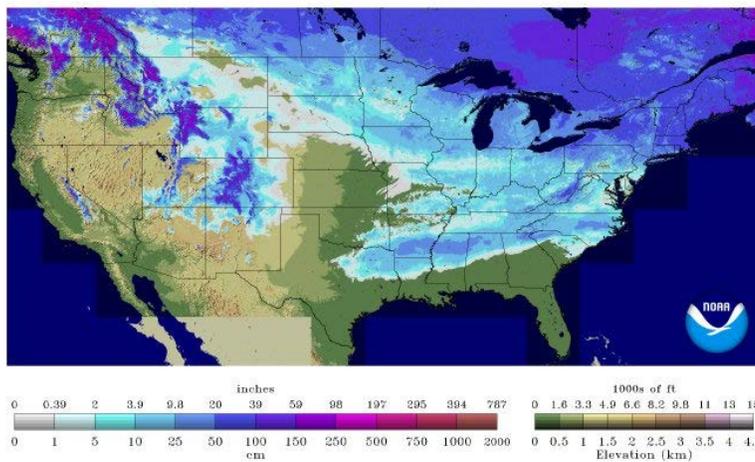
The [Westwide SNOTEL Current Snow Water Equivalent \(SWE\) % of Normal map](#) shows the largest snowpack deficits (red areas) in the Cascades and Olympics of Washington, most of Oregon, the Sierra Nevada in California, as well as much of Nevada, Arizona, southwest New Mexico, two basins in Idaho, and one basin in southwest Utah. Still less than normal, but not quite as low, are snowpacks in eastern Washington, northeastern Oregon, northern and southern Idaho, Utah, eastern Nevada, western Colorado, eastern Wyoming, much of New Mexico, and a few basins in Montana (orange and yellow areas).

The snowpack in central Idaho, much of Montana, northwest Wyoming, most of Colorado and one basin in New Mexico are near normal.

Some basins in Wyoming, Montana, southern Idaho, and Utah currently have above normal SWE values (blue areas).

National Snow 2014-2015 Analysis 2015

Snow Depth  
2015-02-26 06 UTC



The snow depth map for the U.S. as reported from the [NWS NOHRSC](#) for February 26, 2015, shows snow cover over 51% of the continental U.S. This includes snow across much of the mountains in the West, the upper Midwest, the northern Great Plains, the Northeast, and mid-Atlantic states. The recent cold has supported snowfall across much of the South as well. The snow depth has increased substantially in the Northeast and in a band from Texas to North Carolina.

# Weekly Water and Climate Update

## Precipitation

### 2015, an unusual year...

So far this winter, the snowpack in the Cascades and Sierra Nevada are at or near record lows. In the last several weeks, the precipitation in this same area is near to well above average. The overriding influence in these unusual circumstances is the persistent warm temperatures that have dominated the snowpack processes.

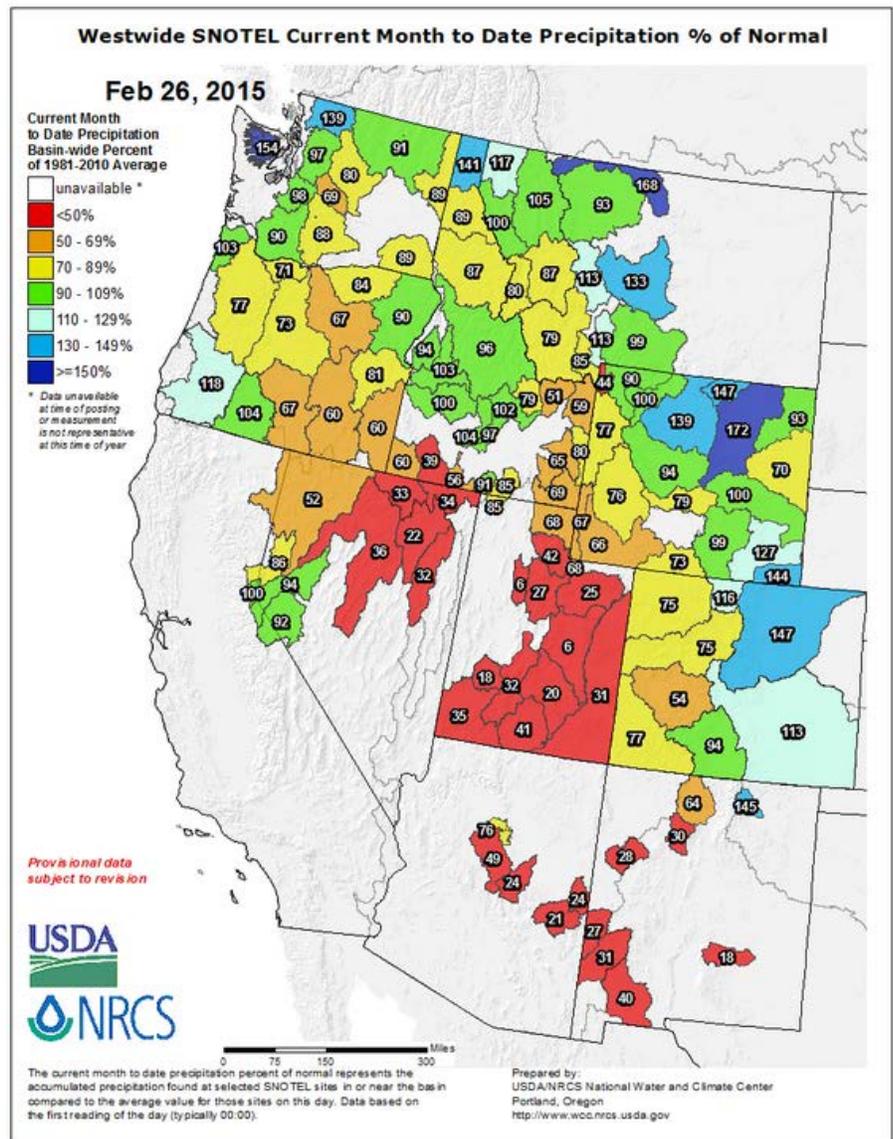
Freezing levels have remained well above the elevation of many SNOTEL sites, and snow has been confined to the highest elevations and in a very small area of the watersheds in the Pacific Northwest and Sierra Nevada. The recent heavy precipitation, especially in the Cascades of Oregon and Washington and down to the northern Sierra and Trinity Alps of California, has helped to alleviate any soil moisture, groundwater, and reservoir deficits. This has offset the current effects of the low snow conditions that the area has experienced but may provide future deficits in spring and summer streamflow with little to no snow support for normal snowmelt runoff water for the future.

In the West, the [SNOTEL](#) precipitation percent of normal map for February shows that while February started off very wet in the northern states, dry conditions have moderated the percent of normal values for most basins. Above normal precipitation occurred in northwest Washington, southwest Oregon, northern Idaho, Montana, eastern Wyoming, eastern Colorado, and one basin in northeast New Mexico (blue areas).

All states have at least a few basins with less than normal precipitation. These include California, Nevada, Utah, western Colorado, Arizona, most of New Mexico, most of Oregon, eastern Washington, southwest Montana, parts of Idaho, and western Wyoming (orange and red areas).

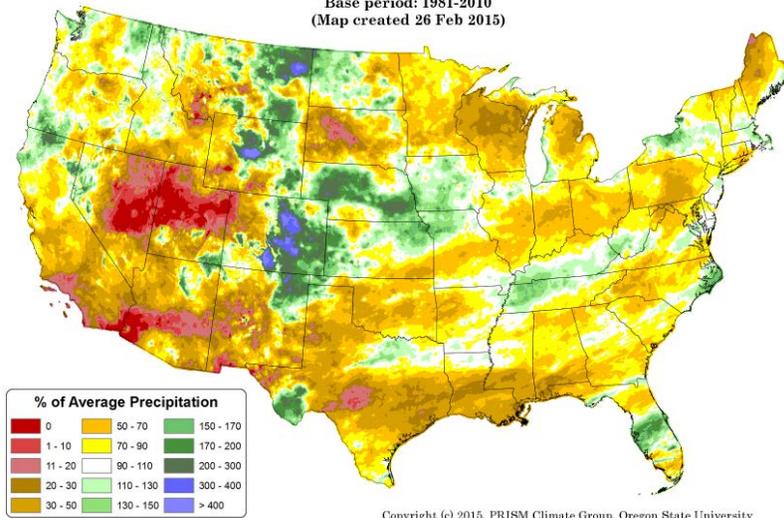
The percent of average may be exaggerated over a short period of time and dependent on normal conditions for this time of year.

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



## Weekly Water and Climate Update

Total Precipitation Anomaly: 01 February 2015 - 25 February 2015  
 Period ending 7 AM EST 25 Feb 2015  
 Base period: 1981-2010  
 (Map created 26 Feb 2015)



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

For February 2015, the national total [precipitation anomaly](#) pattern reveals some higher than normal precipitation, primarily just east of the Rockies and the Great Plains, but also includes Northwestern states, parts of the Northeast, mid-Atlantic states, southwest Texas, and central Florida. There was little or no precipitation in a large area of the West, including southern California, Nevada, Utah, southwest Montana, South Dakota, Texas, and northern Maine (red and dark orange 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.*

The [ACIS 7-day](#) total precipitation map for the western U.S. shows precipitation scattered across most of the Southwest. This includes areas in California, southern Nevada, Colorado, Arizona, and New Mexico. There were a few scattered areas of precipitation in western Washington, central Idaho, western Montana, and central Wyoming. The highest areas of significant precipitation were in the Four Corners area, centered in southern Utah.

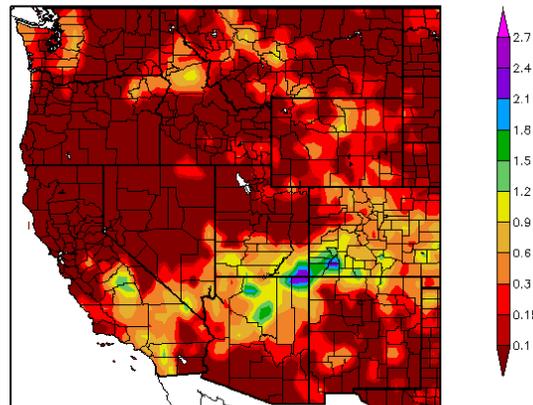
Little to no precipitation fell across most of Oregon, Idaho, Nevada, Utah, Arizona, and northern California this week (dark red). In addition, scattered basins in eastern Washington, eastern Montana, and southern Arizona and New Mexico also received little or no precipitation.

