



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

Weekly Report - Snowpack / Drought Monitor Update

Date: 16 February 2012

SNOTEL SNOWPACK AND PRECIPITATION SUMMARY



This morning's sunrise over New Mexico reveals that the sub-tropical jet stream is keeping moisture in area.

Snow: [Snow Water-Equivalent](#): Little change noted this week with the Great Basin leading the deficit in SWE over the Western States (Fig. 1). [7-Day Snow Depth Change](#) ending this morning shows scattered pocket of increases over the 4-Corner States, mixed changes over the Cascades, Sierra, and widespread decreases over Idaho (Fig. 1a).

Temperature: [SNOTEL](#) and ACIS 7-day temperature anomaly showed a warmer week over much of the West with the exception of the Western High Plains where cooler conditions dominated (Fig. 2). ACIS [7-day average temperature anomalies](#) show the greatest positive temperature departures over the southwest Wyoming ($>+12^{\circ}\text{F}$) and the greatest negative departures over northeastern Colorado ($<-12^{\circ}\text{F}$) (Fig. 2a).

Precipitation: [ACIS](#) 7-day average precipitation amounts for the period ending yesterday shows wet condition over the Washington Coast and northwest New Mexico (top figure). However, in terms of percent of normal, the Central Great Basin, much of the 4-Corners, the Upper Snake River, and north-central Montana experienced high values (bottom figure). Since the start of the [2012 Water-Year](#) that began on 1 October 2011, the seasonal moisture has favored northern Wyoming and southern Idaho. No significant changes are noted this week (Fig. 3b).

Weekly Snowpack and Drought Monitor Update Report

West: Moderate precipitation (over 1 inch) fell on parts of northwestern New Mexico, central and western Colorado, and adjacent Wyoming. Elsewhere, however, only a few areas outside California measured over 0.5 inch. The week's precipitation, in addition to a re-assessment of overall conditions, prompted the elimination of D3 conditions in northeast Arizona, and reductions in the D0 to D2 areas here and in Northwestern New Mexico. Drought conditions remained unchanged in the rest of the West despite widespread precipitation amounts between 1 and 3 inches over the Sierra Nevada, where normal are quite large. Author: Richard Tinker, 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 (H, A)** drought include widespread crop/pasture losses and shortages of water in reservoirs, streams, and wells creating water emergencies. The possible impacts associated with **D3 (H, A)** drought include major crop/pasture losses and widespread water shortages or restrictions. Possible impacts from **D2 (H, A)** drought are focused on water shortages common and water restrictions imposed and crop or pasture losses likely. The possible impacts associated with **D1 (H, A)** 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 to 80 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 SS/WSF State Office personnel are participating in state drought committee meetings and providing the committees and media with appropriate SS/WSF information - <http://www.wcc.nrcs.usda.gov/cqibin/bor.pl>.

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Additional information describing the products available from the Drought Monitor can be found at the following URL: <http://drought.unl.edu/dm/> and <http://www.drought.gov>.

For More Information

The National Water and Climate Center Homepage provide 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 on-line while ones from 2001-2006 can be acquired upon 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

Acting Deputy Chief, Soil Survey and Resource Assessment

Weekly Snowpack and Drought Monitor Update Report

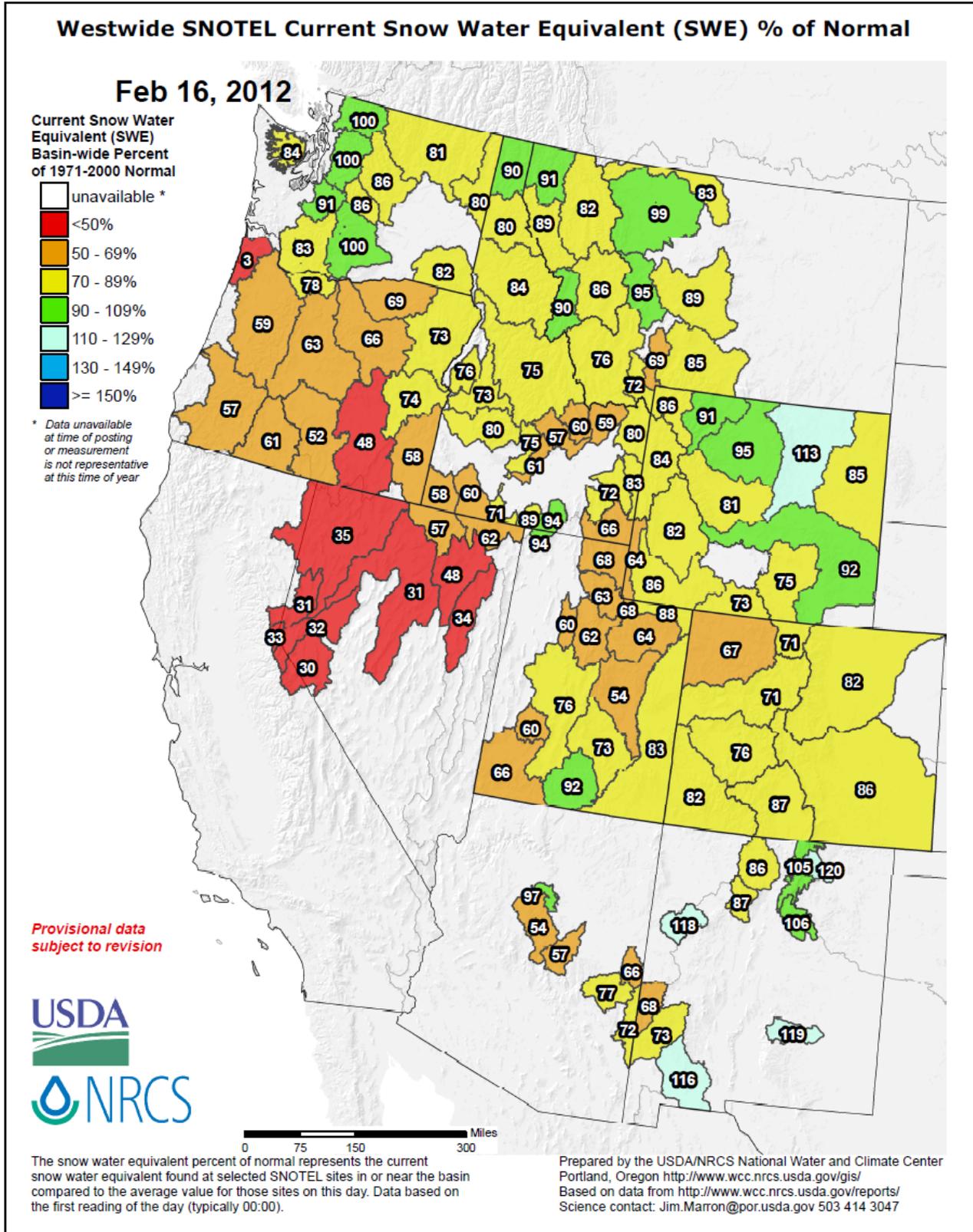


Fig. 1: Snow Water-Equivalent: Little change noted this week with the Great Basin leading the deficit in SWE over the Western States.

