



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

Weekly Report - Snowpack / Drought Monitor Update **Date: 5 March, 2009**

SNOTEL SNOWPACK AND PRECIPITATION SUMMARY

Snow: Snow-water equivalent percent to date shows values dropping more than 10 percent over much of the 4-Corners States since last week. Deficits persist over the Northern Tier States while surpluses still exist over central Arizona, southwest Utah, and eastern Nevada (Fig 1). Unofficial forecast changes for the past 7 days in spring and summer streamflow runoff for selected SNOTEL sites show that forecast values have lowered over the 4-Corners States and are up slightly over the Northern Rockies (Fig. 1a). This past week's snow depth changes show increases over the Sierra, Idaho Ranges, and SW Montana Mountains and decreases over the 4-Corner States and parts of the Cascades (Fig. 1b).

Temperature: SNOTEL and ACIS-day station average temperature anomalies were above normal across most of the West with the exception of the Cascades and eastern Montana during the past week (Fig. 2). Specifically, the greatest positive temperature departures occurred over part of southern Arizona and New Mexico (>+10F) and the greatest negative departures occurred over northern Montana (<-15F) (Fig. 2a).

Precipitation: ACIS 7-day average precipitation anomaly for the period ending 4 March shows a very wet week from Central California to northern Idaho eastward to the Black Hills of South Dakota. Much drier conditions prevailed over the Southwest and Central Rockies (Fig. 3). Seasonal precipitation (rain & snow water equivalent) as a percent of normal for the 2009 Water Year that began on October 1, 2008 shows values remaining pretty much unchanged this week except for a one category improvement over the Northern Sierra (Fig. 3a). For precipitation totals, departures, and percent of normal for several time periods. See: <http://www.water.gov/> and <http://cig.mesonet.org/~derek/public/droughtmonitoring/>.

WESTERN DROUGHT STATUS

The West:

Beneficial precipitation again fell on central and northern California, bringing additional relief to areas in severe and extreme drought. Little to no precipitation fell from southern California to the southern Plains and conditions deteriorated in parts of the Southwest and southern Plains.

Although snowpack in much of the Colorado Rockies was above normal as meteorological winter ended, areas below 9000 feet in elevation on the east slopes remained in deficit. Persistent warmer and drier-than-average winter conditions along the front range of the Colorado Rockies produced an area of moderate (D1A) drought from southwest of Denver northward to the Wyoming border. Strong winds (more than 25 days with wind gusts exceeding 30 mph in Denver and Colorado Springs during the past three months) and the occurrence of record daily high temperatures contributed to the deteriorating conditions.

In southwest New Mexico abnormally dry conditions expanded westward into southeastern Arizona and moderate (D1A) drought developed in areas where winter season precipitation was less than 25% of average and snowpack water content less than 50% of seasonal averages. Abnormal

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dryness (D0) conditions were also established on the Olympic Peninsula of Washington, where winter precipitation deficits exceeded 15 inches and mountain snowpack water content was less than 75% of average at the beginning of March.

Heavy precipitation once again fell on the northern half of California, helping to ameliorate drought in the hardest hit areas of the state. From 2 to 6 inches of precipitation fell on large parts of the southern Cascades and central and northern Sierra Nevada. Similar totals were reported along the western coastline from northern California to parts of Washington State. From 1 to 2 inches fell in the central tier of California from the Sacramento area northward. A 1-category improvement across a large area of extreme (D3) drought occurred from the Pacific coast to the crest of the Sierras along with a reduction from severe (D2) to moderate (D1) in the northern Sacramento River Basin. Below average USGS streamflows and surface moisture deficits in January were replaced by flash flood and mudslide concerns as March began. Shasta Reservoir, the largest reservoir in California, increased 598,000 acre-feet in February, a 42% increase since the end of January and the 8th best January to February improvement in 54 years. These were the biggest such improvements since the early 1990s. Storage in the second largest reservoir in California, Oroville, increased more than 360,000 acre-feet during the same period, a 35.7% increase. But even with these big gains, Shasta and Oroville reservoirs were near the 5th and 2.5th percentile, respectively, at the end of February, an example of how historically low the levels fell in January. With heavy precipitation continuing in this area into the first week of March, further improvements are likely, and runoff during the snowmelt season is expected to bring additional gains. Conditions in central California also improved as a result of the anomalously wet conditions of the past several weeks. Water-year-to-date precipitation in the Central Sierra Nevada was above average as of March 1, and most reservoirs in the San Joaquin River Basin were above the 15th percentile. Reflecting the improving conditions, severe (D2) drought conditions improved to moderate (D1) drought along the east side of the San Joaquin Valley. Author: Jay Lawrimore, National Climatic Data Center, NOAA

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, and 4c).

SOIL MOISTURE

Soil moisture (Figs. 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://activefiremaps.fs.fed.us/lq_fire2.php. 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

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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.

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

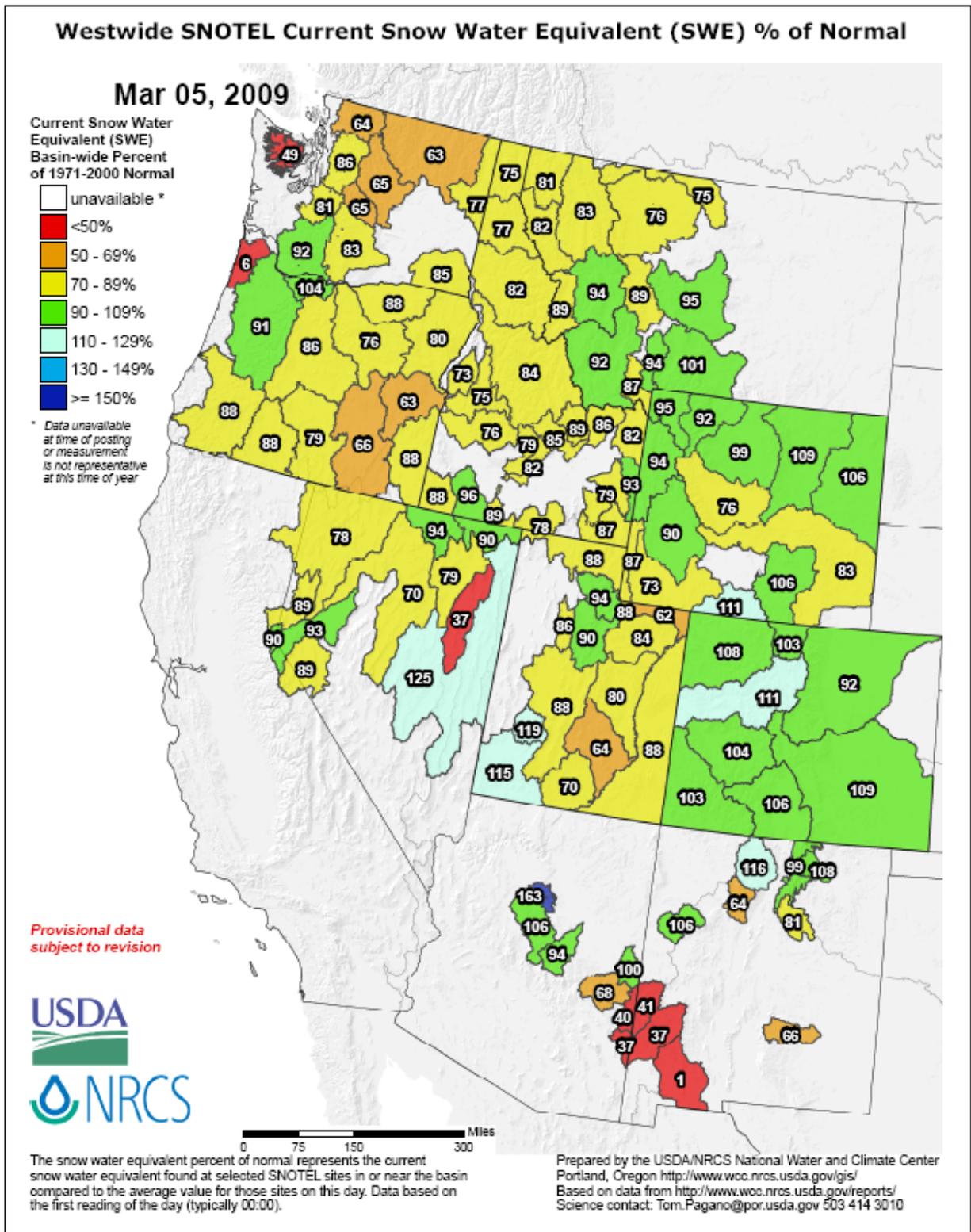


Fig. 1. Snow-water equivalent percent to date shows values dropping more than 10 percent over much of the 4-Corners States since last week. Deficits persist over the Northern Tier States while surpluses still exist over central Arizona, southwest Utah, and eastern Nevada.

