



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

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

**Date: 9 June 2011**

## **SNOTEL SNOWPACK AND PRECIPITATION SUMMARY**

**Snow:** SNOTEL Snow-Water Equivalent (SWE) percent of normal values for 9 June 2011 shows very high values for many SNOTEL basins since seasonal snowmelt has been delayed somewhat due to cooler than average temperatures for this time of year. Since we are well past the peak SWE, values can increase statistically but in most cases the “total” SWE is actually less than the preceding week. However, with the onset of hot weather or heavy rainfall, flooding potential increases dramatically as a result of this abundant snow pack (Fig. 1). 7-Day snow depth changes reflect rapid melting of one to three feet. As a result some significant flooding can be anticipated across portions of the West in the coming weeks. For the current flooding conditions, see: <http://www.hpc.ncep.noaa.gov/nationalfloodoutlook/> (Fig.1a). For example, there is some potential flooding concerns over the Missouri River Basin. For the latest outlook, see: <http://www.crh.noaa.gov/mbrfc/?n=fop>.

**Temperature:** SNOTEL and ACIS 7-day temperature anomaly shows a rather cool week over most of the West with the exception of slightly above normal temperatures over northern Cascades and Central Rockies (fig. 2). ACIS 7-day average temperature anomalies show that the greatest positive temperature departures across the Southern High Plains (>+9°F) and the greatest negative departures over central California (<-12°F) (Fig. 2).

**Precipitation:** ACIS 7-day average precipitation amounts for the period ending 8 June shows the bulk of the heaviest precipitation (thunderstorms) confined to western Montana-northern Idaho and the Northern Sierra (Fig. 3). In terms of percent of normal, the precipitation was highest in a large swatch extending from California to Montana (Fig 3a). It should be emphasized that extensive precipitation over California is rare in June so when it occurs, the percentages sky rocket. For the 2011 Water-Year that began on 1 October 2010, the greatest deficits are found over the extreme southern reaches of the Southwest. Areas with the highest values are found over the Great Basin, Cascades, and parts of Northern and Central Rockies. Week to week changes become less likely during the remainder of the water-year (Fig 3b).

**Weekly Summary:** This week featured a fairly dry pattern with the active storm track located across the northern tier of the contiguous US. A storm system that began the week out west moved across the northern Great Plains, then across southern Canada. The trailing cold front, and impulses along it, moved across the eastern half of the contiguous 48 states, although little rainfall accompanied the cold front. A second storm system moved along a similar track during the latter portions of the weekend and into the early portions of this week. The two systems combined to generate rainfall across California (1.0 – 5.0 inches), Pacific Northwest (widespread 0.5-1.5 inches with isolated amounts of over 2.5 inches), and across the northern Rockies (0.5 – 3.0 inches). Significant rains (1.0 – 6.6 inches) also fell across north-central Kansas with isolated areas of rain (0.5 inch – 2.5 inches) across the Mid-West, Lower Great Lakes, and Carolinas. Portions of western Hawaii received notable rains (0.7 – 6.3 inches) as an upper-level trough remained in place for much of the week. Outside of those areas, rainfall was generally too light to improve drought conditions.

## Weekly Snowpack and Drought Monitor Update Report

**Rockies and Southwest:** Inputs from the NIDIS: Upper Colorado River Basin Pilot Project continued dryness, so extreme drought (D3) was introduced into the San Luis Valley, avoiding the surrounding higher elevations as the mountains have received closer to average amounts of precipitation for the Water Year. SPI9 and SPI12 indicate the driest conditions are longer-term but recent (30-day) percent of normal precipitation is indicating less than 5 percent of normal precipitation has fallen during the last month.

Southeastern Arizona and southwestern New Mexico continued to feel the brunt of the dry conditions with wildfires spreading across eastern Arizona. The dry conditions across this region prompted an expansion of extreme (D3) and exceptional (D4) drought across this region, all supported by SPI3,6,9 and NLDAS outputs as well as 30-day percent of normal precipitation below 2 percent. Author: Matthew Rosencrans, NOAA/NWS/NCEP/CPC.

***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 through 4e).

### **U.S. HISTORICAL STREAMFLOW**

[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).

This map, (Fig. 7) shows the 7-day average streamflow conditions in hydrologic units of the United States and Puerto Rico for the day of year. The colors represent 7-day average streamflow percentiles based on historical streamflow for the day of the year. Thus, the map shows conditions adjusted for this time of the year. Only stations having at least 30 years of record are used. Sub-regions shaded gray indicate that insufficient data were available to compute a reliable 7-day average streamflow value. During winter months, this situation frequently arises due to ice effects. The data used to produce this map are provisional and have not been reviewed or edited. They may be subject to significant change.

### **STATE ACTIVITIES**

State government drought activities can be tracked at the following URL: <http://drought.unl.edu/mitigate/mitigate.htm>. NRCS SS/WSF State Office personnel are participating in state drought committee meetings and providing the committees and media with appropriate SS/WSF information - <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>.

Additional information describing the products available from the Drought Monitor can be found at the following URL: <http://drought.unl.edu/dm/> and <http://drought.gov>.

### **FOR MORE INFORMATION**

The National Water and Climate Center Homepage provide the latest available snowpack and water supply information. Please visit us at <http://www.wcc.nrcs.usda.gov>. This document is available from the following location on the NWCC homepage -

## Weekly Snowpack and Drought Monitor Update Report

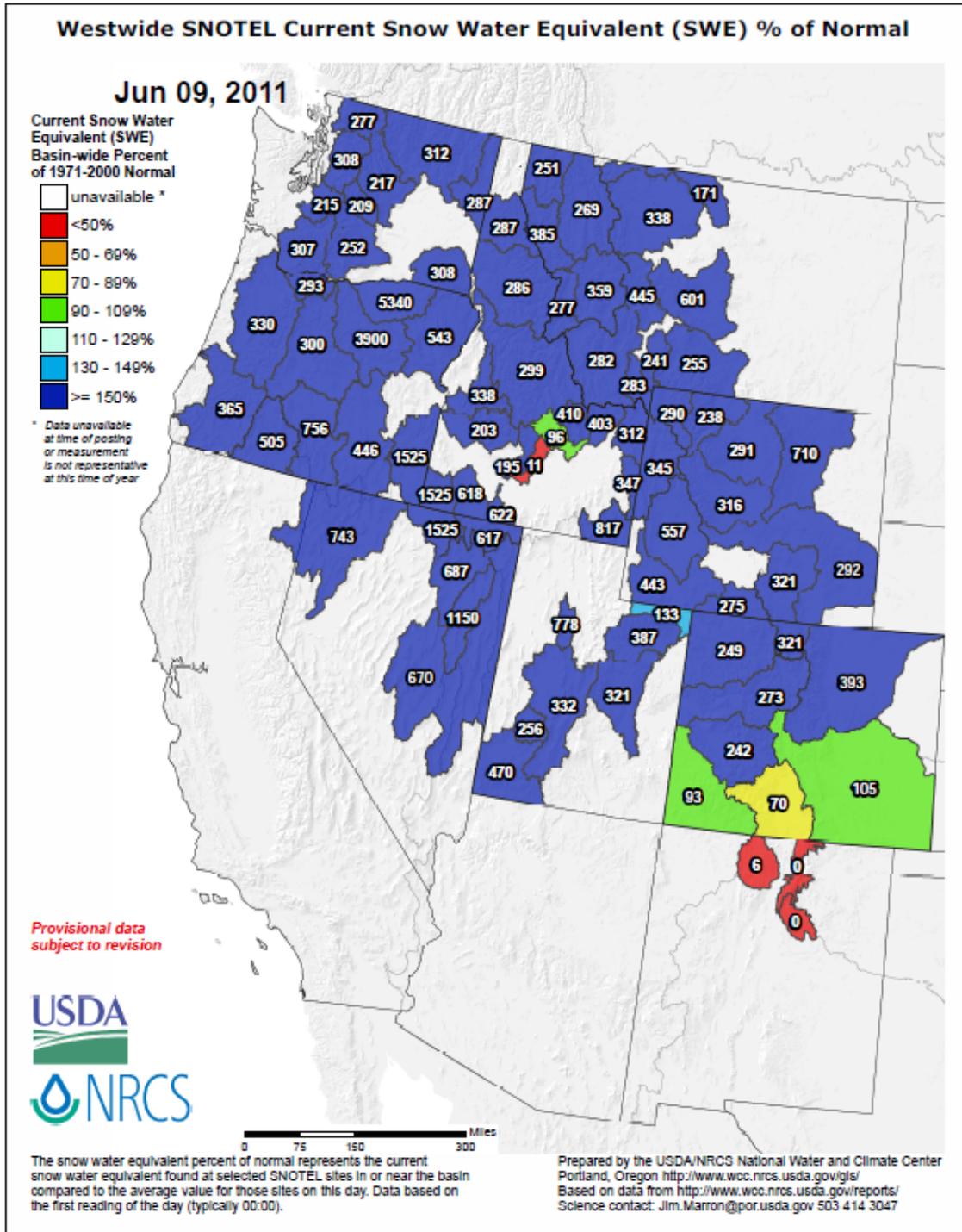
<http://www.wcc.nrcs.usda.gov/water/drought/wdr.pl>