SNOTEL 7-Day Snow Depth Change (Inches)

Feb 16, 2012

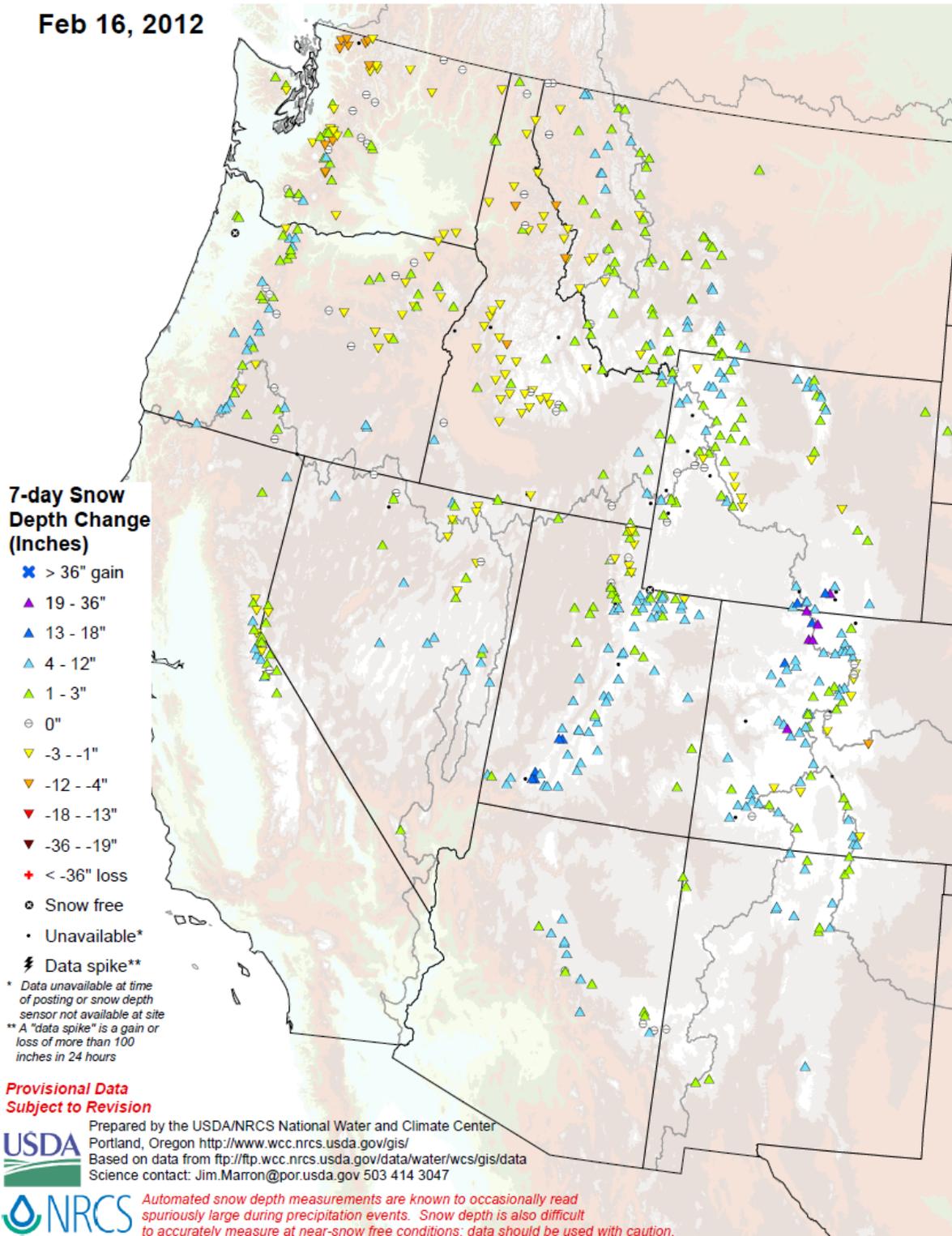


Fig. 1a: 7-Day Snow Depth Change ending this morning shows scattered pocket of increases over the 4-Corner States, mixed changes over the Cascades, Sierra, and widespread decreases over Idaho.