Ref: ftp://ftp.wcc.nrcs.usda.gov/data/water/wcs/gis/maps/west_swepctnormal_update.pdf

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7-Day Guidance Forecast Change as Percent of 1971-2000 Normal

Mar 05, 2009

For guidance only

7-Day Guidance
Forecast Change
(% normal)

- ✕ > 20% gain
- ▲ 16 - 20%
- ▲ 11 - 15%
- ▲ 6 - 10%
- ▲ 1 - 5%
- ⊖ no change
- ▼ -5 - -1%
- ▼ -10 - -6%
- ▼ -15 - -11%
- ▼ -20 - -16%
- ✚ > 20% loss
- ⊗ Unavailable*

* Forecast unavailable due to insufficient realtime data or low forecast skill

Provisional Data
Subject to Revision

0 50 100 200 Miles



Prepared by the USDA/NRCS National Water and Climate Center
Portland, Oregon http://www.wcc.nrcs.usda.gov/wsf/daily_forecasts.html
Based on data from
ftp://ftp.wcc.nrcs.usda.gov/data/water/wcs/daily_forecast/SummaryOutput.csv
Science contact: Tom.Pagano@por.usda.gov 503 414 3010

This is a completely automated objective product based on SNOTEL data. This product is not meant to replace or supersede the official forecasts produced in coordination with the National Weather Service.

Fig. 1a: Selected preliminary daily water supply forecast changes since last week show that forecast values have lowered over the 4-Corners States and are up slightly over the Northern Rockies. Ref: ftp://ftp.wcc.nrcs.usda.gov/data/water/wcs/daily_forecast/maps/west_dailyfcst_7daych.pdf

SNOTEL 7-Day Snow Depth Change (Inches)

Mar 05, 2009

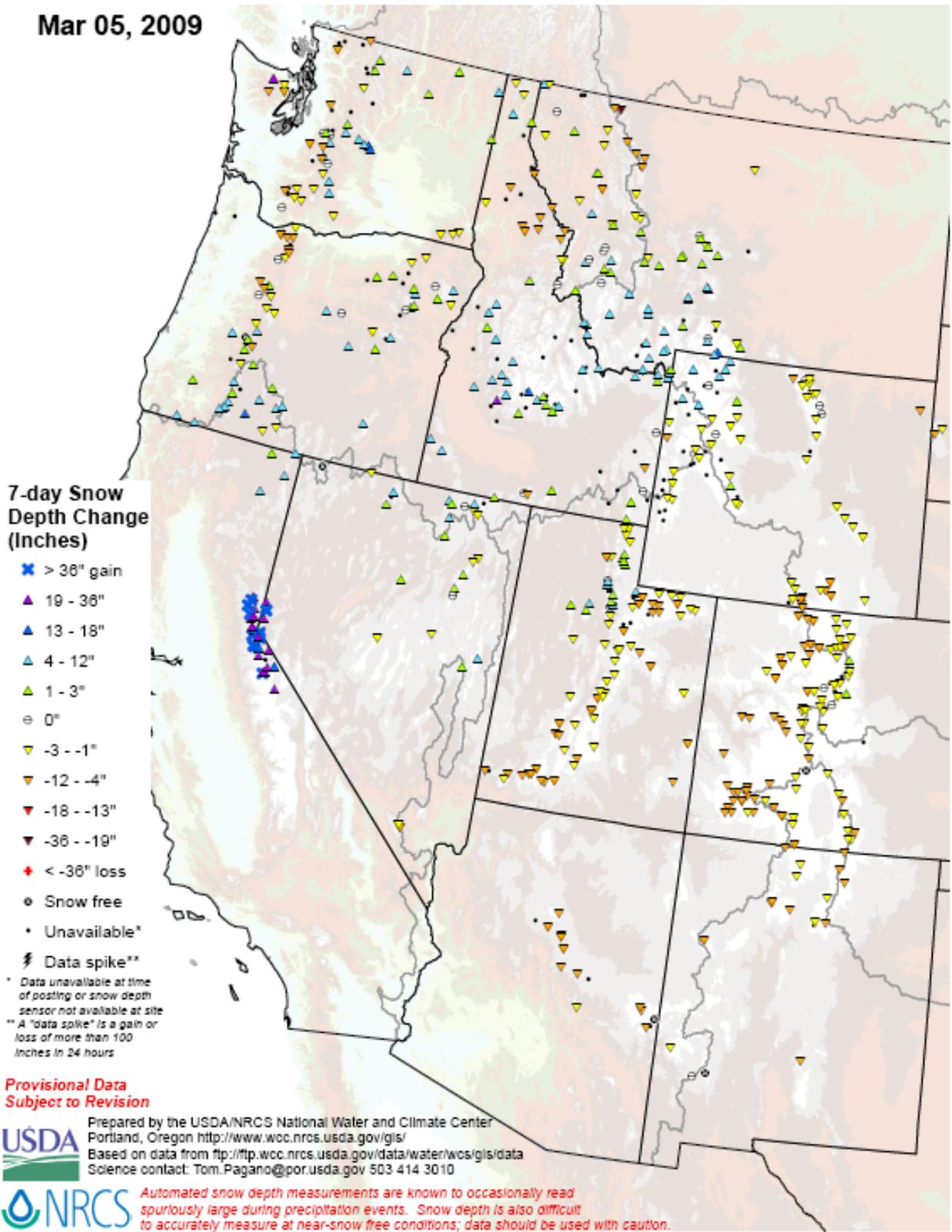


Fig. 1b: This past week's snow depth changes show increases over the Sierra, Idaho Ranges, and SW Montana Mountains and decreases over the 4-Corner States and parts of the Cascades. Ref: ftp://ftp.wcc.nrcs.usda.gov/data/water/wcs/gis/maps/west_snowdepth_7ddelta.pdf