This ACIS percent of normal [map](#) of the West for the last seven days reflects precipitation scattered across many parts of the region. The heaviest percent of normal precipitation fell in several areas along the Rocky Mountains and in the Southwest. This includes Montana, Wyoming, Colorado, New Mexico, southern Utah, and northern Arizona (purple areas).

There was a large area of very dry conditions in northern California, northern Nevada, northern Utah, Oregon, eastern Washington, parts of Idaho, parts of Montana, and a few basins in other states (red areas).

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

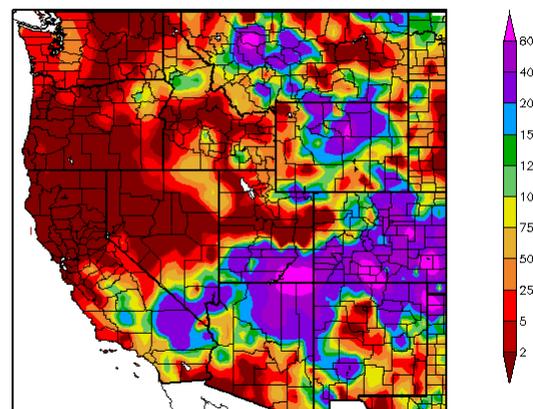
Precipitation (in)  
 2/19/2015 - 2/25/2015



Generated 2/26/2015 at HPRCC using provisional data.

Regional Climate Centers

Percent of Normal Precipitation (%)  
 2/19/2015 - 2/25/2015

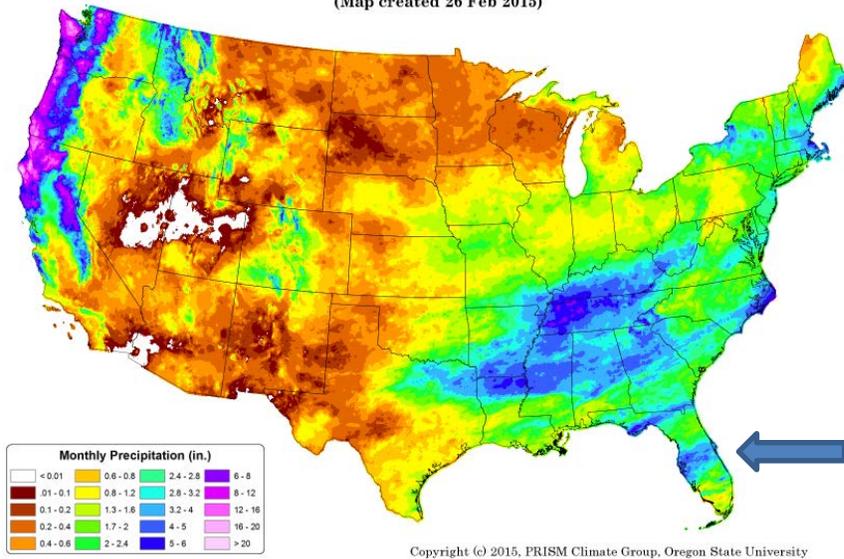


Generated 2/26/2015 at HPRCC using provisional data.

Regional Climate Centers

# Weekly Water and Climate Update

Total Precipitation: 01 February 2015 - 25 February 2015  
 Period ending 7 AM EST 25 Feb 2015  
 (Map created 26 Feb 2015)



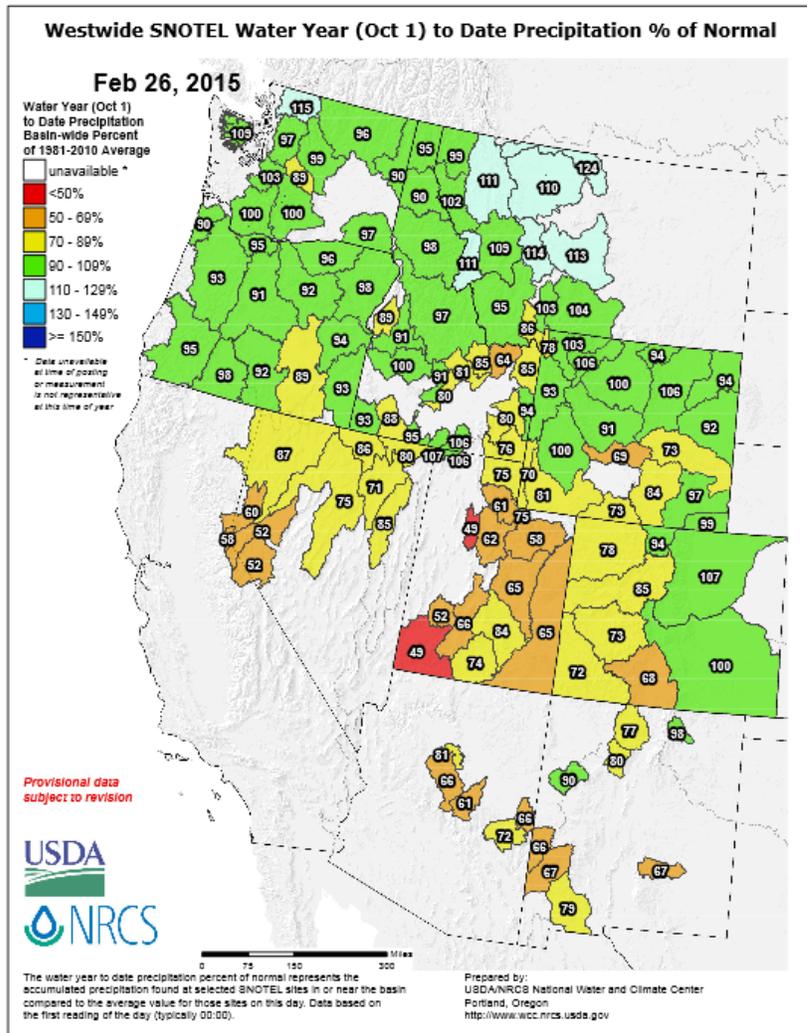
Copyright (c) 2015, PRISM Climate Group, Oregon State University

For February 2015, the [total precipitation](#) across the continental U.S. was heaviest along the Pacific coast, northern Rockies, Florida, and western Tennessee. Precipitation also fell over other parts of the Northwest, northern California, the South, and the Northeast. In contrast, much of southern California, Nevada, Utah, the Southwest, the western and northern Great Plains into the upper Midwest, and northern Maine were mainly dry.

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

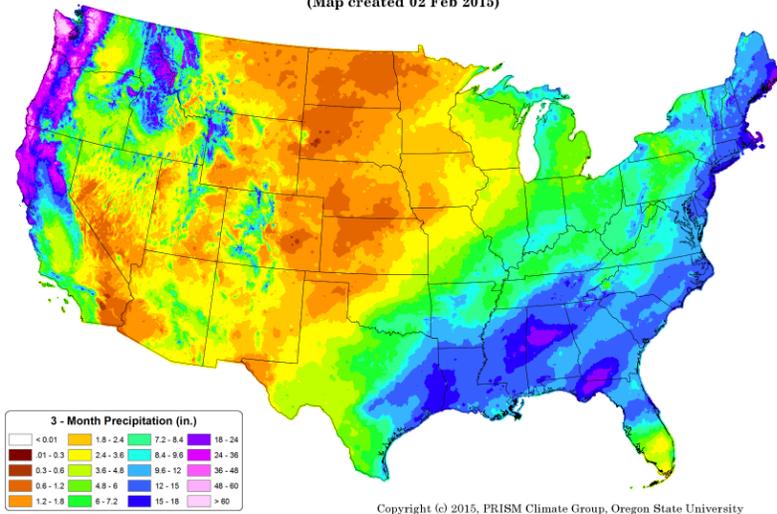
For the [2015 Water Year](#) that began on October 1, 2014, the highest precipitation surpluses in the West are only slightly higher than average. Most of central Montana and one basin in northwest Washington are above 110 percent at this time.

Many basins across the West have near normal conditions for this part of the Water Year (mapped in green). A few areas have less than normal precipitation for the Water Year. These include basins in eastern Idaho, southern Wyoming, western Colorado, most of Utah, California, Nevada, Arizona, most of New Mexico, and a few basins in other states (mapped in yellow and orange). Utah has two basins with much below normal precipitation (red area).



# Weekly Water and Climate Update

Total Precipitation: November 2014 - January 2015  
 Period ending 7 AM EST 31 Jan 2015  
 (Map created 02 Feb 2015)

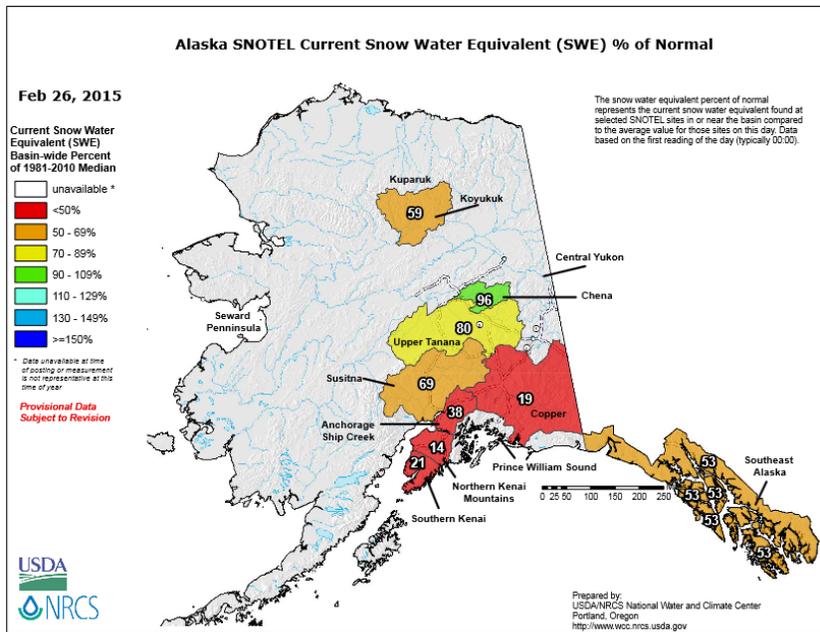


Copyright (c) 2015, PRISM Climate Group, Oregon State University

The national map of the [three-month period](#) (November - January) shows that the eastern half of the nation received precipitation in the range from 6 inches to greater than 18 inches. Parts of the West, especially in the mountains, also received significant precipitation. The highest amounts over 48 inches were recorded in Oregon and Washington.

In contrast to the eastern U.S. and Pacific coast, parts of the West and much of the Midwest received totals of less than 1.8 inches.