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

Feb 16, 2012

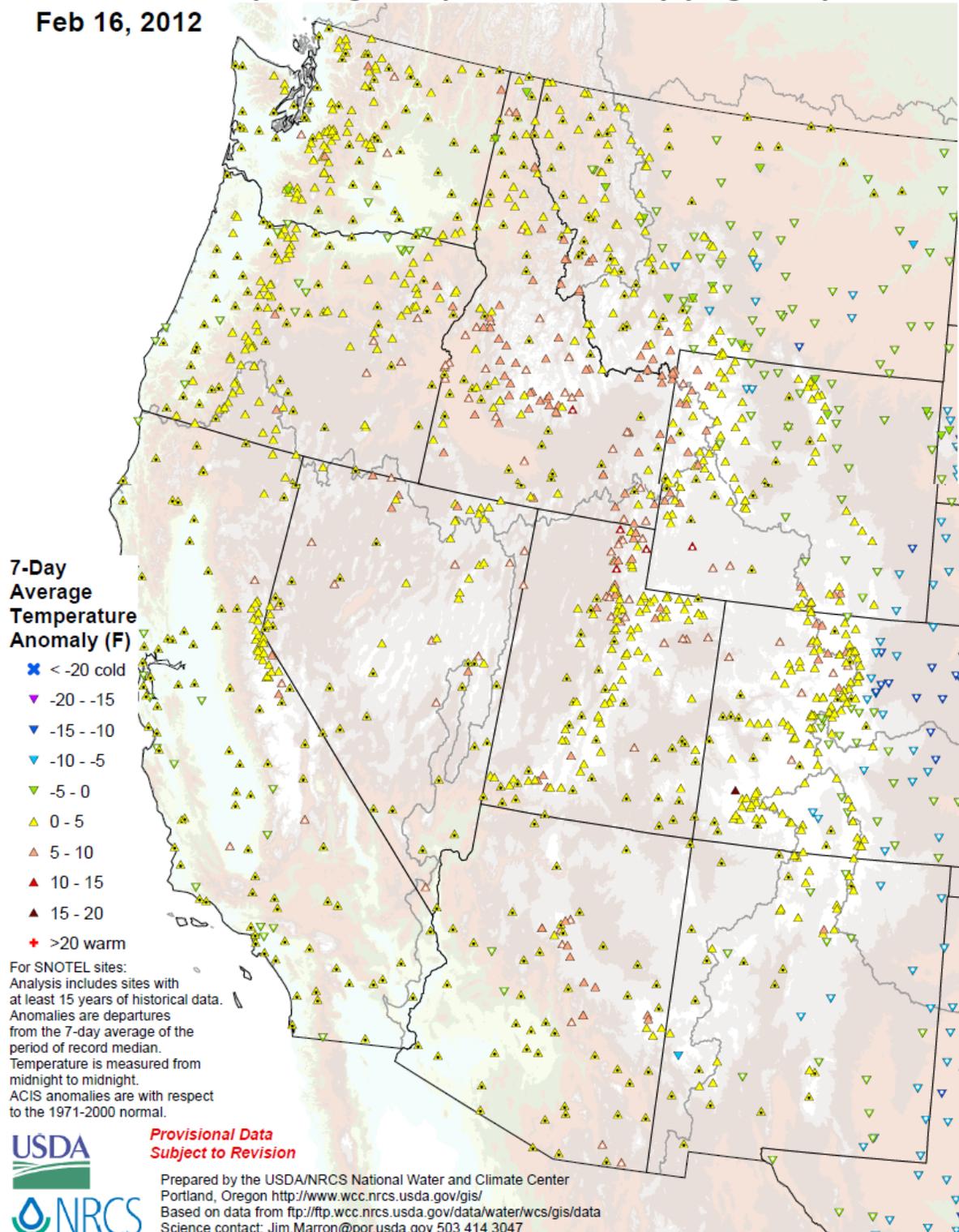
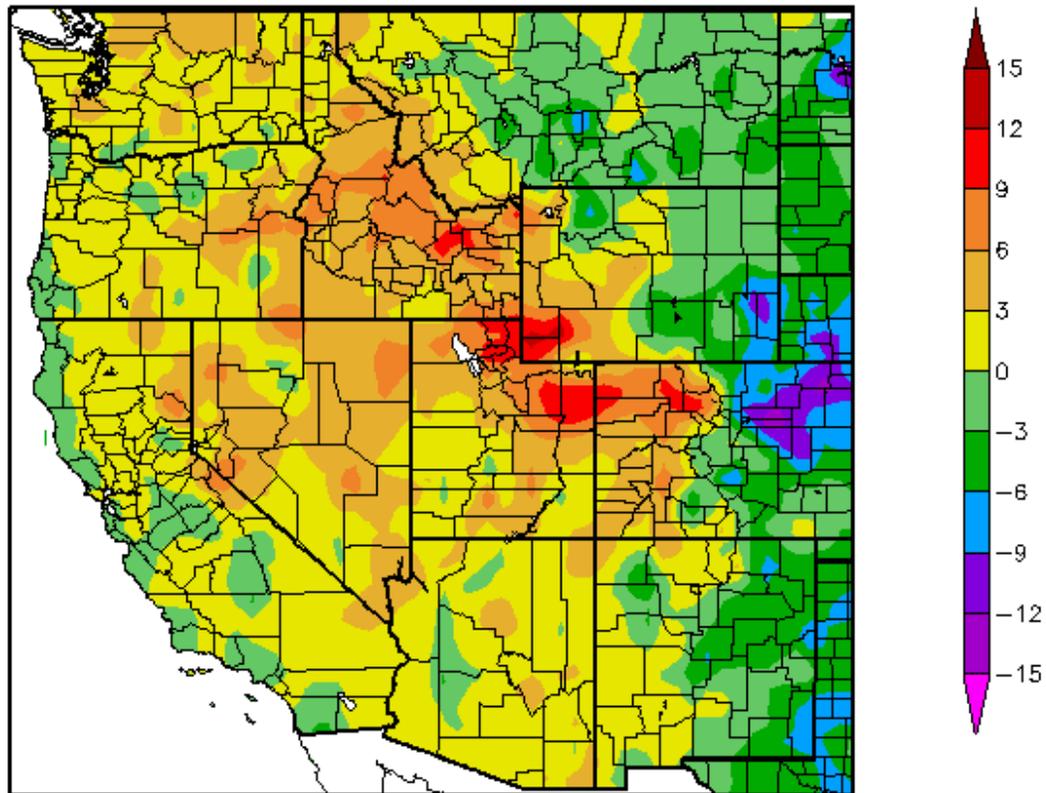


Fig. 2: **SNOTEL** and ACIS 7-day temperature anomaly showed a warmer week over much of the West with the exception of the Western High Plains where cooler conditions dominated.

Weekly Snowpack and Drought Monitor Update Report

Departure from Normal Temperature (F)
2/9/2012 - 2/15/2012



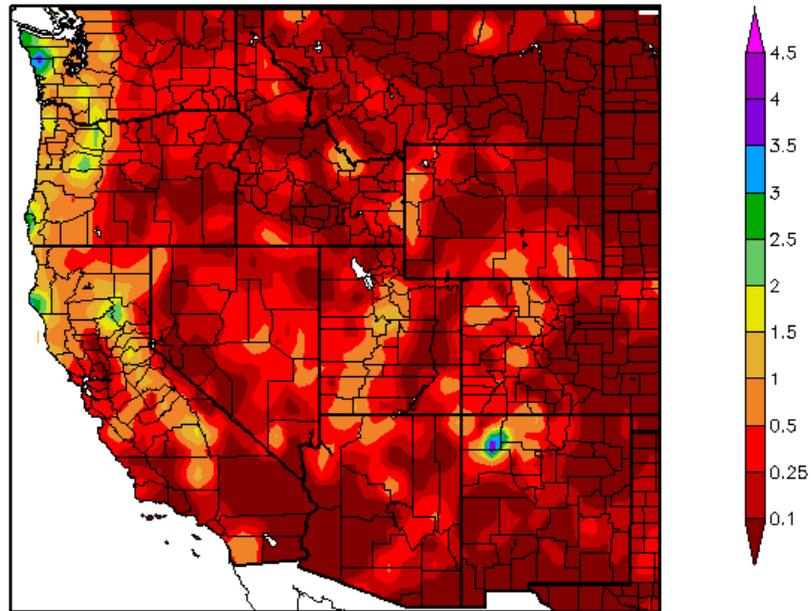
Generated 2/16/2012 at HPRCC using provisional data.