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

Mar 05, 2009

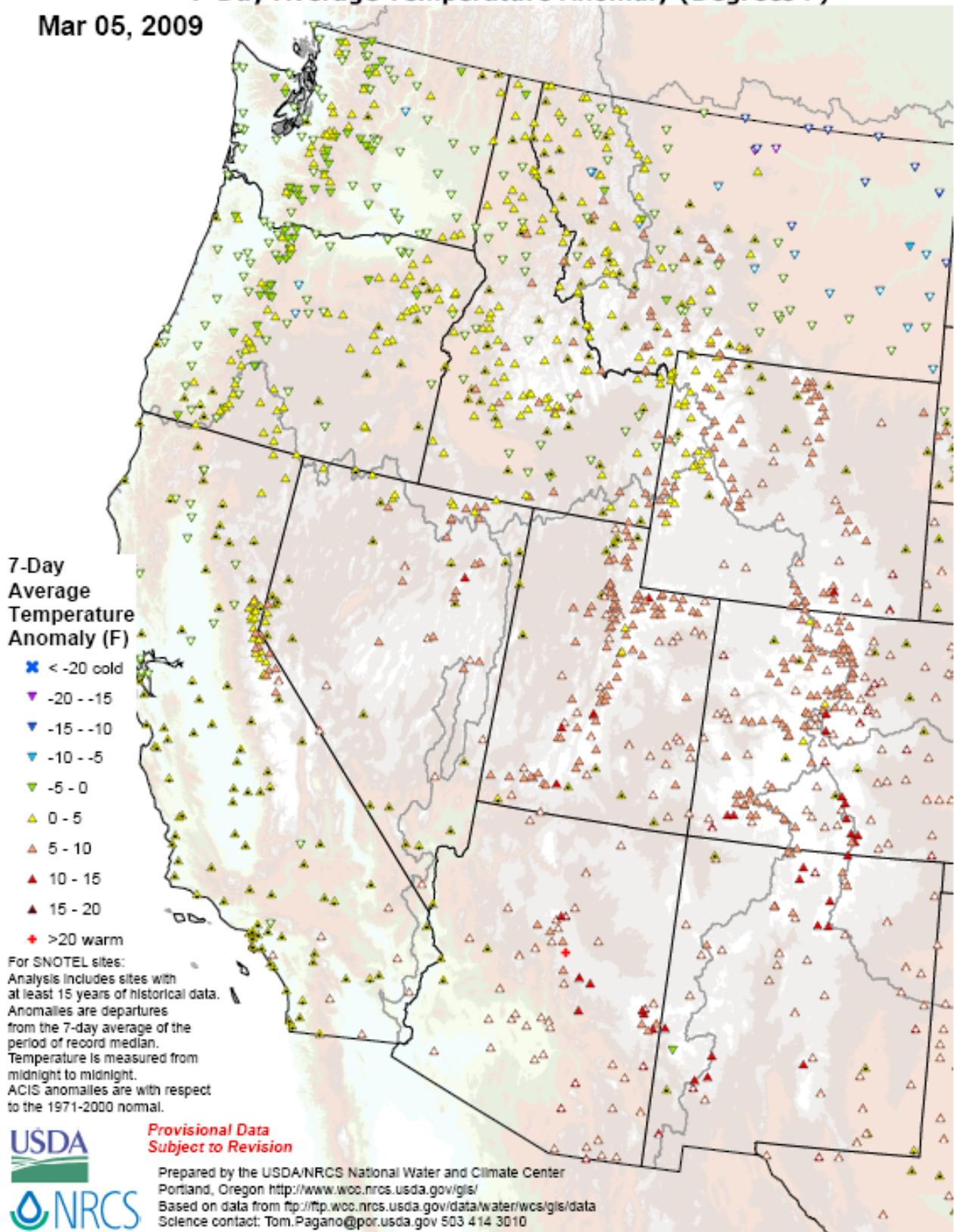
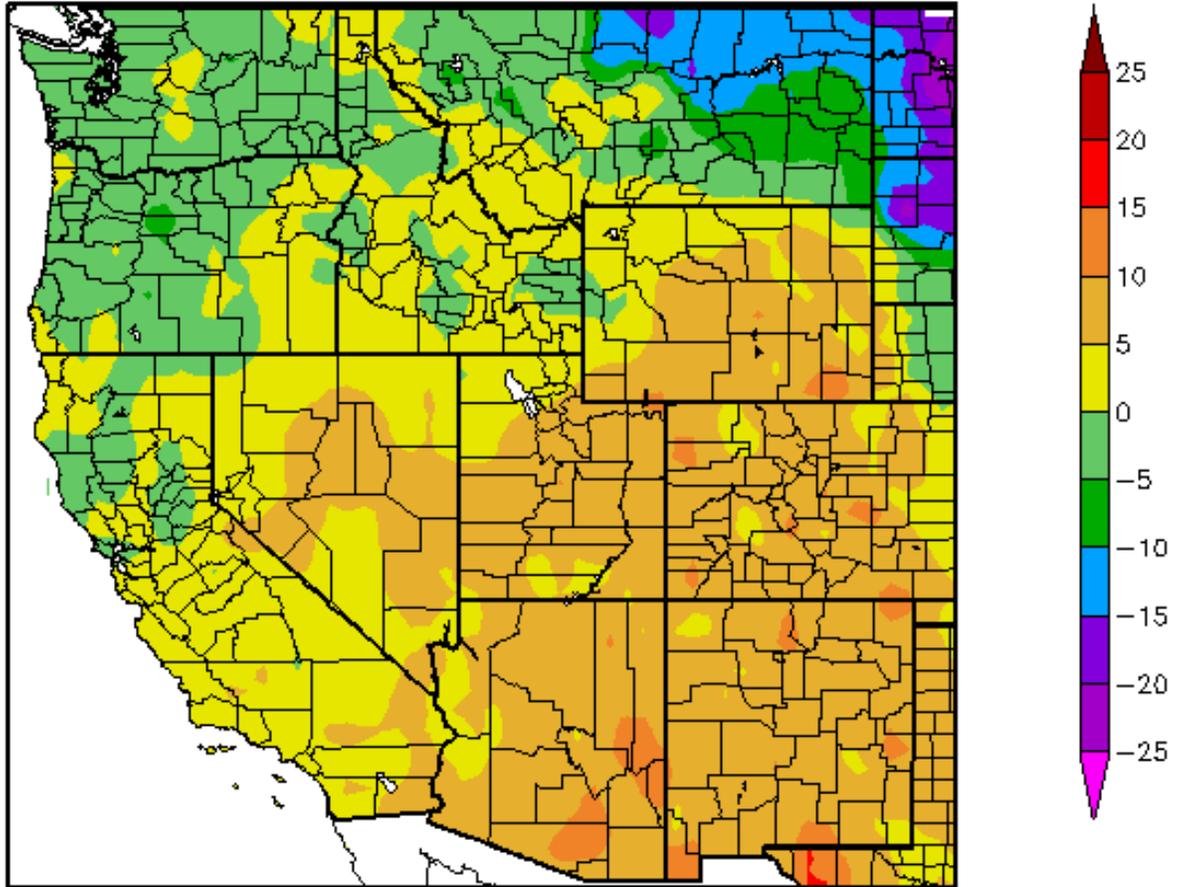


Fig. 2. SNOTEL and ACIS-day station average temperature anomalies were above normal across most of the West with the exception of the Cascades and eastern Montana during the past week.

Ref: <ftp://ftp.wcc.nrcs.usda.gov/data/water/wcs/gis/maps/WestwideTav7dAnomalyAcis.pdf>

Departure from Normal Temperature (F)
2/26/2009 – 3/4/2009



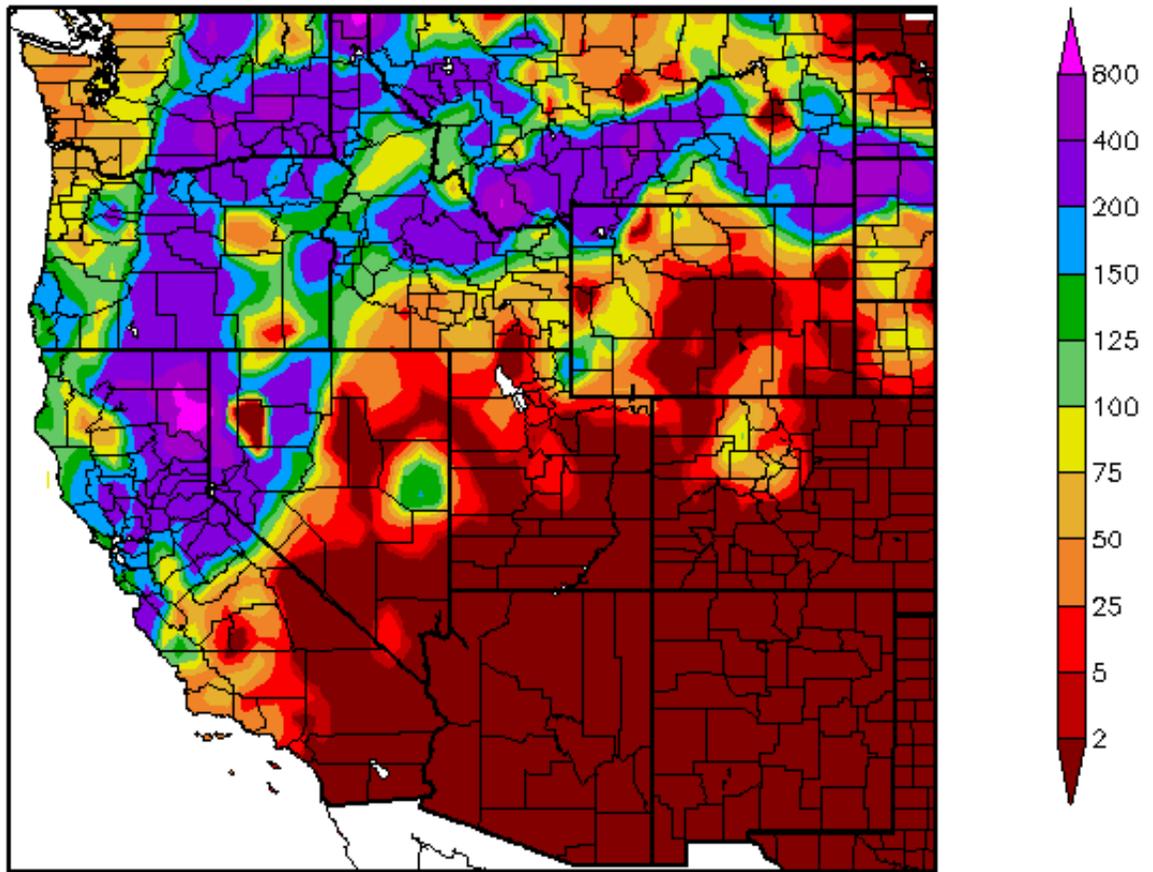
Generated 3/5/2009 at HPRCC using provisional data.

