

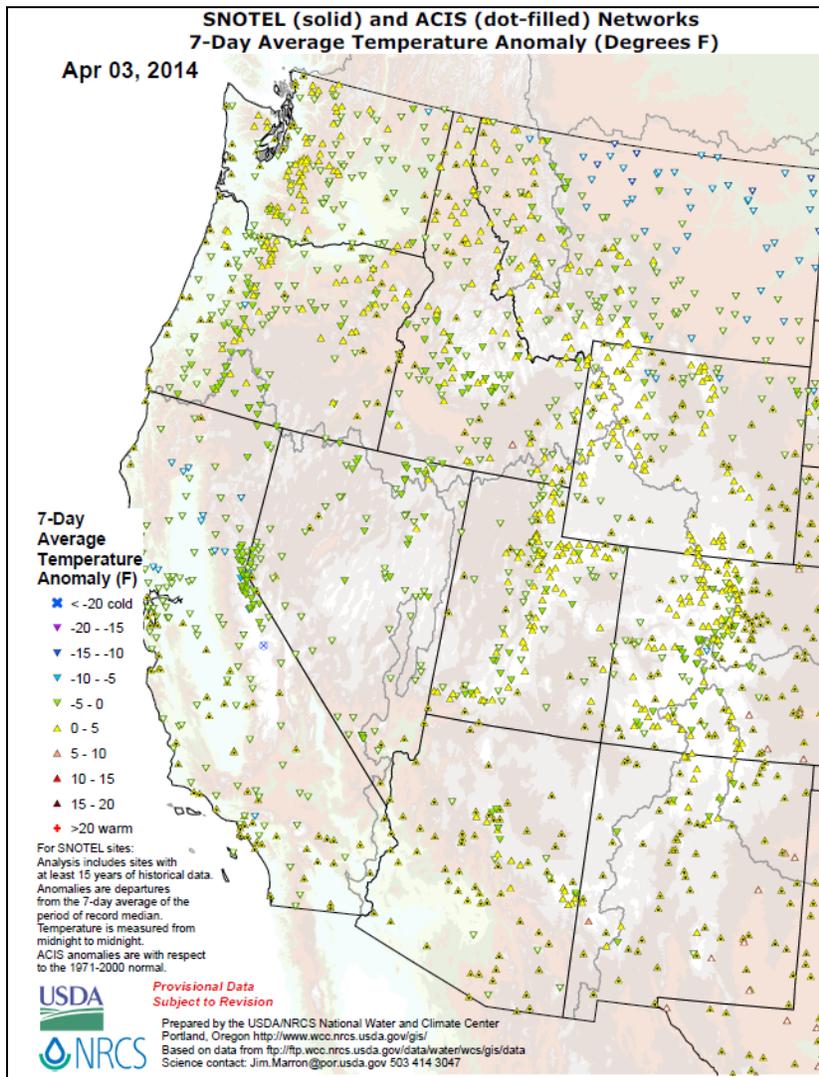


Natural Resources Conservation Service
 P.O. Box 2890
 Washington, D.C. 20013

Weekly Snowpack / Drought Monitor Update April 3, 2014

Temperature.....	1	Soil Climate Analysis Network (SCAN).....	11
Precipitation.....	3	National Drought Summary for April 1, 2014	13
Snow	6	More Information.....	14
Weather and Drought Summary	7	Drought Outlook For April 2014.....	15
Soil Moisture.....	11	Supplemental Drought News.....	16

Temperature



SNOTEL and **ACIS 7-day temperature anomaly** shows temperatures within $\pm 5^{\circ}\text{F}$ across the West, except for colder departures over northern Montana and portions of northern California.

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

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

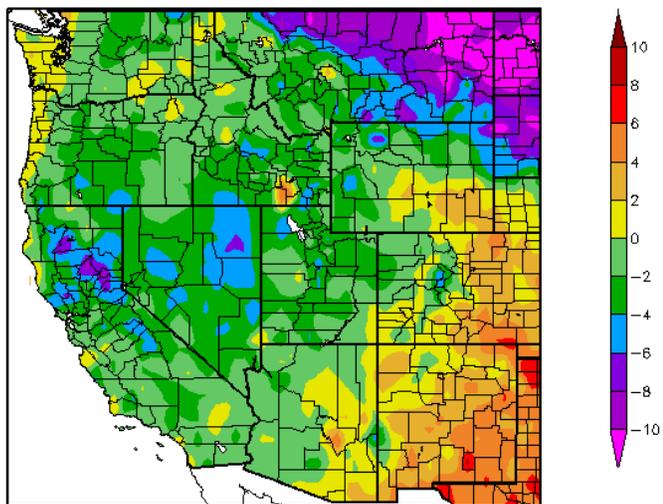
An Equal Opportunity Employer

Weekly Snowpack and Drought Monitor Update Report

[ACIS](#) 7-day average temperature anomalies, ending April 2, show the greatest negative temperature departures over northeastern Montana and California (<-10°F). The greatest positive temperature departures occurred over southern New Mexico (>+6°F).

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

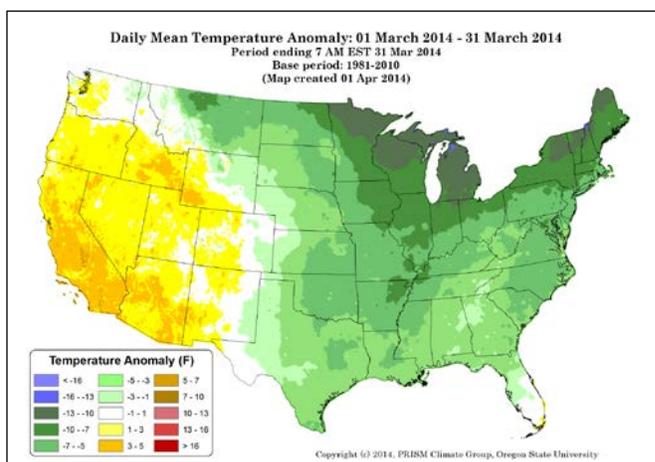
Departure from Normal Temperature (F)
3/27/2014 - 4/2/2014



Generated 4/3/2014 at HPRCC using provisional data.

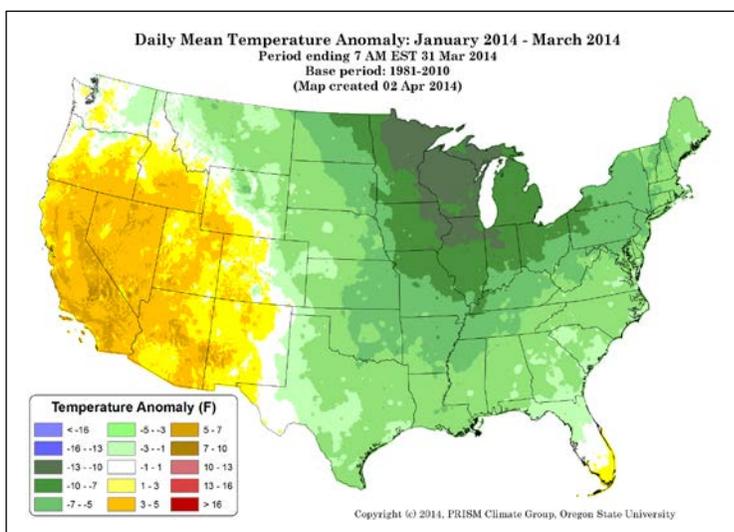
Regional Climate Centers

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.



← The March 2014 temperature departures map followed the temperature pattern experienced in the preceding two months, as shown below.

March temperatures were exceptionally cold over the northeast quarter of the nation (<-10°F departures). Warmer than normal temperatures were confined mainly to California, southern Idaho, southwestern Wyoming, and half of Arizona (>+3°F).

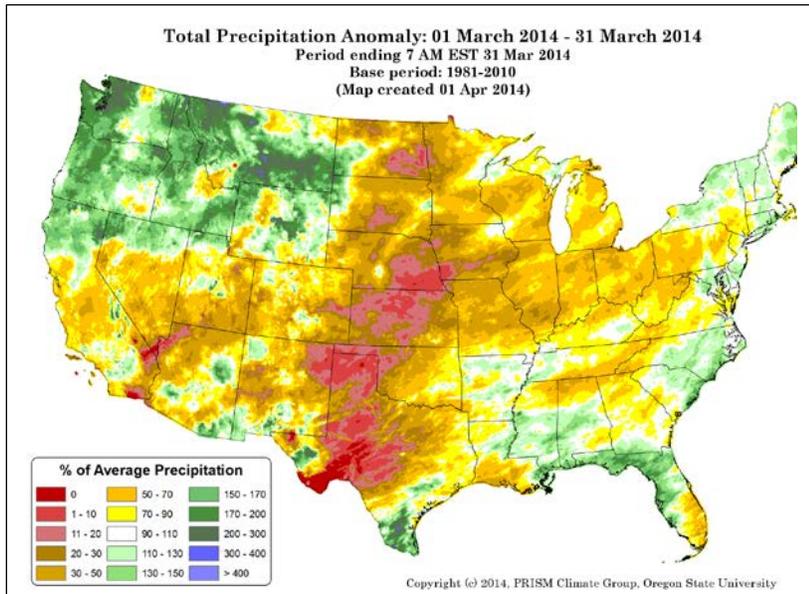
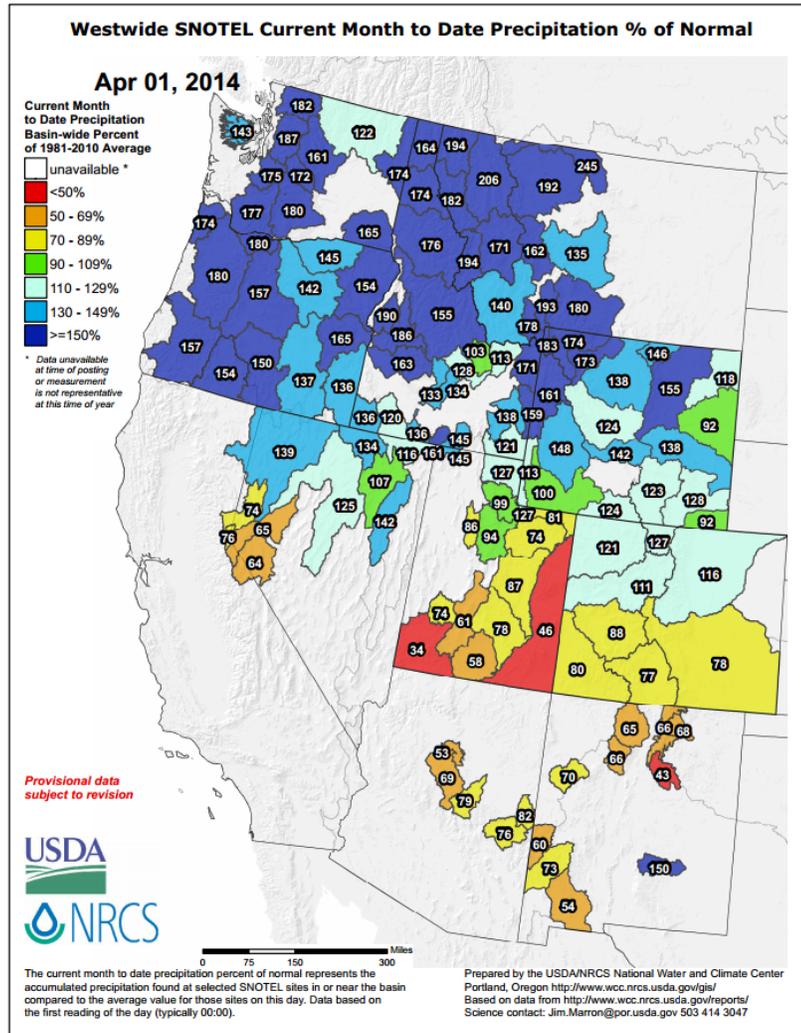


