



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

Weekly Report - Snowpack / Drought Monitor Update

Date: 9 February 2012

SNOTEL SNOWPACK AND PRECIPITATION SUMMARY

Snow: [Snow Water-Equivalent](#): Several basins saw a few percentage point drop during the past week as weak high pressure once again dominated over the Western States (Fig. 1). [7-Day Snow Depth Change](#) ending this morning shows light to moderate decreases across the Northern Tier States while some increases are noted over the Uinta and Wind River Ranges and Central and Southern Rockies (Fig. 1a).

Temperature: [SNOTEL](#) and ACIS 7-day temperature anomaly showed a cooler week over the much of the West except over the Northern High Plains where mild conditions persisted (Fig. 2). [ACIS](#) 7-day average temperature anomalies show the greatest positive temperature departures over the northeast Montana (>+15°F) and the greatest negative departures over central Idaho, southwest Montana, and eastern Colorado (<-12°F) (Fig. 2a).

Precipitation: [ACIS](#) 7-day average precipitation amounts for the period ending yesterday shows a very wet central Coastal California and northeast Colorado (Fig. 3). In terms of percent of normal, Colorado saw the greatest values while parts of the Great Basin and southern half of the Southwest saw the lowest (Fig. 3a). Since the start of the [2012 Water-Year](#) that began on 1 October 2011, the seasonal moisture has favored northern Wyoming and southern Idaho. Total precipitation has been a bit greater than actual snowfall as noted in Fig. 1 (Fig. 3b).

West: Little precipitation fell on most of the large dry area in the West. Only parts of the Colorado Front Range and a few locations in northern Idaho and eastern Washington recorded more than 1 inch, where small areas of improvement were introduced.

The dry week generally kept drought conditions as they were the previous week, with a few limited areas of deterioration. D2 was introduced in a small part of northern Nevada where only about 25 percent of normal precipitation fell during the last 6 months. Meanwhile, D1 conditions were expanded into extreme south-central California as well as northwestern Arizona, and abnormal dryness was brought into southwestern Arizona. 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).

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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/cgibin/bor.pl>.

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

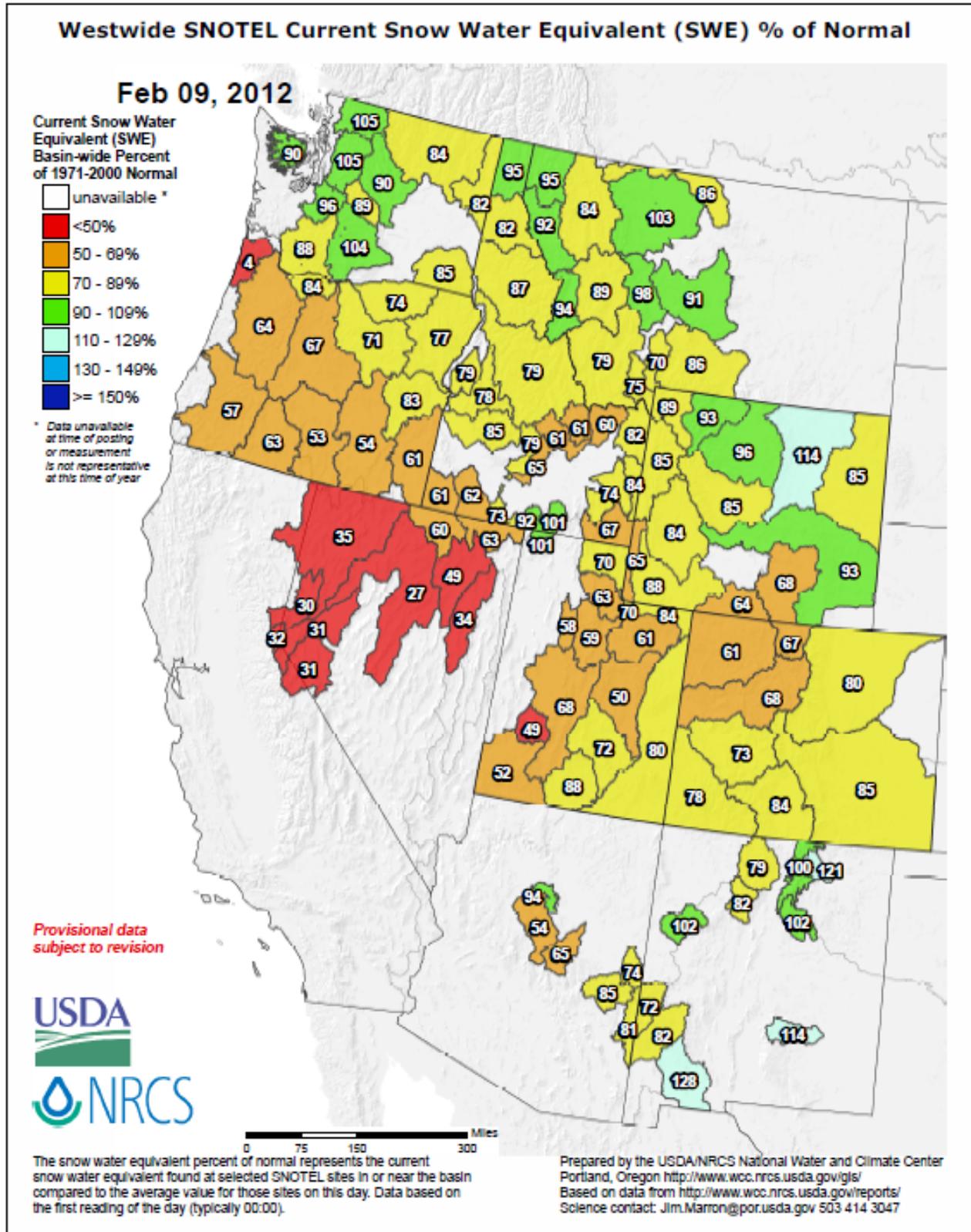


Fig. 1: Snow Water-Equivalent: Several basins saw a few percentage point drop during the past week as weak high pressure once again dominated over the Western States.

