



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

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

**Date: 4 April 2013**

## **SNOTEL SNOWPACK AND PRECIPITATION SUMMARY**

**Temperature:** [SNOTEL](#) and ACIS 7-day temperature anomaly ending 4 April shows a warmer week on average across the West with the exception of cooler departures over northeastern Montana (Fig. 1a). [ACIS 7-day](#) average temperature anomalies show the greatest positive temperature departures scattered across the Pacific Northwest ( $>+9^{\circ}\text{F}$ ). The greatest negative departures occur over northeastern Montana ( $<-12^{\circ}\text{F}$ ) (Fig. 1b).

**Precipitation:** [ACIS](#) 7-day average precipitation amounts for the period ending April 3 show the heaviest precipitation confined to southern Oregon and northern California as well as parts of Utah (Fig. 2a). This is reflected in Fig. 2b, where more than twice the average weekly precipitation occurred for this time of year. SNOTEL [month to date](#) precipitation percent of normal pattern for early April shows significant precipitation across the mid-latitudes of the Western States (Fig. 2c). For the [2013 Water Year](#) that began on 1 October 2012, the pattern continues to resemble La Niña (e.g., wetter Northern Tier). Parts of Arizona are still the exception for the Southern Tier with near normal amounts. Southeastern Oregon, despite slightly below average precipitation, has seen much below average amounts of snowpack this winter (Fig. 2d).

**Snow:** The [3-day snow depth changes](#) show an early spring storm delivering snowfalls over the Uinta Mountains in Utah and lesser amounts from the Sierra to the Colorado Rockies. Elsewhere, a noticeable decrease in snow cover has occurred over the Cascades (Fig. 3a). The current [Snow-Water Equivalent](#) (SWE) map (Fig. 3b) shows that the Washington Cascades is the only location in the West that has a surplus of SWE. The surplus value over central Arizona reflects a statistical anomaly common at the end of the snow season when small amounts of snow can reflect high SWE. Significant deficits over parts of Oregon are noteworthy and will increase the possibility of severe drought over this region by summer.

The following **Weather and Drought Summary** is provided by this week's NDMC Author: [Richard Tinker, NOAA/NWS/NCEP/Climate Prediction Center](#):

**The Rockies and Intermountain West:** "Scattered light precipitation fell on the northern half of the Plains and central sections of the Intermountain West, including most of the Great Basin. Most other locations reported no measurable precipitation. D0 conditions were extended into southeastern Washington, where precipitation shortfalls now exceed 2 inches since the beginning of the year, with deficits reaching up to 6 inches in some of the higher elevations. In other areas, dryness and drought remained the same as last week."

**The West:** "Generally 1 to 2 inches of precipitation fell from southwestern Oregon southward through northern California and the Sierra Nevada, with a few locations reporting larger totals in the southernmost Cascades. Meanwhile, a few tenths of an inch were recorded in the Pacific Northwest to the west of the Cascades and across central and southwestern California. Southeastern California recorded little or no precipitation."

## Weekly Snowpack and Drought Monitor Update Report

“The precipitation that fell did not change conditions in existing areas of dryness and drought. Farther north, however, parts of western Oregon and southwestern Washington eastward to near the foothills of the Cascades reported their driest start to a calendar year on record. To wit, abnormal dryness was expanded into this region despite a fairly robust snowpack in most of the Cascades to the east of this region.”

***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) Program State Office personnel are participating in state drought committee 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>.

## Weekly Snowpack and Drought Monitor Update Report

### 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

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

Apr 04, 2013

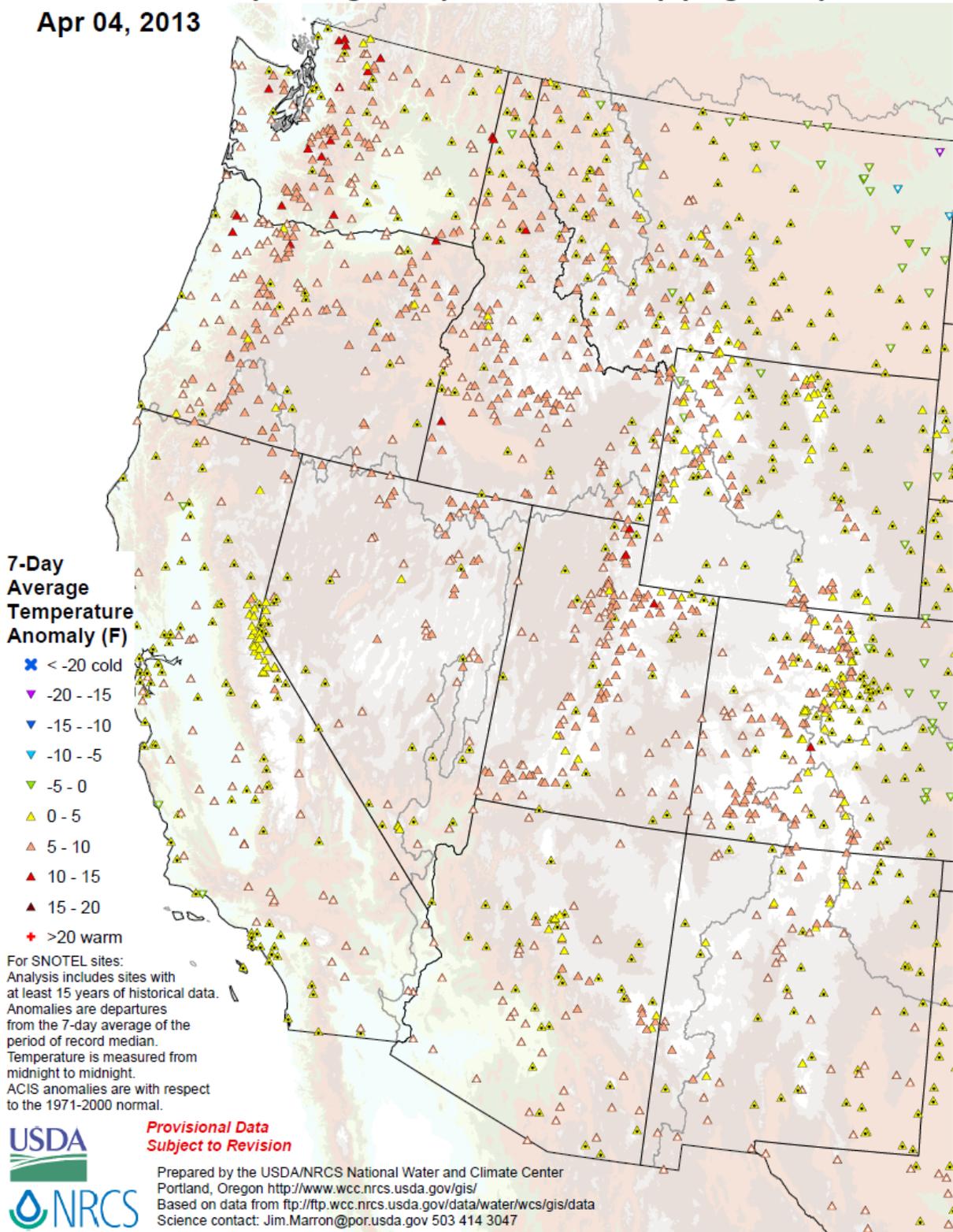
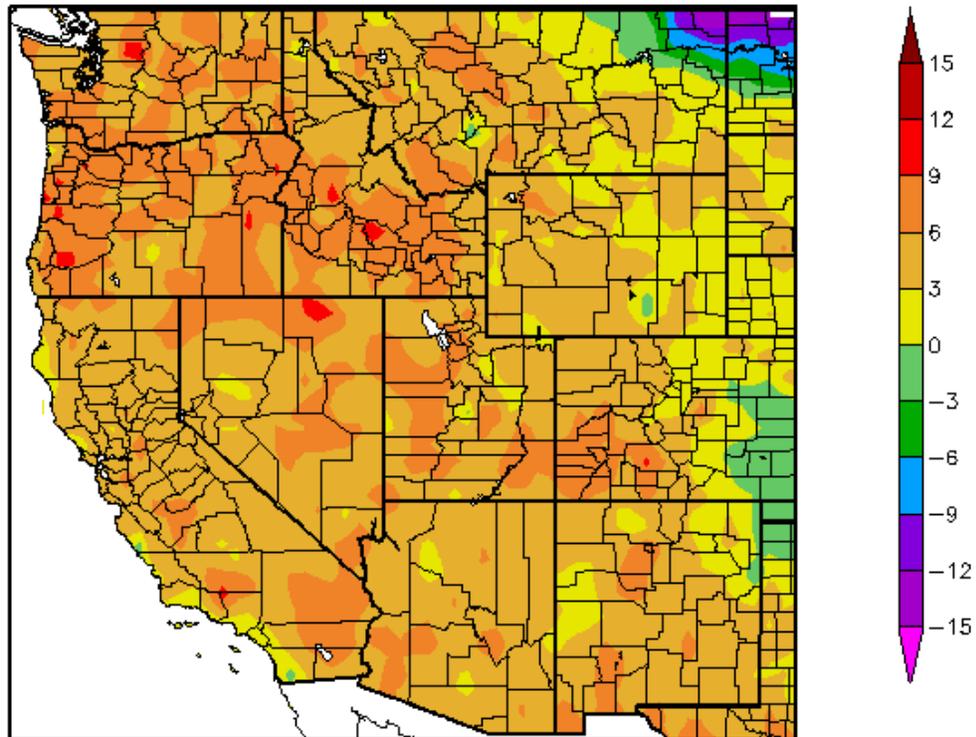