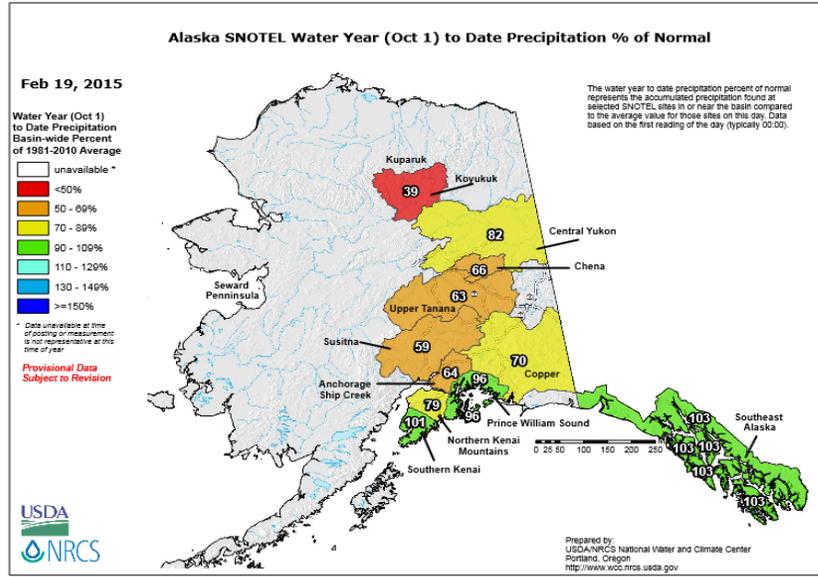
## NEW! Alaska Snow Water Equivalent and Precipitation Conditions



The [Alaska SNOTEL current SWE map](#) shows less than average conditions across the state. The areas with much below normal snowpack are on the Kenai Peninsula, and the Copper and Anchorage/Ship Creek basins.

## Weekly Water and Climate Update

The [Alaska Water Year to Date Precipitation](#) map shows near average conditions for the southern and southeast parts of the state, whereas interior Alaska is drier than average. The Koyukuk basin is now at 40 percent of average for the water year.

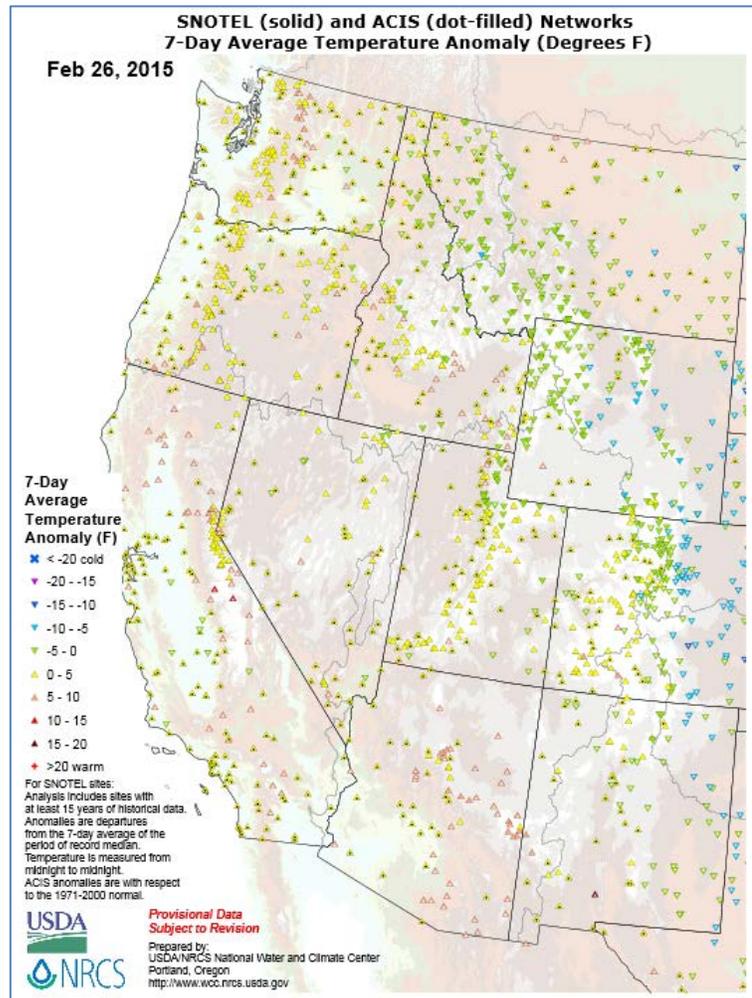


## Temperature

The SNOTEL and ACIS [7-day temperature anomaly](#) map for the western U.S. shows most of the West has cooled off this past week. The warmest recorded temperature anomalies were scattered in northern Utah, southern Idaho, California, and Arizona, where anomalies were 5 - 10 degrees F. Montana, Wyoming, Colorado, and western New Mexico also had a very few stations with warm temperature departures from normal.

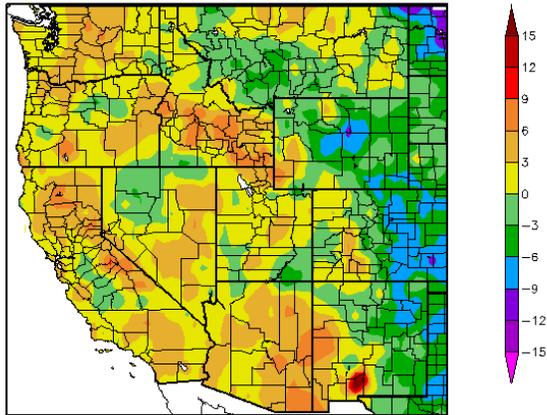
There were many stations with near normal temperatures across the West.

There were cool anomalies along the Rocky Mountains and into the Great Plains. The coolest anomalies were located in eastern Colorado with two stations in the 10 – 15 degree F cool anomaly category. The eastern section of Montana, Wyoming, Colorado, and New Mexico all had stations reporting cool temperatures in the 5 – 10 degree F cool anomaly range.



## Weekly Water and Climate Update

Departure from Normal Temperature (F)  
2/19/2015 – 2/25/2015



Generated 2/26/2015 at HPRCC using provisional data.

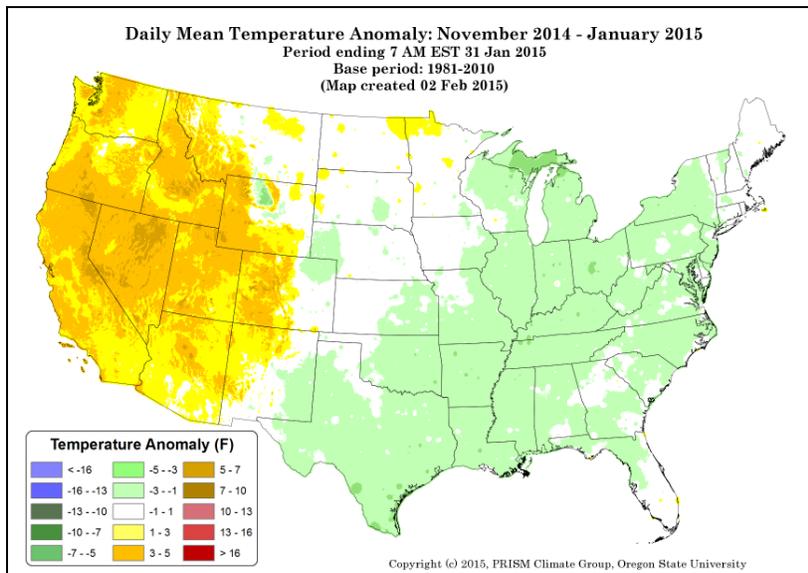
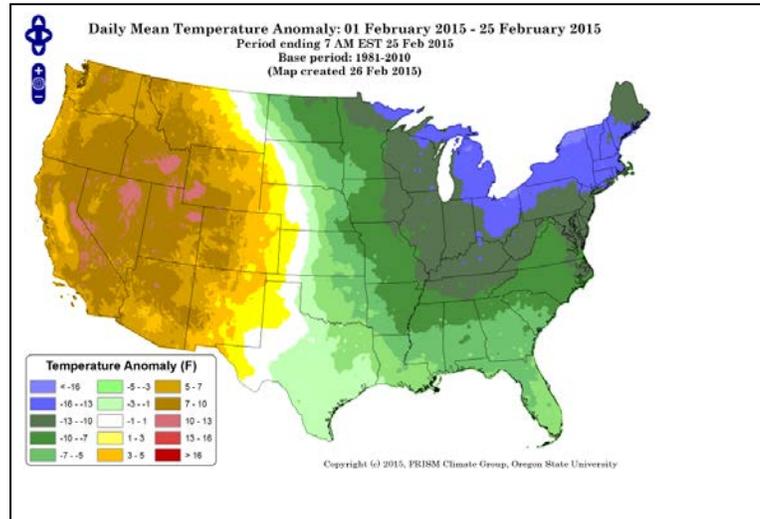
Regional Climate Centers

The [ACIS](#) map of the 7-day average temperature anomalies in the West ending February 25 shows that the West was slightly warmer than normal in the much of the region. The greatest positive temperature departures occurred in southern New Mexico (>+12°F). Other warm temperatures occurred across the West, including California, Nevada, Idaho, Oregon, Washington, northern Montana, southwest Wyoming, Utah, western Colorado, Arizona, and southwest New Mexico. There were negative temperature departures east of the Rockies, especially in northeast Montana, Wyoming, Colorado and northeast New Mexico. (< -9°F).

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

*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 February 2015, the national daily mean temperature anomaly [map](#) shows a persistent large, cool region over the eastern half of the country, with the coldest anomaly in northern New York, New England, Ohio, and Michigan (<-16°F). In contrast, above normal temperatures were recorded in the entire West. Central California had the highest anomalies (>+13°F), with other warm anomalies in northern Utah, eastern Nevada, southern Idaho, and western Wyoming.



The November - January national daily mean temperature anomalies for the U.S. in this [climate map](#) shows the western U.S. had slightly to above normal temperatures (>+5°F). The central and northern Great Plains reported normal to slightly cooler than normal temperatures for this period, with the coolest temperatures in a large area covering most of the Midwest and eastern U.S. (<-3°F).

