



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

Weekly Report - Snowpack / Drought Monitor Update

Date: 14 March 2013

SNOTEL SNOWPACK AND PRECIPITATION SUMMARY

Temperature: [SNOTEL](#) and ACIS 7-day temperature anomaly ending 13 March shows conditions within 5°F of the long-term average with the exception of colder departures over northern Montana (Fig. 1a). ACIS [7-day](#) average temperature anomalies show the greatest positive temperature departures over southwest Wyoming (>+6°F). The greatest negative departures occur over northernmost Montana (<-8°F) (Fig. 1b).

Precipitation: [ACIS](#) 7-day average precipitation amounts for the period ending yesterday show precipitation dominating the Olympic and Cascade Ranges in Washington and over the high country in parts of Utah and Arizona (Fig. 2a). This is clearly reflected in the lower panel (Fig. 2b), although higher percentages also occurred in southern California, western New Mexico, and much of Colorado. SNOTEL [month to date](#) precipitation percent of normal for March thus far shows above normal amounts over the Northern Rockies (MT), northeast Colorado, south-central Utah, Arizona, and southwest New Mexico. Southern Washington, Oregon, and southwest Idaho have the greatest deficits (Fig. 2c). For the [2013 Water Year](#) that began on 1 October 2012, the pattern continues to resemble La Niña with Arizona standing out as an exception to the dryness seen over the Southern Tier of the West (Fig. 2d).

Snow: The [7-day snow depth changes](#) for the week show some snow depth increases over the Four Corners States but declines of up to a foot elsewhere (Fig. 3a). Current [Snow-Water Equivalent](#) (SWE) conditions across the West reveal that the Washington Cascades have the only surplus. The Northern Rockies, Upper Snake Drainage, Oregon Cascades, south Utah, and central Arizona Mountains have closer to normal conditions. For the remainder of the West, deficits rule (Fig. 3b).

Weather Summary: The past week featured two major storm systems. The first was a deep low-pressure system that impacted portions of the contiguous 48 states from the Mid-Atlantic to the Northeast, producing moderate rains over the Mid-Atlantic (0.5 - 1.5 inches). As the storm lingered near the Northeast, it produced significant rains (0.5 - 3.0 inches) and snows (scattered reports of greater than 6 inches with isolated reports of more than 1 foot) for New England. Later in the week, a storm system entered the West Coast and brought heavy precipitation (0.5 – 4.0 inches) to northern California and the Southwest. During the weekend, the focus of precipitation shifted to the central and eastern portions of the contiguous 48 states, with wide swaths of precipitation falling across the central Great Plains and Midwest. The wet weather moved toward the East Coast toward the end of the weekly analysis period. A wet pattern (0.5 – 6.34 inches of precipitation) continued across southern Alaska. Most stations in Puerto Rico reported at least some precipitation, except for the majority of stations near the northwest portions of the island.

The Rockies: Winter storms brought precipitation to the Southwest, prompting the removal of some dryness near central Arizona, specifically near Gila County. Rains there exceeded 2.0 inches for a few reporting locations. The same storm system brought some snows to higher terrains in Arizona, but not enough to significantly increase the surface water supply forecast or

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the reservoir storage. Nevada and New Mexico are also experiencing very low reservoir levels, so the current depiction, which contains significant areas of extreme drought, seems accurate.

Areas of central Utah have fared slightly better this winter, with some SNOTEL stations reporting near median SWE values. The latest Water Supply Forecast Summary from the USDA-NRCS indicates Utah has above-average reservoir storage. Those two factors contributed to a removal of D2 across the Sevier River Basin.

The storm system that moved across the West brought significant precipitation to much of California, with isolated reports in excess of 2 inches across southern California and much higher amounts across northern California and the Central Sierras (over 10 inches at a few stations). This prompted some removal of D0 (abnormal dryness) across northern California and a slight trimming of D1 conditions across southern California. Author: Matthew Rosencrans, NOAA/NWS/NCEP/Climate Prediction Center

A comprehensive narrative describing drought conditions for the nation can be found at the end of this document.

Drought Impacts Definitions

The possible impacts associated with **D4 (S, L)** drought include widespread crop/pasture losses and shortages of water in reservoirs, streams, and wells creating water emergencies. The possible impacts associated with **D3 (S, L)** drought include major crop/pasture losses and widespread water shortages or restrictions. Possible impacts from **D2 (S, L)** drought are focused on water shortages, water restrictions imposed, and crop or pasture losses. The possible impacts associated with **D1 (S, L)** drought are focused on water shortages developing in streams, reservoirs, or wells, and some damage to crops and pastures (Figs. 4 through 4c).

Soil Moisture

Soil moisture (Fig. 5) is simulated by the [VIC macroscale hydrologic model](#). The detailed, physically-based VIC model is driven by observed daily precipitation and temperature maxima and minima from approximately 2130 stations, selected for reporting reliably in real-time and for having records of longer than 45 years (and various other criteria). Another good resource can be found at: <http://www.emc.ncep.noaa.gov/mmb/nldas/drought/>.

Soil Climate Analysis Network (SCAN)

Figure 6 provides supplemental data on soil conditions (moisture and temperatures at various depths from 2 inches up to 40 inches. For more information about SCAN see [brochure](#).

U.S. Historical Streamflow

This map (Fig. 7) shows the 7-day average streamflow conditions in hydrologic units of the United States and Puerto Rico for the day of year. The colors represent 7-day average streamflow percentiles based on historical streamflow for the day of the year. Thus, the map shows conditions adjusted for this time of the year. Only stations having at least 30 years of record are used. Sub-regions shaded gray indicate that insufficient data were available to compute a reliable 7-day average streamflow value. During winter months, this situation frequently arises due to ice effects. The data used to produce this map are provisional and have not been reviewed or edited. They may be subject to significant change.

State Activities

State government drought activities can be tracked at the following URL:

<http://drought.unl.edu/mitigate/mitigate.htm>. NRCS Snow Survey and Water Supply Forecasting (SSWSF) State Office personnel are participating in state drought committee

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meetings and providing the committees and media with appropriate SSWSF information - <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>. Additional information describing the products available from the Drought Monitor can be found at the following URLs: <http://drought.unl.edu/dm/> and <http://www.drought.gov>.

For More Information

The National Water and Climate Center (NWCC) Homepage provides the latest available snowpack and water supply information. Please visit us at <http://www.wcc.nrcs.usda.gov>. This document is available from the following location on the NWCC homepage - <http://www.wcc.nrcs.usda.gov/water/drought/wdr.pl>. Reports from 2007 are available online while ones from 2001-2006 can be acquired on request.

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

/s/

Micheal L. Golden
Deputy Chief, Soil Science and Resource Assessment

Weekly Snowpack and Drought Monitor Update Report

SNOTEL (solid) and ACIS (dot-filled) Networks 7-Day Average Temperature Anomaly (Degrees F)