Fig. 1a: **SNOTEL** and ACIS 7-day temperature anomaly ending 4 April shows a warmer week on average across the West with the exception of cooler departures over northeastern Montana.

## Weekly Snowpack and Drought Monitor Update Report

### Departure from Normal Temperature (F) 3/28/2013 – 4/3/2013



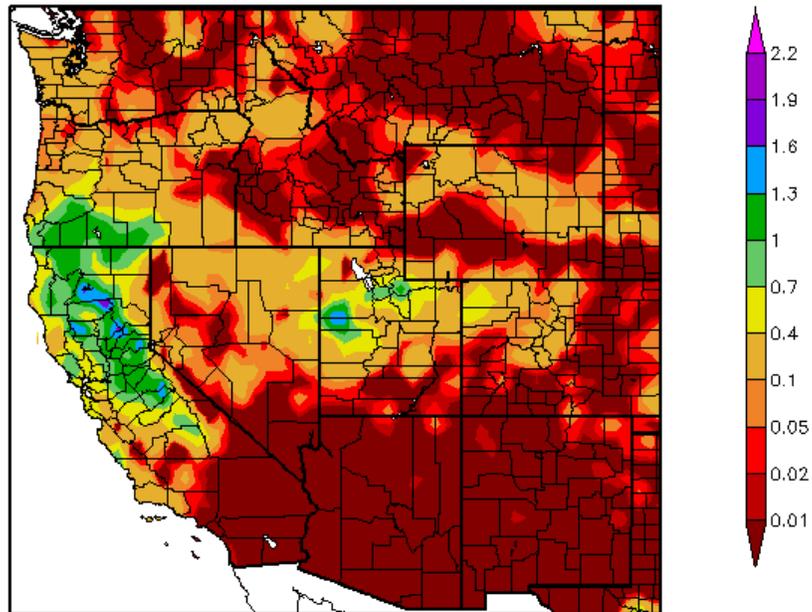
Generated 4/4/2013 at HPRCC using provisional data.

Regional Climate Centers

**Fig. 1b:** [ACIS 7-day](#) average temperature anomalies show the greatest positive temperature departures scattered across the Pacific Northwest ( $>+9^{\circ}\text{F}$ ). The greatest negative departures occur over northeastern Montana ( $<-12^{\circ}\text{F}$ ). For more figures, see the Western Water Assessment's Intermountain West Climate [Dashboard](#).

## Weekly Snowpack and Drought Monitor Update Report

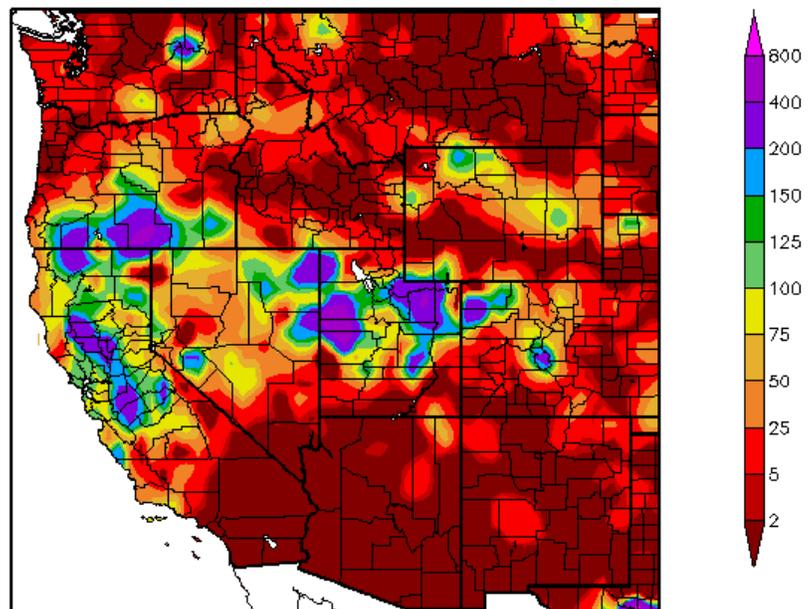
Precipitation (in)  
3/28/2013 - 4/3/2013



Generated 4/4/2013 at HPRCC using provisional data.