← Because the January through March 2014 temperature departures were considerably above normal west of the Continental Divide, this in part explains why snowpack has been below normal over the Cascades. Much below normal precipitation over the Sierra Nevada also accounts for this region's low snowpack.

Weekly Snowpack and Drought Monitor Update Report

Precipitation

The March [SNOTEL](#) precipitation percent of normal map shows the northern tier states of the West with well above normal values. Minimal precipitation has fallen over the western Great Basin, the southern and eastern drainages of Utah, and the southernmost reaches of the Rockies in New Mexico. →



← The [March precipitation anomaly](#) pattern reveals pockets of surplus and deficit totals scattered across the U.S. Areas with above normal amounts have dominated the Pacific Northwest, northern Rockies, southern Texas, and much of Florida. Below normal amounts have impacted the Great Plains, southern California, and southern Nevada. Near normal conditions occurred over parts of the eastern third of the country.

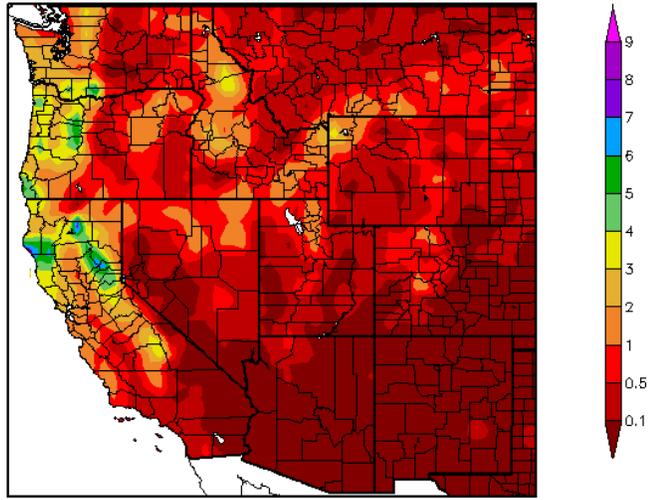
This preliminary daily PRISM precipitation map contains all available network data, including SNOTEL data, and is updated periodically as additional data become available and are quality controlled.

Weekly Snowpack and Drought Monitor Update Report

Copious amounts of precipitation fell ([ACIS 7-day](#)) over the Oregon Cascades, northern California coastal ranges, and the northern Sierra Nevada. Most of this precipitation fell as rain, except at the highest elevations. Snow water equivalent values were not significantly increased in these localities.

Additional moisture fell over Idaho and the Yellowstone region of Wyoming (~3 inches).

Precipitation (in)
3/27/2014 - 4/2/2014

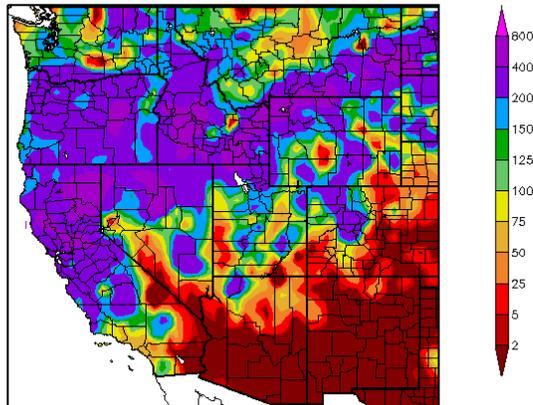


Generated 4/3/2014 at HPRCC using provisional data.

Regional Climate Centers

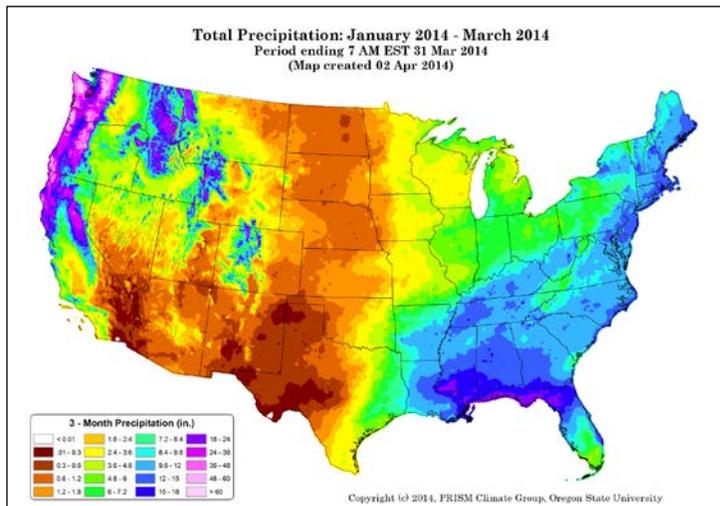
This [map](#) shows that much of the West, excluding the southernmost tier states, experienced a bountiful yield of moisture over the past week in terms of percent of normal for this time of year. →

Percent of Normal Precipitation (%)
3/27/2014 - 4/2/2014



Generated 4/3/2014 at HPRCC using provisional data.

Regional Climate Centers



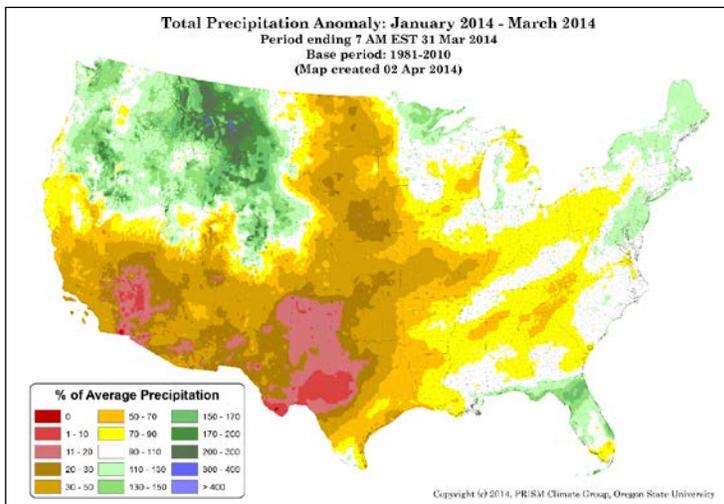
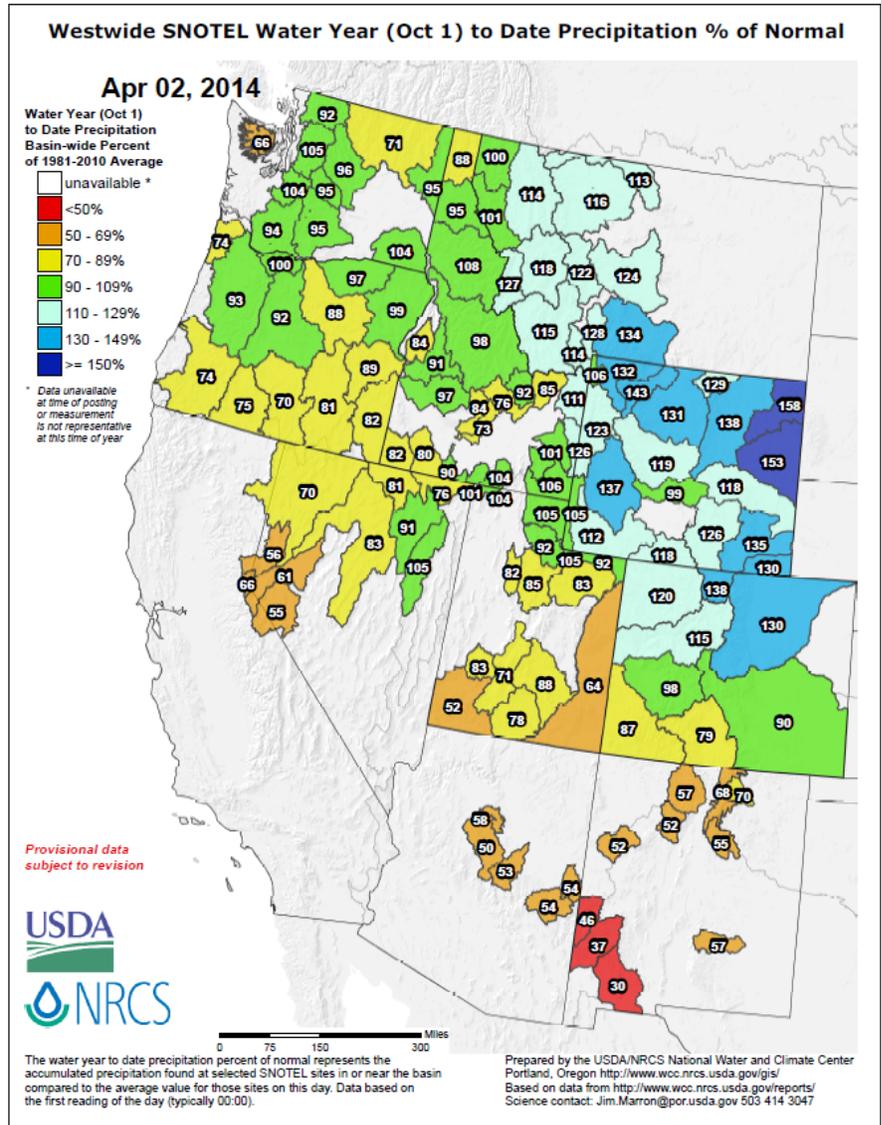
← The January through March 2014 **total precipitation** map reflects a modified La Niña pattern with wetter conditions over the northern tier of the Western States and drier conditions over the southern tier. The Gulf Coast states, which are usually drier during La Niña, have bucked this tendency with generally surplus moisture (~18 to 24 inches).

