



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

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**Weekly Report - Snowpack / Drought Monitor Update**      **Date: February 7, 2008**

## **SNOTEL SNOWPACK AND PRECIPITATION SUMMARY**

**Snow:** During the past week, snowfall accumulations were up significantly across all but the Eastern Slope of the Northern Rockies. A preliminary forecast increase in excess of 20% in April-July runoff occurred this week over northern New Mexico (Fig 1). Snow-water equivalent percent to date shows well above normal values over portions of the Cascades (WA & OR), Southern Rockies (CO & NM), Utah and the mountains of Arizona, and New Mexico. Below normal values dominate over southern Arizona (Fig. 1a).

**Temperature:** For the past seven days, average temperature anomaly for most stations in the West were between -5F to -10F (below normal) with coldest departures over the Sierra east through to the Northern Rockies (Fig. 2). The greatest negative temperature departures occurred over the Uinta Mountains (UT) (>-12F) and the greatest positive departures over southeast New Mexico and northwestern Montana (>+3F) (Fig. 2a).

**Precipitation:** Preliminary precipitation totals for the 7-day period ending 6 February shows significant increase in precipitation across much of the Pacific Northwest, Great Basin, Arizona ranges, and the southern half of the Rockies. Montana, southern California, and southeast New Mexico experienced little precipitation (Fig. 3). Seasonal precipitation (rain & snow water equivalent) as a percent of normal for the 2008 Water Year that began on October 1, 2007 shows well above normal totals over much of the West. A few river basins are lower than 90% of normal isolated across the West (Fig. 3a).

## **WESTERN DROUGHT STATUS**

**The Rockies, Intermountain West, and Far West:** Following an extremely active period that brought heavy rain and snow to central and southern California and large parts of the Southwest in the recent weeks, generally lighter amounts of precipitation fell during the past week. An exception was the Pacific Northwest, where a series of storms brought more than 5 inches of precipitation to many parts of the Cascades, northern Sierra, and coastal areas of Washington, Oregon, and northern California. It was not until late in the period that precipitation again fell across large parts of southern California and the Southwest, but totals were generally lighter than what resulted from the slow-moving storm of last week.

NRCS SNOTEL measurements indicate that snow water content is generally near average in Wyoming and Montana, while near to above average snow water content (90-150%) predominates in Utah, Nevada, Idaho, eastern Oregon, and the Sierras. Snow water content greater than 150% of average is widespread across Arizona, New Mexico, southern Colorado, and the Cascades of Washington and Oregon. While the widespread average to above average snowpack stands in sharp contrast to the past several years, the potential for rapid losses remains if very warm and windy conditions return in the coming weeks.

The uncertainty of conditions over the next six weeks dictates a cautious approach to drought reductions in the West at this time. Precipitation totals over the past several weeks and months, snowpack conditions, and guidance from local experts were used in making improvements in

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The Natural Resources Conservation Service provides leadership in a partnership effort to help people conserve maintain and improve our natural resources and environment

## Weekly Snowpack and Drought Monitor Update Report

areas of Arizona, Nevada, Idaho, and California. A 1-category improvement and extension of D1H from western Utah into northern and central Nevada was made along with a reduction of drought severity to D0 in the Lake Tahoe area and a wider reduction to D1 in the Reno/Carson area. While mountain SNOTEL sites in Nevada show near average to slightly above average snow water content (90-125%), lower elevation snowpack in northeast Nevada is reported to be unusually high according to officials at the Western Regional Climate Center.

In northern Idaho, abnormally dry (D0) conditions were removed to reflect improvements brought about by two to three months of above average snowfall and heavy snowpack with snow water content at 110-125% of average. In northeast Arizona and northwest New Mexico, removal of D0 and reduction from D1 to D0 reflects the impact of much above average precipitation over the past three months. A 1-category change was made to D1H and D2H conditions along the southern end of the San Joaquin Valley of California to better align areas of severe drought where drier than average conditions have prevailed over the past three to six months. Author: Jay Lawrimore, NOAA's National Climatic Data Center.

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

### **DROUGHT IMPACTS DEFINITIONS** (<http://drought.unl.edu/dm/classify.htm>)

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, 4a, 4b, 4c, and 4d).

### **SOIL MOISTURE**

Soil moisture (Figs. 5 and 5a), 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).

### **OBSERVED FIRE DANGER CLASS**

The National Interagency Coordination Center provides a variety of products that describe the current wildfire status for the U.S. - <http://www.nifc.gov/information.html>. The latest Observed Fire Danger Class is shown in Figs. 6 shows the current active wildfires across the West - <http://geomac.usgs.gov/>.

### **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.

## Weekly Snowpack and Drought Monitor Update Report

[http://water.usgs.gov/cgi-bin/waterwatch?state=us&map\\_type=dryw&web\\_type=map](http://water.usgs.gov/cgi-bin/waterwatch?state=us&map_type=dryw&web_type=map).

### 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/>

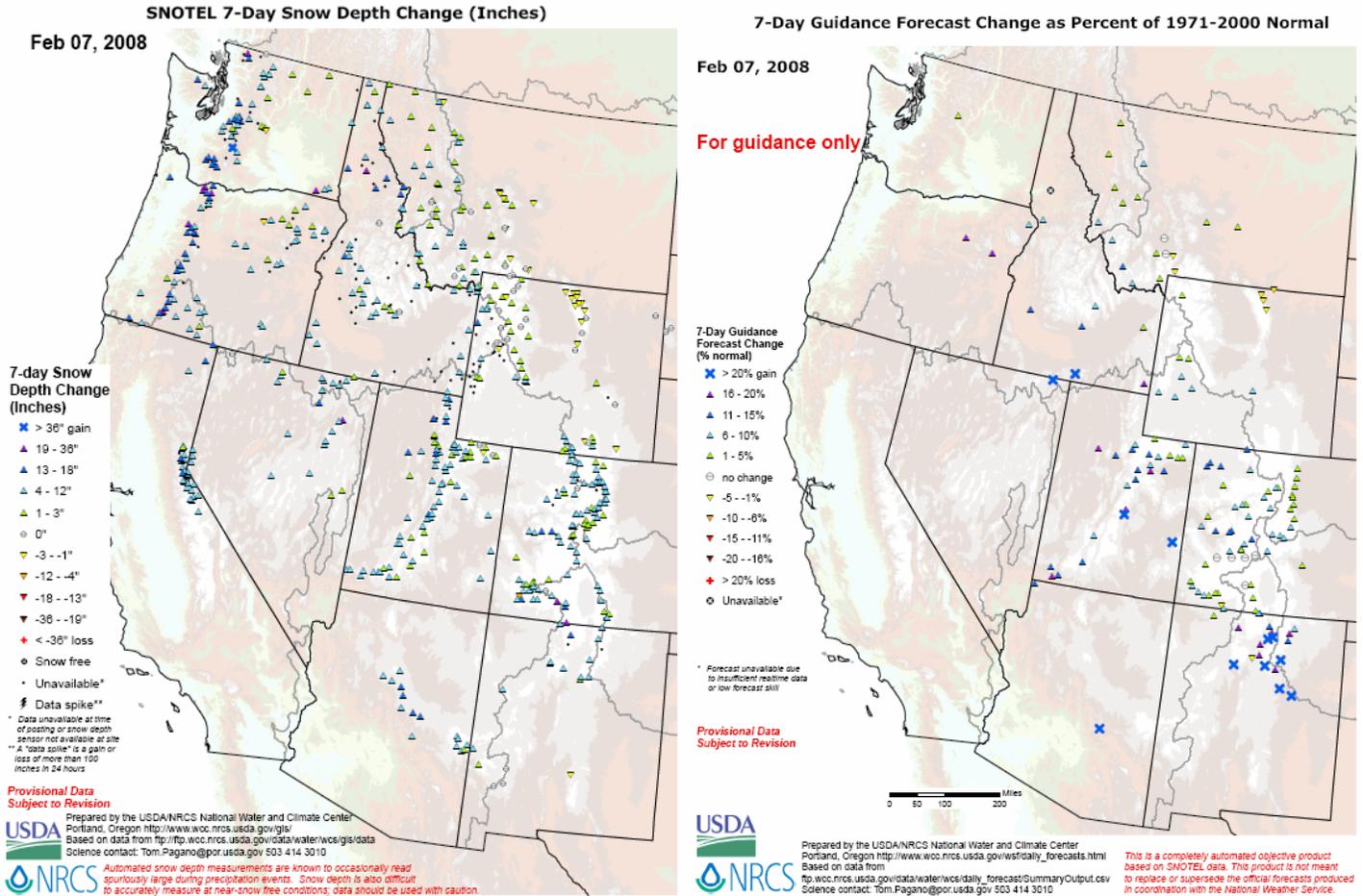
### FOR MORE INFORMATION

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>

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

/s/ NOLLER HERBERT  
Director, Conservation Engineering Division

# Weekly Snowpack and Drought Monitor Update Report



**Fig. 1. During the past week, snowfall accumulations were up significantly across all but the Eastern Slope of the Northern Rockies (left figure). A preliminary forecast increase in excess of 20% in spring-summer runoff occurred this week over northern New Mexico (right figure). Note: Forecast values for the Sierra and Cascades but are not shown.**