Regional Climate Centers

Percent of Normal Precipitation (%)  
3/28/2013 - 4/3/2013

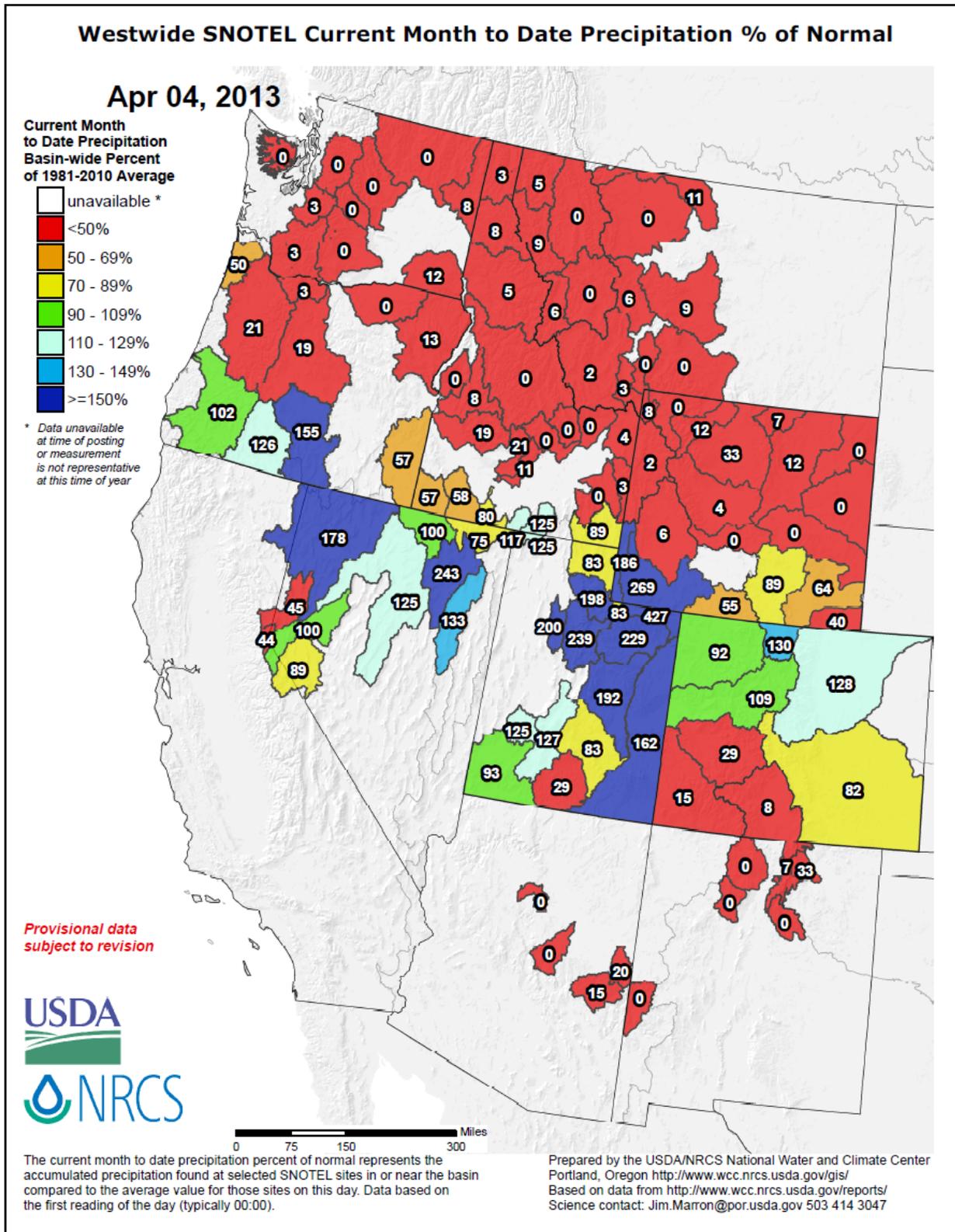


Generated 4/4/2013 at HPRCC using provisional data.

Regional Climate Centers

**Fig. 2a and 2b:** [ACIS](#) 7-day average precipitation amounts for the period ending April 3 show the heaviest precipitation confined to southern Oregon and northern California as well as parts of Utah (Fig. 2a). This is reflected in Fig. 2b, where more than twice the average weekly precipitation occurred for this time of year.

Weekly Snowpack and Drought Monitor Update Report



**Fig. 2c: SNOTEL month to date precipitation percent of normal pattern for early April shows significant precipitation across the mid-latitudes of the Western States. After a very dry March, any precipitation is welcomed.**

Weekly Snowpack and Drought Monitor Update Report

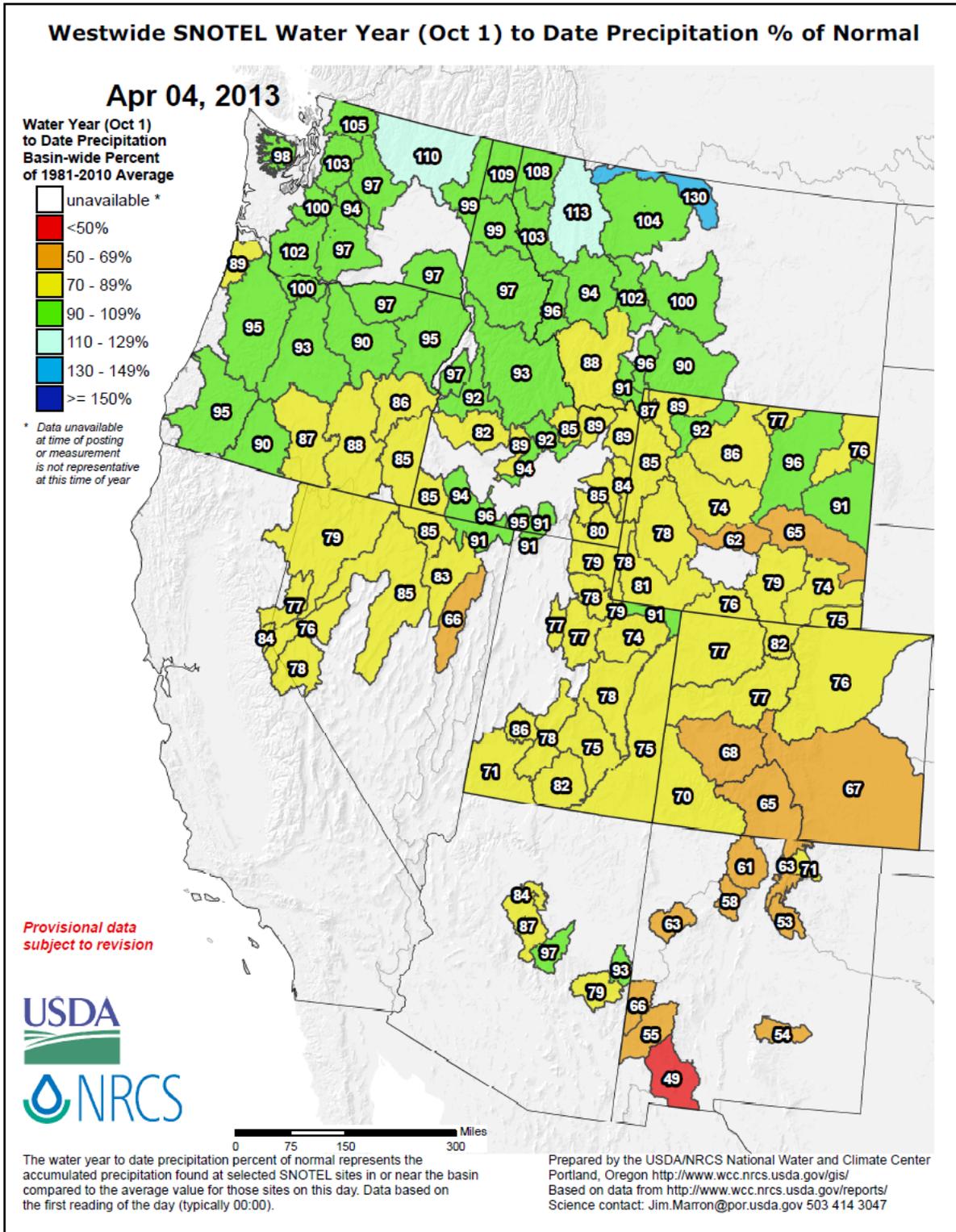
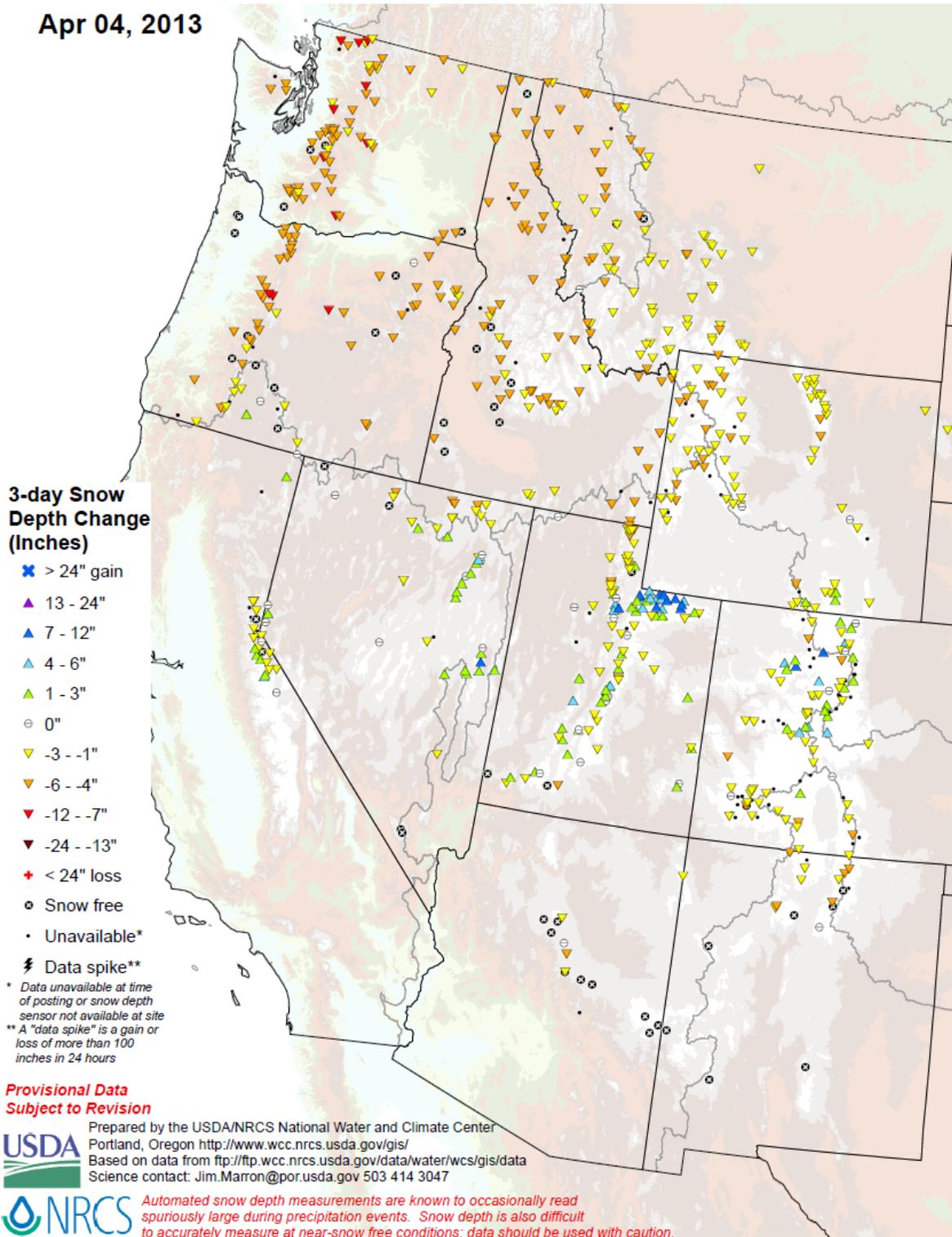