Should this pattern continue, a return to serious drought conditions is possible over the southern Great Plains.

Weekly Snowpack and Drought Monitor Update Report

For the [2014 Water Year](#) that began on October 1, 2013, only central Montana, all of Wyoming, and northern Colorado are experiencing surpluses.

The largest deficits are centered over northeastern Washington, southern Oregon, western Nevada, southern and eastern Utah, Arizona, and New Mexico.

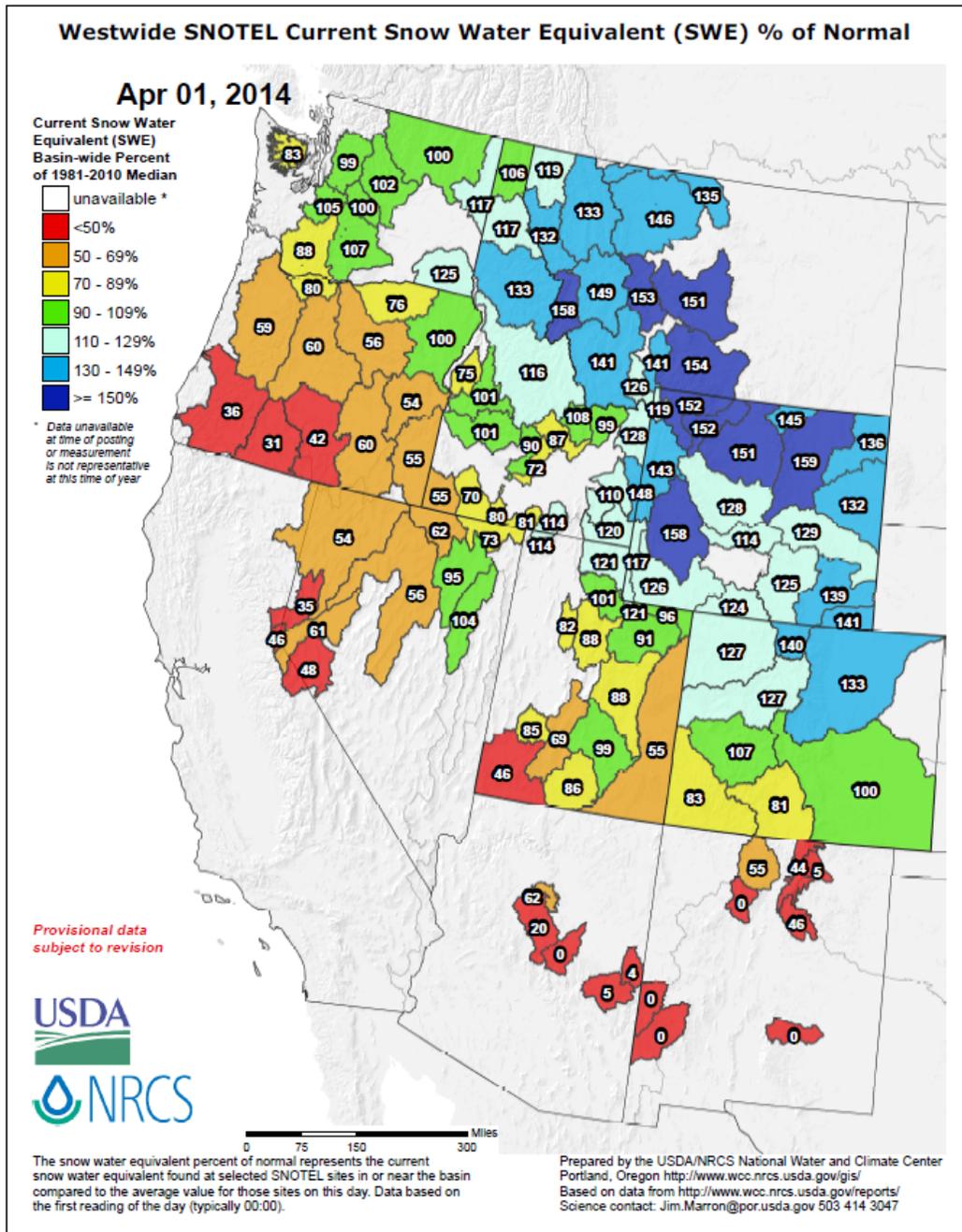


← The January through March 2014 **percent of average precipitation** map reflects a La Niña pattern with wetter conditions over the northern tier of the western states and drier conditions over the southern tier. Although precipitation has been above normal over most of the Cascades, much of it fell as rain at the higher elevations. This has resulted in a lack of surplus snowpack.

Florida, which is usually drier during La Niña, has bucked this tendency with generally surplus moisture.

Weekly Snowpack and Drought Monitor Update Report

Snow



Click to enlarge and update maps

[Snow Water Equivalent](#) (SWE) values are generally higher east of the Continental Divide, with the exception of New Mexico. Values have increased over the past week by one bin category over the northern half of Oregon, by 19 percent over northeast Washington, and on average by about 5 percent over the northernmost Rockies. Snowpacks in the Sierra Nevada and southern half of the Cascades continue to have severe deficits.

The water supply forecasts issued by the [National Water and Climate Center](#) for the spring and summer months will be updated sometime [this week](#).

See the latest:

- [National Snow Analysis](#)
- [West-Wide Water Supply Forecast Tables](#)

Weekly Snowpack and Drought Monitor Update Report

Weather and Drought Summary

National Drought Summary – April 1, 2014

The following **Weather and Drought Summary** is provided by this week's NDMC Drought Author: David Simeral, Division of Atmospheric Sciences, Desert Research Institute, Western Regional Climate Center

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

For the contiguous 48 states, the U.S. Drought Monitor showed 38.37 percent of the area in moderate drought or worse, compared with 38.27 percent a week earlier. D4 increased to 2.18 percent.

For all 50 U.S. states and Puerto Rico, the U.S. Drought Monitor showed 32.08 percent of the area in moderate drought or worse, compared with 31.99 percent a week earlier.

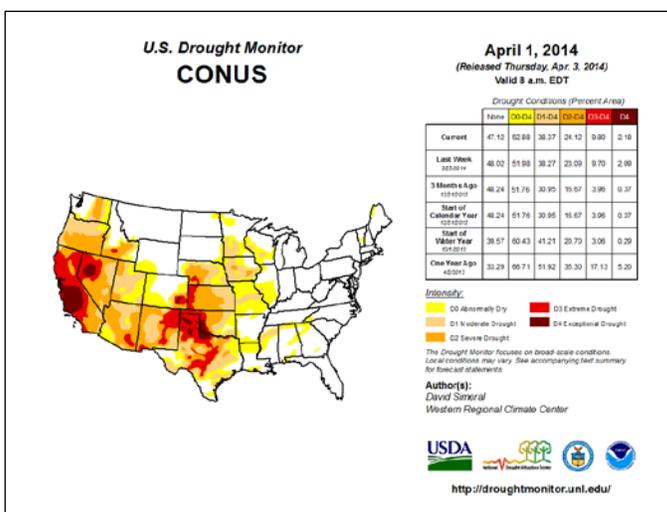
[Current Drought Monitor](#) weekly summary. The exceptional D4 levels of drought are scattered across CA, NV, CO, TX, and OK.

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](#).

