



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

Weekly Report - Snowpack / Drought Monitor Update **Date: June 7, 2007**

SNOTEL SNOWPACK AND PRECIPITATION SUMMARY

Snowpack: All but the highest mountain peaks in the West have melted out (Fig. 1). However, yesterday's late season winter-type storm that transited the Northern Rockies helped to deposit between three and 12 inches of wet snow that is already melting today. Flood warnings and advisories have been posted across much of Montana. For most of the week, snow water-equivalent is down sharply (Fig. 1a) as the warmest temperatures thus far this year dominated much of the Pacific Northwest and Intermountain West.

Temperature: During the past seven days, temperatures were up to 15°F above normal across the northwest corner of the nation while temperatures were down to 5°F below normal over the eastern slope of the Northern and Central Rockies (Fig. 2).

Precipitation: During this report period, moderate precipitation (rain and snow) was confined to the Pacific Northwest (east slope of the Cascades in Oregon), Intermountain West (northern Idaho), and Northern Rockies (Montana and Wyoming) (Fig. 3). For the Water Year, there were no significant changes since last week's report. The Cascades and portions of the Northern Rockies and Colorado and New Mexico Rockies are still maintaining near normal values. Totals over Arizona and the Sierras (CA and NV) show the most moisture deficits (Fig. 3a).

WESTERN DROUGHT STATUS

The West: A northern storm track through the Pacific Northwest eastward into the northern Rockies continued to bring beneficial precipitation to this part of the country, lessening drought concerns across areas of Montana eastward through northeastern Wyoming and the Dakotas. Abundant precipitation in North and South Dakota virtually eliminated short-term drought concerns in the western part of these two states, although a footprint of longer-term hydrological drought remained. Elsewhere throughout the region, a seasonal lack of precipitation continued the ongoing drought classification (Figs. 4, 4a, and 4b). Author: Scott Stephens, 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 (Fig. 4, 4a, and 4b).

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SOIL MOISTURE

Soil moisture (Fig. 5), is simulated by the [VIC macroscale hydrologic model](#). The detailed, physically-based VIC model is driven by observed daily precipitation and temperature maxima and minima from approximately 2130 stations, selected for reporting reliably in real-time and for having records of longer than 45 years (and various other criteria).

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 Fig. 6.

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.