Regional Climate Centers

Fig. 2a: ACIS 7-day average temperature anomalies show the greatest positive temperature departures over the southwest Wyoming (>+12°F) and the greatest negative departures over northeastern Colorado (<-12°F).

Weekly Snowpack and Drought Monitor Update Report

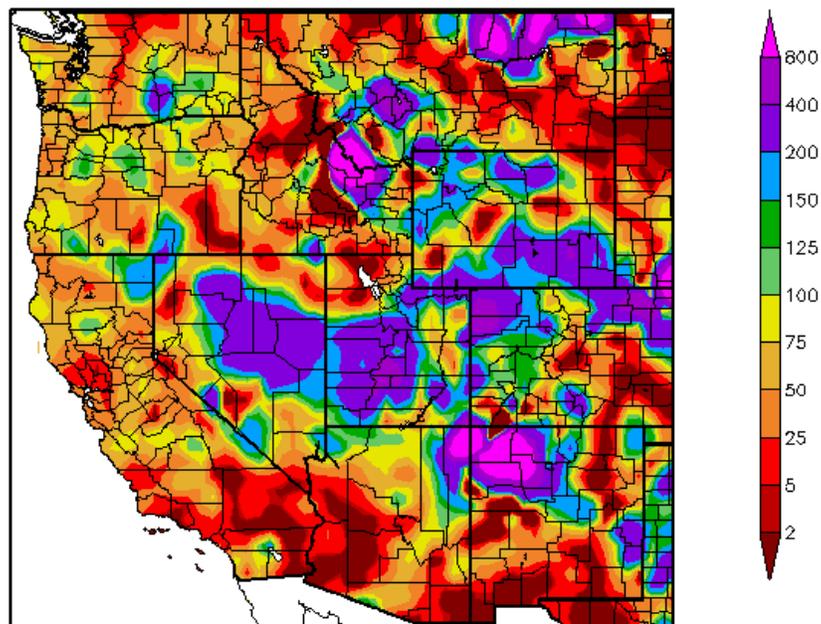
Precipitation (in)
2/9/2012 - 2/15/2012



Generated 2/16/2012 at HPRCC using provisional data.

Regional Climate Centers

Percent of Normal Precipitation (%)
2/9/2012 - 2/15/2012



Generated 2/16/2012 at HPRCC using provisional data.

Regional Climate Centers

Fig. 3 and 3a: [ACIS](#) 7-day average precipitation amounts for the period ending yesterday shows wet condition over the Washington Coast and northwest New Mexico (top). However, in terms of percent of normal, the Central Great Basin, much of the 4-Corners, the Upper Snake River, and north-central Montana experienced high values (bottom).

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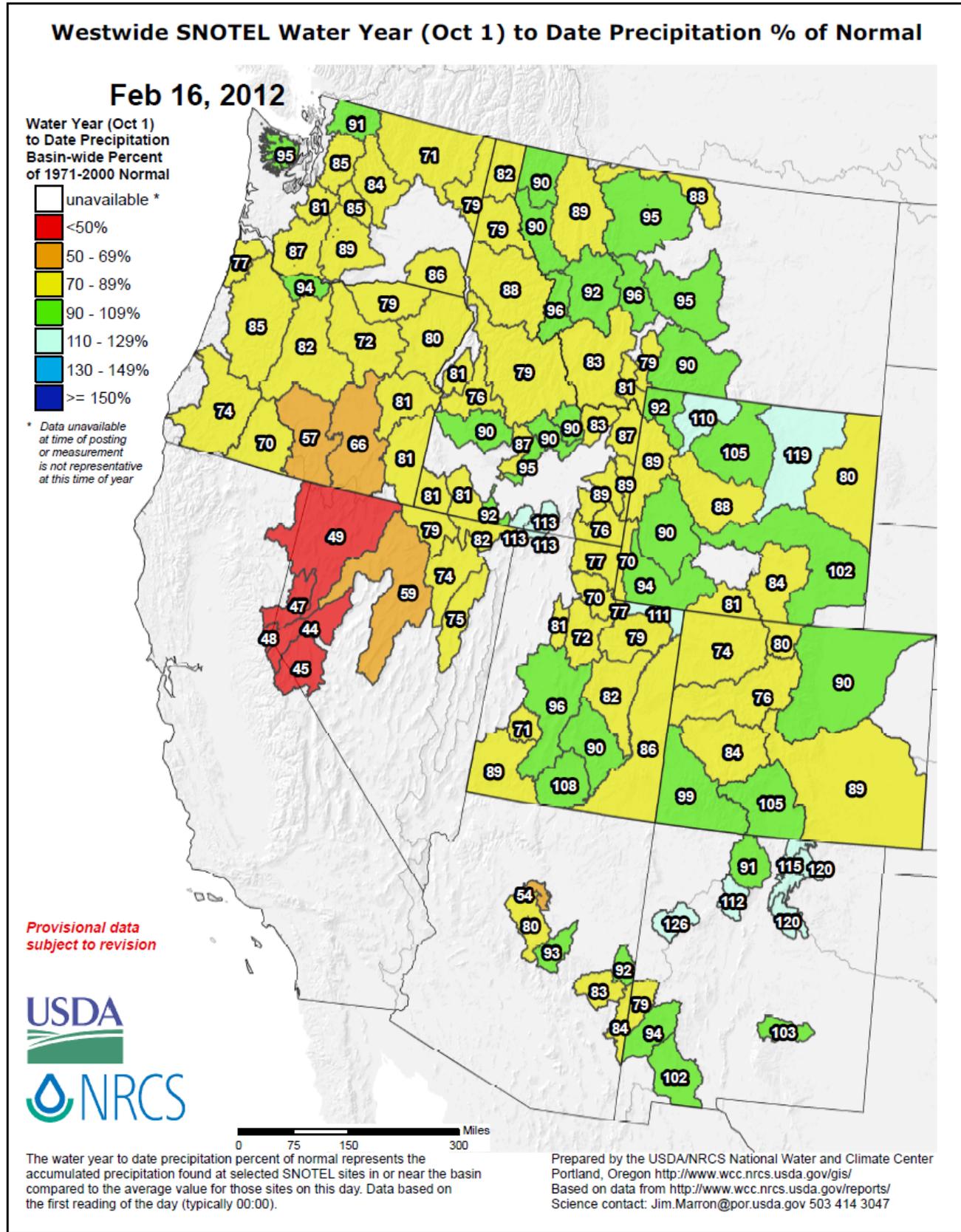


Fig 3b: Since the start of the [2012 Water-Year](#) that began on 1 October 2011, the seasonal moisture has favored northern Wyoming and southern Idaho. No significant changes are noted this week.