Refs: [ftp://ftp.wcc.nrcs.usda.gov/data/water/wcs/gis/maps/west\\_snowdepth\\_7ddelta.pdf](ftp://ftp.wcc.nrcs.usda.gov/data/water/wcs/gis/maps/west_snowdepth_7ddelta.pdf)  
[ftp://ftp.wcc.nrcs.usda.gov/data/water/wcs/daily\\_forecast/maps/west\\_dailyfcst\\_7daych.pdf](ftp://ftp.wcc.nrcs.usda.gov/data/water/wcs/daily_forecast/maps/west_dailyfcst_7daych.pdf)

Weekly Snowpack and Drought Monitor Update Report

Westwide SNOTEL Current Snow Water Equivalent (SWE) % of Normal

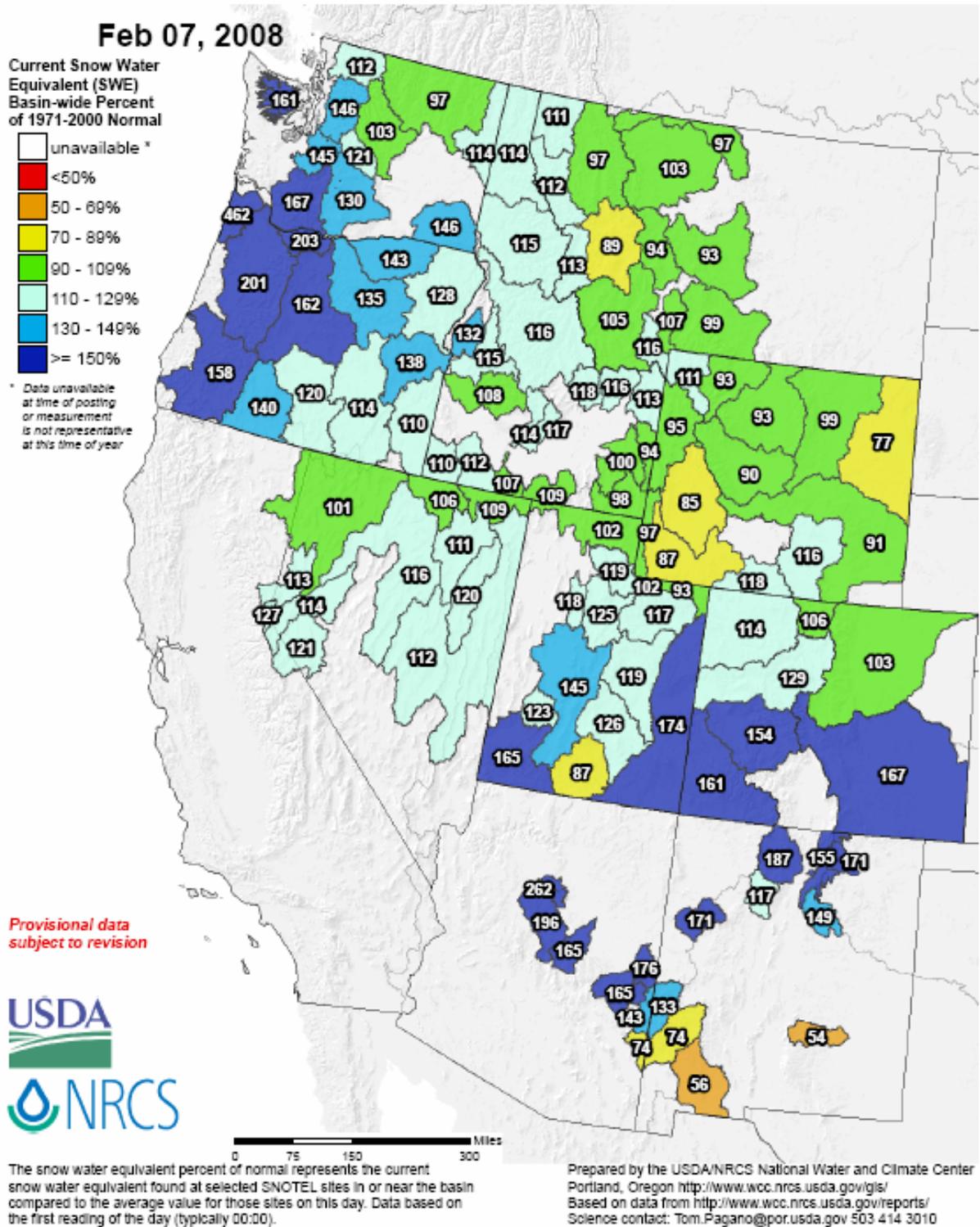


Fig. 1a. Snow-water equivalent percent to date shows well above normal values over portions of the Cascades (WA & OR), Southern Rockies (CO & NM), Utah and the mountains of Arizona, and New Mexico. Below normal values dominate in southern Arizona.

Ref: [http://ftp.wcc.nrcs.usda.gov/data/water/wcs/gis/maps/west\\_swepctnormal\\_update.pdf](http://ftp.wcc.nrcs.usda.gov/data/water/wcs/gis/maps/west_swepctnormal_update.pdf)

# Weekly Snowpack and Drought Monitor Update Report

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

Feb 07, 2008

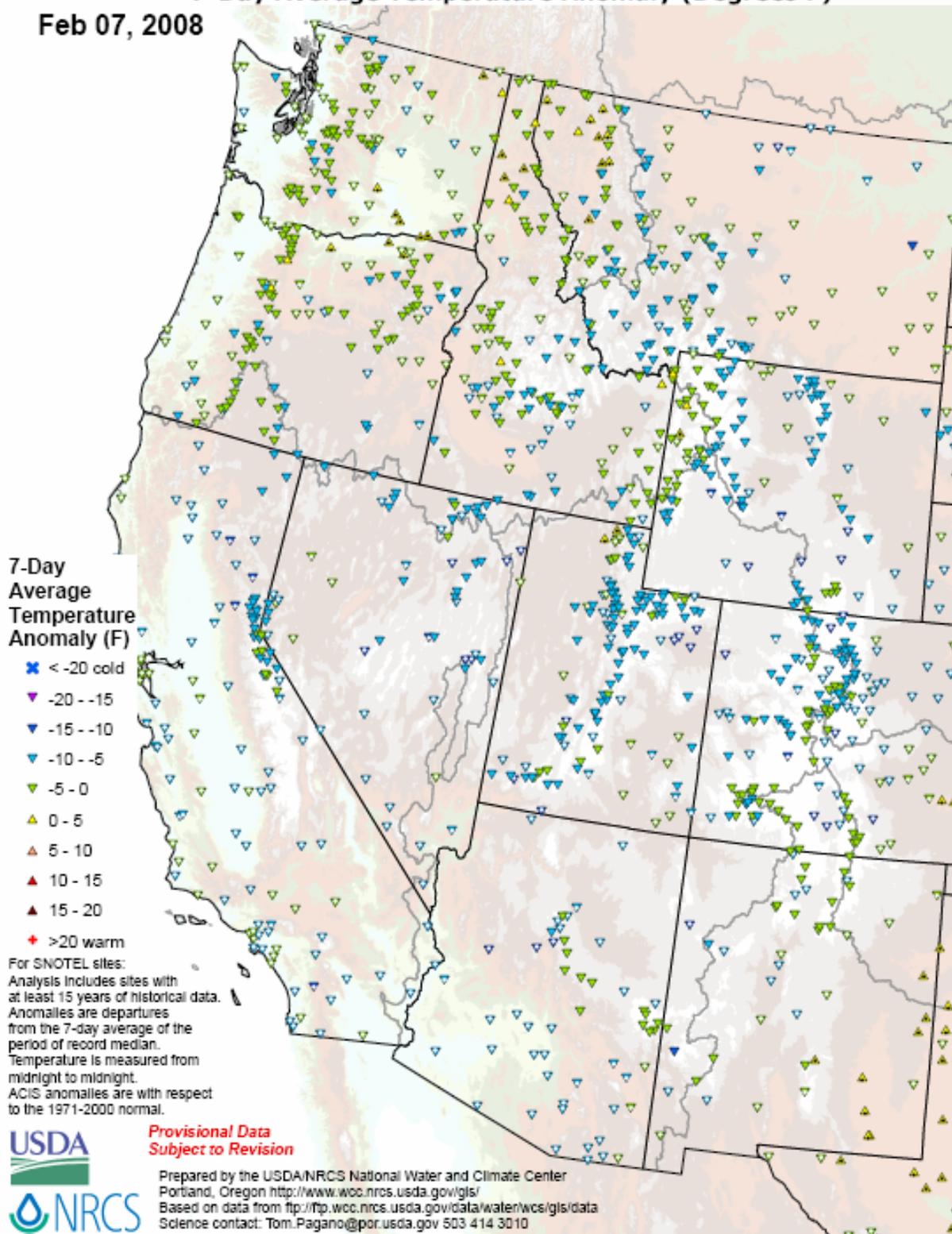
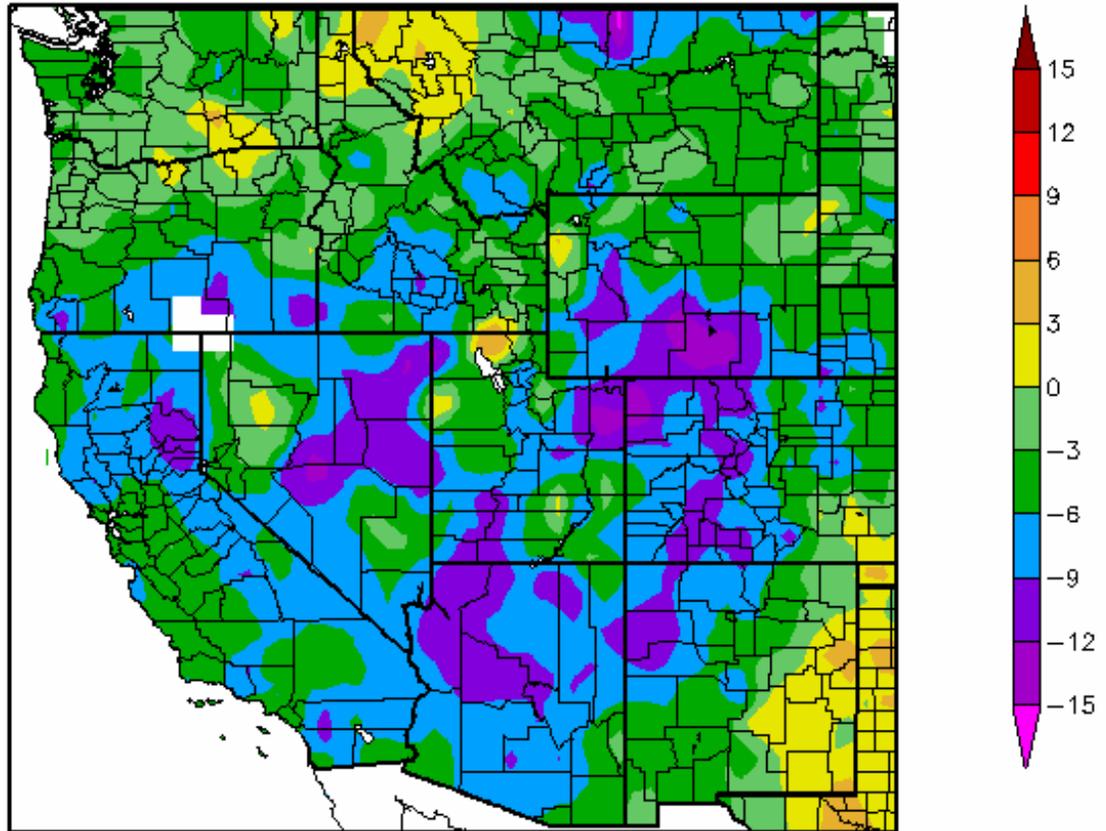


