

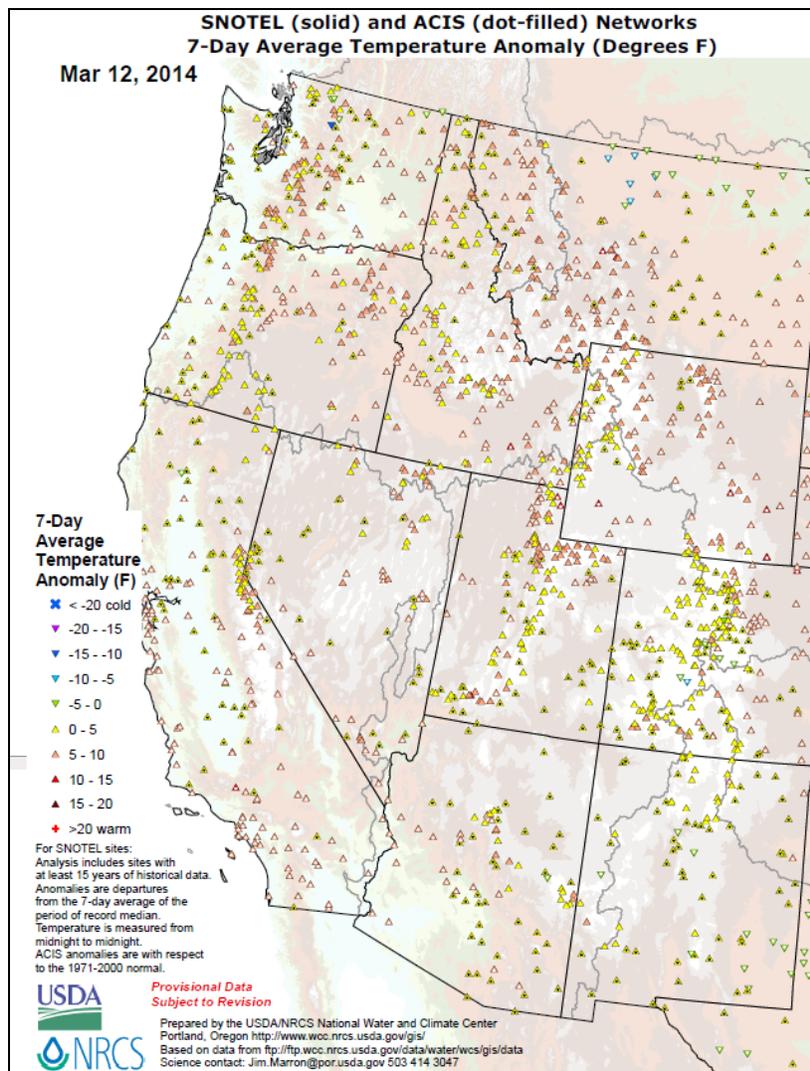


Natural Resources Conservation Service
 P.O. Box 2890
 Washington, D.C. 20013

Weekly Snowpack / Drought Monitor Update March 13, 2014

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Temperature



SNOTEL and ACIS [7-day temperature anomaly](#) shows temperatures above normal across the West with a few exceptions in the northern Montana Rockies, Colorado, and New Mexico.

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

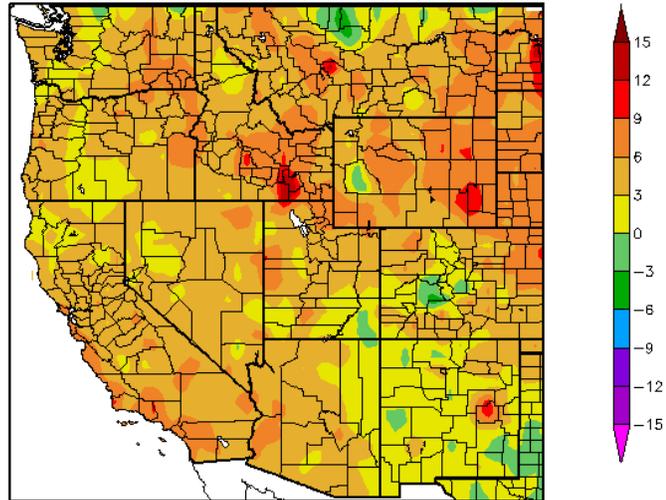
An Equal Opportunity Employer

Weekly Snowpack and Drought Monitor Update Report

[ACIS](#) 7-day average temperature anomalies, ending March 12, show the greatest negative temperature departures over north-central Montana and parts of Colorado ($<-3^{\circ}\text{F}$). The greatest positive temperature departures occurred over south-central Idaho ($>+12^{\circ}\text{F}$).

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

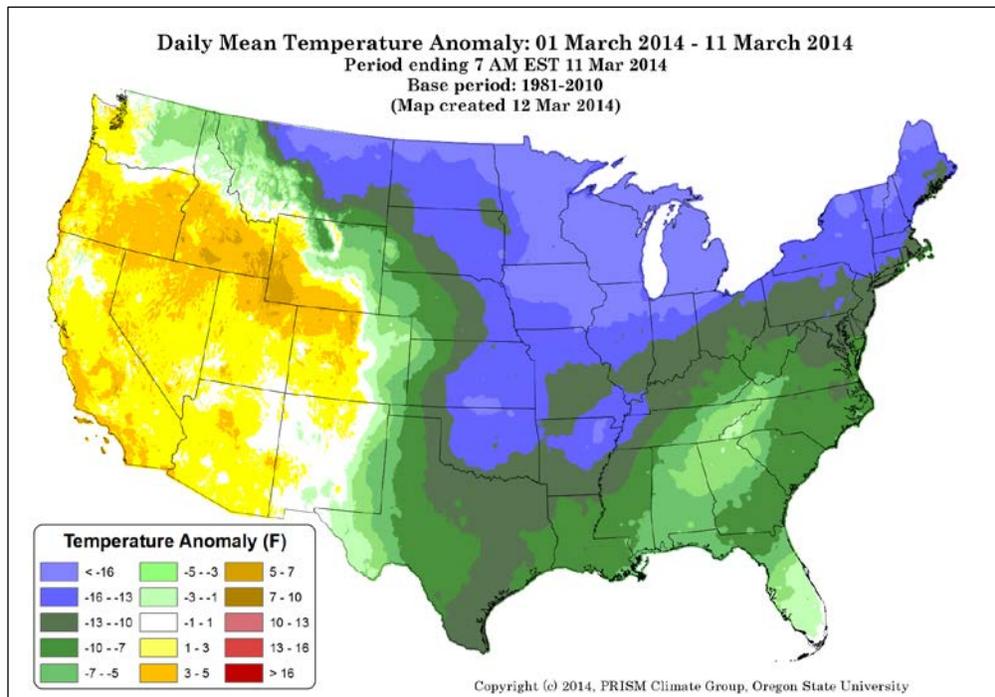
Departure from Normal Temperature (F)
3/6/2014 – 3/12/2014



Generated 3/13/2014 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.