Mar 14, 2013

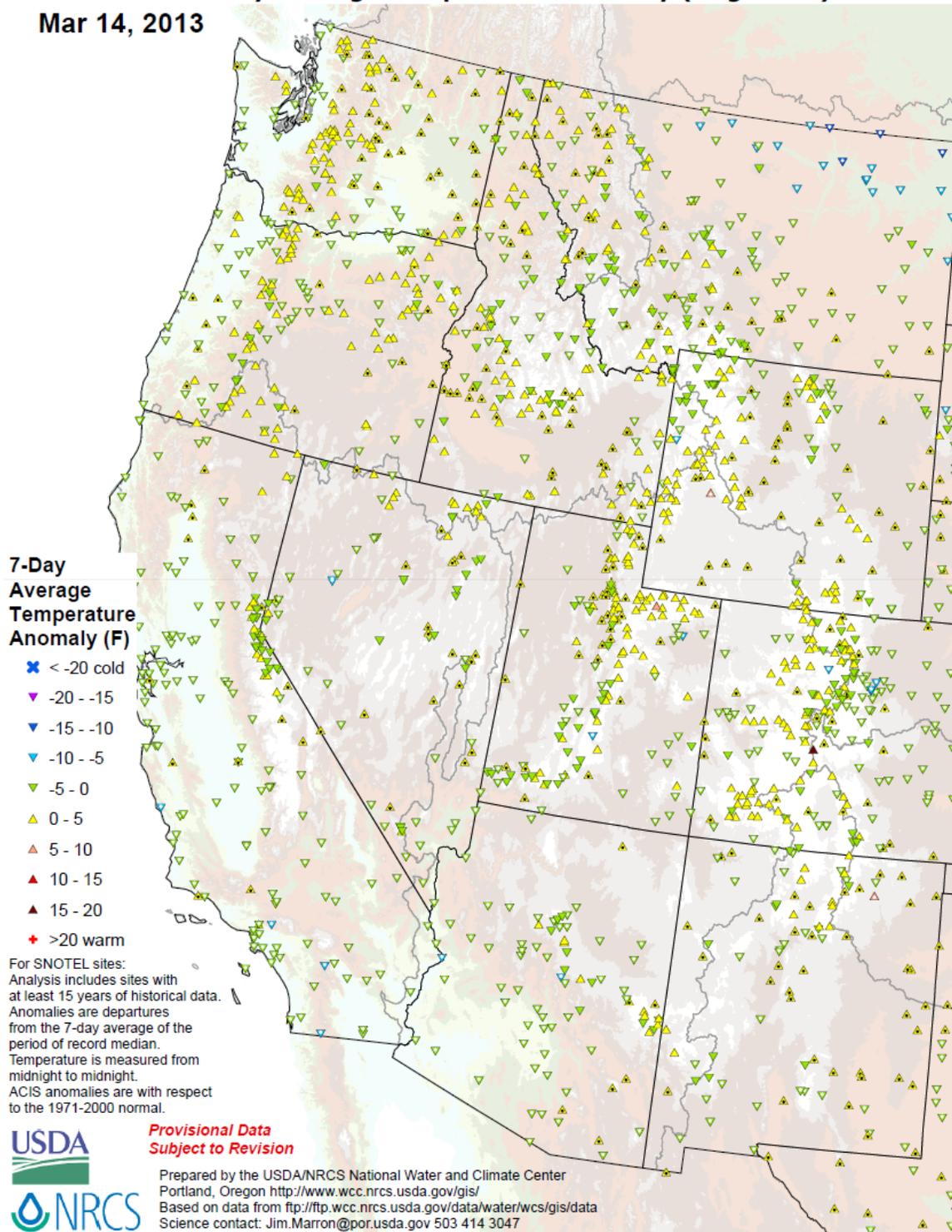
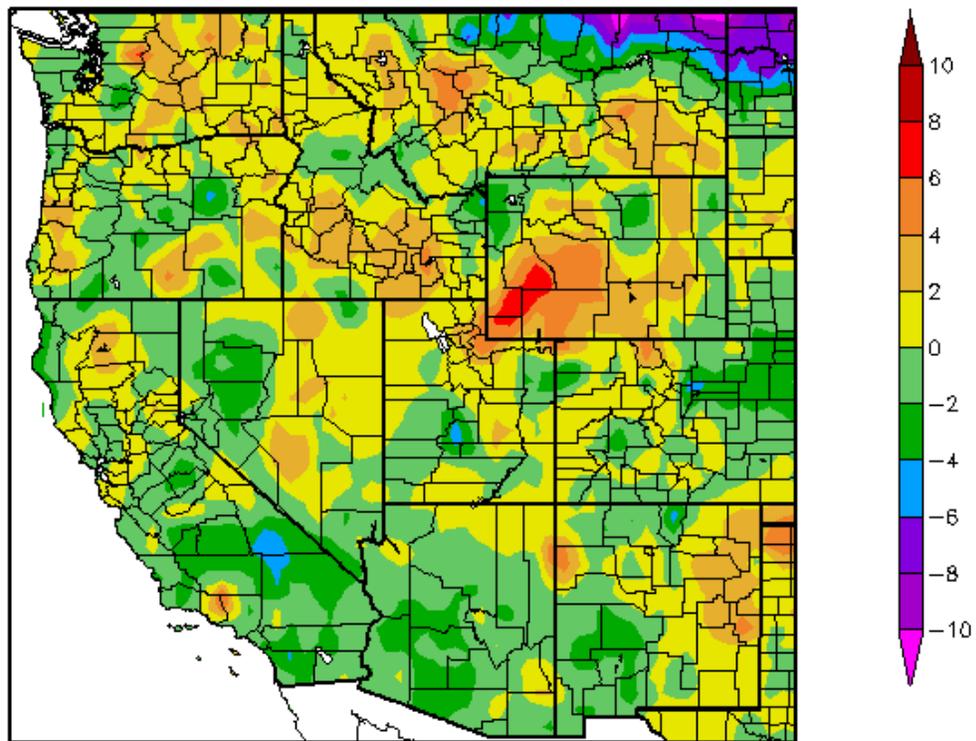


Fig. 1a: **SNOTEL** and ACIS 7-day temperature anomaly ending 13 March shows conditions within 5°F of the long-term average with the exception of colder departures over northern Montana.

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Departure from Normal Temperature (F)
3/7/2013 – 3/13/2013



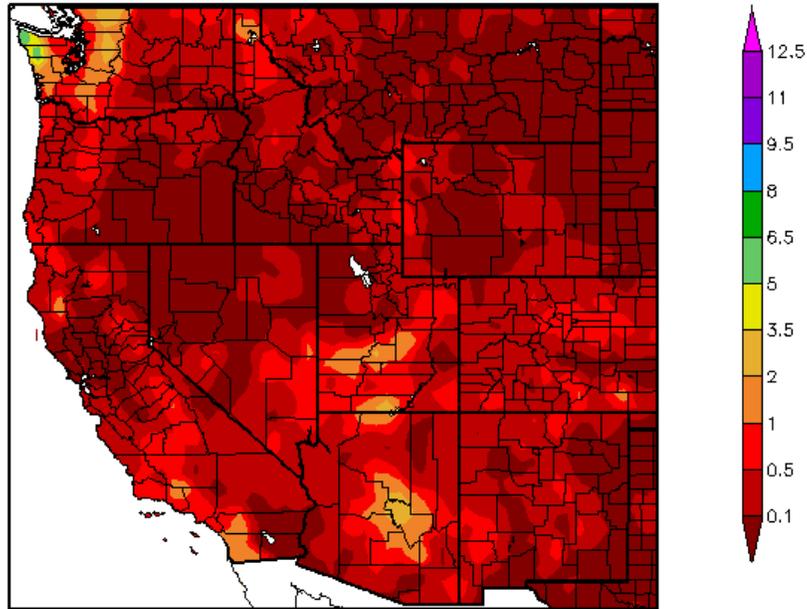
Generated 3/14/2013 at HPRCC using provisional data.

Regional Climate Centers

Fig. 1b: ACIS 7-day average temperature anomalies show the greatest positive temperature departures over southwest Wyoming (>+6°F). The greatest negative departures occur over northernmost Montana (<-8°F). For more figures, see the Western Water Assessment's Intermountain West Climate [Dashboard](#).

Weekly Snowpack and Drought Monitor Update Report

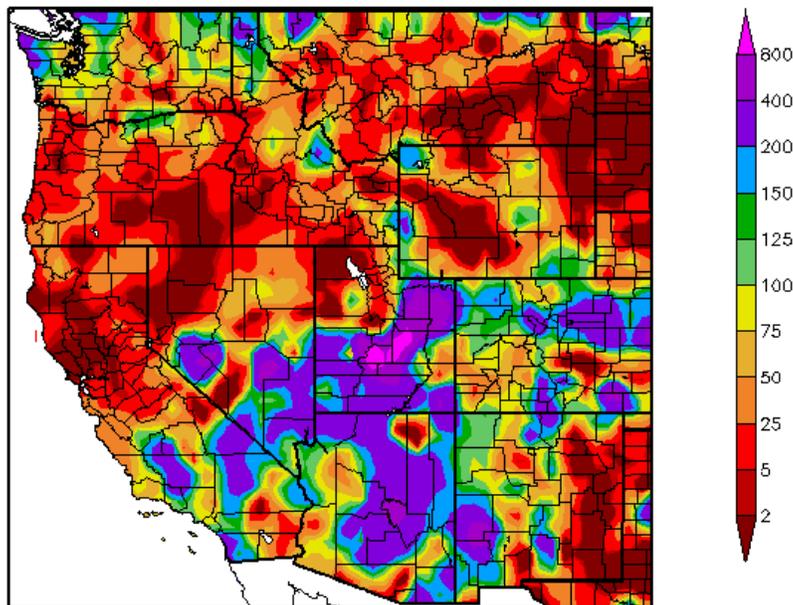
Precipitation (in)
3/7/2013 - 3/13/2013



Generated 3/14/2013 at HPRCC using provisional data.

Regional Climate Centers

Percent of Normal Precipitation (%)
3/7/2013 - 3/13/2013



Generated 3/14/2013 at HPRCC using provisional data.

Regional Climate Centers

Fig. 2a and 2b: [ACIS](#) 7-day average precipitation amounts for the period ending March 13 show precipitation dominating the Olympic and Cascade Ranges in Washington and over the high country in parts of Utah and Arizona (Fig. 2a). This is clearly reflected in the lower panel (Fig. 2b), although higher percentages also occurred in southern California, western New Mexico, and much of Colorado.