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

/s/

Gregory K. Johnson, Acting Director  
Resources Inventory Division

## Weekly Snowpack and Drought Monitor Update Report



**Fig. 1: SNOTEL Snow-Water Equivalent (SWE) percent of normal values for 9 June 2011 shows very high values for many SNOTEL basins since seasonal snowmelt has been delayed somewhat due to cooler than average temperatures for this time of year. Since we are well past the peak SWE, values can increase statistically but in most cases the “total” SWE is actually less than the preceding week. However, with the onset of hot weather or heavy rainfall, flooding potential increases dramatically as a result of this abundant snow pack. Ref: [http://www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/west\\_swepctnormal\\_update.pdf](http://www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/west_swepctnormal_update.pdf)**

# Weekly Snowpack and Drought Monitor Update Report

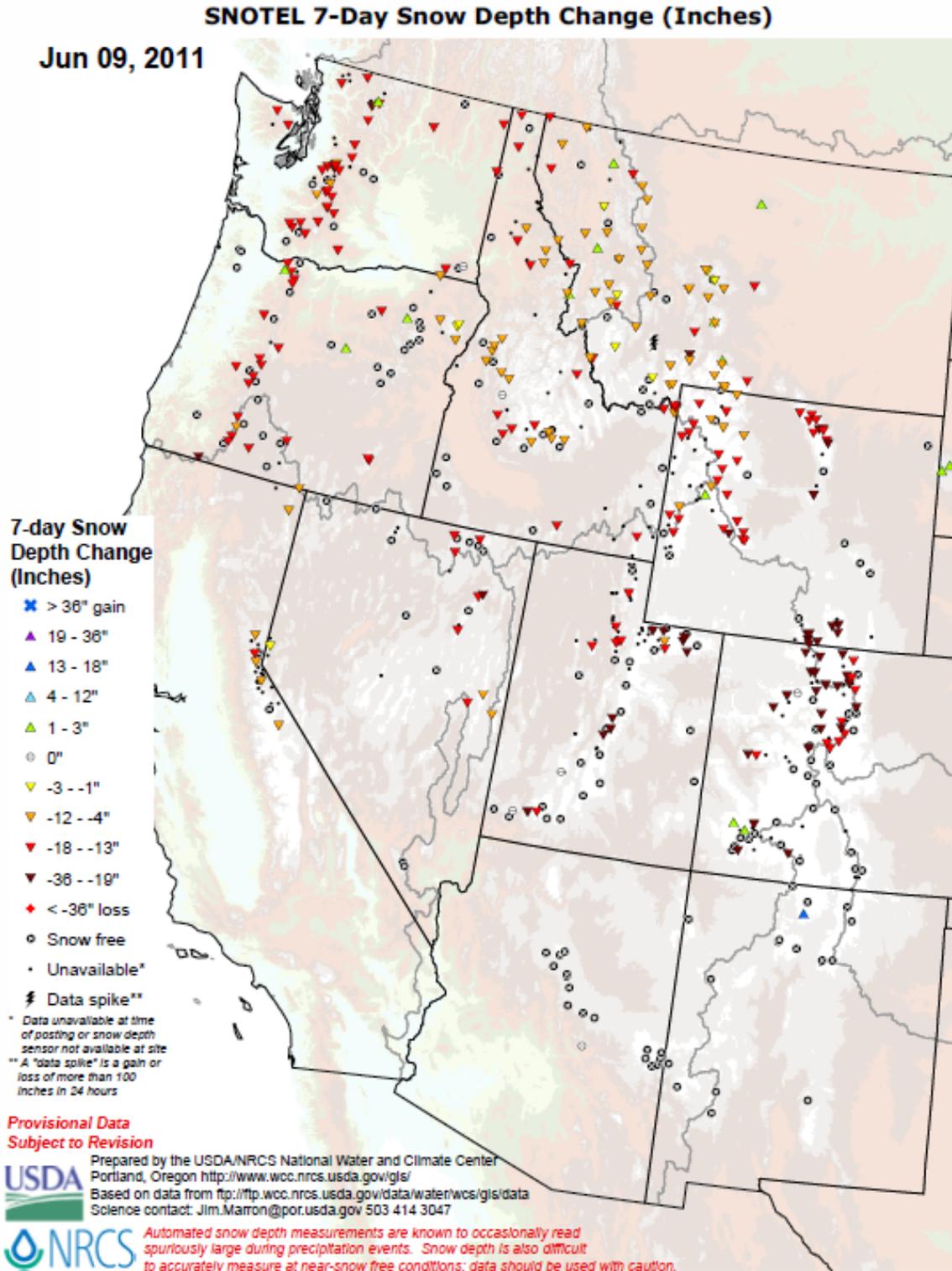
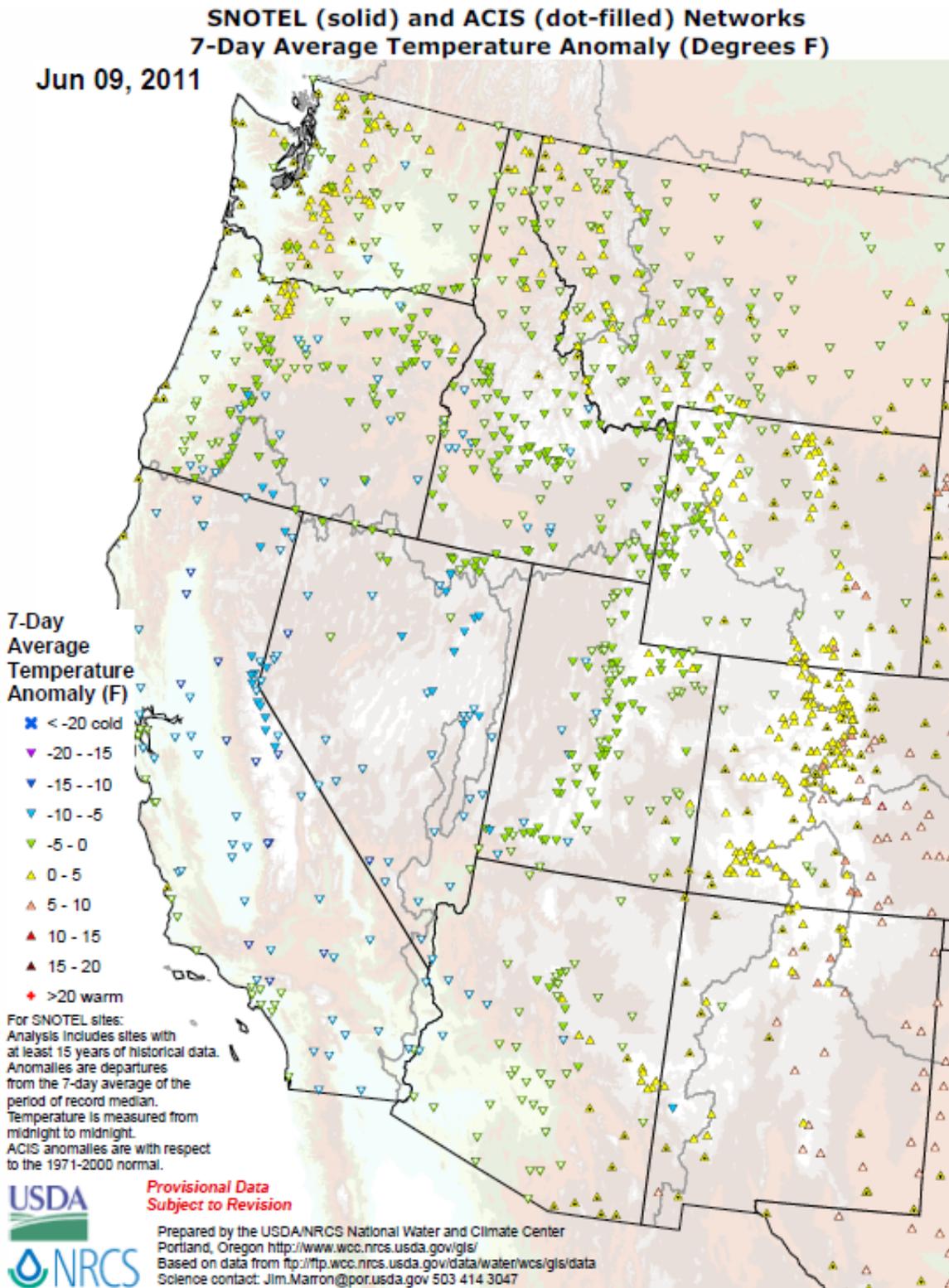


