



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

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**Weekly Report - Snowpack / Drought Monitor Update**

**Date: 13 December 2012**

## **SNOTEL SNOWPACK AND PRECIPITATION SUMMARY**

**Temperature:** [SNOTEL](#) and ACIS 7-day temperature anomaly ending 13 December shows values within  $\pm 5^{\circ}\text{F}$  across the West. A few exceptions include the Bighorn Mountains of Wyoming and the interior parts of California, Oregon, and Washington where temperatures exceeded  $\pm 5^{\circ}\text{F}$  (Fig. 1). ACIS [7-day](#) average temperature anomalies show the greatest positive temperature departures over southeastern Oregon, east-central California, and central Nevada ( $>+10^{\circ}\text{F}$ ). The greatest negative departure occurred over northern New Mexico ( $<-4^{\circ}\text{F}$ ) (Fig. 1a).

**Precipitation:** [ACIS](#) 7-day average precipitation amounts for the period ending yesterday shows heavy amounts of precipitation over northwest Washington (as usual) (Fig. 2). In terms of percent of normal, most of the Northern and Southern Rockies exceeded 200 percent of the typical weekly amounts while hardly any precipitation fell over Arizona, southern California, and much of the Great Basin (Fig. 2a). SNOTEL [month to date](#) precipitation percent of normal shows above normal values over all but southern halves of Utah, Colorado, and most of Arizona and New Mexico (Fig. 2b). For the [2013 Water-Year](#) that began on 1 October 2012, statistics continue to favor the Northern Tier States and the Northern Sierra with surplus moisture (Fig. 2c).

**Snow:** [Snow depths](#) for the week increased significantly over the Northern Cascades and Northern Rockies and lesser so over all but the mountains in Arizona (Fig. 3). As for [snow water-equivalent](#), despite surplus precipitation over much of the Northern Tier States, snowpack is still lagging over portions of the Northern Rockies and Southern Cascades. The weather pattern for the remainder of December suggests that the SWE should continue to increase over the Sierra and Northern Mountains of the West as well as over portions of the Southwest but to a lesser extent (Fig. 3a).

**Summary:** Moderate to heavy precipitation fell on a swath from the lower Mississippi Valley northeastward through the Appalachians and upstate New England. A large part of this region received over an inch of precipitation, with 3 to 5 inches reported in parts of the Ohio and lower Mississippi Valleys, and a few other isolated areas. Farther northwest, moderate precipitation totaled up to 1.0 inch along a strip from the northern High Plains eastward through parts of the Great Lakes region. West of the Plains, heavy precipitation was observed from northern California northward through western Oregon and Washington. A few inches fell on some of the higher elevations, and coastal areas near the Oregon/California border. And finally, precipitation fell on parts of the central and northern Rockies and the northern Intermountain West. Isolated totals up to 4 inches were measured in some of the higher elevations.

**The West: The West:** It was a dry week in eastern sections of Washington and Oregon, and from the central Rockies to the Mexican border. In these areas, dryness and drought remained essentially unchanged. Farther north and West, the precipitation across California, Idaho, Montana, and northwestern Wyoming improved conditions in some of the former D0 to D2 areas there. Among other changes, dryness was pulled out of the Sacramento Valley, and moderate

## Weekly Snowpack and Drought Monitor Update Report

drought (D1) improved in parts of Yellowstone and adjacent areas. Author: Rich Tinker, Climate Prediction Center/NCEP/NWS/NOAA.

***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 common and water restrictions imposed and crop or pasture losses likely. 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 4d).

### 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.

## **Weekly Snowpack and Drought Monitor Update Report**

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 Survey and Resource Assessment

# Weekly Snowpack and Drought Monitor Update Report

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

Dec 13, 2012

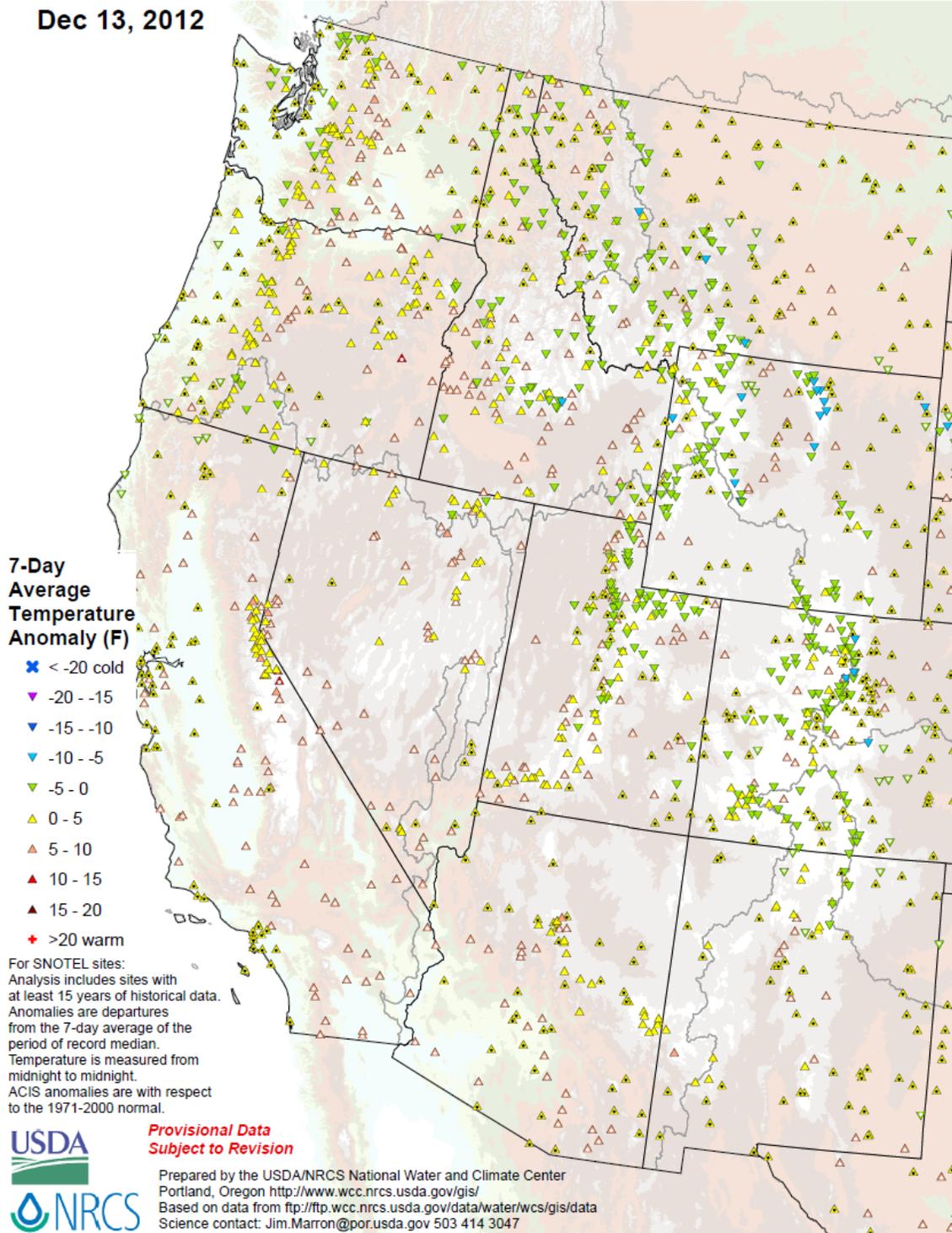
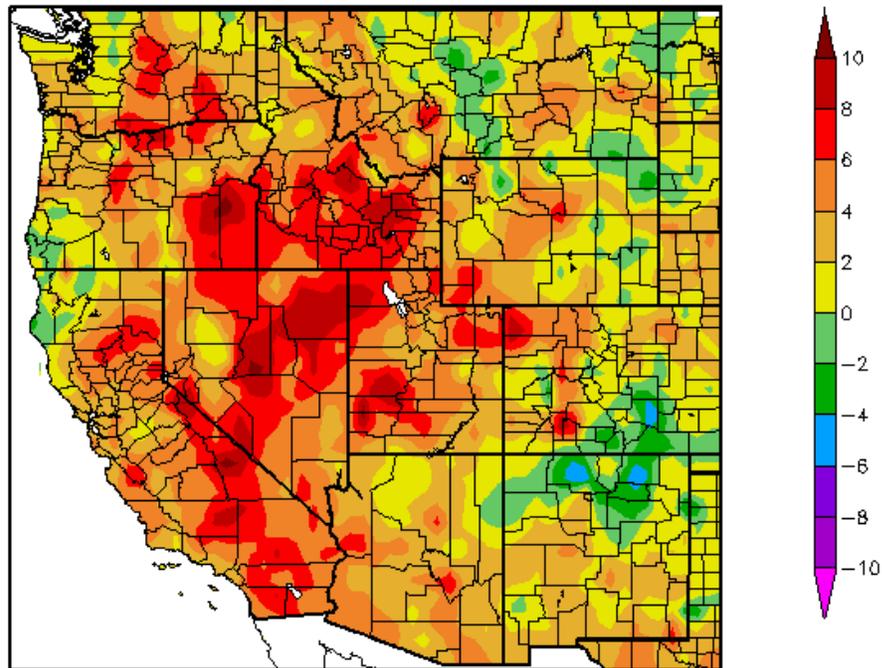