Fig. 2. SNOTEL & ACIS 7-day station average temperature anomaly for most stations in the West were between -5F to -10F (below normal) with coldest departures over the Sierra east through to the Northern Rockies.

Ref: <ftp://ftp.wcc.nrcs.usda.gov/data/water/wcs/gis/maps/WestwideTavg7dAnomalyAcis.pdf>

Departure from Normal Temperature (F)  
1/31/2008 – 2/6/2008



Generated 2/7/2008 at HPRCC using provisional data.

NOAA Regional Climate Centers

The Current Climate Summary Maps are produced daily using data from the Applied Climate Information System (ACIS). Stations used are from the National Weather Service Cooperative Observer Network (COOP), and the Automated Weather Data Network (AWDN). All near-real-time data are considered preliminary and should be used responsibly.

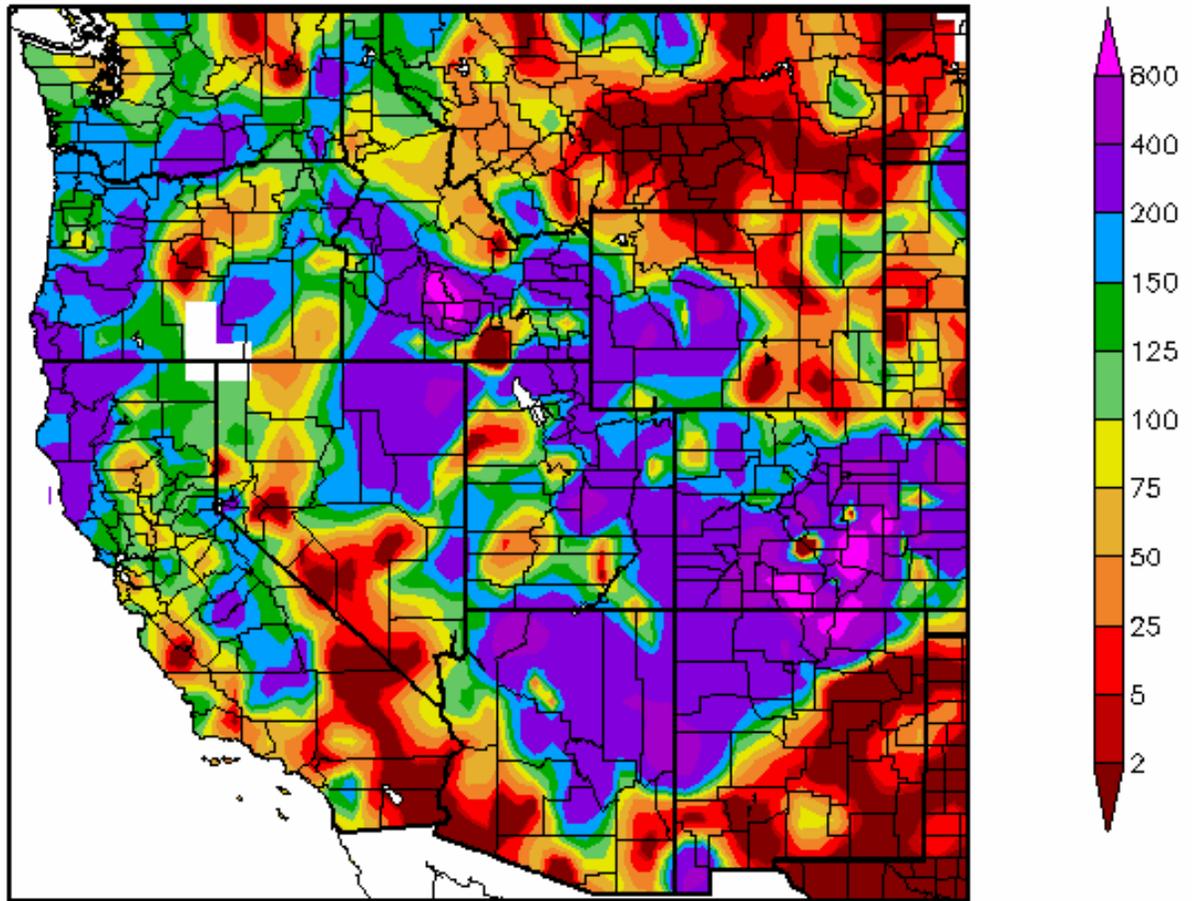
Normal refers to the 1971-2000 Climate Normal for the selected product.



**Fig. 2a. ACIS 7-day average temperature anomaly: Greatest negative temperature departures over the Uinta Mountains (UT) (<-12F) and greatest positive departures over southeast New Mexico and northwestern Montana (>+3F).**

Ref: [http://www.hprcc.unl.edu/maps/current/index.php?action=update\\_product&product=TDept](http://www.hprcc.unl.edu/maps/current/index.php?action=update_product&product=TDept)

Percent of Normal Precipitation (%)  
1/31/2008 – 2/6/2008



Generated 2/7/2008 at HPRCC using provisional data.

NOAA Regional Climate Centers

The Current Climate Summary Maps are produced daily using data from the Applied Climate Information System (ACIS). Stations used are from the National Weather Service Cooperative Observer Network (COOP), and the Automated Weather Data Network (AWDN). All near-real-time data are considered preliminary and should be used responsibly.