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

Acting Director, Conservation Engineering Division

Weekly Snowpack and Drought Monitor Update Report

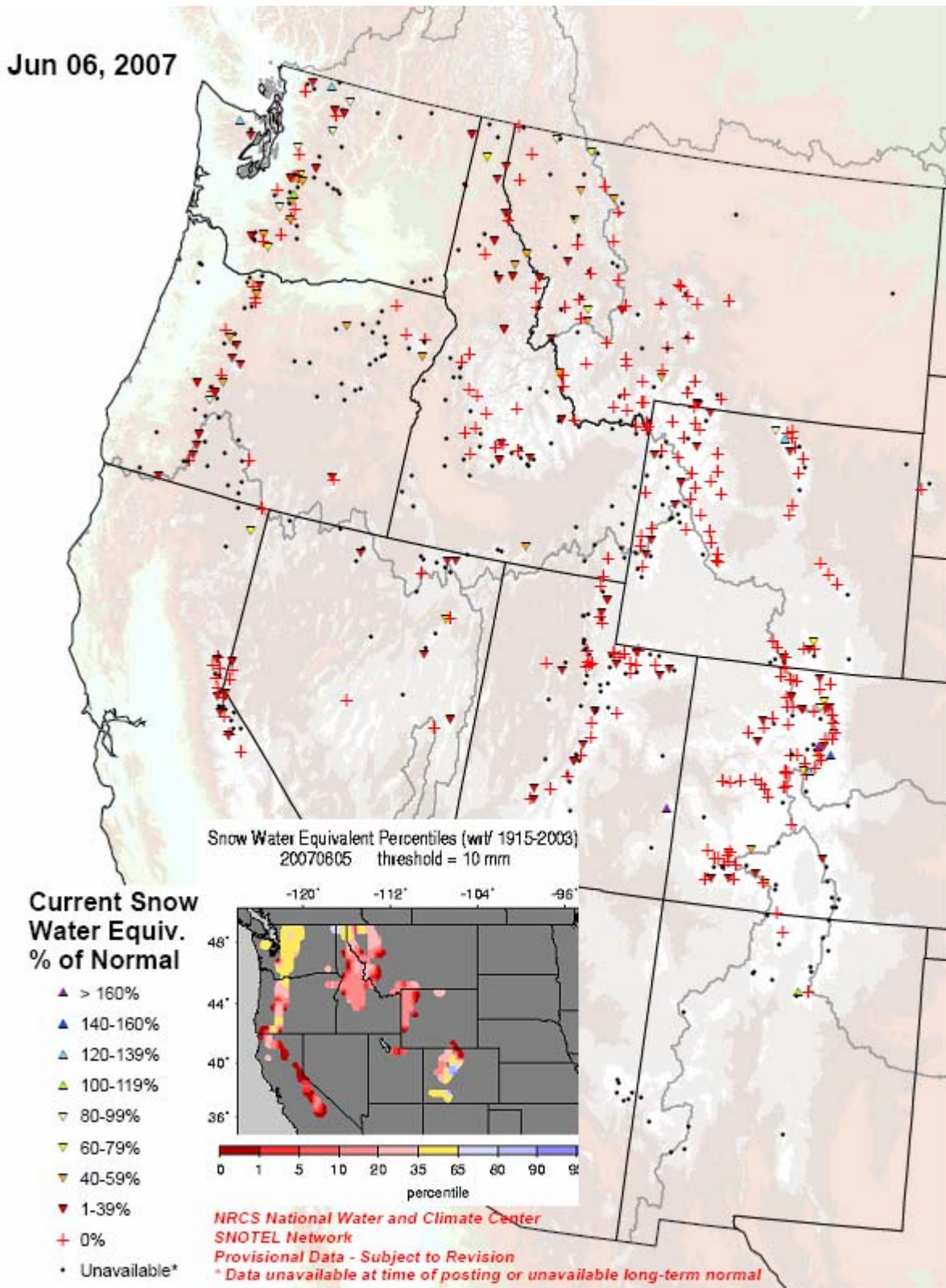


Fig. 1: Snow Water-Equivalent as a percent of normal for Water Year 2007.

Ref: <ftp://ftp.wcc.nrcs.usda.gov/data/water/wcs/gis/maps/WestwideSWEPercent.pdf>
(insert) http://www.hydro.washington.edu/forecast/monitor/curr/CONUS.swe_qnt.gif

Weekly SWE Change

Snow Water Equivalent: Change in Percentiles (wrt/ 1915-2003)
for the week 20070529 to 20070605 threshold = 10 mm