Fig. 1a: 7-Day snow depth changes reflect rapid melting of one to three feet. As a result some significant flooding can be anticipated across portions of the West in the coming weeks. For the current flooding conditions, see: <http://www.hpc.ncep.noaa.gov/nationalfloodoutlook/>

Ref: [http://www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/west\\_snowdepth\\_7ddelta.pdf](http://www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/west_snowdepth_7ddelta.pdf)

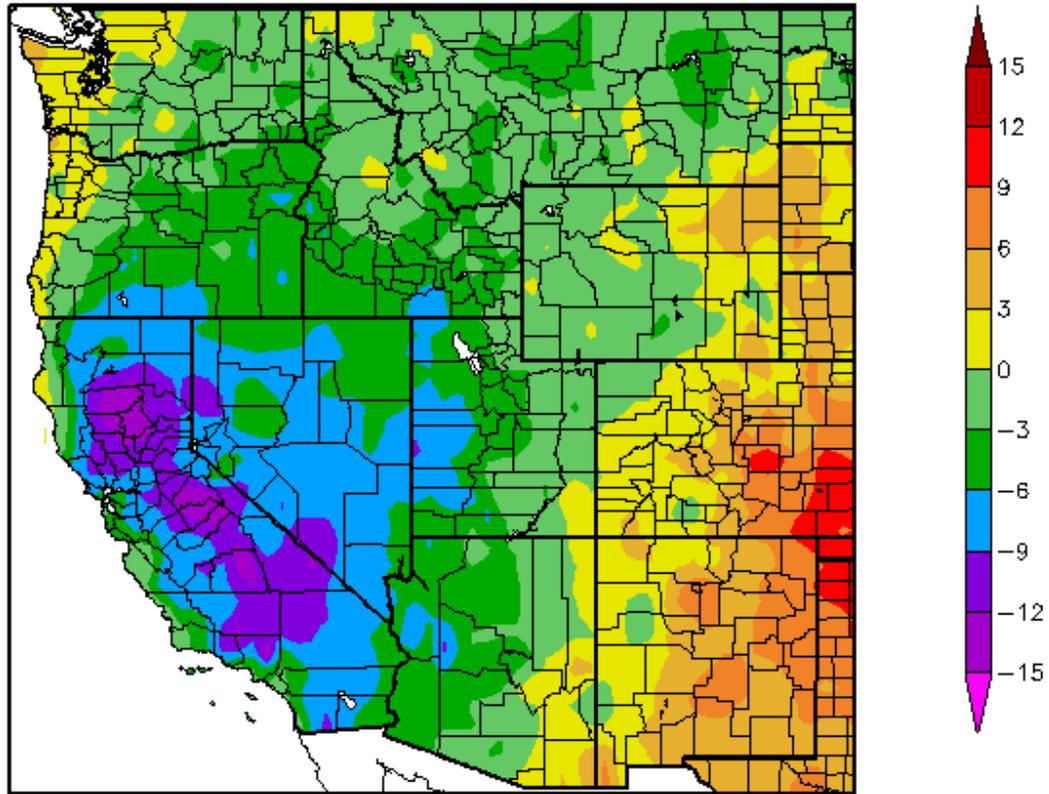
# Weekly Snowpack and Drought Monitor Update Report



**Fig. 2: SNOTEL and ACIS 7-day temperature anomaly shows a rather cool week over most of the West with the exception of slightly above normal temperatures over northern Cascades and Central Rockies.**

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

Departure from Normal Temperature (F)  
6/2/2011 – 6/8/2011



Generated 6/9/2011 at HPRCC using provisional data.

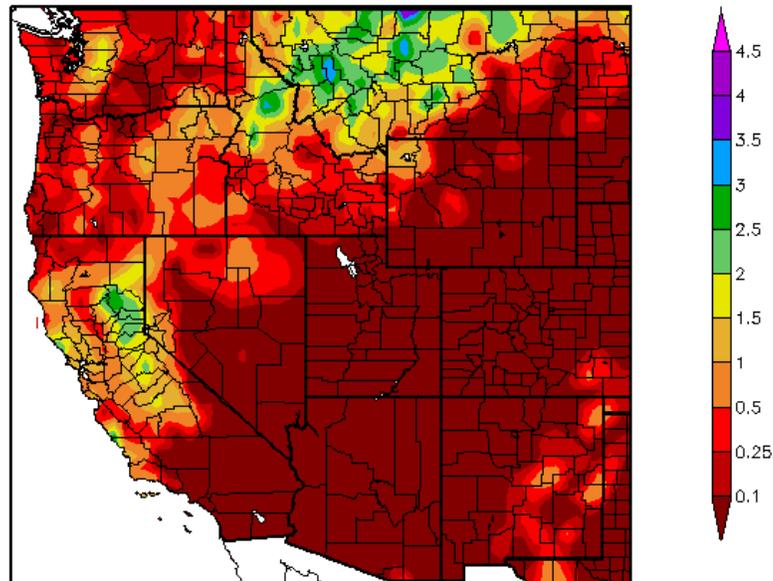
Regional Climate Centers

**Fig. 2a: ACIS 7-day average temperature anomalies show that the greatest positive temperature departures across the Southern High Plains (>+9°F) and the greatest negative departures over central California (<-12°F).**

Ref: [http://www.hprcc.unl.edu/maps/current/index.php?action=update\\_daterange&daterange=7d](http://www.hprcc.unl.edu/maps/current/index.php?action=update_daterange&daterange=7d)

## Weekly Snowpack and Drought Monitor Update Report

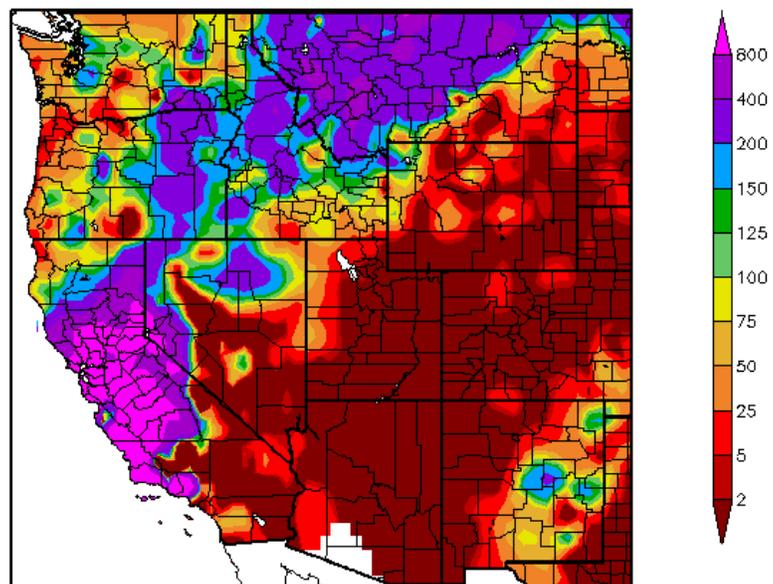
Precipitation (in)  
6/2/2011 - 6/8/2011



Generated 6/9/2011 at HPRCC using provisional data.