# Weekly Water and Climate Update

## Weather and Drought Summary

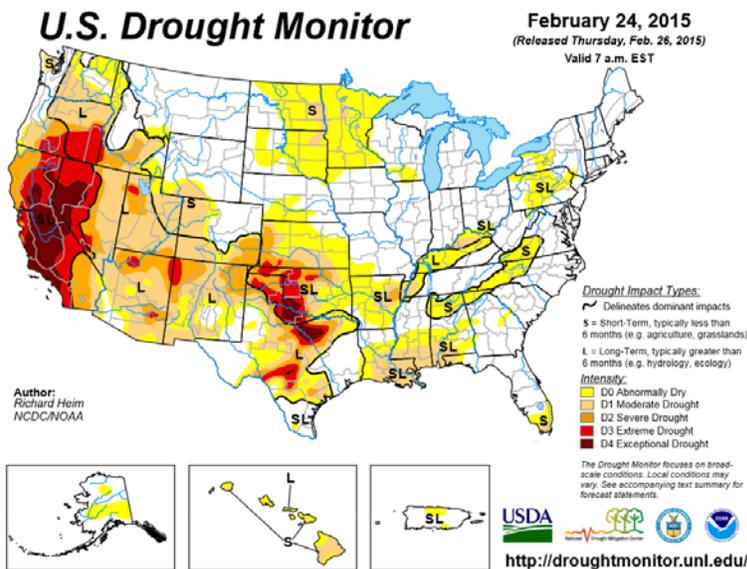
### National Drought Summary – February 24, 2015

The following **Weather and Drought Summary** is provided by this week's NDMC Drought Author, Richard Heim, NOAA/NCDC.

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

“For the contiguous 48 states, the U.S. Drought Monitor showed 32.83 percent of the area in moderate drought or worse, compared with 32.13 percent a week earlier. Drought now affects 76,064,294 people, compared with 73,544,965 a week earlier.

For all 50 U.S. states and Puerto Rico, the U.S. Drought Monitor showed 27.52 percent of the area in moderate drought or worse, compared with 26.92 percent a week earlier. Drought now affects 76,243,270 people, compared with 73,698,639 a week earlier.”



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

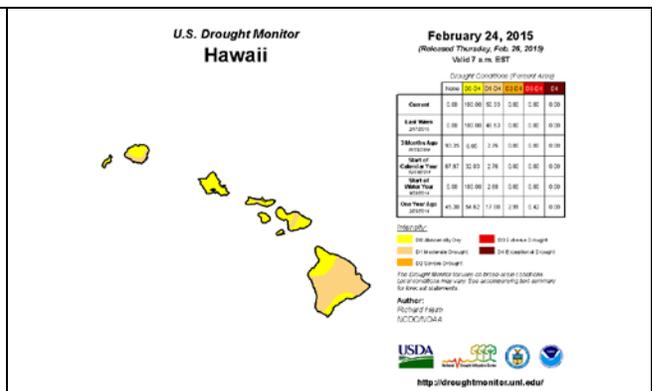
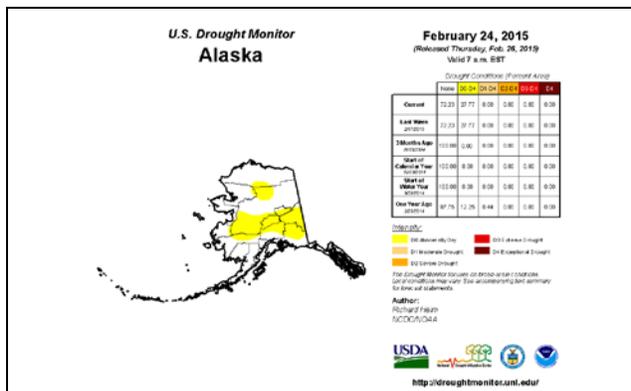
[Current Drought Monitor](#) weekly summary. The exceptional D4 levels of drought are scattered across CA, NV, TX, and OK.

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](#)

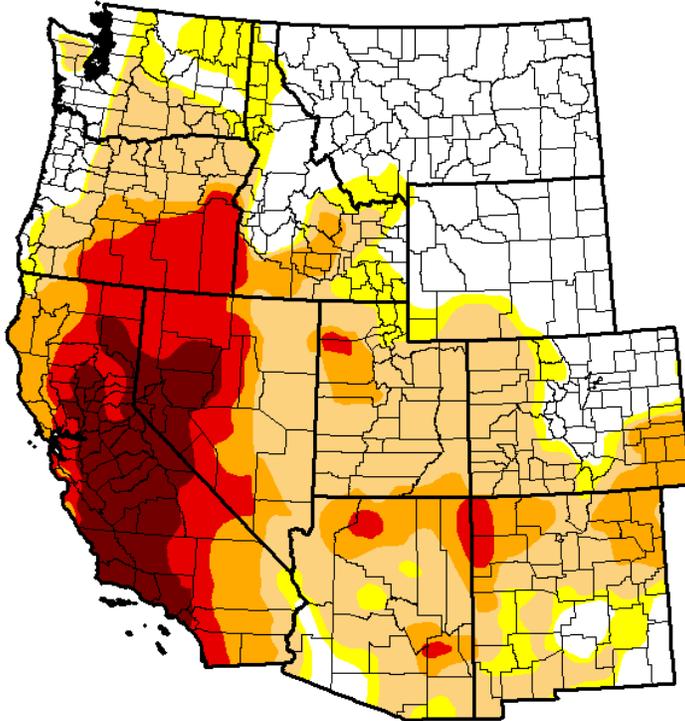


“The [49th](#) and [50th](#) States show normal to moderate drought conditions. No changes were noted for Alaska this week. D1 increased in Hawaii this week. A comprehensive narrative describing drought conditions across other parts of the nation can be found toward the end of this document. For drought impacts definitions for the figures that follow, click [here](#).”

## Weekly Water and Climate Update

### U.S. Drought Monitor West

**February 24, 2015**  
(Released Thursday, Feb. 26, 2015)  
Valid 7 a.m. EST



*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	30.07	69.93	59.91	31.06	17.38	7.04
<b>Last Week</b> <i>2/17/2015</i>	31.20	68.80	58.53	30.61	17.23	7.21
<b>3 Months Ago</b> <i>11/25/2014</i>	34.72	65.28	54.99	33.88	18.75	8.45
<b>Start of Calendar Year</b> <i>12/31/2014</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>2/23/2014</i>	22.41	77.59	59.61	40.34	15.67	4.12

*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:**  
Richard Heim  
NCDC/NOAA



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

There was a slight decrease in D4 and the drought-free area for the week. The D0 – D3 categories increased in the West this week.  
*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:

- ID - [Panhandle lags in snowpack](#) – Feb 17
- MT - [Warm, dry weather prompts access changes in Yellowstone](#) – Feb 20
- CO - [Colorado updates water outlook amid wide Western drought](#) – Feb 18
- HI - [Hydrologist: Big Island 'in a moderate drought'](#) – Feb 20
- OR/WA - [Snowpack — water storage — severely sparse](#) – Feb 18

# Weekly Water and Climate Update

State with D-4 Exceptional Drought

## U.S. Drought Monitor California

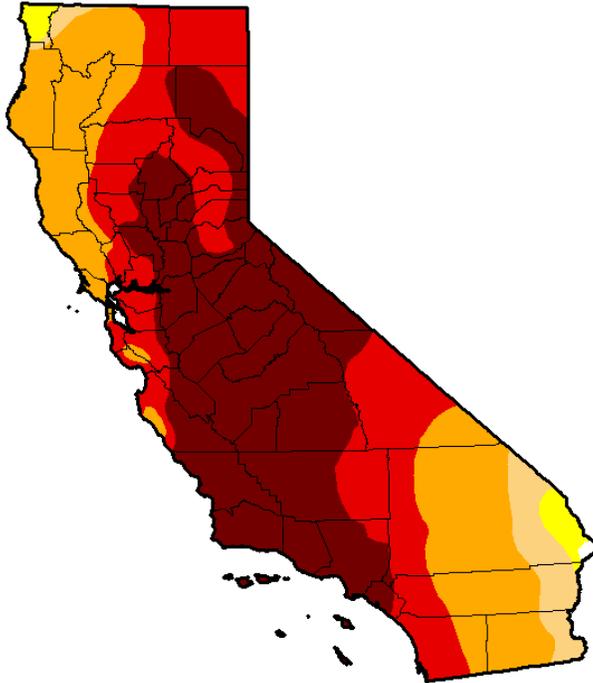
**February 24, 2015**

(Released Thursday, Feb. 26, 2015)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	0.16	99.84	98.10	93.44	67.46	39.92
<b>Last Week</b> <i>2/17/2015</i>	0.16	99.84	98.10	93.44	67.46	41.20
<b>3 Months Ago</b> <i>11/29/2014</i>	0.00	100.00	99.72	94.42	79.69	55.08
<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>2/25/2014</i>	0.00	100.00	94.56	90.82	73.83	26.21



*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:**

Richard Heim  
NCDC/NOAA



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

**There was a slight decrease in D4 in California this past week. There was no change in the other categories in California for the week.**

[CA Drought Information Resources](#)

[Drought News from California:](#)

[California citrus exports hurt by West Coast labor dispute](#) – Feb 15

[California weighs new drought rules at restaurants, hotels](#) – Feb 18

[Poor snow causes Squaw Valley to cancel March 4-8 FIS World Cup event](#) – Feb 14

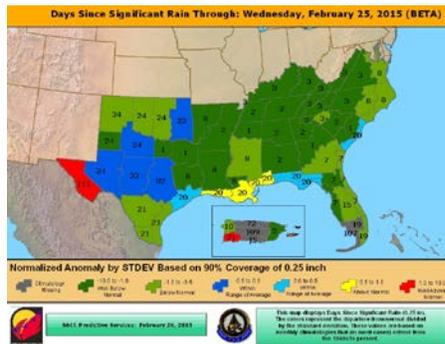
[An encore of Valley drought crisis — only worse](#) – Feb 14

# 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:

[LCRA says drought now worse than '47-'57 drought – Feb 18](#)  
[LCRA reduces water supply projections as drought worsens – Feb 18](#)



[Days since Significant Rain Summary](#)

## State with D-4 Exceptional Drought

### U.S. Drought Monitor Texas

**February 24, 2015**  
(Released Thursday, Feb. 26, 2015)  
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	38.35	61.65	43.39	27.86	14.34	4.46
<b>Last Week</b> 2/17/2015	39.21	60.79	43.39	27.81	13.92	4.46
<b>3 Months Ago</b> 10/29/2014	34.11	65.89	42.56	22.05	9.50	2.57
<b>Start of Calendar Year</b> 12/01/2014	34.37	65.63	44.68	25.73	11.70	3.17
<b>Start of Water Year</b> 09/01/2014	38.92	71.08	48.95	29.54	11.26	2.69
<b>One Year Ago</b> 2/25/2014	7.30	92.82	67.00	32.55	9.45	0.93

**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:**  
Richard Heim  
NCEM/NOAA

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

**There was an increase in D0, D1 and D3 drought categories in Texas this past week. D1 and D4 remained unchanged and the drought-free areas decreased.**