NOAA Regional Climate Centers

Fig. 2a. ACIS 7-day average temperature anomalies: Greatest positive temperature departures occurred over part of southern Arizona and New Mexico (>+10F) and the greatest negative departures occurred over northern Montana (<-15F).

Ref: http://www.hprcc.unl.edu/maps/current/index.php?action=update_product&product=TDdept

Percent of Normal Precipitation (%)
2/26/2009 – 3/4/2009



Generated 3/5/2009 at HPRCC using provisional data.

NOAA Regional Climate Centers

Fig. 3. ACIS 7-day average precipitation anomaly for the period ending 4 March shows a very wet week from Central California to northern Idaho eastward to the Black Hills of South Dakota. Much drier conditions prevailed over the Southwest and Central Rockies.

Ref: http://www.hprcc.unl.edu/maps/index.php?action=update_product&product=PNorm

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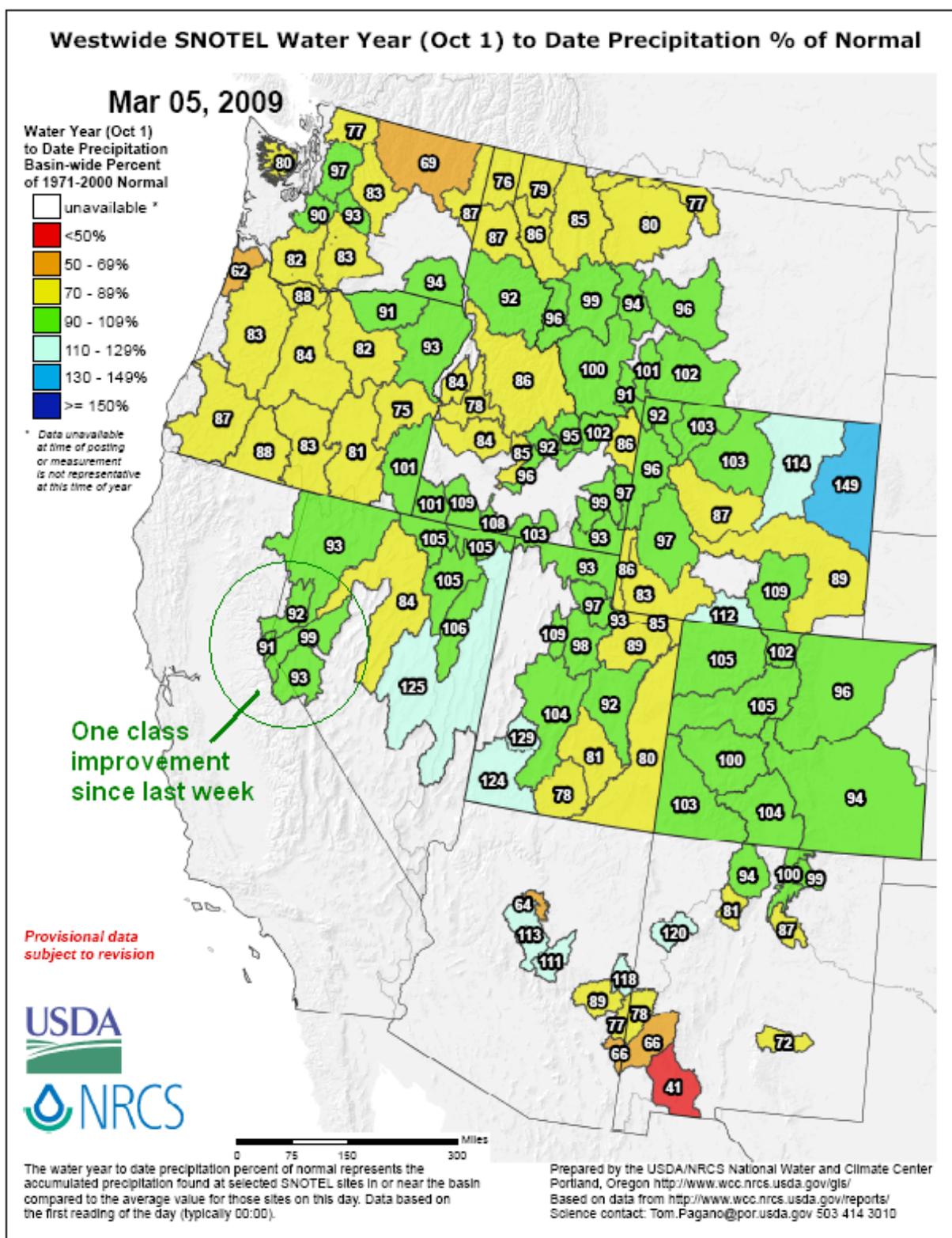
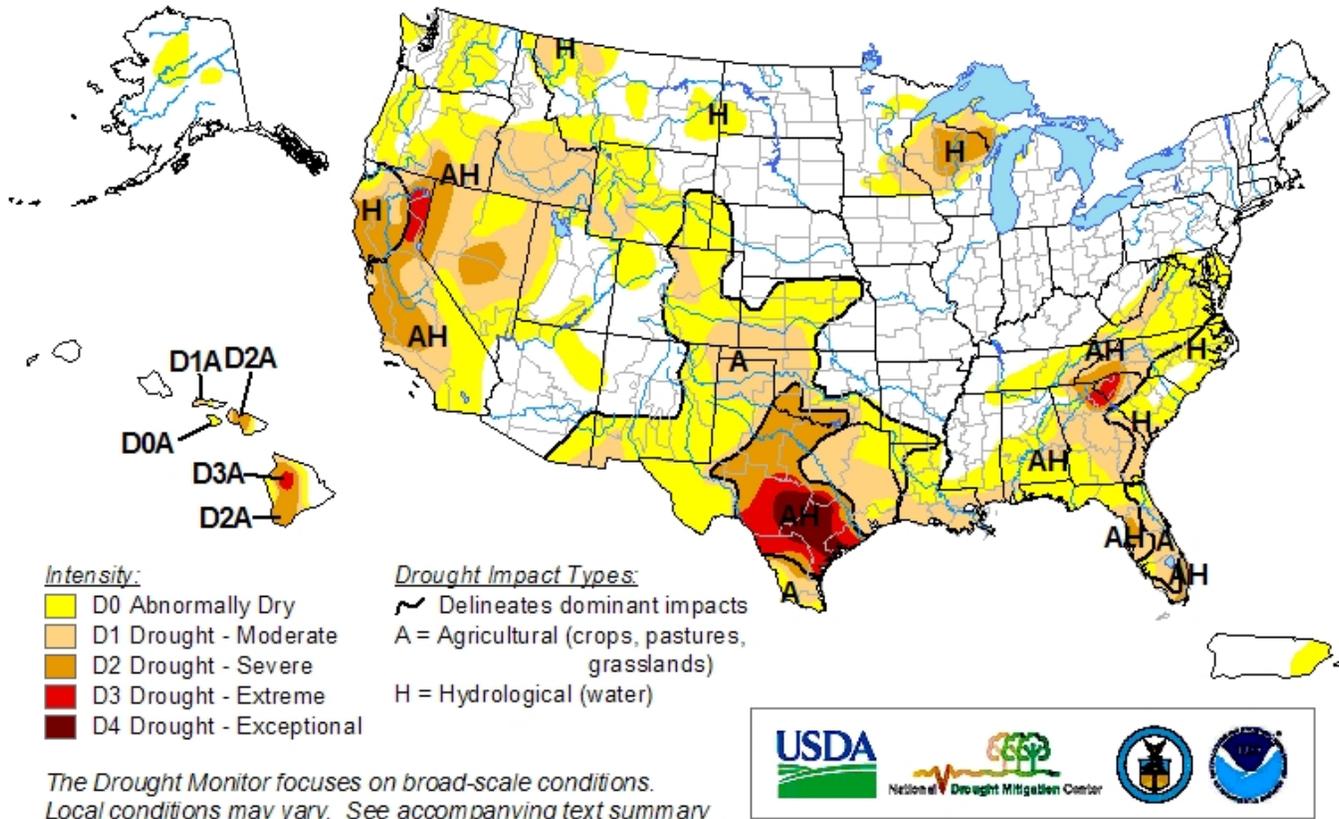