Regional Climate Centers

Percent of Normal Precipitation (%)  
6/2/2011 - 6/8/2011



Generated 6/9/2011 at HPRCC using provisional data.

Regional Climate Centers

**Fig. 3 and 3a: ACIS 7-day average precipitation amounts for the period ending 8 June shows the bulk of the heaviest precipitation (thunderstorms) confined to western Montana-northern Idaho and the Northern Sierra (Fig. 3). In terms of percent of normal, the precipitation was highest in a large swatch extending from California to Montana (Fig 3a). It should be emphasized that extensive precipitation over California is rare in June so when it occurs, the percentages sky rocket.**

Ref: <http://www.hprcc.unl.edu/maps/current/>

Weekly Snowpack and Drought Monitor Update Report

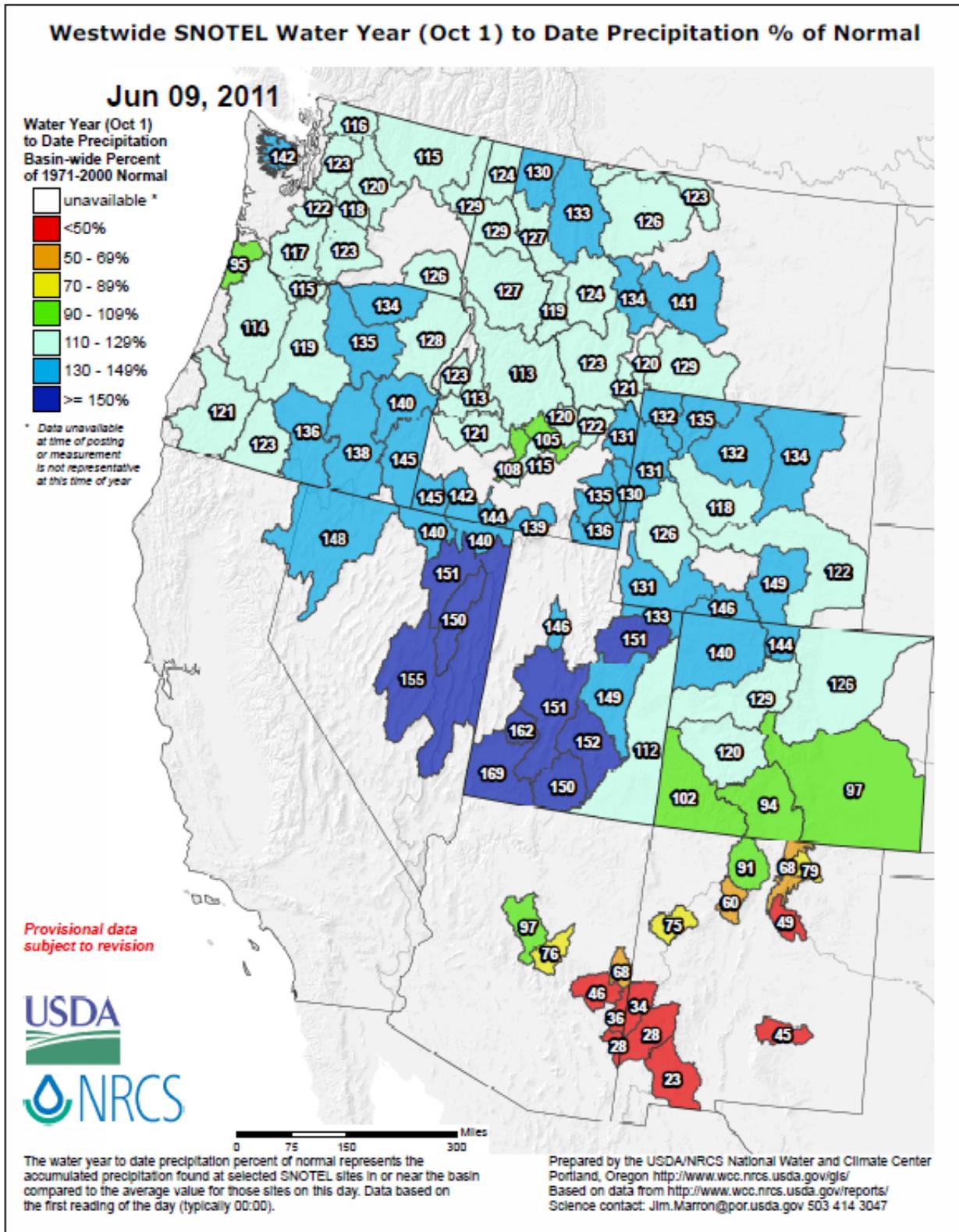
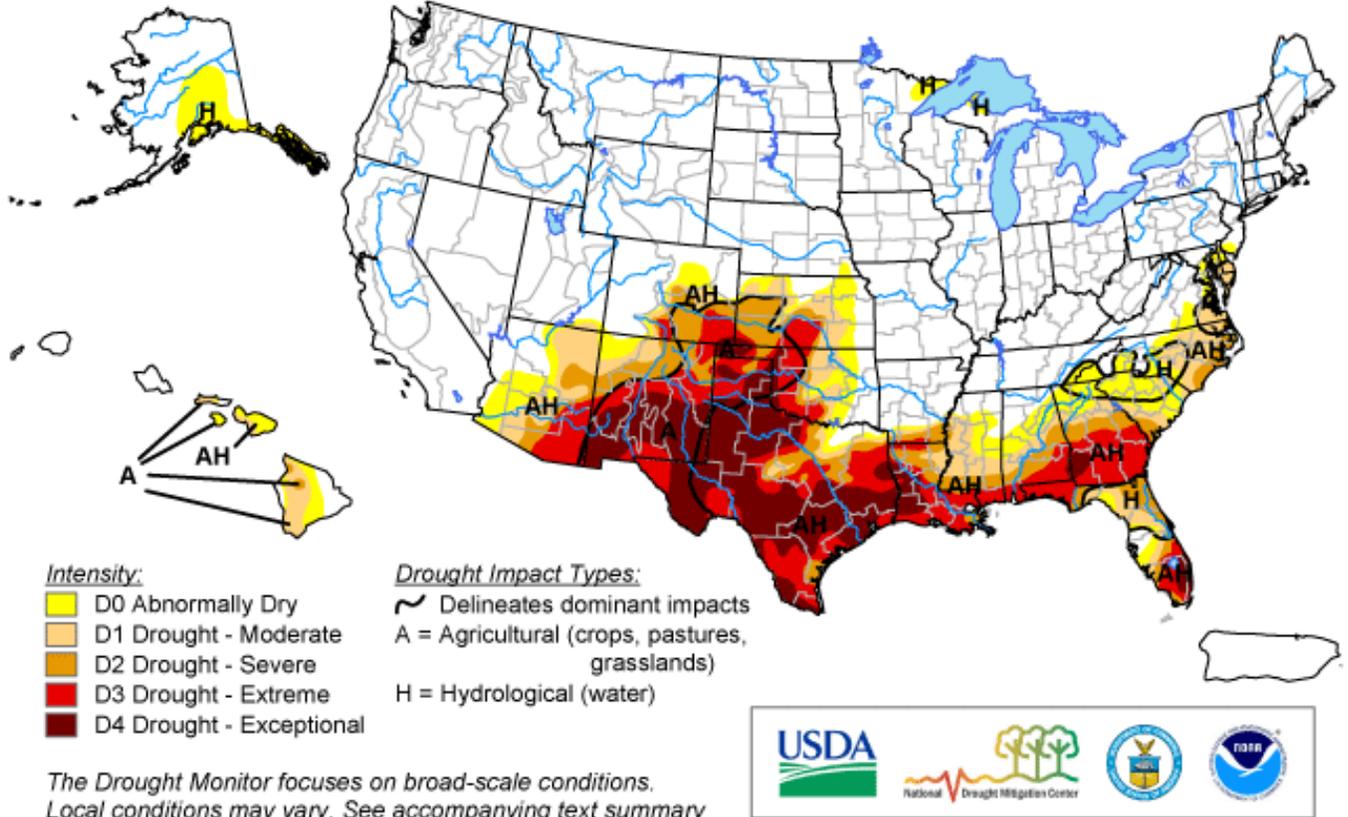