Fig. 1: **SNOTEL** and ACIS 7-day temperature anomaly ending 13 December shows values within  $\pm 5^{\circ}\text{F}$  across the West. A few exceptions include the Bighorn Mountains of Wyoming and the interior parts of California, Oregon, and Washington where temperatures exceeded  $\pm 5^{\circ}\text{F}$ .

## Weekly Snowpack and Drought Monitor Update Report

Departure from Normal Temperature (F)  
12/6/2012 – 12/12/2012



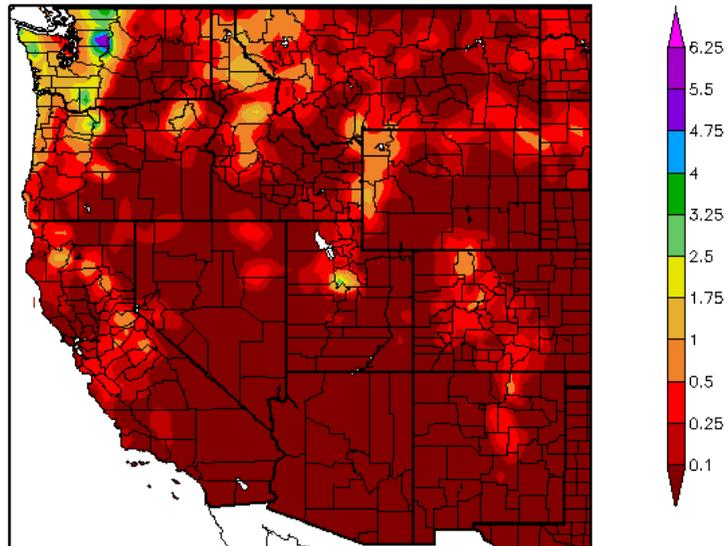
Generated 12/13/2012 at HPRCC using provisional data.

Regional Climate Centers

**Fig. 1a: ACIS 7-day average temperature anomalies show the greatest positive temperature departures over southeastern Oregon, east-central California, and central Nevada (>+10°F). The greatest negative departure occurred over northern New Mexico (<-4°F.**

## Weekly Snowpack and Drought Monitor Update Report

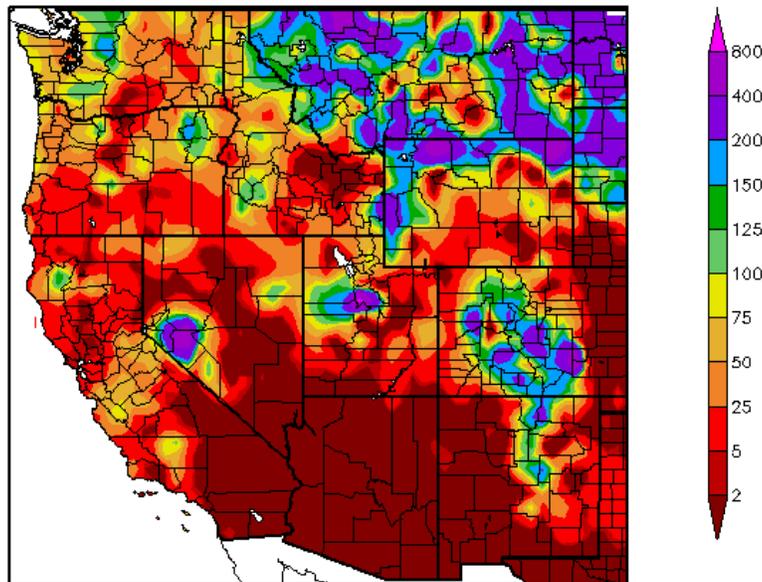
Precipitation (in)  
12/6/2012 - 12/12/2012



Generated 12/13/2012 at HPRCC using provisional data.

Regional Climate Centers

Percent of Normal Precipitation (%)  
12/6/2012 - 12/12/2012



Generated 12/13/2012 at HPRCC using provisional data.

Regional Climate Centers

**Fig. 2 and 2a:** [ACIS](#) 7-day average precipitation amounts for the period ending yesterday shows heavy amounts of precipitation over northwest Washington (as usual) (top). In terms of percent of normal, most of the Northern and Southern Rockies exceeded 200 percent of the typical weekly amounts while hardly any precipitation fell over Arizona, southern California, and much of the Great Basin (bottom).