Fig 3b. Seasonal precipitation (rain & snow water equivalent) as a percent of normal for the 2009 Water Year that began on October 1, 2008 shows values remaining pretty much unchanged this week except for a one category improvement over the Northern Sierra.

Ref: http://ftp.wcc.nrcs.usda.gov/data/water/wcs/gis/maps/west_wytdprecpcnormal_update.pdf

U.S. Drought Monitor

March 3, 2009
Valid 7 a.m. EST



Released Thursday, March 5, 2009
Authors: Jay Lawrimore/Liz Love-Brotak NOAA/NESDIS/NCDC

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

Fig. 4. Current Drought Monitor weekly summary.
 Ref: National Drought Mitigation Center (NDMC) - <http://www.drought.unl.edu/dm/monitor.html>

U.S. Drought Monitor

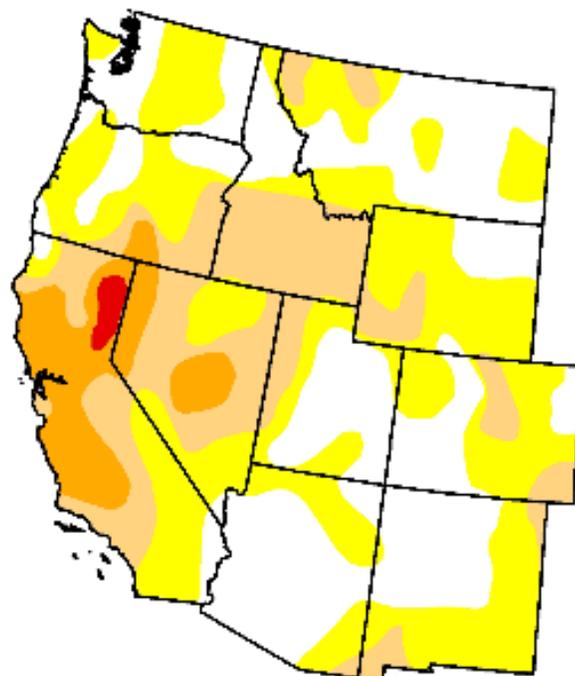
West

March 3, 2009

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	35.1	64.9	28.0	8.0	0.6	0.0
Last Week (02/24/2009 map)	37.2	62.8	26.5	9.0	2.0	0.0
3 Months Ago (12/09/2008 map)	32.8	67.2	29.9	9.8	0.4	0.0
Start of Calendar Year (01/06/2009 map)	37.4	62.6	28.9	8.8	0.4	0.0
Start of Water Year (10/07/2008 map)	41.3	58.7	28.6	10.4	0.1	0.0
One Year Ago (03/04/2008 map)	42.3	57.7	34.0	16.0	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, March 5, 2009

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

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

Fig. 4a. Drought Monitor for the Western States with statistics over various time periods. Note a slight improvement in the worst drought categories over California since last week.

Ref: http://www.drought.unl.edu/dm/DM_west.htm

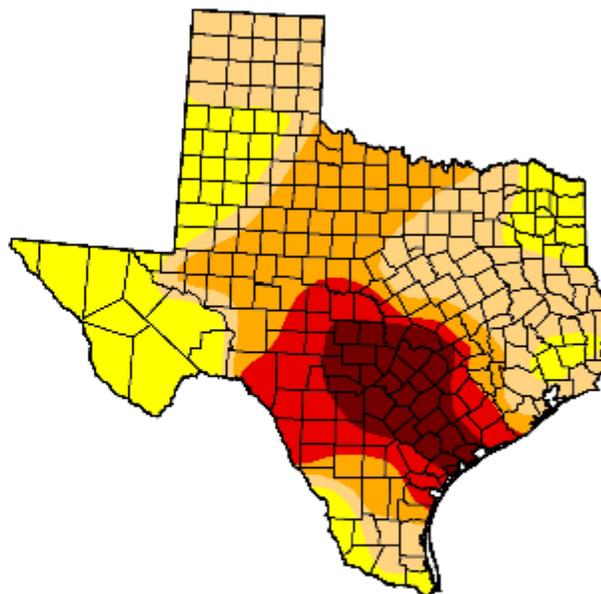
U.S. Drought Monitor

Texas

March 3, 2009
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.0	100.0	74.6	44.4	21.7	9.6
Last Week (02/24/2009 map)	3.2	96.8	65.5	43.1	19.9	8.6
3 Months Ago (12/09/2008 map)	52.9	47.1	24.6	15.0	8.1	3.2
Start of Calendar Year (01/06/2009 map)	41.7	58.3	24.5	15.0	9.1	4.2
Start of Water Year (10/07/2008 map)	67.2	32.8	20.5	11.0	3.6	0.0
One Year Ago (03/04/2008 map)	25.9	74.1	45.3	25.2	2.0	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



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

Fig. 4b: Texas is the only state with D4 drought condition in the US. Note general worsening since last week. Ref: http://www.drought.unl.edu/dm/DM_southeast.htm