U.S. Drought Monitor

February 14, 2012
Valid 7 a.m. EST

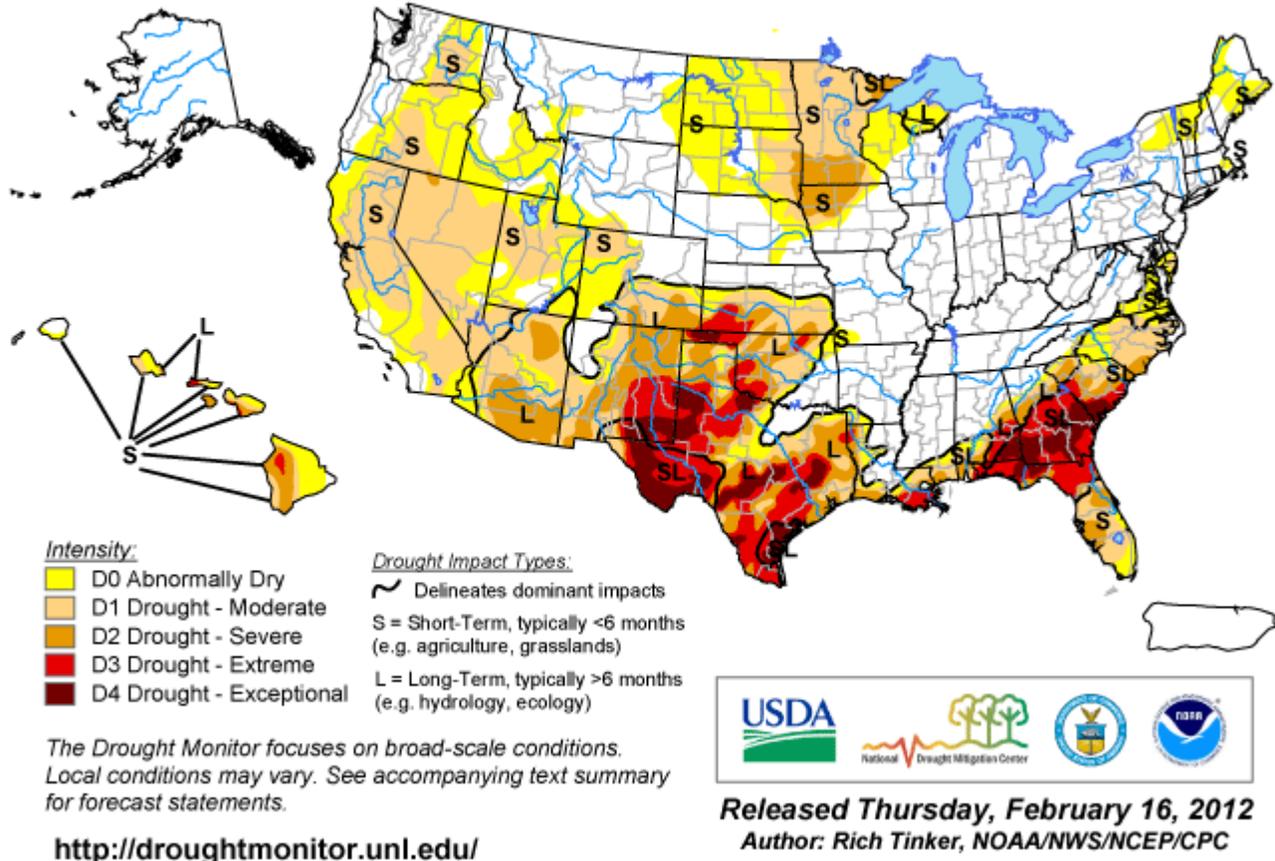


Fig. 4: Current [Drought Monitor](#) weekly summary. The exceptional D4 levels of drought are found over southeastern New Mexico, mostly southern Texas, the Panhandle of Oklahoma, and over southwest South Carolina – south Georgia – southeast Alabama. For more drought news, see [Drought Impact Reporter](#).

Agriculture

[Report: Drought costs state \\$5.2B in 2011](#)

Feb 9, Texas. This figure was released in Aug/Sept 2011 as an estimate of agricultural losses for the state in 2011, but has yet to be updated. The state comptroller just released a report stating that more water conservation was needed and that energy shortages and higher electric rates will hurt the state in future years.

The comptroller's report, [The Impact of the 2011 Drought and Beyond](#), 16 pages

[Tenn. and Ky. beef profits hit historic highs](#)

Feb 10, Kentucky and Tennessee. Livestock producers are benefitting from high cattle prices.

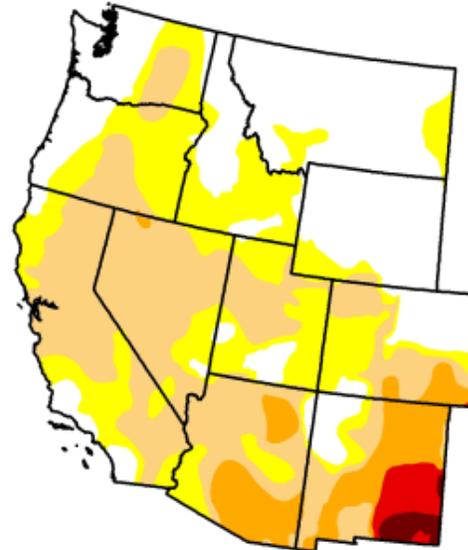
U.S. Drought Monitor

West

February 14, 2012
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	33.22	66.78	40.87	10.32	2.56	0.83
Last Week (02/07/2012 map)	32.79	67.21	41.53	11.06	2.83	0.83
3 Months Ago (11/15/2011 map)	72.72	27.28	18.57	15.00	9.51	2.85
Start of Calendar Year (12/27/2011 map)	48.49	51.51	20.05	12.22	2.67	0.78
Start of Water Year (09/27/2011 map)	66.72	33.28	19.04	14.99	9.30	3.81
One Year Ago (02/08/2011 map)	72.75	27.25	13.79	4.44	0.00	0.00



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.

<http://droughtmonitor.unl.edu>



Released Thursday, February 16, 2012
Rich Tinker, NOAA/NWS/NCEP/Climate Prediction Center

Fig. 4a: Drought Monitor for the [Western States](#) with statistics over various time periods. Note a slight improvement in all categories this week.