Fig. 2d: For the [2013 Water Year](#) that began on 1 October 2012, the pattern continues to resemble La Niña (e.g., wetter Northern Tier). Parts of Arizona are still the exception for the Southern Tier with near normal amounts. Southeastern Oregon, despite slightly below average precipitation, has seen much below average amounts of snowpack this winter (Fig. 3b). For additional information, daily reports by SNOTEL sites are available [here](#).

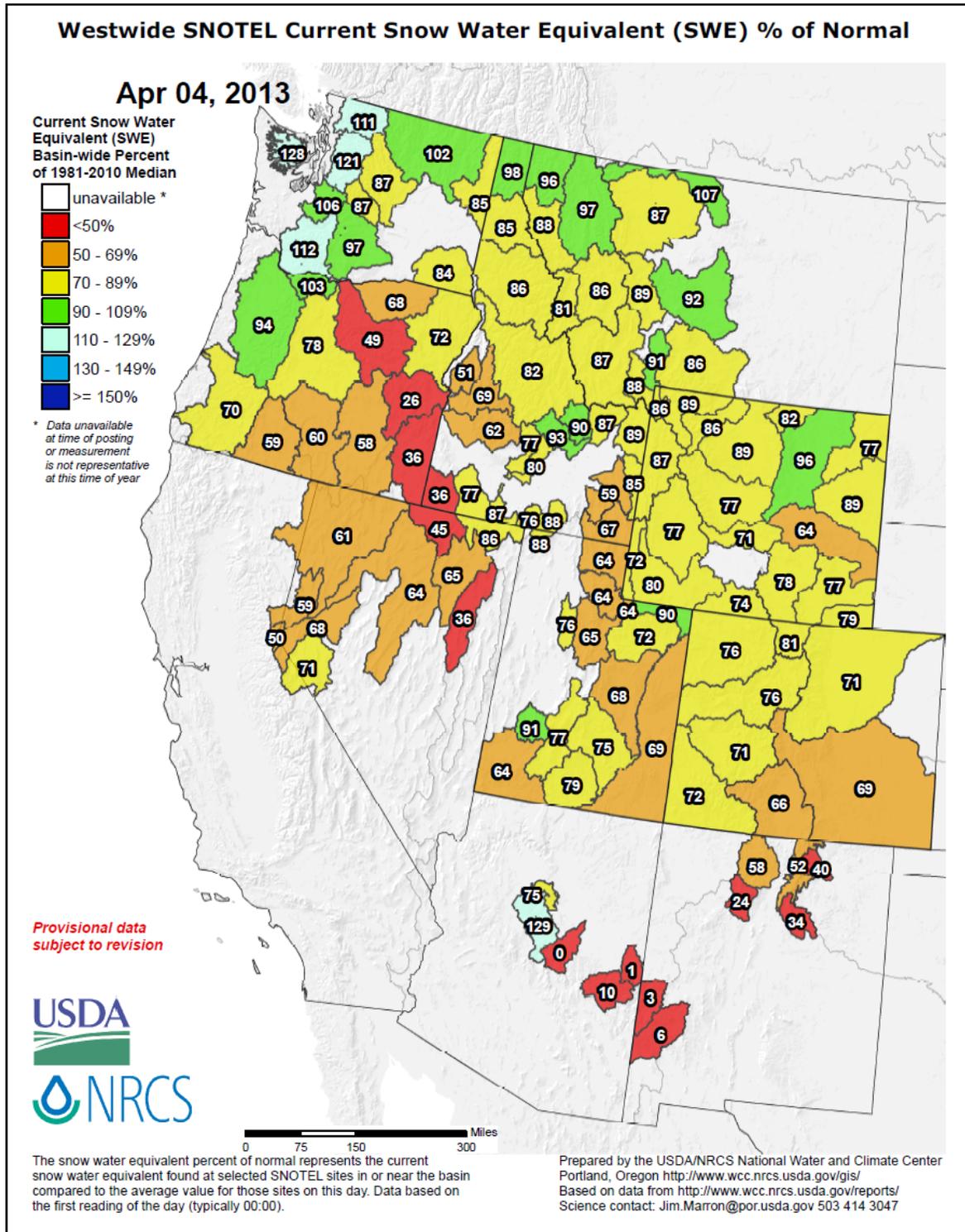
**SNOTEL 3-Day Snow Depth Change (Inches)**

Apr 04, 2013



**Fig. 3a: The 3-day snow depth changes show an early spring storm delivering snowfalls over the Uinta Mountains in Utah and lesser amounts from the Sierra to the Colorado Rockies. Elsewhere, a noticeable decrease in snow cover has occurred over the Cascades.**

# Weekly Snowpack and Drought Monitor Update Report



**Fig. 3b: Snow-Water Equivalent (SWE): The Washington Cascades is the only location in the West that has a surplus of SWE. The surplus value over central Arizona reflects a statistical anomaly common at the end of the snow season when small amounts of snow can reflect high SWE. Significant deficits over parts of Oregon are noteworthy and will increase the likelihood of severe drought over this region by summer. A useful basin-by-basin assessment of SWE to date can be viewed by state [here](#) and [here](#).**