Drought Monitor Classification Changes for Selected Time Periods

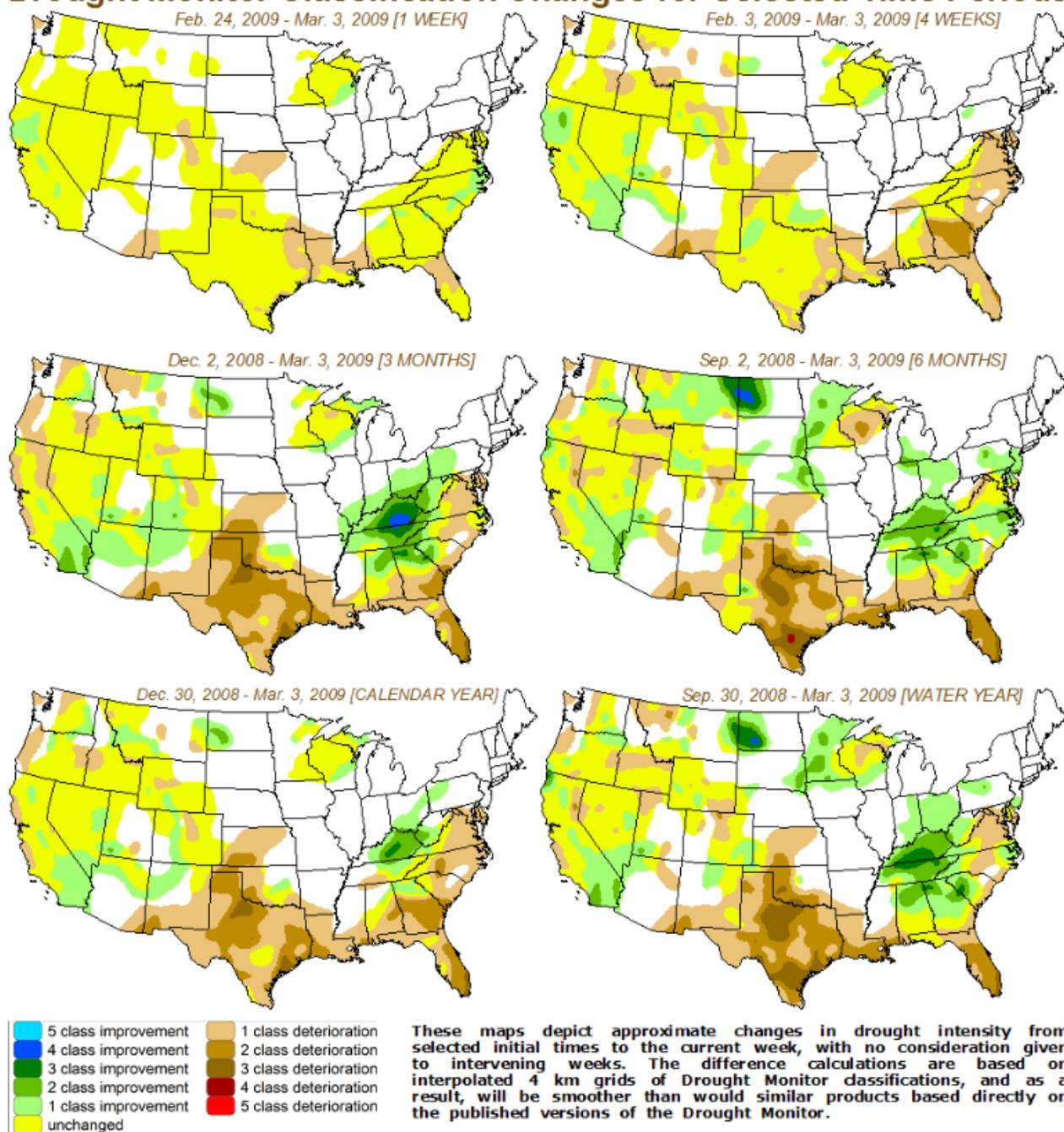
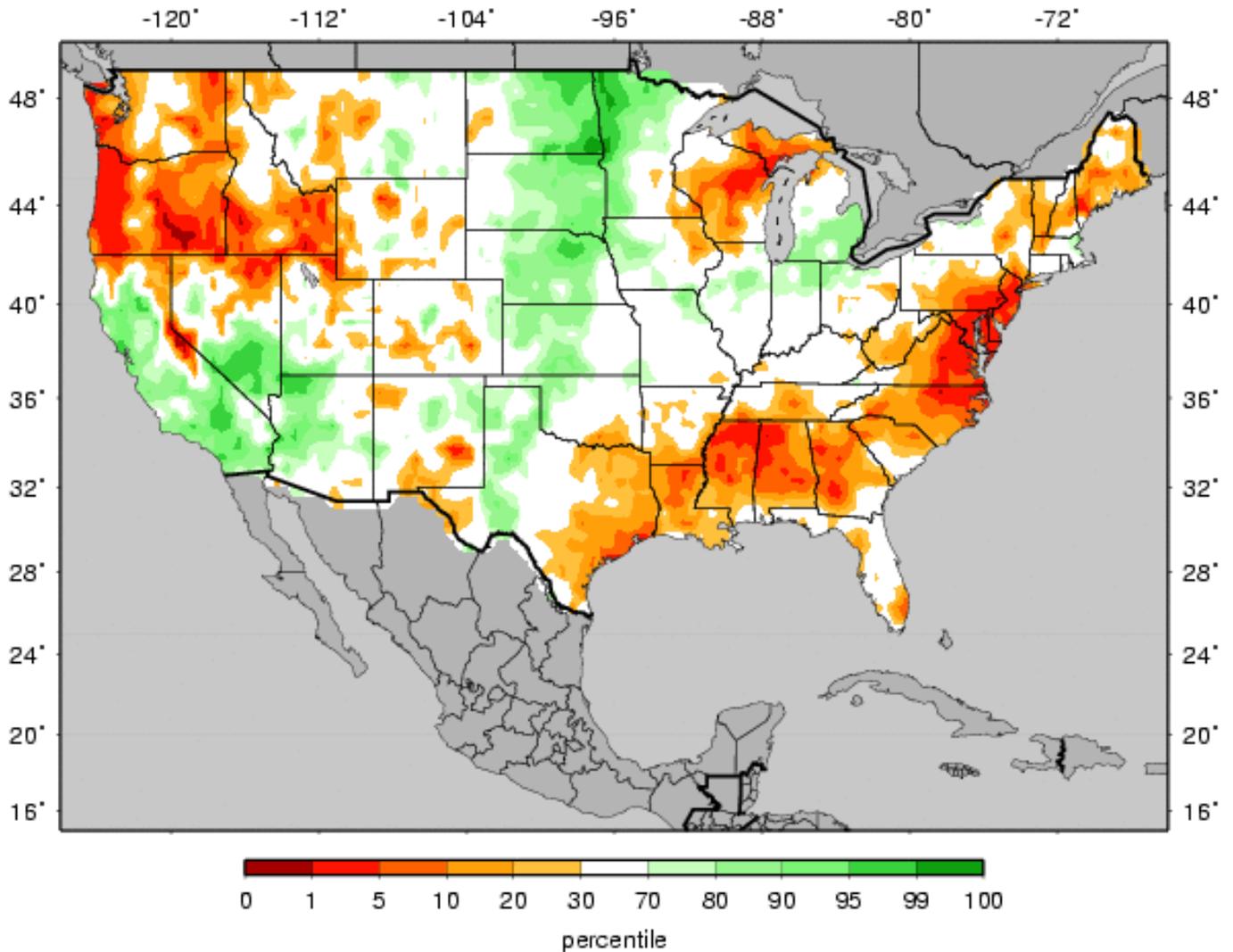


Fig. 4c: Drought Monitor Classification Changes for Selected Time Periods.

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

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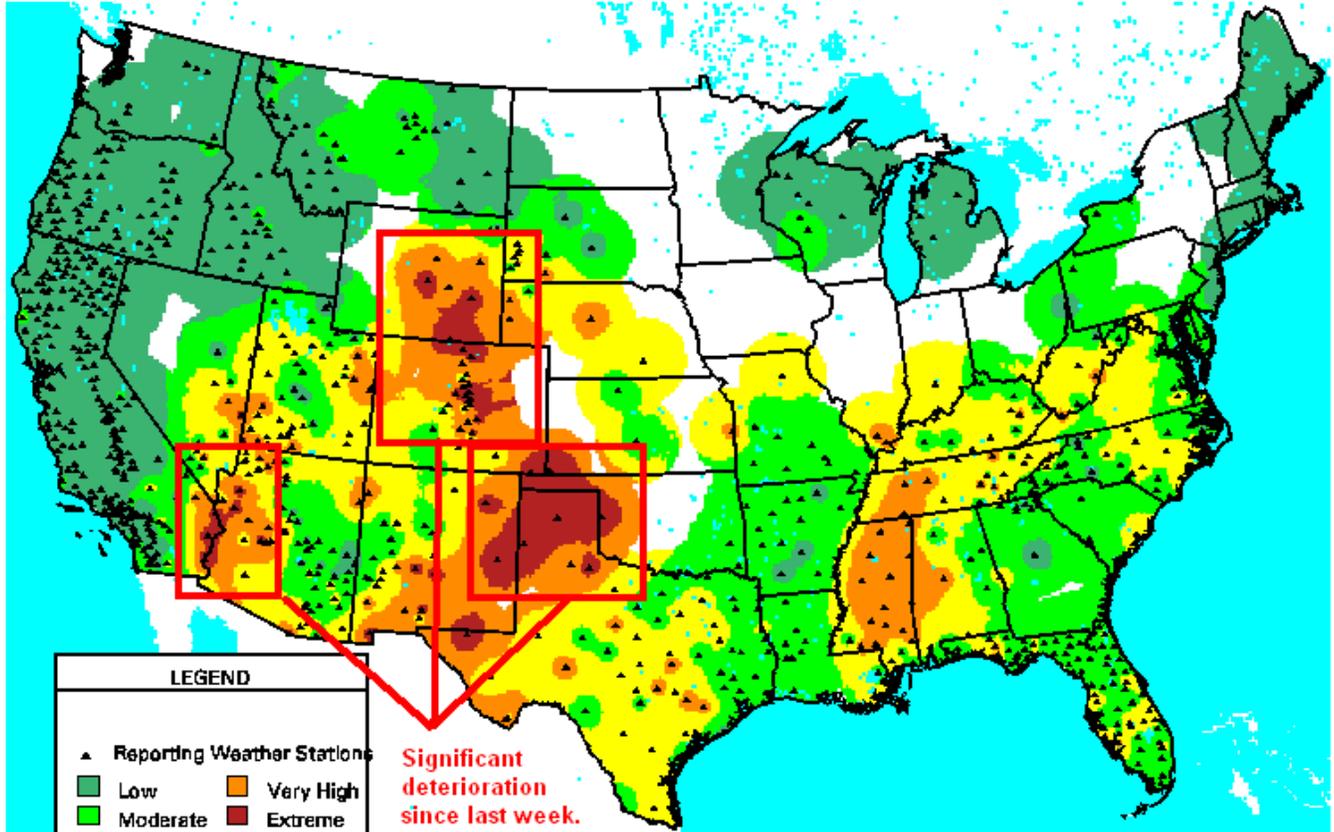
VIC Soil Moisture Percentiles (wrt/ 1916-2004)
20090303