Weekly Snowpack and Drought Monitor Update Report

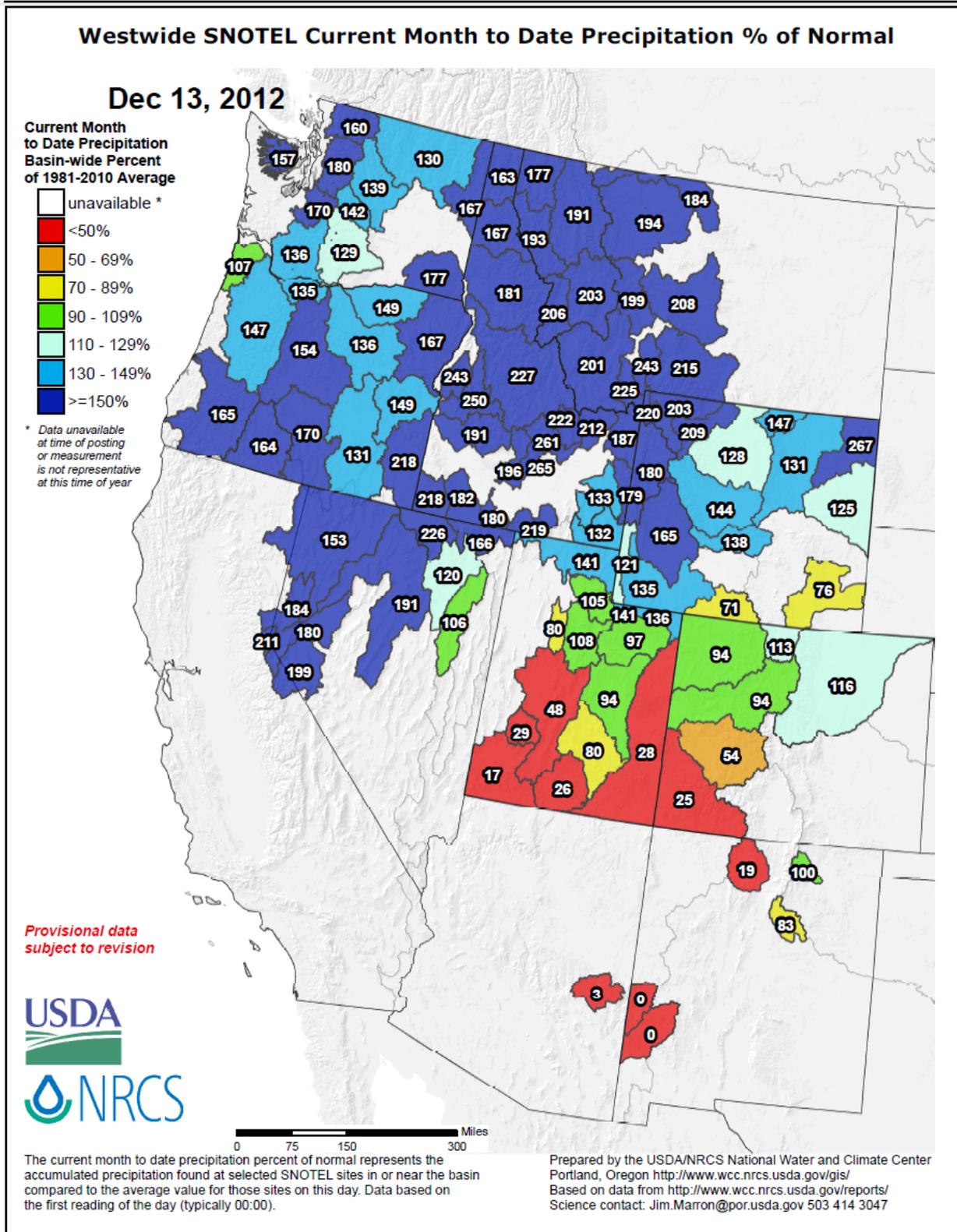


Fig. 2b: SNOTEL month to date precipitation percent of normal shows above normal values over all but southern halves of Utah, Colorado, and most of Arizona and New Mexico.

Weekly Snowpack and Drought Monitor Update Report

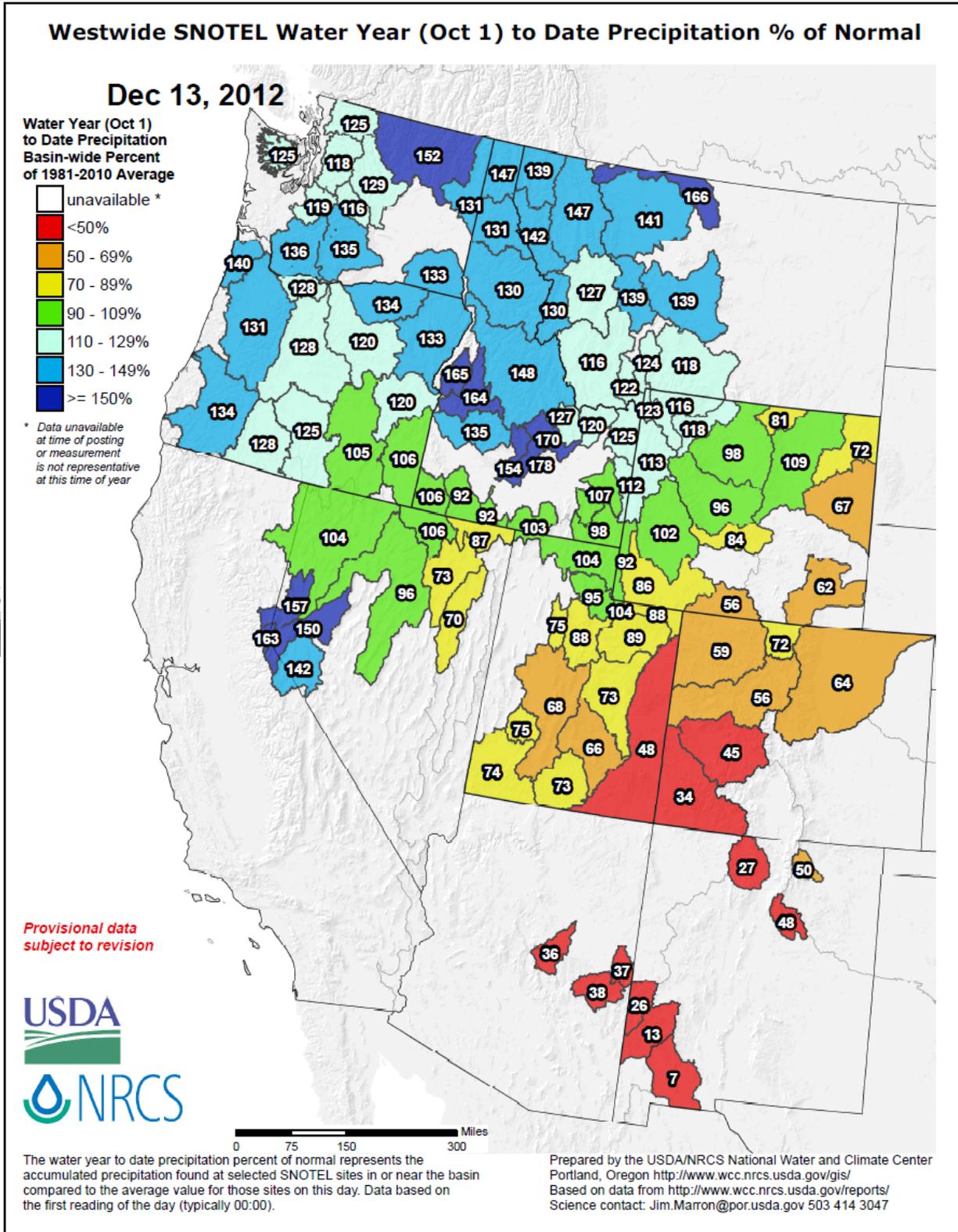


Fig. 2c: For the 2013 Water-Year that began on 1 October 2012, statistics continue to favor the Northern Tier States and the Northern Sierra with surplus moisture.