SNOTEL 7-Day Snow Depth Change (Inches)

Feb 09, 2012

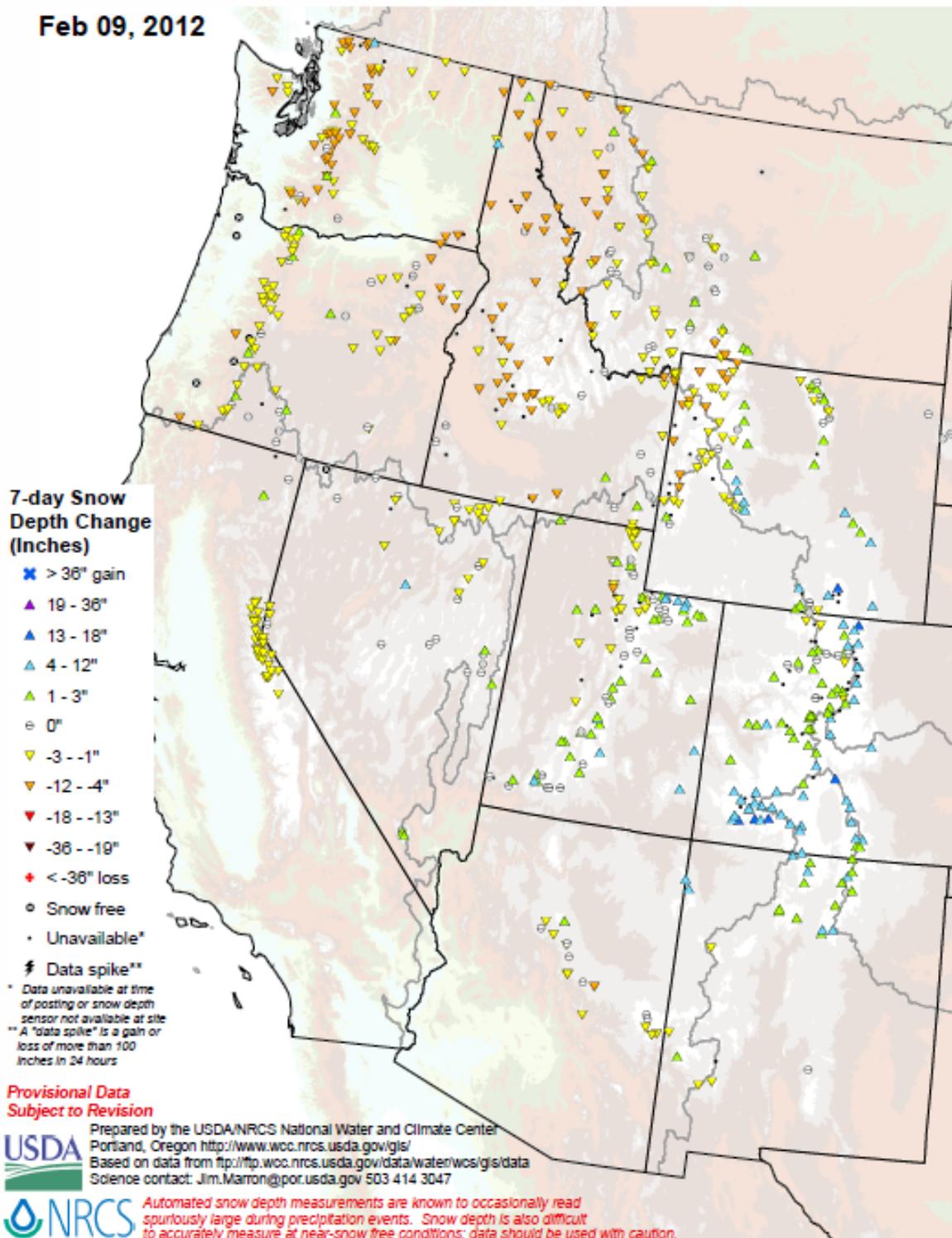


Fig. 1a: 7-Day Snow Depth Change ending this morning shows light to moderate decreases across the Northern Tier States while some increases are noted over the Uinta and Wind River Ranges and Central and Southern Rockies.