## State with D-4 Exceptional Drought

### U.S. Drought Monitor Nevada

**February 24, 2015**  
(Released Thursday, Feb. 26, 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	99.93	63.04	47.96	10.30
<b>Last Week</b> 2/17/2015	0.00	100.00	99.93	63.19	47.96	10.30
<b>3 Months Ago</b> 10/29/2014	0.00	100.00	97.04	68.25	48.38	11.69
<b>Start of Calendar Year</b> 12/01/2014	0.00	100.00	96.90	60.25	40.30	11.69
<b>Start of Water Year</b> 09/01/2014	0.00	100.00	97.04	69.09	40.30	11.69
<b>One Year Ago</b> 2/25/2014	0.00	100.00	99.32	72.95	33.94	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:**  
Richard Heim  
NCEM/NOAA

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

**There was no change in Nevada drought categories for the week.**

Nevada Drought News:

[Local water authority criticizes state's lack of drought plan – Feb 19](#)

## Weekly Water and Climate Update

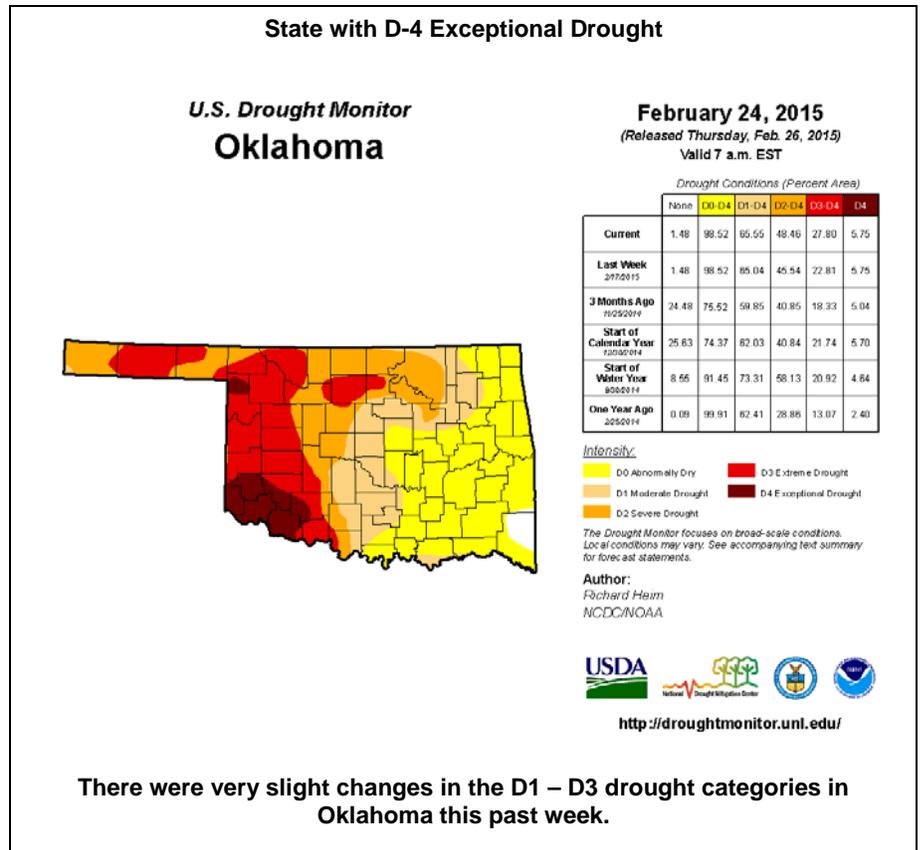
### Related Area News:

[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 Drought News:

[Oklahoma City plans water pipeline to help mitigate drought](#)  
– Feb 16



## U.S. Population in Drought

Number of people in each drought category in the U.S. for the week ending February 24, 2015

Week	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
2015-02-24	186,484,904	118,912,550	76,064,295	47,768,809	37,872,106	24,171,298
2015-02-17	184,241,988	121,155,467	73,544,965	49,122,332	37,776,506	24,342,489

**Population figures affected by drought in the U.S. Drought Monitor website show that, for this week, more than 76,000,000 people in the United States were in a drought-affected area, which is an increase by over 2.5 million people from last week.**

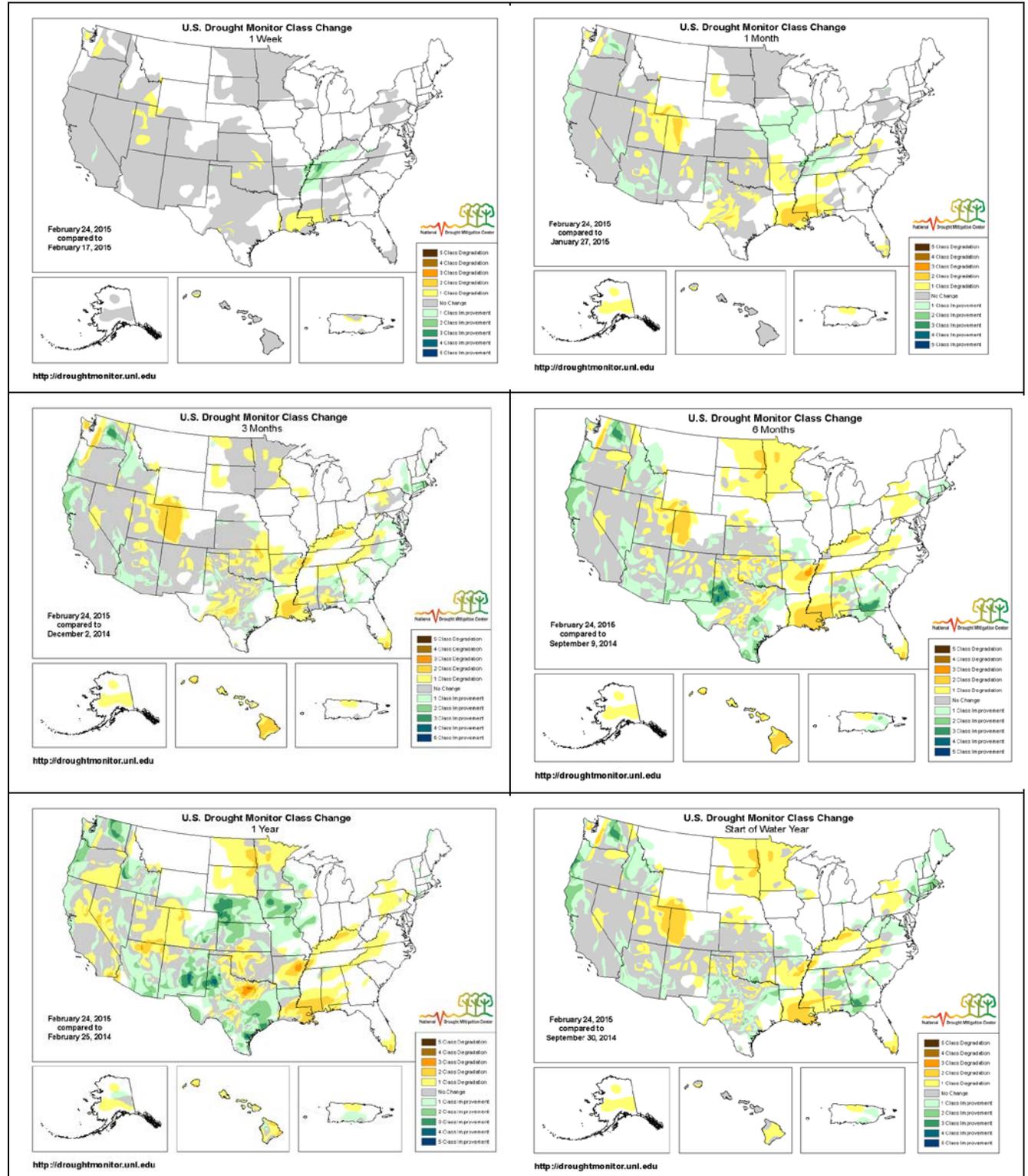
#### Population Statistics Methodology:

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

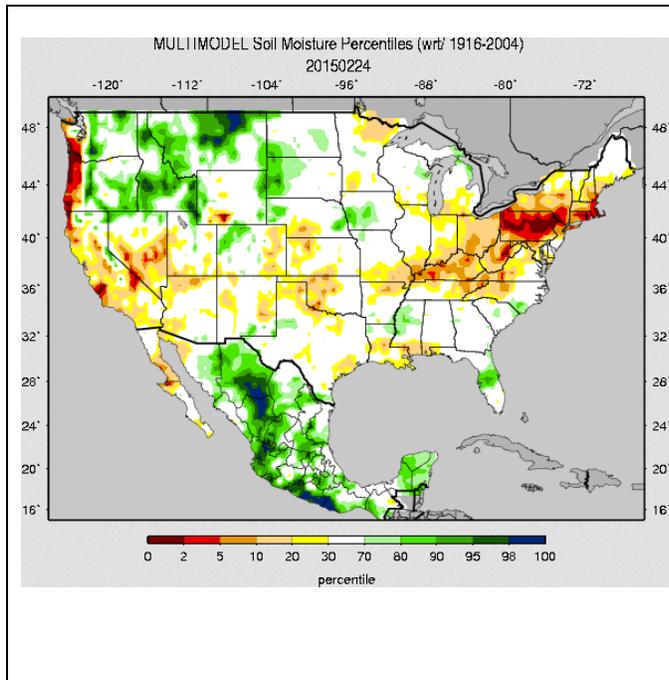
### Over Various Time Periods



Click on any of these maps to enlarge. Note how the conditions over the upper Great Plains and Ohio Valley have degraded 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 improved (lower left map).