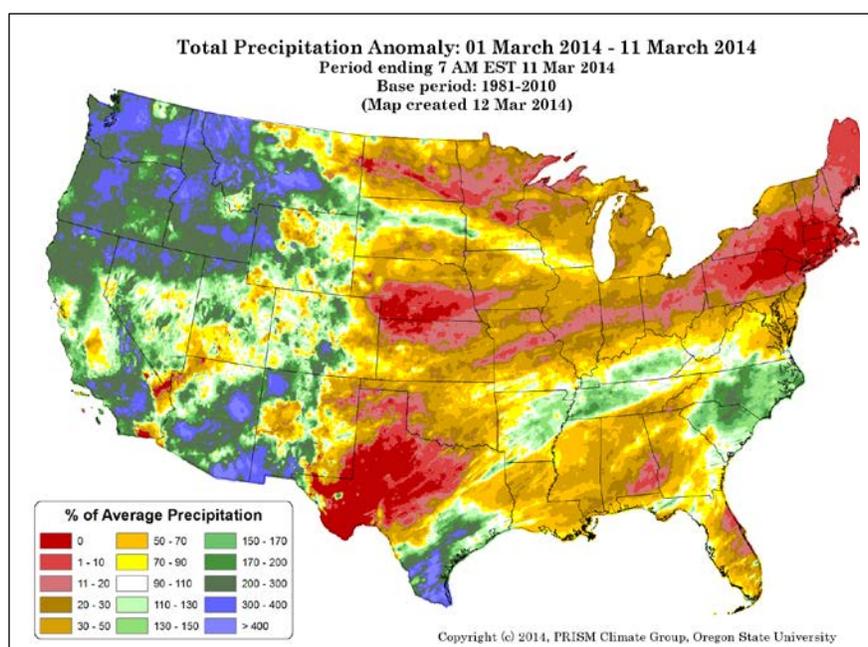
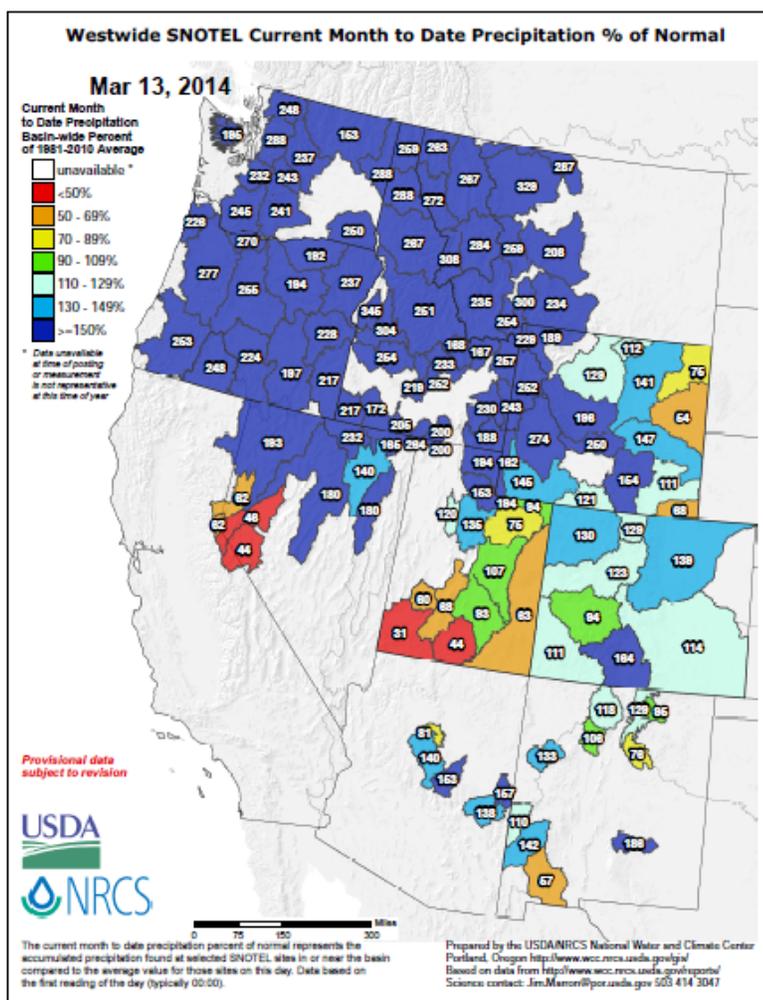


Thus far, March 2014 temperatures have been exceptionally cold over the central northern interior of the nation ($<-16^{\circ}\text{F}$ departures). Significantly warmer than normal temperatures have been confined to parts of the northern Great Basin, California ($>+3^{\circ}\text{F}$), southern Idaho, Oregon, and southwestern Wyoming ($>+5^{\circ}\text{F}$).

Weekly Snowpack and Drought Monitor Update Report

Precipitation

SNOTEL [month to date](#) precipitation percent of normal shows much of the West with well above normal values. A few river basins in the Lake Tahoe area and the southern half of Utah have not benefitted as much from this month's active weather pattern.



← The [March](#) pattern has been interesting thus far. Areas with above normal amounts have dominated the western third of the country and southern Texas. Below normal amounts have impacted the Great Plains, Ohio Valley, southern Alabama, Florida, and New England. Near normal conditions are noted over the Tennessee Valley and the mid-Atlantic States.

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.

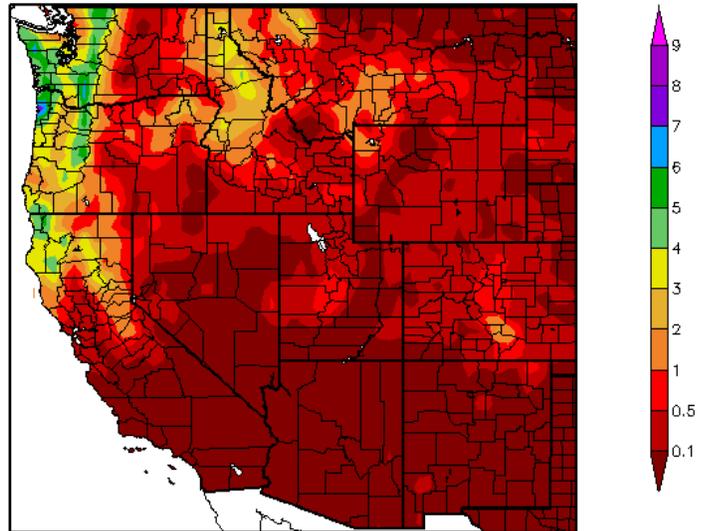
Weekly Snowpack and Drought Monitor Update Report

[ACIS 7-day](#) total precipitation amounts were greatest over the northern Cascades (five inches) and Coastal Mountains of northern Oregon and Washington (six inches).

A secondary maximum area occurred over northwest California (four inches). Lower amounts fell over parts Idaho (up to three inches)

Elsewhere, where precipitation fell, amounts were generally less than one inch. Large portions of southern California, Arizona, and New Mexico had no measureable precipitation.

Precipitation (in)
3/6/2014 – 3/12/2014



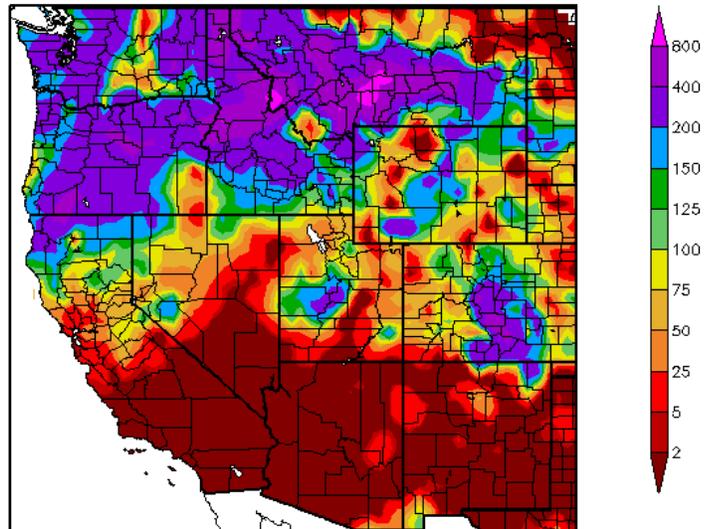
Generated 3/13/2014 at HPRCC using provisional data.

Regional Climate Cen

Percent of Normal Precipitation (%)
3/6/2014 – 3/12/2014

This [map](#) shows that much of the northern tier states of the West experienced surplus moisture. →

This week's map shows the classic La Niña precipitation pattern, with more precipitation falling at higher latitudes.

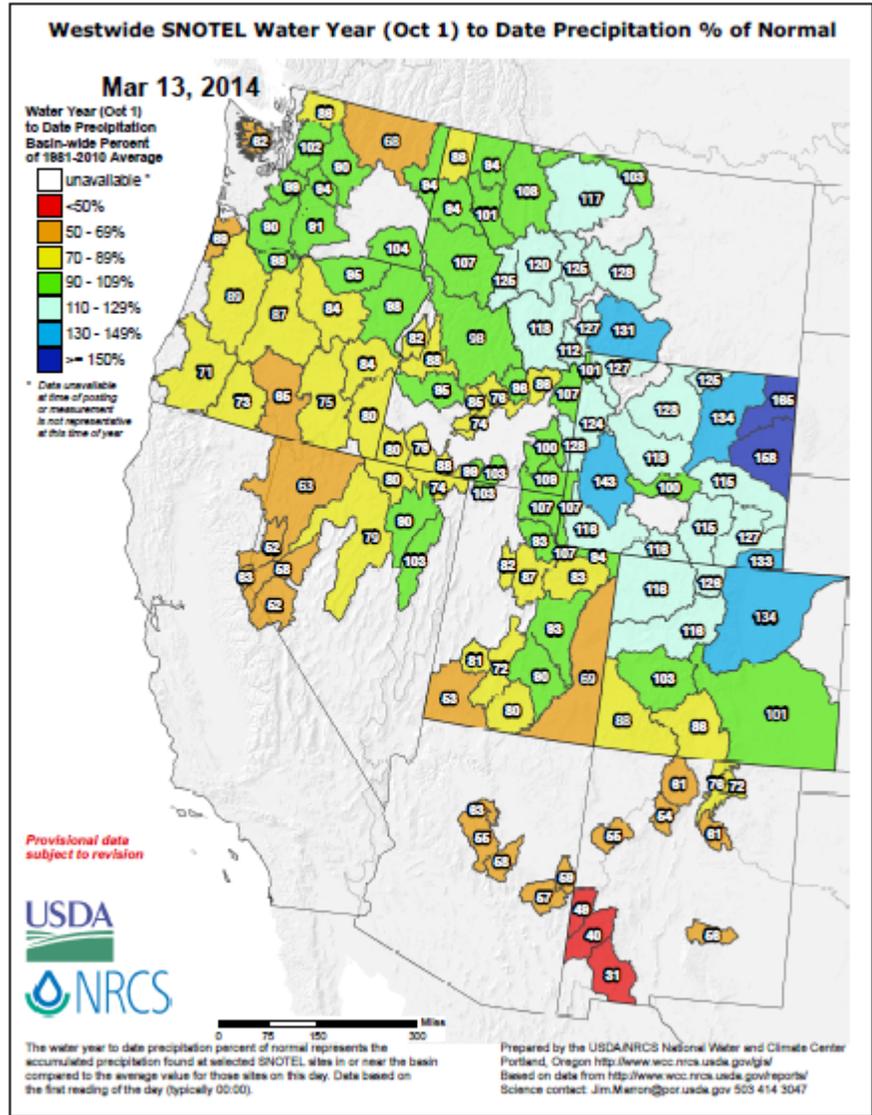


Generated 3/13/2014 at HPRCC using provisional data.