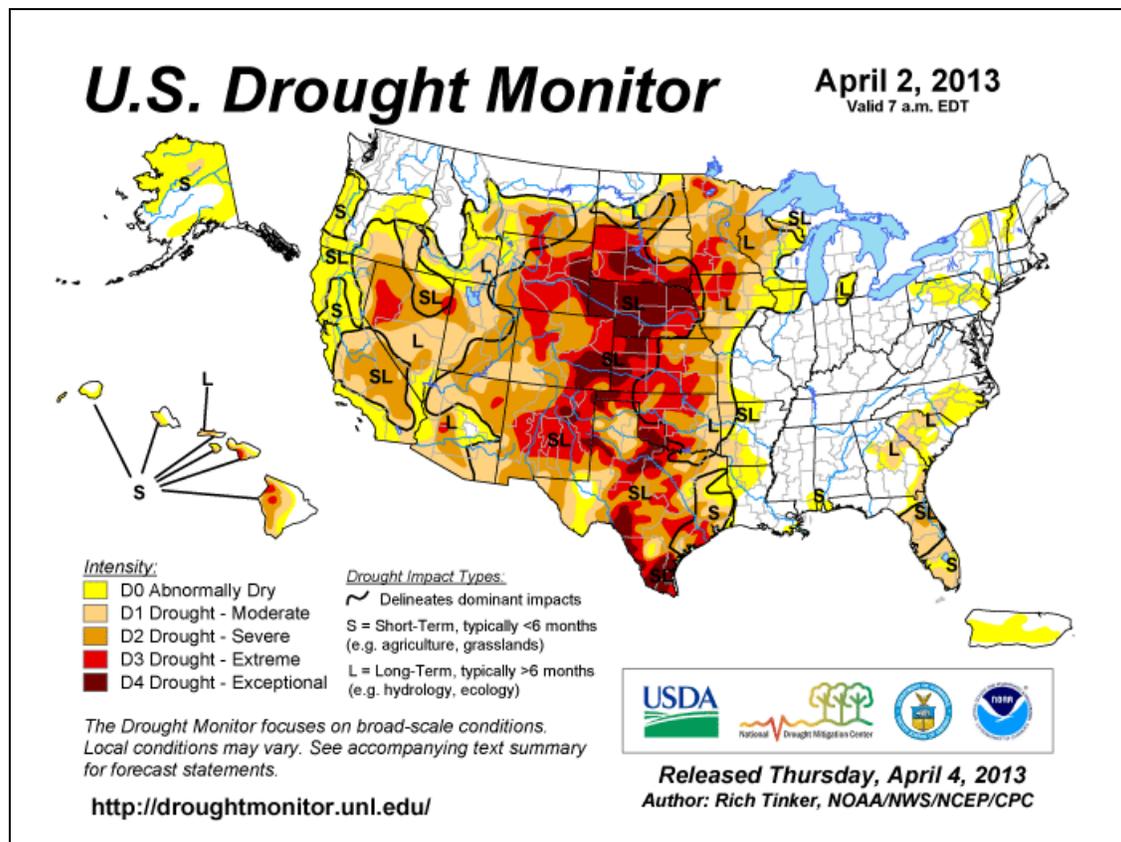


Fig. 4: Current [Drought Monitor](#) weekly summary. The exceptional D4 levels of drought are scattered across the western Corn Belt of the Plains into eastern Colorado, Wyoming and New Mexico. For more drought news, see [Drought Impact Reporter](#). Click for the latest statistics for [California Reservoirs](#). 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

### [Colo. Farmers Plant Less Corn This Year Due to Drought](#)

March 29, **Colorado**. Colorado farmers are expected to plant 1.25 million acres of corn, which is 12 percent fewer acres than 2011.

### [Colo. farmers prepare for 'disaster'](#)

March 27, **Northern Colorado**. Some farmers in northern Colorado have decided to leave land fallow because they know there is not enough water to grow crops. In addition, Fort Collins has no water to rent to farmers in 2013 because drought reduced the amount of water available to the city this year from the Colorado-Big Thompson Project, and water from the Poudre River is tainted with ash and debris from the High Park Fire in 2012.

### [Drought closes packing plant; 200 jobs lost](#)

March 27, **San Angelo, Texas**. A cattle-slaughtering and meat-packing plant in San Angelo closed on March 26 because there were too few cattle to process since drought has forced ranchers to downsize over the past few years. Prior to the drought in 2011, the plant processed nearly 700 cattle daily, in comparison with the 350 to 400 cattle it has processed daily lately.

### [Kansas crop insurance claims spelled out](#)

### [South Texas ranchers feeding cactus to keep from liquidating herds](#)

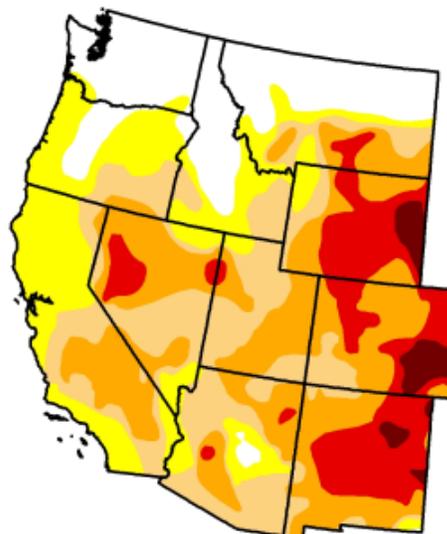
# U.S. Drought Monitor

## West

April 2, 2013  
Valid 7 a.m. EST

Drought Conditions (Percent Area)

|                                               | None  | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4   |
|-----------------------------------------------|-------|-------|-------|-------|-------|------|
| Current                                       | 17.18 | 82.82 | 63.46 | 41.28 | 15.58 | 2.49 |
| Last Week<br>(03/26/2013 map)                 | 19.44 | 80.56 | 63.42 | 41.27 | 15.54 | 2.49 |
| 3 Months Ago<br>(01/01/2013 map)              | 24.39 | 75.61 | 69.31 | 45.04 | 18.01 | 2.15 |
| Start of<br>Calendar Year<br>(01/01/2013 map) | 24.39 | 75.61 | 69.31 | 45.04 | 18.01 | 2.15 |
| Start of<br>Water Year<br>(09/25/2012 map)    | 15.12 | 84.88 | 77.15 | 43.65 | 16.85 | 1.77 |
| One Year Ago<br>(03/27/2012 map)              | 35.56 | 64.44 | 47.91 | 23.86 | 3.78  | 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, April 4, 2013  
National Drought Mitigation Center,

<http://droughtmonitor.unl.edu>

**Fig. 4a: Drought Monitor for the [Western States](#) with statistics over various time periods. No significant changed occurred this past week. See CLIMAS [Southwest Climate Outlook](#).**

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](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](http://cdec.water.ca.gov/water_cond.html) which has links to precipitation, reservoir storage, snowpack, runoff, and summary reports.

For the [latest USDA/NASS weekly agricultural report](#) for California:

Also see USDA Agriculture Data:  
U.S. Hay Production [Map](#); U.S. Winter Wheat [Map](#); NASS [Statistics by States](#)

# Weekly Snowpack and Drought Monitor Update Report

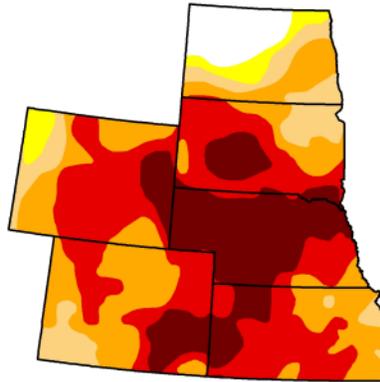
## U.S. Drought Monitor High Plains

April 2, 2013  
Valid 7 a.m. EST

|                                            | Drought Conditions (Percent Area) |        |       |       |       |       |
|--------------------------------------------|-----------------------------------|--------|-------|-------|-------|-------|
|                                            | None                              | D0-D4  | D1-D4 | D2-D4 | D3-D4 | D4    |
| Current                                    | 4.96                              | 95.04  | 91.68 | 81.27 | 54.76 | 22.17 |
| Last Week<br>(03/26/2013 map)              | 4.65                              | 95.35  | 91.34 | 81.30 | 54.82 | 22.24 |
| 3 Months Ago<br>(01/01/2013 map)           | 1.54                              | 98.46  | 93.01 | 86.20 | 60.25 | 26.99 |
| Start of Calendar Year<br>(01/01/2013 map) | 1.54                              | 98.46  | 93.01 | 86.20 | 60.25 | 26.99 |
| Start of Water Year<br>(09/25/2012 map)    | 0.00                              | 100.00 | 98.91 | 83.80 | 61.28 | 24.35 |
| One Year Ago<br>(03/27/2012 map)           | 39.82                             | 60.18  | 19.85 | 4.02  | 0.09  | 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, April 4, 2013  
National Drought Mitigation Center,

Fig. 4b: Drought Monitor for the [High Plains](#) with statistics over various time periods. No significant changes occurred this week. See [Kansas Drought Update](#).