Fig 3b: For the 2011 Water-Year that began on 1 October 2010, the greatest deficits are found over the extreme southern reaches of the Southwest. Areas with the highest values are found over the Great Basin, Cascades, and parts of Northern and Central Rockies. Week to week changes become less likely during the remainder of the water-year.

Ref: [http://www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/west\\_wytdprecptnormal\\_update.pdf](http://www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/west_wytdprecptnormal_update.pdf)

# U.S. Drought Monitor

June 7, 2011  
Valid 8 a.m. EDT



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

Released Thursday, June 9, 2011  
Author: Matthew Rosenkrans, NOAA/NWS/NCEP/CPC

Fig. 4: Current Drought Monitor weekly summary. The exceptional D4 levels of drought are found over New Mexico, Texas, Oklahoma, Louisiana, Georgia, and Florida.

Ref: <http://www.drought.unl.edu/dm/monitor.html>

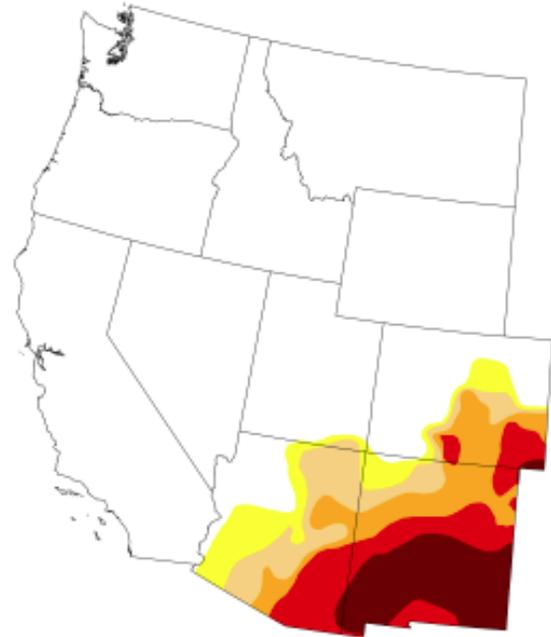
# U.S. Drought Monitor

## West

June 7, 2011  
Valid 7 a.m. EST

*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	78.60	21.40	17.94	13.92	9.57	4.74
Last Week (05/31/2011 map)	78.60	21.40	17.94	13.92	9.02	3.36
3 Months Ago (03/08/2011 map)	74.46	25.54	14.96	7.72	0.56	0.00
Start of Calendar Year (12/28/2010 map)	73.26	26.74	11.98	0.89	0.00	0.00
Start of Water Year (09/28/2010 map)	62.50	37.50	8.14	0.56	0.00	0.00
One Year Ago (06/01/2010 map)	61.16	38.84	14.10	4.09	0.00	0.00



Intensity:

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

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

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



Released Thursday, June 9, 2011  
Matthew Rosencrans, NOAA/NWS/NCEP/CPC

**Fig. 4a: Drought Monitor for the Western States with statistics over various time periods. Regionally there was no change during the past week.**

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

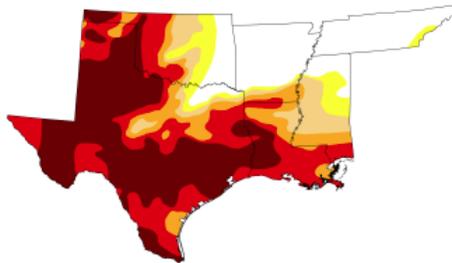
Weekly Snowpack and Drought Monitor Update Report

**U.S. Drought Monitor**  
South

June 7, 2011  
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	21.94	78.06	72.36	64.67	54.75	32.36
Last Week (05/31/2011 map)	24.14	75.86	68.94	62.54	51.12	27.84
3 Months Ago (03/08/2011 map)	8.53	91.47	78.54	41.52	11.48	0.00
Start of Calendar Year (12/28/2010 map)	8.86	91.14	67.65	35.21	10.17	0.00
Start of Water Year (09/28/2010 map)	54.23	45.77	20.04	6.79	0.83	0.00
One Year Ago (06/01/2010 map)	73.46	26.54	11.95	2.46	0.00	0.00



*Intensity:*

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
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<http://drought.unl.edu/dm>



Released Thursday, June 9, 2011  
Matthew Rosencrans, NOAA/NWS/NCEP/CPC

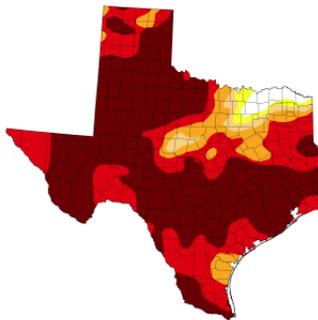
**Fig. 4b: Drought Monitor for the South-Central States with statistics over various time periods. This region has shown some deterioration in most drought categories over the past week. Ref: [http://www.drought.unl.edu/dm/DM\\_south.htm](http://www.drought.unl.edu/dm/DM_south.htm)**

**U.S. Drought Monitor**  
Texas

June 7, 2011  
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	1.97	98.03	96.53	94.05	85.41	57.83
Last Week (05/31/2011 map)	2.25	97.75	96.07	91.89	81.09	50.65
3 Months Ago (03/08/2011 map)	8.31	91.69	77.99	53.64	14.16	0.00
Start of Calendar Year (12/28/2010 map)	7.89	92.11	69.43	37.46	9.59	0.00
Start of Water Year (09/28/2010 map)	75.57	24.43	2.43	0.99	0.00	0.00
One Year Ago (06/01/2010 map)	72.71	27.29	9.54	0.00	0.00	0.00



*Intensity:*

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

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

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



Released Thursday, June 9, 2011  
Matthew Rosencrans, NOAA/NWS/NCEP/CPC

**Fig. 4c: Some more worsening of drought over the State of Texas this week. Texas has gotten much of the drought coverage in the media, but it's not alone at this point. Here are stories from... Texas...[http://www.yourhoustonnews.com/courier/news/article\\_b6ac5eea-33bd-52b4-8266-ba94239ca100.html](http://www.yourhoustonnews.com/courier/news/article_b6ac5eea-33bd-52b4-8266-ba94239ca100.html)**

**South Carolina...<http://www.abcnews4.com/story/14841786/drought-response-committee-places-entire-state-in-incipient-drought-status>**