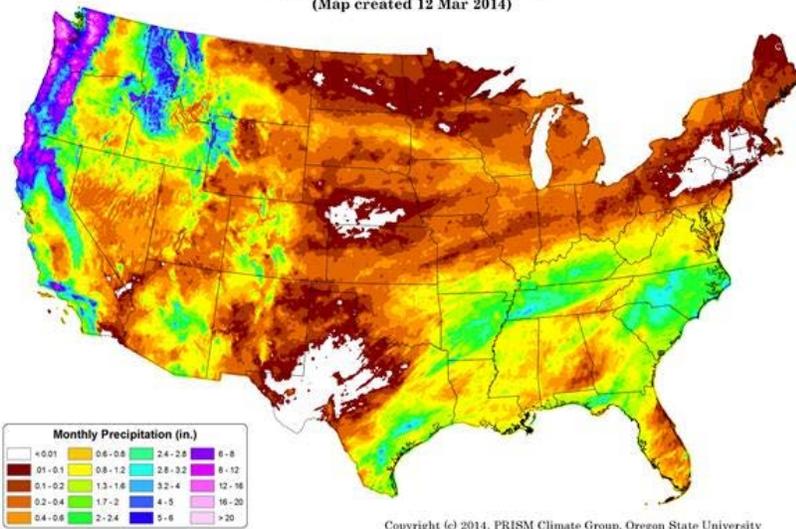
Regional Climate Cen

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 biggest deficits are located over southern Oregon, western Nevada, southwest Utah, and much of Arizona and New Mexico.



Total Precipitation: 01 March 2014 - 11 March 2014
Period ending 7 AM EST 11 Mar 2014
(Map created 12 Mar 2014)



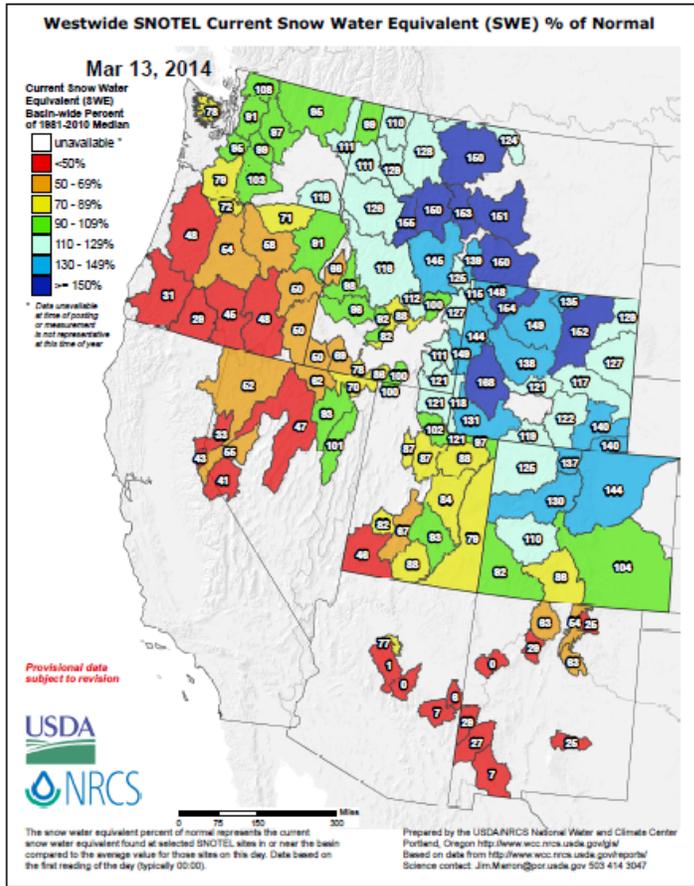
In this [PRISM](#) map, preliminary data show the **total precipitation** (rain and snow water equivalent) through March 11.

Note the large amounts of precipitation along the west coast states with lesser amounts over the inter-mountain West, the Tennessee River Valley, and Mid-Atlantic States.

Little, if any, precipitation has fallen over southwest-central Texas, the Nebraska-Kansas border, central North Dakota, and southern New England.

Weekly Snowpack and Drought Monitor Update Report

Snow



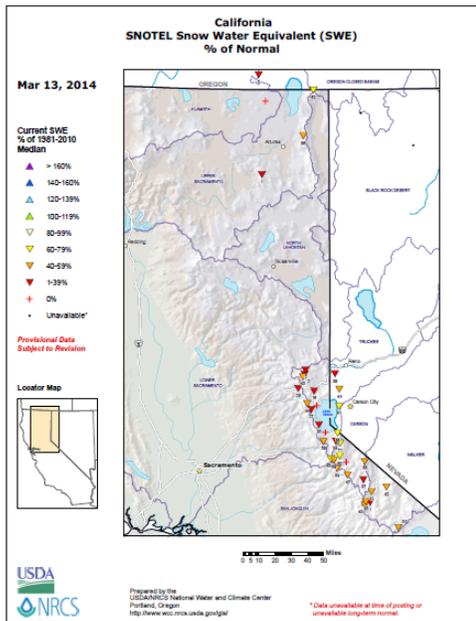
Snow Water Equivalent (SWE) values are higher east of the Continental Divide with the exception of New Mexico.

Snowpack in the Sierra Nevada and southern half of the Cascades continues to be in deficit.

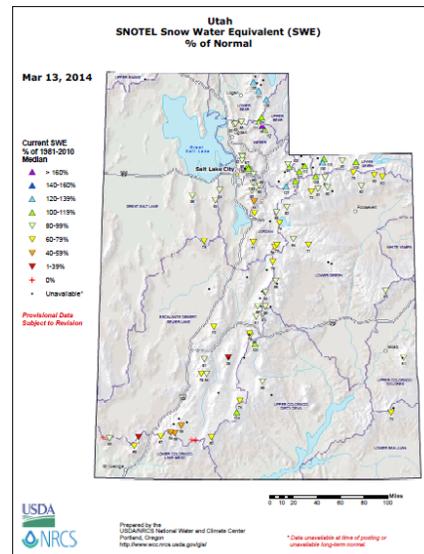
The all-important April 1 SWE date will best determine the water supply forecasts issued by the [National Water and Climate Center](#) for the spring and summer months.

See the latest:

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



California-Nevada SWE map by station. Values continue to range quite low for this late in the season. See the end of this report for more on the implications of reservoir storage.



Utah SWE map by station. Of all the states in the West, Utah is experiencing the largest variability; (e.g., moist in the north and dry in the south).

← Current reservoir storage is ~16.2 million acre-feet (maf), down from 25.1 maf at this time last year.

Weekly Snowpack and Drought Monitor Update Report

Weather and Drought Summary

National Drought Summary – March 11, 2014

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

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

For the contiguous 48 states, the U.S. Drought Monitor showed 35.74 percent of the area in moderate drought or worse, compared with 35.85 percent a week earlier. D4 increased to 1.66 percent this week.

For all 50 U.S. states and Puerto Rico, the U.S. Drought Monitor showed 29.95 percent of the area in moderate drought or worse, compared with 30.05 percent a week earlier.

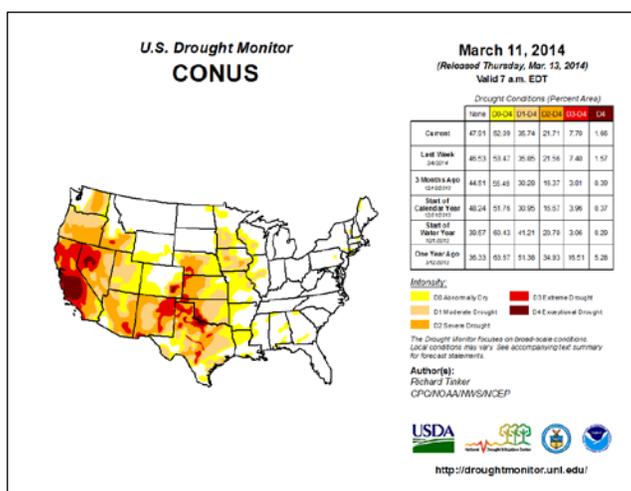
[Current Drought Monitor](#) weekly summary. The exceptional D4 levels of drought are scattered across CA, NV, CO, TX, and OK.