Weekly Snowpack and Drought Monitor Update Report

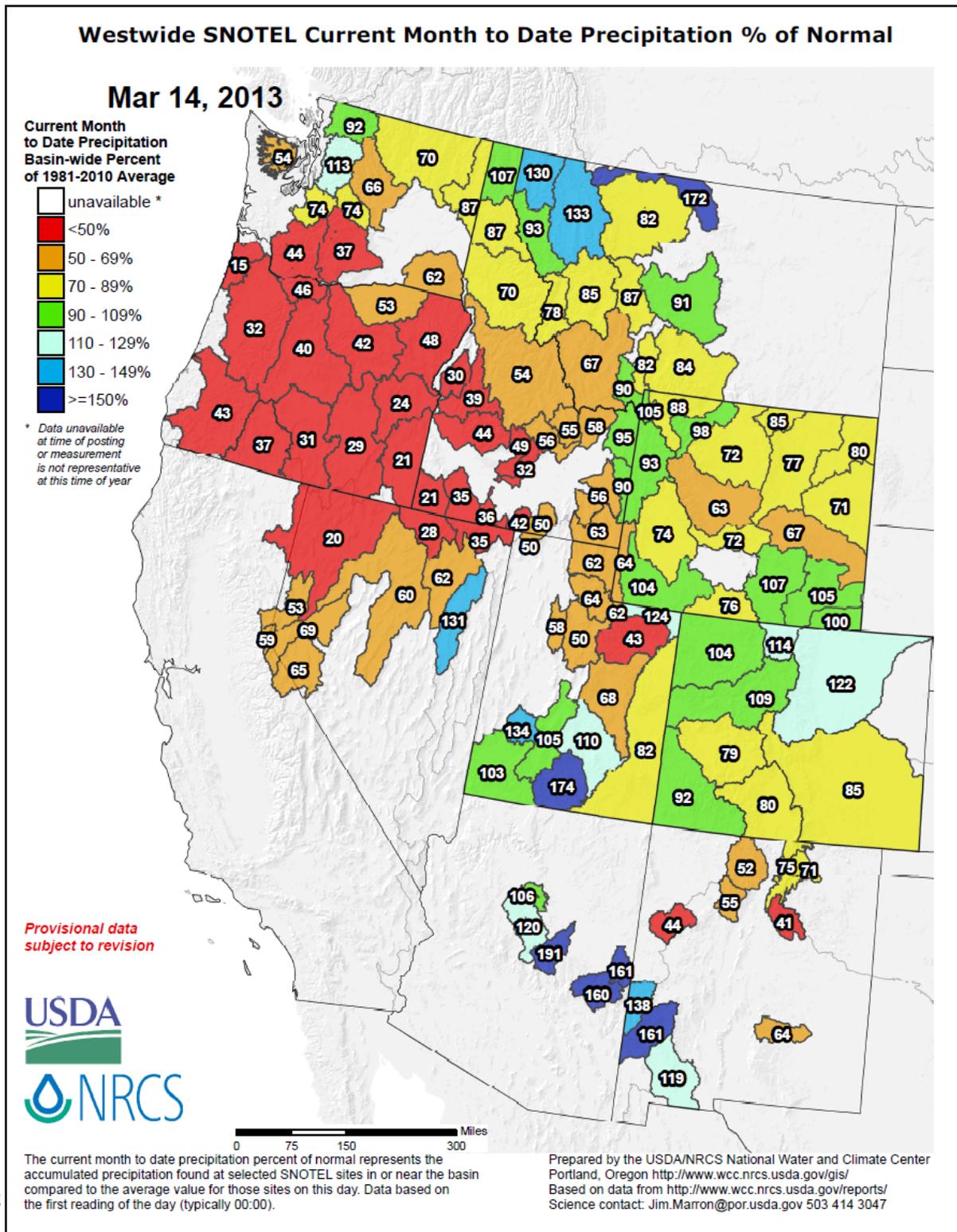


Fig. 2c: SNOTEL [month to date](#) precipitation percent of normal for March thus far shows above normal amounts over the Northern Rockies (MT), northeast Colorado, south-central Utah, Arizona, and southwest New Mexico. Southern Washington, Oregon, and southwest Idaho have the greatest deficits.

Weekly Snowpack and Drought Monitor Update Report

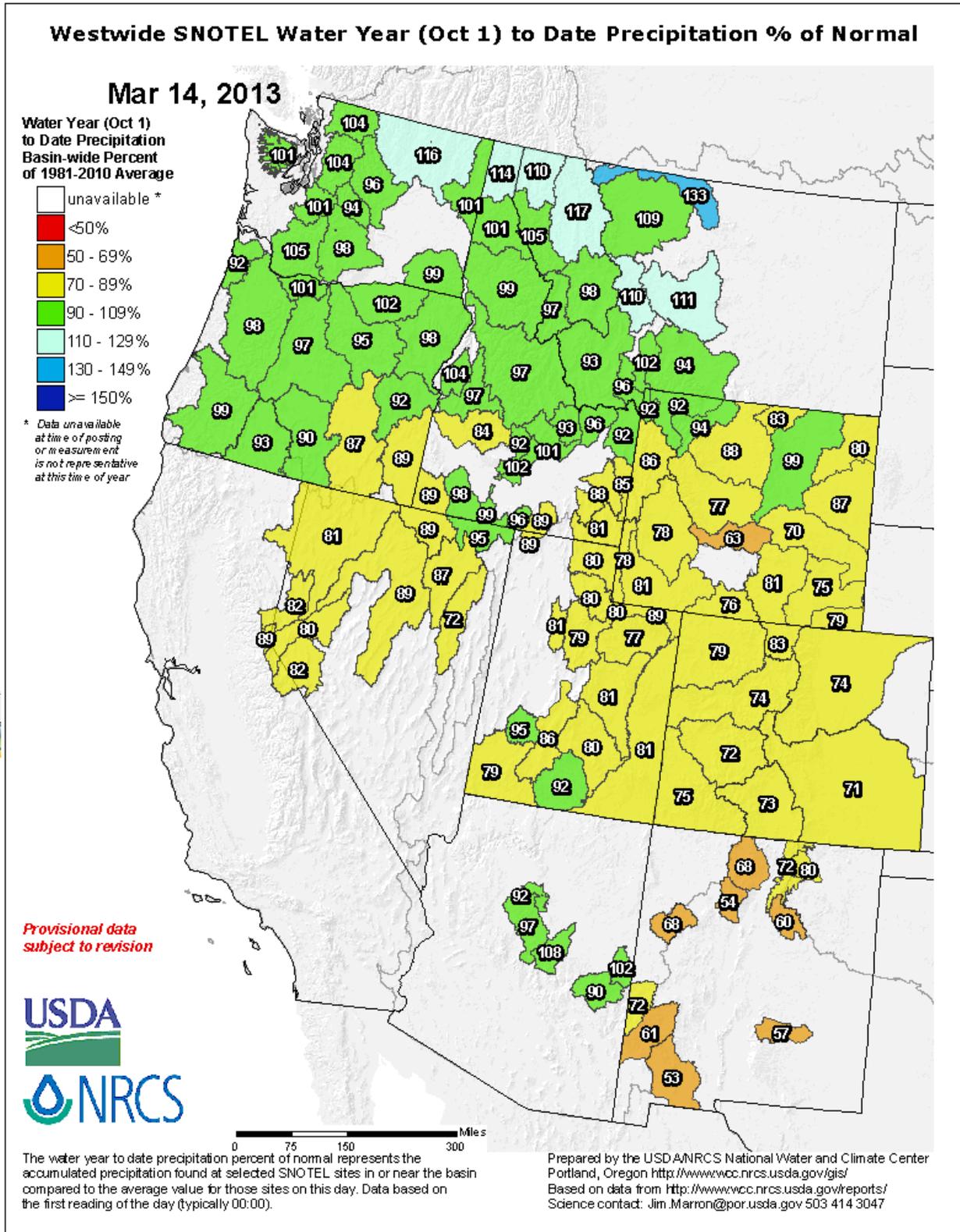


Fig. 2d: For the 2013 Water Year that began on 1 October 2012, the pattern continues to resemble La Niña with Arizona standing out as an exception to the dryness seen over the Southern Tier of the West. (*The PDF version of this product is not available today*). For additional information, daily reports by SNOTEL sites are available [here](#).

Weekly Snowpack and Drought Monitor Update Report

SNOTEL 7-Day Snow Depth Change (Inches)