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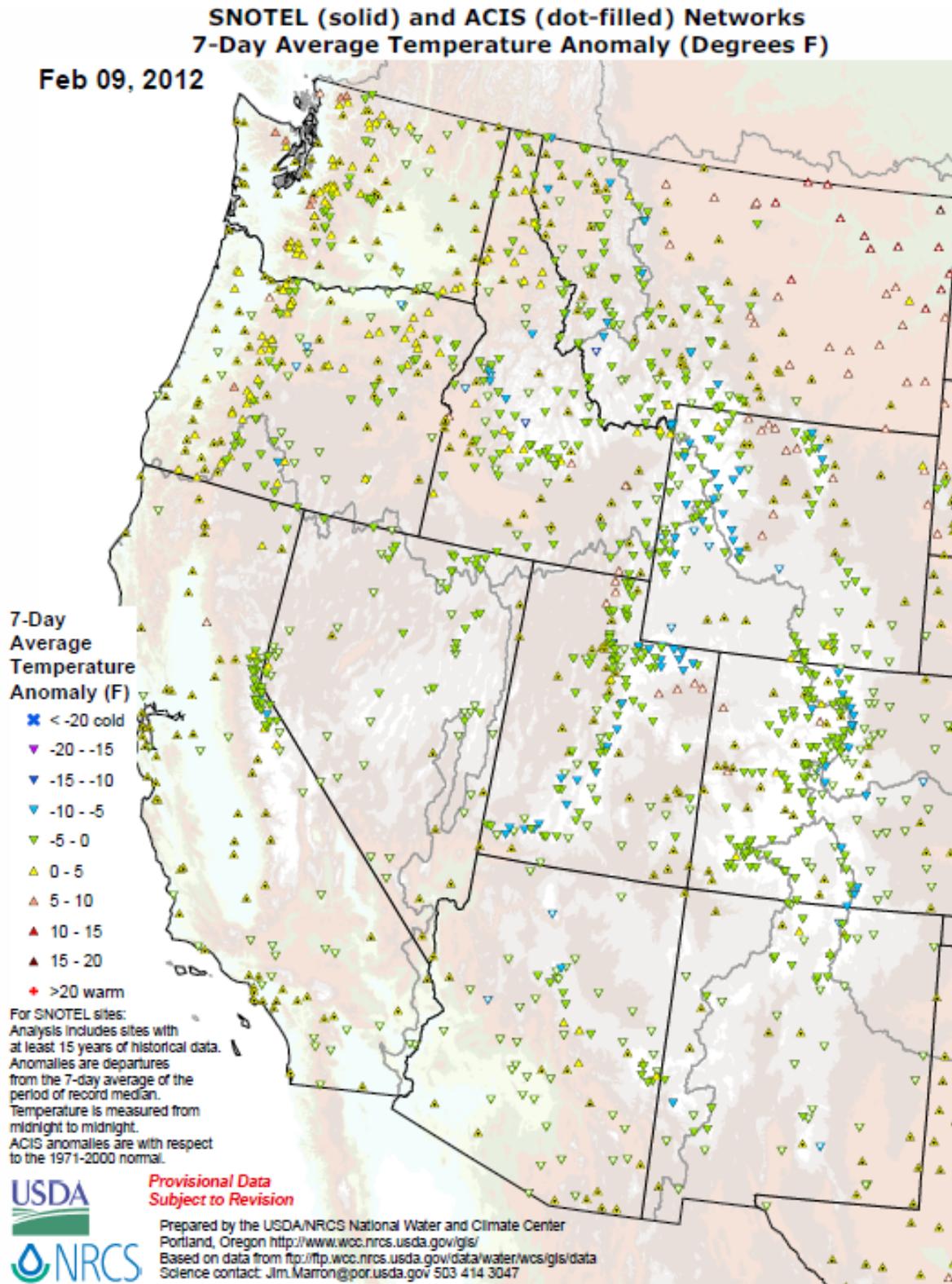
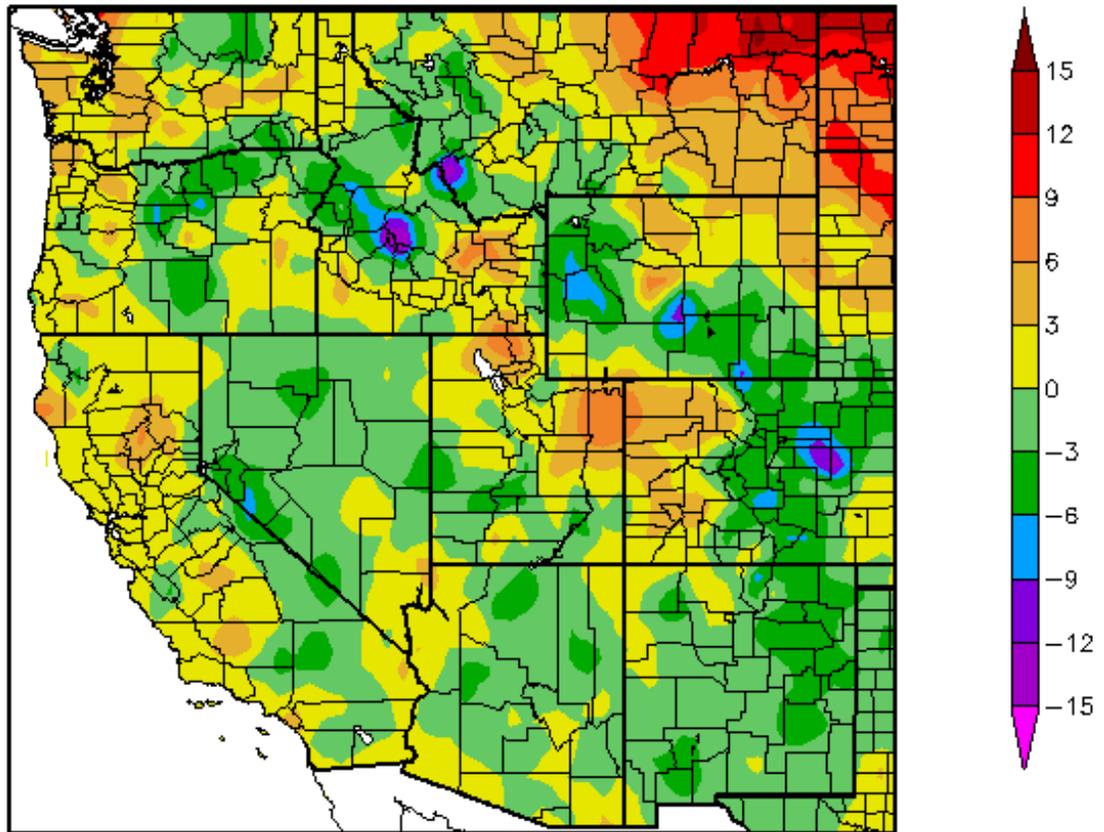


Fig. 2: **SNOTEL** and ACIS 7-day temperature anomaly showed a cooler week over the much of the West except over the Northern High Plains where mild conditions persisted.

Departure from Normal Temperature (F)
2/2/2012 - 2/8/2012



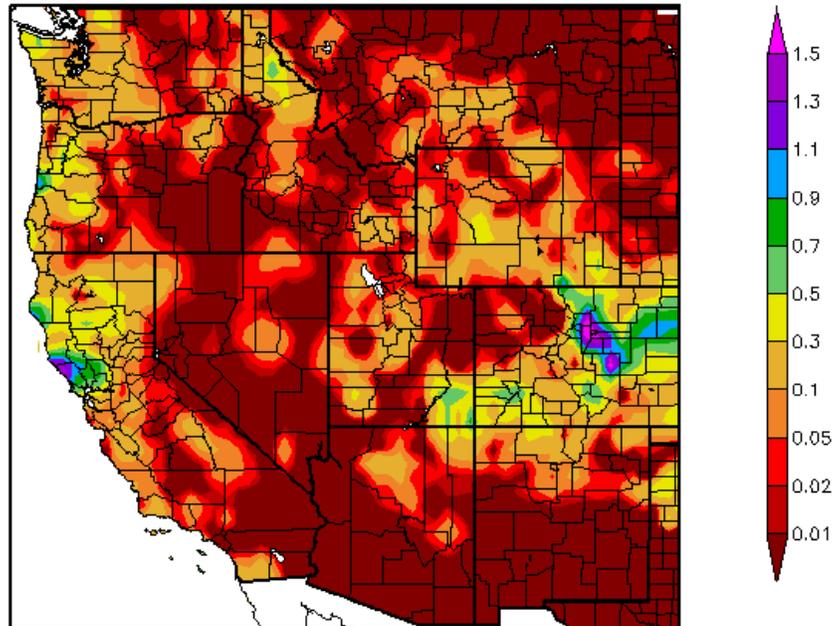
Generated 2/9/2012 at HPRCC using provisional data.

Regional Climate Centers

Fig. 2a: [ACIS](#) 7-day average temperature anomalies show the greatest positive temperature departures over the northeast Montana (>+15°F) and the greatest negative departures over central Idaho, southwest Montana, and eastern Colorado (<-12°F).