# Weekly Water and Climate Update

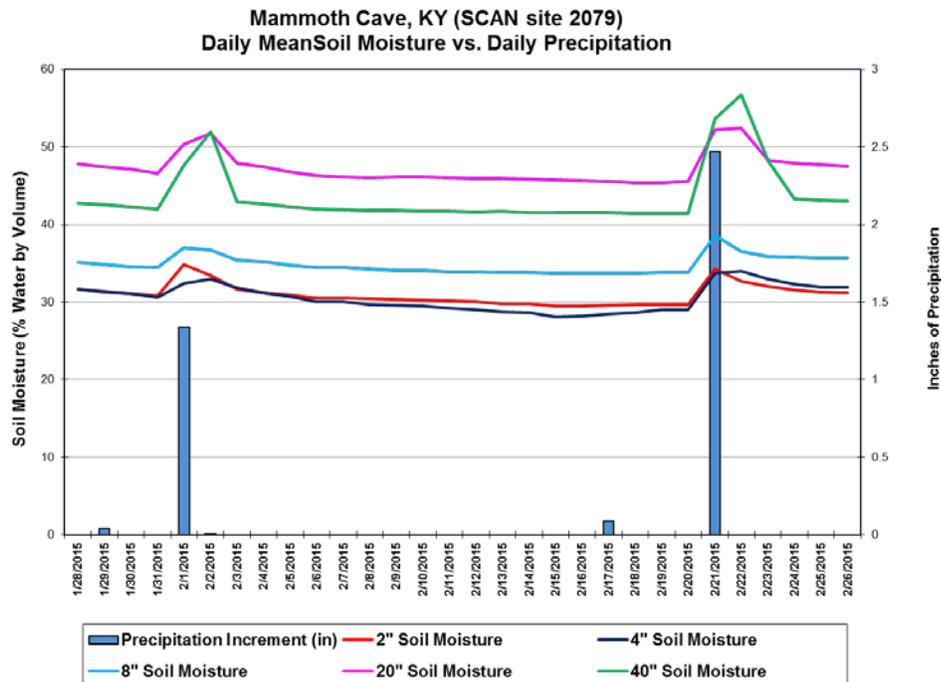
## Soil Moisture



The national soil moisture model ranking in [percentile](#) as of February 24, 2015, shows dryness over most of the Northeast, and along the West coast. The driest areas are in western Washington, western Oregon, central Nevada, California, southern Wyoming, Kentucky, West Virginia, Pennsylvania, and many Northeast states. Moist soils dominated north central Montana, in the Cascades of Washington and Oregon, Idaho, western South Dakota, Iowa, northern Michigan, and central Florida. Slightly moist soils were also scattered elsewhere throughout the country. Much of the Northeast has frozen conditions, so soil moisture conditions may not be representative.

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)

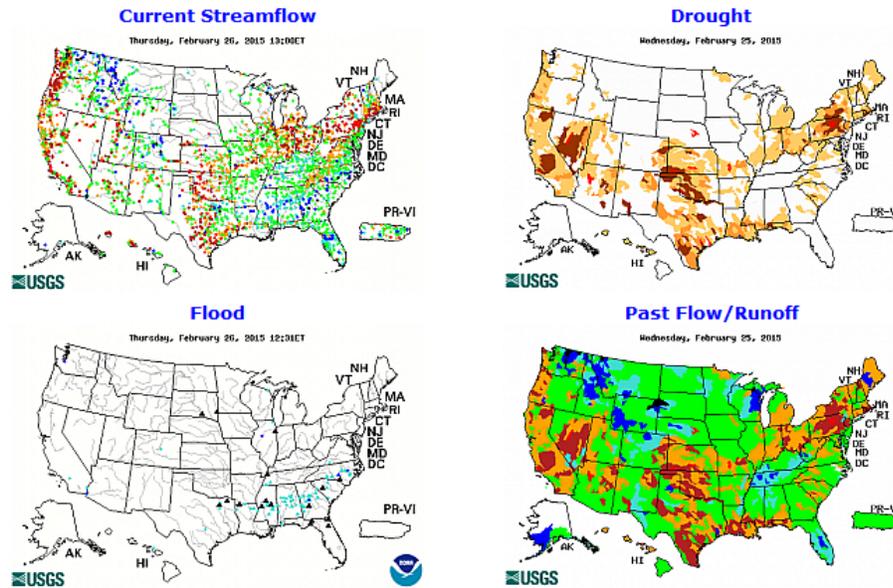


This NRCS resource shows soil moisture data for the last month at [Mammoth Cave \(SCAN site 2079\)](#) in Kentucky. The area had precipitation several times this past month (blue bars). This rainfall resulted in an increase in soil moisture at all depth sensors from the precipitation events.

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



Gages in several areas of the U.S. are reporting much above normal streamflow. Many streams in the Northwest and Southeast are flowing high due to recent precipitation. 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 Platt Creek near Platt, SD, Split Rock Creek at Corson, SD, Sulphur River near Talco, TX, Bayou Dorcheat Near Springhill, LA, Kankakee River at Momence, IL, Obion River near Obion, TN, Lumber River at Lumberton, NC, Lower Saluda River near Saldam, SC, Turkey Creek at Byromville, GA, Pearl River at Burnside, MS, Big Black River at West, MS, Big Black River near Bentonla, MS, St. Johns River at Jacksonville, FL, , Dunns Creek near Satsuma, FL, St. Johns River near Satsuma, FL, Aucilla River at Lamont, FL, and Aucilla iver near Nutall Rise, FL.

## 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).

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, **1** gage has a greater than 50% chance to experience major flooding; **30** gauges for moderate flooding; and **240** gauges for minor flooding.

These numbers represent a **7** gage decrease in the greater than 50 percent chance of minor flooding category since last week.

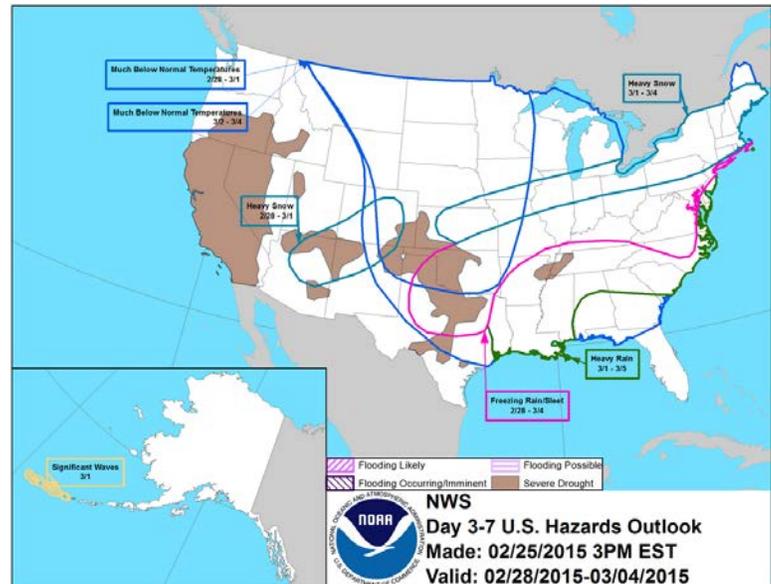
## Weekly Water and Climate Update

### National [Weather Hazards](#)

Heavy snow is expected in the Four Corners area including central Arizona to central Colorado (2/28-3/1) and from central Nebraska to New England (3/1-4) (medium blue). Freezing rain/sleet is expected in a large area from Texas to the mid-Atlantic states (2/28–3/4). Heavy rain is expected south of the freezing rain in the southeast (3/1-5). A large area of the eastern U.S. is expected to have a sustained period of much below normal temperatures (2/28-3/4).

In Alaska, significant waves are forecast for the western Aleutians (3/1).

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



### [National Drought Summary for February 24, 2015](#)

Prepared by the Drought Monitor Author: Richard Heim, NOAA/NCDC.

#### Summary

"The upper-level circulation pattern during this U.S. Drought Monitor (USDM) week was dominated by a strong trough over the eastern CONUS (contiguous United States) which funneled cold air masses into the central and eastern United States. Storm systems moving along the southern edge of the trough generated a wintry mix of weather, dumping locally heavy rain and snow from the Lower to Mid-Mississippi Valley on the western end to the Mid-Atlantic coast in the east, improving drought conditions ... especially in the Mississippi and Ohio Valleys. The precipitation mostly missed the immediate Gulf of Mexico coastal areas, where drought expanded. An upper-level low pressure system moved across the ridge over the western CONUS and settled in over the Southwest near the end of the week, with above-normal precipitation falling across parts of the Southwest and Rocky Mountains. The week was drier than normal in the Pacific Northwest and much of the Intermountain Basin, where drought expanded. Temperatures in the West averaged above normal this week, but the anomalies were not as warm as in previous weeks.

#### Hawaii, Alaska, and Puerto Rico

In Hawaii, some stations along the windward slopes of the southern islands received above-normal rainfall, but the week was drier than normal at most other locations. D1 added to the lower slopes of Kauai in response to continued below-normal precipitation and FSA reports of degrading conditions for ranchers. Eastern portions of Puerto Rico received an inch or more of rainfall this week, but areas to the west generally received less than half an inch. The D0 in north central Puerto Rico was expanded a bit to encompass low streams that were just outside the D0 boundary. Three inches or more of precipitation was reported at Alaskan stations along the southern coast and panhandle, but precipitation amounts were generally half an inch or less at most interior and southwestern stations. With temperatures continuing well above normal, no change was made to the depiction in Alaska this week. was expanded a bit to encompass low streams that were just outside the D0 boundary.

#### The Northeast and Mid-Atlantic

Much of the Northeast and Mid-Atlantic remained buried under a foot or more of snow and shivered with weekly average temperatures 10 to 20 degrees F below normal. Rivers remained frozen, lowering streamflow measurements in some areas to very low levels. A few coastal stations reported precipitation amounts of an inch or more for this USDM week, but precipitation was generally below normal in the Northeast. Above-normal precipitation fell across the Mid-Atlantic States, from West Virginia to Delaware and southern New Jersey, improving streamflow levels. D0 was trimmed in southern West Virginia and adjacent Virginia, but the map depiction remained unchanged across the rest of the region.

## Weekly Water and Climate Update

### The Northern Plains and Midwest

Most of the Central to Northern Plains and Upper Midwest were drier than normal this week, with some areas receiving no precipitation. Precipitation deficits in the Northern Plains to Upper Mississippi Valley continued to mount, exceeding 4 inches over the past 6 months in parts of the Dakotas and Minnesota. But winter is the dry season, and deficits during this time of year are less significant than during the warm season. The drier-than-normal autumn depleted soil moisture and set the state for potential spring concerns, and the current depiction of D0-D1 adequately represents this situation. With temperatures this week continuing well below normal and the ground remaining frozen, no change to the depiction was made in this area.

To the south, a major winter storm moved across the Tennessee and Ohio Valleys, dumping an inch or more of precipitation, mostly in the form of snow, across a wide area, with locally 3 inches or more in parts of southern Kentucky. The precipitation raised stream levels, replenished soil moisture, and erased precipitation deficits for the last 30 days. As a result, D0-D1 were pulled back in Kentucky and the Missouri bootheel. But significant deficits remained at the 60-90 day time scale, so areas of D0 and D1 remained to represent these longer-term conditions. Low stream levels along and north of the Ohio River remained a concern, but no expansion of D0 was made here due to the area receiving above-normal precipitation this week.