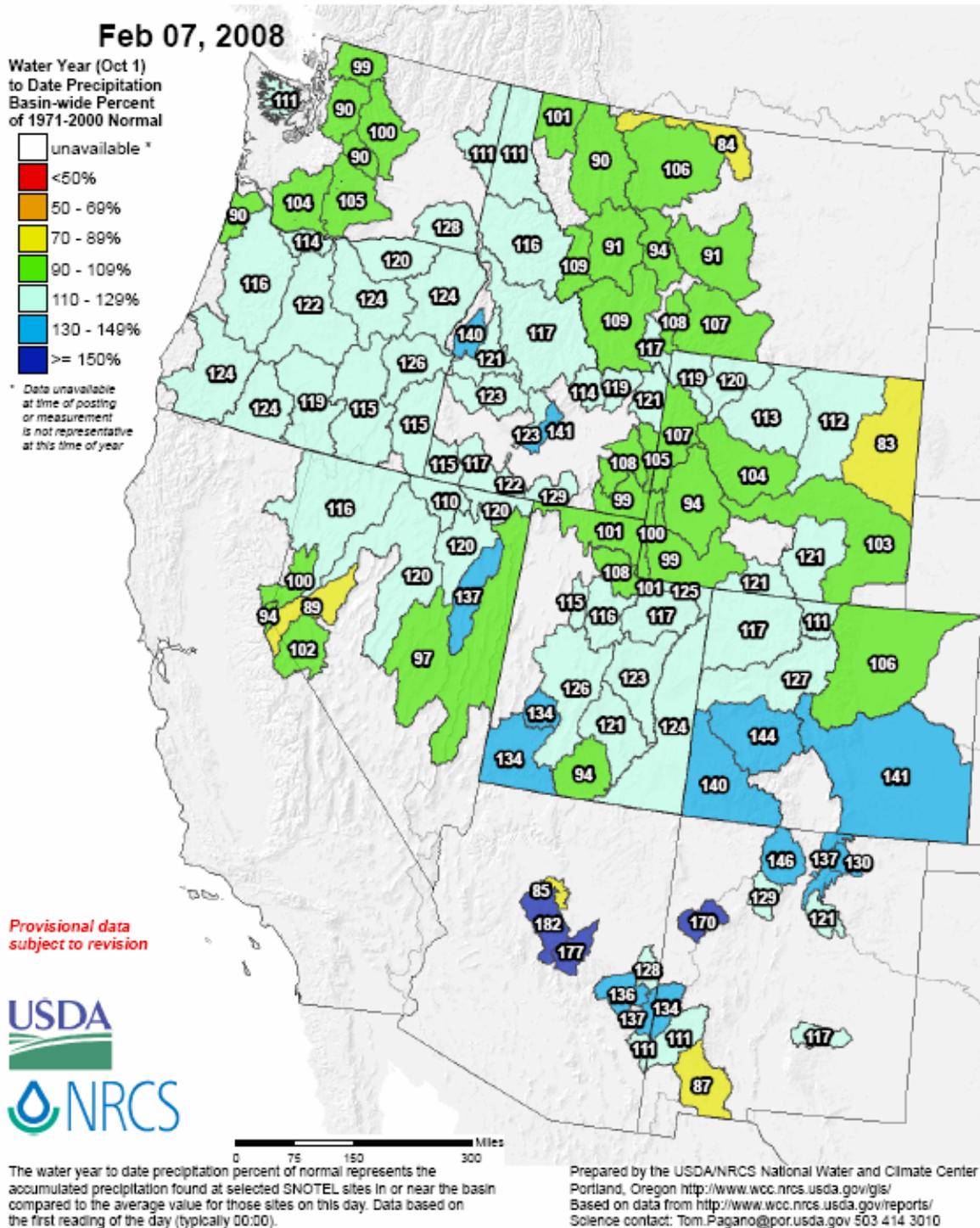
Normal refers to the 1971-2000 Climate Normal for the selected product.

**Fig. 3. ACIS 7-day average precipitation anomaly: Preliminary precipitation totals for the 7-day period ending 6 February shows significant increase in precipitation across much of the Pacific Northwest, Great Basin, Arizona ranges, and the southern half of the Rockies. Montana, southern California, and southeast New Mexico experienced little precipitation.**

Ref: [http://www.hprcc.unl.edu/maps/index.php?action=update\\_product&product=PNorm](http://www.hprcc.unl.edu/maps/index.php?action=update_product&product=PNorm)

# Weekly Snowpack and Drought Monitor Update Report

## Westwide SNOTEL Water Year (Oct 1) to Date Precipitation % of Normal



**Fig 3a. Seasonal precipitation (rain & snow water equivalent) as a percent of normal for the 2008 Water Year that began on October 1, 2007 shows well above normal totals over much of the West. A few river basins are lower than 90% of normal isolated across the West.**

Ref: [http://ftp.wcc.nrcs.usda.gov/data/water/wcs/gis/maps/west\\_wytdprecpcnormal\\_update.pdf](http://ftp.wcc.nrcs.usda.gov/data/water/wcs/gis/maps/west_wytdprecpcnormal_update.pdf)

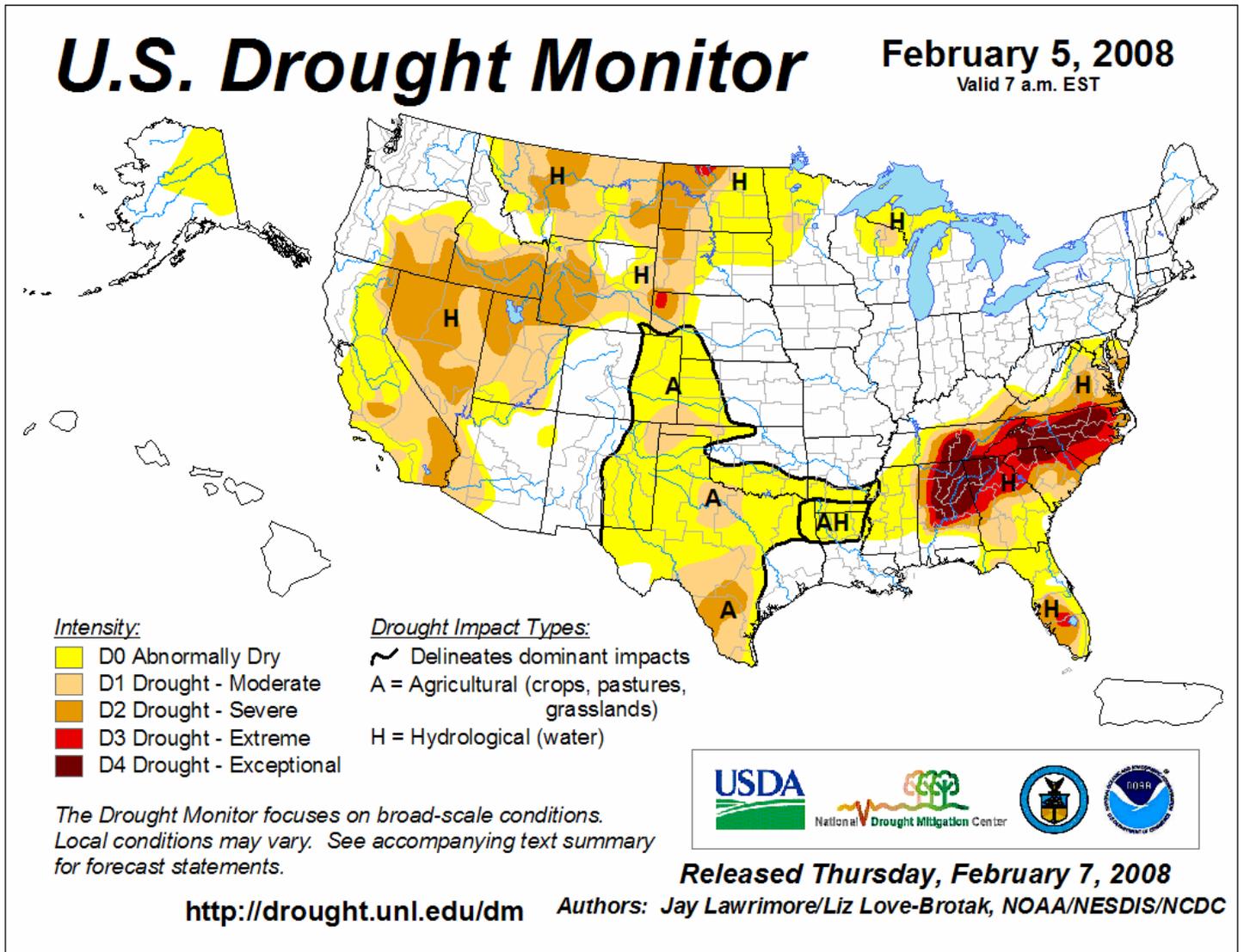
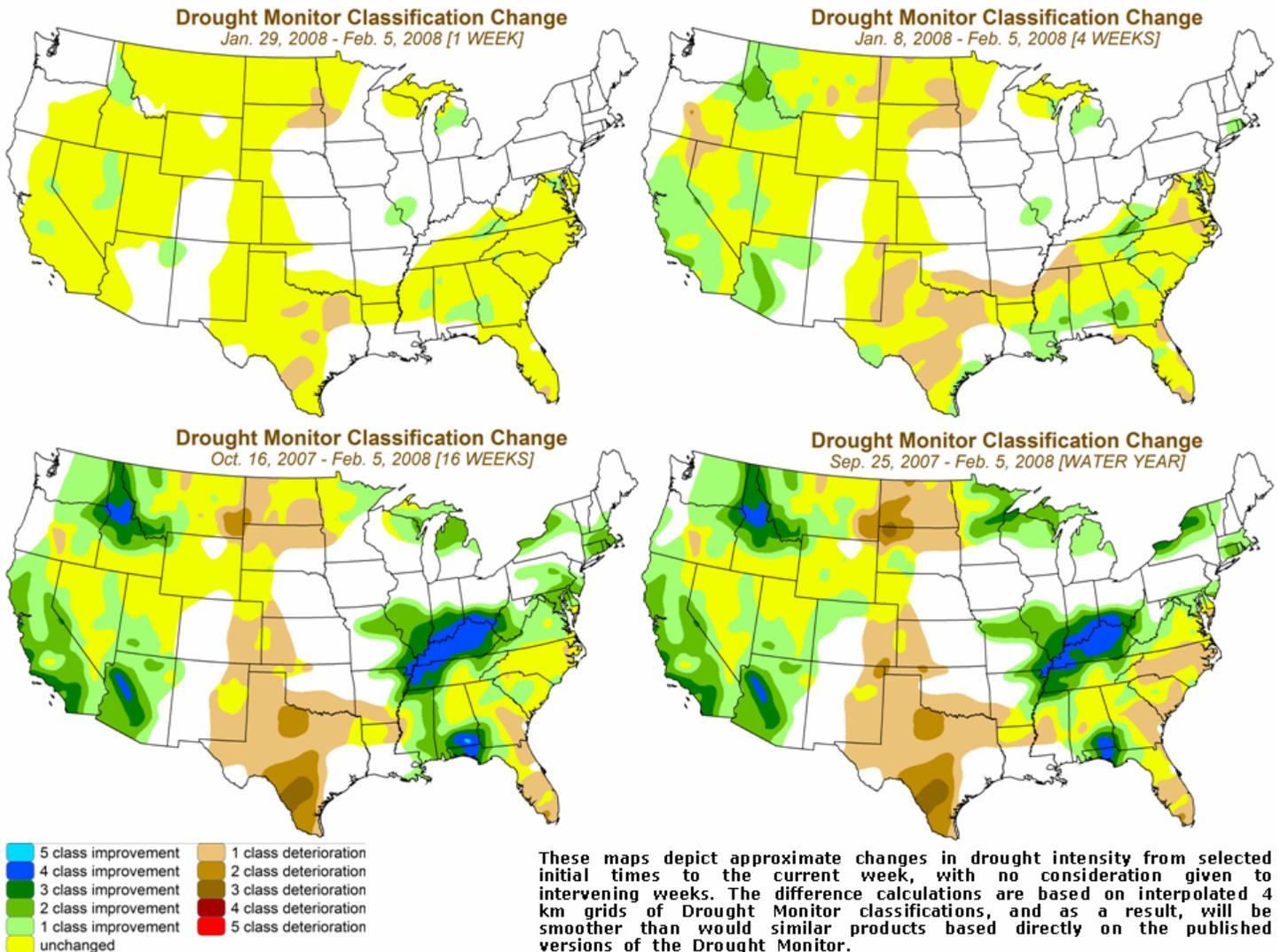