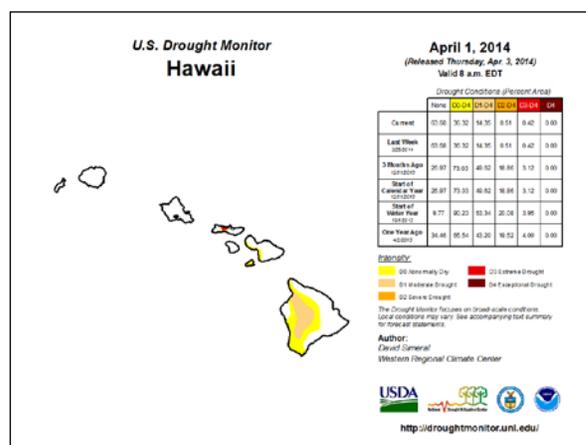
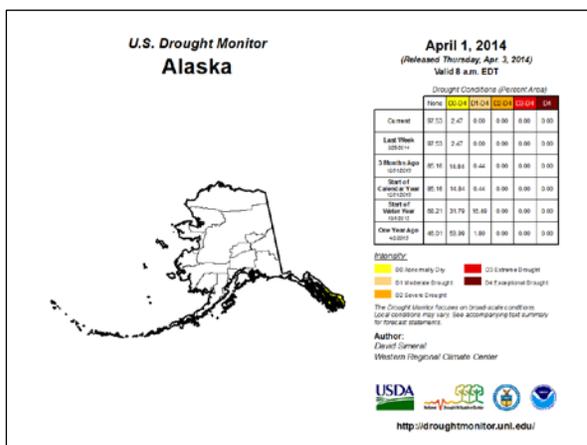
Drought Management Resources (v):

- ✓ [Watch AgDay TV](#)
- ✓ [Drought Impacts Webinar Series](#)
- ✓ [Quarterly Climate Summary and Outlooks for the Great Lakes, Midwest and Missouri Basin States](#)



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

- [Ethanol plants' profits 2nd-highest on record](#)
- [Louis Dreyfus full-year profit falls after record 2012](#)



The [49th](#) and [50th](#) States show relatively benign drought conditions. No changes noted for Alaska and 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 Snowpack and Drought Monitor Update Report

Risk Management Web Resources

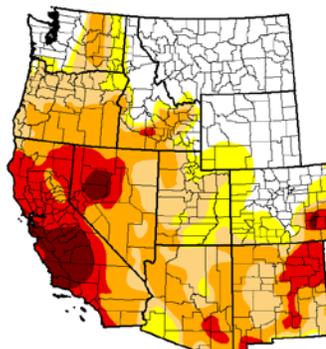
- ✓ Drought Monitor for the [Western States](#)
- ✓ Drought Impact Reporter for [New Mexico](#)
- ✓ [California Data Exchange Center](#) & [Flood Management](#)
- ✓ [Intermountain West Climate Dashboard](#)
- ✓ [Great Basin Dashboard](#)
- ✓ [CLIMAS January 2014 Climate Summary](#)
- ✓ [March Southwest Climate Podcast](#)

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

- [New Mexico chili numbers down for 2013](#)

[Click to enlarge maps](#)

U.S. Drought Monitor West



April 1, 2014
(Released Thursday, Apr. 3, 2014)
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)				
	None	D0-D1	D2-D3	D4	D5
Current	28.11	71.89	62.21	41.95	16.33
Last Week	28.12	71.88	62.33	41.95	16.31
3 Months Ago	22.20	77.80	51.44	31.11	7.75
Start of Calendar Year	22.20	77.80	51.44	31.11	7.75
Start of Water Year	25.25	74.75	56.96	34.51	5.57
One Year Ago	17.18	82.82	53.46	43.28	70.36

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:
David Simons
Western Regional Climate Center



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

No significant changes occurred this week.

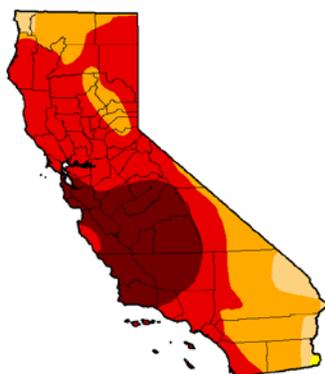
[CA Drought Information Resources](#)

[Drought News from California](#)

- [Drought expected to idle 800,000 acres](#)
- [How California's drought is changing organic milk and honey](#)
- [Imperial Valley farmers being paid by IID to fallow fields](#)
- [Pot growers under fire in drought-stricken California](#)
- [Congress focuses on dams amid California's drought](#)
- [California drought spurs mini gold rush in Sierra](#)
- [Poll: Californians cutting water use amid severe drought conditions](#)
- [Prestigious CA golf course to close due to drought](#)
- [Drought prompts officials to release fresh water in Delta](#)
- [California drought: Firefighters, residents bracing for long fire season](#)
- [Titanium Golf Clubs Spark Wildfire Concerns](#)
- [California Drought Has Salmon Hitching Rides in Trucks](#)
- [Fish suffer as Santa Clara creeks dry up](#)
- [NASA measures snowpack in California, Colorado](#)
- [Tumbleweeds plague drought-stricken American West](#)

State with D-4 Exceptional Drought

U.S. Drought Monitor California



April 1, 2014
(Released Thursday, Apr. 3, 2014)
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)				
	None	D0-D1	D2-D3	D4	D5
Current	0.00	100.00	99.01	35.21	66.76
Last Week	0.00	100.00	99.99	35.21	71.78
3 Months Ago	2.61	97.39	94.25	37.53	27.59
Start of Calendar Year	2.61	97.39	94.25	37.53	27.59
Start of Water Year	2.63	97.37	95.95	34.12	11.35
One Year Ago	0.00	100.00	40.38	24.22	0.30

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:
David Simons
Western Regional Climate Center

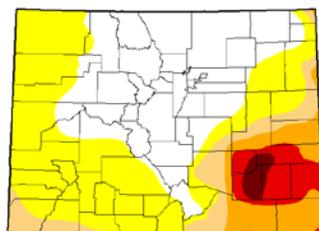


<http://droughtmonitor.unl.edu/>

A 3% improvement noted in D3 this week.

State with D-4 Exceptional Drought

U.S. Drought Monitor Colorado



April 1, 2014
(Released Thursday, Apr. 3, 2014)
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)				
	None	D0-D1	D2-D3	D4	D5
Current	36.39	61.62	22.45	14.93	6.90
Last Week	36.38	61.62	22.62	14.93	5.95
3 Months Ago	32.24	67.05	22.33	13.55	4.01
Start of Calendar Year	32.24	67.05	22.33	13.55	4.01
Start of Water Year	24.21	75.00	27.86	12.01	4.01
One Year Ago	0.00	100.00	100.00	88.97	45.68

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:
David Simons
Western Regional Climate Center



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

Slight deterioration in D1 and D3 occurred this week.

Weekly Snowpack and Drought Monitor Update Report

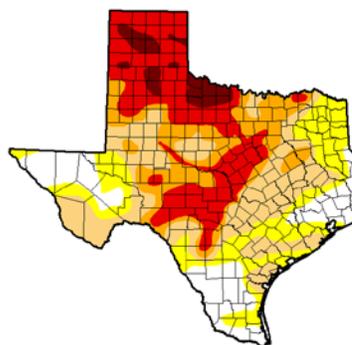
State with D-4 Exceptional Drought

- ✓ 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

- [Wheat crop below average; cotton planting delayed](#)

U.S. Drought Monitor Texas



April 1, 2014
(Released Thursday, Apr. 3, 2014)
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D1	D1-D2	D2-D3	D3-D4	D4
Current	15.40	54.50	65.80	42.95	27.35	4.42
Last Week 2013.14	14.73	65.27	67.43	41.85	24.97	3.48
3 Months Ago 12.15.13	28.48	71.52	43.84	21.15	5.82	0.79
Start of Calendar Year 12.15.13	28.48	71.52	43.84	21.15	5.82	0.79
Start of Water Year 10.1.12	6.02	93.38	79.95	25.88	4.01	0.12
One Year Ago 4.15.13	1.40	98.60	88.21	65.44	32.95	11.81

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:
David Sinneral
Western Regional Climate Center

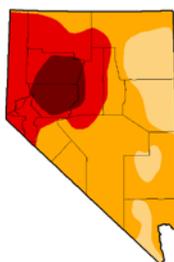
USDA

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

Some deterioration occurred in D2 to D4 during the past week.

State with D-4 Exceptional Drought

U.S. Drought Monitor Nevada



April 1, 2014
(Released Thursday, Apr. 3, 2014)
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D1	D1-D2	D2-D3	D3-D4	D4
Current	0.00	100.00	90.00	84.01	24.01	0.00
Last Week 2013.14	0.00	100.00	90.00	82.34	23.47	0.00
3 Months Ago 12.15.13	0.00	99.99	90.99	77.00	20.00	0.00
Start of Calendar Year 12.15.13	0.00	99.99	90.99	77.00	20.00	0.00
Start of Water Year 10.1.12	0.00	98.01	90.79	76.11	20.00	0.00
One Year Ago 4.15.13	0.00	100.00	90.00	55.00	12.00	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:
David Sinneral
Western Regional Climate Center

USDA

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

No changes have occurred during the past week.

State with D-4 Exceptional Drought

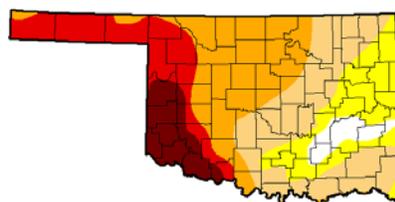
Deterioration has occurred in D2 by 18% this week.

Images: [Drought impact on native grasses in the High Plain](#)

Related news:

- ✓ [2014 Kansas Drought Report and Summary](#)

U.S. Drought Monitor Oklahoma



April 1, 2014
(Released Thursday, Apr. 3, 2014)
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D1	D1-D2	D2-D3	D3-D4	D4
Current	4.05	95.95	77.48	50.67	24.03	8.61
Last Week 2013.14	4.05	95.95	77.41	32.48	24.03	8.58
3 Months Ago 12.15.13	50.84	49.16	38.17	18.99	4.84	2.40
Start of Calendar Year 12.15.13	50.84	49.16	38.17	18.99	4.84	2.40
Start of Water Year 10.1.12	21.74	78.26	43.00	17.62	4.42	1.45
One Year Ago 4.15.13	0.00	100.00	99.30	80.68	52.97	9.90

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.