### The Southern Plains to Southeast

A major winter storm system moved across the Lower to Mid-Mississippi Valley and Southeast during the middle of this USDM week, followed by another system at the end of the week which moved out of the Southern Plains and across the Southeast. These systems left a total of 1-3 inches of precipitation across an area stretching from northeast Texas to the Carolinas, with locally 3-5 inches in parts of Tennessee and northern Mississippi, replenishing soil moisture and filling streams. D0-D2 contracted in Tennessee, northern Mississippi, and adjacent Arkansas. A remnant of D1 remained in western Tennessee, and D1-D2 remained in northeast Arkansas, to reflect the continued significant precipitation deficits which remained over the last 3 to 5 months. The precipitation was enough to prevent further deterioration in northern Alabama to the Carolinas, but not enough to warrant improvement in the drought depiction. The storm systems mostly missed the Gulf of Mexico coastal areas, which generally received less than half an inch of moisture. D1 expanded from southern Louisiana to southern Alabama and the Florida panhandle where weekly precipitation was below normal and deficits continued to mount. Much of this area has very low streamflow levels and precipitation deficits exceeding 6 inches, and locally 9 inches, since the beginning of October.

In Texas, above-normal precipitation at the 7-day to 6-month time scales prompted the pullback of D2-D3 in the northwest corner of the panhandle, while D2-D3 expanded in south-central Texas near the Edwards Plateau. Deeper soil moisture, stock ponds, rivers, and reservoirs in western Oklahoma have never fully recovered from the drought which began 4 years ago. The Washita River has been completely dry for nearly the last 4 years, which local residents say is highly unusual, with the river generally not being without water for more than 90 days in the past. NASA satellite-based measurements of groundwater indicated severely dry conditions in western Oklahoma. D3 was expanded in western Oklahoma across Roger Mills, Custer, Beckham, and Washita Counties to better reflect long-term moisture deficits (over the last 15 to 72 months) as well as record low streamflow levels. D1-D3 were expanded in north central Oklahoma, and D1 in adjacent south central Kansas, where 7-day to 6-month precipitation deficits were greatest and surface water supplies continued to be a concern.

### The West

It was another dry week for much of the West, with parts of the Pacific Northwest, Northern California, Arizona, New Mexico, and the Intermountain Basin receiving no precipitation. Scattered areas of the Pacific Northwest and Northern Rockies received half an inch to an inch of precipitation. A slow-moving upper-level weather system brought half an inch to 2 inches of precipitation to parts of Southern California and the Southwest, with 2-4 inches being reported over southwest Colorado. In California, D4 was pulled back in eastern Kern County and adjacent southeast Tulare County, but otherwise The Golden State remained locked in a years-long drought. At the University of California-Berkeley's Central Sierra Snow Laboratory site near Donner Summit, there was only about a foot of snow on the ground, which is lower for late February than all of the dry winters in the last 70 years. Snow depth at this site never got above 3 feet this winter, when their usual maximum depth would be around 12 feet.

Mountain snowpack remained well below normal, not just in California but all across the Cascades, Sierra Nevada, and Intermountain Basin. The SNOTEL network snow water content ranked among the driest 5 percentile in the historical record for much of this area, with many SNOTEL sites unusually snow free this early in the season. The low mountain snowpack will significantly affect spring and summer water supplies, as melting of

## Weekly Water and Climate Update

the mountain snowpack provides an important water source during the warm season. Mountain snow water content was above normal in only a few parts of the Northern and Central Rockies. D1 expanded along the southern Cascades of Washington, and was added to the Olympic Mountains, to reflect the low snowpack. D1-D3 expanded in southwest Idaho (Owyhee and Canyon Counties) to reflect basin impacts. D0 expanded in southeast Idaho and into southwest Montana and northwest Wyoming (in the vicinity of Yellowstone National Park) where streamflow levels, snow water content, and water-year-to-date precipitation were low. Mountain snow water content and water-year-to-date precipitation were well below normal in northwest Utah to southwest Wyoming. Even though up to an inch of precipitation was observed this week in southwest Utah, NASA satellite-based measurements of groundwater indicated very dry conditions from southwest Utah to southwest Wyoming. As a result, D1 expanded across southwest Utah, D0-D1 expanded in northeast Utah into southwest Wyoming, D2 expanded in northwest Utah, and a spot of D3 was added to northwest Utah.

### Looking Ahead

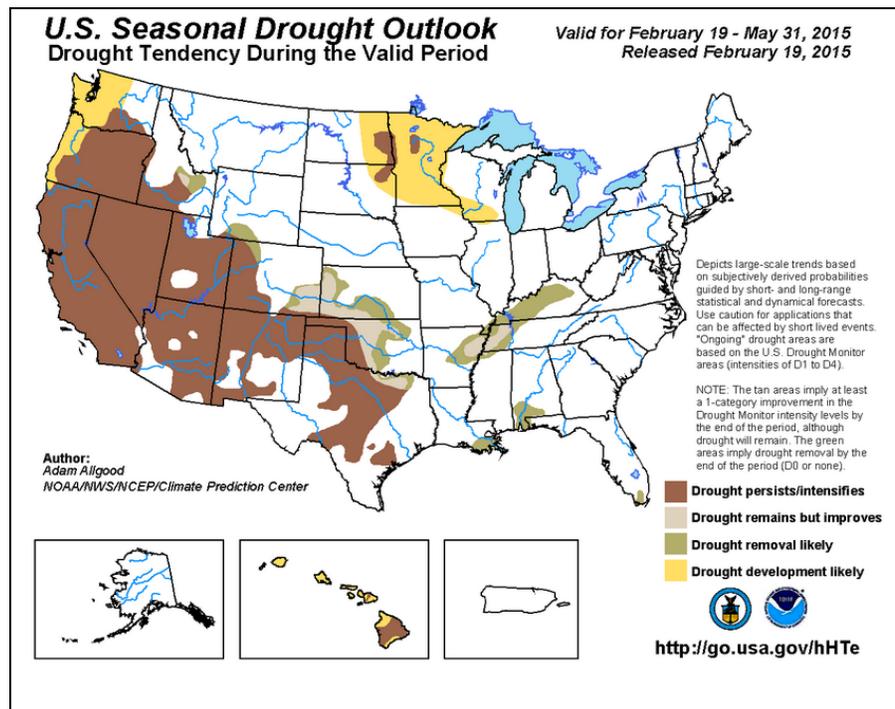
The upper-level circulation pattern (of ridge west/trough east) will undergo a change in the next 7 days. Weather systems will undermine the western ridge, allowing colder-than-normal air to spread westward and encompass most of the CONUS. Some precipitation (a tenth of an inch or more) is expected to fall across most of the CONUS during February 26-March 3. An inch or more is forecast for parts of the Pacific Northwest, Southwest, and Southern to Central Rockies, and for most of the country from the eastern Plains to the East Coast. The eastern storm track is predicted to bring 2 or more inches of precipitation to the Mid-Mississippi Valley to Ohio Valley and Southern Appalachians, as well as the Coastal Carolinas. The driest areas are expected to be the Northern Plains, southwest Texas, and parts of California.

The 6-10 day and 8-14 day outlooks keep the area of below-normal temperatures across most of the CONUS, with only the extreme Southeast, as well as Alaska, warmer than normal. The greatest chances for above-normal precipitation during March 2-10 are expected to be over Alaska and the eastern third of the CONUS. Below-normal precipitation is expected over the West and Northern Plains, spreading across the Rockies and into the Midwest later in the period.”

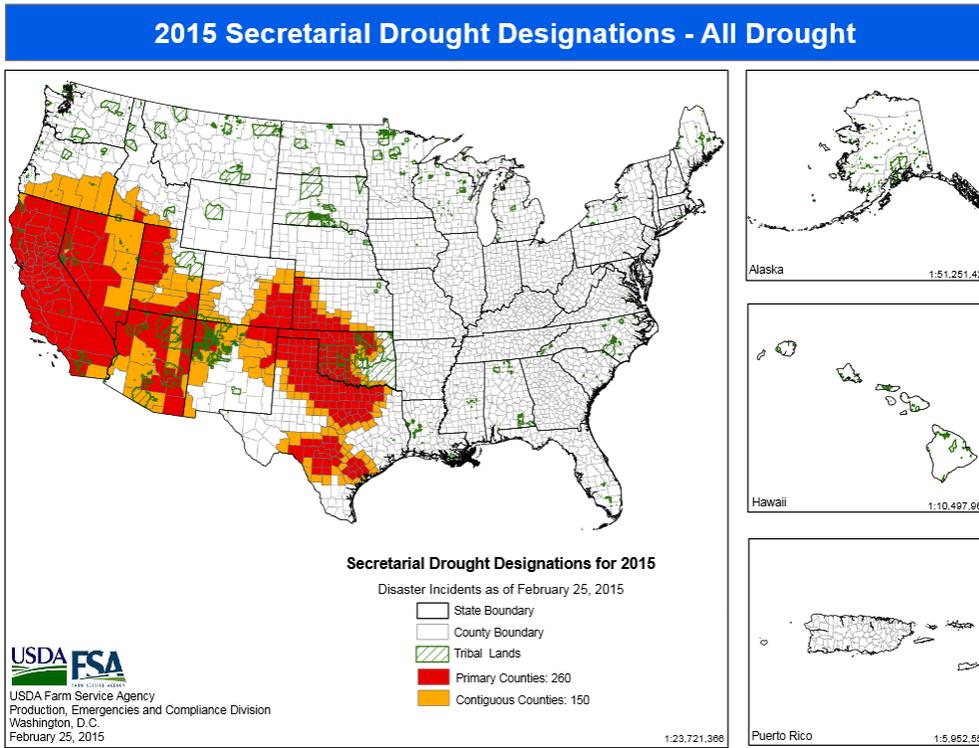
## Supplemental Drought Information

### National Seasonal Drought Outlook

Nationally, [drought](#) is expected to persist or intensify over much of the West and south central U.S., including California, Nevada, Oregon, Washington, Idaho, Utah, Arizona, New Mexico, Texas, Oklahoma, Nebraska, Colorado, and Hawaii. Improvements are expected in parts of Kentucky, Tennessee, Arkansas, Oklahoma, Nebraska, Texas and a few smaller areas elsewhere. The areas of drought that are likely to develop further are in the upper Midwest, the Pacific Northwest, and parts of Hawaii.