Fig. 4. Current Drought Monitor weekly summary.

Ref: National Drought Mitigation Center (NDMC) - <http://www.drought.unl.edu/dm/monitor.html>

## Weekly Snowpack and Drought Monitor Update Report



**Fig. 4a. Drought Monitor classification changes during several time periods. Scattered improvement and worsening occurred across the US during the past week with longer term improvement over Kentucky, northwest Florida, and central Idaho.**

Ref: <http://www.cpc.ncep.noaa.gov/products/predictions/experimental/edb/dm-change-4maps.png>.

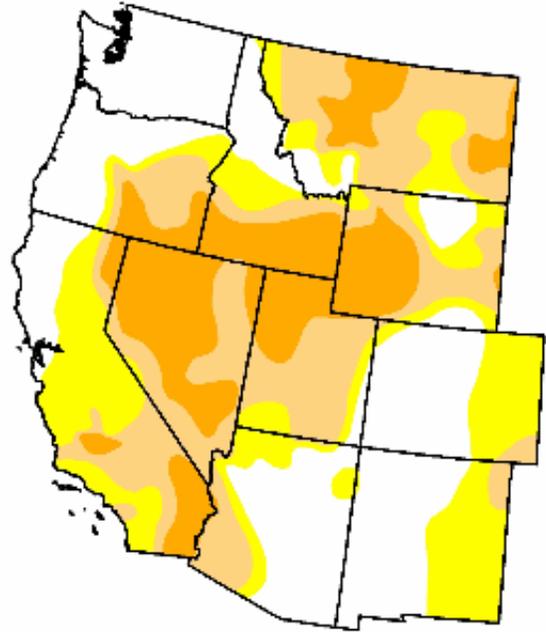
# U.S. Drought Monitor

## West

February 5, 2008  
Valid 7 a.m. EST

*Drought Conditions (Percent Area)*

|   | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4  |
|---|------|-------|-------|-------|-------|-----|
| Current                                       | 34.1 | 65.9  | 43.6  | 18.9  | 0.0   | 0.0 |
| Last Week<br>(01/29/2008 map)                 | 31.7 | 68.3  | 44.6  | 20.9  | 0.0   | 0.0 |
| 3 Months Ago<br>(11/13/2007 map)              | 25.6 | 74.4  | 56.9  | 38.7  | 7.9   | 0.0 |
| Start of<br>Calendar Year<br>(01/01/2008 map) | 26.3 | 73.7  | 54.7  | 33.1  | 2.7   | 0.0 |
| Start of<br>Water Year<br>(10/02/2007 map)    | 22.0 | 78.0  | 62.3  | 44.7  | 12.4  | 0.0 |
| One Year Ago<br>(02/06/2007 map)              | 40.5 | 59.5  | 32.6  | 18.2  | 5.0   | 0.0 |



**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://drought.unl.edu/dm>



**Released Thursday, February 7, 2008**  
Author: J. Lawrimore/L. Love-Brotak, NOAA/NESDIS/NCDC

**Fig. 4b. Drought Monitor for the Western States with statistics over various time periods. Note slight improvement since last week.**

Ref: [http://www.drought.unl.edu/dm/DM\\_west.htm](http://www.drought.unl.edu/dm/DM_west.htm)

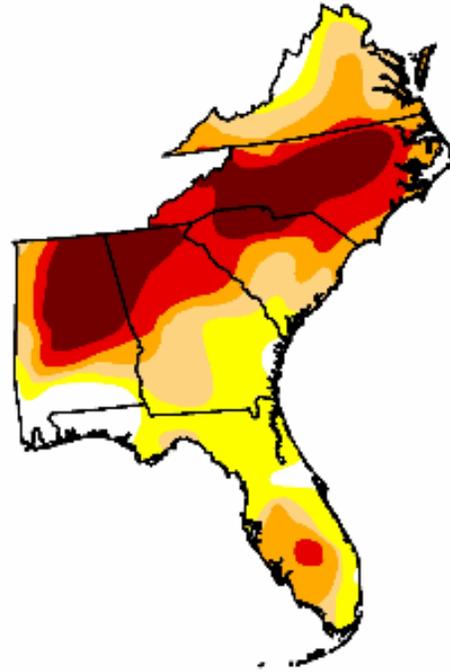
# U.S. Drought Monitor

## Southeast

February 5, 2008  
Valid 7 a.m. EST

*Drought Conditions (Percent Area)*

|   | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4   |
|---|------|-------|-------|-------|-------|------|
| Current                                       | 8.0  | 92.0  | 71.8  | 54.8  | 36.3  | 19.8 |
| Last Week<br>(01/29/2008 map)                 | 7.3  | 92.7  | 72.8  | 57.8  | 39.2  | 21.3 |
| 3 Months Ago<br>(11/13/2007 map)              | 11.3 | 88.7  | 73.6  | 53.8  | 36.3  | 23.1 |
| Start of<br>Calendar Year<br>(01/01/2008 map) | 9.6  | 90.4  | 74.3  | 58.5  | 41.0  | 22.0 |
| Start of<br>Water Year<br>(10/02/2007 map)    | 10.1 | 89.9  | 77.9  | 63.8  | 45.2  | 24.0 |
| One Year Ago<br>(02/06/2007 map)              | 73.7 | 26.3  | 7.2   | 0.0   | 0.0   | 0.0  |



Intensity:

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

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



Released Thursday, February 7, 2008

Author: J. Lawrimore/L. Love-Brotak, NOAA/NESDIS/NCDC

<http://drought.unl.edu/dm>

Fig. 4c: Drought Monitor for the Southeastern States with statistics over various time periods. Note slight improvement since last week.