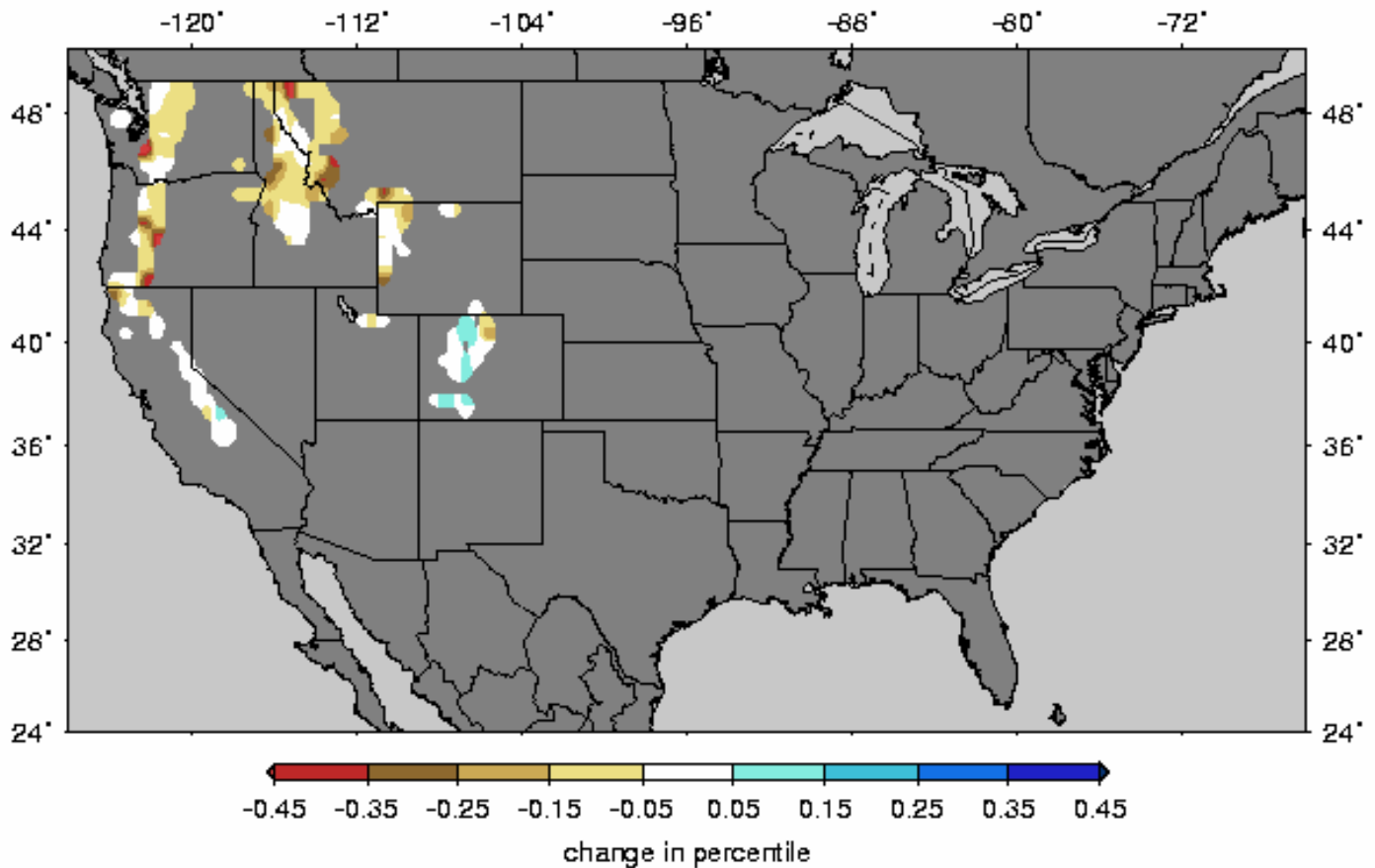


Fig. 1a. Snow Water-Equivalent changes as a percent during the period 29 May to 5 June 2007 based on 1915-2003 climatology. Note the spotty increases in SWE over the Colorado Rockies. Yesterday's snows over the Northern Rockies are not reflected on this week's map. Ref: <http://www.hydro.washington.edu/forecast/monitor/index.shtml>

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Jun 06, 2007

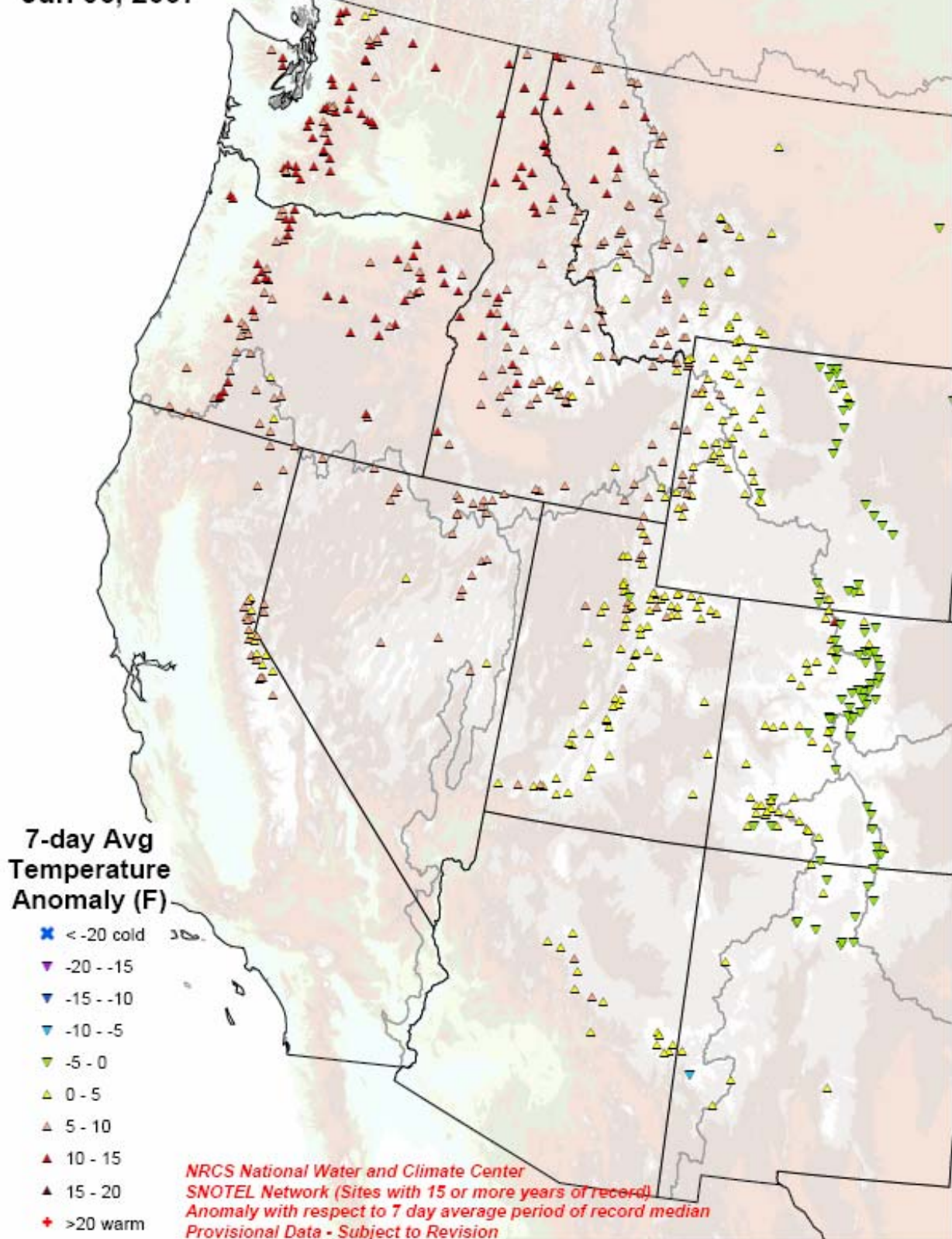


Fig. 2. SNOTEL 7-day average temperature anomaly.