Mar 14, 2013

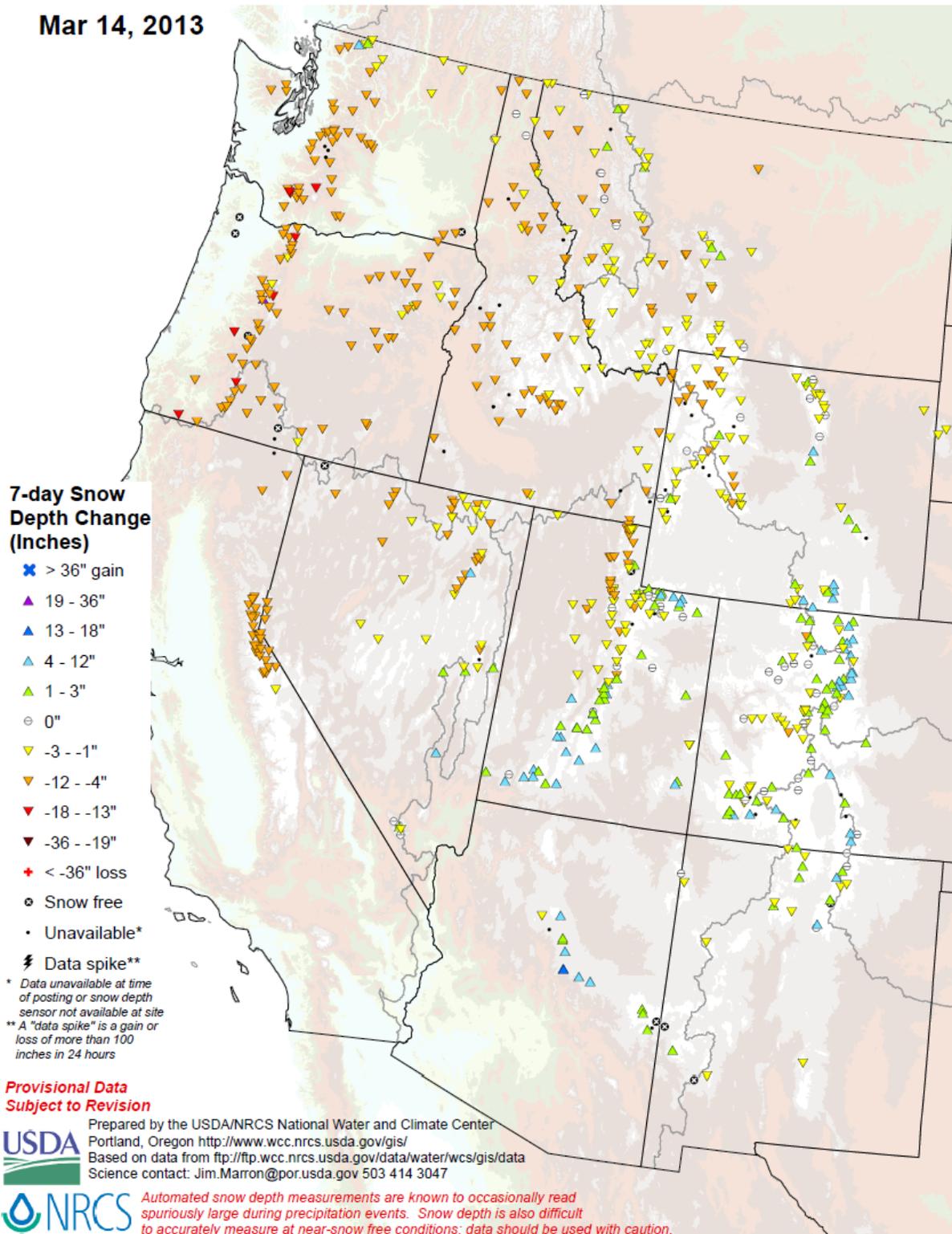


Fig. 3a: The 7-day snow depth changes for the week show some snow depth increases over the Four Corners States but declines of up to a foot elsewhere.

Weekly Snowpack and Drought Monitor Update Report

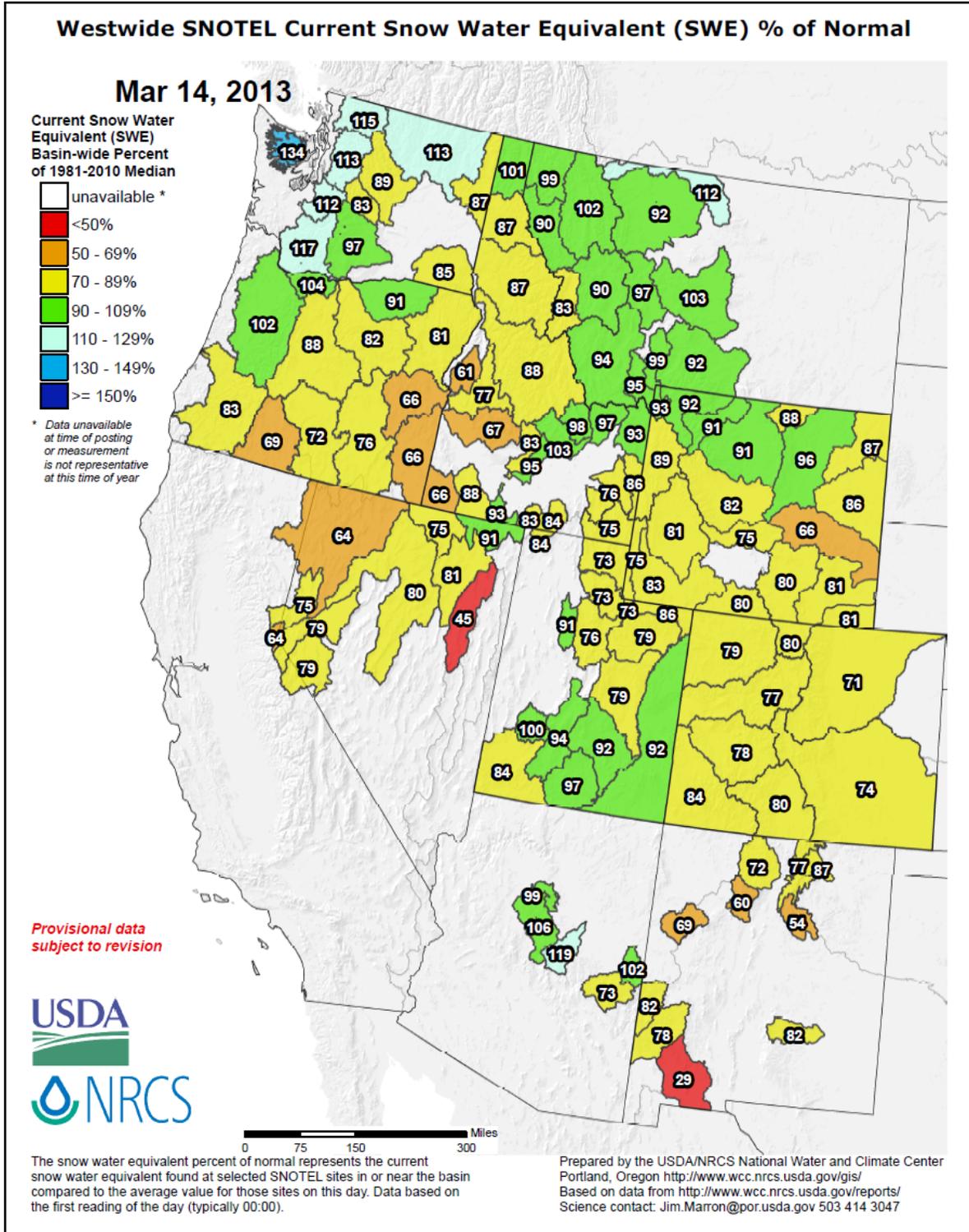


Fig. 3b: Snow-Water Equivalent (SWE): Only the Washington Cascades have a surplus of SWE in the West. The Northern Rockies, Upper Snake Drainage, Oregon Cascades, south Utah, and central Arizona Mountains have closer to normal conditions. For the remainder of the West, deficits rule. For expected snowfall amounts, click [here](#). A useful basin-by-basin assessment of SWE to date can be viewed by state [here](#) and [here](#).

Weekly Snowpack and Drought Monitor Update Report

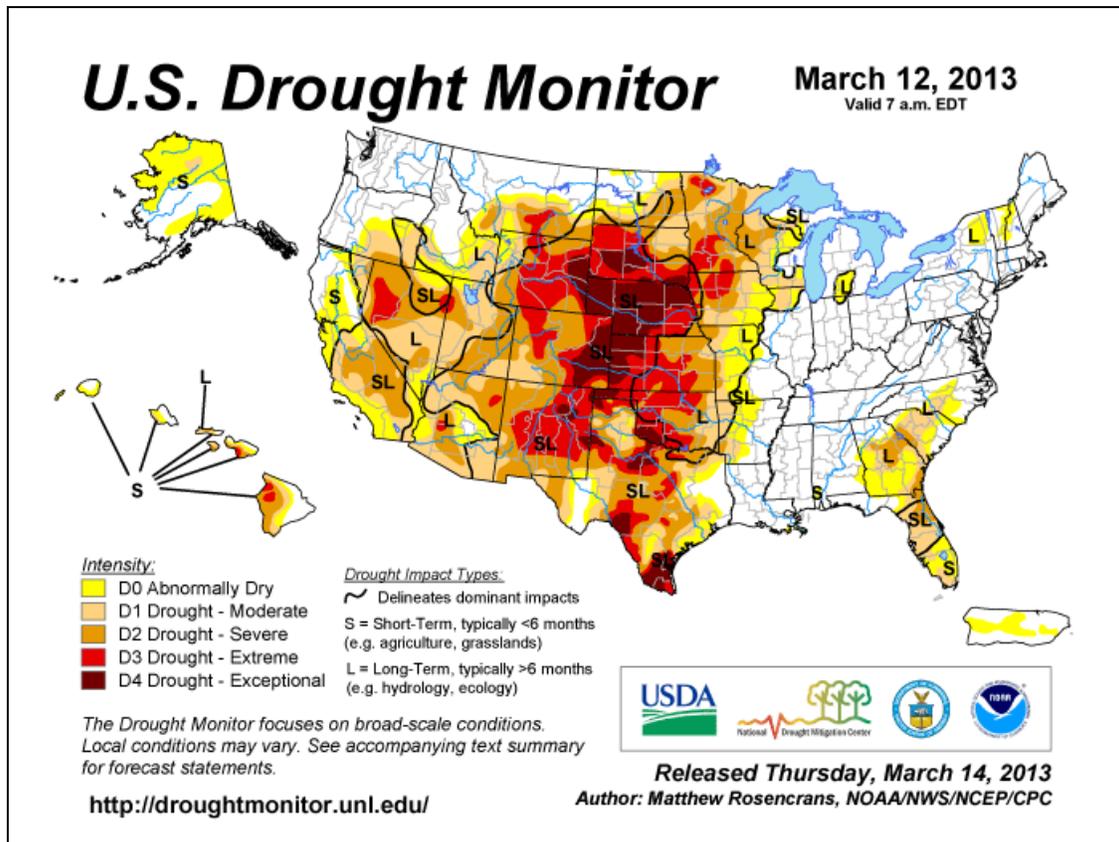


Fig. 4: Current [Drought Monitor](#) weekly summary. The exceptional D4 levels of drought are scattered across the western Corn Belt of the Plains into southeastern Colorado and Wyoming, easternmost New Mexico, and southward into Texas. For more drought news, see [Drought Impact Reporter](#). Click for the latest statistics for [California Reservoirs](#). The latest [drought indicator blend and component percentiles](#) spreadsheet is a great resource for climate division drought statistics. See Fig. 8 for the latest [Drought Outlook](#) (forecast).