# Weekly Snowpack and Drought Monitor Update Report

## SNOTEL 7-Day Snow Depth Change (Inches)

Dec 13, 2012

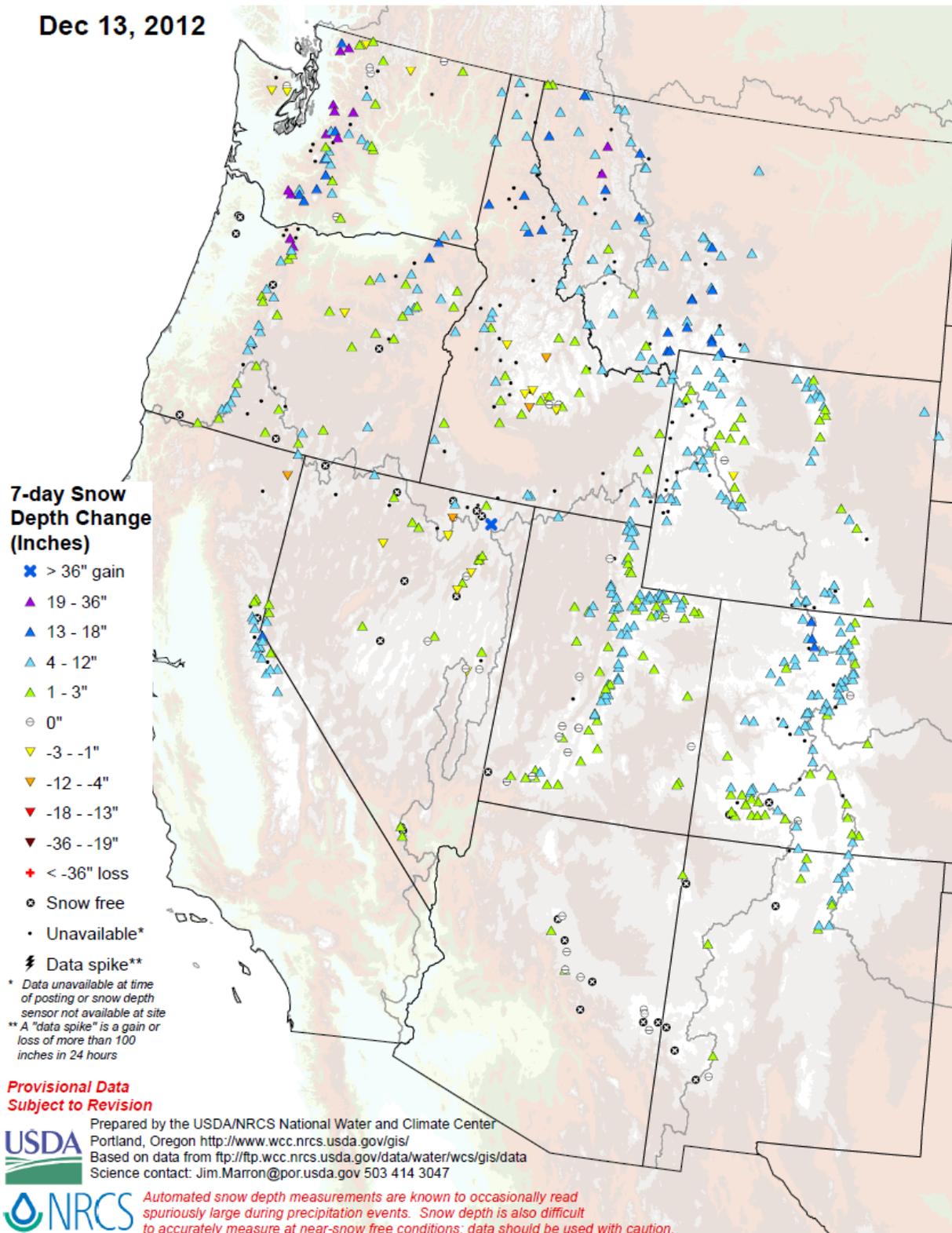
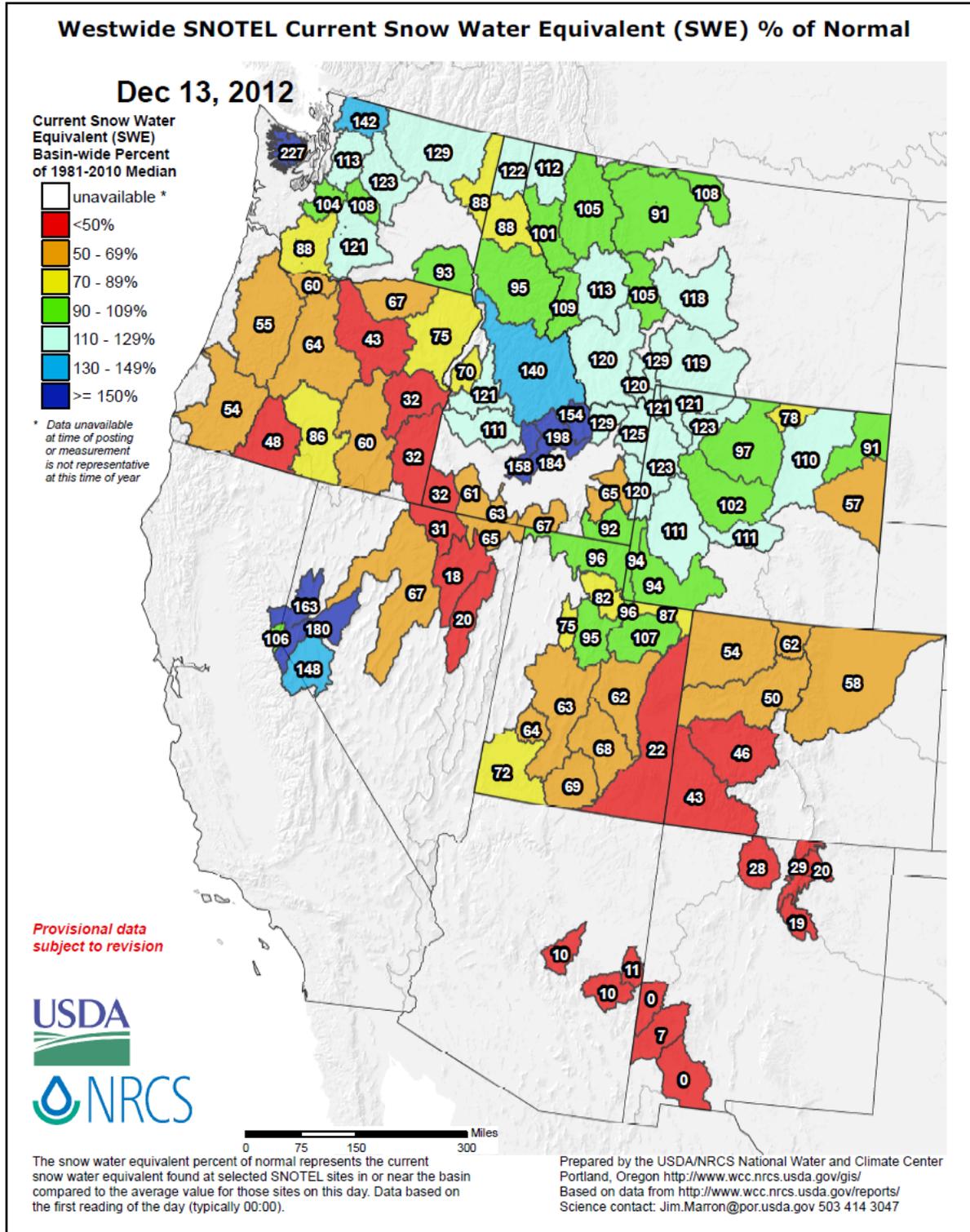


Fig. 3: Snow depths for the week increased significantly over the Northern Cascades and Northern Rockies and lesser so over all but the mountains in Arizona.

## Weekly Snowpack and Drought Monitor Update Report



**Fig. 3a: Snow Water-Equivalent:** Despite surplus precipitation over much of the Northern Tier States, snowpack is still lagging over portions of the Northern Rockies and Southern Cascades. The weather pattern for the remainder of December suggests that the SWE should continue to increase over the Sierra and Northern Mountains of the West as well as over portions of the Southwest.