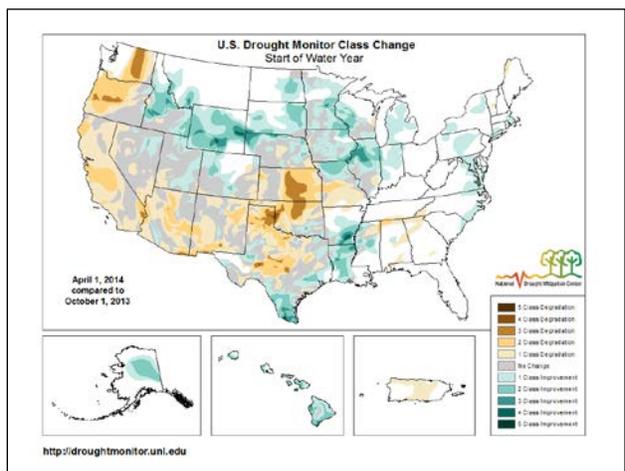
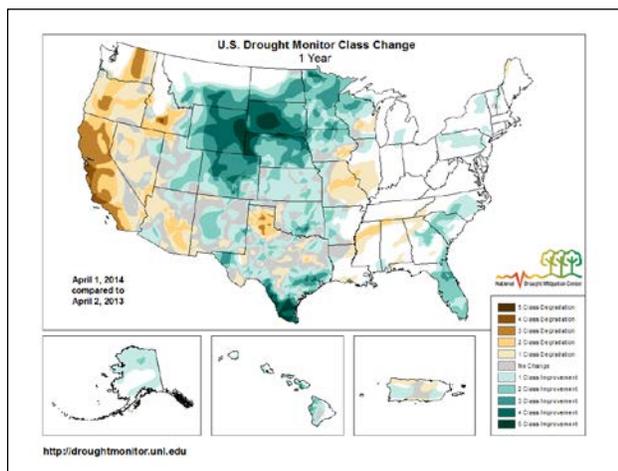
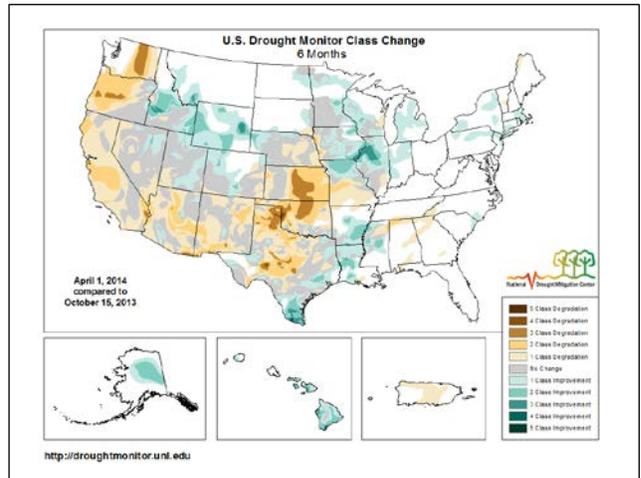
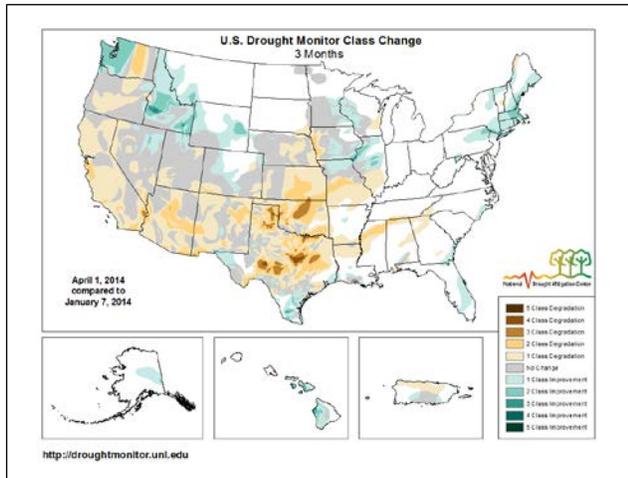
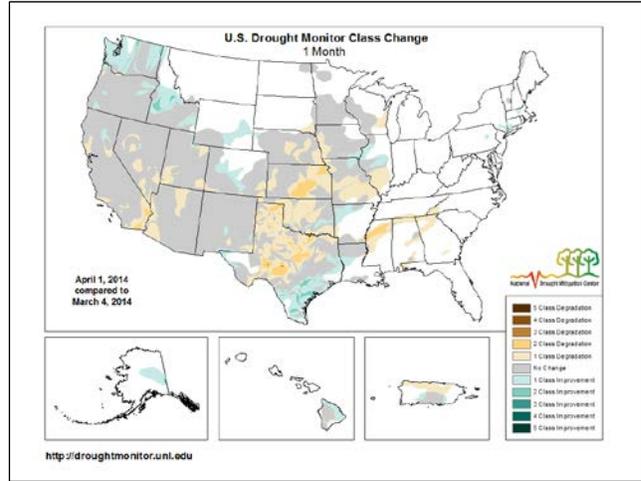
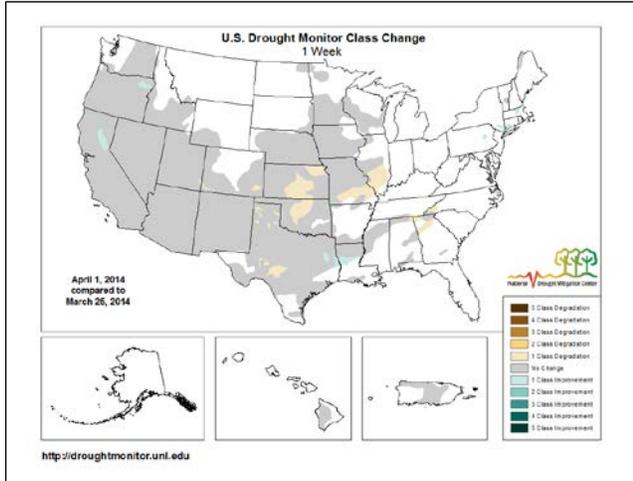
Author:
David Sinneral
Western Regional Climate Center

USDA

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

Weekly Snowpack and Drought Monitor Update Report

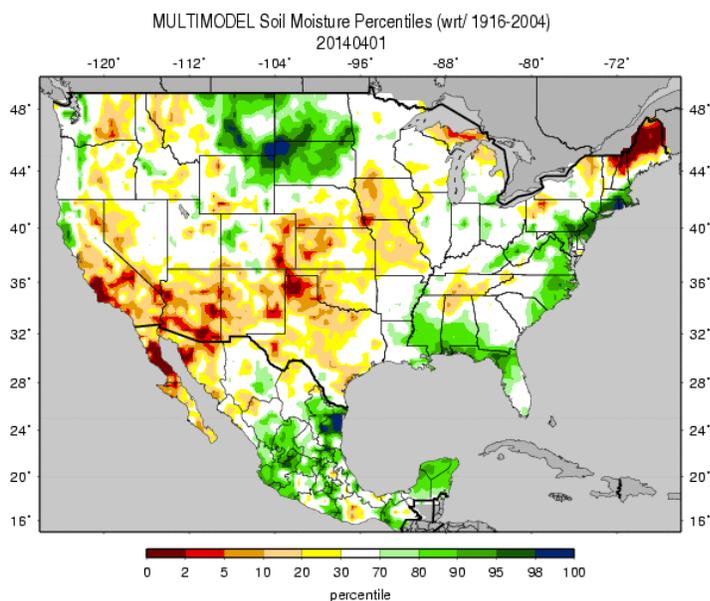
Changes in Drought Monitor Categories (over various time periods)



Changes to the drought monitor usually start to accelerate in the spring. Since the start of the 2014 Water Year (lower right map), the western drought conditions have worsened over the Pacific Northwest and improved over Wyoming and Idaho. Conditions have also improved over the Mississippi River Valley, but have worsened from Kansas to northern Texas.

Weekly Snowpack and Drought Monitor Update Report

Soil Moisture



Note: Northern states with continued frozen ground will not have the most accurate and reliable soil moisture measurements for at least the next month.

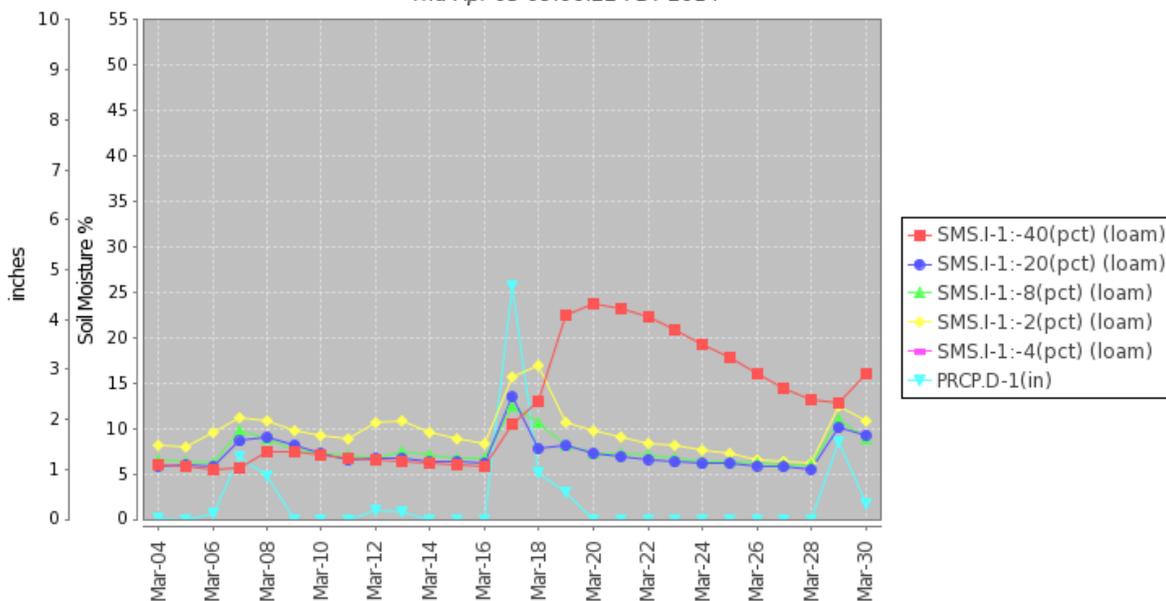
Soil moisture ranking in [percentile](#) as of April 1 shows dryness over central California, southern Arizona, eastern New Mexico, the southwestern Great Plains (i.e., northern Texas), and parts of New England. Moist soils dominate the northern Great Plains. With abundant snowpack in Montana, concern is mounting about potential Missouri River flooding this spring (see next page for more data).