For an interesting website on Lake Mead drought update, click [here](#).

Agriculture and Drought in the News

[Bacteria, drought, heavy crop load: It's been a disappointing year for the citrus crop in Fla.](#) - March 2, Florida.

[Central Texas coalition urges buyout of rice farmers](#) - March 3, Texas.

[Concern over no rain and only one irrigation has Valley farmers at a standstill](#) - March 4, Lower Rio Grande Valley in Texas.

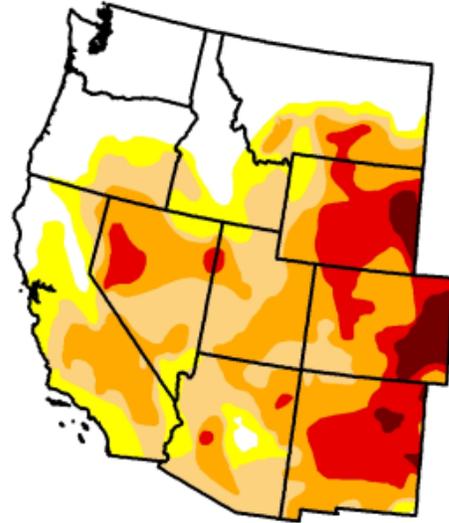
[Farmers to share economic effects of drought](#) - March 7, U.S.

U.S. Drought Monitor

West

March 12, 2013
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	23.94	76.06	62.77	41.15	15.72	3.13
Last Week (03/05/2013 map)	21.50	78.50	63.15	41.77	15.72	3.13
3 Months Ago (12/11/2012 map)	24.41	75.59	69.53	45.99	17.85	2.12
Start of Calendar Year (01/01/2013 map)	24.39	75.61	69.31	45.04	18.01	2.15
Start of Water Year (09/25/2012 map)	15.12	84.88	77.15	43.65	16.85	1.77
One Year Ago (03/06/2012 map)	31.74	68.26	46.48	18.37	2.57	0.94



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

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



Released Thursday, March 14, 2013

<http://droughtmonitor.unl.edu>

Matthew Rosenkrans, NOAA/NWS/NCEP/Climate Prediction Center

Fig. 4a: Drought Monitor for the [Western States](#) with statistics over various time periods. Little change has occurred this past week. See [Utah](#) video on Water Supply Forecast.

In California, there are cooperative snow surveys made up of 35 or so utilities, water agencies, government agencies and the Department of Water Resources. The NRCS is one of the cooperating agencies. Through this cooperative, California has over 200 manual snow surveys and has a similar number of snow pillows. With this data they publish a Bulletin 120 every month from February through May which provides a forecast of April through July runoff. We provide daily snow reports through the California Data Exchange Center (which also posts the Bulletin 120 at

<http://cdec.water.ca.gov/snow/bulletin120/index2.html> through the following links:

- Current PAGE6 report: <http://cdec.water.ca.gov/cgi-progs/snow/PAGE6>
- Current DLYSWEQ report: <http://cdec.water.ca.gov/cgi-progs/snow/DLYSWEQ>
- Current Regional Snowpack Plots: http://cdec.water.ca.gov/cgi-progs/snow/PLOT_SWC
- California also hosts a statewide water conditions page at: http://cdec.water.ca.gov/water_cond.html which has links to precipitation, reservoir storage, snowpack, runoff, and summary reports.

From the latest USDA/NASS weekly agricultural report, valid February 25, 2013:
http://www.nass.usda.gov/Statistics_by_State/California/Publications/Crop_Progress_&Condition/index.asp

Also see:

- <http://www.usda.gov/oce/weather/pubs/Other/MWCACP/Graphs/USA/allhay.pdf>
- http://www.usda.gov/oce/weather/pubs/Other/MWCACP/Graphs/USA/US_WheatWinter.pdf

Weekly Snowpack and Drought Monitor Update Report

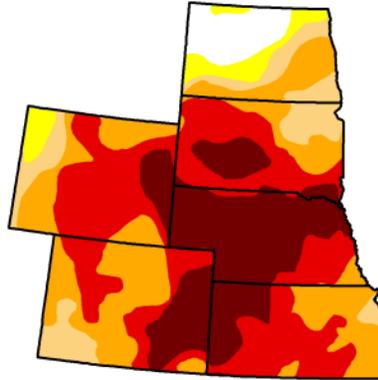
U.S. Drought Monitor

March 12, 2013

Valid 7 a.m. EST

High Plains

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	4.65	95.35	91.29	81.46	55.58	24.37
Last Week (03/05/2013 map)	4.65	95.35	91.30	82.03	55.76	25.87
3 Months Ago (12/11/2012 map)	1.54	98.46	93.01	86.12	58.39	26.91
Start of Calendar Year (01/01/2013 map)	1.54	98.46	93.01	86.20	60.25	26.99
Start of Water Year (09/25/2012 map)	0.00	100.00	98.91	83.80	61.28	24.35
One Year Ago (03/06/2012 map)	45.82	54.18	20.38	5.17	1.56	0.04



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

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



Released Thursday, March 14, 2013

Matthew Rosencrans, NOAA/NWS/NCEP/Climate Prediction Center

<http://droughtmonitor.unl.edu>

Fig. 4b: Drought Monitor for the [High Plains](#) with statistics over various time periods. Note slight drought in D4 this past week. See [Kansas Drought Update](#).

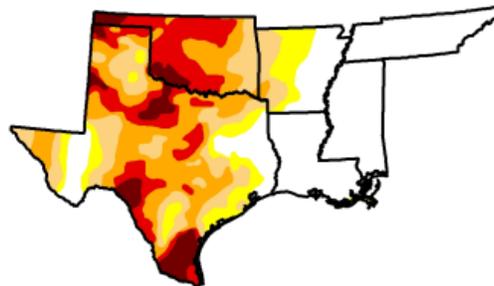
U.S. Drought Monitor

March 12, 2013

Valid 7 a.m. EST

South

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	36.36	63.64	54.54	38.61	19.37	5.62
Last Week (03/05/2013 map)	36.58	63.42	55.03	43.05	20.26	5.01
3 Months Ago (12/11/2012 map)	18.32	81.68	65.80	51.03	30.79	8.87
Start of Calendar Year (01/01/2013 map)	21.18	78.82	63.69	50.50	32.80	10.98
Start of Water Year (09/25/2012 map)	24.13	75.87	66.61	51.50	29.86	9.11
One Year Ago (03/06/2012 map)	36.89	63.11	55.89	41.95	23.80	10.93