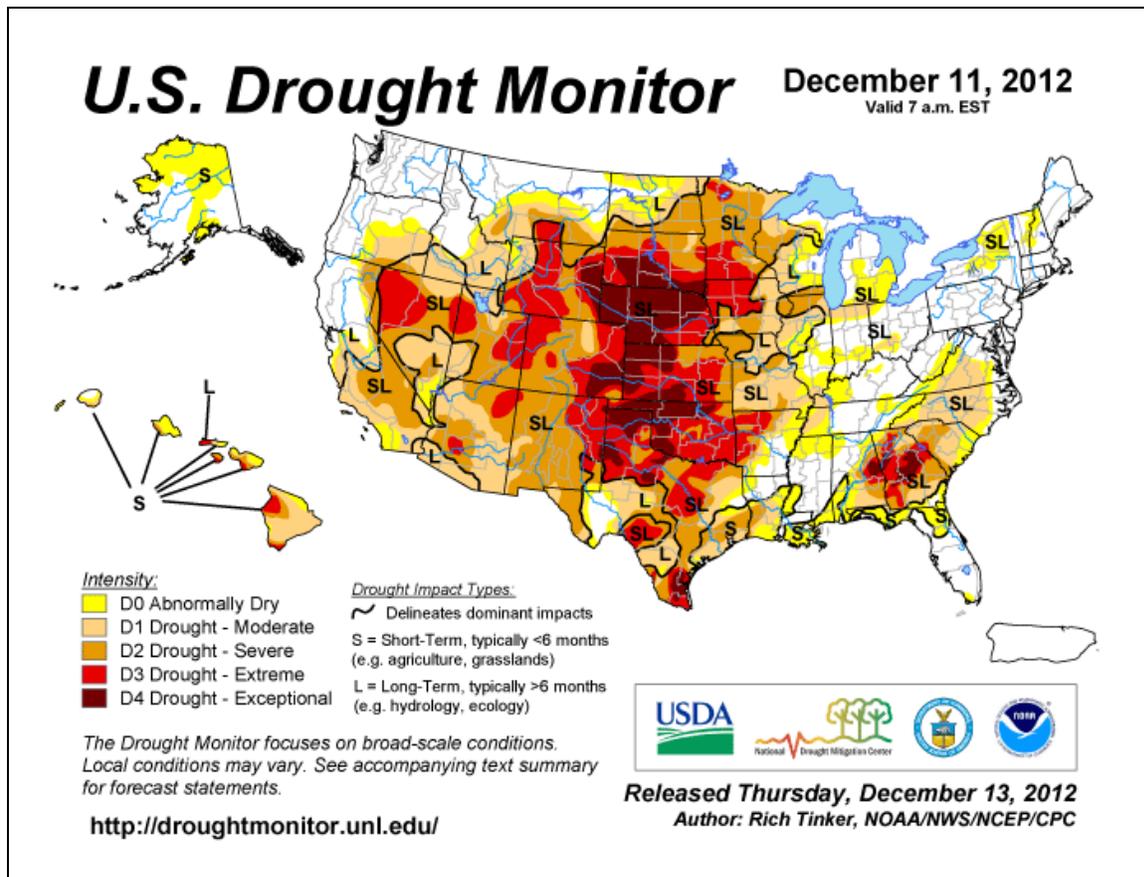


Fig. 4: Current [Drought Monitor](#) weekly summary. The exceptional D4 levels of drought are found over Georgia, Alabama, and scattered across the western corn belt of the Plains into Colorado and Wyoming. For more drought news, see [Drought Impact Reporter](#). Click for the latest statistics for [California Reservoirs](#). The late November [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).

**Agriculture Headlines**

- [After drought, local farmers relying more on rain from the ground, not the sky](#) - Dec 7, **Northern Indiana**.
- [Bins Bulge With Grain as Low Water Threatens Mississippi Traffic](#) - Dec 7, **Mississippi River**.
- [Crime On The Farm: Hay Thefts Soar As Drought Deepens](#) - Dec 5, **U.S.**
- [Drought costs Nebraska corn crop nearly a quarter billion dollars](#) - Dec 5, **Nebraska**.
- [Over 25 pct of US winter wheat may be abandoned-experts](#) - Dec 6, **U.S.**
- [Tennessee's Christmas tree market hit hard by drought](#) - Dec 5, **Tennessee**.
- [Winter wheat progress worst since 1980s](#) - Dec 6, **U.S.**
- [Latest NIDIS Newsletter](#)

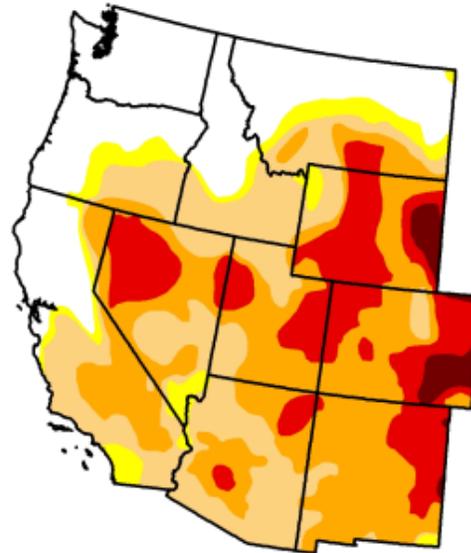
# U.S. Drought Monitor

## West

December 11, 2012  
Valid 7 a.m. EST

*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	24.41	75.59	69.53	45.99	17.85	2.12
Last Week (12/04/2012 map)	22.41	77.59	70.26	46.06	17.85	2.12
3 Months Ago (09/11/2012 map)	15.09	84.91	76.83	44.74	17.07	1.71
Start of Calendar Year (12/27/2011 map)	48.49	51.51	20.05	12.22	2.67	0.78
Start of Water Year (09/25/2012 map)	15.12	84.88	77.15	43.65	16.85	1.77
One Year Ago (12/06/2011 map)	70.25	29.75	18.13	14.57	9.02	1.94



*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.*

<http://droughtmonitor.unl.edu>



Released Thursday, December 13, 2012  
Rich Tinker, Climate Prediction Center/NCEP/NWS/NOAA

**Fig. 4a: Drought Monitor for the [Western States](#) with statistics over various time periods. No significant changes occurred this week. See latest [Climate Assessment for the Southwest Report](#). See latest [Western Water Assessment Report](#).**

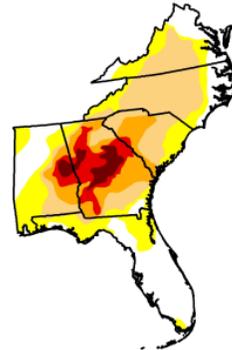
# Weekly Snowpack and Drought Monitor Update Report

## U.S. Drought Monitor Southeast

December 11, 2012  
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	26.65	73.35	49.19	21.43	9.91	3.43
Last Week (12/04/2012 map)	24.29	75.71	49.33	21.27	9.79	3.43
3 Months Ago (09/11/2012 map)	62.60	37.40	17.36	11.50	8.47	3.46
Start of Calendar Year (12/27/2011 map)	40.38	59.62	43.05	28.62	18.71	0.00
Start of Water Year (09/25/2012 map)	66.49	33.51	17.18	11.50	8.53	3.52
One Year Ago (12/06/2011 map)	43.19	56.81	43.30	31.28	19.41	0.00

**Intensity:**  
■ D0 Abnormally Dry      ■ D3 Drought - Extreme  
■ D1 Drought - Moderate      ■ D4 Drought - Exceptional  
■ D2 Drought - Severe



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, December 13, 2012  
Rich Tinker, Climate Prediction Center/NCEP/NWS/NOAA

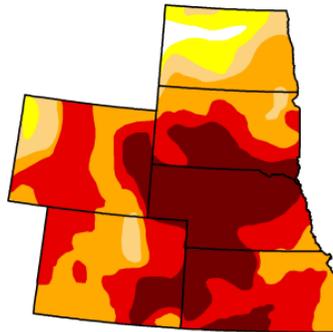
Fig. 4b: D4 conditions are over [Georgia](#) and [Alabama](#). See the Weekly GridSSAT Output Products: <http://gridssat.nsstc.uah.edu/> for more details.

## U.S. Drought Monitor High Plains

December 11, 2012  
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	1.54	98.46	93.01	86.12	58.39	26.91
Last Week (12/04/2012 map)	1.20	98.80	93.40	86.41	58.39	26.91
3 Months Ago (09/11/2012 map)	0.00	100.00	95.60	82.77	60.66	25.10
Start of Calendar Year (12/27/2011 map)	61.66	38.34	18.12	7.22	2.07	0.04
Start of Water Year (09/25/2012 map)	0.00	100.00	98.91	83.80	61.28	24.35
One Year Ago (12/06/2011 map)	63.46	36.54	18.05	9.11	2.59	0.27

**Intensity:**  
■ D0 Abnormally Dry      ■ D3 Drought - Extreme  
■ D1 Drought - Moderate      ■ D4 Drought - Exceptional  
■ D2 Drought - Severe



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, December 13, 2012  
Rich Tinker, Climate Prediction Center/NCEP/NWS/NOAA

Fig. 4c: Drought Monitor for the [High Plains](#) with statistics over various time periods. Conditions remain unchanged this week. See the latest [Kansas Drought Report](#).