Figs. 5a: Soil Moisture ranking in percentile based on 1916-2004 climatology for this past week. Near saturation exists over the Northern Plain while excessive dryness dominates much of the South, Mid-Atlantic, the Upper Peninsula of Michigan, and now the Pacific Northwest.

Ref: http://www.hydro.washington.edu/forecast/monitor/curr/conus.mexico/CONUS.MEXICO.vic.sm_qnt.gif

Observed Fire Danger Class: 04-MAR-09



LEGEND	
▲ Reporting Weather Stations	
Low	Very High
Moderate	Extreme
High	Water

Significant deterioration since last week.

{Inv. Dist.² Interp.}

WFAS-MAPS Graphics FIRE BEHAVIOR RESEARCH MISSOULA, MT



Fig. 6. Observed Fire Danger Class. Conditions have deteriorated over Northern Texas, the Wyoming and Colorado Rockies and over the Lower Colorado River since last week. Source: Forest Service Fire Behavior Research – Missoula, MT. Ref: http://www.fs.fed.us/land/wfas/fd_class.gif

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Wednesday, March 04, 2009

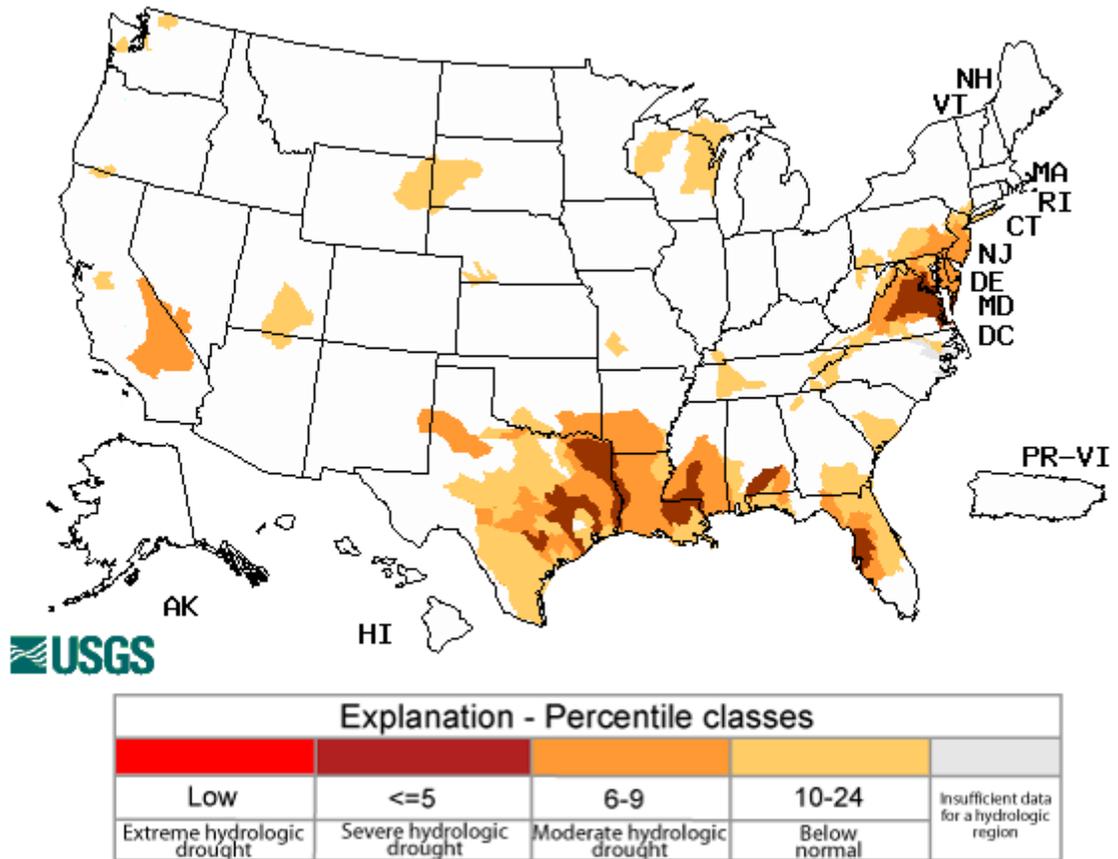


Fig. 7. Map of below normal 7-day average streamflow compared to historical streamflow for the day of year. Conditions are very poor from Texas and much of the southern Gulf Coast States to the Mid-Atlantic States during the past week. Elsewhere, over the Northern States, cold temperatures have probably frozen rivers and thus do not necessarily reflect accurate flows.

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

Weekly Snowpack and Drought Monitor Update Report

National Drought Summary – March 3, 2009

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/>.

Beneficial precipitation again fell on central and northern California, bringing additional relief to areas in severe and extreme drought. Little to no precipitation fell from southern California to the southern Plains and conditions deteriorated in parts of the Southwest and southern Plains. Two storm systems brought much needed rain and snow to the Southeast, leading to some improvements and staving off further degradation in other areas.

The East: Moderate to locally heavy precipitation (2 to more than 5 inches) fell from parts of northern Mississippi to central South Carolina while precipitation totals generally less than 2 inches fell in other areas of the Carolinas and southern Virginia. Precipitation came in the form of rain followed by a strong winter storm that brought from 4 to 12 inches of snow to a broad area from northern Georgia to the western Carolinas and northward through Virginia and the northeastern corridor.

Although much of the moderate to heavy precipitation in the Deep South fell in drought-free areas, one-category improvements were made in northern Alabama and northern Georgia. The area of abnormally dry (D0) conditions shrank in northern Alabama. A small drought-free area was established in northeast Georgia along with a reduction to the expanse of moderate (D1AH) to extreme (D3AH) drought areas in north-central and northeast Georgia. Precipitation totals from 3 to 5 inches during the past week brought a 1-category improvement from D1AH to D0 in east-central Georgia.

One-category reductions also occurred in the Carolinas along the eastern edges of the extreme (D3AH) and severe (D2AH) drought areas. Rainfall totals from 1 to 2 inches in parts of eastern South and North Carolina contributed to precipitation surpluses at the 6- and 12-month timescales and brought an end to abnormally dry (D0) conditions as well as a 1-category improvement in moderate (D1) drought in the northeastern corner of North Carolina and southeastern Virginia. Well levels and streamflows in the area rose appreciably following the week's rainfall. The improvement in short-term conditions resulted in an impact designation change from AH to H from eastern North Carolina to eastern Georgia.

Continued drier-than-average conditions on the peninsula of Florida resulted in expansion of abnormal dryness and moderate (D1A) drought in central to north-central areas of the state. Moderate (D1) and severe (D2) drought now stretches from the Gulf Coast to the Atlantic across much of the Florida Peninsula. A 1-category degradation to severe (D2AH) drought occurred in Gulf Coast counties north of Tampa where USGS streamflow values below the 5th percentile are widespread.