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](#).

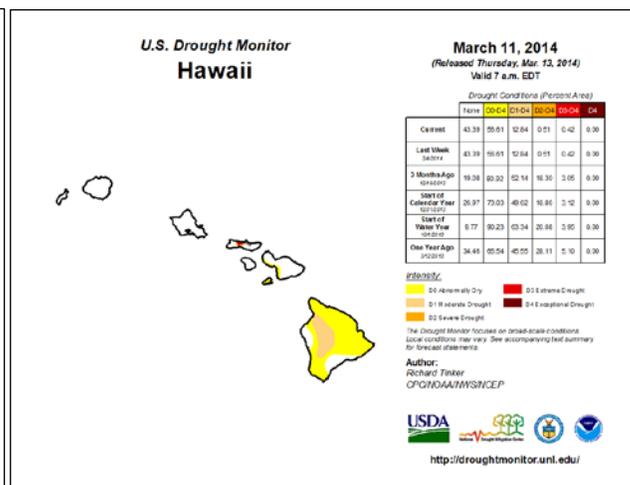
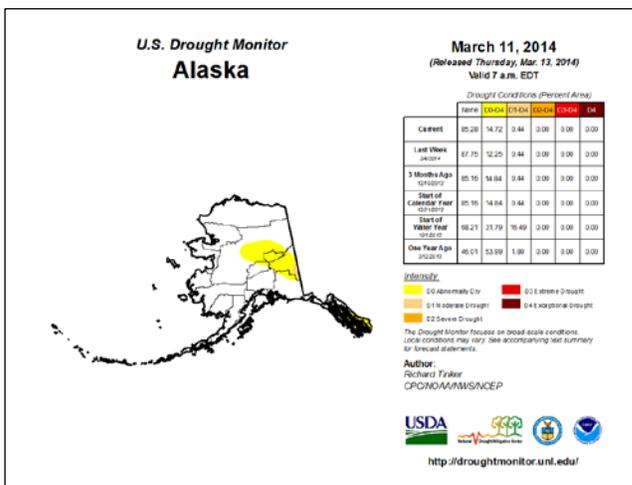
Drought Management Resources (√):

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



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

- [Struggling US wheat may yet deteriorate further](#) - March 4
- [Obama signs renewal of drought info system](#) - March 6



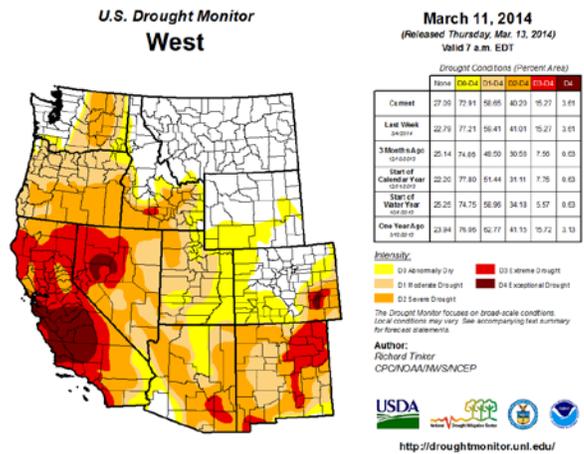
The 49th and 50th States show relatively benign drought conditions. No changes occurred this week in either state. A comprehensive narrative describing drought conditions across other parts of the nation can be found toward the end of this document. For drought impacts definitions for the figures that follow, click [here](#).

Weekly Snowpack and Drought Monitor Update Report

- ✓ 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](#)

Drought News across the West

- [Williams declares water crisis](#) - March 6, Williams, Arizona



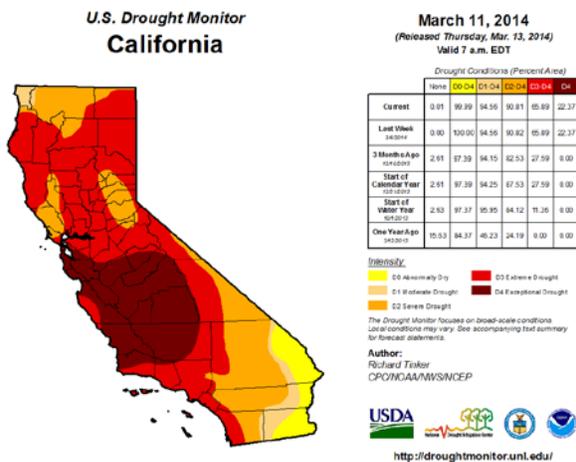
No significant changes occurred this week.
Click to enlarge

State with D-4 Exceptional Drought

- ✓ [CA Drought Information Resources](#)

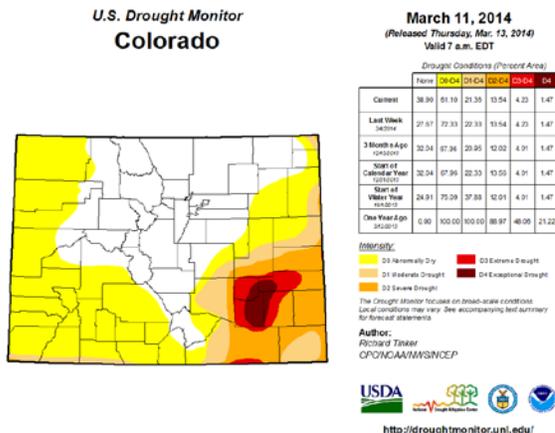
Drought News from California

- [California Farmers Hire Dowzers to Find Water](#) - March 2
- [Cattle ranchers make tough choices during drought](#) - March 5
- [Persistent Calif. drought to delay U.S. cattle herd rebuilding](#) - March 4
- [Drought drags on: Storms didn't quench Calif.'s thirst](#) - March 6
- [Bees Feeling Effects of California Drought](#) - March 6
- [CA governor signs off on \\$687 million drought plan](#) - March 1
- [California Governor Seeks Drought Help From Israel's Netanyahu](#) - March 6
- [Drought linked to polluted winter air](#) - March 4
- [California Town Scrambles to Save Its Water Supply](#) - March 7



No changes occurred this week.

State with D-4 Exceptional Drought



No significant changes have occurred during the past week.

Weekly Snowpack and Drought Monitor Update Report

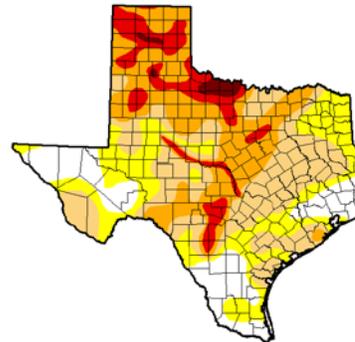
State with D-4 Exceptional Drought

- ✓ 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

- [Wells replace lake water in drought-ridden White River district](#) - March 2.
- [Aquifer levels sinking fast](#) - March 4.

U.S. Drought Monitor Texas



March 11, 2014
(Released Thursday, Mar. 13, 2014)
Valid 7 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D1	D1-D2	D2-D3	D3-D4	D4
Current	15.44	84.56	62.80	34.39	11.40	1.40
Last Week Same	8.95	91.05	67.15	31.38	8.52	1.07
3 Months Ago (4/20/13)	25.73	74.27	44.89	20.83	5.70	0.96
Start of Calendar Year (1/1/14)	28.43	71.57	43.84	21.15	5.62	0.79
Start of Water Year (1/1/13)	6.62	93.38	70.95	25.88	4.01	0.12
One Year Ago (3/11/13)	11.53	88.47	75.80	54.94	23.41	8.57

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 Taylor
CPONDA@NRWS/USCEP

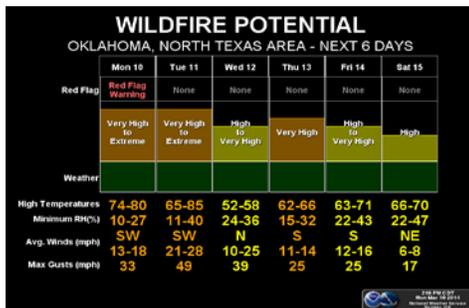
USDA

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

Deterioration in D2 to D4 occurred during the past week.

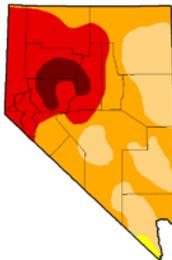
← Dry conditions have increased the chance for wildfires this week.