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

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



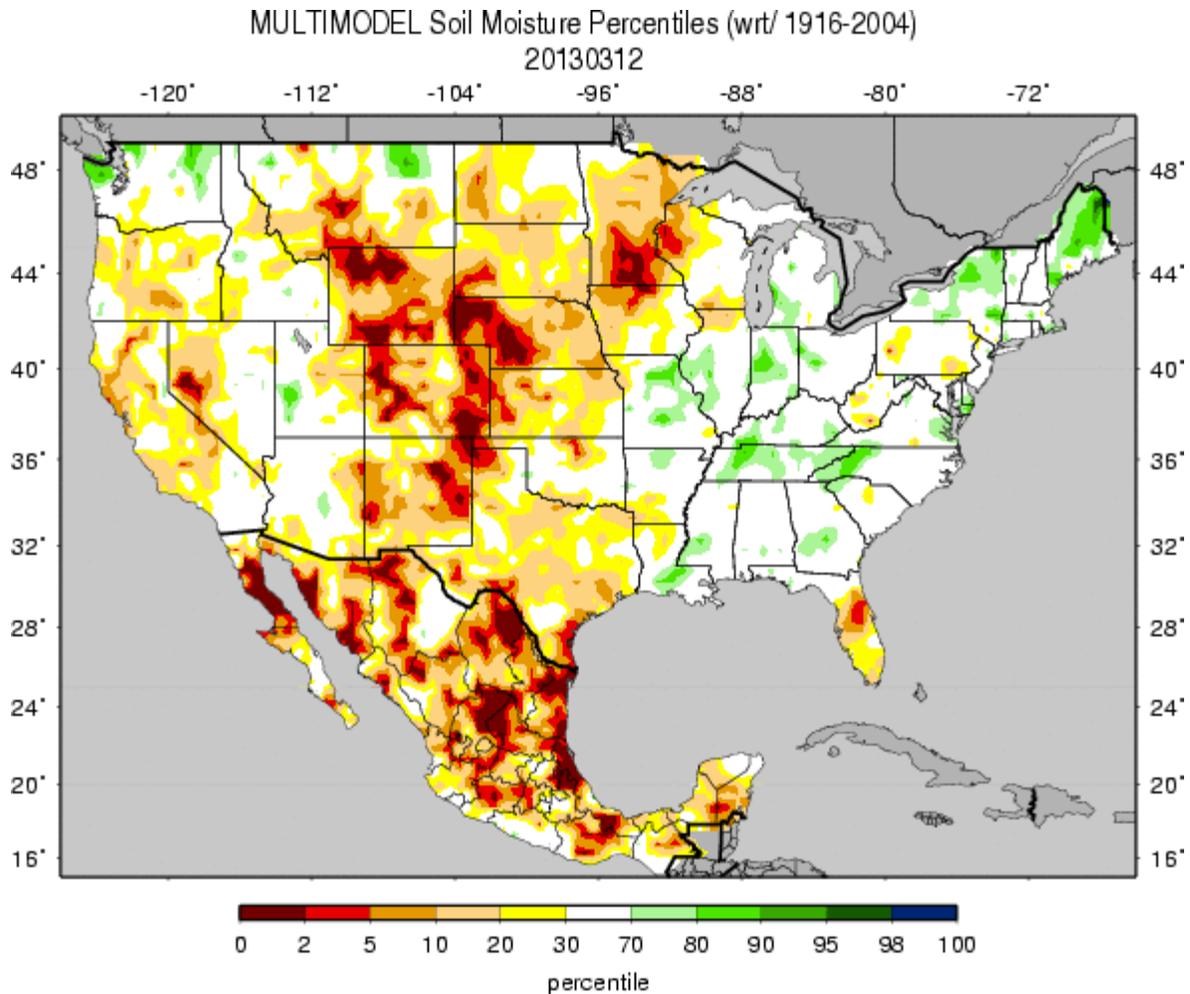
Released Thursday, March 14, 2013

Matthew Rosencrans, NOAA/NWS/NCEP/Climate Prediction Center

<http://droughtmonitor.unl.edu>

Fig. 4c: Drought Monitor for the [South-Central Region](#) with statistics over various time periods. Note some general improvement this week but D4 increased this week. Check out the Texas Drought [Website](#). See [Texas Reservoirs](#).

Weekly Snowpack and Drought Monitor Update Report



Figs. 5: Soil moisture ranking in [percentile](#) as of 12 March shows dryness over the Western High Plains and Rockies. No significant changes since last week.

Useful Hydrological Links:

USDA western U.S. mountain snow water content anomaly map.

USGS (U.S. Geological Service) [observed streamflow](#); NOAA Climate Prediction Center (CPC) modeled runoff [anomalies](#) and [percentiles](#); VIC (University of Washington Variable Infiltration Capacity macro scale hydrologic model) [1-](#), [2-](#), [3-](#), and [6-month](#) and [water year-to-date](#) runoff percentiles; NLDAS (North American Land Data Assimilation System) modeled streamflow [anomalies](#) and [percentiles](#); NLDAS model runoff [anomalies](#) and [percentiles](#); USGS groundwater observations ([real-time network](#), [climate response network](#), [total active network](#)); USDA snow water content observations for the West (SNOTEL station [percentiles](#) and [percent of normal](#), SNOTEL basin [percent of normal](#) and [percent of average](#)) and Alaska ([SNOTEL station percent of normal](#), [SNOTEL basin percent of normal](#)); USDA reservoir storage as [percent of capacity](#).

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

tion (2183) MONTH=2013-02-12 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision
Thu Mar 14 08:17:18 PDT 2013

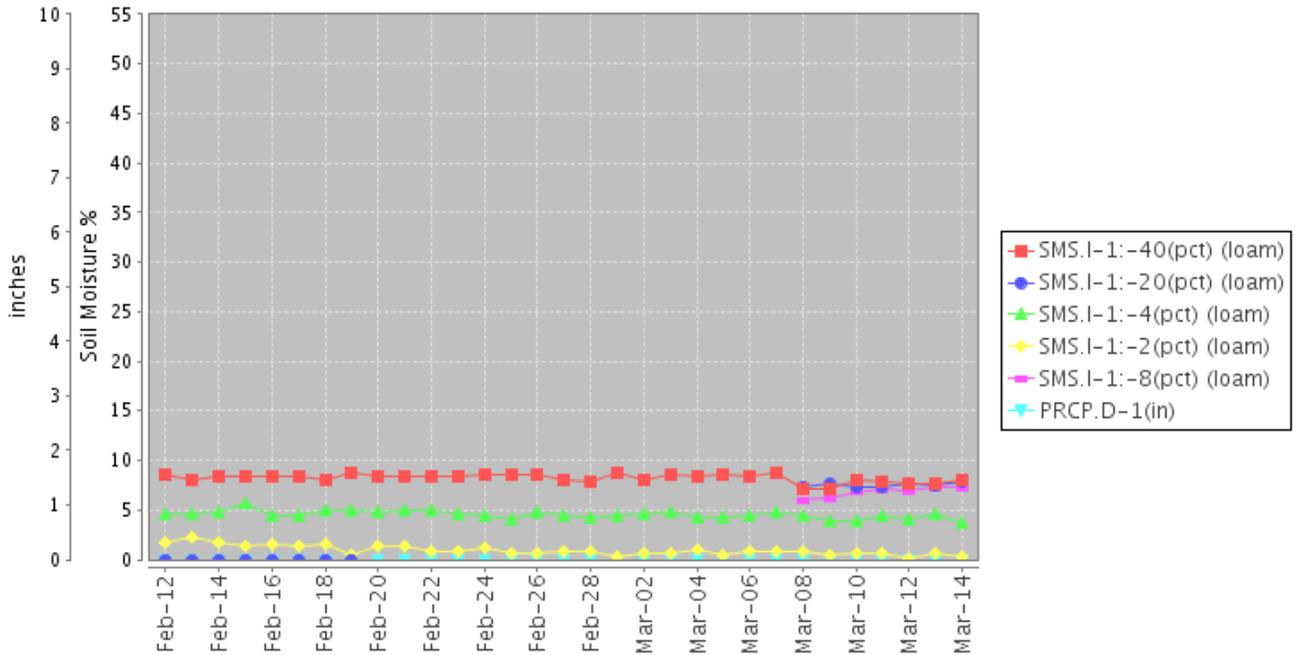


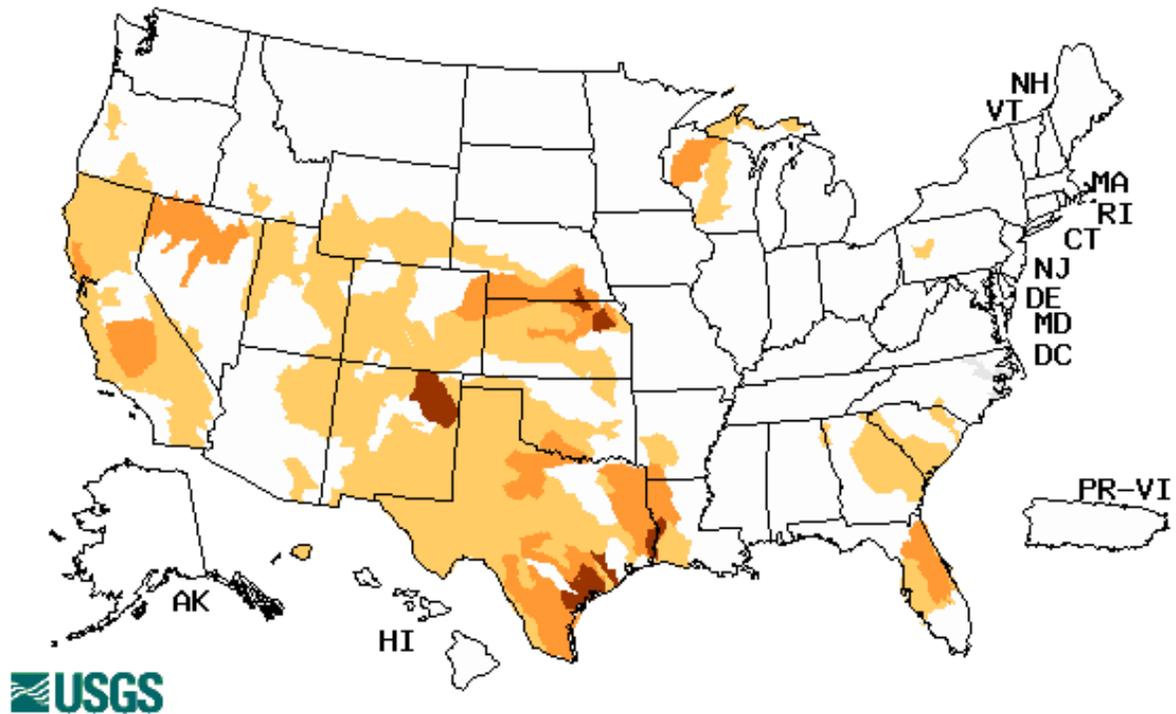
Fig. 6: This NRCS resource shows a site over [southern California](#) with low soil moisture values at all levels. This is indicative of the dry winter that was experienced there.

