



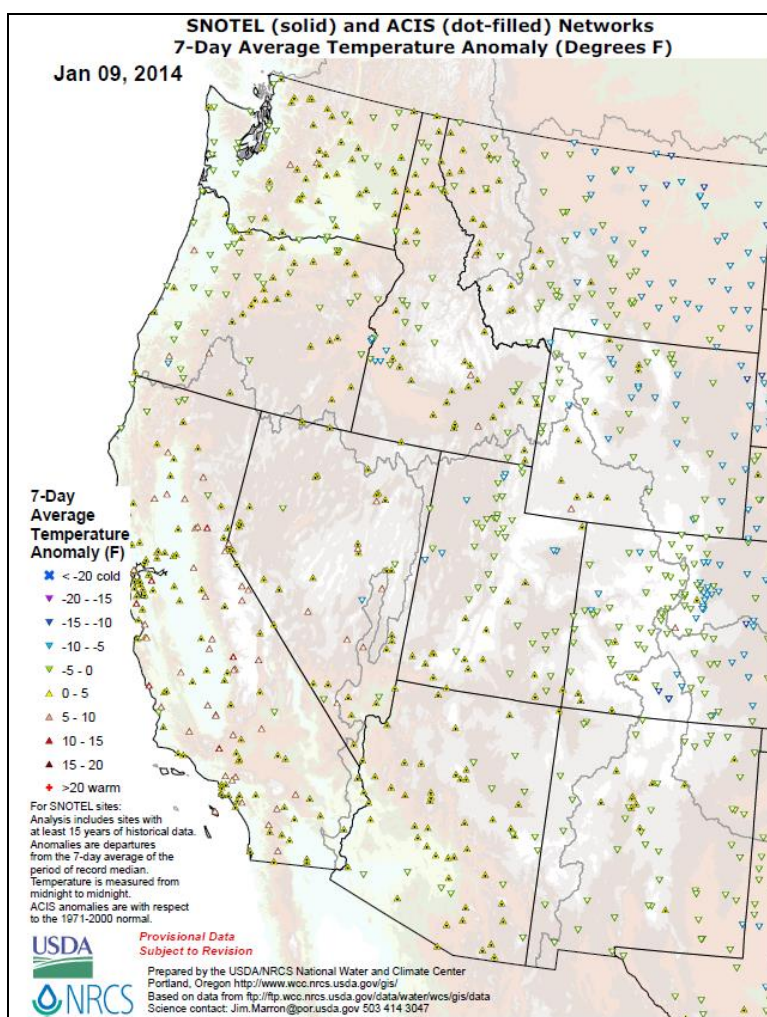
Natural Resources Conservation Service
P.O. Box 2890
Washington, D.C. 20013

Weekly Snowpack / Drought Monitor Update

January 9, 2014

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Temperature



SNOTEL and ACIS [7-day temperature anomaly](#) map shows temperatures within $\pm 5^{\circ}\text{F}$ of normal, except for larger negative departures over the western High Plains.

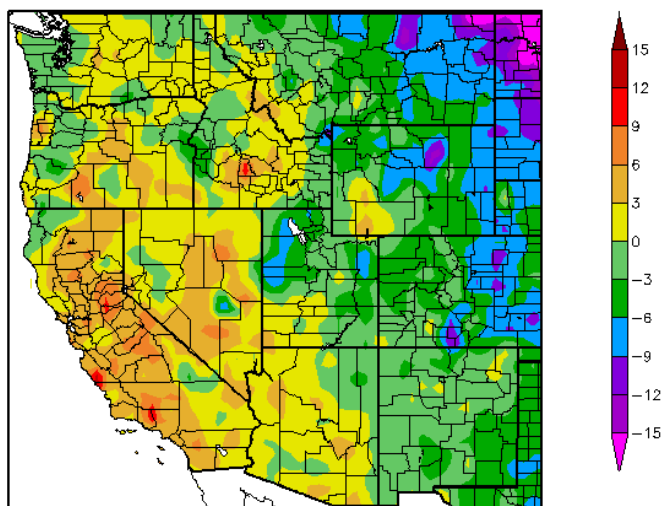
Click map to enlarge and see latest available update.

Weekly Snowpack and Drought Monitor Update Report

[ACIS](#) 7-day average temperature anomalies, ending January 8, show the greatest negative temperature departures over northeastern Montana ($<-12^{\circ}\text{F}$). The greatest positive temperature departures occurred over parts of southern California ($>+9^{\circ}\text{F}$).

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

Departure from Normal Temperature (F)
1/2/2014 – 1/8/2014

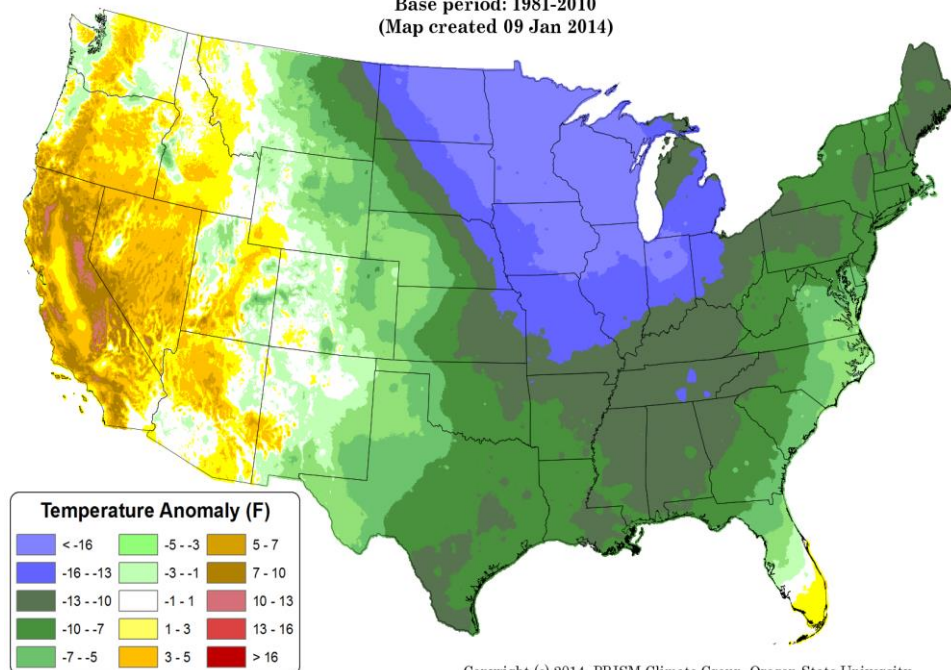


Generated 1/9/2014 at HPRCC using provisional data.

Regional Climate Centers

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.

Daily Mean Temperature Anomaly: 01 January 2014 - 08 January 2014
Period ending 7 AM EST 08 Jan 2014
Base period: 1981-2010
(Map created 09 Jan 2014)



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

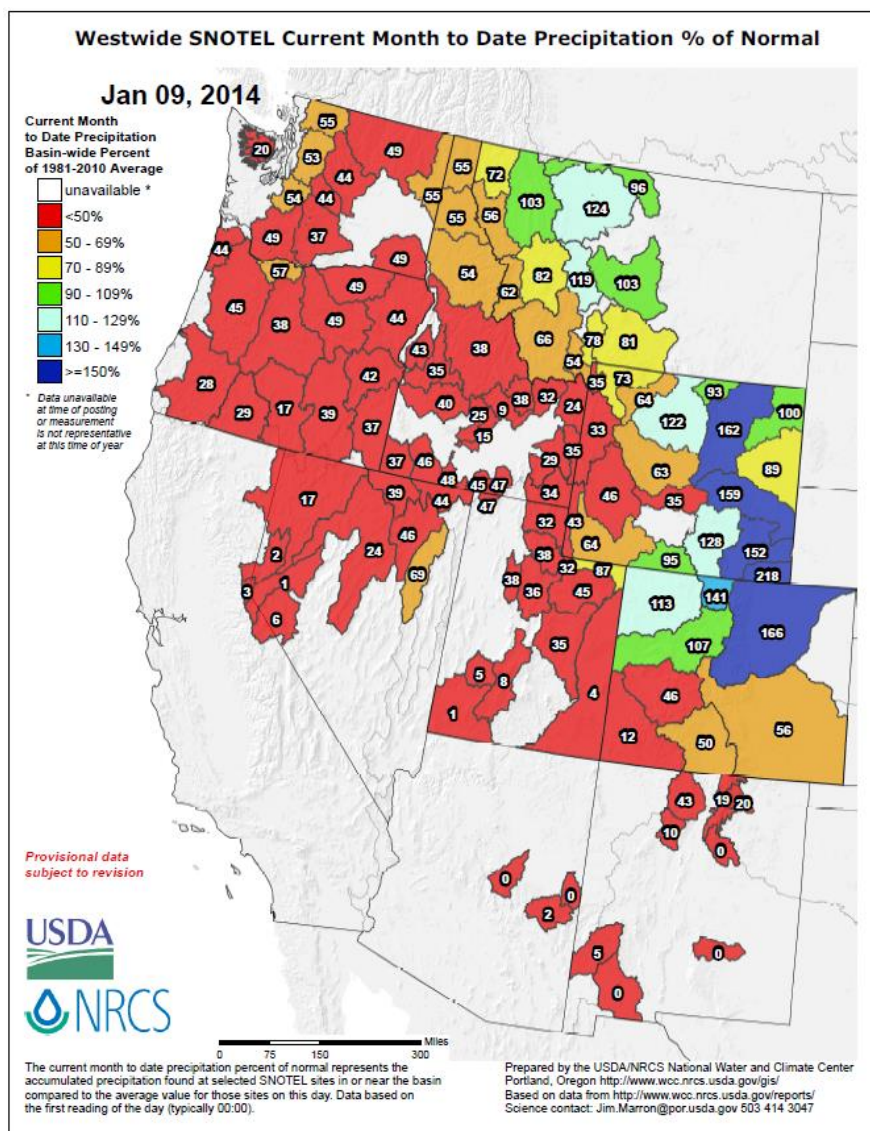
For the first week in January, it has been very cold over the northeastern High Plains and western Great Lakes ($<-16^{\circ}\text{F}$ departure). Warmer than normal temperatures have occurred over the West Coast states and in particular the Sierra ($>+10^{\circ}\text{F}$).