At North Platte (with records to 1875), after having the driest (2.65") summer on record [http://www.crh.noaa.gov/lbf/?n=seasonal\\_clsummer](http://www.crh.noaa.gov/lbf/?n=seasonal_clsummer), we managed the driest (0.43") fall on record [http://www.crh.noaa.gov/lbf/?n=seasonal\\_clfall](http://www.crh.noaa.gov/lbf/?n=seasonal_clfall). Current year to date total is 9.67 inches. If we do not record 0.34 during December (normal is 0.41) we will break 1931 driest year on record of 10.01 inches.

Other interesting stats from Western and North Central Nebraska (ASOS data):

North Platte --- May to Nov ---- Total Precip 3.82" ---- Normal 15.66" ---- Short 11.84" (#2 - 1931 with 6.01")

Valentine ----- May to Nov ---- Total Precip 4.63" ---- Normal 15.62" ---- Short 10.99" (#2 - 1894 with 5.39")

Broken Bow --- May to Nov ---- \*Total Precip 1.48" ---- Normal 18.12" ---- Short 16.64"

Imperial ----- May to Nov ---- Total Precip 5.85" ---- Normal 15.02" ---- Short 9.17"

\*Yes Broken Bow is not a typo. The ASOS only recorded 1.48" in 7 months.

Matt Masek  
WFO North Platte, NE

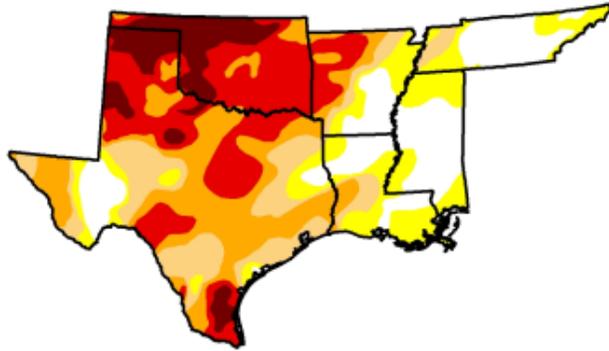
# U.S. Drought Monitor

## South

December 11, 2012  
Valid 7 a.m. EST

*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	18.32	81.68	65.80	51.03	30.79	8.87
Last Week (12/04/2012 map)	15.98	84.02	65.41	48.19	28.30	8.87
3 Months Ago (09/11/2012 map)	22.96	77.04	66.47	49.00	29.31	8.92
Start of Calendar Year (12/27/2011 map)	26.47	73.53	69.01	54.81	39.11	17.15
Start of Water Year (09/25/2012 map)	24.13	75.87	66.61	51.50	29.86	9.11
One Year Ago (12/06/2011 map)	24.24	75.76	71.33	58.44	45.92	22.87



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.*

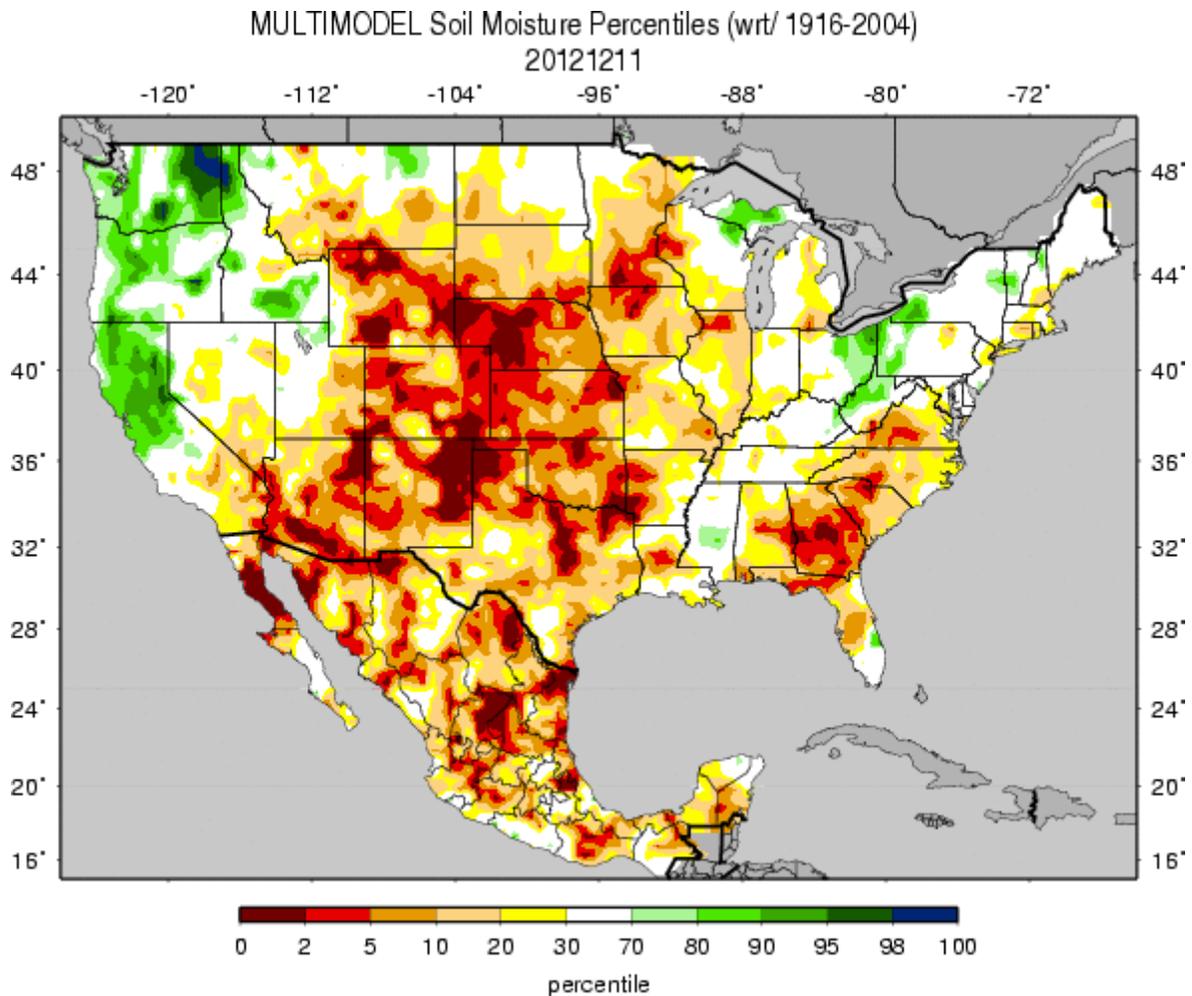


Released Thursday, December 13, 2012  
Rich Tinker, Climate Prediction Center/NCEP/NWS/NOAA

<http://droughtmonitor.unl.edu>

Fig. 4d: Drought Monitor for the [South-Central Region](#) with statistics over various time periods. Note increased deterioration in all categories this week. D2-D4 decreased by 2.5%. Check out the [Texas Drought Website](#).

## Weekly Snowpack and Drought Monitor Update Report



**Figs. 5:** Soil Moisture ranking in [percentile](#) as of 11 December shows dryness scattered across the Southeast, Plains, Rockies, and Southwest. Wetness dominates from northern California to eastern Washington.