Ref: <ftp://ftp.wcc.nrcs.usda.gov/data/water/wcs/gis/maps/WestwideTavg7dAnomaly.pdf>

*May 29, 2007 Drought Monitor
& Ensuing 7-Day Precipitation (")*

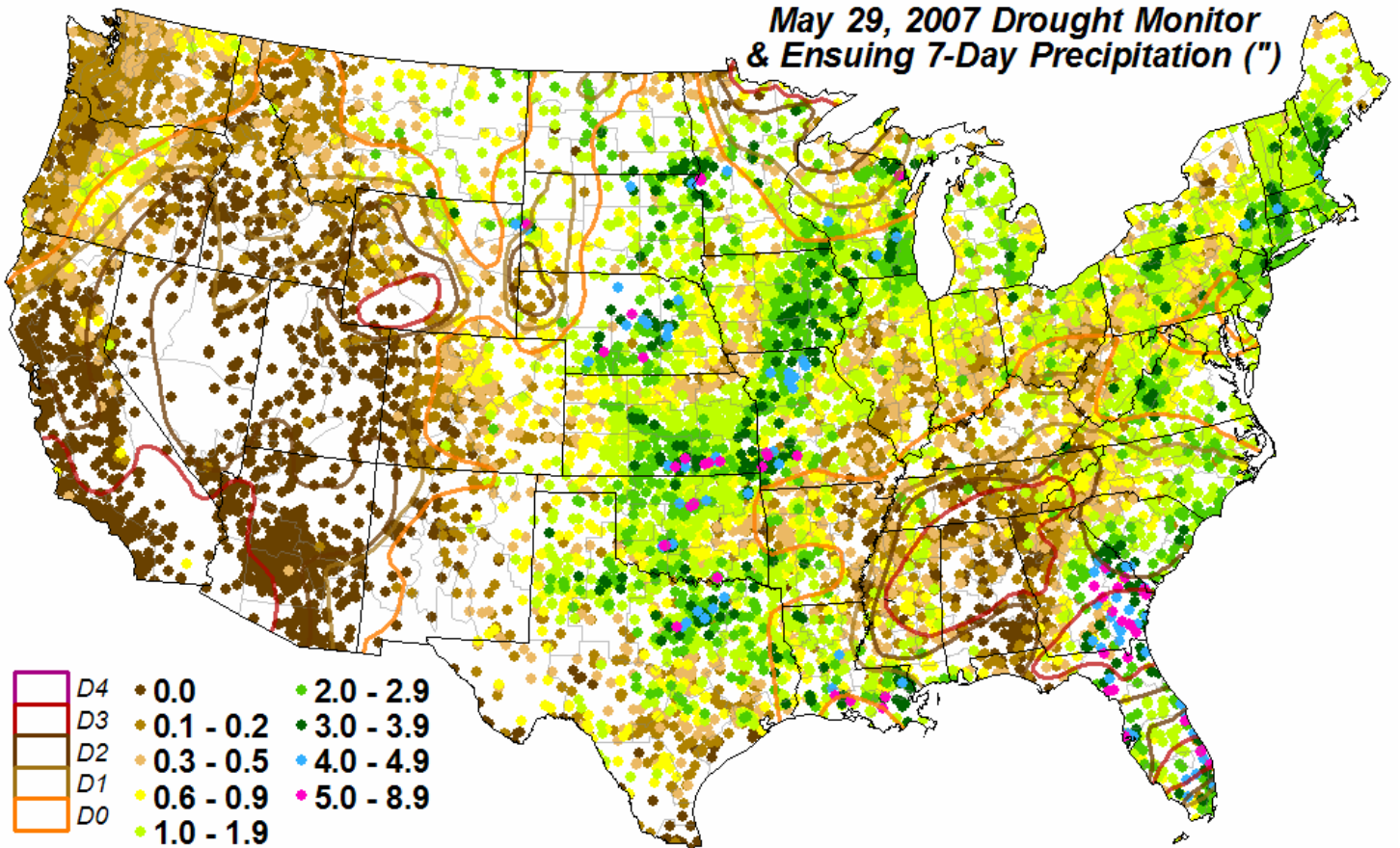


Fig. 3. Preliminary precipitation totals as a percent of normal for the 7-day period ending 5 June 2007. Precipitation over the Northern Rockies on 6 June is not reflected on this figure.