Weekly Snowpack and Drought Monitor Update Report

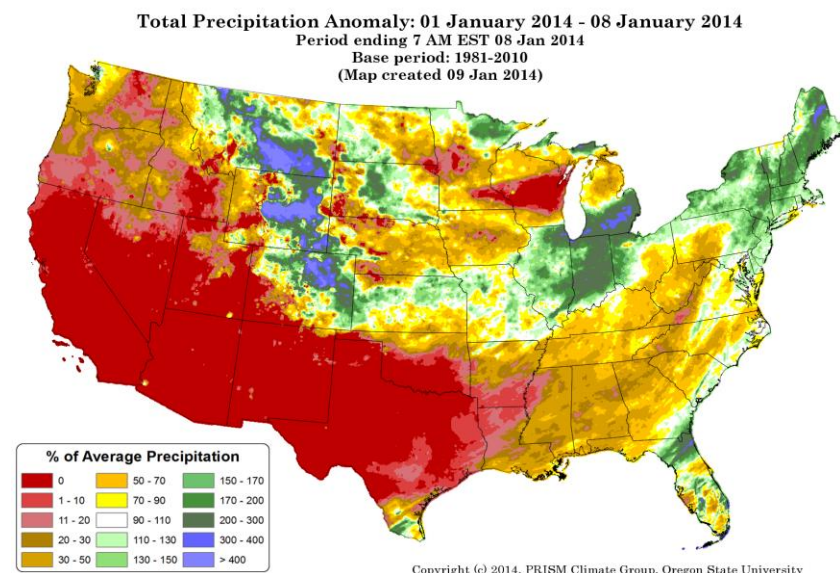
Precipitation

SNOTEL [month to date](#) precipitation percent of normal shows a mostly dry month for much of the West. Note the extreme deficits over parts of Washington, Oregon, Idaho, California, Nevada, Utah, southern Idaho, western Wyoming, and southwest Colorado. Another region with deficits is over Arizona and New Mexico. Substantial surpluses occurred over a few river basins in central Montana and especially over eastern Wyoming and northeastern Colorado.

It should be noted that it takes only a few winter storms to help increase values to near normal over the Southwest, whereas it requires more storms to have the same impact over the Pacific Northwest.



Click on images to enlarge and get latest available updates

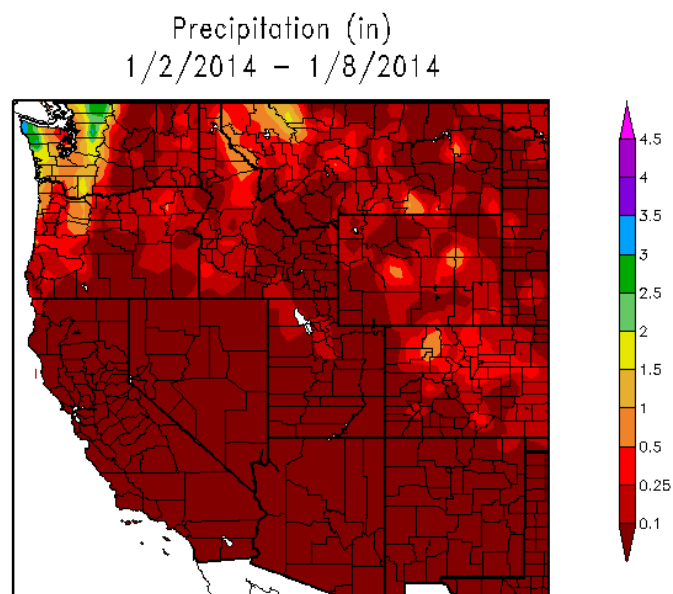


← Thus far, January precipitation has been a story of haves and have-nots, as was December's pattern. Moisture has favored New England, the lower Great Lakes, and the central and northern Rockies. Elsewhere, little precipitation has fallen; especially over the western and southwestern states into Texas.

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

Weekly Snowpack and Drought Monitor Update Report

[ACIS 7-day](#) average precipitation amounts show another week with very limited precipitation across the West. Washington state has bucked this trend with precipitation exceeding two inches over the Olympic and Cascade ranges.
→

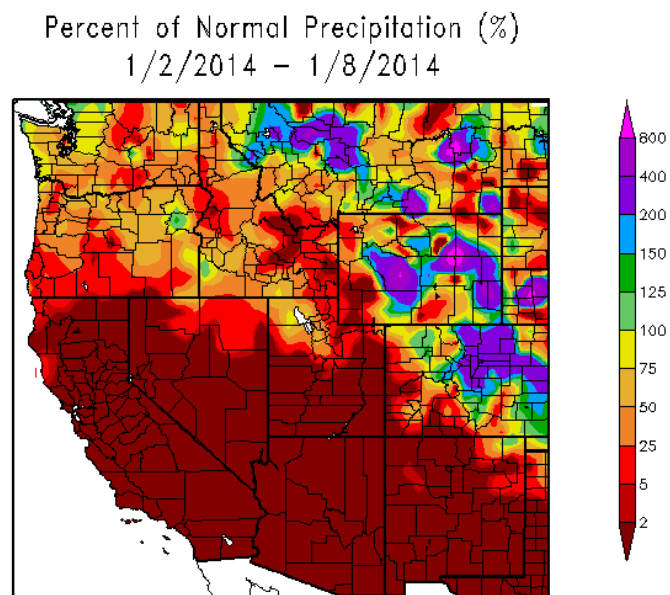


Generated 1/9/2014 at HPRCC using provisional data.

Regional Climate Centers

This [map](#) shows that the bulk of precipitation by percent of normal occurred across scattered regions of the Rockies and eastward. Despite higher precipitation totals in the extreme Pacific Northwest, as noted previously, these values are still behind what is typical for this time of year.

It should be noted that these ACIS maps reflect only low-elevation stations where precipitation is typically light this time of year.



Generated 1/9/2014 at HPRCC using provisional data.

Regional Climate Centers

Weekly Snowpack and Drought Monitor Update Report

For the [2014 Water Year](#) that began on October 1, 2013, the ENSO pattern is quite dry over the western half of the West including the Arizona and New Mexico.

Areas east of the Continental Divide have fared better.

Daily Water Supply Forecast (DWSF) models are up and running for those interested in following water supply forecast trends.