### *Useful Hydrological Links:*

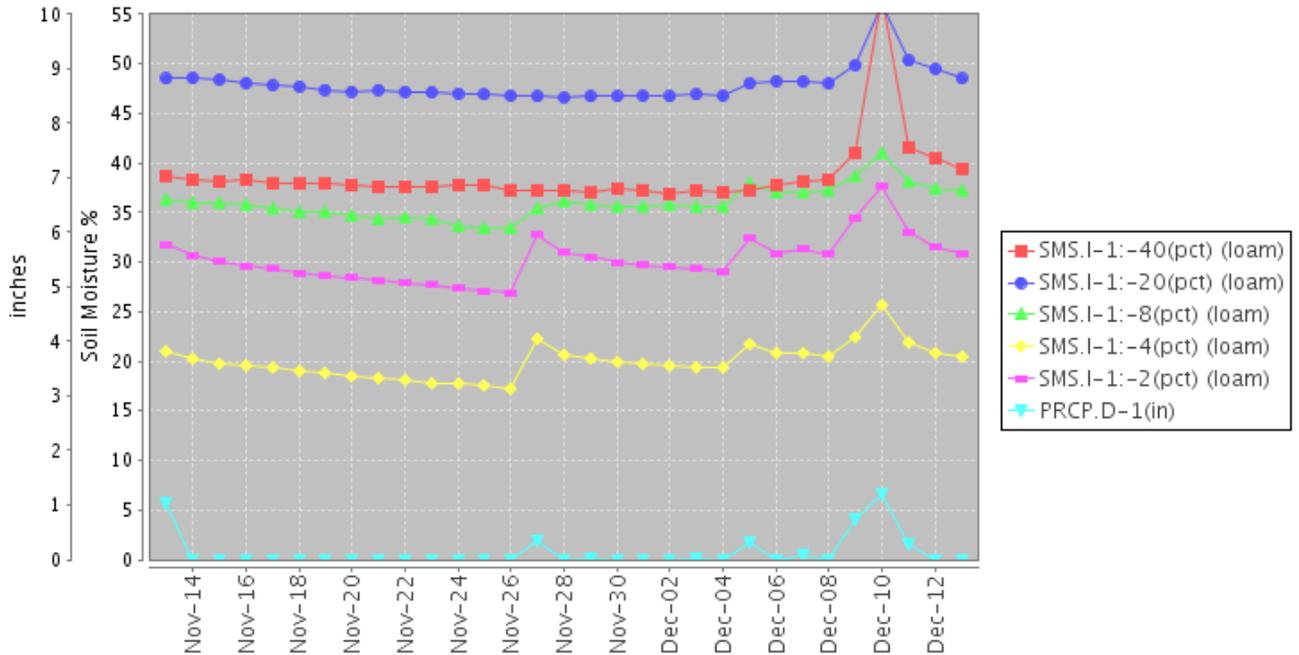
USDA western U.S. mountain snow water content anomaly map.

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](#).

## Weekly Snowpack and Drought Monitor Update Report

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

Station (2079) MONTH=2012-11-13 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision  
Thu Dec 13 09:03:51 PST 2012



**Fig. 6:** This NRCS resource shows a site over [central Kentucky](#) with well saturated soils responding to recent precipitation.

#### 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).

## Weekly Snowpack and Drought Monitor Update Report

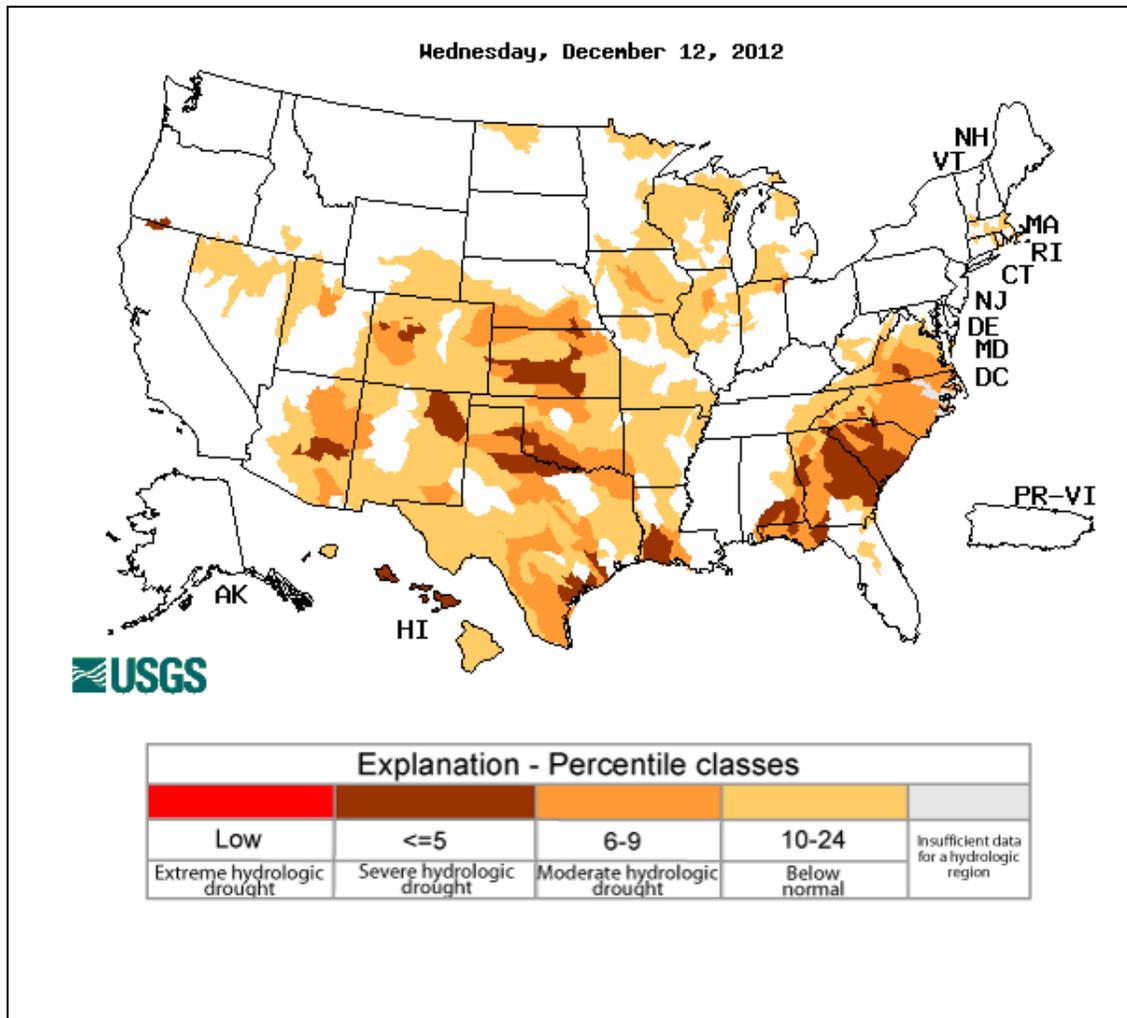


Fig. 7: Map of below normal 7-day average [streamflow](#) compared to historical streamflow for the day of year. **Severe** conditions exist over parts of Arizona, northeast New Mexico, western Colorado, the Central and Southern Plains, southwest, Louisiana, and Southeast. See the USGS [National Water Information System Mapper](#).