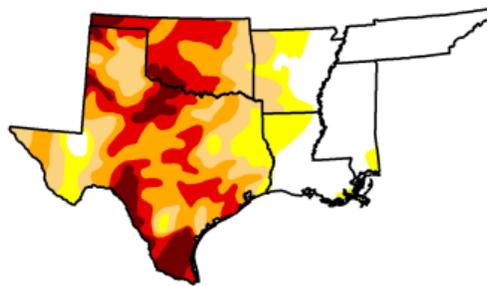
## U.S. Drought Monitor South

April 2, 2013  
Valid 7 a.m. EST

|                                            | Drought Conditions (Percent Area) |       |       |       |       |       |
|--------------------------------------------|-----------------------------------|-------|-------|-------|-------|-------|
|                                            | None                              | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4    |
| Current                                    | 44.60                             | 55.40 | 43.82 | 27.38 | 7.28  | 7.28  |
| Last Week<br>(03/26/2013 map)              | 28.28                             | 71.72 | 60.09 | 42.94 | 22.09 | 6.64  |
| 3 Months Ago<br>(01/01/2013 map)           | 21.18                             | 78.82 | 63.69 | 50.50 | 32.80 | 10.98 |
| Start of Calendar Year<br>(01/01/2013 map) | 21.18                             | 78.82 | 63.69 | 50.50 | 32.80 | 10.98 |
| Start of Water Year<br>(09/25/2012 map)    | 24.13                             | 75.87 | 66.61 | 51.50 | 29.86 | 9.11  |
| One Year Ago<br>(03/27/2012 map)           | 49.24                             | 50.76 | 37.09 | 29.54 | 19.03 | 9.19  |

**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.

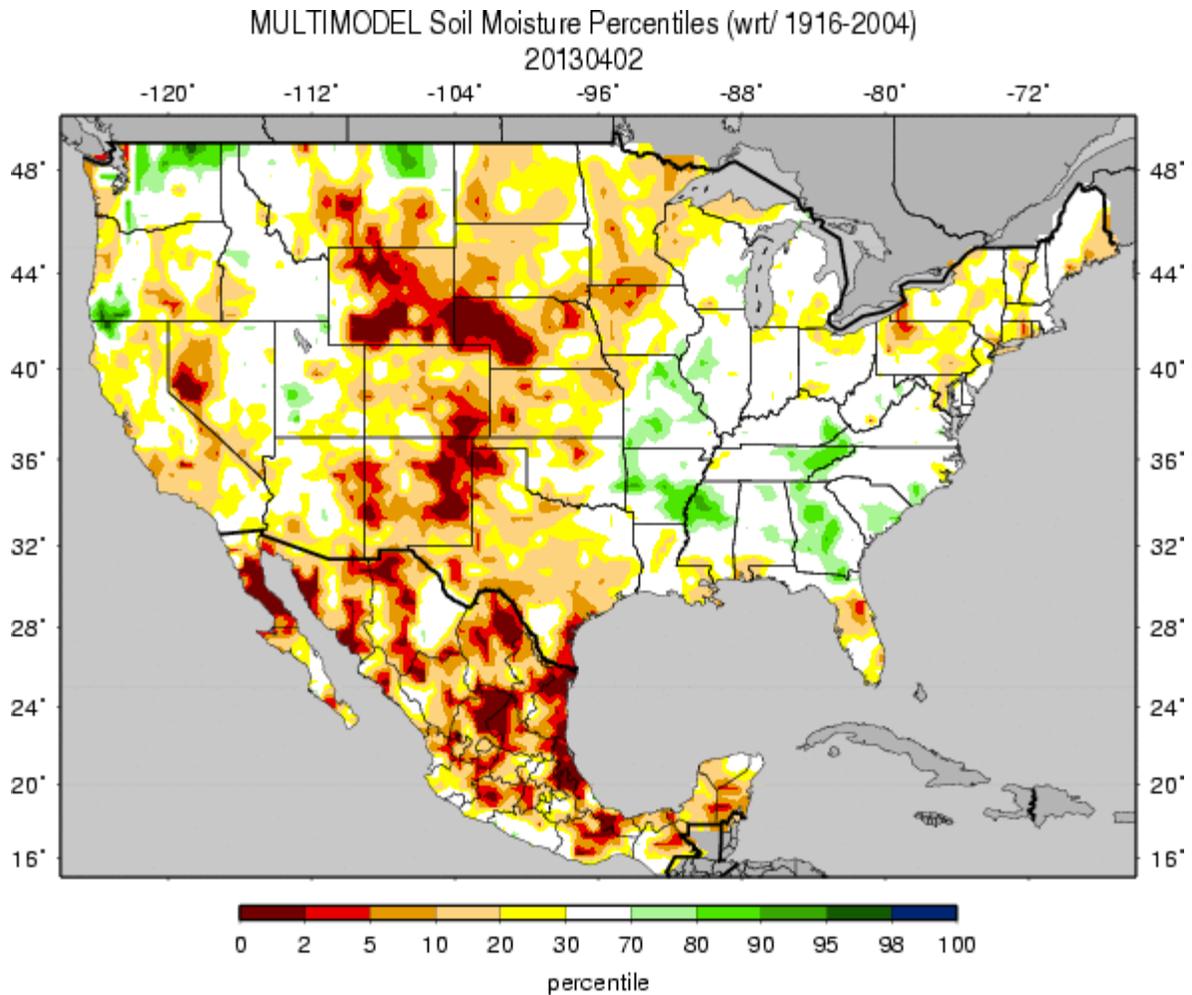
<http://droughtmonitor.unl.edu>



Released Thursday, April 4, 2013  
National Drought Mitigation Center,

Fig. 4c: Drought Monitor for the [South-Central Region](#) with statistics over various time periods. Note significant improvement in all categories except for D4 this week. Check out the [Texas Drought Website](#). See [Texas Reservoirs](#). Also [Drought conditions worse in Texas after dry winter](#).

## Weekly Snowpack and Drought Monitor Update Report

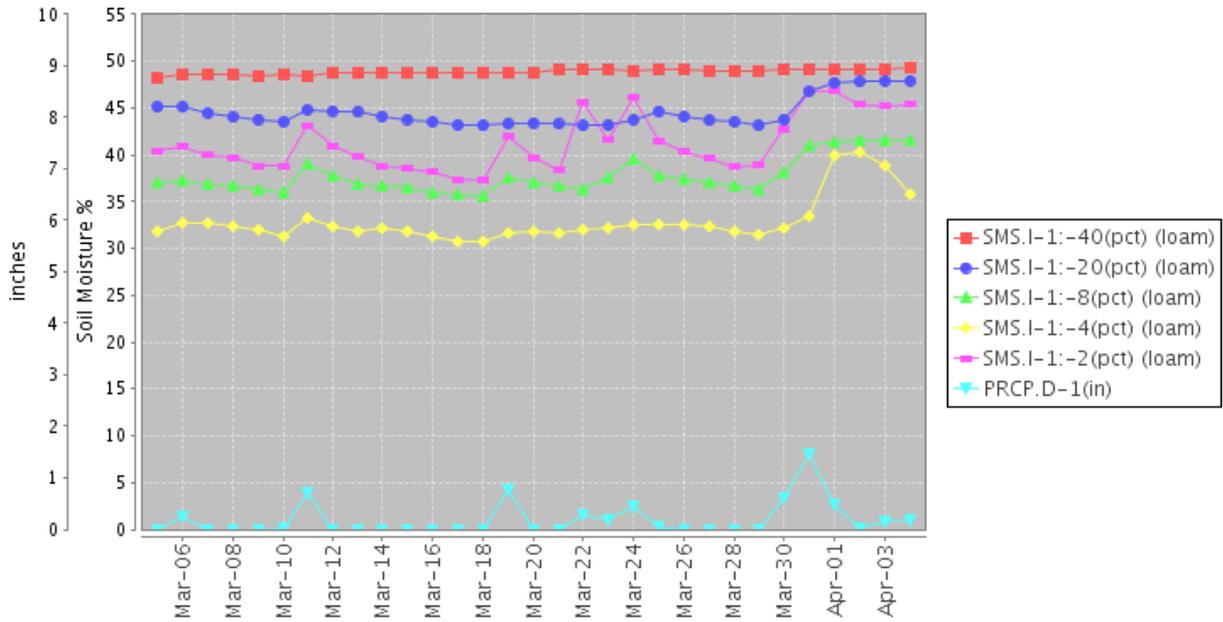


**Figs. 5:** Soil moisture ranking in [percentile](#) as of 2 April shows dryness over the Western High Plains and much of the Rockies. Moist conditions are noted over Kentucky and adjacent states during the past week while dryness persists over Minnesota and western Wisconsin. *Useful Hydrological Links:* [Crop Moisture Index](#); [Palmer Drought Severity Index](#); [Standardized Precipitation Index](#); [Surface Water Supply Index](#);