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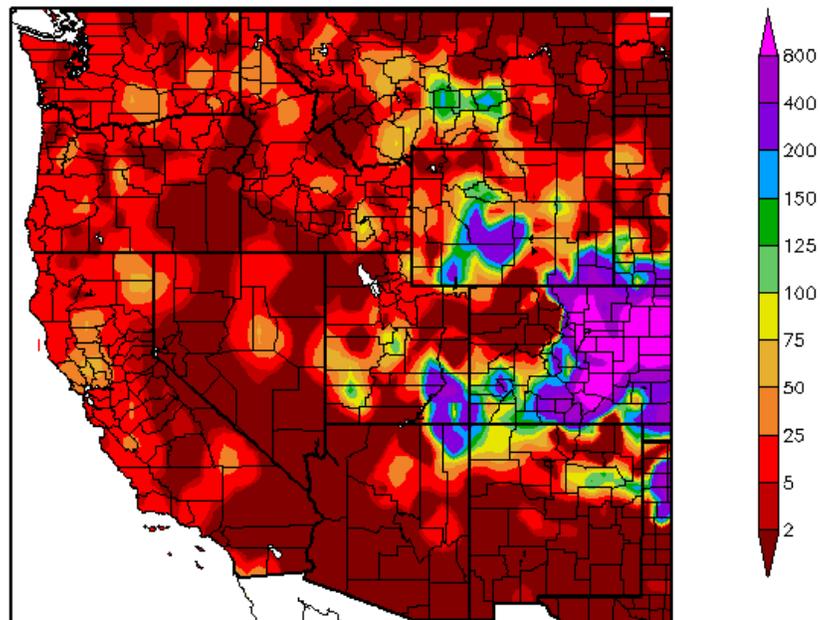
Precipitation (in)
2/2/2012 - 2/8/2012



Generated 2/9/2012 at HPRCC using provisional data.

Regional Climate Centers

Percent of Normal Precipitation (%)
2/2/2012 - 2/8/2012



Generated 2/9/2012 at HPRCC using provisional data.

Regional Climate Centers

Fig. 3 and 3a: [ACIS](#) 7-day average precipitation amounts for the period ending yesterday shows a very wet central Coastal California and northeast Colorado (Fig. 3). In terms of percent of normal, Colorado saw the greatest values while parts of the Great Basin and southern half of the Southwest saw the lowest (Fig. 3a).

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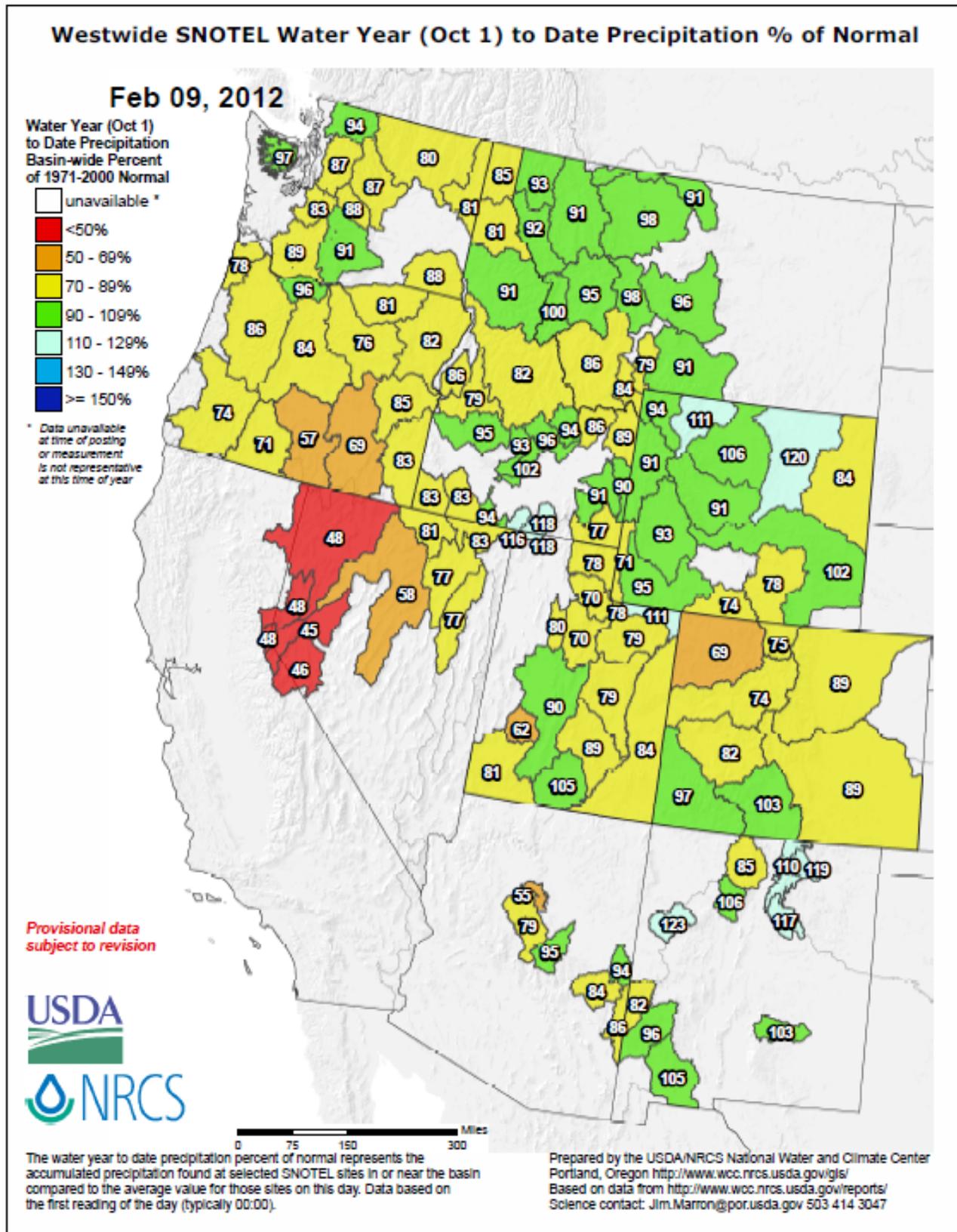


Fig 3b: Since the start of the [2012 Water-Year](#) that began on 1 October 2011, the seasonal moisture has favored northern Wyoming and southern Idaho. Total precipitation has been a bit greater than actual snowfall as noted in Fig. 1.