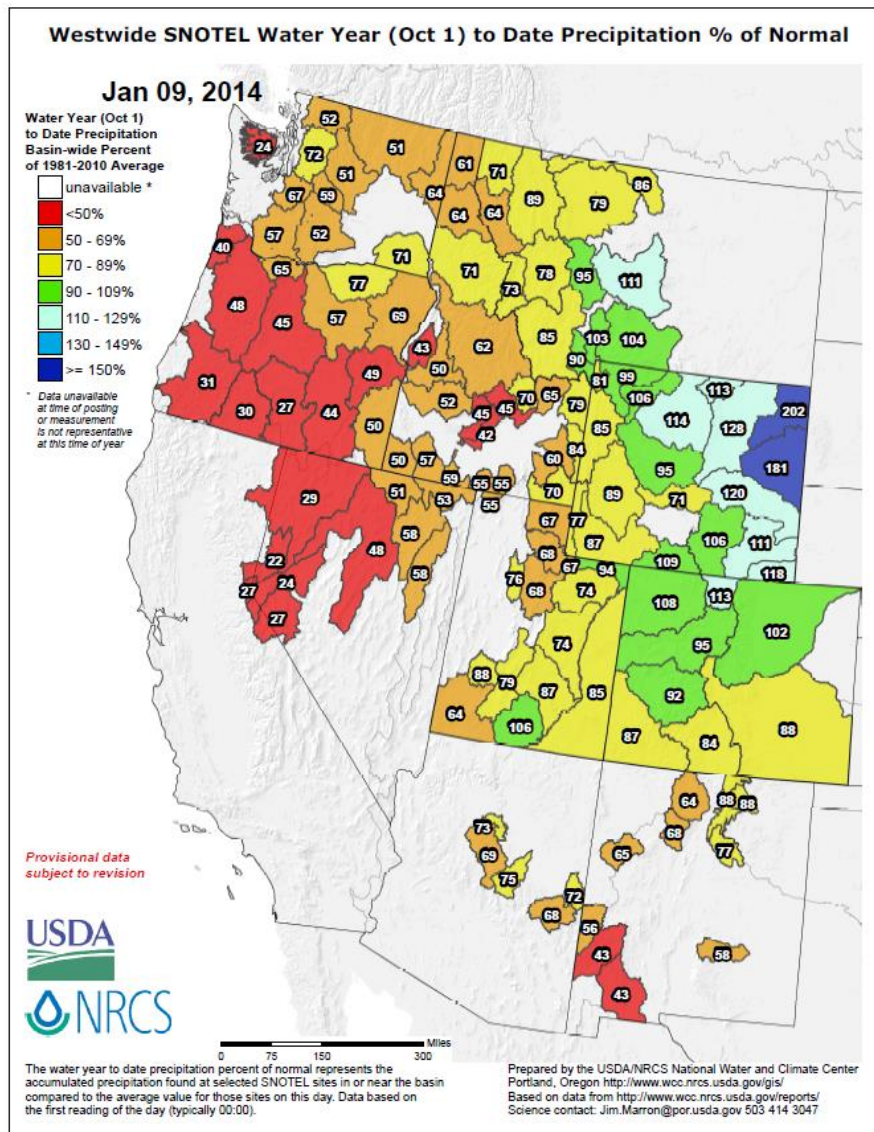
As a reminder of where to access these products and west-wide summary maps, here's the [link](#).

For a quick overview of current forecasts, the west-wide percent map is quite [handy](#).

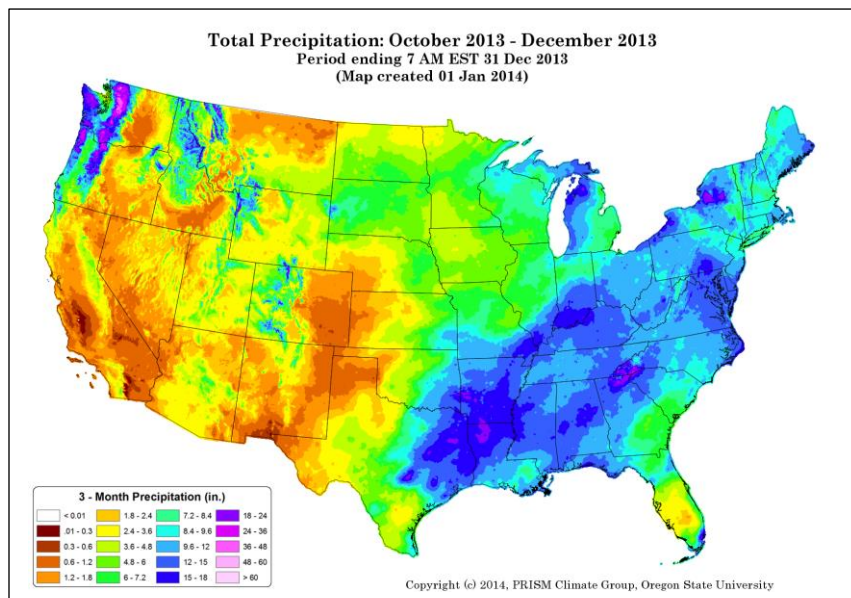
And if you're curious about the trend over the last two weeks, check [here](#).

Not all points are available from the drop down list on the main page – but you can go directly to the ftp server for the [charts / graphs](#).

There are a handful of models missing (spreadsheets need to be updated) – most notably in the Upper Snake and Willamette – and when those are added we'll have over 300 points running across the West.



Click image for latest available update

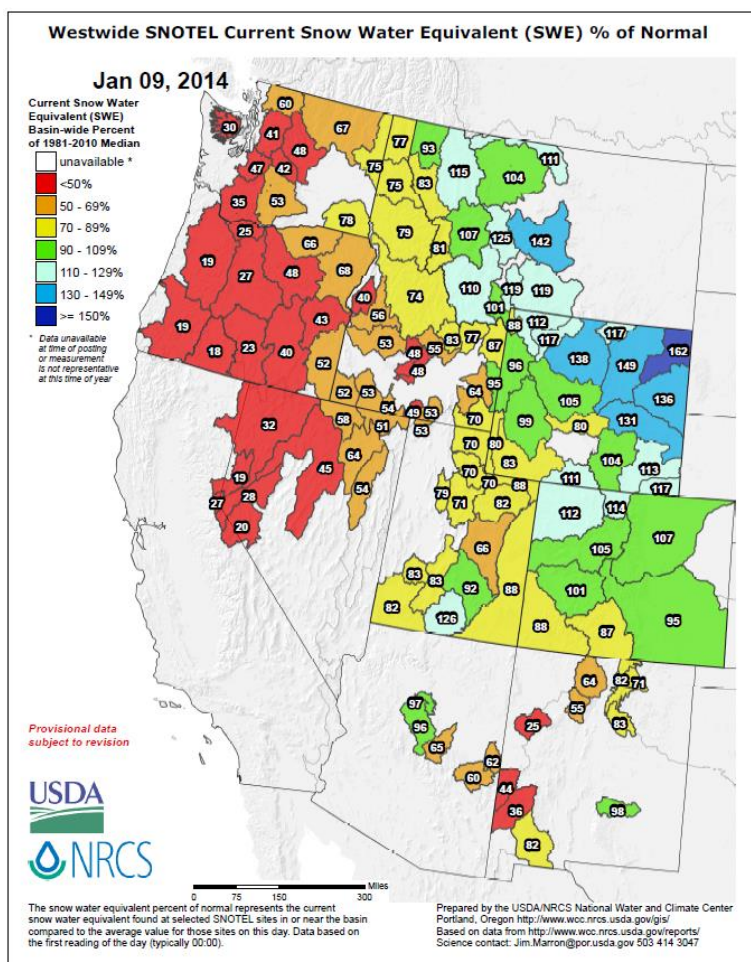


In this PRISM map, preliminary data show the **total precipitation** amount (rain and snow water equivalent) during the period October through December 2013. Resolution for this PRISM map is 4x4 km.

Typically, this is a period when the western-most states experience their greatest precipitation. Although heavier amounts have fallen in the coastal ranges and Cascades, these totals have still failed to meet their long-term averages.

Weekly Snowpack and Drought Monitor Update Report

Snow



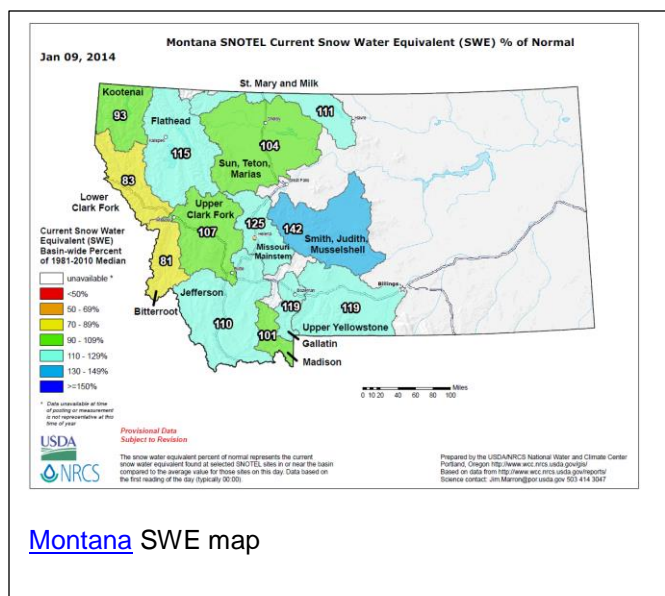
Snow Water Equivalent (SWE) values are doing better east of the Continental Divide and in parts of southern Utah.