However, dust storms have also been in the news: [click](#), [click](#)



State with D-4 Exceptional Drought

U.S. Drought Monitor Nevada



March 11, 2014
(Released Thursday, Mar. 13, 2014)
Valid 7 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D1	D1-D2	D2-D3	D3-D4	D4
Current	0.00	99.99	99.99	99.99	99.99	99.97
Last Week Same	0.00	99.99	99.99	99.99	99.99	99.97
3 Months Ago (1/1/14)	0.00	99.99	99.99	99.99	99.99	99.97
Start of Calendar Year (1/1/14)	0.00	99.99	99.99	99.99	99.99	99.97
Start of Water Year (1/1/13)	0.00	99.99	99.99	99.99	99.99	99.97
One Year Ago (3/11/13)	0.00	99.99	99.97	99.99	99.99	99.98

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 Taylor
CPONDA@NRWS/USCEP

USDA

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

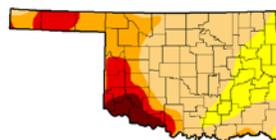
No changes have occurred during the past week.

- [Even In A Desert, Drought Spells Trouble For Ranchers](#) - March 2
- [California will tap its water bank, even as Lake Mead shrinks](#) - March 1
- ✓ Nevada reservoirs only holding 32% of their average amount of water, the lowest in the West. NM and OR are at 68%, and AZ at 75%.

State with D-4 Exceptional Drought

Deterioration has occurred in all categories this week with D4 increasing by 2 percent.

U.S. Drought Monitor Oklahoma



March 11, 2014
(Released Thursday, Mar. 13, 2014)
Valid 7 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D1	D1-D2	D2-D3	D3-D4	D4
Current	0.00	93.00	86.82	78.82	54.52	4.40
Last Week Same	0.79	92.22	82.55	28.89	13.87	2.40
3 Months Ago (1/1/14)	49.22	50.78	36.32	19.39	4.92	2.40
Start of Calendar Year (1/1/14)	50.84	45.16	30.17	18.99	4.94	2.40
Start of Water Year (1/1/13)	21.74	78.26	43.80	17.52	4.42	1.40
One Year Ago (3/11/13)	0.00	93.00	92.00	83.99	60.72	9.71

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.

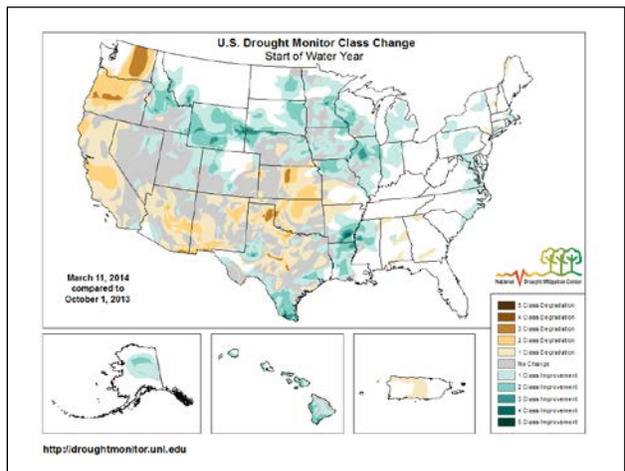
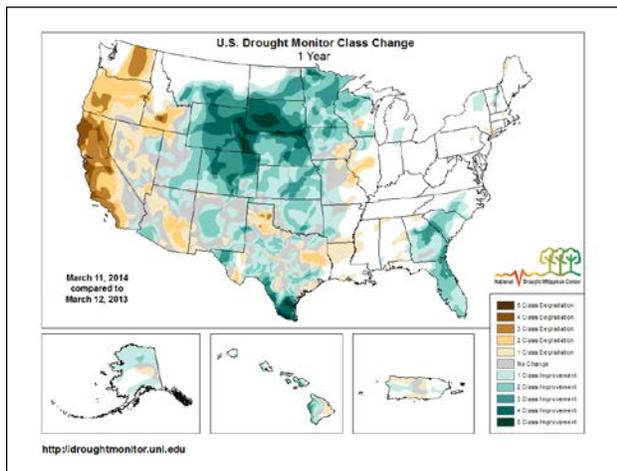
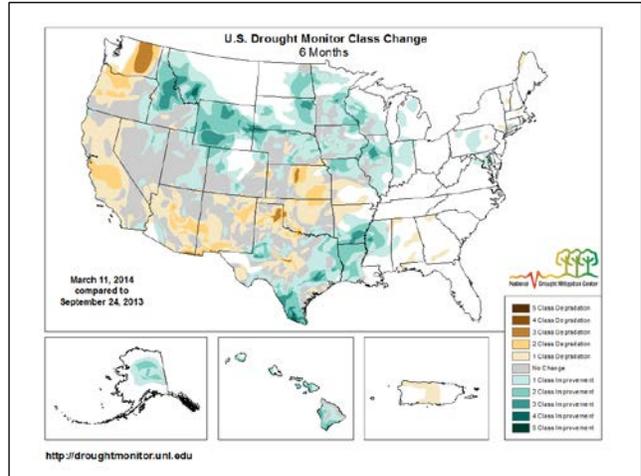
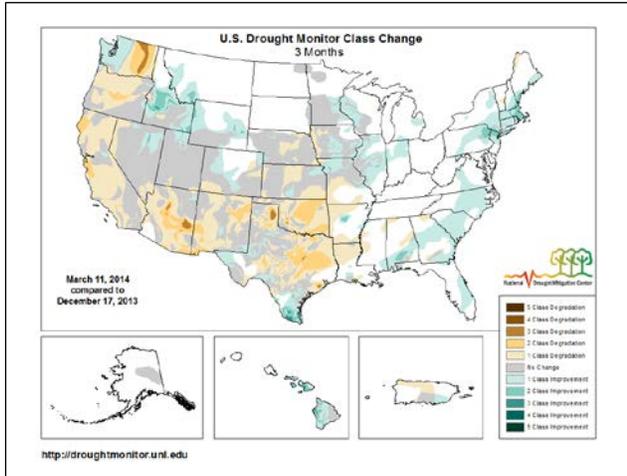
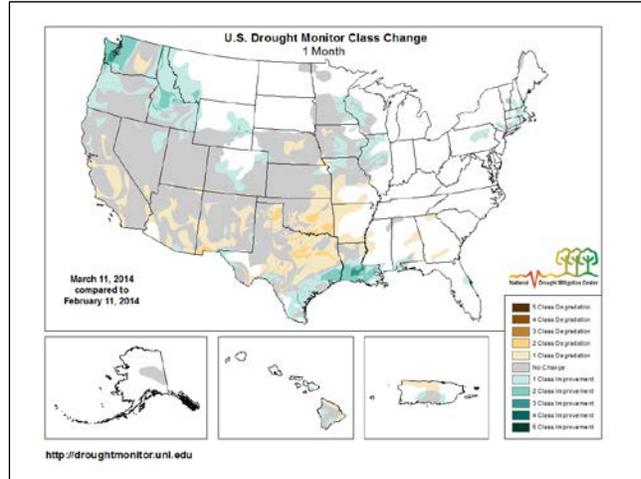
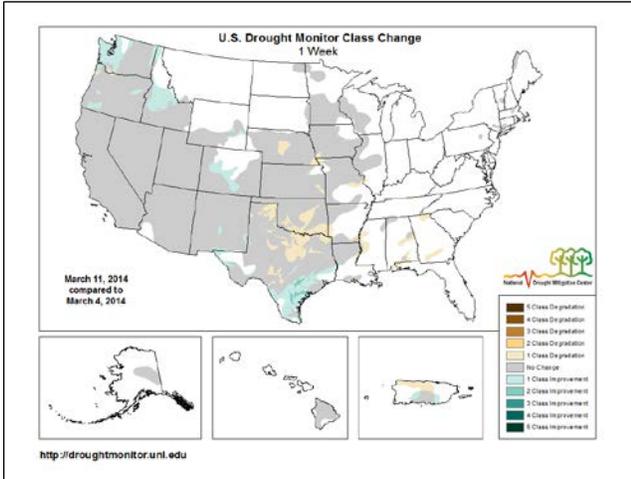
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USDA

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

Weekly Snowpack and Drought Monitor Update Report

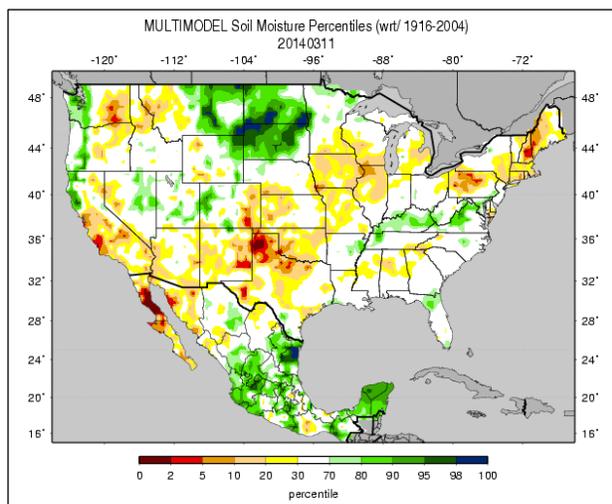
Changes in Drought Monitor Categories (over various time periods)



Winter time changes to the drought monitor are usually minimal. However, 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. 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



Soil moisture ranking in [percentile](#) as of March 11 shows dryness over central California, eastern New Mexico, parts of central Washington, the southwestern Great Plains (i.e., northern Texas), and parts of New England. Moist soils dominate the Northern Plains.