U.S. Drought Monitor

February 7, 2012
Valid 7 a.m. EST

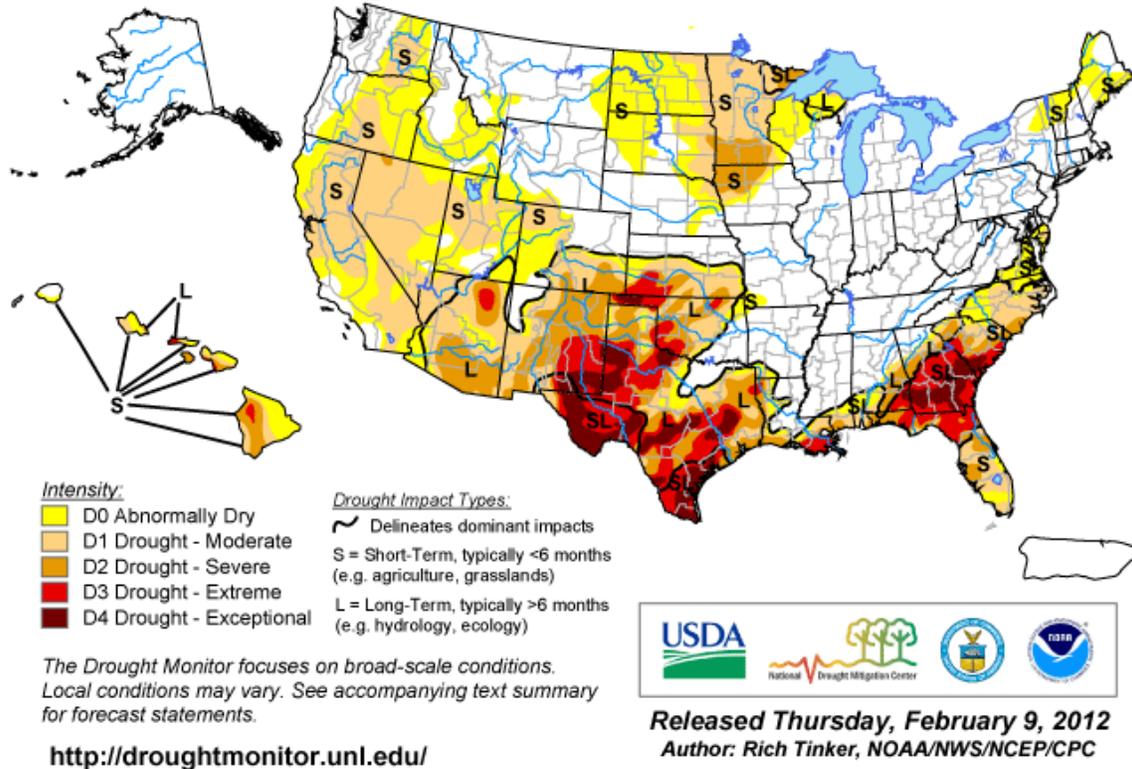


Fig. 4: Current [Drought Monitor](#) weekly summary. The exceptional D4 levels of drought are found over southeastern New Mexico, mostly southern Texas, the Panhandle of Oklahoma, and over southwest South Carolina – south Georgia – southeast Alabama. For more drought news, see [Drought Impact Reporter](#).

Agriculture

[Cattle inventory drops to lowest since 1952 on drought](#)

Jan 27, US. Drought in 2011 led ranchers to sell cattle leading to the lowest cattle inventory in the U.S. since 1952, according to the U.S. Department of Agriculture. Beef and dairy farmers owned 90.77 million head of cattle on January 1, 2012, which were 2.1 percent fewer cattle than in January 2011.

[Drought Crisis Leads To Increased Hay Prices](#)

Jan 29, Albuquerque, New Mexico. Horse abandonments stemming from high hay prices continue to be a problem in New Mexico.

[Drought raises market for heifers to possible record level](#)

Jan 28, Fort Worth, Texas. Heifers sold for unusually high prices at the Fort Worth Stock Show, although steers normally command the highest prices. Heifers were particularly valuable this year because they are “replacement females” or cows that have been bred or are ready for breeding and rebuilding herds.

[Dry conditions deplete soil moisture](#)

Feb 1, Southern Minnesota. The dry conditions are worrying some farmers, but they’re also allowing farmer to have drainage tile installed in some fields that previously have never been dry enough for the installation.

[Moisture deficit has Iowa farmers on edge](#)

Jan 28, Iowa. Farmers are worried about the upcoming growing season, given the dry soil at depths of 6 inches and more.

[Nebraska a bright spot in dark days for cows](#)

Jan 28, Nebraska. The number of beef cows in Nebraska from January 1, 2011 to January 1, 2012 rose from 1.77 million to 1.88 million, reflecting the massive influx of cattle from Oklahoma and Texas as ranchers shipped their cattle out of state for grazing.

[REGION: Winter shaping up to be a dry one](#)

Jan 29, Southern California. A farmer near Hemet had to replant his wheat crop because the seeds could not push through the crusty, dry soil. Some of the wheat that did manage to emerge was growing slower than it normally does due to insufficient rainfall.

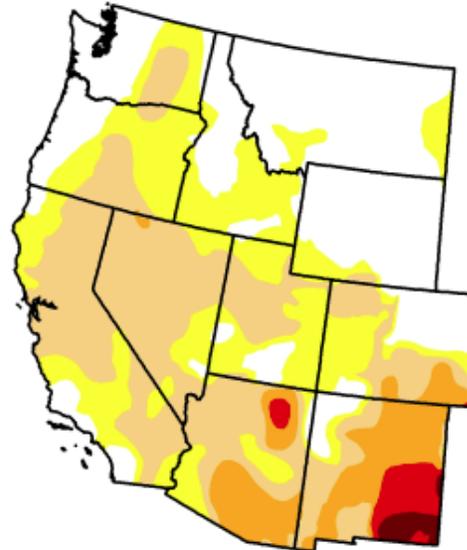
U.S. Drought Monitor

West

February 7, 2012
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	32.79	67.21	41.53	11.06	2.83	0.83
Last Week (01/31/2012 map)	33.02	66.98	40.69	10.98	2.82	0.83
3 Months Ago (11/08/2011 map)	73.00	27.00	18.55	14.96	9.50	2.88
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 (02/01/2011 map)	75.68	24.32	12.70	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 9, 2012
Rich Tinker, Climate Prediction Center/NCEP/NWS/NOAA

Fig. 4a: Drought Monitor for the [Western States](#) with statistics over various time periods. Note a slight increase in D0-D3 this week.