Useful Agriculture Links:

USDA (U.S. Department of Agriculture) [observed soil moisture conditions](#), [departures and percentiles](#), and comparison to [5-year average](#) and [10-year average](#); the Palmer [Crop Moisture Index \(CMI\)](#), which intensified during the month in the West and Lower to Mid-Mississippi Valley (weeks [1](#), [2](#), [3](#), [4](#), [5](#)); CPC modeled soil moisture [anomalies](#) and [percentiles](#) for end of May, and [soil moisture anomaly change](#) compared to previous month; CPC's Leaky Bucket model [soil moisture percentiles](#); NLDAS modeled soil moisture percentiles for the [top soil layer](#) and [total soil layer](#); VIC modeled [soil moisture percentiles](#), and [soil moisture percentile change](#) compared to previous month; USDA observed [pasture and rangeland conditions](#); [Vegetation Drought Response Index \(VegDRI\)](#); the NOAA/NESDIS satellite-based [Vegetation Health Index \(VHI\)](#); the USGS agro-hydrologic model ([Soil Water Index](#), [Water Requirement Satisfaction Index](#)); Selected SNOTEL Sites (measured [2"](#), [4"](#), [8"](#), [20"](#), and [40"](#) soil moisture depths); Monthly [SCAN Report](#) from Utah.

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Wednesday, March 13, 2013



Explanation - Percentile classes				
Low	≤5	6-9	10-24	Insufficient data for a hydrologic region
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

Fig. 7: Map of below normal 7-day average [streamflow](#) compared to historical streamflow for the day of the year. **Severe** conditions exist over southeastern Texas, northeastern New Mexico, and northeastern Kansas-southeastern Nebraska. As with soil moisture, streamflow data can be severely compromised by prolonged freezing temperatures. See the USGS [National Water Information System Mapper](#).

Weekly Snowpack and Drought Monitor Update Report

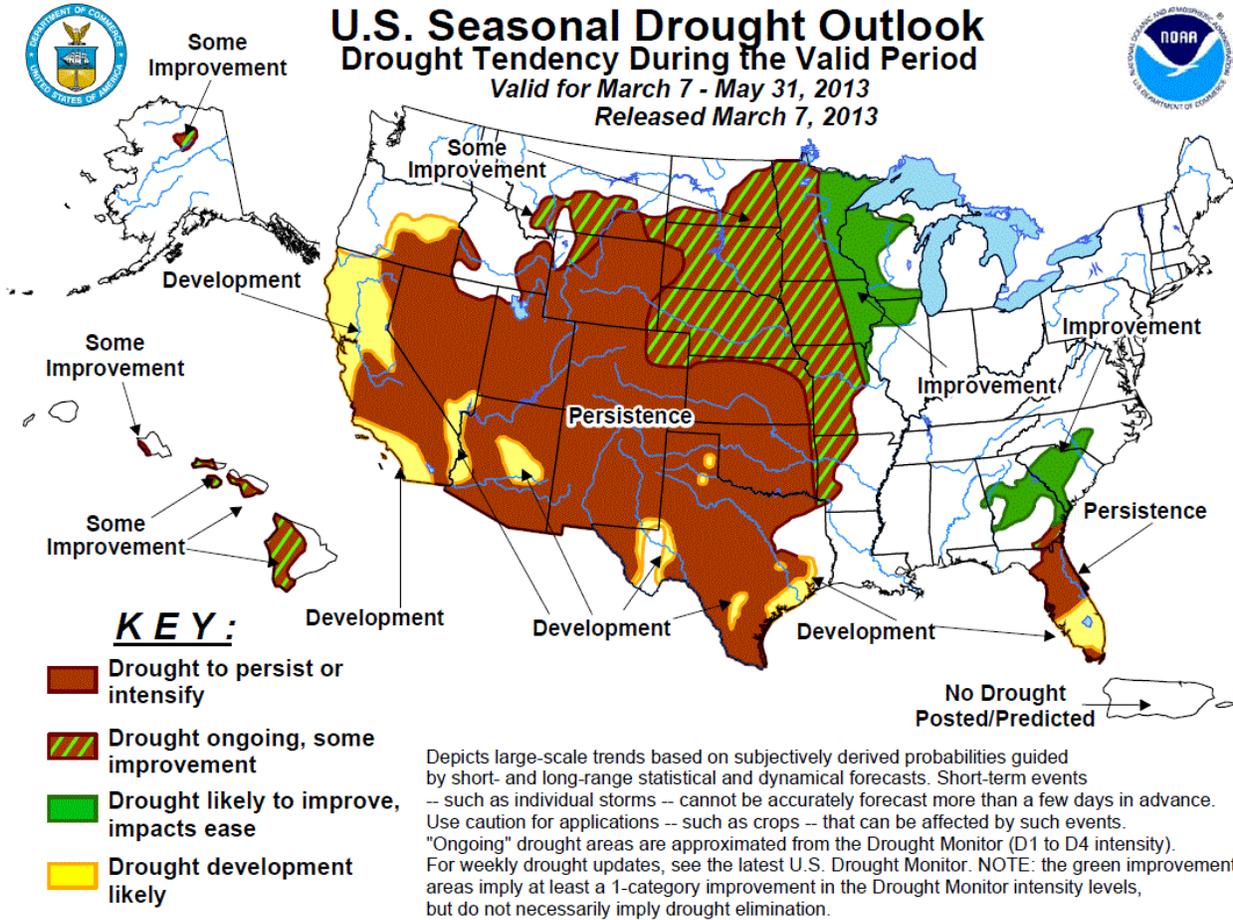
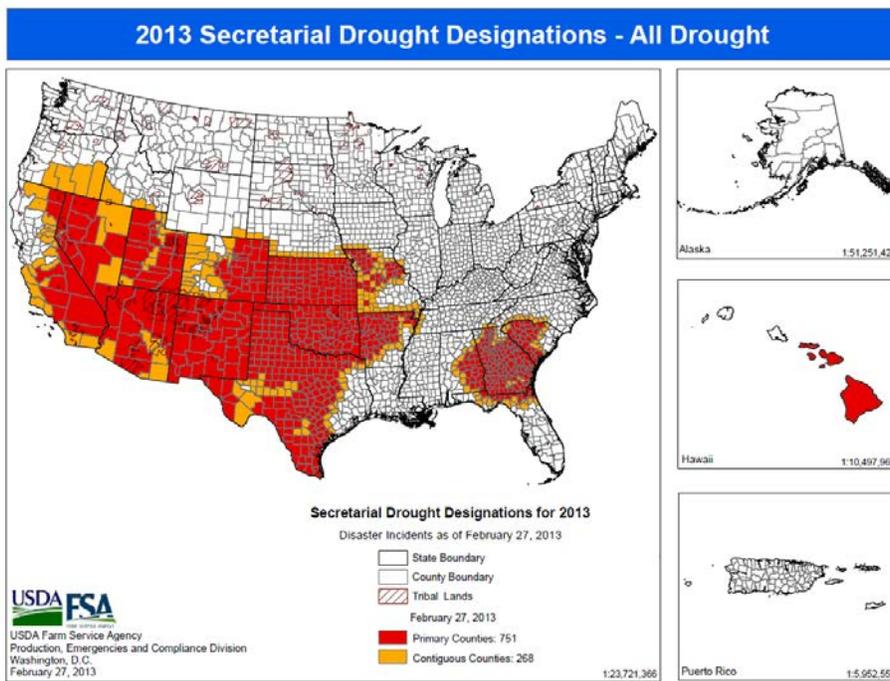


Fig. 8: U.S. seasonal Drought Outlook updated on 7 March.



See **USDA Drought Assistance** [website](#).

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National Drought Summary -- March 12, 2013

The discussion in the Looking Ahead section is simply a description of what the official national guidance from the National Weather Service (NWS) National Centers for Environmental Prediction is depicting for current areas of dryness and drought. The NWS forecast products utilized include the HPC 5-day QPF and 5-day Mean Temperature progs, the 6-10 Day Outlooks of Temperature and Precipitation Probability, and the 8-14 Day Outlooks of Temperature and Precipitation Probability, valid as of late Wednesday afternoon of the USDM release week. The NWS forecast web page used for this section is: <http://www.cpc.ncep.noaa.gov/products/forecasts/>.