Conditions west of the Continental Divide are continuing to get drier.

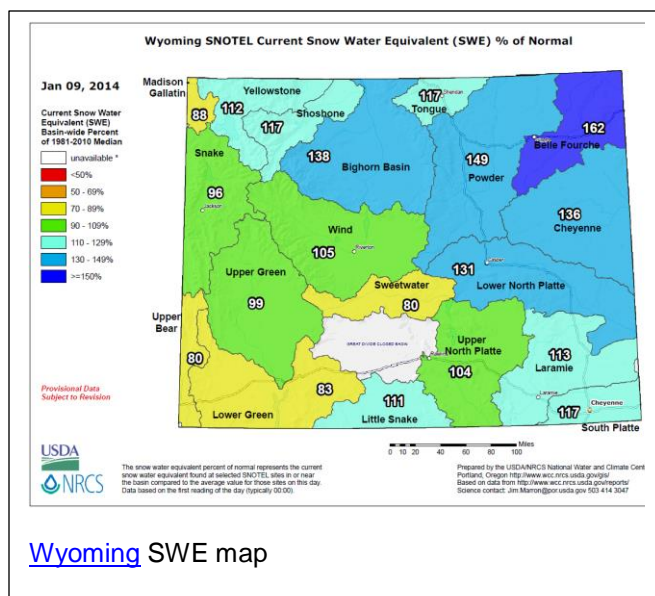
The all-important April 1 ^{*} SWE date will best determine the water supply forecasts issued by the [National Water and Climate Center](#).

See latest [National Snow Analysis](#)

^{*} See the last page of this report for more information on this subject.



[Montana](#) SWE map



[Wyoming](#) SWE map

SWE values in these states are generally better than the other western states. However, widespread moisture still exists over some western basins. High pressure is expected to dominate the West in the next two weeks or longer, and this will probably result in a gradual snowpack decline.

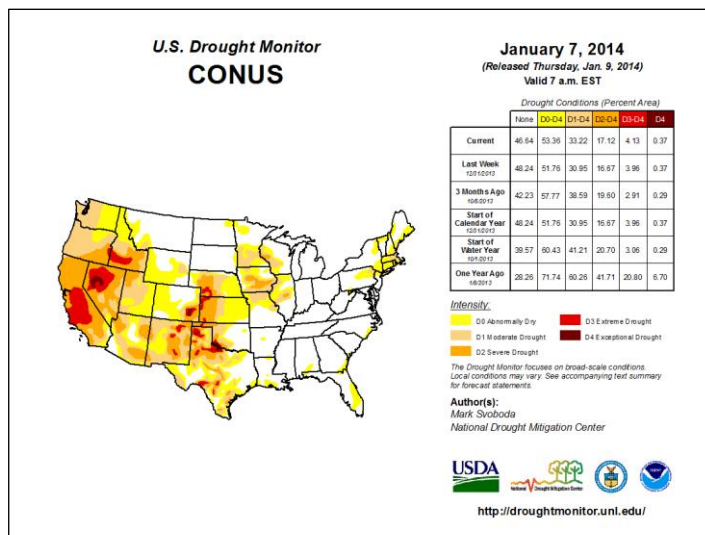
Weekly Snowpack and Drought Monitor Update Report

Weather and Drought Summary

National Drought Summary – January 7, 2014

The following **Weather and Drought Summary** is provided by this week's NDMC Drought Author, Mark Svoboda, National Drought Mitigation Center.

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



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

Drought Management Resources (✓):

- ✓ [Watch AgDay TV](#)
- ✓ [Drought Impacts Webinar Series](#)

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

Total Reports | All States

30

Category

General Awareness	11	Agriculture	9
Business & Industry	1	Energy	3
Fire	5	Plants & Wildlife	10
Relief, Response & Restrictions	8	Tourism & Recreation	6
Water Supply & Quality	15		

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 below, click [here](#).

Weekly Snowpack and Drought Monitor Update Report

- ✓ Drought Monitor for the [Western States](#)
- ✓ Drought Impact Reporter for [New Mexico](#)
- ✓ [California Data Exchange Center](#) & [Flood Management](#)
- ✓ [Intermountain West Climate Dashboard](#)
- ✓ [Great Basin Dashboard](#)

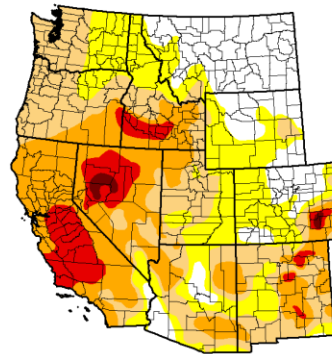
California Drought [Impacts](#)

Impacts California 01-02-2014 - 01-09-2014	
Total Impacts	3
Statewide Impacts	0
Category	
Business & Industry	1
Relief, Response & Restrictions	2
Tourism & Recreation	1
Water Supply & Quality	2
Report Source	
Media	3

← California has the most impacts during the past week for any state in the nation.

See a special report at the end of this week's issue.

U.S. Drought Monitor West



January 7, 2014
(Released Thursday, Jan. 9, 2014)
Valid 7 a.m. EST

Drought Conditions (Percent Area)		None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current		18.58	81.34	57.47	32.31	8.20	0.83
Last Week	(12/10/13)	22.29	77.80	51.44	31.11	7.75	0.83
3 Months Ago	(10/07/13)	27.44	72.56	56.86	32.69	5.34	0.83
Start of Calendar Year	(1/1/14)	22.29	77.80	51.44	31.11	7.75	0.83
Start of Water Year	(10/1/13)	25.25	74.75	58.96	34.18	5.57	0.83
One Year Ago	(1/09/13)	24.51	75.49	58.47	34.13	16.79	2.10

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:
Mark Svoboda
National Drought Mitigation Center

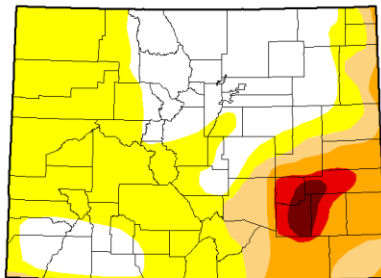


<http://droughtmonitor.unl.edu/>

Note that there was deterioration this week.
Click to enlarge

The West: There seems to be no relief in sight as the calendar flips over to 2014. Persistent ridging has kept precipitation at bay for many, leading to record-setting dryness for many locations in California and Oregon; this has become more of an issue of late in Washington as well. Even though California sees no changes on this week's map, more deterioration could be coming soon given the weather pattern, or lack thereof, and concern for water supply, fire and other impacts grows each week the rains and snows don't come. In fact, many locations in California reported the calendar year 2013 as being the driest on record, smashing previous record dry years (including 1976). One such example is Shasta Dam, where only 16.89 inches was reported in 2013, more than 11 inches below the previous record low of 27.99 inches in 1976.

U.S. Drought Monitor Colorado



January 7, 2014
(Released Thursday, Jan. 9, 2014)
Valid 7 a.m. EST

Drought Conditions (Percent Area)		None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current		32.04	67.96	22.33	13.56	4.01	1.47
Last Week	(12/10/13)	32.04	67.96	22.33	13.56	4.01	1.47
3 Months Ago	(10/07/13)	24.89	75.11	38.35	12.01	4.01	1.47
Start of Calendar Year	(1/1/14)	32.04	67.96	22.33	13.56	4.01	1.47
Start of Water Year	(10/1/13)	24.91	75.09	37.88	12.01	4.01	1.47
One Year Ago	(1/09/13)	0.00	100.00	100.00	95.06	53.47	13.48

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:
Mark Svoboda
National Drought Mitigation Center



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

No changes have occurred during the past week.