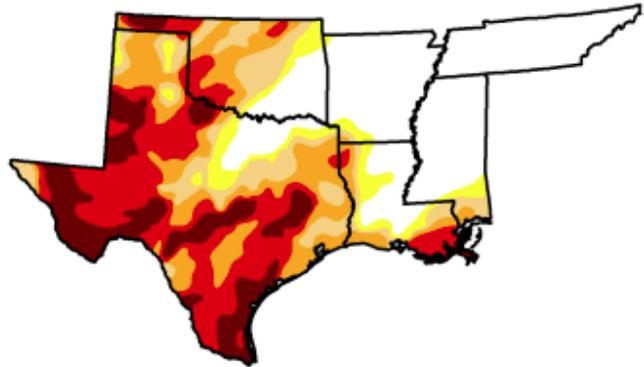
U.S. Drought Monitor

South

February 7, 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	59.27	47.76	31.67	12.18
Last Week (01/31/2012 map)	32.32	67.68	61.19	50.60	35.37	14.32
3 Months Ago (11/08/2011 map)	10.11	89.89	82.76	70.33	60.62	41.39
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 (02/01/2011 map)	14.66	85.34	58.97	31.56	6.59	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 9, 2012
Rich Tinker, Climate Prediction Center/NCEP/NWS/NOAA

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

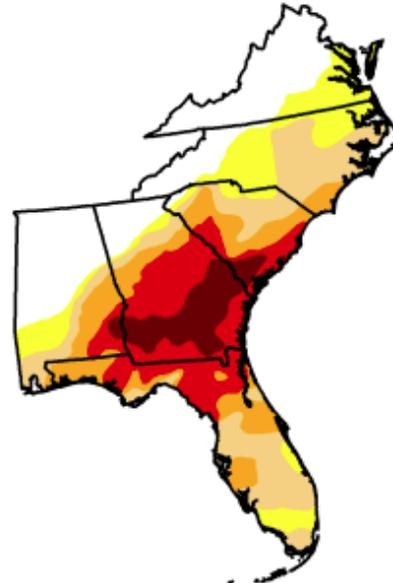
U.S. Drought Monitor

Southeast

February 7, 2012
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	26.78	73.22	58.18	37.91	23.82	7.15
Last Week (01/31/2012 map)	27.29	72.71	55.82	35.78	20.34	3.71
3 Months Ago (11/08/2011 map)	40.77	59.23	46.58	34.06	22.99	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 (02/01/2011 map)	8.76	91.24	67.06	31.58	4.29	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.

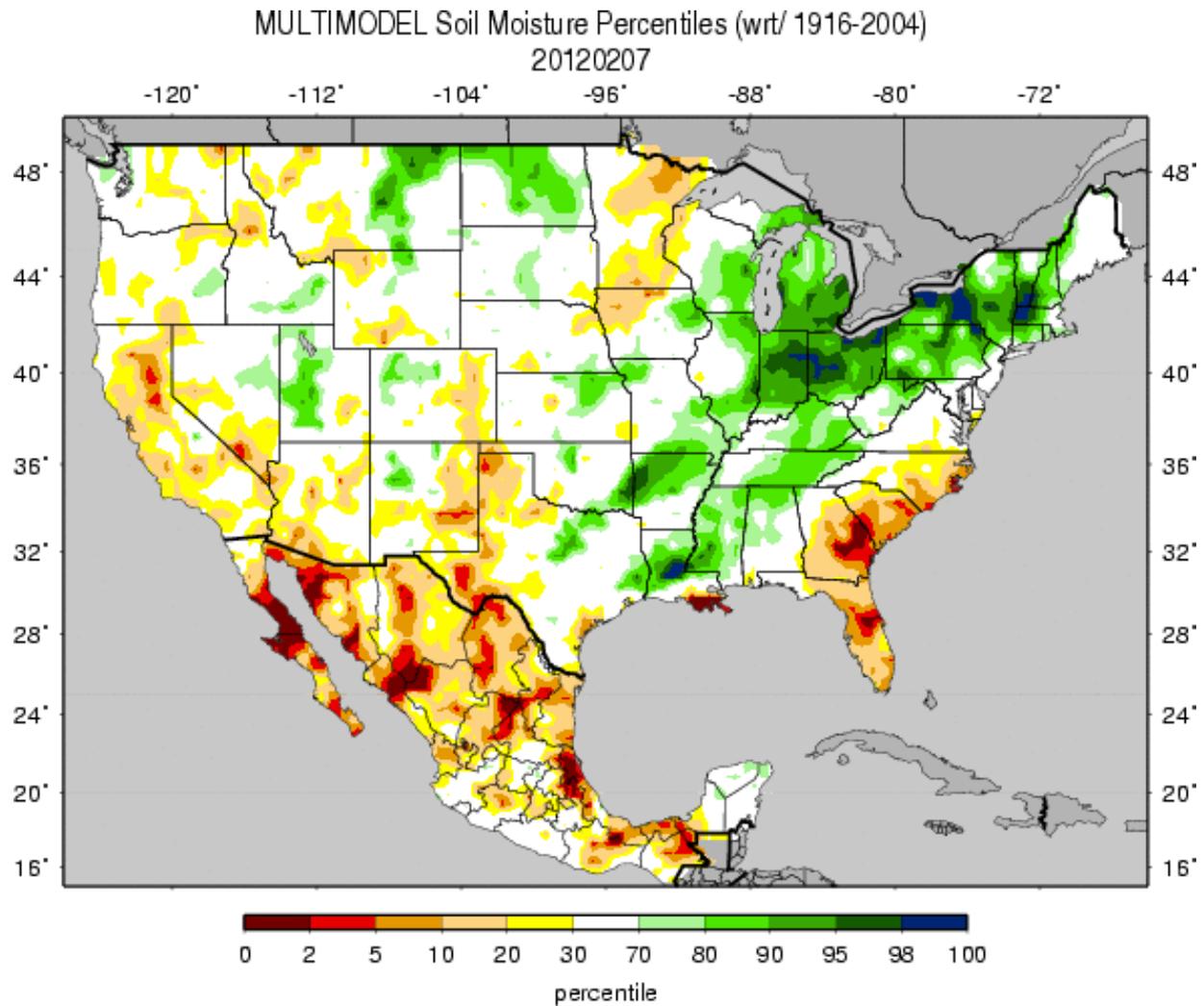
<http://droughtmonitor.unl.edu>



Released Thursday, February 9, 2012
Rich Tinker, Climate Prediction Center/NCEP/NWS/NOAA

Fig. 4c: Drought Monitor for the [Southeastern States](#) with statistics over various time periods. Note slight deterioration this week.