**Florida...<http://www.wpb.com/news/28137564/detail.html> & Kansas...<http://www.hdnews.net/Story/crpgrazing060511>**

# U.S. Drought Monitor

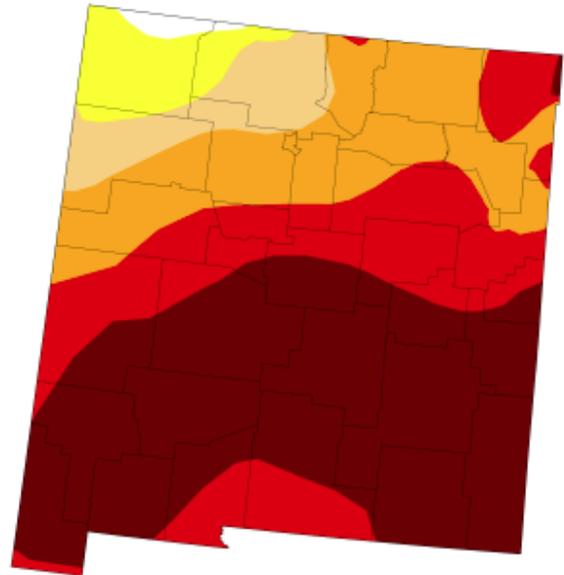
## New Mexico

June 7, 2011  
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.75	99.25	93.98	87.35	67.91	44.53
Last Week (05/31/2011 map)	0.75	99.25	93.98	87.35	66.72	31.97
3 Months Ago (03/08/2011 map)	7.97	92.03	62.56	33.32	0.17	0.00
Start of Calendar Year (12/28/2010 map)	6.16	93.84	40.40	0.00	0.00	0.00
Start of Water Year (09/28/2010 map)	76.66	23.34	0.00	0.00	0.00	0.00
One Year Ago (06/01/2010 map)	82.00	18.00	0.02	0.00	0.00	0.00

Intensity:

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



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

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

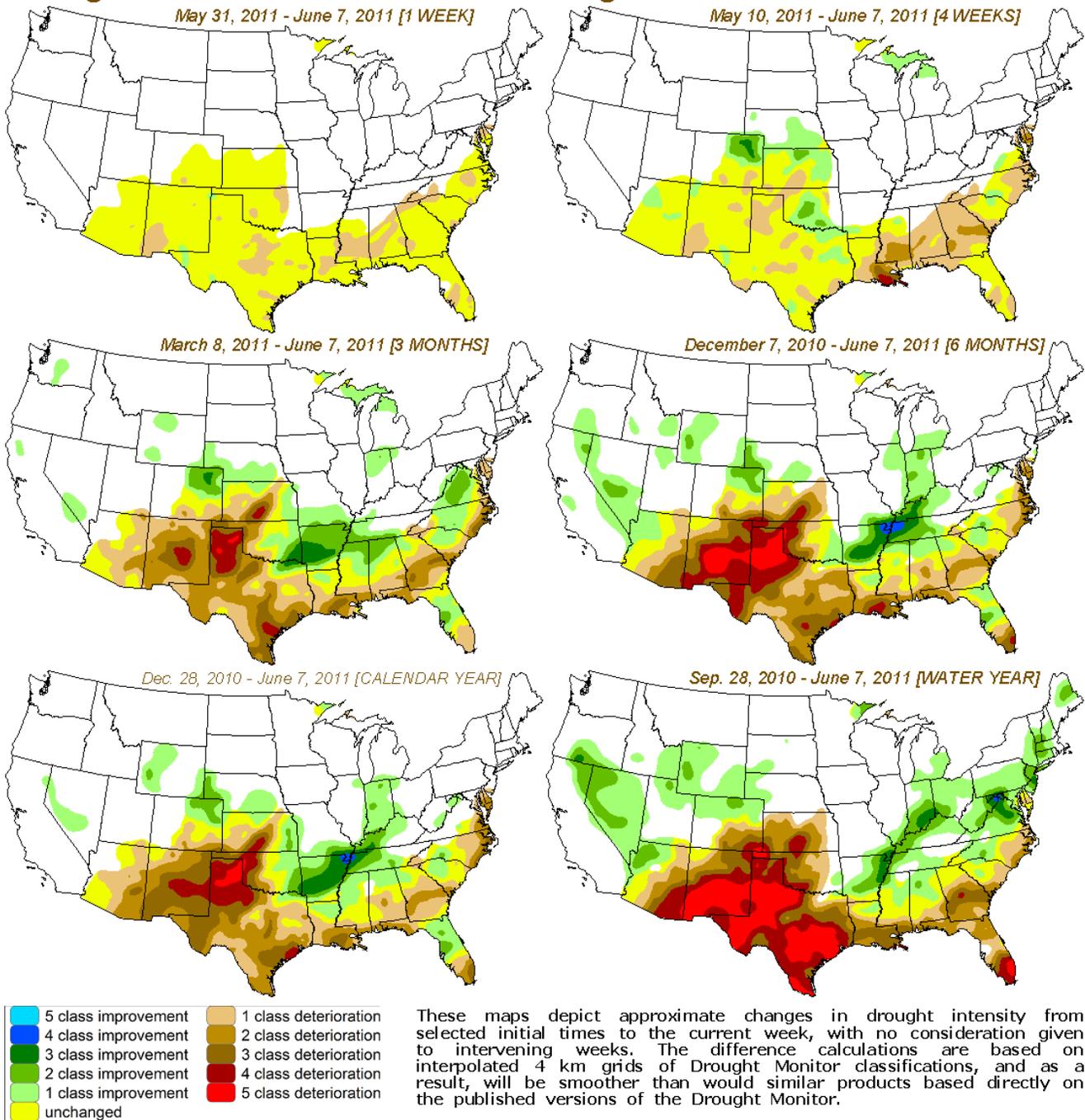


Released Thursday, June 9, 2011  
Matthew Rosencrans, NOAA/NWS/NCEP/CPC

Fig. 4d: Drought Monitor for New Mexico with statistics over various time periods. A slight worsening is noted this week in D3-D4. All but 0.75% of the state is in some sort of drought or water stressed situation. Ref: [http://www.drought.unl.edu/dm/DM\\_state.htm?NM,W](http://www.drought.unl.edu/dm/DM_state.htm?NM,W)

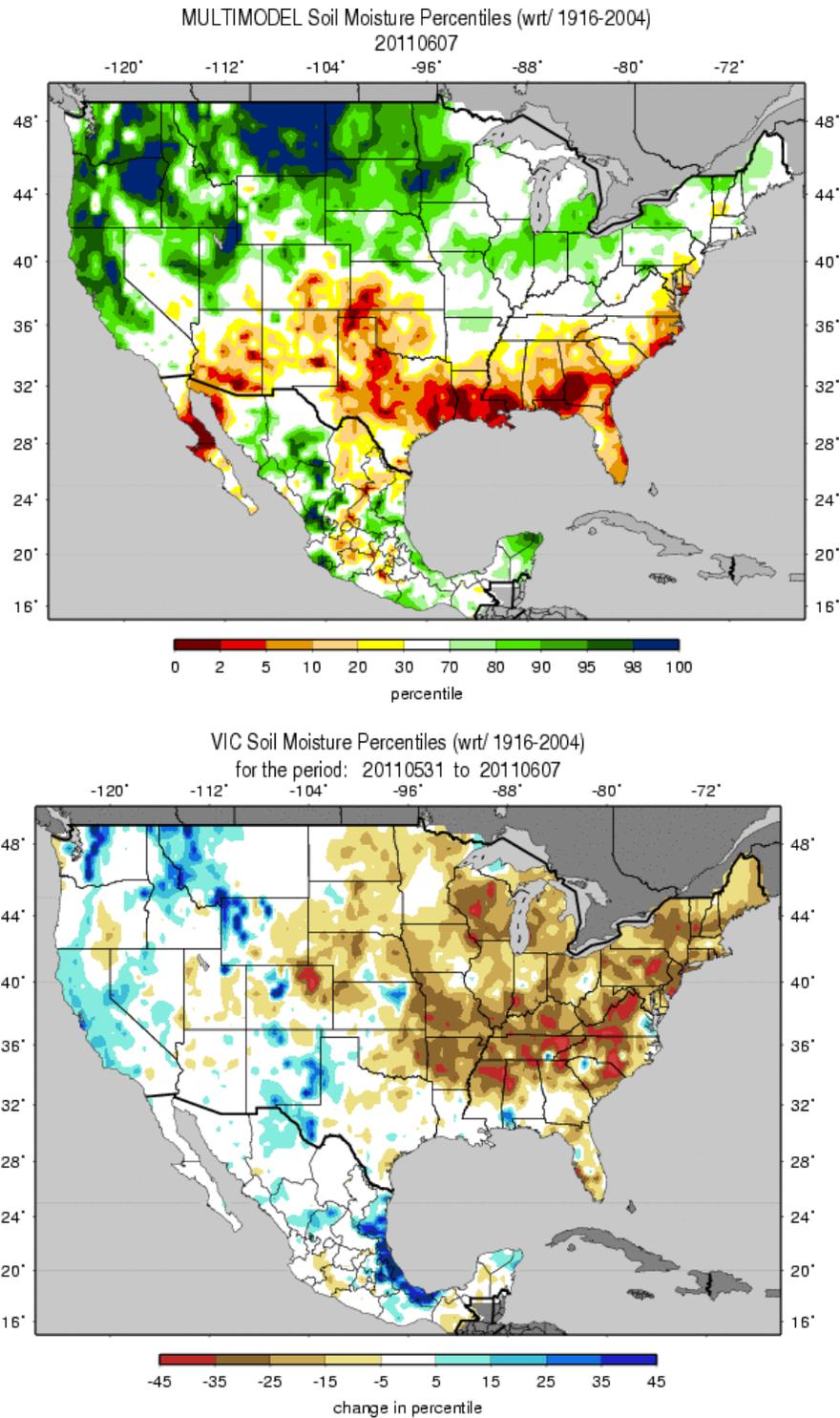
**Note:** Major fires in Arizona are spreading dense smoke over New Mexico (<http://forecast.weather.gov/wwamap/wwatxtget.php?cwa=abq&wwa=air%20quality%20alert>) and creating serious health issues.