Ref: [http://www.drought.unl.edu/dm/DM\\_southeast.htm](http://www.drought.unl.edu/dm/DM_southeast.htm)

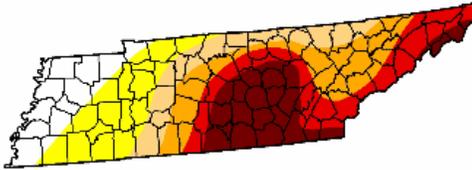
# U.S. Drought Monitor

## Tennessee

February 5, 2008  
Valid 7 a.m. EST

Drought Conditions (Percent Area)

|   | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4   |
|---|------|-------|-------|-------|-------|------|
| Current                                       | 14.3 | 85.7  | 67.1  | 54.1  | 36.3  | 18.7 |
| Last Week<br>(01/29/2008 map)                 | 14.5 | 85.5  | 67.1  | 59.9  | 39.7  | 17.9 |
| 3 Months Ago<br>(11/13/2007 map)              | 17.7 | 82.3  | 66.3  | 61.2  | 50.3  | 35.1 |
| Start of<br>Calendar Year<br>(01/01/2008 map) | 27.4 | 72.6  | 60.8  | 53.8  | 46.8  | 19.9 |
| Start of<br>Water Year<br>(10/02/2007 map)    | 0.0  | 100.0 | 100.0 | 100.0 | 85.7  | 61.3 |
| One Year Ago<br>(02/06/2007 map)              | 36.1 | 63.9  | 0.0   | 0.0   | 0.0   | 0.0  |



**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://drought.unl.edu/dm>



Released Thursday, February 7, 2008  
Author: J. Lawrimore/L. Love-Brotak, NOAA/NESDIS/NCDC

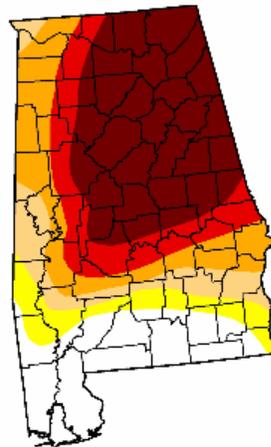
# U.S. Drought Monitor

## Alabama

February 5, 2008  
Valid 7 a.m. EST

Drought Conditions (Percent Area)

|   | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4   |
|---|------|-------|-------|-------|-------|------|
| Current                                       | 18.3 | 81.7  | 74.2  | 65.0  | 49.8  | 36.7 |
| Last Week<br>(01/29/2008 map)                 | 14.2 | 85.8  | 78.5  | 69.3  | 57.6  | 42.0 |
| 3 Months Ago<br>(11/13/2007 map)              | 1.3  | 98.7  | 88.2  | 76.2  | 57.9  | 46.0 |
| Start of<br>Calendar Year<br>(01/01/2008 map) | 9.5  | 90.5  | 80.8  | 66.9  | 56.5  | 38.9 |
| Start of<br>Water Year<br>(10/02/2007 map)    | 0.0  | 100.0 | 95.4  | 83.7  | 76.1  | 52.0 |
| One Year Ago<br>(02/06/2007 map)              | 90.5 | 9.5   | 0.0   | 0.0   | 0.0   | 0.0  |



**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://drought.unl.edu/dm>

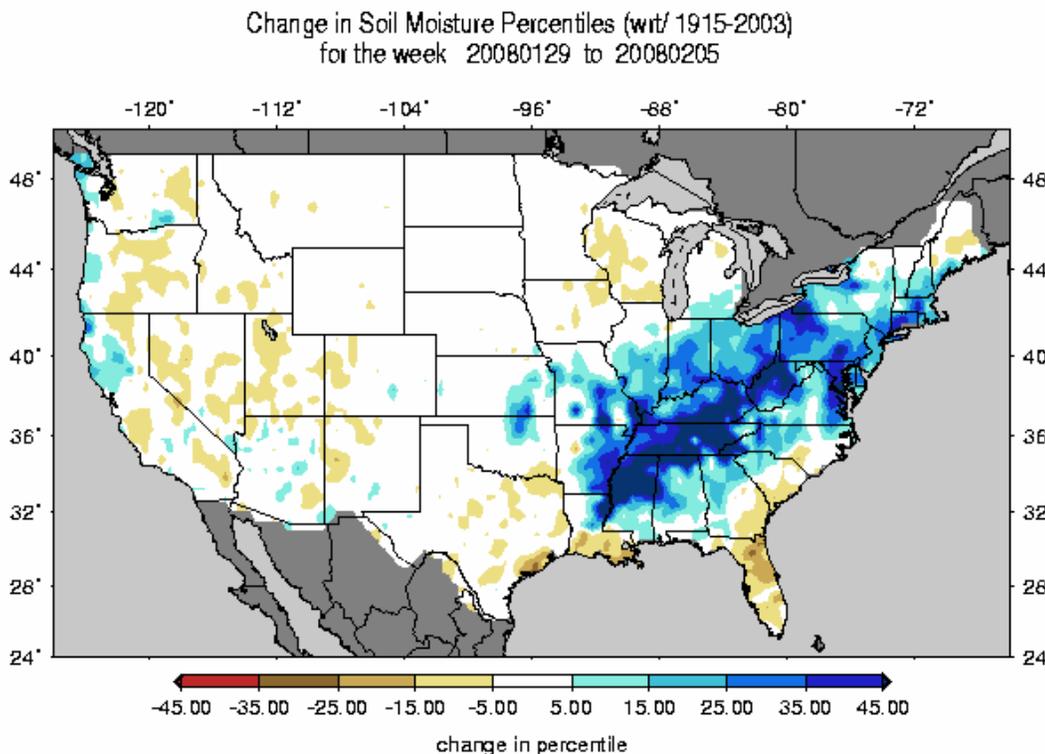
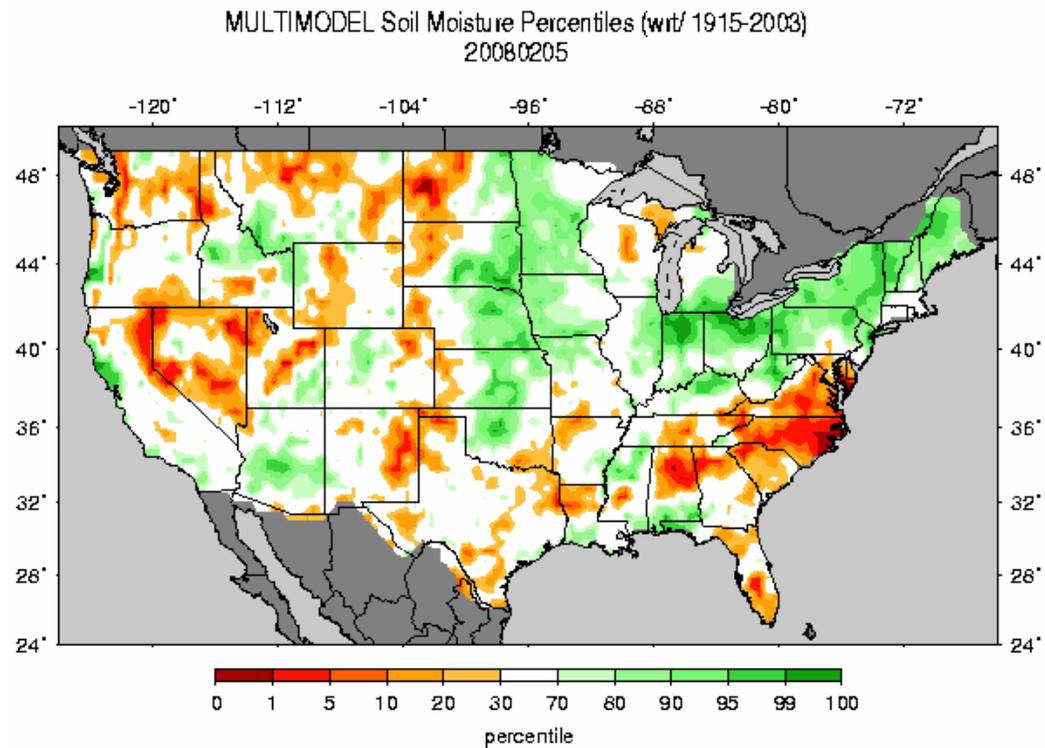


Released Thursday, February 7, 2008  
Author: J. Lawrimore/L. Love-Brotak, NOAA/NESDIS/NCDC

**Fig. 4d. Drought Monitor for Tennessee and Alabama with statistics over various time periods shows some of the severest drought conditions in the US. Note some drought improvement for Tennessee and Alabama during the past week.**

Ref: [http://www.drought.unl.edu/dm/DM\\_state.htm?TN,S](http://www.drought.unl.edu/dm/DM_state.htm?TN,S)  
[http://www.drought.unl.edu/dm/DM\\_state.htm?AL,SE](http://www.drought.unl.edu/dm/DM_state.htm?AL,SE)

## Weekly Snowpack and Drought Monitor Update Report



**Figs. 5 & 5a: Soil Moisture Ranking and change in percentile based on 1915-2003 climatology for this past week. Note significant moistening over the Mississippi, Tennessee, and Ohio River Valleys. Remark: In colder regions of the West, frozen ground suggests incorrect values or missing data.**

Ref: [http://www.hydro.washington.edu/forecast/monitor/curr/CONUS.multimodel.sm\\_qnt.gif](http://www.hydro.washington.edu/forecast/monitor/curr/CONUS.multimodel.sm_qnt.gif)  
[http://www.hydro.washington.edu/forecast/monitor/curr/CONUS.sm\\_qnt.1wk.gif](http://www.hydro.washington.edu/forecast/monitor/curr/CONUS.sm_qnt.1wk.gif).