Weekly Snowpack and Drought Monitor Update Report



Figs. 5: Soil Moisture ranking in [percentile](#) as of 7 February shows a wet Ohio Valley to New England pattern persisting. This may be an artifact due to freezing soils over the region. Severe dryness is noted over the Southeast.

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Soil Climate Analysis Network (SCAN)

Station (2014) MONTH=2012-01-10 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision
Thu Feb 09 08:02:30 PST 2012

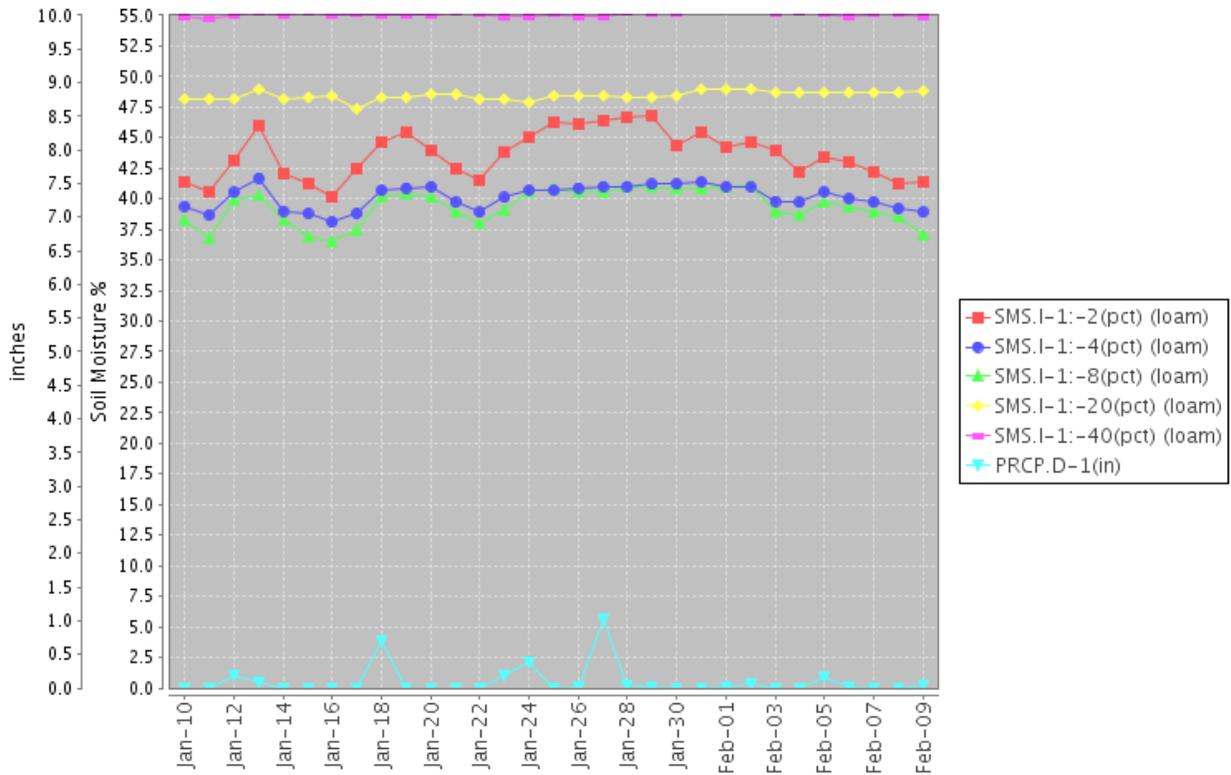
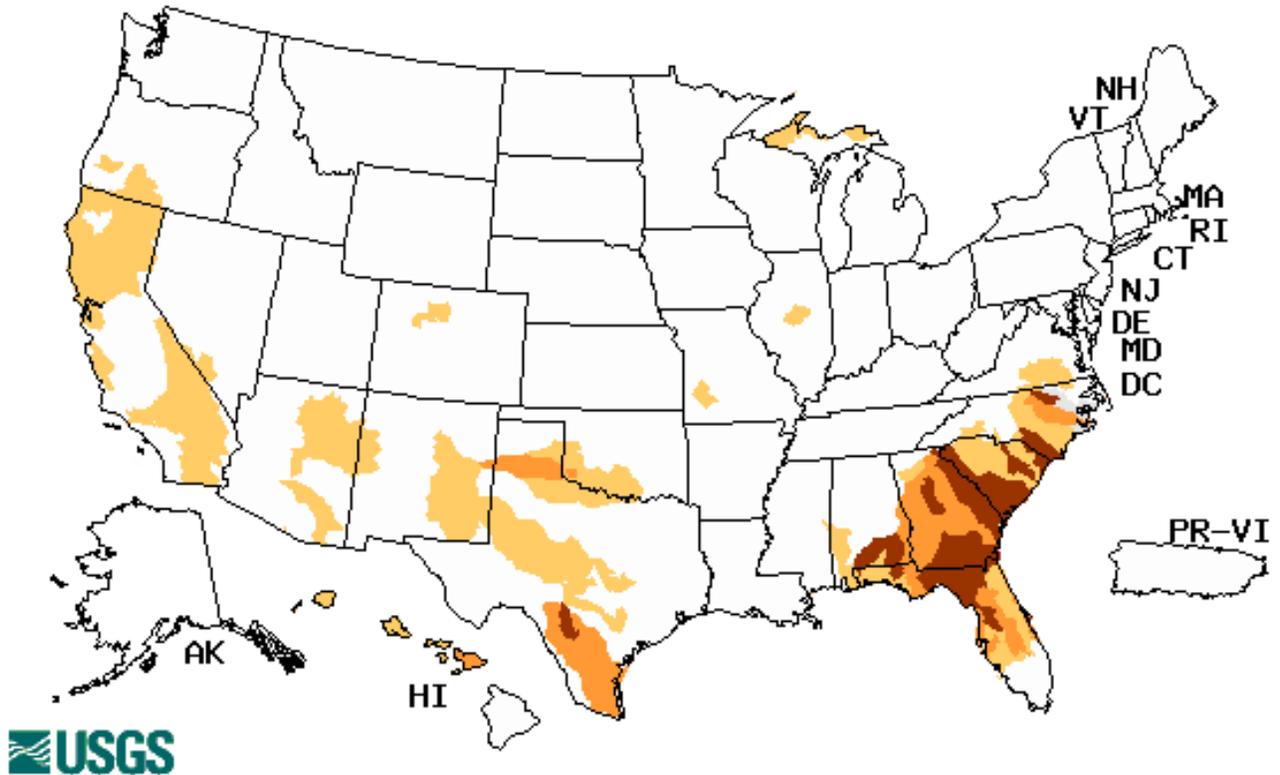


Fig. 6: This NRCS resource shows a site over [central Ohio](#) with saturated soils at all depths. As noted above, since soil temperatures are below freezing, the moisture values are suspect.