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](#)

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

Station (2009) MONTH=2014-03-04 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision
Thu Apr 03 09:06:22 PDT 2014

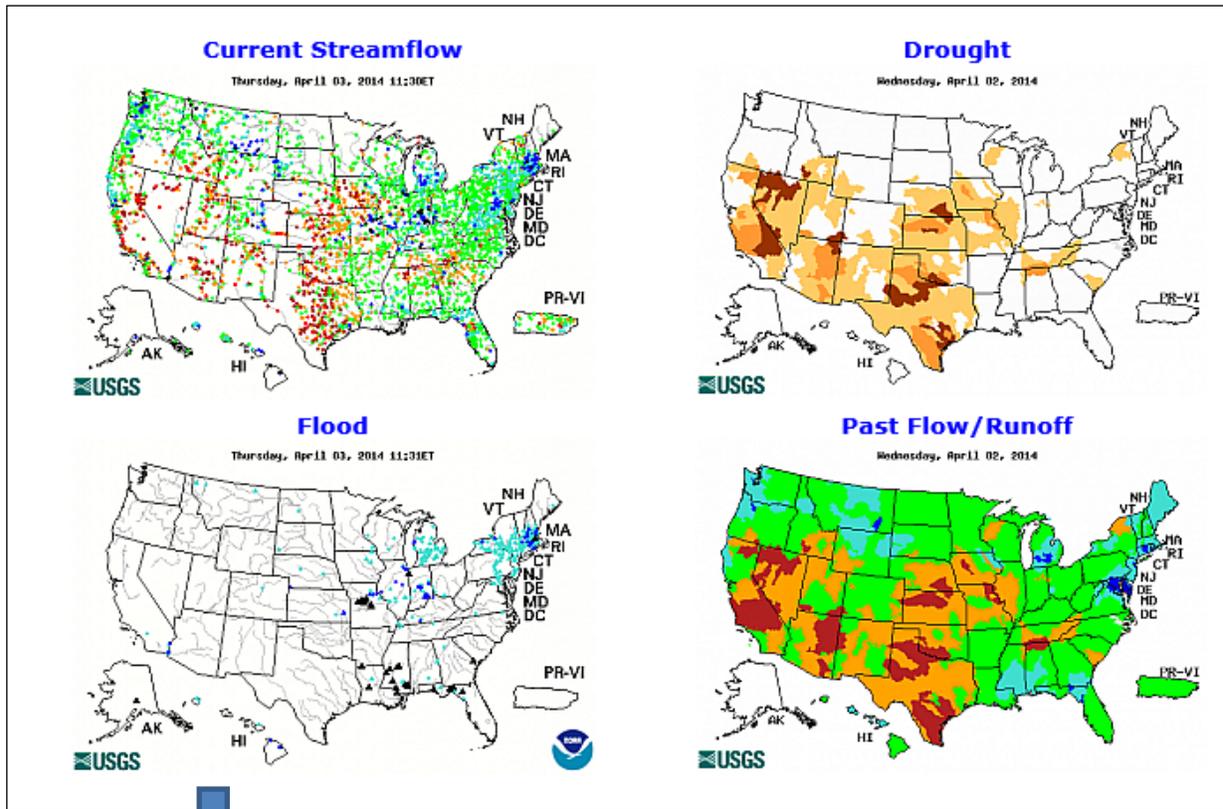


This NRCS resource shows soil moisture data at a SCAN site located in the [Panhandle of Florida](#). Heavy rainfall events are reflected by immediate increases in soil moisture.

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](#).

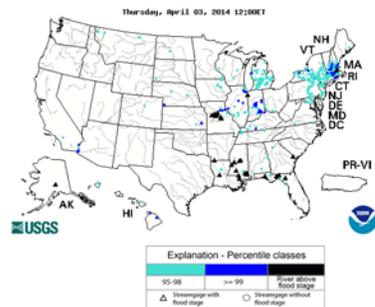
Weekly Snowpack and Drought Monitor Update Report

Streamflow



Click to enlarge & update

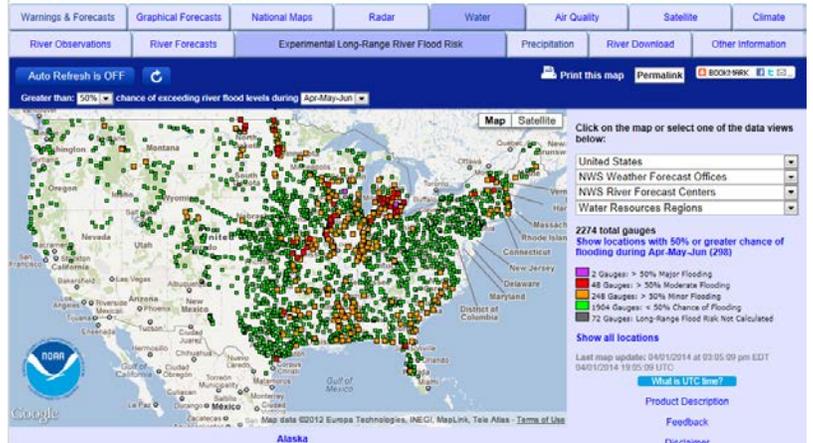
Map of flood and high flow condition (United States)



Flooding in some rivers over the Gulf Coast States and Missouri.

National Long Range Outlook

The NWS has issued the 2014 National Spring Flood Outlook.



During the next three months, moderate flooding is expected over the Red River drainage in the eastern Dakotas and over the upper Midwest.

Weekly Snowpack and Drought Monitor Update Report

National Drought Summary for April 1, 2014

Prepared by: Drought Monitor Author: David Simeral, Division of Atmospheric Sciences, Desert Research Institute, Western Regional Climate Center

Summary

"This U.S. Drought Monitor week saw an active weather pattern across much of the West coast and northern Rockies as a series of disturbances moved through the region delivering rain showers to the lower elevations and mountain snow showers to the higher elevations. Scattered snow showers were observed in higher elevations of the Intermountain West while the Southwest remained in a warm and dry pattern. Across portions of the South and Southeast, scattered rain showers were observed while locally heavy rain and snow showers fell across much of New England. In the Northern Plains and Upper Midwest, the pattern of below-normal temperatures and snow showers persisted. Across the Southern Plains and western portions of Texas, dry and windy conditions continued to deplete soil moisture levels. On this week's map, slight improvements were made in northern California and northeastern Oregon, while conditions deteriorated in southern Colorado. Moving eastward, conditions in the southern Plains, western Texas, and the lower Midwest deteriorated while New England saw improvements.

Hawaii, Alaska, and Puerto Rico

On this week's map, conditions remained status quo in Hawaii, Alaska, and Puerto Rico. In the Hawaiian Islands, temperatures during the past week were generally near-normal and precipitation was slightly above-normal on the windward slopes. In Alaska, the northern half and Aleutians experienced above-normal temperatures while the eastern portions of South-central were well below-normal.

Mid-Atlantic

The Mid-Atlantic remained drought-free on this week's map. In the mountain region of western North Carolina, an area of Abnormally Dry (D0) expanded in response to below-normal streamflow activity and short-term precipitation deficits. Otherwise, the eastern portions of North Carolina and Virginia received rainfall accumulations ranging from one-to-two inches. According to the National Weather Service, the month of March ended as the coldest on record at Washington Dulles Airport, breaking the previous record set in 1984. Overall, temperatures were well-below-normal during the past seven days.

Midwest

During the past week, precipitation was generally light across the region with rain in the Lower Midwest and some locally heavy snow showers in the Upper Midwest. Liquid accumulations were generally less than an inch with slightly greater accumulations in central Wisconsin, the Upper Peninsula, and northern Michigan. Short-term precipitation deficits, pockets of dry soils, and below-normal streamflow activity led to expansion of Abnormally Dry (DO) in southern Illinois and southeastern Missouri while the remainder of the region remained unchanged on the map. According to the NWS National Operational Hydrologic Remote Sensing Center, the total area covered by snow in the northern Great Lakes region was 56.2% as of April 1, 2014. Temperatures across the region remained below-normal during the past week.

The Northeast

The Northeast remained drought-free on the map with the exception of two small areas of Abnormally Dry (D0). During the past week, coastal areas from New Jersey to Maine received precipitation accumulations ranging from two-to-five inches while locally heavy snowfall accumulations were observed across the Allegheny Plateau, Interior Lowlands, and Adirondacks of New York as well as northern portions of Maine. According to the NWS National Operational Hydrologic Remote Sensing Center, the total area covered by snow in the Northeast region was 82.6% as of April 1, 2014. This week's precipitation events led to the removal of areas of Abnormally Dry (D0) in Connecticut, Massachusetts, and New York. During the past week, well-below-normal temperatures persisted in New England.

The Plains

As with most of the northern tier, the northern Plains experienced below-normal temperatures and areas of snowfall including blizzard-like conditions early this week in the Dakotas. According to the NWS in Bismarck, North Dakota, record daily maximum snowfall (8.1 inches) was observed in Bismarck on Monday. In the southern Plains, continued short-term precipitation deficits, declining range and pasture conditions, and areas of below-normal streamflow activity led to expansion of areas of Moderate Drought (D1) and Severe Drought (D2) in the eastern half of Kansas and central Oklahoma where areas of Severe Drought (D2) pushed eastward. Temperatures were generally near-normal to slightly above-normal in the southern portions of the Plains during the past week.