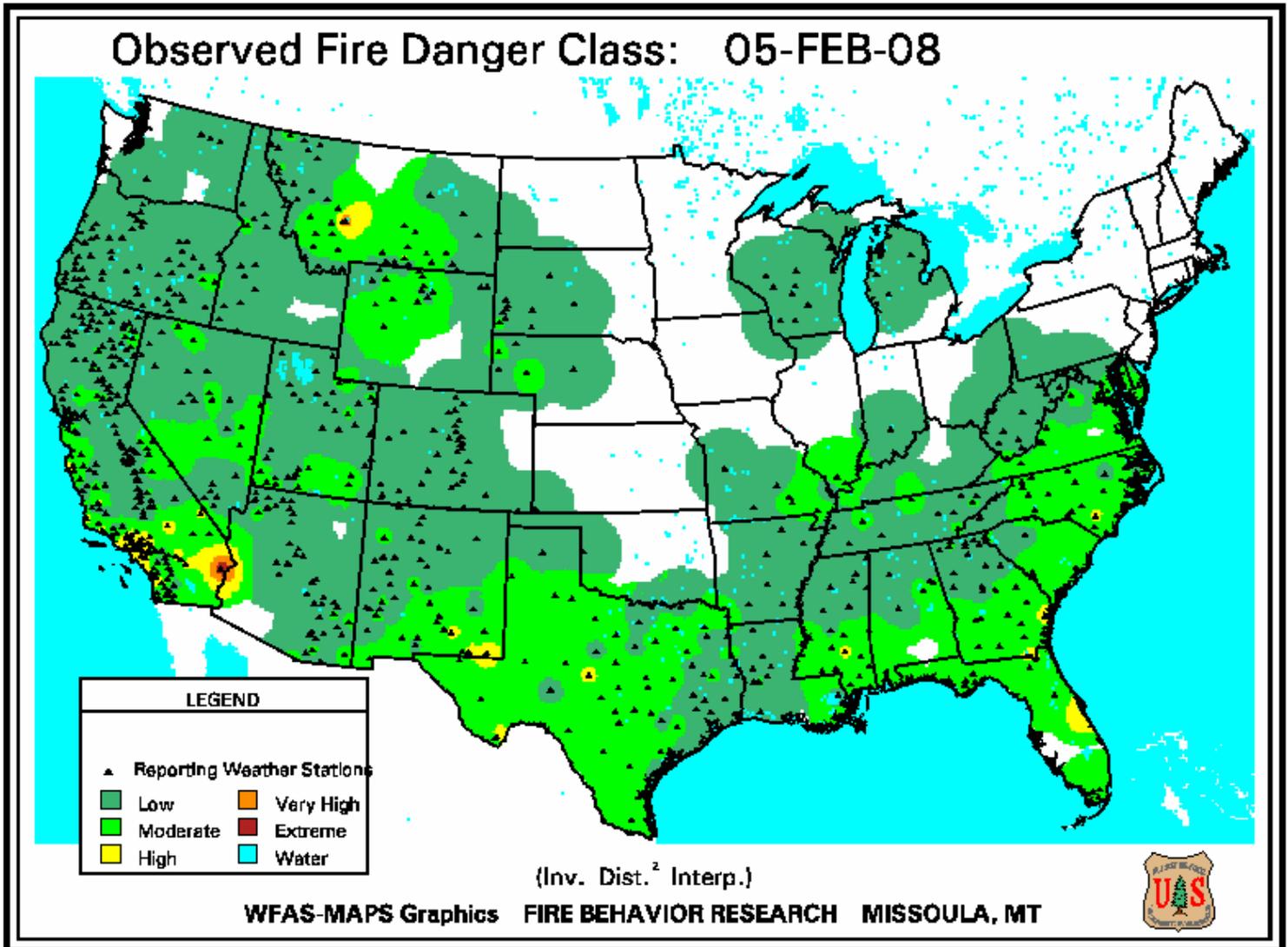


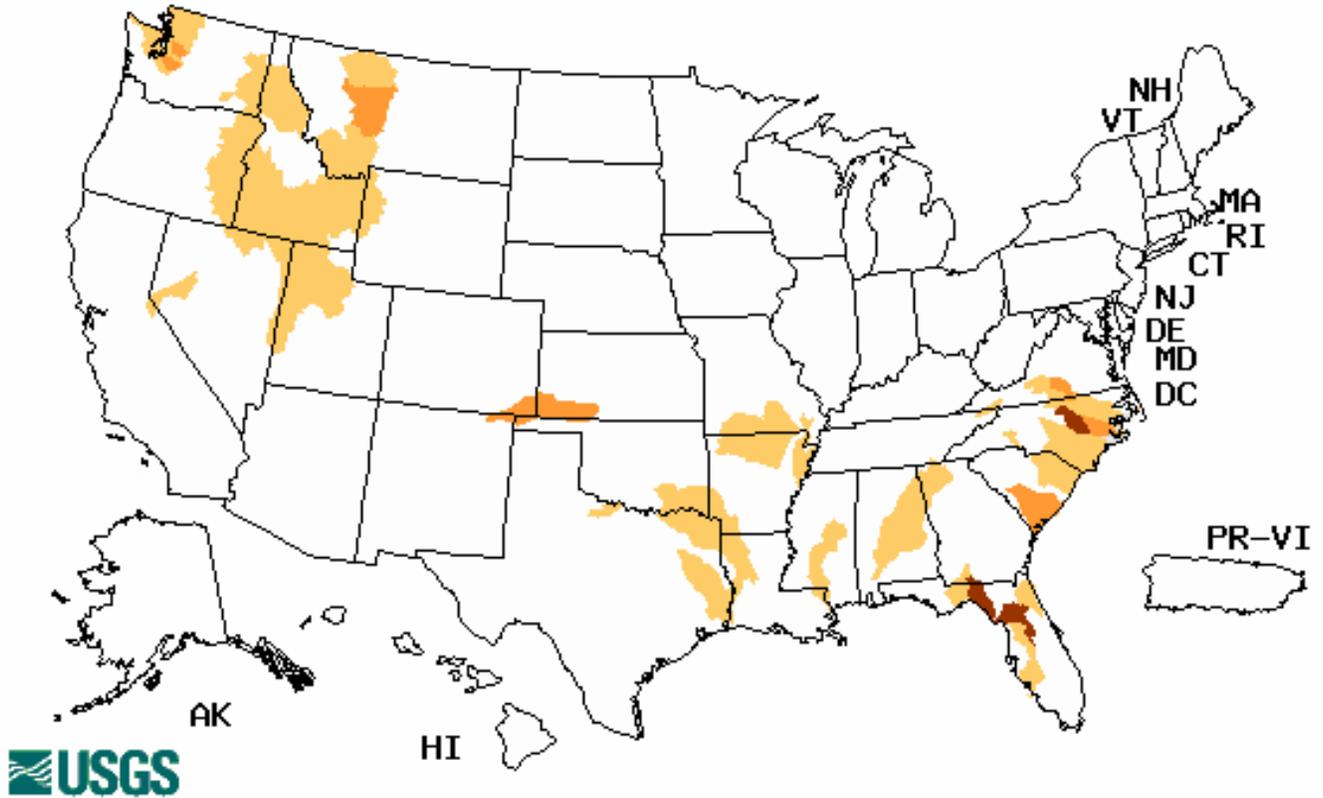
Fig. 6. Observed Fire Danger Class as of 5 February.

Source: Forest Service Fire Behavior Research – Missoula, MT.

Ref: [http://www.fs.fed.us/land/wfas/fd\\_class.gif](http://www.fs.fed.us/land/wfas/fd_class.gif)

# Weekly Snowpack and Drought Monitor Update Report

Hednesday, February 06, 2008



| 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. This week's map shows marked improvement over the Southeast and Mid-Atlantic States since last week. Values over the colder regions of the West and northern states are probably missing or in error due to river icing and freeze-up.

Ref: USGS <http://water.usgs.gov/waterwatch/?m=dryw&w=map&r=us>

## Weekly Snowpack and Drought Monitor Update Report

### National Drought Summary – February 05, 2008

*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 Southeast and Mid-Atlantic:** Much needed precipitation fell in many of the drought-affected areas of the Southeast during the past week. But while the precipitation helped short-term conditions and, when combined with rainfall in previous weeks led to reductions in drought severity in some areas, remaining long-term deficits resulted in only minor overall reduction in drought coverage. Drought severity increased in small areas of eastern North Carolina and southern Florida where little or no precipitation fell during the week and conditions continued to deteriorate.