Ref: <http://www.cpc.ncep.noaa.gov/products/predictions/experimental/edb/usdm-precip-overlay.gif>

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Water Yr to Dt
Accum. Precip
% of Normal

- ▲ > 160%
- ▲ 140-160%
- ▲ 120-139%
- ▲ 100-119%
- ▼ 80-99%
- ▼ 60-79%
- ▼ 40-59%
- ▼ 1-39%
- + 0%
- Unavailable*

NRCS National Water and Climate Center
SNOTEL Network

Provisional Data - Subject to Revision

* Data unavailable at time of posting or unavailable long-term normal

Fig. 3a. SNOTEL station water year (since October 1) precipitation as a percent of normal.

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

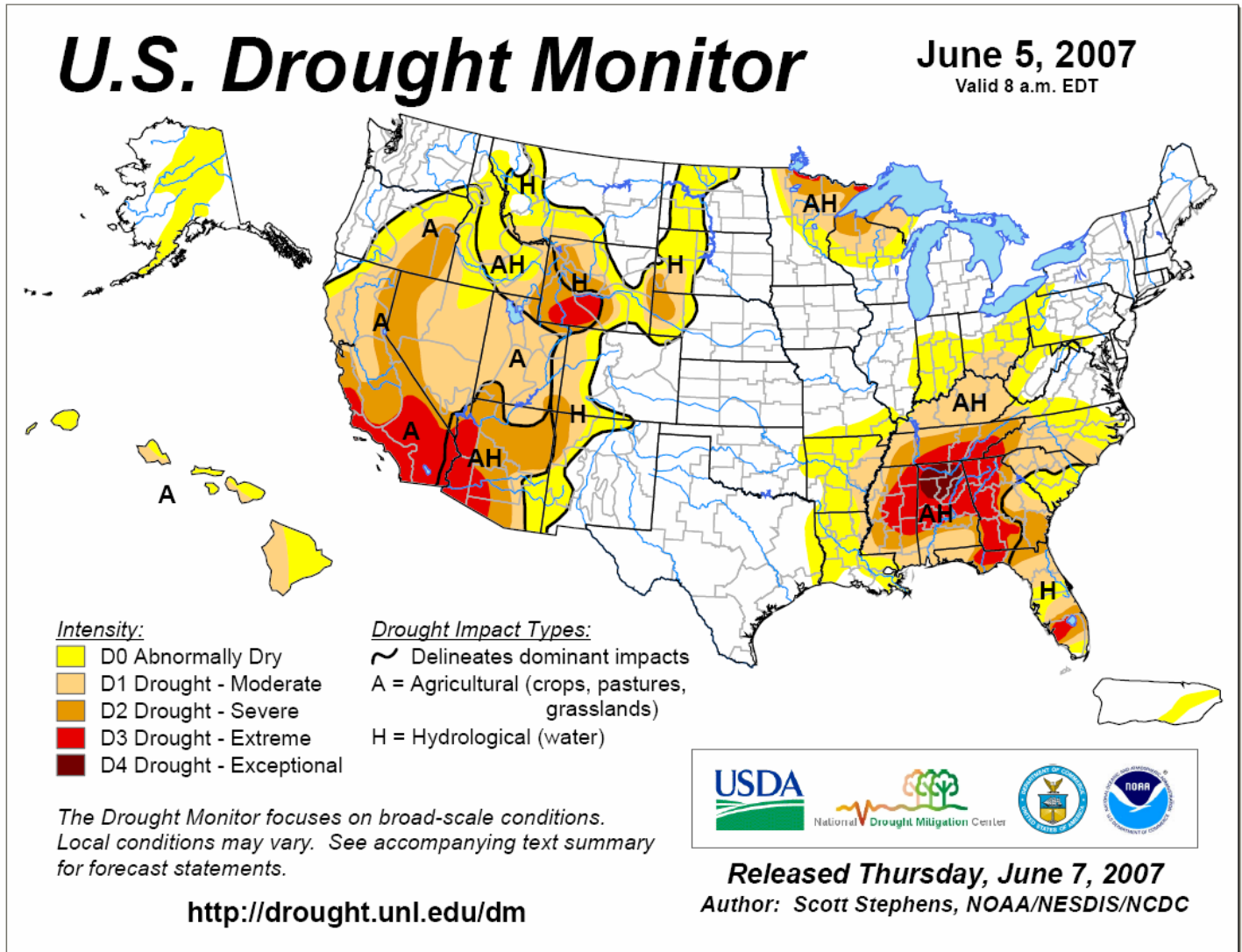


Fig. 4. Current Drought Monitor weekly summary.