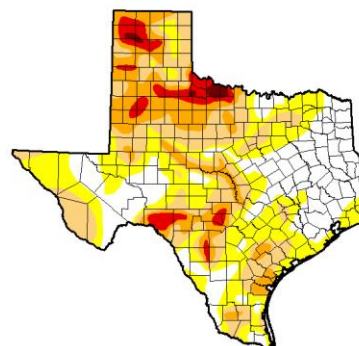
State with D-4 Exceptional Drought

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

Texas [Impacts](#) during the past week:

Impacts Texas 12-02-2013 - 01-02-2014	
Total Impacts	6
Statewide Impacts	1
Category	
Agriculture	3
Relief, Response & Restrictions	3
Society & Public Health	1
Water Supply & Quality	3
Report Source	
Media	6

U.S. Drought Monitor Texas



January 7, 2014
(Released Thursday, Jan. 9, 2014)
Valid 7 a.m. EST

Drought Conditions (Percent Area)		None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current		28.13	71.87	43.89	20.84	5.82	0.79
Last Week	(12/10/13)	28.48	71.52	43.84	21.15	5.82	0.79
3 Months Ago	(10/07/13)	6.60	93.40	70.47	25.41	4.41	0.12
Start of Calendar Year	(1/1/14)	28.48	71.52	43.84	21.15	5.82	0.79
Start of Water Year	(10/1/13)	6.62	93.38	70.95	25.08	4.01	0.12
One Year Ago	(1/09/13)	4.29	95.71	83.78	65.85	34.79	11.41

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:
Mark Svoboda
National Drought Mitigation Center



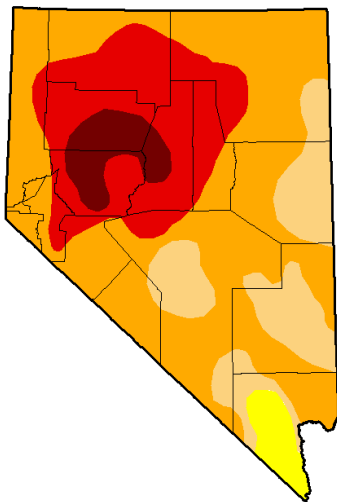
<http://droughtmonitor.unl.edu/>

Note slight improvement in D1 to D3 categories during the past week.

Weekly Snowpack and Drought Monitor Update Report

State with D-4 Exceptional Drought

U.S. Drought Monitor Nevada



January 7, 2014
(Released Thursday, Jan. 9, 2014)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	96.81	80.30	28.55	5.37
Last Week 12/21/2013	0.39	99.61	96.81	77.66	28.55	5.37
3 Months Ago 10/6/2013	0.43	99.57	96.79	79.11	28.55	5.37
Start of Calendar Year 1/1/2013	0.39	99.61	96.81	77.66	28.55	5.37
Start of Water Year 10/1/2012	0.39	99.61	96.79	79.11	28.55	5.37
One Year Ago 1/6/2013	0.10	99.90	93.71	55.93	9.23	0.00

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:
Mark Svoboda
National Drought Mitigation Center



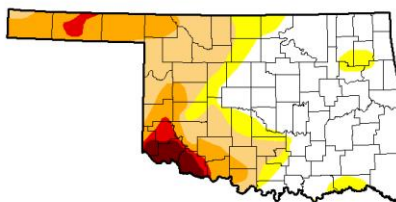
<http://droughtmonitor.unl.edu/>

**Note: No changes
occurred this past week.**

State with D-4 Exceptional Drought

U.S. Drought Monitor Oklahoma

**Note: No changes occurred
this past week.**



January 7, 2014
(Released Thursday, Jan. 9, 2014)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	50.84	49.16	38.17	18.99	4.84	2.40
Last Week 12/21/2013	50.84	49.16	38.17	18.99	4.84	2.40
3 Months Ago 10/6/2013	22.70	77.30	42.81	18.12	4.42	1.45
Start of Calendar Year 1/1/2013	50.84	49.16	38.17	18.99	4.84	2.40
Start of Water Year 10/1/2012	21.74	78.26	43.00	17.62	4.42	1.45
One Year Ago 1/6/2012	0.00	100.00	100.00	100.00	94.89	37.06

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.

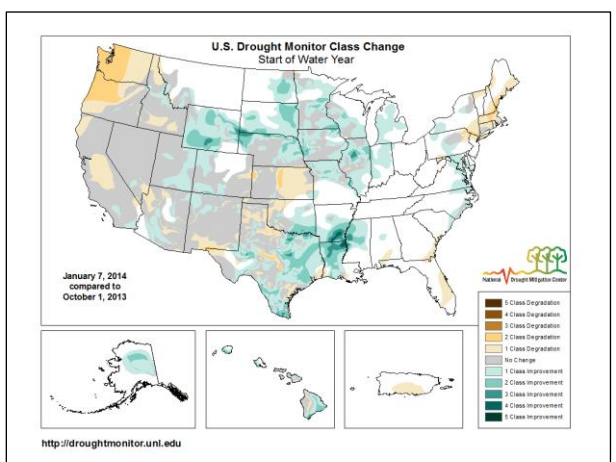
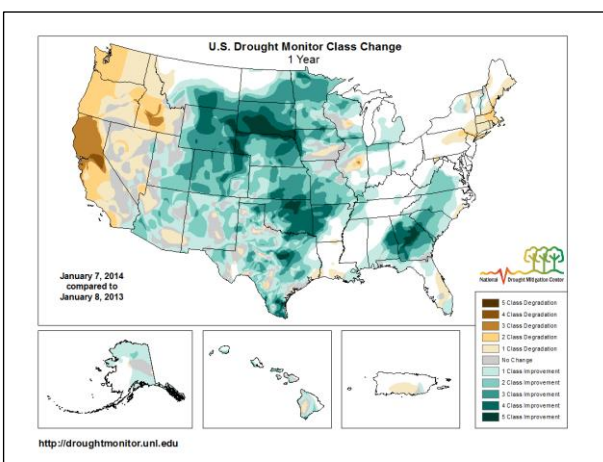
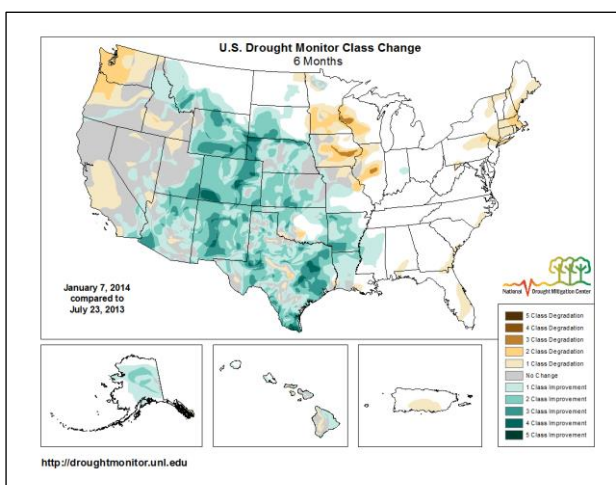
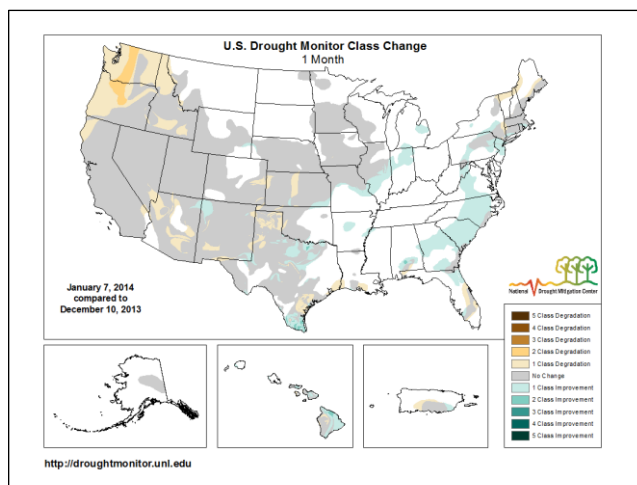
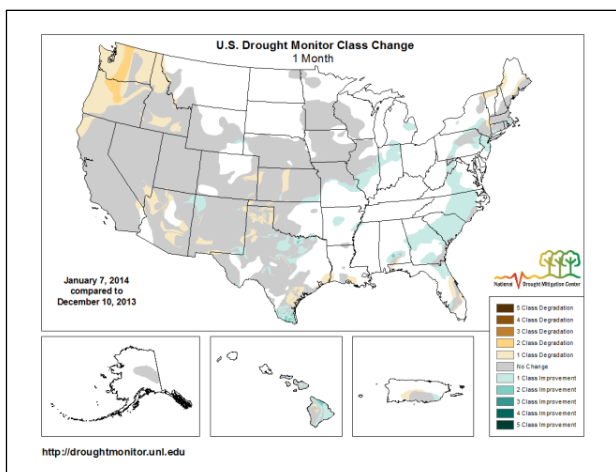
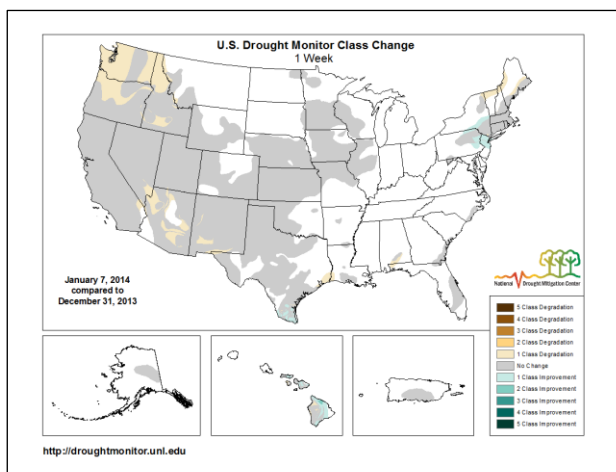
Author:
Mark Svoboda
National Drought Mitigation Center