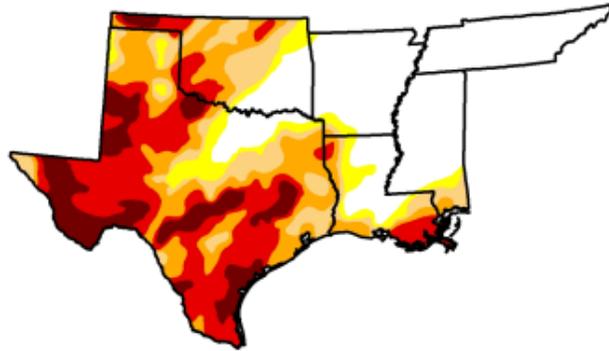
U.S. Drought Monitor

South

February 14, 2012
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	34.46	65.54	58.89	47.27	30.88	10.81
Last Week (02/07/2012 map)	34.46	65.54	59.27	47.76	31.67	12.18
3 Months Ago (11/15/2011 map)	10.39	89.61	80.43	68.71	58.36	41.00
Start of Calendar Year (12/27/2011 map)	26.47	73.53	69.01	54.81	39.11	17.15
Start of Water Year (09/27/2011 map)	18.34	81.66	76.26	70.61	63.67	53.77
One Year Ago (02/08/2011 map)	13.83	86.17	60.02	31.17	6.39	0.00



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.



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<http://droughtmonitor.unl.edu>

Fig. 4b: Drought Monitor for the [South-Central States](#) with statistics over various time periods. Note slight improvement in D4 this week.

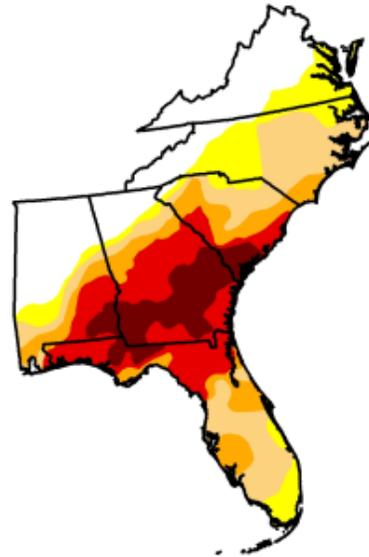
U.S. Drought Monitor

Southeast

February 14, 2012
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	25.86	74.14	59.78	40.41	27.91	10.41
Last Week (02/07/2012 map)	26.78	73.22	58.18	37.91	23.82	7.15
3 Months Ago (11/15/2011 map)	40.37	59.63	47.52	34.81	23.90	0.00
Start of Calendar Year (12/27/2011 map)	40.38	59.62	43.05	28.62	18.71	0.00
Start of Water Year (09/27/2011 map)	42.24	57.76	41.82	31.77	23.48	0.00
One Year Ago (02/08/2011 map)	11.57	88.43	62.18	22.50	3.35	0.00



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.



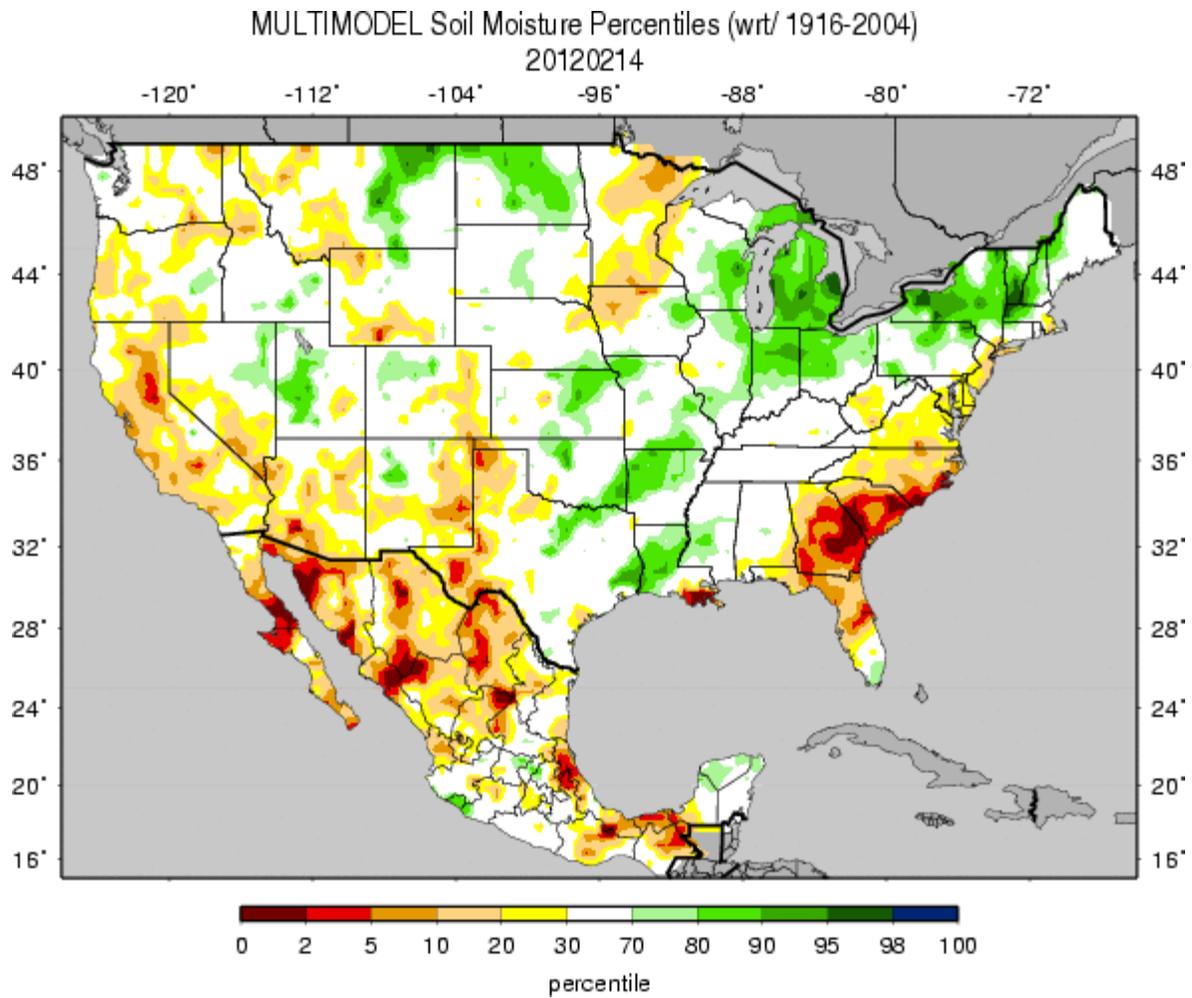
Released Thursday, February 16, 2012

Rich Tinker, NOAA/NWS/NCEP/Climate Prediction Center

<http://droughtmonitor.unl.edu>

Fig. 4c: Drought Monitor for the [Southeastern States](#) with statistics over various time periods. Note some deterioration in D2, D3, and D4 this week.