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

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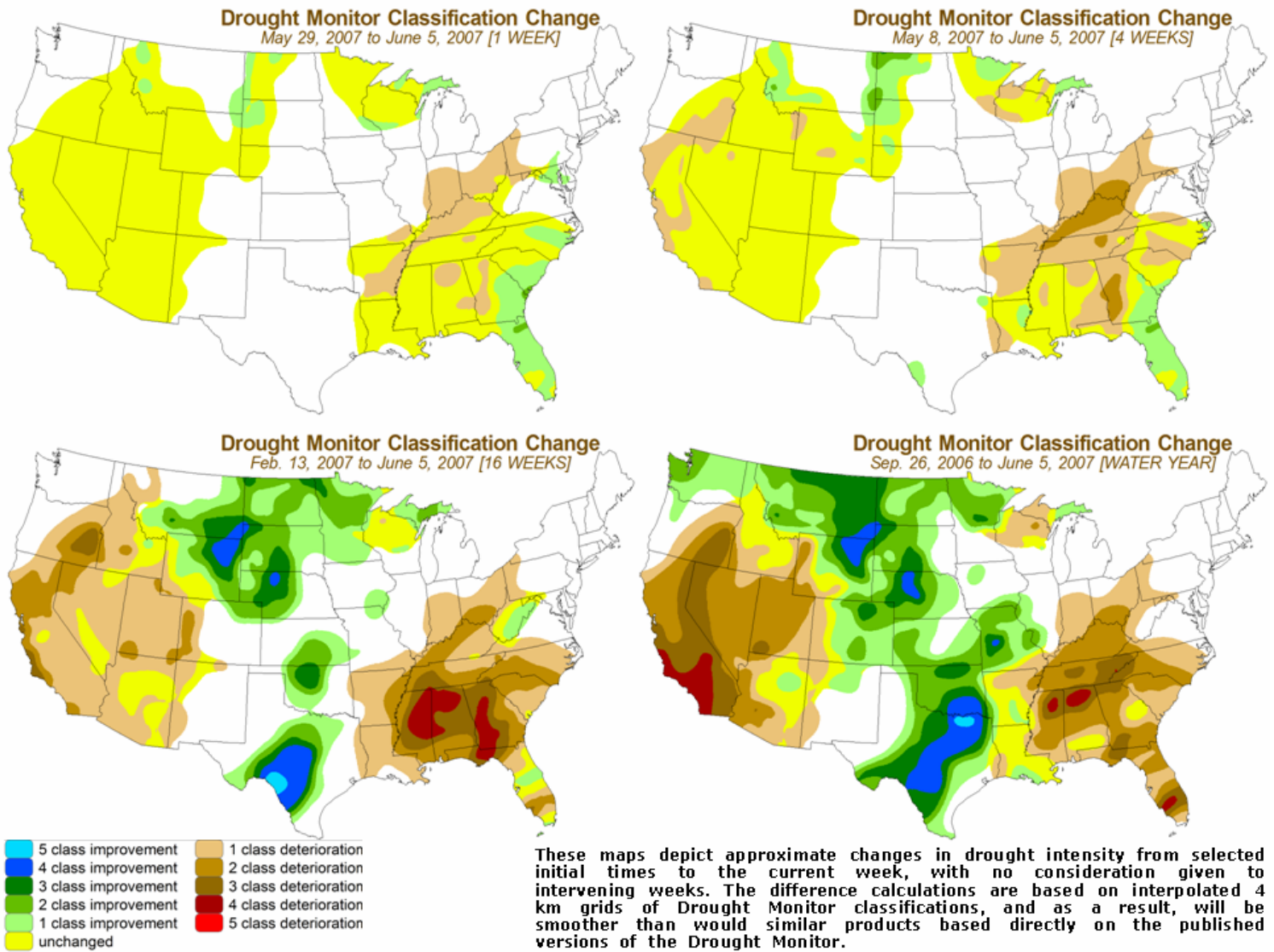


Fig. 4a. Drought Monitor classification changes over various time periods.