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

Weekly Snowpack and Drought Monitor Update Report

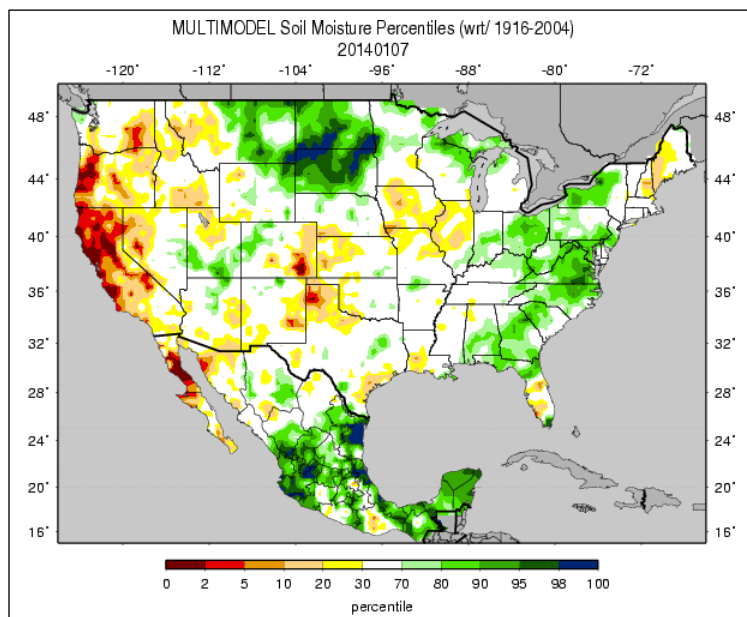
New Feature: [Changes in Drought Monitor Categories](#) (over various time periods)



Winter time changes to the drought monitor are usually minimal. However, over the past several months, drought conditions have improved significantly over a vast portion of the center of the U.S.

Weekly Snowpack and Drought Monitor Update Report

Soil Moisture



Soil moisture ranking in [percentile](#) as of January 7 shows considerable dryness over western Oregon and northern California. Moist soils dominate the Northern Plains and many of the eastern states.

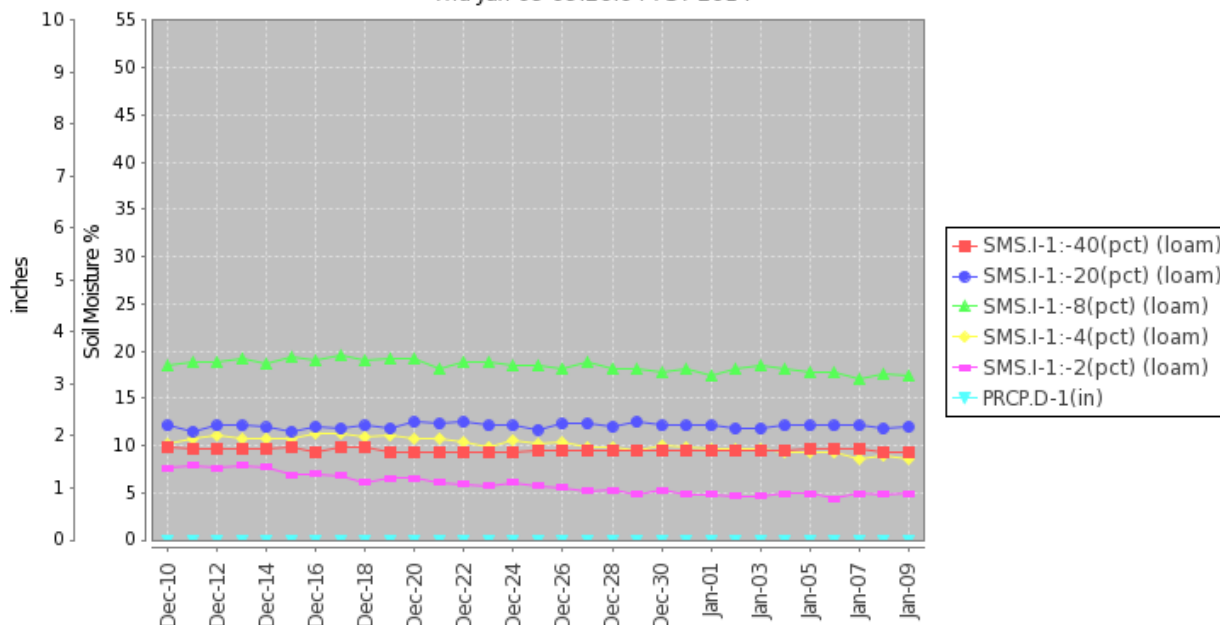
Useful Hydrological Links: [Crop Moisture Index](#); [Palmer Drought Severity Index](#); [Standardized Precipitation Index](#); [Surface Water Supply Index](#); [Weekly supplemental maps](#); [Minnesota Climate Working Group](#); [Experimental High Resolution Drought Trigger Tool](#); [NLDAS Drought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

[Soil Health-unlock your farm's potential](#)

Note: As the ground freezes, accuracy of measured moisture decreases.

Soil Climate Analysis Network ([SCAN](#))

Station (2184) MONTH=2013-12-10 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision
Thu Jan 09 09:26:04 PST 2014



This NRCS resource shows a site over [southern California](#) with steady but dry soil moisture. Note no precipitation falling during the past month (light blue line).

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 Snowpack and Drought Monitor Update Report

National Drought Summary for January 7, 2014

Mark Svoboda, National Drought Mitigation Center

Hawaii, Alaska and Puerto Rico - "The windward (mostly confined to the northeast-facing slopes) areas of the state saw significant precipitation this past week while the leeward (western) areas of Maui and the Big Island remained very dry for the most part. This has led to a mixed bag of both improvements and deterioration on several islands. Of note, Molokai saw improvement through a pushing west of D0-D1. Longer-term drought and impacts on the rest of the island keep D1-D3 in place. Continued rains across Maui's northeast slopes in and around Haleakala leads to a reduction of D0-D1, and recent rains in the Upcountry area led to reduction of some D3 there as well. Lanai continues to see below-normal rainfall and as such the northwest half of the island has slipped from D1 to D2 on this week's map. The Big Island has seen better rains over the past several weeks (particularly along the northeast-facing slopes), leading to localized heavy rains and flash flooding. Both D0 and D1 have been pushed farther west. The area of D3 near Upolu and Hawi improves from D3 to D2 this week as well. Spotty rains over the interior and leeward areas of the island brings expansion of D2 to the southern Kohala District as ranchers are still pressed into hauling water for livestock and the threat of fire is still high. The D3 in central Hawaii also expands a bit eastward as well. Finally, conditions in and around Kona warrant a degradation from D0 to D1.

Conditions remain unchanged this week in both Alaska and Puerto Rico.

The Central and Northern Plains and Midwest - Bitter cold and snows swept across most of the Plains and Midwest this past week. Given the time of year, frozen soils and lack of impacts, no changes were made on the map this week as the dryness and drought remain freeze dried in place.

The Northeast - The recent wetness of the past month or so has generally resulted in improvement in the dryness and drought across much of the Northeast and southern New England. Both D0 and D1 have been reduced across parts of eastern Pennsylvania and northern New Jersey as well as in southeastern New York. However, the recent storm systems haven't been as favorable to those in northern New England, as D0 expands from northern Vermont eastward across northern New Hampshire and into northwestern Maine. In addition, the southern coast of Maine also saw a slight expansion of D0 a bit more inland because of the longer-term seasonal dryness that stretches back to early October.

The Southeast - Modest rains were scattered across much of the region last week, but not enough fell to offset longer-term seasonal dryness, so status quo applies to most areas. The exception to this is in southern Alabama and the extreme western counties of the Florida Panhandle, where D0 expanded slightly after contracting over the past few weeks.