### Drought Monitor Classification Changes for Selected Time Periods



**Fig. 4e: Drought Monitor Classification Changes shows some deterioration over the southern Tier States this week.**

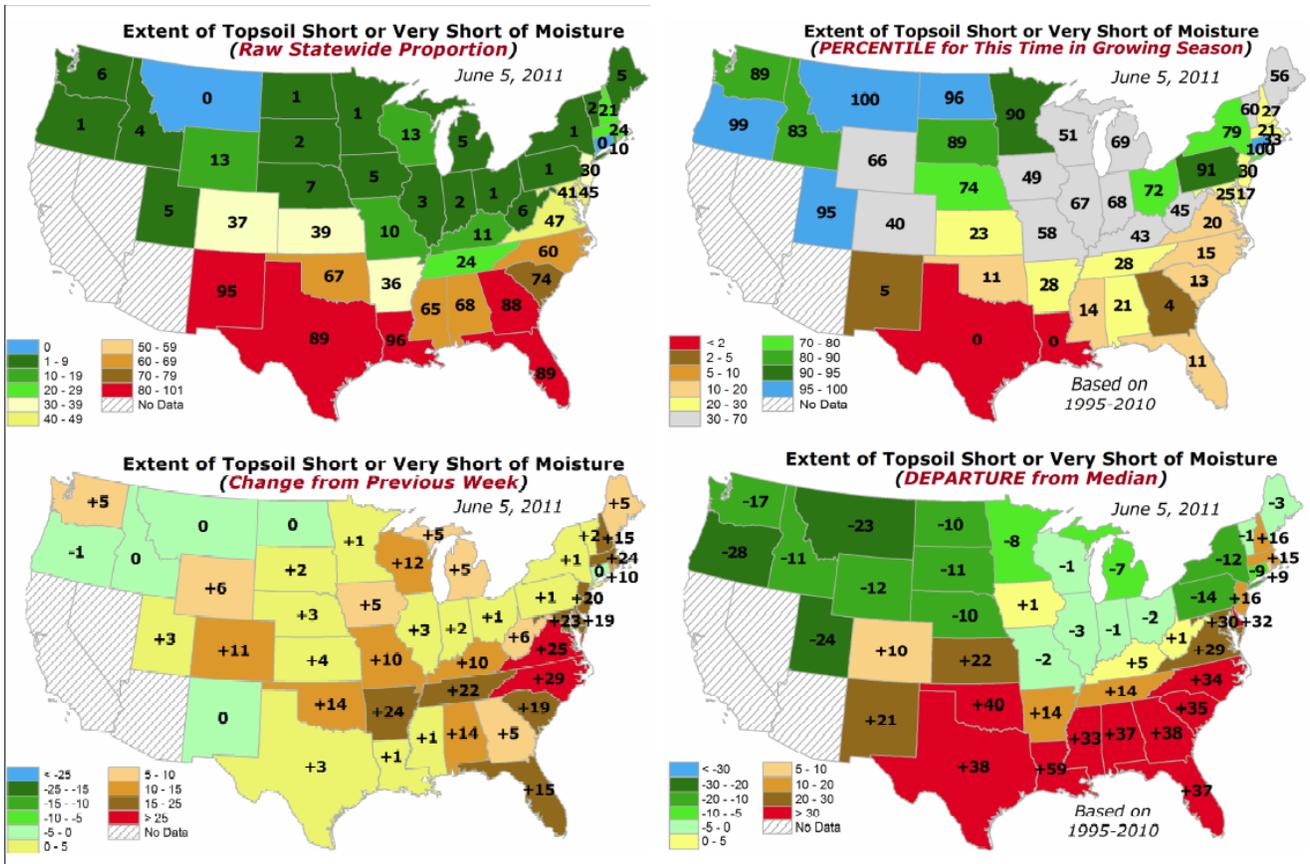
## Weekly Snowpack and Drought Monitor Update Report



**Figs. 5a and 5b: Soil Moisture ranking in percentile as of 7 June (top) shows moist conditions over much of the Northern Tier States with dryness over the Southern Tier States (classic La Niña pattern). The eastern half of the country has dried out considerably this week (bottom).**

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

# Weekly Snowpack and Drought Monitor Update Report



**Fig. 6: Topsoil moisture is worsened the most over Colorado (in the West) while North Carolina and Virginia worsened the most in the nation this week (lower left panel).**

Ref: <http://www.cpc.ncep.noaa.gov/products/predictions/experimental/edb/topsoil-statewide-statistics.pdf>