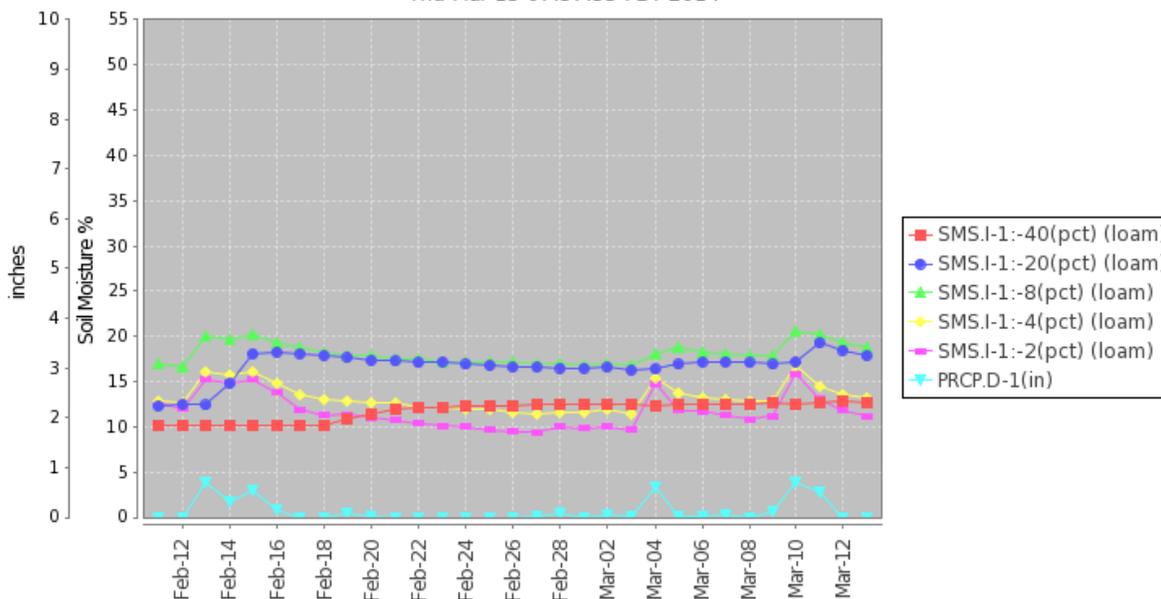
Useful Hydrological Links: [Crop Moisture Index](#); [Palmer Drought Severity Index](#); [Standardized Precipitation Index](#); [Surface Water Supply Index](#); [Weekly supplemental maps](#); [Minnesota Climate Working Group](#); [Experimental High Resolution Drought Trigger Tool](#); [NLDAS Drought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

Note: With frozen ground, accuracy of measured moisture become increasingly suspect.

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

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

Station (2074) MONTH=2014-02-11 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision
Thu Mar 13 07:57:53 PDT 2014



This NRCS resource shows soil moisture data at a SCAN site located in [south-central Oregon](#). Rains earlier in the month impacted near-surface soils with a small increase in 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

[National Drought Summary for March 11, 2014](#)

Prepared by: Drought Monitor Author: Richard Tinker, NOAA/NWS/NCEP/CPC

Hawaii, Alaska, and Puerto Rico

“Between 1 and locally 4 or more inches of rain fell on east Hawaii Island and much of Molokai, Maui, and Oahu. Only a few tenths of an inch dotted the rest of the Big Island and parts of the western periphery of the other islands. Dryness and drought remained unchanged.

In Alaska, a few tenths of an inch of precipitation fell on the D0 to D1 areas in eastern Alaska, keeping conditions intact. Farther south, D0 has been introduced in the southern half of southeast Alaska. Precipitation has recently increased here, but conditions have also warmed up and snowpack is lower than usual. In spring, below-normal snowmelt into already-short reservoirs could affect water supplies. Already, power generation has been stopped on Ketchikan Lake, and while other lakes and reservoirs are at adequate levels, they’re dropping quickly.

Dryness was expanded in Puerto Rico to cover the north-central and northwestern coastlines. Dryness here is of much shorter duration than along the southwest and particularly the south-central coast. For the South Coastal region as a whole, January and February brought 1.3 inches of rain, compared to the normal of 4.5 inches. In February on the north side coast, 1 to 2 inches fell on areas that typically get 2.5 to 4.0 inches; also, the Northern Slopes region, just south of the coastline, measured about 6.5 inches of precipitation during the month, considerably below the February normal of over 15 inches.

The Central and South-Central Plains

Another week of below-normal precipitation affected the region, causing dryness and drought to generally persist and locally worsen. Between 0.25 and 1.0 inch of precipitation was measured from central Oklahoma northeastward into south Missouri, and in the central High Plains near the Rockies; otherwise, a few tenths of an inch fell, at best. Given the time of year, few changes were made in northern parts of this area, with more increasing areas of deterioration observed moving southward toward the Red River Valley. Severe drought expanded in central Nebraska, and D1 expanded considerably eastward from central Oklahoma to southeast Kansas. Over the past 60 days, precipitation totaled 3 to 6 inches less than normal across central and east Oklahoma, southeast Kansas, north and west Arkansas, and south Missouri. Both 60- and 90-day amounts are only half of normal at best across the south-central Plains approaching the Red River Valley and Texas.

The Central and Southern Rockies

Generally 0.5 to locally 2.5 inches of precipitation fell on the higher elevations in central and western Colorado, and central Utah. A few tenths of an inch fell on much of Wyoming, north New Mexico, and east-central Arizona, and little or none fell elsewhere. Improvement was introduced in parts of Colorado and Wyoming, where relatively wet patterns have been established for some time now. Conditions changed little elsewhere. Snowpack was considerably above normal in central Colorado, and near to a bit below normal in south Colorado, north-central New Mexico, and much of Utah. Very low snowpack – less than 25 percent of normal – was observed across higher elevations in Arizona and New Mexico. A lack of water availability isn’t a widespread issue, but a few smaller systems are struggling to keep water flowing. In Utah, the water availability index in the Weber River, Provo, and San Pitch regions is below the 5th percentile level, but other regions are faring better.

Weekly Snowpack and Drought Monitor Update Report

The Intermountain West and Far West

Heavy precipitation again pelted the northwestern and northeastern parts of this region, but dryness persisted farther south. Drought remained in the exceptional range in parts of California and northeast Nevada.

Over 3 inches of precipitation fell from the northern Sierra Nevada and the Cascades westward to the Pacific Coast, with 5 to 10 inches reported in the higher elevations of the Cascades and in northeast California. As a result, D0 and D1 was reduced in western Washington, as was some D2 in southwest Oregon, but from Oregon southward, obvious relief was not as widespread and snowpack remained very low.

In central and northern Idaho and some areas in nearby Washington and Oregon, 2 to 6 inches of precipitation was common. Conditions have improved in these regions significantly in the past few weeks, thus broad areas of improvement were introduced.

In contrast, dryness and drought persisted farther south, where precipitation was lacking. Between 1 and 3 inches fell on the central and southern Sierra Nevada, but little or none was reported from western Utah, northern Nevada, and central California southward. Snowpack remained under 70 percent of normal roughly south and west of a line from northeast Oregon to north-central New Mexico, and was less than half of normal in southern Oregon, the Sierra Nevada and southern Cascades, northwestern Nevada, southwest Utah, and the higher elevations of Arizona and New Mexico.

Water supplies are also being affected. Small-scale water supply systems serving at least 17 California communities are struggling to keep water flowing out of taps. The large Southern California Metro Water District is expected to draw about 20 percent more water than usual from Lake Meade (water it had banked in wetter years). As of March 6, the four large reservoirs on the periphery of the southern half of the San Joaquin Valley held 35 to 50 percent of their normal quantity for the date while reservoirs farther north along the central California Valley held 55 to 75 percent of normal.

The Northeast

It was a dry week across the region. A few tenths of an inch of precipitation fell on upstate New York and northern New England. Only scattered amounts below 0.2 inch were measured elsewhere. Impacts remained minimal, however, partly because of the time of year, so the scattered areas of D0 were left alone this week. The dry areas in northern New England are 2 to 4 inches below normal precipitation for the last 90 days, and almost all of the D0 areas remain at least 6 inches below normal for the last 6 months.

The Southeast

It was a drier than normal week region-wide from Georgia and Florida westward into Mississippi. Moisture deficits increased enough in a few areas for the introduction of abnormal dryness. D0 persisted or expanded into northwest Alabama and adjacent locations, northeast Georgia, east-central Alabama and west-central Georgia, south-central Alabama and the extreme northwestern Florida Panhandle, and a stripe across southern Georgia. The past 60 days brought 3 to 5 inches less precipitation than normal to these regions, and 90-day totals are now 4 to 6 inches below normal in northeast Mississippi and northwest Alabama.