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

U.S. Drought Monitor

West

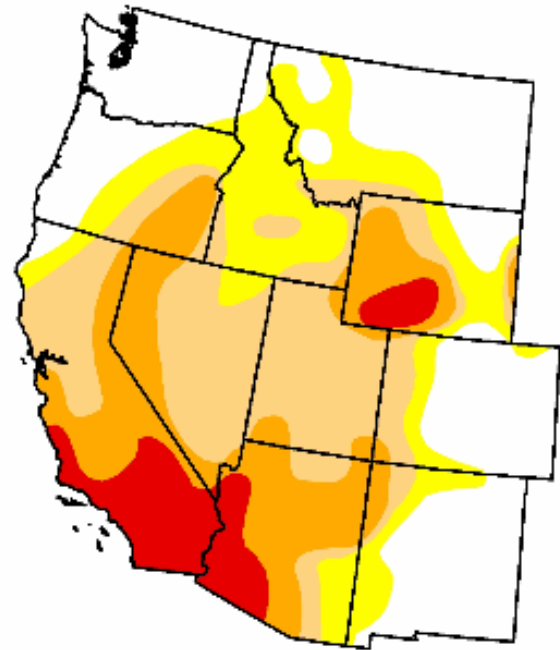
June 5, 2007

Valid 7 a.m. EST

Drought Conditions (Percent Area)						
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	33.0	67.0	49.6	25.6	7.8	0.0
Last Week (05/29/2007 map)	31.4	68.6	49.6	25.6	7.8	0.0
3 Months Ago (03/13/2007 map)	39.1	60.9	34.0	19.2	8.1	0.0
Start of Calendar Year (01/02/2007 map)	51.2	48.8	25.8	9.4	4.0	0.0
Start of Water Year (10/03/2006 map)	43.5	56.5	33.5	16.9	5.2	0.0
One Year Ago (06/06/2006 map)	60.0	40.0	30.7	22.8	12.3	1.7

Intensity:

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



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

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



Released Thursday, June 7, 2007
Author: Scott Stephens, NOAA/NESDIS/NCDC

Fig 4b. Drought Monitor for the Western States with statistics over various time periods.

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

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Soil Moisture Percentiles (wrt/ 1915-2003)
20070605

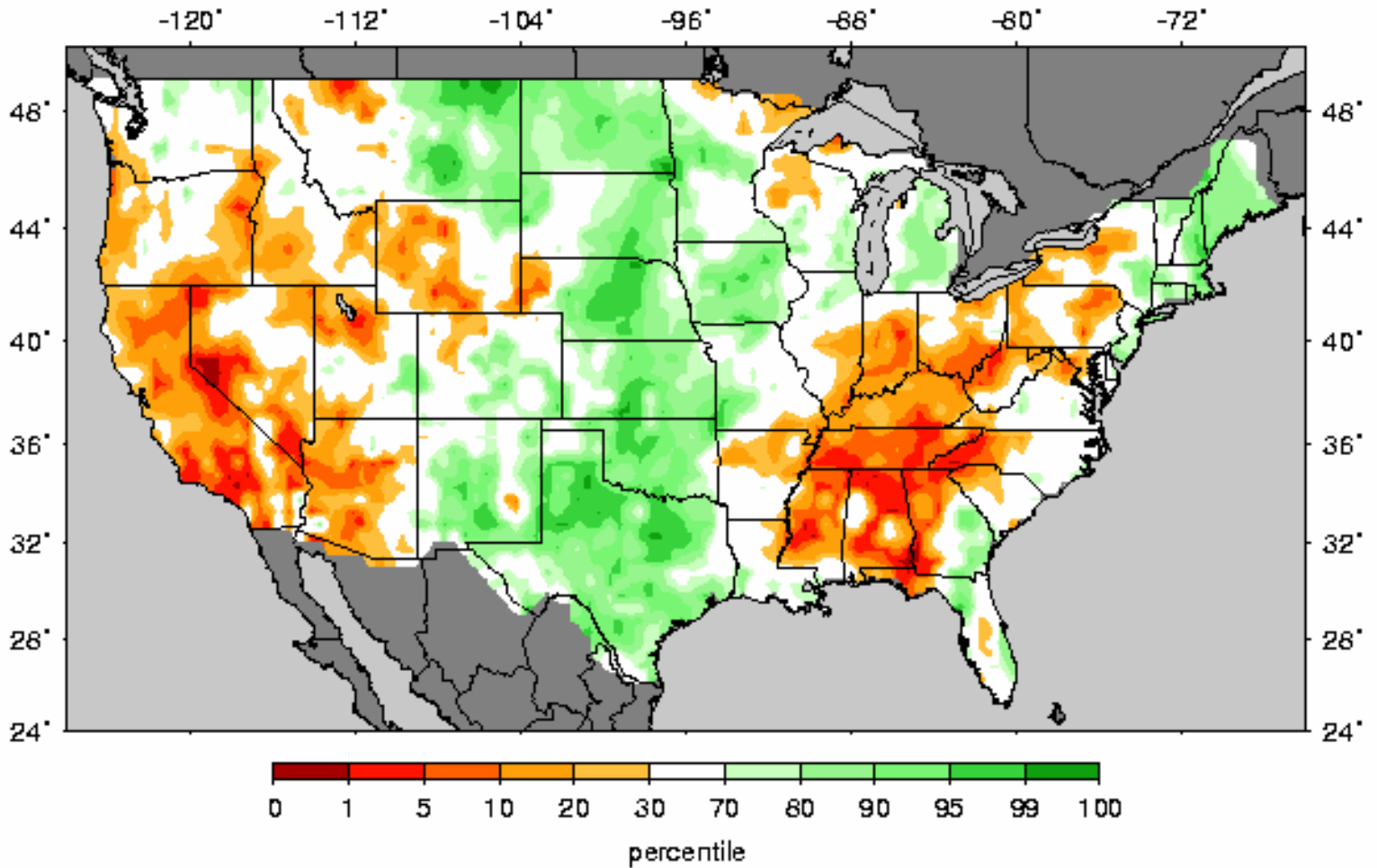


Fig. 5: Soil Moisture Ranking Percentile based on 1915-2003 climatology. (source: Univ. of Washington). Ref: http://www.hydro.washington.edu/forecast/monitor/curr/CONUS.sm_qnt.gif