# Weekly Snowpack and Drought Monitor Update Report

Wednesday, June 08, 2011

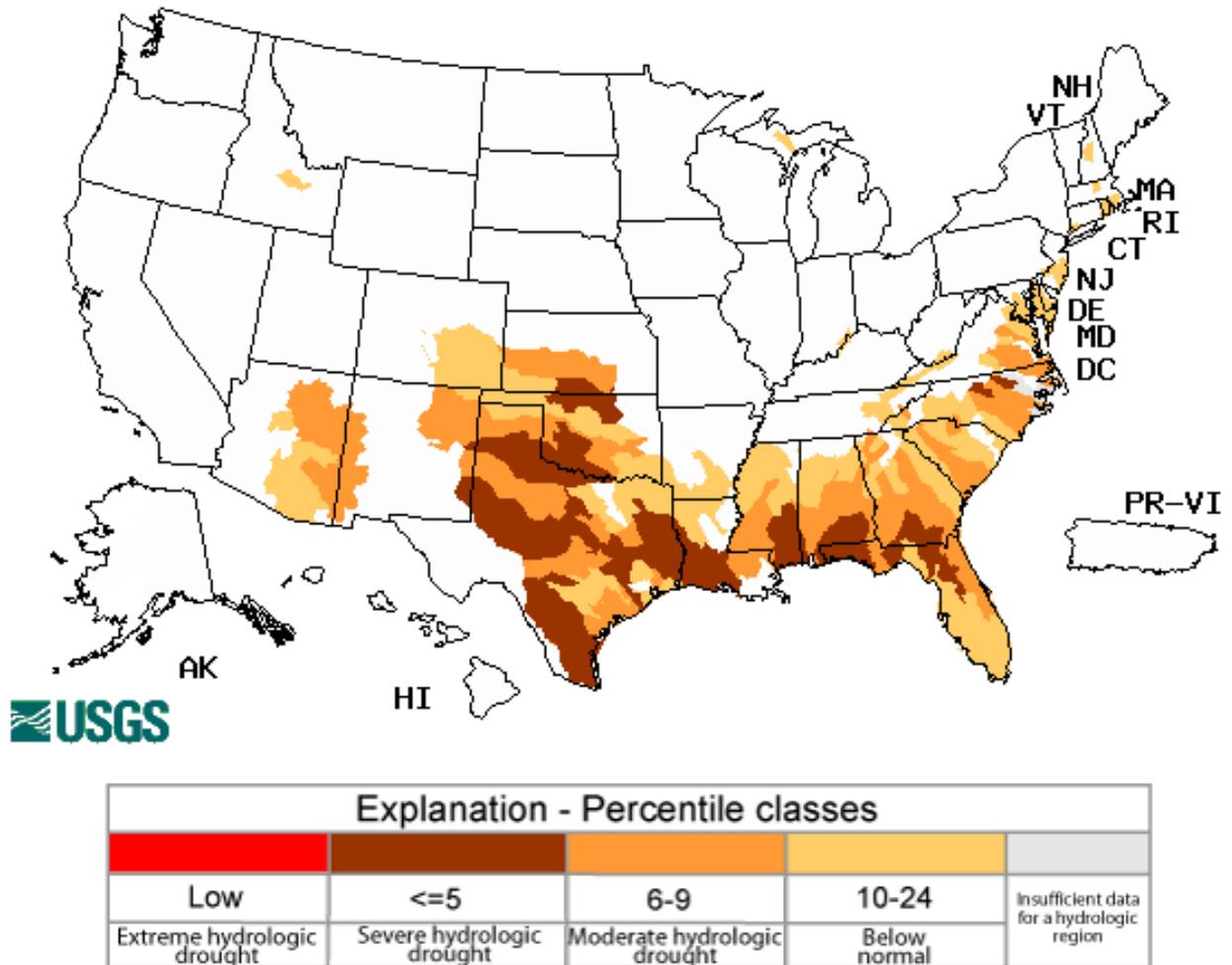


Fig. 7: Map of below normal 7-day average streamflow compared to historical streamflow for the day of year. Portions of the Texas and the Gulf Coast States are indicating severe conditions.

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

## Weekly Snowpack and Drought Monitor Update Report

### National Drought Summary -- June 7, 2011

*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/>.

**Weekly Summary:** This week featured a fairly dry pattern with the active storm track located across the northern tier of the contiguous US. A storm system that began the week out west moved across the northern Great Plains, then across southern Canada. The trailing cold front, and impulses along it, moved across the eastern half of the contiguous 48 states, although little rainfall accompanied the cold front. A second storm system moved along a similar track during the latter portions of the weekend and into the early portions of this week. The two systems combined to generate rainfall across California (1.0 – 5.0 inches), Pacific Northwest (widespread 0.5-1.5 inches with isolated amounts of over 2.5 inches), and across the northern Rockies (0.5 – 3.0 inches). Significant rains (1.0 – 6.6 inches) also fell across north-central Kansas with isolated areas of rain (0.5 inch – 2.5 inches) across the Mid-West, Lower Great Lakes, and Carolinas. Portions of western Hawaii received notable rains (0.7 – 6.3 inches) as an upper-level trough remained in place for much of the week. Outside of those areas, rainfall was generally too light to improve drought conditions.

**Southeast and mid-Atlantic:** The generally dry pattern contributed to the expansion of drought conditions across the Mid-Atlantic. Abnormal dryness (D0) is now indicated as far north as central New Jersey and as far west as the I-95 corridor in Maryland and Virginia. Across these regions the 3-month Standardized Precipitation Index (SPI3), 6-month SPI (SPI6), and North American Land Data Assimilation System (NLDAS) Soil Moisture all indicate abnormal dryness. Most of the contribution to these dry conditions is at the 6-month time frame, with some recent drying associated with higher than normal temperatures.

Across the Carolinas, continued lack of rainfall led to an expansion of D0 across the central portions of North and South Carolina. A 1-category degradation was supported by 28-, 14- and 7-day, as well as real-time stream flows (data provided by the US Geological Survey) in the lowest 10th percentile across eastern North Carolina. NLDAS soil moisture, SPI3, and SPI6 indicate the driest conditions are along the coast while longer term indicators (SPI9, SPI12, and SPI24) depict the driest conditions across central portions of the Carolinas, so a slow expansion of drought is indicated to the west as some precipitation has fallen in the past 3 months. Across South Carolina, farm operators are seeing crop conditions deteriorate as South Carolina officially entered into incipient drought status on June 2nd, as determined by the State Climate Office.

Exceptional drought (D4) was introduced across southwestern Georgia and southeastern Alabama. Statewide topsoil moisture across Georgia was rated at 88 percent very short or short, with 12 percent adequate. Subsoil moisture for the State was 89 percent very short or short, with 11 percent adequate. NLDAS and SPI for longer than 6 months all indicate Extreme (D3) to Exceptional (D4) drought. Thirty-day percent of normal precipitation values (from AHPS)

## Weekly Snowpack and Drought Monitor Update Report

are in the lowest 2 percent for the area centered in Sumter County, with the surrounding area at or below 5 percent of normal. Longer-term dryness was mitigated by some late spring rains across northern Alabama, so the northward expansion of dryness was only minor.

Drought continued to expand across Florida, with reports from Miami, Fort Lauderdale, and Naples indicating year-to-date precipitation totals running 68 percent, 27 percent, and 33 percent of normal. The Vegetation Drought Response Index for Florida is showing that most of the area is running in Moderate Drought with even interior Palm Beach, and inland Collier Counties running in the Severe Drought range. Lake Okeechobee is still below the critical line for water shortage, at 3.24 feet below normal for this time of year.

**Great Plains:** Minor amounts of rain made a dent in the drought across extreme northwestern Texas and northeastern New Mexico (with one station reporting 3.2 inches and surrounding stations reporting about an inch of precipitation. The rest of Texas and Oklahoma were dry, prompting some expansion of each drought category in those two states. The hot temperatures (maxima above 100 degrees F many days, meaning anomalies of more than 10 degrees F above normal) and windy conditions continue to extract moisture from the soil.

**Rockies and Southwest:** Inputs from the NIDIS: Upper Colorado River Basin Pilot Project continued dryness, so extreme drought (D3) was introduced into the San Luis Valley, avoiding the surrounding higher elevations as the mountains have received closer to average amounts of precipitation for the Water Year. SPI9 and SPI12 indicate the driest conditions are longer-term but recent (30-day) percent of normal precipitation is indicating less than 5 percent of normal precipitation has fallen during the last month.

Southeastern Arizona and southwestern New Mexico continued to feel the brunt of the dry conditions with wildfires spreading across eastern Arizona. The dry conditions across this region prompted an expansion of extreme (D3) and exceptional (D4) drought across this region, all supported by SPI3,6,9 and NLDAS outputs as well as 30-day percent of normal precipitation below 2 percent.

**Hawaii, Alaska, and Puerto Rico:** Rainfall across Puerto Rico was significant so no dryness is depicted. Rainfall across northwest Hawaii kept drought from expanding and local Farm Service Agency contacts reported that the current depiction matches their observations on the ground. The drought status across Hawaii remained unchanged, as the western islands received the most rainfall.

A stormy pattern brought more rains (0.5 – 1.8 inches) across southwestern Alaska. This prompted a small reduction in the coverage of D0H (abnormal dryness) across southwestern Alaska. Dry conditions continued across interior Alaska with less than 0.5 inch of precipitation reported at any station and stream flows declining below drought thresholds, so D0 was introduced across central Alaska.

**Looking Ahead:** June 10 - June 16, 2011 – The atmospheric flow pattern is expected to bring significant precipitation to the northern Great Plains, Great Lakes, and from the Mid-Atlantic states to the Northeast. Multiple storm systems are forecast to move across these regions, with the most precipitation forecast for the Middle Mississippi River Valley. Some drought relief is expected across Florida, with the eventual end of the dry season and spreading wildfires.

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## Weekly Snowpack and Drought Monitor Update Report

### 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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