2015 USDA Secretarial Drought Designations

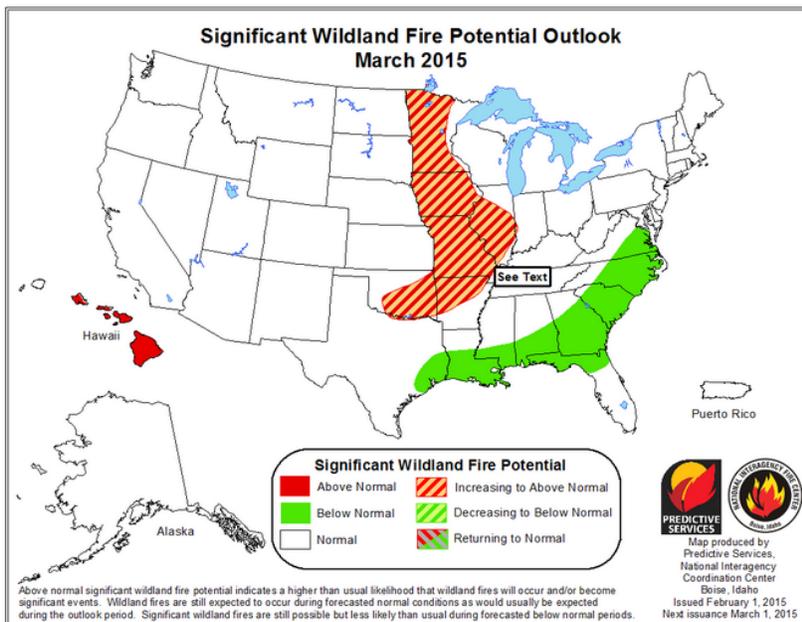


Refer to the USDA Drought Assistance [website](#) and [National Sustainable Agriculture Information Service](#).

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

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

National Fire Potential Outlook



March Fire Forecast

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

The central U.S. has increasing to above normal fire potential for March. Below normal fire potential area for March 2015 (in green on the map) is forecast for Texas and the Southeast to the mid-Atlantic states.

Hawaii has above normal fire potential on most of the islands.

## 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.

#### “Western U.S.

Low snowpack in the West has many on edge, knowing the summer will be a challenge without the snow providing runoff during the warmer months. Meanwhile, in Colorado, the snowpack was slightly below normal, boding well for the Colorado River Basin. Southwestern Colorado, however, had far less snow than the rest of the state.

#### More water restrictions ahead for California?

The California State Water Resources Control Board is considering extending current water restrictions and adopting additional limits on water use as the state heads into its fourth year of drought. Among the possible measures are requiring restaurant customers to request water and hotel guests to ask for new towels and sheets.

#### California citrus growers battered by West Coast labor dispute

On top of the drought damage and high water prices endured by California citrus growers, the West Coast labor dispute has caused additional financial losses for growers. Fewer citrus fruits were being exported near the peak of the season as the movement of goods through seaports slowed.

#### Ski, snowboarding competitions cancelled near Lake Tahoe

The lack of snow at Squaw Valley resort in Placer County led to the cancellation of the World Cup skicross and snowboardcross races on March 4-8. The area has received just 140 inches of snow this winter, but normally gets an annual average of 450 inches. The U.S. Ski and Snowboard Association’s Hole Shot NorAm and U.S. Revolution Tour skicross and snowboardcross to be held on March 9-13, has also been cancelled.

#### Texas drought recognized as being worse than 1950s drought

Near historical low inflows to the Highland Lakes and the duration and intensity of the drought spurred the Lower Colorado River Authority to describe the current drought as being worse than the 1947 to 1957 drought.

#### New pipeline to enhance Oklahoma City’s water supply

As prolonged drought continues to diminish Oklahoma City’s water supply, city officials were constructing a 29-mile pipeline to move water from the Lake Stanley Draper treatment plant to a booster station to fill the city’s northern reservoirs, lakes Hefner and Overholser.

#### Hawaiians on the east side of the Big Island running low on water

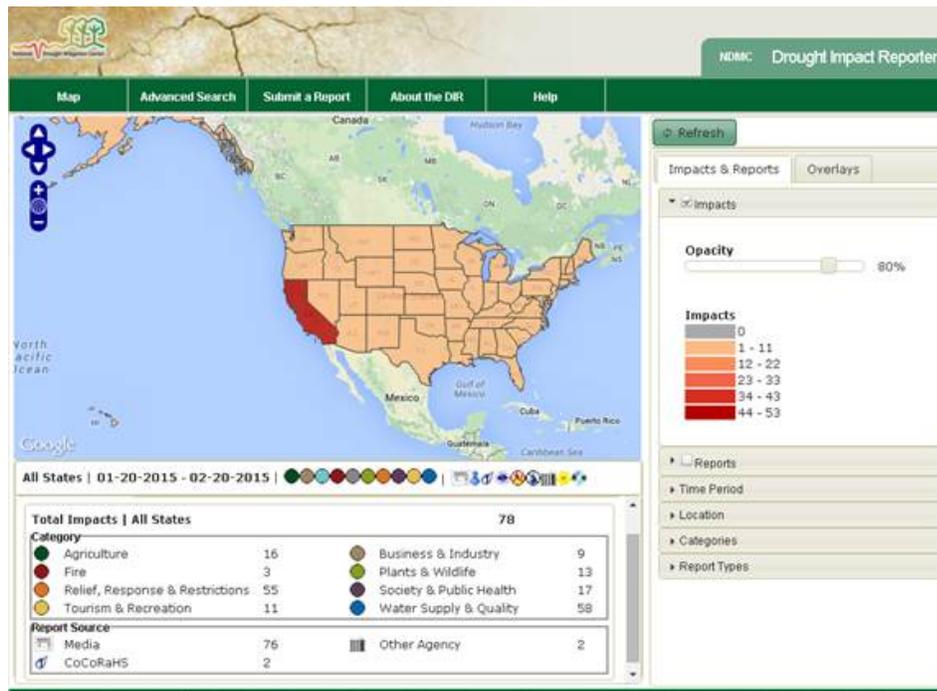
Water haulers on the east side of the Big Island were chaotically busy and booked for weeks in advance because the area has gotten only a few downpours since Jan. 3. Many households in the area have rain catchments systems that were dry or nearly so.

#### Bleak water situation in Brazil

São Paulo’s reservoirs are nearly empty and unable to provide water much longer. A senior official at São Paulo’s water utility was secretly recorded as saying that residents may have to be warned to leave because “there’s not enough water, there won’t be water to bathe, to clean.”

## Weekly Water and Climate Update

Visit the [Drought Impact Reporter](#) for additional impact information.



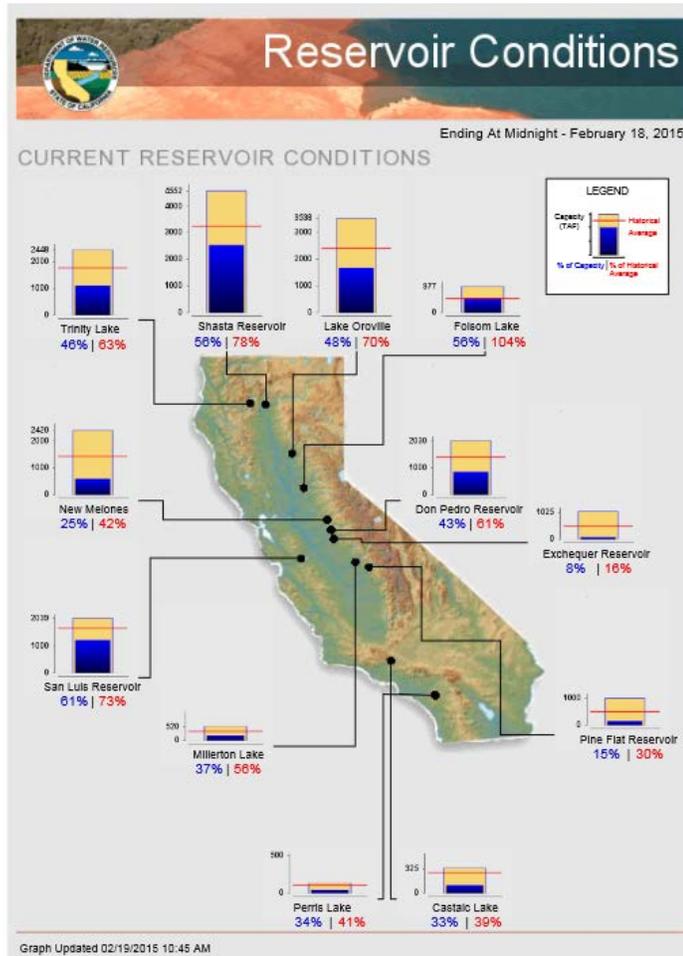
### Tea Cup Reservoir Depictions

- <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](#)



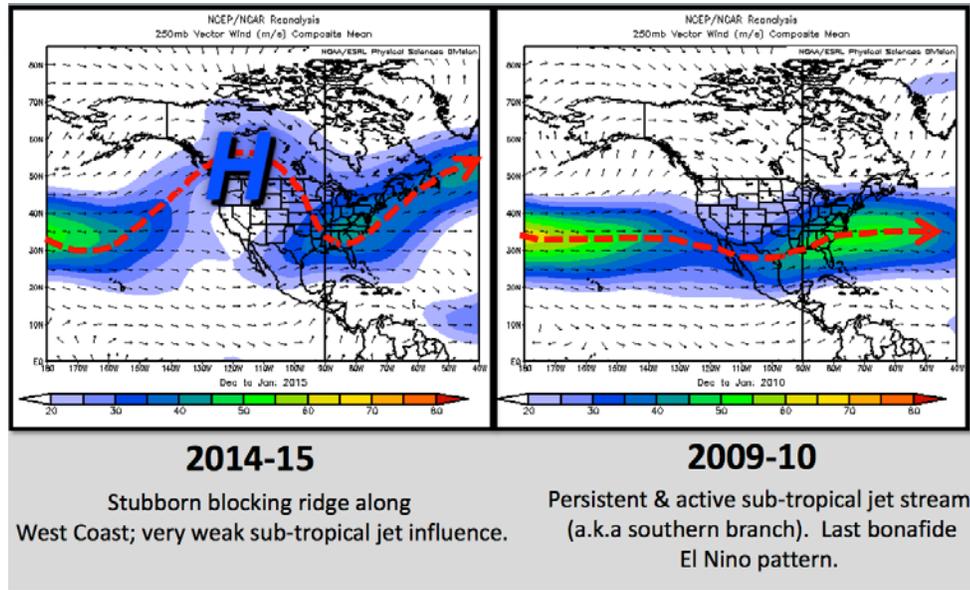
### State Activities

[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](#).

### Persistent weather pattern dominates the U.S.

Here is a graphic from the National Weather Service on the persistent weather pattern and mean jet stream position that has affected the U.S. for much of this winter. The current year was originally forecast to be in an El Niño pattern, which hasn't occurred. The current year's weather pattern on the left is in contrast to the normal El Niño pattern on the right that occurred in 2009- 2010.

## Weekly Water and Climate Update



### 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