Weekly Snowpack and Drought Monitor Update Report

The Southern Plains and Lower Mississippi Valley

Moderate to heavy rains of 1 to 3 inches fell on much of southern and southeastern Texas last week, but most of the region was drier than normal again. Precipitation totals topped a half inch across roughly the southeastern one-third of Texas and parts of Louisiana; Only isolated totals above 0.25 inch were reported elsewhere. To wit dryness and drought improved in portions of south and southeast Texas, but numerous areas elsewhere deteriorated. For the past 6 months, precipitation amounts ranged from 4 to locally almost a foot below normal in the Red River Valley, Oklahoma outside the Panhandle, Louisiana, and northwestern Arkansas. Since the start of the water year (October 2013), a mere 15 to 35 percent of normal precipitation has fallen on much of the Texas Panhandle and northeast New Mexico.

Impacts resulting from this dryness are increasing. Low reservoir levels are common from the Texas Panhandle into central parts of the state, and short surface moisture is beginning to affect early-planted crops. Statewide across Oklahoma, 40 to 45 percent of oats, canola, and rangelands are in poor or very poor condition, as is roughly 30 percent of rye and wheat, according to the National Agricultural Statistics Service. In Texas, more than half of all rangelands are starting the season in poor to very poor condition.

Some reservoirs have taken a beating. The elevations of Lakes Buchanan and Travis rival the record and near-record low levels of the mid-1960's and early 1950's, and Highlands Lake storage came perilously close to setting an all-time record low level in September 2013, but has since rebounded slightly. Both the Edwards Aquifer and the San Antonio water supply system soon will need to impose their strictest mandatory water conservations measures ever (stage 4 and 3, respectively) if precipitation doesn't start to increase.

The Upper and Middle Mississippi Valley

Between 0.5 and 1.0 inch of precipitation fell on a swath from southwest Minnesota eastward into southern Wisconsin while other areas received only a few tenths of an inch, if any. For areas north of southern Iowa, the drought assessment has been static awaiting spring snowmelt progress. From southern Iowa into north Missouri and west Illinois, dryness did prompt some regions of D0 and D1 expansion.

Looking Ahead

The next 5 days (March 12-16) should bring moderate precipitation (0.5 to 2.0 inches) from the lower Mississippi Valley eastward across the Southeast. New England, far northwestern Washington, deep south Texas is expected to measure 0.5 to 1.0 inch. Light amounts of up to 0.5 inch at best are expected elsewhere.

For the ensuing 5 days (March 17-21), the odds favor above-normal precipitation along the immediate East Coast and in part of the Alaskan Panhandle. In contrast, there are enhanced chances for drier-than-normal conditions in a broad area covering much of the central and western states. Specifically, along a stripe from the Ohio and middle Mississippi Valleys westward through the central Rockies, California, and Oregon...and from there southward to the Mexican border and Gulf of Mexico coast. Neither wet nor dry conditions are particularly favored anywhere else."

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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.

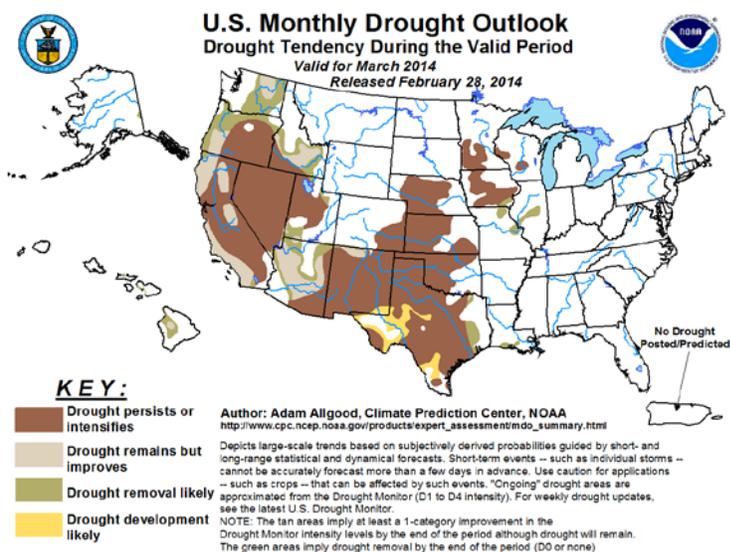
This report uses data and products provided by the Interagency Drought Monitor Consortium members and the National Interagency Fire Center.

/s/

David W. Smith

Acting Deputy Chief, Soil Science and Resource Assessment

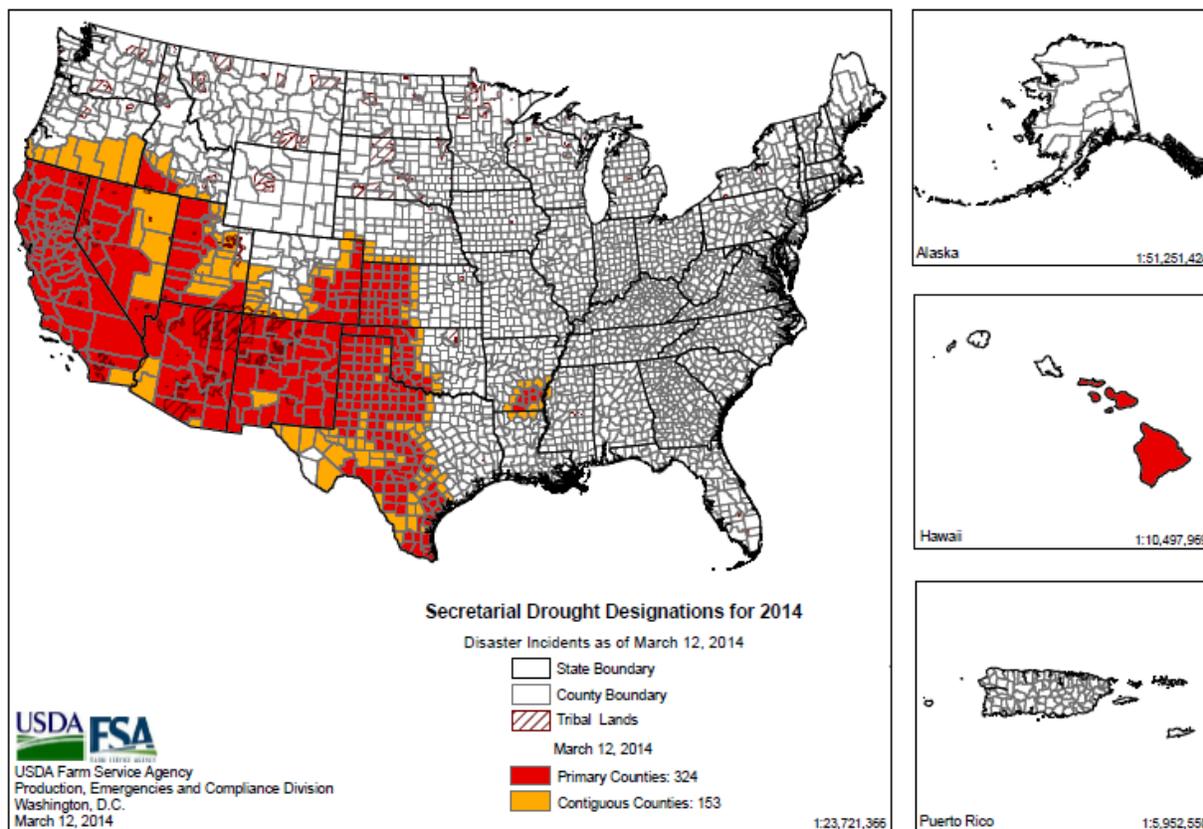
Drought Outlook ← (March – May)



U.S. Seasonal Drought Outlook for [March](#):

- Drought is expected to deteriorate over parts of southern and western Texas. Much of the West and south-central Great Plains, including parts of the upper Mississippi River Valley, are expected to have persistent drought. Improvement is suggested over Arizona, parts of California, and the Pacific Northwest.
- ✓ 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



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>.

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 Gov. Jerry Brown signed drought legislation

Gov. Brown signed the \$687 million drought legislation, allowing thirsty communities, farmers with fallowed fields and unemployed farmworkers to access emergency aid. The plan includes \$472 million in accelerated grant funding for water conservation and recycling projects and \$15 million for food and housing for those unemployed, due to drought.

California works with Israel to research and develop water conservation technologies

Gov. Jerry Brown and Israeli Prime Minister Benjamin Netanyahu signed a memorandum of understanding for research and development cooperation in water conservation and other technological

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fields on March 5. Israel has considerable expertise in wastewater recycling, desalination and drip irrigation that has allowed the country to thrive despite meager water resources.

California air pollution worse than usual

Air pollution in California was a bigger problem than it has been in previous winters as drought, low wind speeds and stagnant conditions kept pollutants close to the ground.