In southern Florida, Lake Okeechobee continues to fall by 0.03 to 0.04 feet per day, and was down to 12.78 feet by the beginning of March. In Miami-Dade County, severe (D2AH) drought spread southwestward. Underground reservations wells have dropped into the 10 to 30 percent level with some of the southern-most wells dropping to the lowest 10 percent level. In southern areas of the county some airboat tour companies have reportedly restricted travel in the area because of low water levels.

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Along northern fringes of the drought-affected region of the eastern U.S., abnormally dry (D0) conditions spread through northeast West Virginia and central Maryland into southern Pennsylvania. Precipitation deficits at timescales from 1 week to 6 months and streamflows below the 20th percentile are widespread.

The Great Lakes Region: Most of the drought-affected areas of the region received less than 0.5 inches of precipitation. But higher totals along the southern edges of the D0 to D2 affected areas of central Wisconsin on top of winter season totals that were generally near to above average, led to a northward contraction of abnormally dry (D0), moderate (D1H) and severe (D2H) drought. The areas affected by abnormal dryness also shrank in northeast Iowa.

The Plains and Mississippi River Delta: Another week of below-average precipitation from southern Mississippi to the southern Plains led to widespread expansion of abnormally dry conditions and moderate drought. Areas affected by severe to exceptional drought also increased in parts of Texas and Oklahoma.

Mounting short-term deficits led to a designation of abnormal dryness that stretched from southern Mississippi, across much of Louisiana into northeastern Texas, southern Arkansas, and southeastern Oklahoma. Moderate (D1) drought also expanded to cover an area from southwestern Alabama to southeastern Texas. In this area USGS 7-day to 28-day streamflows below the 10th percentile and 90-day precipitation totals less than 50% of average are widespread. In southwest Oklahoma severe (D2A) drought spread farther north through Washita, Custer and western Caddo counties as 30- to 60-day precipitation deficits led to deteriorating soil moisture conditions.

Conditions also continued to deteriorate across the core drought region of southern Texas. The center of dryness during the winter season occurred along the middle coast between Corpus Christi and Victoria, each receiving only slightly more than 10% of normal seasonal precipitation. It was the driest winter at Victoria and second driest at Corpus Christi, with records dating back to the late 1800s. As a result of the persistent dryness and warmer-than-average temperatures, exceptional (D4AH) drought spread southward to the Gulf Coast from southern Matagorda to Aransas County. High winds, low humidity, and dry vegetation in the state led to numerous wildfires. More than 30 homes and businesses were destroyed by a 750 acre wildfire in Bastrop County and at least 22 new fires were reported on the last day of February alone. March and April are on average the two most active months for wildfires across Texas, with extremely dry conditions creating the potential for more wildfires.

Since the beginning of the current drought in September 2007, this has been the driest 18-month September to February period in San Antonio since records began in 1885. It has been the 3rd driest such period in Austin since 1856. In Guadalupe County, about 30 miles east-northeast of San Antonio, county commissioners were reported to have declared a drought disaster during the past week as the county's cattle ranchers have been badly affected by the drought of the past 18 months.

An expansion of severe (D2AH) to exceptional (D4AH) drought also occurred around the periphery of the drought-affected areas in southern Texas. In the Panhandle, moderate (D1A) drought spread southward to a line from southern Deaf Smith to southern Collingsworth counties where large 60- and 90-day precipitation deficits are widespread.

Abnormal dryness (D0) expanded northward through much of Kansas in keeping with 30 to 90-day precipitation totals that have been less than 25 to 50% of average.

The West:

Although snowpack in much of the Colorado Rockies was above normal as meteorological winter ended, areas below 9000 feet in elevation on the east slopes remained in deficit. Persistent warmer

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and drier-than-average winter conditions along the front range of the Colorado Rockies produced an area of moderate (D1A) drought from southwest of Denver northward to the Wyoming border. Strong winds (more than 25 days with wind gusts exceeding 30 mph in Denver and Colorado Springs during the past three months) and the occurrence of record daily high temperatures contributed to the deteriorating conditions.

In southwest New Mexico abnormally dry conditions expanded westward into southeastern Arizona and moderate (D1A) drought developed in areas where winter season precipitation was less than 25% of average and snowpack water content less than 50% of seasonal averages. Abnormal dryness (D0) conditions were also established on the Olympic Peninsula of Washington, where winter precipitation deficits exceeded 15 inches and mountain snowpack water content was less than 75% of average at the beginning of March.

Heavy precipitation once again fell on the northern half of California, helping to ameliorate drought in the hardest hit areas of the state. From 2 to 6 inches of precipitation fell on large parts of the southern Cascades and central and northern Sierra Nevada. Similar totals were reported along the western coastline from northern California to parts of Washington State. From 1 to 2 inches fell in the central tier of California from the Sacramento area northward. A 1-category improvement across a large area of extreme (D3) drought occurred from the Pacific coast to the crest of the Sierras along with a reduction from severe (D2) to moderate (D1) in the northern Sacramento River Basin. Below average USGS streamflows and surface moisture deficits in January were replaced by flash flood and mudslide concerns as March began. Shasta Reservoir, the largest reservoir in California, increased 598,000 acre-feet in February, a 42% increase since the end of January and the 8th best January to February improvement in 54 years. These were the biggest such improvements since the early 1990s. Storage in the second largest reservoir in California, Oroville, increased more than 360,000 acre-feet during the same period, a 35.7% increase. But even with these big gains, Shasta and Oroville reservoirs were near the 5th and 2.5th percentile, respectively, at the end of February, an example of how historically low the levels fell in January. With heavy precipitation continuing in this area into the first week of March, further improvements are likely, and runoff during the snowmelt season is expected to bring additional gains. Conditions in central California also improved as a result of the anomalously wet conditions of the past several weeks. Water-year-to-date precipitation in the Central Sierra Nevada was above average as of March 1, and most reservoirs in the San Joaquin River Basin were above the 15th percentile. Reflecting the improving conditions, severe (D2) drought conditions improved to moderate (D1) drought along the east side of the San Joaquin Valley.

Hawaii, Alaska and Puerto Rico: Drought conditions remained unchanged across the Hawaiian Islands, where it was a generally drier-than-average week. Abnormal dryness persisted in parts of Alaska. Mounting short-term precipitation deficits brought an expansion of abnormally dry conditions to eastern areas of Puerto Rico. Rainfall totals in this area have been less than 50% to 75% of normal during the past three months.

Looking Ahead: The northern tier states are anticipated to receive the bulk of precipitation during March 5 – March 9, 2009. Widespread areas of precipitation are expected to occur from the Colorado Rockies to northern California and the Pacific Northwest. From 1 to 2 inches is possible in the mountains of the Pacific Northwest while lighter amounts are more likely over the Rocky Mountains of Colorado and the northern sections of the Intermountain West. Precipitation is again expected to fall in northern California, but amounts will likely be lower than the recent past. Forecasts indicate light precipitation in drought-affected areas of the Upper Midwest. Little to no precipitation is anticipated in the most southern parts of the Southwest, and the Southeast will likely remain precipitation free until the passage of a frontal system as the period comes to a close. Temperatures are expected to be below average across much of the western third of the nation while the central and eastern U.S. are expected to be warmer to much warmer than average.

Weekly Snowpack and Drought Monitor Update Report

For the ensuing 5 days (March 10 – 14, 2009), the odds favor a continuation of cooler-than-normal conditions from the West Coast to the Rockies and into the Plains with well below average temperatures in the northern Rockies and northern Plains. Above-average temperatures are more likely in the Southeast and mid-Atlantic. A much drier pattern is favored to return to northern California and the Pacific Northwest while an active weather pattern affects the eastern two-thirds of the nation from the Rockies to the East Coast. Above average precipitation is forecast across much of the central and eastern U.S. with the heaviest amounts in the Ohio and Tennessee Valley. However little or no precipitation is anticipated over the Florida Peninsula and West Texas. In Alaska, above normal temperatures and precipitation are favored across the Aleutians and western Alaska, while below-average temperatures and precipitation are expected in the Alaska Panhandle.

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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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