Weekly Snowpack and Drought Monitor Update Report



Figs. 5: Soil Moisture ranking in [percentile](#) as of 14 February shows the Ohio Valley to New England wetness diminishing this week. Extreme dryness is noted over the Southeast. Note: Soil moisture this time of year is often unreliable due to frozen ground.

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Soil Climate Analysis Network (SCAN)

Station (2013) MONTH=2012-01-17 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision
Thu Feb 16 08:11:49 PST 2012

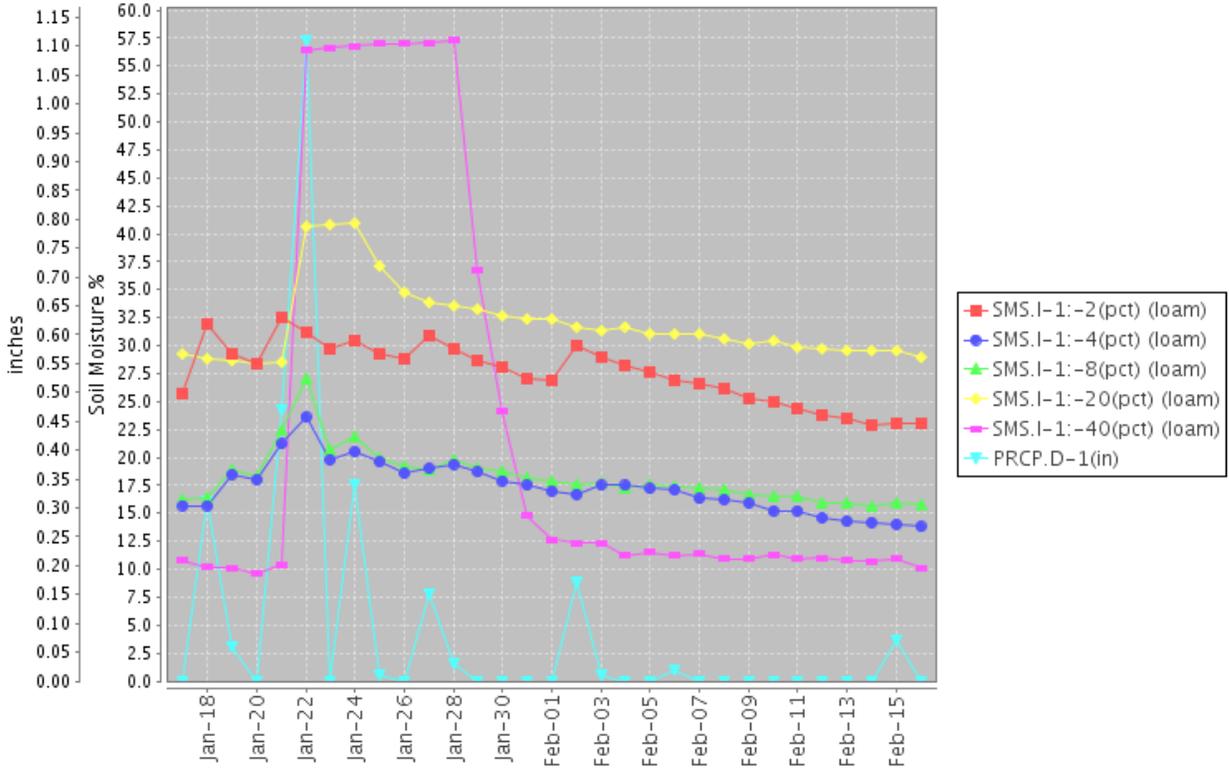


Fig. 6: This NRCS resource shows a site over [central Georgia](#) with declining soil moisture at all depths despite rains last month.