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Wednesday, February 08, 2012



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 year. Severe conditions are expanding over the Southeast.

Weekly Snowpack and Drought Monitor Update Report

National Drought Summary -- February 7, 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: Only a few tenths of an inch of precipitation fell on the abnormally dry areas in the Northeast, keeping D0 conditions intact with some expansion into eastern Maine. During the last 60 days, less than two-thirds of normal precipitation fell on northeastern New York, eastern Vermont, and parts of western and southeastern Maine. Some of these regions recorded only 25 to 50 percent of normal for the period.

South Atlantic and Central Gulf Coast Regions: Scattered moderate to heavy precipitation (1 to locally 3 inches) was observed in southern Virginia, southern Florida, and the southern parts of Mississippi and western Alabama. Light precipitation, 0.5 inch or less, fell on much of southeastern-most Louisiana, south-central and southeastern Alabama, the western Florida Panhandle, and much of North Carolina and southern Virginia. Other areas received little or none.

As a result, moisture deficits increased through most of the area, and drought conditions intensified in several broad regions. Most notably, D4 expanded into part of southern and east-central Georgia and southern South Carolina. The last 365 days were the driest such period on record at a number of locations, and most of the region recorded only half of normal precipitation during the last 6 months.

Meanwhile, D2 and D3 conditions broadly expanded across central and northern peninsular Florida, with smaller areas in southeastern North Carolina, southernmost Mississippi, and southeastern-most Louisiana seeing similar deterioration. Less than half of normal precipitation fell on these areas during the last 90 days.

Farther north, D1 conditions stretched to cover more of northern South Carolina and a large swath through central North Carolina. 3- to 6-month precipitation shortfalls are not quite as impressive here compared to the areas at D2 or worse; however, reservoir levels, streamflows, and ground water levels have all declined over the past few weeks.

The Southern Great Plains and Most of Louisiana: Precipitation varied markedly across this region. Very heavy precipitation fell on the northern and eastern reaches of the areas experiencing dryness and drought while, in contrast, little or none was recorded from central Texas northward and westward through southwestern Oklahoma, the southern Texas Panhandle, and the High Plains. Other areas received light to moderate precipitation.

From east-central and southeastern Texas northeastward through a large part of Louisiana, at least 2 inches of precipitation fell, with 4 to locally 9 inches of rain recorded in part of east-central Texas and central through northwestern Louisiana. D3 to D4 conditions remained in part

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of east-central Texas, where large 6 to 12 month precipitation shortages persisted despite the wet week, but farther east significant drought improvement was noted with only a small part of northwestern Louisiana and adjacent Texas remaining in D3. Improvements were most dramatic across Louisiana, where all drought severity levels retreated westward and some areas of 2-category improvement were introduced. Six-month precipitation totals increased to above-normal levels in part of central Louisiana.

Farther north, central and eastern Kansas and much of northern Oklahoma also received heavy precipitation. At least 2 inches fell on north-central and northwestern Oklahoma east of the Panhandle, and on south-central Kansas, with a swath of 3 to 6 inches observed from near the northeastern Texas Panhandle northeastward through south-central Kansas. Conditions improved enough to justify 2-category drought classification reductions in this wettest area, generally to D1. Here, 6-month totals are now above normal. Most other areas improved a single category to D1 or D2.

Moderate rains were scattered across central and southern Texas, leading to a broken pattern of 1-category improvements, while a relatively dry week left conditions unchanged elsewhere.

The Northern Plains: Between 0.5 and 2.0 inches of precipitation, most in the form of snow, covered central and southern sections of Nebraska and adjacent Iowa. The heaviest amounts were recorded in southeastern Nebraska where dryness was eliminated save for a remaining swath of D0 in areas still near- to below normal since October 2011. Broad 1-category improvements were also introduced through most other sections of the state, restricting D0 and D1 conditions to northeastern portions.

Very little, if any, precipitation fell farther north through the remainder of the dry areas, generally leaving dryness and drought unchanged. However, degradations to D0 or D1 were introduced in a few parts of South Dakota. The last 6 months brought less than half of normal precipitation to most of Minnesota and adjacent sections of Iowa and South Dakota.

West: Little precipitation fell on most of the large dry area in the West. Only parts of the Colorado Front Range and a few locations in northern Idaho and eastern Washington recorded more than 1 inch, where small areas of improvement were introduced.

The dry week generally kept drought conditions as they were the previous week, with a few limited areas of deterioration. D2 was introduced in a small part of northern Nevada where only about 25 percent of normal precipitation fell during the last 6 months. Meanwhile, D1 conditions were expanded into extreme south-central California as well as northwestern [Arizona](#), and abnormal dryness was brought into southwestern Arizona.

Hawaii: Light precipitation fell on most of the state, leaving dryness and drought unchanged except across western Oahu, where conditions were downgraded to D1. Some ranchers reported that dryness was beginning to impact their operations.

Looking Ahead: During the next 5 days (February 9 – 13, 2012), moderate precipitation totaling 0.5 to locally 1.5 inches is expected across southern Oklahoma, all but the Big Bend region of Texas, and western Louisiana. Light precipitation, generally 0.25 to 0.5 inch, is forecast for western Colorado, the remainder of the southern Plains, from the central Great Basin northward to the Canadian border and westward to the Pacific Coast, and across central and southern peninsular Florida.

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For the ensuing 5 days, the Climate Prediction Center (CPC) 6-10 day precipitation forecasts indicate enhanced probabilities for above-normal precipitation in a large area that includes almost all of the U.S. from the Mississippi Valley eastward except for the immediate southern Atlantic Coast and peninsular Florida. The odds also favor above-normal precipitation through the central and southeastern Plains and the central Rockies.

Meanwhile, subnormal precipitation is favored in southern Florida, the northern Plains, the Big Bend of Texas, the southern Rockies, California, and adjacent parts of Nevada and Oregon.

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 9, 2012