The Southern Plains and Lower Mississippi Valley - Last week was generally very dry and very cold as an Arctic air mass made its presence known from the U.S.-Canadian border down to the Gulf of Mexico. One area that continues to see steady improvement is in deep southern Texas where contraction continues this week across the D0-D2 pockets scattered about the region. One area that hasn't shared in the favorable pattern is the southeastern coast of Texas and the southwest corner of Louisiana, where D0 is introduced this week.

The West - There seems to be no relief in sight as the calendar flips over to 2014. Persistent ridging has kept precipitation at bay for many, leading to record-setting dryness for many locations in California and Oregon; this has become more of an issue of late in Washington as well. Even though California sees no changes on this week's map, more deterioration could be coming soon given the weather pattern, or lack thereof, and concern for water supply, fire and other impacts grows each week the rains and snows don't come. In fact, many locations in California reported the calendar year 2013 as being the driest on record, smashing previous record dry years (including 1976). One such example is Shasta Dam, where only 16.89 inches was reported in 2013, more than 11 inches below the previous record low of 27.99 inches in 1976. Shasta's calendar year average is 62.72 inches. Upper elevation Sierra station snowpack and snow water equivalent (SWE) values in California have been abysmal for the Water Year (since October 1) as well. The historic low precipitation totals haven't just been confined to the upper elevations either as dozens of locations have shattered their previous record low calendar year totals.

Weekly Snowpack and Drought Monitor Update Report

In the Pacific Northwest, D1 has pushed northward across western Oregon and into western Washington up to the Canadian border this week. Both snow pack and snow water equivalent SWE levels are very low as we move deeper into the wet season. In Idaho, D0 now covers the entire Panhandle and has pushed into more of extreme northwestern Montana. The D3 pockets in southern Idaho have been combined and D3 now stretches across most of the southern part of the state. The Southwest has also been dry for the Water Year as the monsoon season is now out of the rear view mirror as we head into the second half of the wet winter season. The resultant lack of precipitation means D0-D2 has expanded slightly in southern and central Arizona as well as in northwestern Arizona, where D2 has pressed southward out of extreme southern Nevada. Southern New Mexico also sees a slight expansion of D1 this week.

Looking Ahead - During the January 9-13, 2014, time period, a strong ridge appears primed to set up camp for the next couple of weeks, bringing better prospects for well above-normal temperatures across most of the country. The only notable exception is southwestern Colorado, where temperatures are expected to be slightly below the norm. A strong storm system could bring the first considerable widespread winter event to the Pacific Northwest, particularly the western halves of Oregon and Washington as well as the Idaho Panhandle. Good moisture is also predicted for the southern Plains (eastern Kansas, eastern Oklahoma and eastern Texas), Lower Mississippi Valley, Gulf Coast and the Southeast. The Northeast may also see some good precipitation materialize over this period. The Southwest and northern Plains look to remain dry.

For the ensuing 5 days (January 14-18, 2014), the ridging pattern looks to remain entrenched bringing better odds of continued above-normal temperatures across the entire West and into the western Plains from Texas northward to North Dakota. New England is another region looking to share in the warmth. Alaska, the Great Lakes and the Gulf Coast appear to be headed for below-normal temperatures. As for precipitation, this pattern tilts the odds toward below-normal for the West and central and southern Plains while Alaska, the northern Plains, Great Lakes and the eastern Seaboard can expect a better chance of above-normal precipitation.”

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 Snowpack and Drought Reports 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.

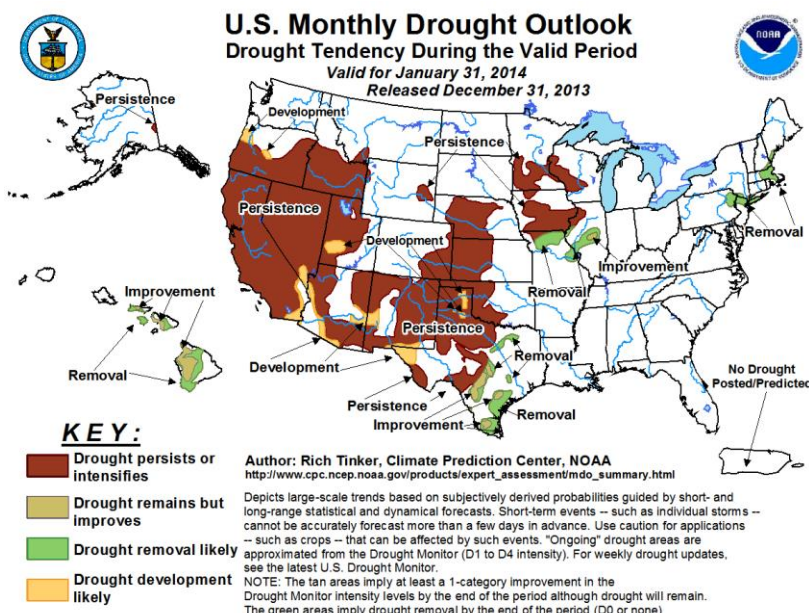
/s/

David W. Smith

Acting Deputy Chief, Soil Science and Resource Assessment

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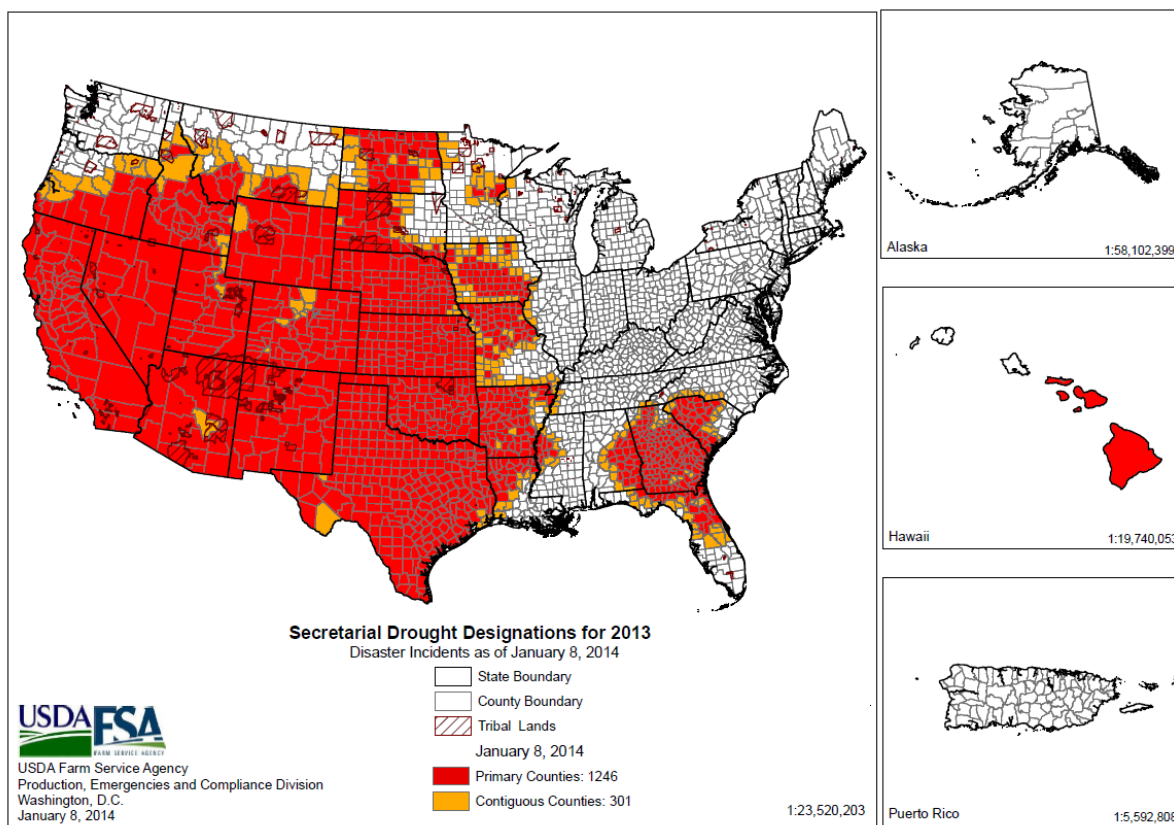
Drought Outlook



U.S. Seasonal Drought Outlook for January shows:

- Drought is expected to improve over parts of central Texas, northern Missouri, central Illinois, and southern New England. Elsewhere, drought is expected to persist over much of the Great Basin, California, southern Pacific Northwest, the Southwest, the southern Rockies, the Upper Mississippi River Valley, and the south-central Plains. Drought is expected to develop over parts of the Southwest.
- ✓ Also see: [National Significant Wildland Fire Potential Outlook](#) (updated on the 1st of each month) and contains a nice content summary of the previous month's conditions.