Weekly Snowpack and Drought Monitor Update Report

Wednesday, February 15, 2012

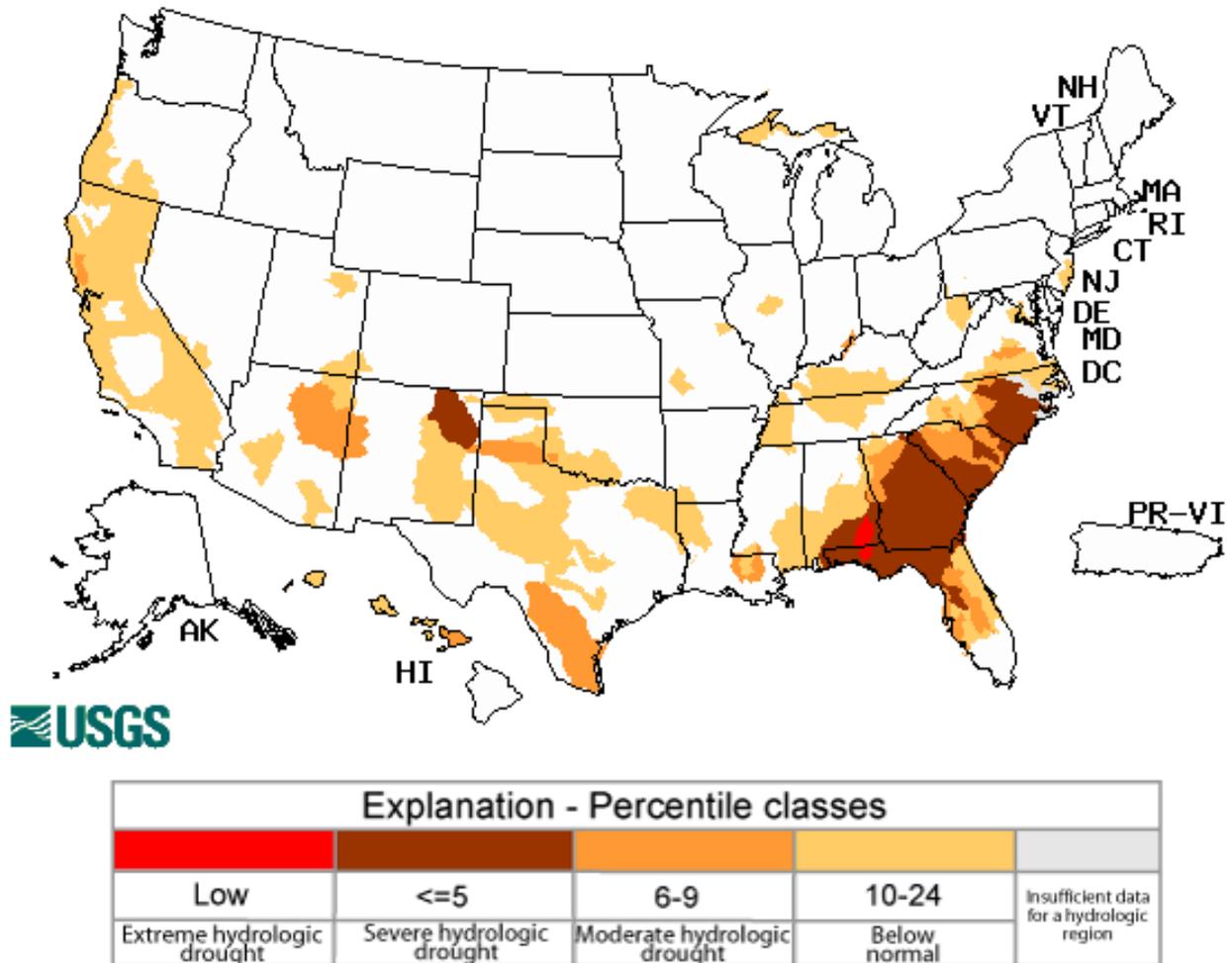


Fig. 7: Map of below normal 7-day average [streamflow](#) compared to historical streamflow for the day of year. **Extreme** conditions are expanding over the Florida Panhandle and southeastern Alabama.

Weekly Snowpack and Drought Monitor Update Report

National Drought Summary -- February 14, 2012

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/>.

Northeast: Like last week, only a few tenths of an inch of precipitation, if any, fell on the region. As a result, D0 was expanded to include part of western New York, where some longer-term deficits were noted. Farther south, D0 was introduced in part of southeastern Massachusetts. Most of this region only received one-half to two-thirds of normal precipitation over the past 60 days.

South Atlantic and Central Gulf Coast Regions: During the last two weeks, 2 to locally over 5 inches of rain fell on small sections of north-central and southeastern parts of the Florida Peninsula, prompting improvements to D0 in southeastern sections and D1 farther north. Still, a number of locations in south Florida recorded less than half of normal rainfall since November 1, 2011, including the cities of Palm Beach and Fort Lauderdale. In addition, 1 or 2 inches fell on much of the Louisiana Bayou, although no improvement was introduced here, where substantial long-term deficits remain.

Several tenths of an inch fell on other parts of the Florida Peninsula and in southern sections of Alabama and Mississippi, where keeping dryness and drought essentially unchanged. Unfortunately, very little if any precipitation fell from the northern tier of Florida (including the Panhandle) northward through the eastern mid-Atlantic region. As a result, D4 was expanded southwestward into more of southeastern Alabama and southwestern Georgia, in addition to eastern parts of the Florida Peninsula. Much of this region received less than half of normal rainfall during the last 60 days, and 6-month deficits topped 12 inches in many areas. For the 1-year period through early February, Tallahassee, FL measured about 32 inches of rain, about 5 inches below the previous record for the period. In addition, Dothan, AL reported 33 inches, only about 2 inches lower than the previous record. Farther north, there was some expansion of D0 and D1 conditions in central sections of North Carolina.

The Southern Great Plains and Most of Louisiana: Moderate to heavy rains exceeding 1 inch fell on much of southeastern Texas as well as isolated locations in southernmost and central parts of the state. Despite the fact these rains brought 30-day totals to over 5 inches (and over 10 in isolated spots) in some east-central and southeastern areas, only modest regional improvement seemed warranted, since 6-month totals remained more than 8 inches below normal across most of the D2 to D4 areas. As a result, Lake Somerville remained at only 59% of capacity, the lowest since records began in 1990.

In contrast, one area in and around San Antonio was improved to D1 after moderate rainfall. The Bexar Index Well has risen 9 feet in the past month, and is over 20 feet above the low recorded last summer. In addition, the Edwards Aquifer rose to its highest level since late April 2011.

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A number of locations in the rest of the southern Plains kept last week's drought assessments intact.

The Northern Plains: Only a few tenths of an inch of precipitation last week meant drought conditions either persisted or intensified. D0 expanded westward through portions of southern and central South Dakota while D2 conditions were extended slightly into eastern parts of the state. Many of the D2 areas recorded less than half of normal precipitation during the last 60 days. Since August 1, Sioux Falls, SD received only 3.6 inches of precipitation, the third lowest for the period in roughly 100 years of records.

West: Moderate precipitation (over 1 inch) fell on parts of northwestern New Mexico, central and western Colorado, and adjacent Wyoming. Elsewhere, however, only a few areas outside California measured over 0.5 inch. The week's precipitation, in addition to a re-assessment of overall conditions, prompted the elimination of D3 conditions in northeast Arizona, and reductions in the D0 to D2 areas here and in Northwestern New Mexico. Drought conditions remained unchanged in the rest of the West despite widespread precipitation amounts between 1 and 3 inches over the Sierra Nevada, where normal are quite large.

Hawaii: Between 1 and 3 inches of precipitation fell on some sections across the eastern Big Island, northeastern Maui, southern Lanai, and southeastern Kauai, with light to moderate totals observed elsewhere. Pasture and vegetation conditions have improved recently in portions of the southeastern Big Island.

Looking Ahead: During the next 5 days (February 16 – 20, 2012), moderate to heavy precipitation (1 to locally over 3 inches) is anticipated across a large area from southeastern Texas eastward through the Florida Panhandle and northeastward into southern North Carolina. Amounts over 0.5 inch are forecast for immediately adjacent sections including central Texas, the northern Florida Peninsula, and southern Virginia, but lesser amounts should fall on the other areas of dryness and drought across the contiguous 48 states.

For the ensuing 5 days, the Climate Prediction Center (CPC) 6-10 day indicated that the odds favor above normal precipitation in much the same area as during the next 5 days. Farther west, subnormal amounts are favored from southern Oregon and northeastern California southeastward through western Texas and southward to the Mexican border.

Author: [Richard Tinker, NOAA/NWS/NCEP/Climate Prediction Center](#)

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

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 February 15, 2012