# Weekly Snowpack and Drought Monitor Update Report

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

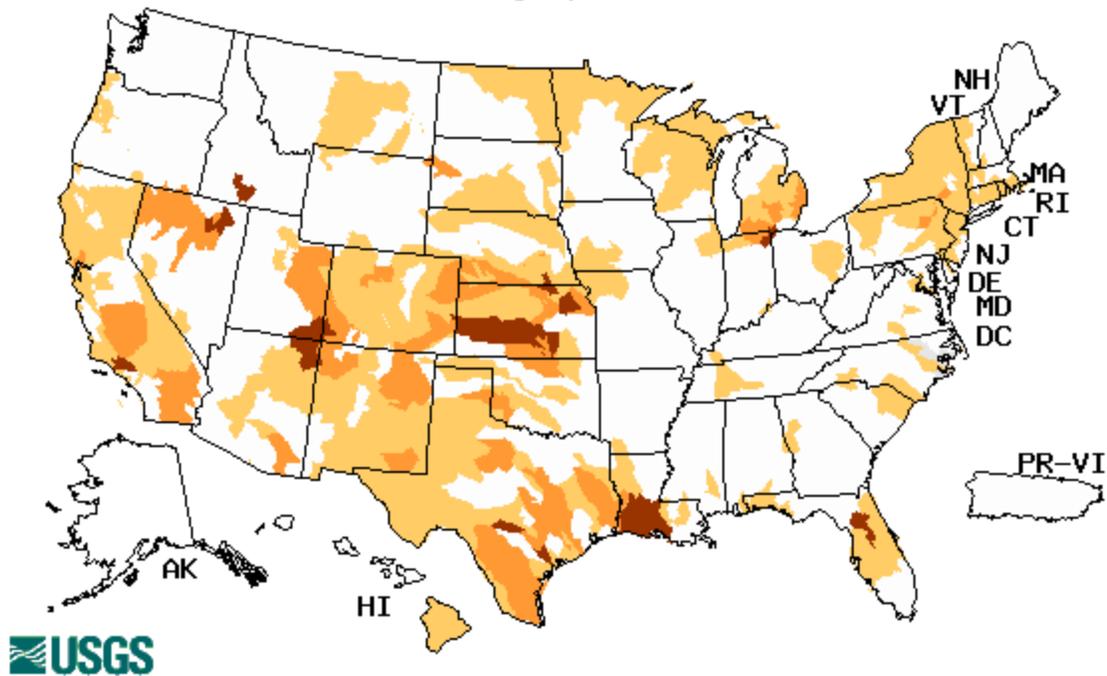
Station (2084) MONTH=2013-03-05 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision  
Thu Apr 04 07:37:04 PDT 2013



**Fig. 6:** This NRCS resource shows a site over [northeastern Arkansas](#) with high soil moisture values at all levels. Note the moderate precipitation occurring during the past few days. Useful Agriculture Links: [Vegetation Drought Response Index](#); [Evaporative Stress Index](#); [Vegetation Health Index](#); [NDVI Greenness Map](#); [GRACE-Based Surface Soil Moisture](#); [North American Soil Moisture Network](#).

# Weekly Snowpack and Drought Monitor Update Report

Wednesday, April 03, 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 parts of Florida, Louisiana, Indiana, Kansas, Nebraska, Texas, the Four Corners Region, Idaho, Nevada, and California. See the USGS [National Water Information System Mapper](#).

# Weekly Snowpack and Drought Monitor Update Report

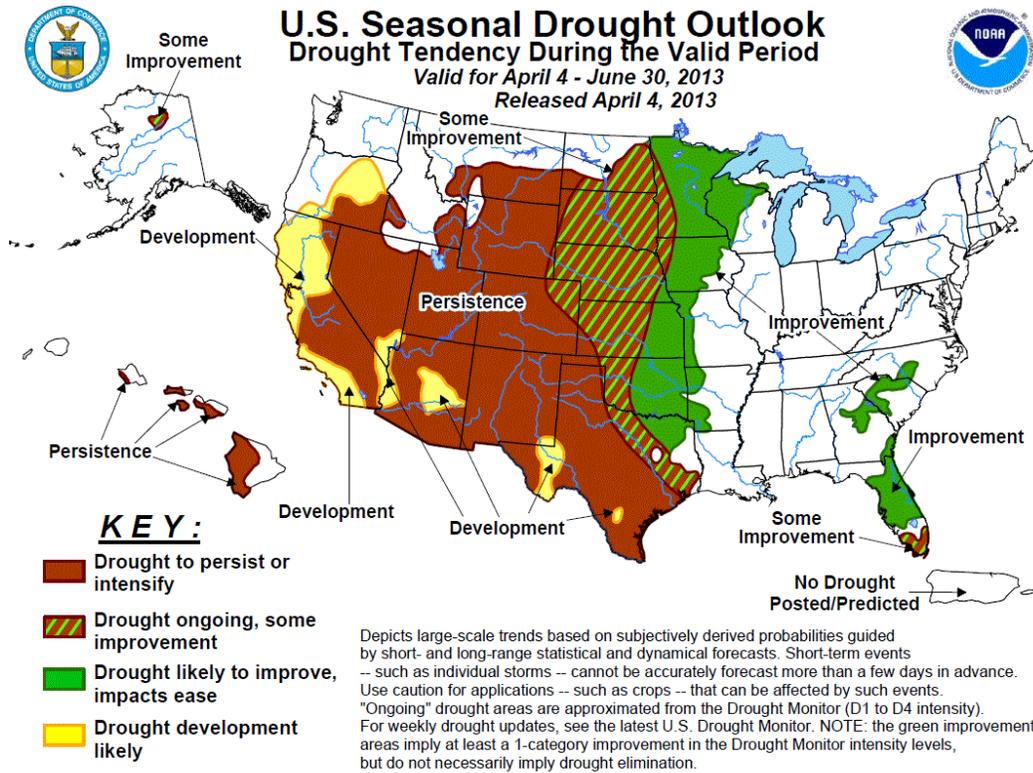
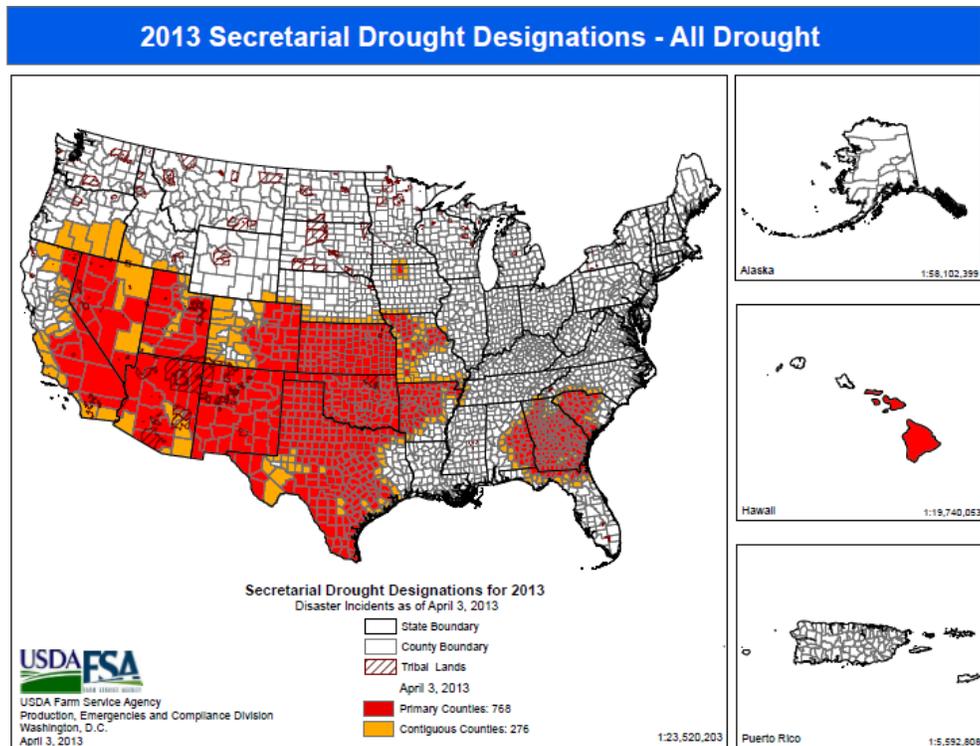


Fig. 8: U.S. Seasonal [Drought Outlook](#) updated today, 4 April.