The South

During the past week, some moderate to locally heavy precipitation (two-to-four inches) fell across the southern halves of Alabama and Mississippi, eastern and northern Louisiana, and east Texas leading to improvement in areas of Abnormally Dry (DO) in northern Louisiana and areas of Abnormally Dry (D0) and Moderate Drought (D1) in East Texas. Moving westward in Texas, conditions continued to deteriorate as short- and long-term precipitation deficits and declining reservoir levels raised concern. According to Water Data for Texas, San Angelo Area reservoirs are currently 7.9% full while the Panhandle Planning Region reservoirs are currently 1.7% full. On this

Weekly Snowpack and Drought Monitor Update Report

week's map, expansion of areas of Extreme Drought (D3) were made in the Hill Country and portions of West Texas while the Panhandle saw slight expansion of areas of Exceptional Drought (D4) as dry and windy conditions continued to spark dust storms. Temperatures were near-normal to slightly below-normal for eastern portions of Texas to Alabama while the western half of Texas was above-normal during the past week.

The Southeast

The Southeast received some shower activity during the past week, but most of the significant rainfall was restricted to drought-free areas in Florida. One-to-two inches of rainfall fell over isolated pockets of southwestern Georgia and coastal South Carolina, while northern Georgia received less than half an inch. Continued short-term precipitation deficits in northern Georgia and Alabama led to slight expansion of areas of Abnormally Dry (D0) as streamflows remained below normal. During the past week, average temperatures were four-to-seven degrees below normal.

The West

During the past week, a series of disturbances pushed on-shore from the Pacific delivering much-needed rain and snow to northern California and Oregon. In northern California, liquid precipitation accumulations ranged from two-to-six inches in the northern coastal mountains while the northern Sierras received three-to-eleven inches. In the northern half of the Central Valley, precipitation accumulations were less than one and a half inch. Despite short-term gains, the long-term deficits across the region remained substantial. According to the California Department of Water Resources, California's snowpack has increased since the first snow survey on January 3rd, but the latest survey results show California's snow-water equivalent is only 32 percent of the average April 1st measurement when the snowpack is generally at its peak level prior to spring melt. In light of this week's significant precipitation accumulations in the northern Sierra, a one-category improvement from Extreme Drought (D3) to Severe Drought (D2) was made to reflect short-term gains over the areas of greatest precipitation accumulations ranging from four-to-eleven inches. In northeastern Oregon, a one-category improvement from Moderate Drought (D1) to Abnormally Dry (D0) was made to reflect near-normal snowpack conditions in the Blue and Wallowa Mountains. In the Southwest, a warm and dry pattern continued across the region leading to slight deterioration of conditions in southwestern Colorado.

Looking Ahead

The NWS HPC 7-Day Quantitative Precipitation Forecast (QPF) calls for moderate-to-heavy precipitation accumulations (two-to-six inches) across the lower Midwest and moderate accumulations (two-to-three) in the South and Southeast. The Upper Midwest, New England, central Rockies, and Pacific Northwest are forecasted to receive accumulations of less than two inches. The 6-10 day outlooks call for a high probability of above-normal temperatures across the West while below-normal temperatures are forecasted across the South, Midwest, and Eastern tier. A high probability of above-normal precipitation is forecasted across portions of the Southeast, Mid-Atlantic, New England, northern Plains, and Pacific Northwest while the remainder of the West, southern Plains, and western portions of the South are expected to have below-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.

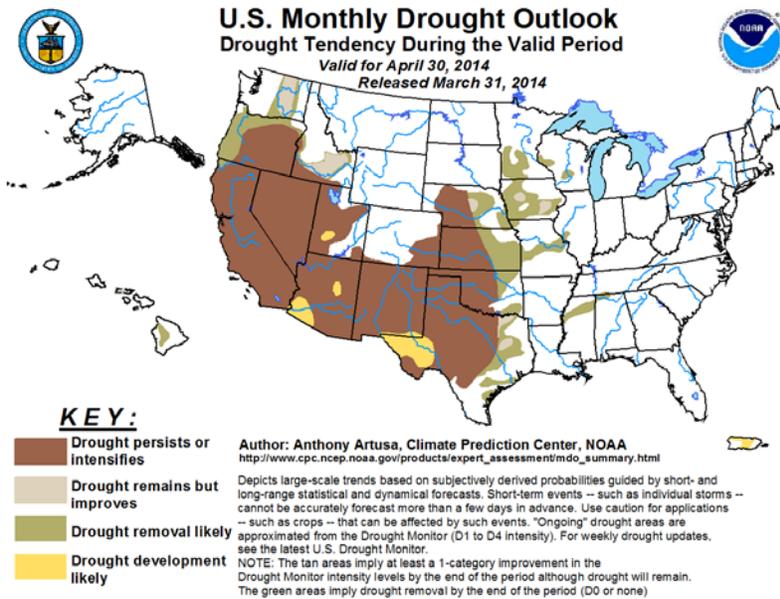
/s/

David W. Smith

Acting Deputy Chief, Soil Science and Resource Assessment

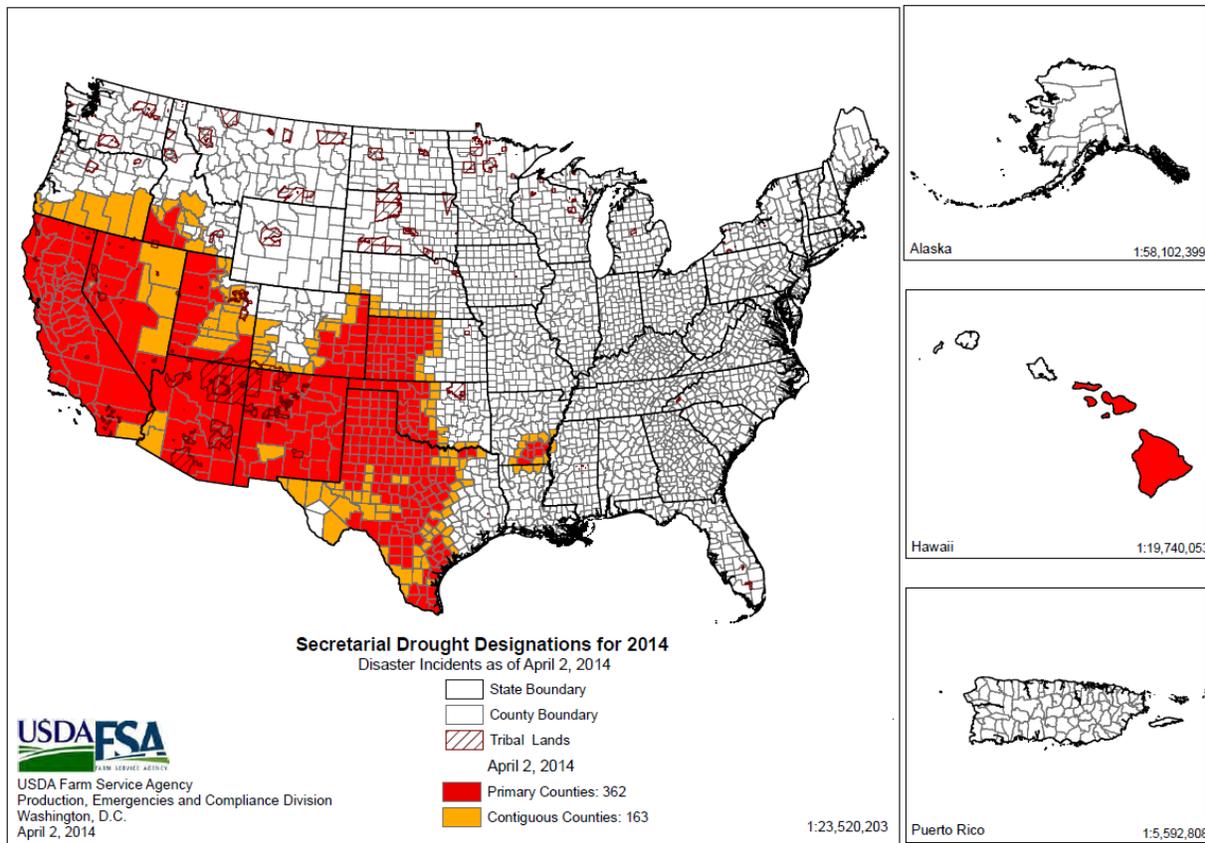
Weekly Snowpack and Drought Monitor Update Report

Drought Outlook For April 2014



- Drought is expected to deteriorate over parts of southern Arizona and southwest Texas. Much of the West and southcentral Great Plains are expected to have persistent drought. Improvement is suggested over the Pacific Northwest, eastern High Plains, and upper Mississippi River valley.
- ✓ 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 Secretarial Drought Designations - All Drought



Weekly Snowpack and Drought Monitor Update Report

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

Supplemental Drought News (provided by Brad Rippey, USDA Meteorologist)

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

Download archived "U.S. Crops in Drought" files here:

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

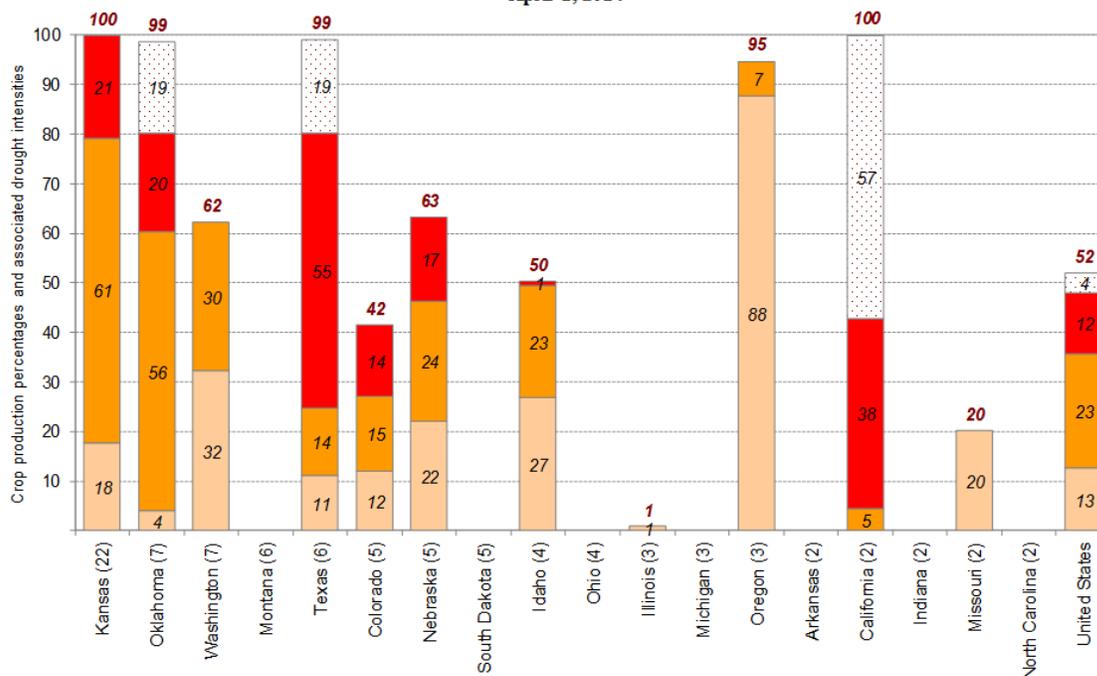
- "During the four-week period ending on April 1, 2014, contiguous U.S. drought coverage increased 2.52 percentage points to 38.37%. Drought coverage is at its highest point since October 8, 2013, and up 7.42 percentage points from the beginning of the year.

- In March, dry, windy, dusty conditions led to drought intensification on the southern Great Plains. During the four weeks ending April 1, coverage of extreme drought (D3) climbed from 8 to 14% in Kansas, while extreme to exceptional (D3/D4) drought coverage rose from 13 to 24% in Oklahoma and 7 to 10% in Texas.

- Entering spring, the primary row-crop focus was on winter wheat. The portion of the winter wheat crop in drought rose during March from 45 to 52%, mainly due to worsening drought across the southern half of the Great Plains. By March 30, well over half (59%) of the Texas wheat crop was rated by USDA in very poor to poor condition, along with 44% in Oklahoma, 33% in Colorado, and 25% in Kansas. In contrast, more than half of the winter wheat was rated in good to excellent conditions in several states, including South Dakota (58% good to excellent), Arkansas (56%), and Nebraska (55%).

Approximate Percentage of Winter Wheat Located in Drought *

April 1, 2014



* Drought percentages were calculated from U.S. Drought Monitor (USDM) data for the above date. More information on the USDM is available at <http://droughtmonitor.unl.edu>.

Percent in Moderate Drought (D1)
 Percent in Severe Drought (D2)
 Percent in Extreme Drought (D3)
 Percent in Exceptional Drought (D4)

State contributions to national production (percentages in parentheses) are based upon National Agricultural Statistics Service (NASS) 5-year averages from 2005-2010. More information on NASS data can be found at <http://www.nass.usda.gov>.



- California remained a drought focus during March, despite periods of rain and snow. The March precipitation offered some short-term benefits, such as aiding rain-fed crops, temporarily easing irrigation demands, and adding some water to drought-lowered reservoirs. However, California still faces a summer of reductions in water allocations, as the cumulative effects of the three-year drought on surface- and ground-water supplies continue to mount. During the four weeks ending April 1, California's coverage of extreme to exceptional (D3/D4) drought increased slightly from 66 to 69%.

Weekly Snowpack and Drought Monitor Update Report

- Weather outlook: A strong spring storm currently over the nation's mid-section will move northeastward, reaching the Great Lakes region on Friday and eastern Canada on Saturday. Heavy showers and thunderstorms will occur along the storm's trailing cold front, with a significant severe weather outbreak possible later today across the mid-South and neighboring regions. Additional heavy rain (one to three inches) could trigger flooding from the lower Missouri Valley into the Ohio Valley. Meanwhile, a late-season snow event will unfold from parts of central and eastern Nebraska into the upper Great Lakes region. During the weekend and early next week, another significant rain event will occur across the South and lower Midwest, boosting five-day totals to two to four inches or more in the central Gulf Coast States. In contrast, little or no rain will fall during the next five days from southern California to the Rio Grande Valley."

This following 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, National Drought Mitigation Center.

California

Estimated land fallowed in California, expected job losses

The California Farm Water Coalition said that farmers may fallow as many as 800,000 acres of land, due to the water shortage, for a loss of \$7.48 billion. The estimates come from a survey of Central Valley water districts. Job losses in the Valley may exceed 15,000 on-farms and associated jobs.

Organic food production standards

The U.S. Department of Agriculture has given California milk and meat producers who sell organic products a variance for February and March, allowing producers to keep their organic status despite not being able to graze cattle on grass, as must normally be done at least four months of the year.

Chinook salmon

Thirty million young Chinook salmon are being trucked from a federal fish hatchery in Anderson to San Pablo Bay, 180 miles to the south to be released because drought has left the water in the Sacramento River and its tributaries too warm and shallow for the fish to make the trip on their own.

NASA monitoring snowpack

NASA began monitoring the snowpack in California and Colorado to be better able to estimate the snow depth and water content for improved prediction of water supplies. The Airborne Snow Observatory will allow scientists to calculate snow depth to within 4 inches and water content to within 5 percent. Lasers determine the snow depth, while sunlight reflection and absorption are calculated to estimate how quickly the snow will melt and become runoff.

Pot growers use precious water on California's North Coast

Rivers in the North Coast of California are being tapped by marijuana growers who need excessive amounts of water to irrigate their crop, exacerbating a water shortage brought on by drought. California is the most popular state in the nation for growing pot in U.S. forests, and thirsty pot plants consume up to 6 gallons of water daily.

Texas wheat

Eighty-seven percent of the dryland wheat crop in the High Plains and Rolling Plains of Texas was rated in fair to very poor conditions as dry weather takes a toll on the crop, according to Dr. Travis Miller, an AgriLife Extension agronomist and Texas A&M University soil and crop sciences associate department head.

Tumbleweeds

Ongoing drought brought about the proliferation of tumbleweeds in southeastern Colorado, parts of New Mexico and the Texas panhandle. The tumbleweeds are abundant in many areas, blocking roads and drainage culverts and piling up against fences and homes.

New Mexico chili in 2013

Chile growers in New Mexico produced less chili due to water shortages and insufficient laborers to harvest the crop, which is done manually. There were 65,000 tons of chili produced in the state in 2013, roughly 16 percent less than was produced in 2012 when nearly 78,000 tons of the hot pepper were grown.

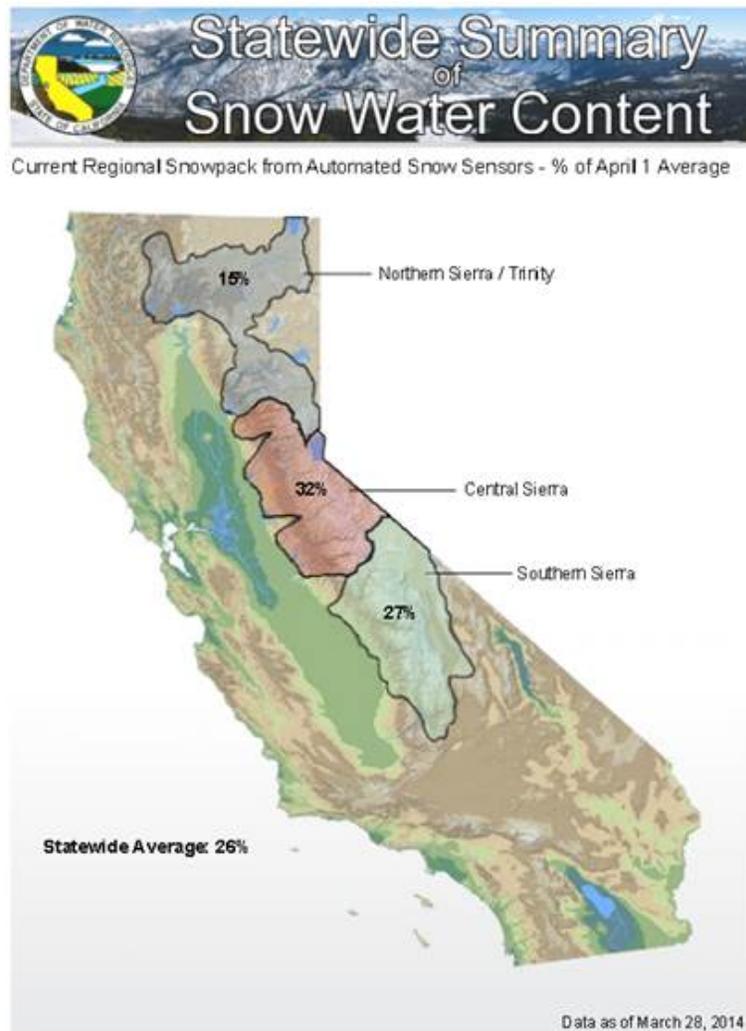
Ethanol plants

The average ethanol plant in the U.S. lost \$7.3 million in 2012, due to high corn prices as drought reduced corn production, according to a study by the University of Illinois. Many plants closed or cut back on ethanol production. The average profit for ethanol plants between 2007 and 2013 was \$7.4 million.

We're nearing the end of March and the average snowpack in the Sierra Nevada was 26 percent of the April 1 average, according to the California Department of Water Resources.

<http://www.water.ca.gov/waterconditions/drought/>

Weekly Snowpack and Drought Monitor Update Report



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)

NWCC's Surface Water Supply Index (SWSI) maps are located at:
<http://www.wcc.nrcs.usda.gov/wsf/swsi.html>