Weather Summary: The past week featured two major storm systems. The first was a deep low-pressure system that impacted portions of the contiguous 48 states from the Mid-Atlantic to the Northeast, producing moderate rains over the Mid-Atlantic (0.5 - 1.5 inches). As the storm lingered near the northeast, it produced significant rains (0.5 - 3.0 inches) and snows (scattered reports of greater than 6 inches with isolated reports of more than 1 foot) for New England. Later in the week, a storm system entered the west coast and brought heavy precipitation (0.5 – 4.0 inches) to northern California and the southwest. During the weekend, the focus of precipitation shifted to the central and eastern portions of the contiguous 48 states, with wide swaths of precipitation falling across the central Great Plains and Midwest. The wet weather moved toward the east coast toward the end of the weekly analysis period. A wet pattern (0.5 – 6.34 inches of precipitation) continued across southern Alaska. Most stations on Puerto Rico reported at least some precipitation, except for the majority of stations near the northwest portions of the island.

The Northeast and Mid-Atlantic: Generally 0.5 to 1.0 inches fell on the D0 areas, but the precipitation was not enough to change the intensity or coverage of the dry areas substantially for the northeast. Moderate rains (0.5-2.0 inches) fell across central Virginia, prompting the removal of the D0 (abnormal dryness) in this region.

The Southeast: Light to moderate rains (0.5 – 4.5 inches) fell across the Tennessee Valley, with lighter amounts across Alabama, Georgia, and the Carolinas (0.5 – 2.0 inches). Some improvement was made across eastern Alabama and north Central Georgia as the rains were slightly above-normal for the week, and continued the recent wet period over the past 90 days (110-120 percent of normal precipitation), as indicated by the Advanced Hydrologic Prediction System (AHPS) precipitation analysis.

Dry conditions continued across Florida, prompting the expansion of D1 across Collier, Glades, and Charlotte Counties. Keetch-Byram Drought Index (KBDI) values and low water levels in Big Cypress National Preserve support the latest depiction, with burn bans being the latest impact to emerge. Severe drought (D2) was expanded over Lake County as well.

The drought depiction across the Carolinas was left unchanged as the light rains that fell were not enough to warrant changes to the depiction. Some streamflows have not responded to the recent (90-day) wet period.

The Midwest: Light precipitation (0.5 – 1.5) inches fell across Michigan and Indiana, so the area of abnormal dryness (D0) was trimmed slightly. Areas with above-normal rainfall

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over the past 30-days were targeted for improvement, but some D0 was retained due to longer term soil moisture deficits that reflect long-term drought reaching back to last summer.

Despite significant rains (0.5 – 3.0 inches), only minor improvements were also pursued over Illinois, Wisconsin, and Minnesota. According to some local National Weather Service employees and state climatologists, the frozen ground (10-20 inches of frozen soils) is preventing deep soil moisture recharge. Streams and rivers rose and fell rapidly, indicating excessive runoff and lack of penetration, along with some reports of basement flooding as the water cannot go into the soil.

A nearly 1-category improvement across Missouri and Iowa was prompted by widespread rains (0.5 – 2.5 inches). The improvements were not a full 1-category as some areas of northwest and north-central Missouri did not experience as significant of a soil moisture recovery as points farther east and south, where soils had thawed earlier in the year.

The Great Plains: Farther north and west, some improvements were made across south-central and southeast South Dakota due to recent rains (0.5 – 1.5 inches). Excessive drought (D4) conditions were removed from south-central South Dakota and extreme Northern Nebraska. Drought conditions intensified across northwestern South Dakota, so extreme drought (D3) was expanded to the northwestern portions of the state. Across Nebraska, recent surveys by the state climatologist and soil moisture measurements prompted from reassessment of conditions, resulting in a slightly different depiction of the D4 area.

Improvements were also pursued across Kansas and Oklahoma due to widespread rains (0.5 – 4.6 inches). The heaviest rains fell across southeast Oklahoma, so the most improvement was pursued there. The coverage of D3 was reduced across east-central and south-central Kansas, and western Oklahoma. Despite only modest rainfall this week, lower temperatures and a slightly wetter pattern over the past couple of months prompted a trimming of the exceptional drought over Texas County in the Oklahoma panhandle.

A reduction in the covered of severe drought (D2) was included as beneficial rains (0.5 – 1.6 inches) fell on the panhandle of Texas. Over central Texas, high winds and low-relative humidity values negated any benefits from the rains that fell this week. Most of the rest of Texas experienced dry weather, prompting minor expansions of D4 over southern Texas, and severe drought over eastern portions of the state.

The Rockies: Winter storms brought precipitation to the southwest, prompting the removal of some dryness near central Arizona, specifically near Gila County. Rains there exceeded 2.0 inches for a few reporting locations. The same storm system brought some snows to higher terrain of Arizona, but not enough to significantly increase the surface water supply forecast or the reservoir storage. Nevada and New Mexico are also experiencing very low reservoir levels, so the current depiction, which contains significant amounts of extreme drought, seems accurate.

Areas of central Utah have fared slightly better this winter, with some SNOTEL stations reporting near median snow water equivalent (SWE) values. The latest Water Supply Forecast Summary from the USDA-NRCS indicates Utah has above-average reservoir

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storage. Those two factors contributed to a removal of D2 across the Sevier River Basin.

The storm system that moved across the west brought significant precipitation to much of California, with isolated reports in excess of 2.0 inches across southern California and much higher amounts across northern California and the Central Sierras (over 10 inches at a couple of stations). This prompted some removal of D0 (abnormal dryness) across northern California, and a slight trimming of D1 conditions across southern California.

Hawaii, Alaska, and Puerto Rico: Improving conditions were reflected in the drought depiction over Molokai, where rainfall over the past several weeks has improved vegetation conditions, according to reports from COOP observers in west Molokai. Reports indicated that saying grasses are coming back in the area. This is consistent with rainfall data and satellite based VHI data. The D3 area on Maui was reduced by trimming off the eastern portion and replacing with D2. FSA reports indicated that pastures from Ulupalakua to Kaupo have improved. The Kihei and lower Kula areas are still in bad shape and ranchers have been leaving pastures unused. Persistent dryness prompted an intensification of the drought on the big island.

Heavy precipitation fell across many parts of the Alaskan Panhandle and south-central Alaska near the Kenai Peninsula, so the area of D0 was trimmed out. Dry conditions persisted across interior Alaska and around the Norton Sound-Seward Peninsula, so D0 was expanded across that region. D) was expanded across portions of the Koyukuk and Kuparuk Basins to reflect the abnormally low snowpack and low SWE (less than 80 percent of normal), while it was trimmed from portions of the Yukon River Valley to reflect more robust snowpack levels.

Light to moderate rains fell across Puerto Rico, with the exception of dry conditions across the northwest sections of the island. No change was made in the depiction.

Looking Ahead: During the next 5 days (March 14-18, 2013), moderate to heavy precipitation is forecast for the Pacific Northwest, northern Rockies, Great Lakes, and Ohio Valley. Outside of those regions, little to no precipitation is expected. Much colder than normal temperatures are likely to support a continuation of the frozen soil problem across the northern Great Plains through the next week, while the Rockies and southern Great Plains are expected to experience warmer than average conditions. Colder than normal conditions are likely to persist through the next 10 days from California to the northern Great Plains to the Northeast, with the most likely locations for above-normal temperatures are across the southeast. Wet conditions are likely to continue for the Great Lakes, northern Great Plains and southeast, with drier than average conditions likely across the southwest.

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Dryness Categories

D0 ... Abnormally Dry ... used for areas showing dryness but not yet in drought, or for areas recovering from drought.

Drought Intensity Categories

D1 ... Moderate Drought

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D2 ... Severe Drought
D3 ... Extreme Drought
D4 ... Exceptional Drought

Drought or Dryness Types

S ... Short-Term, typically <6 months (e.g. agricultural, grasslands)
L ... Long-Term, typically >6 months (e.g. hydrology, ecology)

Updated March 13, 2013

USDA Highlights

Highlights for the drought-monitoring period ending 7 am EST on March 5 include:

- Overall U.S. drought coverage decreased to 53.34% of the contiguous U.S., down 0.83% from last week. This is down 7.75% from the beginning of the year and down 12.11% from the record-high coverage of 65.45% on September 25, 2012. Most of the nation's remaining drought areas did not receive appreciable precipitation during the most recent drought-monitoring period. However, some additional improvement was noted in the Southeast (e.g. Georgia), while late-season snow provided some drought relief in the central Corn Belt.

- The portion of the contiguous U.S. in the worst category – D4, or exceptional drought – was unchanged at 5.45%. D4 coverage has ranged from 5 to 7% for 30 consecutive weeks (August 14, 2012 – March 5, 2013).

- Hay in drought (55%) was down a percentage point from a week ago. Cattle in drought (66%) and winter wheat in drought (58%) were unchanged from last week.

- Weather outlook: A storm system beginning to affect the western U.S. will cross the Southwest on Friday and reach the central High Plains on Saturday. During the weekend, the system will move northeastward into the Midwest. Early next week, a cold front associated with this storm will traverse the southern and eastern U.S., accompanied by showers and thunderstorms. During the next five days, precipitation totals of up to an inch can be expected from the Southwest into the Midwest, while rainfall could locally exceed two inches in the mid-South. Northwest of the storm's path, late-season snowfall can be expected from the central Rockies into the upper Great Lakes region. A brief surge of cool air will trail the storm, but by early next week, temperatures will quickly rebound to above-normal levels across the western half of the U.S.

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