Air in the San Joaquin Valley exceeded federal standards for fine particulate matter on 66 days and was the most polluted in the state. In the Bay Area, the Air Quality Management District declared 30 "spare the air" days, when residential wood-burning was prohibited. There were only 10 spare the air alerts last winter.

California bees

There are fewer California wildflowers making pollen for bees this year since drought has made wildflowers scarce. Although the apiarists feed the bees, they still do not get adequate nutrition, leading to more bee deaths and much lower honey production.

National/elsewhere

U.S. cattle herd declining

As California livestock producers sell their animals, the national cattle herd continues its gradual decline at 87,730 head, the smallest since 1951. Meanwhile, beef prices remain near record highs.

Winter wheat in southern Great Plains in need of moisture

Winter wheat from Nebraska to Texas is in need of moisture and could have used snow cover to protect the wheat from bitter cold temperatures. The amount of winter wheat rated good or excellent in Nebraska, Oklahoma and Texas dropped three, five and four percentage points, respectively, from the previous month to 46, 31 and 5 percent.

Water supplies becoming depleted in Texas

The White River Municipal Water District east of Lubbock began drawing water from wells rather than White River Lake because the water quality deteriorated as the lake shrank, increasing water treatment costs. Since May 2013, water users have not been able to water lawns, and one community did not open its public swimming pool.

Little snowfall, greatly diminished water supplies in Williams, Arizona

Williams, Arizona, which relies on surface water for its municipal supply, is in a water crisis. This winter brought very little snow to the area, leaving the city relying on two wells to fill the city's reservoir.

Tumbleweeds impeding travel in southeastern Colorado

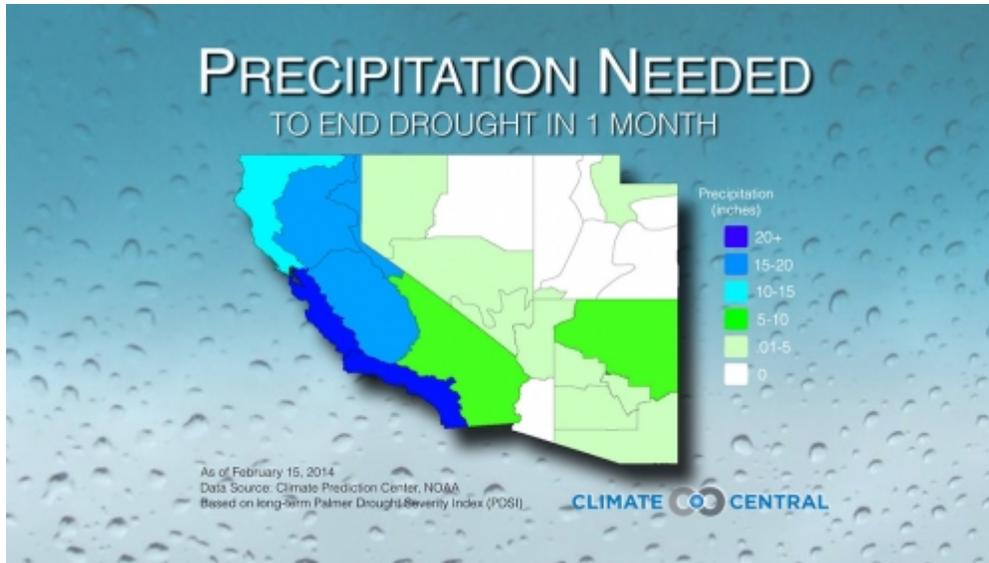
The abundance of tumbleweeds on the eastern plains of Colorado is causing problems as the rolling, prickly Russian thistles break free from their roots and roll until they pile up against homes and fences. The weeds grew abundantly in late August and early September 2013 when rains fell, but drought had stifled grass growth, allowing the Russian thistles to thrive. The tumbleweeds block roads, collect in culverts and create monstrous piles sometimes up to 10 feet high and six or more feet deep.

Water, hay supply outlook not good for Nevada

Low snowpack in the Sierra Nevada will mean poor water supplies for northern Nevada and poor alfalfa production. Northern Nevada is an important hay-growing region for the country.

This graphic was put together by Climate Central with CPC data on Feb. 15 before the strong storms came through California toward the end of February. In mid-February, the Central Coast of California needed more than 20 inches within a month's time to end the drought, while the Central Valley would need 15 to 20 inches.

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Graphic from Climate Central at <http://www.climatecentral.org/news/rains-ease-calif.-drought-make-wildfire-outlook-grimmer-17147>

The “U.S. Crops in Drought” products are produced on a weekly basis. Archived “U.S. Crops in Drought” files may be downloaded [here](#).

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)

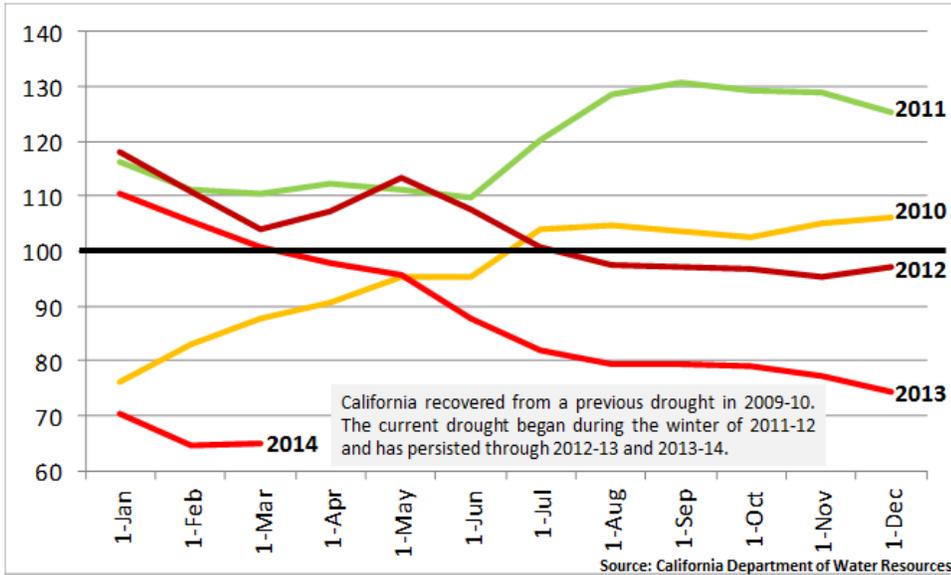
Following are graphics for California’s 154 intrastate reservoirs, updated with the **end-of-February** data.

Current storage is 16.2 million acre-feet (maf), down from 25.1 maf at this time last year.

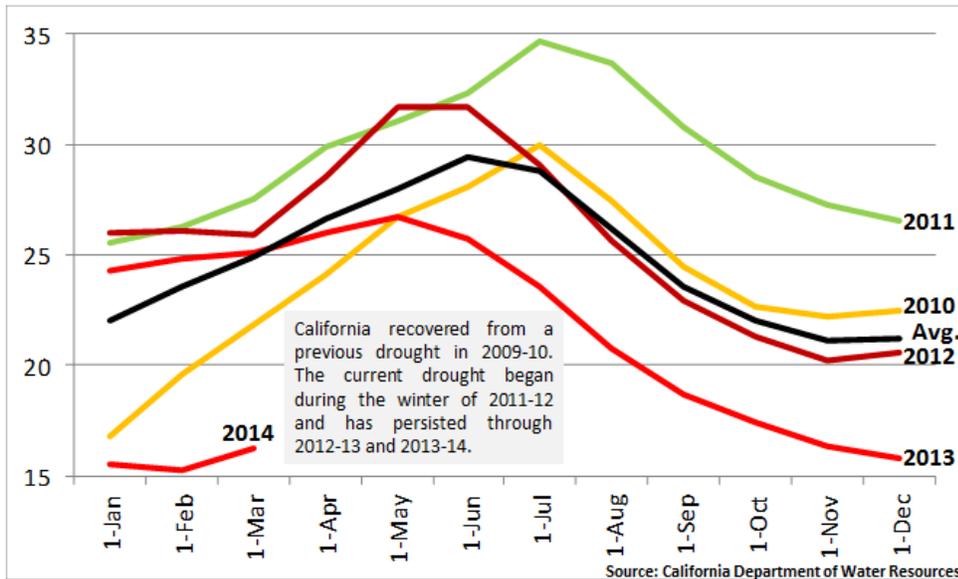
“In a ‘normal’ year – is there such a thing in California? – we could expect to add nearly 4.5 maf to the reservoirs between now and the end of May, but obviously that won’t happen this year due to the meager Sierra Nevada snowpack and thirsty, drought-parched soils. Given the “normal” summer usage of 8.2 maf – and the fact that draw-down the last two summers topped 11 maf – storage may well be perilously low when the 2014-15 wet season begins.” -Brad Rippey, USDA

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California Reservoir Storage, Percent of Normal, 2010-14



California Reservoir Storage, Million Acre-Feet, 2010-14



Note: One acre-foot is equal to 325,851 gallons, or the amount of water it takes to cover one acre to a depth of one foot.