2013 Secretarial Drought Designations - All Drought



Refer to the USDA Drought Assistance [website](#) and [National Sustainable Agriculture Information Service](#). Read about the new [USDA Regional Climate Hubs](#).

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Supplemental Drought News

Brad Rippey, USDA Meteorologist. The next issuance of this drought update will be Thursday, February 6, 2014. However, the "U.S. Crops in Drought" products will still be produced on a weekly basis, and can be viewed at:

<http://www.usda.gov/oce/weather/Drought/AgInDrought.pdf>

Archived "U.S. Crops in Drought" files can be downloaded at:

<http://drought.unl.edu/Planning/Impacts/USAginDroughtArchive.aspx>

- "During the four-week period ending on January, 7, 2014, U.S. drought coverage increased nearly three percentage points to 33.22%. Drought coverage had fallen to annual low of 30.28% on December 10, 2013; that figure represented the smallest drought coverage since December 27, 2011.

- Most of the recent increase in U.S. drought coverage has been due to a lack of cold-season precipitation in the West. In particular, drought coverage has sharply increased in Oregon, from 38 to 88% between December 10 and January 7. Similarly, Washington had no drought depicted on December 10, but more than half (55%) of the state was experiencing drought on January 7.

- Western drought concerns are most acute in those areas—including California—moving deeper into a third consecutive year of drought. According to the state Department of Water Resources, California's 154 intrastate reservoirs were collectively brimming with water (125% of average storage) on November 30, 2011. In subsequent years, as drought moved past the one- and two-year marks, storage fell to 97 and 74% of average, respectively, on November 30, 2012 and 2013. Without a sudden reversal in California's dry weather pattern from January-March 2014, there will be little snow in the Sierra Nevada to melt and feed the reservoir system.

- There has been little change in recent weeks in hay or cattle in drought. Hay in drought has hovered in the 21- to 22-percent range for ten consecutive weeks. Similarly, cattle in drought have remained in the 34- to 36-percent range for ten weeks in a row. Winter wheat in drought has edged upward in recent weeks, from 31 to 34% between December 10 and January 7. Most of the drought concern for winter wheat exists across the central and southern High Plains, with some of the driest conditions—both at short- and long-term times scales—being noted in the panhandles of Texas and Oklahoma, as well as parts of adjoining states.

- Weather outlook: During the next few days, an increase in precipitation will accompany a warming trend across the eastern half of the U.S. In fact, five-day precipitation totals should reach one to three inches in most areas along and east of a line from the mouth of the Mississippi River to Lake Erie. Locally heavy precipitation will also occur from the Pacific Northwest to the northern and central Rockies, with amounts in excess of six inches possible west of the Cascades. However, areas from central and southern California into the Southwest, as well as the Great Plains, will remain mostly dry. By January 10, warmer-than-normal weather will prevail nearly nationwide—a pattern that will continue into next week."

This is a collection of drought-related news stories from the past week. 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.

Other Tea Cup reservoir depictions:

<http://www.usbr.gov/uc/water/basin/> ← Upper Colorado

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 ← 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)

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CALIFORNIA ASSESSMENT

Alex Tardy, *Warning Coordination Meteorologist, Manager*, NOAA/National Weather Service

"Since it is easy to declare a dry season in January given the start to the wet season in California, I was wondering about how much have we "made up" for precipitation deficits in the past. The weather patterns in CA are extreme and I recall one year (1999) which the winter was looking very poor with almost no precipitation in December and then 17 inches (seasonal average is 20) occurred in Sacramento during January and February. So, not so fast...

Attached is the Sierra Nevada 8 station index map which only goes back to the 2000 but roughly **after February 1 the average is 25 inches or about half of the seasonal average of 50 inches**. There are a couple years when over 30 inches occurred after February 1. Thus given the record low 3 inches at this time, it would maybe be safe to say 28 inches is a good possibility. Since ENSO does not seem to matter in the extreme precipitation events (February 1986, January 1997, etc.), this might not be helpful either since those were neutral as well. In you look back since 2000 the wettest post February was 38 inches, and that was the moderate La Nina of 2010-11. The super wet year of 82-83 and El Nino had about 44 inches after February 1. On the other hand there are 2 recent years where precipitation was as low as 15 inches after February 1.

I know the wet season precipitation ranking and category (dry, very dry, wet, etc.) goes back further than 1997 so that would need to be looked at too. Maybe Kelly Redmond has some of this to increase the length of statistics?

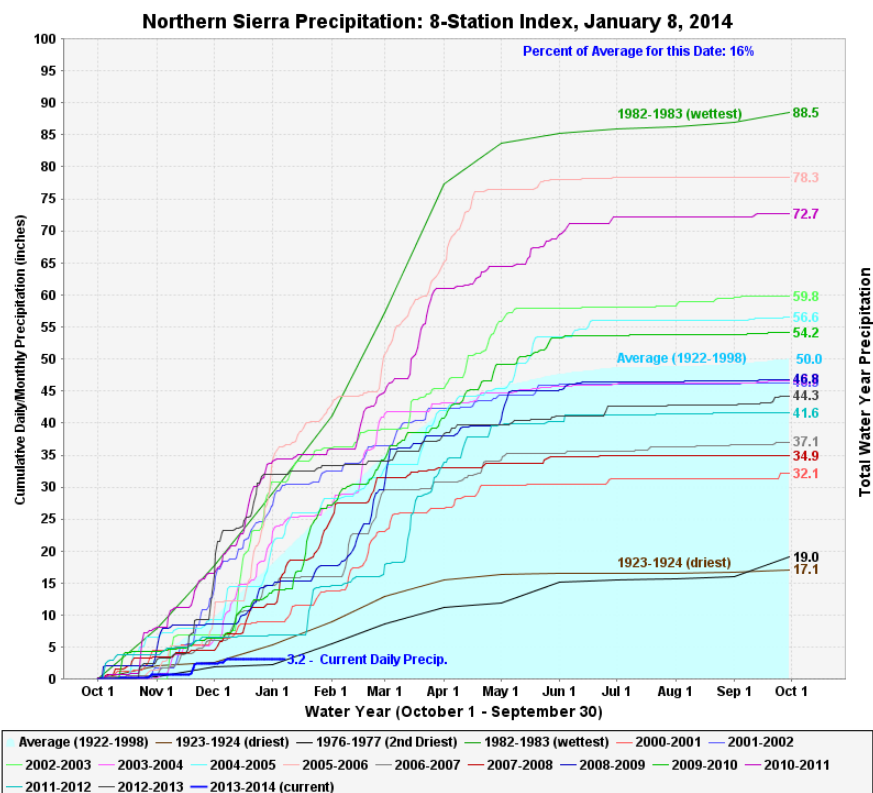
How we get into one of these nearly continuous or extreme patterns I am not sure. Typically it is labelled as MJO or AR but how does the global or Pacific pattern form the "undercut" of a strong upper ridge or such elongated westerlies outside of a classic El Nino influence? So many of the extreme or wet patterns started as the undercutting.

Data for January 1, 2000 through March 8, 2000: Total Precipitation

SACRAMENTO EXECUTIVE AP 16.82

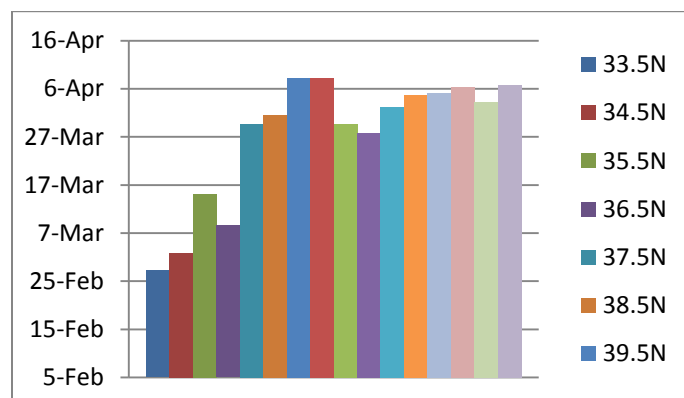
SACRAMENTO 5 ESE 18.05

SACRAMENTO METRO 15.36"



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SNOTEL Stations Peak Snow Water Equivalent (SWE) Dates by Latitudes and Longitude



← As one would expect, the start of snow melt season occurs on average on early dates at lower (southerly) latitudes.

However, while peak SWE occurs earlier near the west coast, there are regions over the Interior West where this peak occurs earlier (e.g., southwestern states) and later (e.g., along the Continental Divide) than the often used average date of April 1 for the West as a whole.

↓