**See [USDA Drought Assistance website](#).**  
**See [National Sustainable Agriculture Information Service](#)**

## Weekly Snowpack and Drought Monitor Update Report

**National Drought Summary provided by the National Drought Mitigation Center --**  
**Drought Author: Author: [Richard Tinker, NOAA/NWS/NCEP/Climate Prediction Center](#)**

### **National Drought Summary -- April 2, 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/>.*

**The Northeast:** “Light precipitation, on the order of a few tenths of an inch, fell on most locations from Pennsylvania and New Jersey northeastward to the Canadian border, with totals approaching an inch in a few locales. Nonetheless, parts of the lower Northeast have received 2 to 4 inches less precipitation than normal since the beginning of the year, so abnormal dryness was expanded into these regions. Similar deficits have been recorded in some areas farther north in New England, but with snowpack still melting and streamflows remaining fairly robust, D0 was not introduced there.”

**The Southeast:** “Areas of ongoing dryness from North Carolina southwestward into central Georgia generally recorded 0.5 to 1.5 inches of rain, with the larger amounts falling across Georgia and western South Carolina. Drought designations were unchanged in these areas.

Farther south, only isolated light rain fell on southeastern Georgia and the Florida Peninsula, leading to some expansion of moderate drought in east-central and southeastern Florida. Many locations on the Florida Peninsula are 4 to 8 inches below normal since the beginning of the year, and a couple of wildfires have been reported in Collier and Miami-Dade Counties in southern Florida.”

**The Upper Midwest:** “Only a few tenths of an inch of precipitation were reported in a few areas from Illinois and Iowa northward through the Great Lakes region and Minnesota, keeping dryness and drought unchanged from last week. Most of central and northern Illinois, southern Wisconsin, central and northern Iowa, and southwestern Minnesota received no measurable precipitation.”

**The Lower Mississippi Valley/Delta region:** “No appreciable precipitation fell on the Louisiana Bayou last week. Over the last six months, this region has received 8 to locally 16 inches less precipitation than normal, with deficits of 1 to locally 4 inches accumulating in the last 30 days. As a result, abnormal dryness was introduced in the region this week.

**The Plains:** “Precipitation totals exceeding one inch were widespread from northeastern Texas and northwestern Louisiana northward through southwestern Missouri and part of southeastern Kansas. Some of the northern reaches of this area,

## Weekly Snowpack and Drought Monitor Update Report

extending as far south as central Arkansas and east-central Oklahoma, measured 2 to 4 inches of rain. As a result, drought classifications improved in several areas which were generally in the D0 to D2 range last week.

Elsewhere, most locations in the central Plains received anywhere from a few tenths of an inch to slightly over an inch while only isolated measurable precipitation was reported in central and southern Texas, the High Plains, and the northern Great Plains. Some areas of degradation were introduced in roughly the southwestern half of Texas and the northwestern Plains, but conditions remained essentially unchanged in most areas.”

**The Rockies and Intermountain West:** “Scattered light precipitation fell on the northern half of the Plains and central sections of the Intermountain West, including most of the Great Basin. Most other locations reported no measurable precipitation. D0 conditions were extended into southeastern Washington, where precipitation shortfalls now exceed 2 inches since the beginning of the year, with deficits reaching up to 6 inches in some of the higher elevations. In other areas, dryness and drought remained the same as last week.”

**The West:** “Generally 1 to 2 inches of precipitation fell from southwestern Oregon southward through northern California and the Sierra Nevada, with a few locations reporting larger totals in the southernmost Cascades. Meanwhile, a few tenths of an inch were recorded in the Pacific Northwest to the west of the Cascades and across central and southwestern California. Southeastern California recorded little or no precipitation.

The precipitation that fell did not change conditions in existing areas of dryness and drought. Farther north, however, parts of western Oregon and southwestern Washington eastward to near the foothills of the Cascades reported their driest start to a calendar year on record. To wit, abnormal dryness was expanded into this region despite a fairly robust snowpack in most of the Cascades to the east of this region.”

**Hawaii and Alaska:** “Most locations in southern Kauai reported 1 to locally 5 inches of rain this past week, but only scattered amounts exceeding 0.5 inch were reported in other parts of the state currently experiencing dryness and drought. Impact assessments from recent precipitation indicated that former D1 conditions had improved on part of the southern Big Island, and areas of improvement were also noted in parts of the western Big Island where D2 to D3 conditions had prevailed, particularly along and near the coast. In addition, recent rains appear to have improved conditions on parts of Lanai.

The few tenths of an inch of precipitation that fell on the areas of dryness and drought in Alaska were not enough to significantly change conditions, and this week the assessment remains the same as last week.”

**Looking Ahead:** “The next 5 days (April 4–8, 2013) are expected to be dry in the desert Southwest, southern sections of the Rockies and High Plains, and the central and southern parts of Texas. Most of the contiguous 48 states, however, should receive at least light precipitation, with 0.25 to 1.5 inches forecast for much of the country.

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Higher totals, generally 1.5 to 3.5 inches, are anticipated in the Pacific Northwest and in the Southeast from the lower Delmarva Peninsula southwestward through northern Florida.

For the ensuing 5 days (April 9–13, 2013), the odds favor below-median precipitation from the Rockies westward to the Pacific Coast, except along the northern tier of this region. In contrast, above-median amounts are favored from central Texas, the east-central Great Plains, and the upper Midwest eastward to near the Atlantic Coast, excluding the immediate Coastal Plain and most of Florida.”

### **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 April 3, 2013*

### **More USDA Drought Highlights by Brad Rippey, USDA Meteorologist**

The “Ag in Drought” file that had been previously posted each week by Brian Fuchs at NDMC is now available at: <http://www.usda.gov/oce/weather/Drought/AgInDrought.pdf>

PPTs slides are still available upon request.

The delay in sending these week’s maps is due to the new USDA Lockup schedule.

Highlights for the drought-monitoring period ending 7 am EDT on March 26 include:

- Overall U.S. drought coverage decreased slightly (0.22%) to 51.64% of the contiguous U.S. In addition, drought coverage is down 9.45% from the beginning of 2013 and down 13.81% from the record-high of 65.45% on September 25, 2012. From March 23-25, a late-season snow storm affected central portions of the Rockies and Plains, the southern Corn Belt, and the Mid-Atlantic States. Precipitation was most beneficial across the Rockies and Plains. In addition,

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rain provided further relief to lingering drought areas in the Southeast. However, mostly dry conditions prevailed during the last week from southern California to the southern High Plains.

- The portion of the contiguous U.S. in the worst category – D4, or exceptional drought – decreased nearly one-third of a percentage point (0.30%) to 5.10%. D4 coverage has ranged from 5 to 7% for 33 consecutive weeks (August 14, 2012 – March 26, 2013).

- For the second week in a row, there were no changes in hay in drought (51%), cattle in drought (62%), and winter wheat in drought (56%).

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### **Water Supply & Quality in the News**

#### [Denver Water approves mandatory watering restrictions because of drought](#)

March 27, **Denver, Colorado**. Stage 2 mandatory water restrictions begin for Denver water customers on April 1 since the snowpack remained low. Fines for violating the restrictions begin at \$250. Presently the drought is more dire than the drought of 2002.

#### [Nobody is declaring a state of drought in California, but ...](#)

March 29, **California**. The snowpack is about half of the usual depth for this time of year, boding poorly for the agricultural interests. Water allocations for the Westlands Water Districts and other irrigation districts on the west side of the San Joaquin Valley is just 20 percent.

#### [Snow doesn't quench Colorado's thirst](#)

March 27, **Colorado**. The Colorado Drought Task Force said the state needs nearly three times the normal snow to reach average snowpack levels by mid-April. Water restrictions are taking effect in many cities across the state, including Fort Collins, Denver Water, Aurora, Thornton and Colorado Springs.

### [Farmers, Ranchers mitigate impacts of drought with good planning](#)