The most extensive improvements occurred in southwestern Georgia and southeastern Alabama. An additional 1-3 inches of rainfall in areas that have been under a persistent storm track in recent weeks led a 1-category improvement in the southernmost areas affected by D2H-D4H drought. Remaining moderate D1H drought and abnormally dry D0 designations reflect the continuing impact of long-term deficits and hydrological impacts. Small reductions in D3H and D4H drought in western and northern Alabama reflected the beneficial impact of rainfall totals of 2-4 inches. However, 12-month deficits of 20 or more inches remain in much of the northern half of Alabama and northern Georgia, where D4H remains.

A 1-category reduction from D4H to D3H was also made in a 3-county area of southwestern North Carolina, stretching into upstate South Carolina where 2-4 inches of precipitation fell. An additional 1-3 inches of rain in many parts of southeastern Virginia and northern Virginia/southern Maryland also allowed for a 1-category improvement. The D1/D0H boundary was moved south of the Washington DC area and the D2/D1H boundary was pushed southward in southeastern Virginia. Precipitation amounts generally less than 1 inch in central and western Virginia following several dry weeks left large 30-day deficits and status quo for drought conditions across all but extreme southwestern areas of the state. A 1-category improvement was made to D2 and D3H areas of southeastern Kentucky, southwestern Virginia, and northeastern Tennessee, where 1-2 inches of precipitation fell. Reductions in D1 and D2H were also made in eastern Mississippi where 3 to 5 inches of precipitation fell, however abnormally dry conditions were left across this area to reflect 12-month precipitation totals that are less than 70% of average in many places.

Exceptional (D4H) drought remained in much of North Carolina while being extended in portions of three counties in eastern NC. USGS streamflows continued to deteriorate as little precipitation fell in the lower Tar and Neuse River basins. Responses to the continuing lack of precipitation in central and eastern North Carolina include approval of stricter water restrictions by the City of Raleigh, a ban on all outdoor watering in the city and restrictions on car washes. According to the North Carolina State Climatologist, the Falls Reservoir remains at its lowest point ever for this time of the year and there are reports of deep wells going dry in Durham County. In southwestern Florida, severe (D2H) drought conditions pushed southward across all of Collier County while moderate drought (D1H) expanded to cover mainland Monroe and western Broward and Miami-Dade counties. Thirteen-month rainfall departures have exceeded 18 inches in parts of the area and Keetch-Byram drought indices between 500 and 600 reflect the extremely dry conditions.

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**The Great Lakes Region and Midwest:** Precipitation in northern Michigan (1-2 inches) helped end abnormally dry conditions in all but northwestern areas bordering Lake Michigan. Abnormally dry D0 conditions remain across the Upper Peninsula, where weekly totals were generally less than 0.5 inches and where 60 to 90-day precipitation totals are below average. Abnormally dry conditions came to an end in west-central Illinois and east-central Missouri where a storm that dropped more than 5 inches of snow across a large area was followed days later by an additional 1-3 inches of rainfall.

**The Plains:** Conditions deteriorated in areas of the northern and southern Plains as large parts of the region received little or no precipitation during the week. Following an expansion of D0 conditions the previous week in eastern North and South Dakota, abnormally dry conditions were extended farther eastward across southeastern North Dakota, northeastern South Dakota, and southwestern Minnesota. Precipitation during the past 30 to 60 days is generally less than 25% of average and snowpack is below average. While impacts this time of year remain negligible the precipitation deficits have the potential to lead to spring moisture shortages.

More widespread deterioration occurred in Texas where an extended dry period continued. Following an extremely wet first eight months of 2007 that had large parts of the state on track to a wettest year on record, a pattern change in September led to a sharp reversal in moisture conditions in much of the state. Dry conditions were reflected in National Weather Service Red Flag warnings in 174 counties on 4 February, and through the first five weeks of 2008, as many acres (121,305) had already burned in Texas as did in all of 2007 (121,964). A 1-category degradation to D2A was made in southwestern Texas from south of Del Rio to Laredo and San Antonio. A lack of rainfall made the September 2007 to January 2008 five-month period the 2<sup>nd</sup> driest on record for San Antonio (records dating to 1871) and the 4<sup>th</sup> driest at Austin Bergstrom (since 1949). D1A drought was also extended northward along the Colorado River and into the Waco area. Precipitation for the Waco area for the 125-day period from October 1, 2007 through February 3, 2008 was 10.3 inches, only 40% of normal. This followed a near-record wet first seven to eight months of 2007. The extremely wet first eight months of 2007 in Texas led to extensive vegetation growth that now serves in abundance as dry fuel for wildfires. Deteriorating conditions also occurred in a large part of northeastern Texas where abnormally dry D0A conditions were introduced along with an expansion of D1A drought in north-central Texas, where 90-day precipitation totals are less than 50% of normal for the period.

Winter wheat conditions in Texas as of February 3 reflect the dry conditions with 61% of the crop in poor or very poor condition. In Oklahoma, where there was no change in drought status but with half of the state either abnormally dry or in moderate drought, 29% of winter wheat was in poor or very poor condition.

**The Rockies, Intermountain West, and Far West:** Following an extremely active period that brought heavy rain and snow to central and southern California and large parts of the Southwest in the recent weeks, generally lighter amounts of precipitation fell during the past week. An exception was the Pacific Northwest, where a series of storms brought more than 5 inches of precipitation to many parts of the Cascades, northern Sierra, and coastal areas of Washington, Oregon, and northern California. It was not until late in the period that precipitation again fell across large parts of southern California and the Southwest, but totals were generally lighter than what resulted from the slow-moving storm of last week.

NRCS SNOTEL measurements indicate that snow water content is generally near average in Wyoming and Montana, while near to above average snow water content (90-150%) predominates in Utah, Nevada, Idaho, eastern Oregon, and the Sierras. Snow water content greater than 150%

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of average is widespread across Arizona, New Mexico, southern Colorado, and the Cascades of Washington and Oregon. While the widespread average to above average snowpack stands in sharp contrast to the past several years, the potential for rapid losses remains if very warm and windy conditions return in the coming weeks.

The uncertainty of conditions over the next six weeks dictates a cautious approach to drought reductions in the West at this time. Precipitation totals over the past several weeks and months, snowpack conditions, and guidance from local experts were used in making improvements in areas of Arizona, Nevada, Idaho, and California. A 1-category improvement and extension of D1H from western Utah into northern and central Nevada was made along with a reduction of drought severity to D0 in the Lake Tahoe area and a wider reduction to D1 in the Reno/Carson area. While mountain SNOTEL sites in Nevada show near average to slightly above average snow water content (90-125%), lower elevation snowpack in northeast Nevada is reported to be unusually high according to officials at the Western Regional Climate Center.

In northern Idaho, abnormally dry (D0) conditions were removed to reflect improvements brought about by two to three months of above average snowfall and heavy snowpack with snow water content at 110-125% of average. In northeast Arizona and northwest New Mexico, removal of D0 and reduction from D1 to D0 reflects the impact of much above average precipitation over the past three months. A 1-category change was made to D1H and D2H conditions along the southern end of the San Joaquin Valley of California to better align areas of severe drought where drier than average conditions have prevailed over the past three to six months.

**Alaska:** No change in drought status occurred across the state. Little or no precipitation fell across drought affected areas of Alaska as well as much of the rest of state outside of southern locations along the Gulf of Alaska and in the Panhandle, where liquid equivalent precipitation totals exceeded 2 inches in some places. Combined with colder than average temperatures, the active pattern brought more than 21 inches of snow to Sitka, Alaska during the first 4 days of the month.

**Looking Ahead:** For February 7-February 11, the upper-air pattern will consist of a transition to a trough in the East followed by zonal flow. Coastal rains and mountain snows will again fall in the Pacific Northwest and northern to central Rockies through much of the period. Light to moderate amounts of precipitation are expected in the Northeast with lake effect snows in the wake of a developing cyclone later in the period. Colder temperatures in the East on Sunday will follow the passage of a fast moving cold front on Saturday that will bring light rain and snow from the Midwest to the southern Appalachians. Temperatures in the Southeast will begin to moderate on Monday. No storm systems are expected to bring widespread precipitation to the southern tier of the nation during the period.

For the ensuing 5 days (February 12-16), projections favor a ridge that will bring warmer and drier than average conditions to the Southeast. An active storm track in the West may bring colder and wetter than average conditions from the Pacific Northwest to the Great Basin. A boundary between cold air over the northern Plains and warm air over the Southeast is expected to increase the probability of near to above average precipitation from the central Mississippi Valley to the Great Lakes and parts of the Northeast. Alaska is expected to be generally dry with the exception of the panhandle which will be influenced by the same storm track affecting the Pacific Northwest.

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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**

A ... Agricultural

H ... Hydrological

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