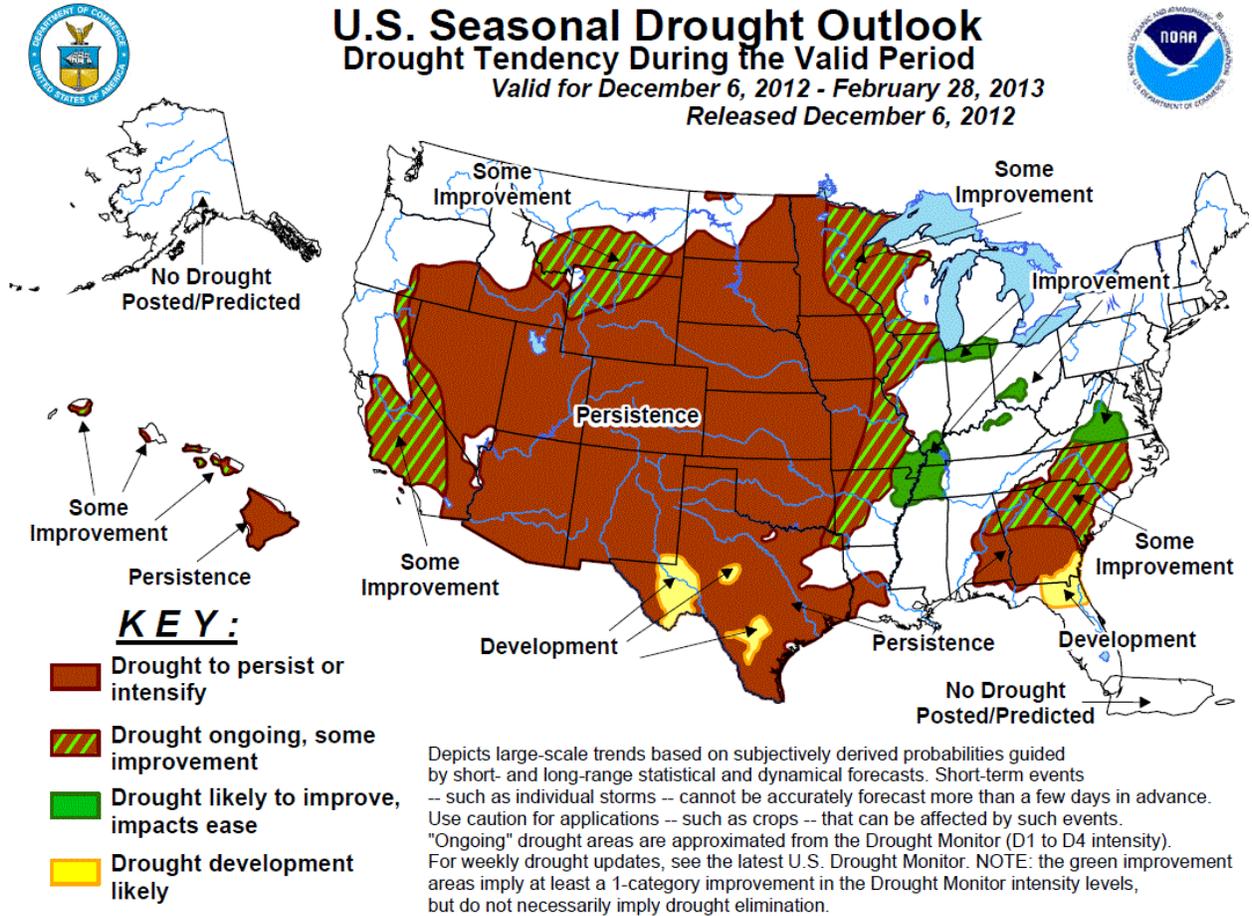


Fig. 8: [U.S. seasonal Drought Outlook](#) released 6 December.

## Weekly Snowpack and Drought Monitor Update Report

### National Drought Summary -- December 11, 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/>.

Moderate to heavy precipitation fell on a swath from the lower Mississippi Valley northeastward through the Appalachians and upstate New England. A large part of this region received over an inch of precipitation, with 3 to 5 inches reported in parts of the Ohio and lower Mississippi Valleys, and a few other isolated areas. Farther northwest, moderate precipitation totaled up to 1.0 inch along a strip from the northern High Plains eastward through parts of the Great Lakes region. West of the Plains, heavy precipitation was observed from northern California northward through western Oregon and Washington. A few inches fell on some of the higher elevations, and coastal areas near the Oregon/California border. And finally, precipitation fell on parts of the central and northern Rockies and the northern Intermountain West. Isolated totals up to 4 inches were measured in some of the higher elevations.

**The Northeast:** Generally 0.5 to locally 2.0 inches fell on the D0 areas, but the precipitation was not enough to change the intensity or coverage of the dry areas substantially.

**The South Atlantic Seaboard:** Light to moderate precipitation was restricted to areas near the Appalachians and parts of Florida last week. Enough precipitation fell to bring relief to most of the D0 area in southern Florida, with dryness now restricted to a small part of the southwestern coast. In addition, some small areas of improvement were noted in parts of northern Georgia and western South Carolina where moderate precipitation fell. In contrast, little precipitation fell on central and eastern Georgia, allowing for expansion of D2 and D3 areas in parts of those regions, most notably near the Georgia coast.

**The Lower Mississippi and Ohio Valleys:** Moderate to heavy precipitation through most of this region brought large areas of 1-category improvement from Louisiana, eastern Arkansas, and Mississippi northeastward through southern Ohio, and a portion of central Alabama. Precipitation totals of 3 to 5 inches were fairly common from the central Tennessee/Kentucky border northward to the Ohio River and northeastward into southern Ohio. As a result, dryness and drought retracted westward across this broad area. Precipitation dropped off markedly farther to the north and west, particularly above the Ohio/Mississippi Confluence, so no improvement occurred across these regions.

**The Plains:** Moderate to heavy precipitation – a few inches in spots – brought improvement to parts of the Texas coastline. Across the northern Plains, generally 0.5 to 1.0 inch fell from portions of the Dakotas eastward across southern Minnesota and western Wisconsin, but any improvement seemed insufficient to make any changes to the Drought Monitor in those areas. Through the remainder of the Plains, little or no precipitation fell. As a result, 1-category deterioration was assessed in parts of Texas, eastern Kansas, and small parts of adjacent areas. The continuing dryness has negatively impacted the winter wheat crop. According to the National Agricultural Statistics Service of the U. S. Department of Agriculture, 64 percent of the crop is in poor or very poor condition in South Dakota, and 40 to 45 percent are poor or very

## Weekly Snowpack and Drought Monitor Update Report

poor in Texas, Oklahoma, and Nebraska.

**The West:** It was a dry week in eastern sections of Washington and Oregon, and from the central Rockies to the Mexican border. In these areas, dryness and drought remained essentially unchanged. Farther north and West, the precipitation across California, Idaho, Montana, and northwestern Wyoming improved conditions in some of the former D0 to D2 areas there. Among other changes, dryness was pulled out of the Sacramento Valley, and moderate drought (D1) improved in parts of Yellowstone and adjacent areas.

**Hawaii, Alaska, and Puerto Rico:** Heavy precipitation, generally 2 to 4 inches, fell across Kauai, Hawaii, engendering 1-category improvements island-wide. D0 to D2 conditions are now confined to southern sections of the Island. Less precipitation, if any, fell on the rest of the state, keeping dryness and drought unchanged. Elsewhere, no changes were made to the D0 area in Alaska, and there is no dryness assessed across Puerto Rico.

**Looking Ahead:** During the next 5 days (December 13 - 17, 2012), moderate to heavy precipitation (0.5 to locally 3.0 inches) is expected from the central Rockies and the Intermountain West westward to the Pacific Coast, from part of the central Plains northeastward through the Great Lakes region, from the central Gulf Coast states northeastward through the central and southern Appalachians, and along the East Coast from Virginia southward through South Carolina and central and northern Georgia. Most locations across the eastern half of the country are forecast to receive at least 0.25 inch of precipitation, with little if any expected in the Florida Peninsula, northern Maine, and the High Plains. For the next 5 days (December 18 – 23, 2012), odds favor above-median precipitation once again from the central Rockies and part of the Intermountain West westward to the Pacific Coast. Wetter than normal weather also seems most likely across the mid-Atlantic, the northern half of the Appalachians, and the Northeast. In contrast, subnormal precipitation is favored across the Southeast, most of the Mississippi Valley and Plains states, and the northern Rockies.

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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

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 December 12, 2012*