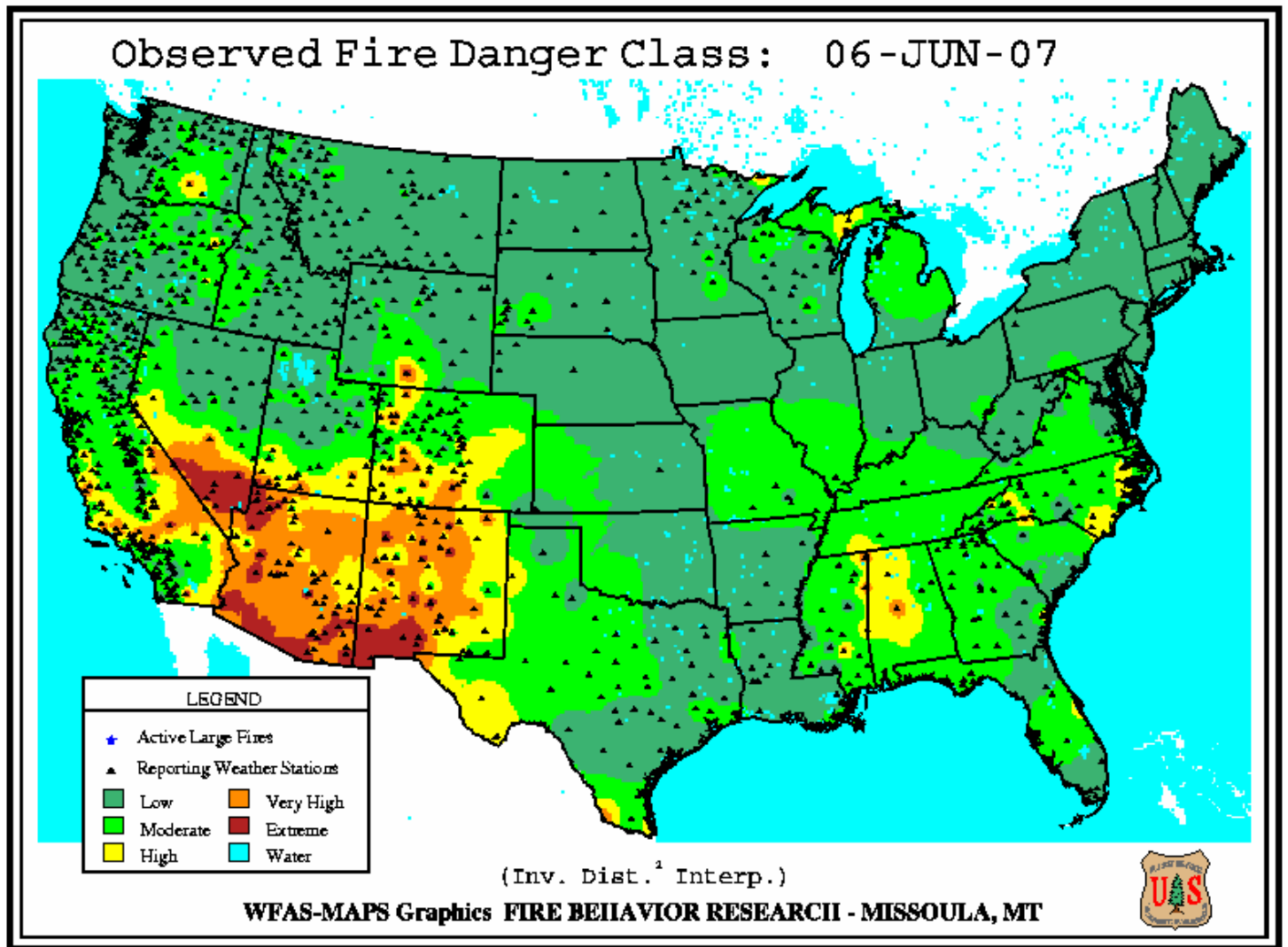


Fig. 6. Observed Fire Danger Class. Source: Forest Service Fire Behavior Research – Missoula, MT
Note extreme dryness over the Southwestern States. Ref: http://www.fs.fed.us/land/wfas/fd_class.gif

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Wednesday, June 06, 2007

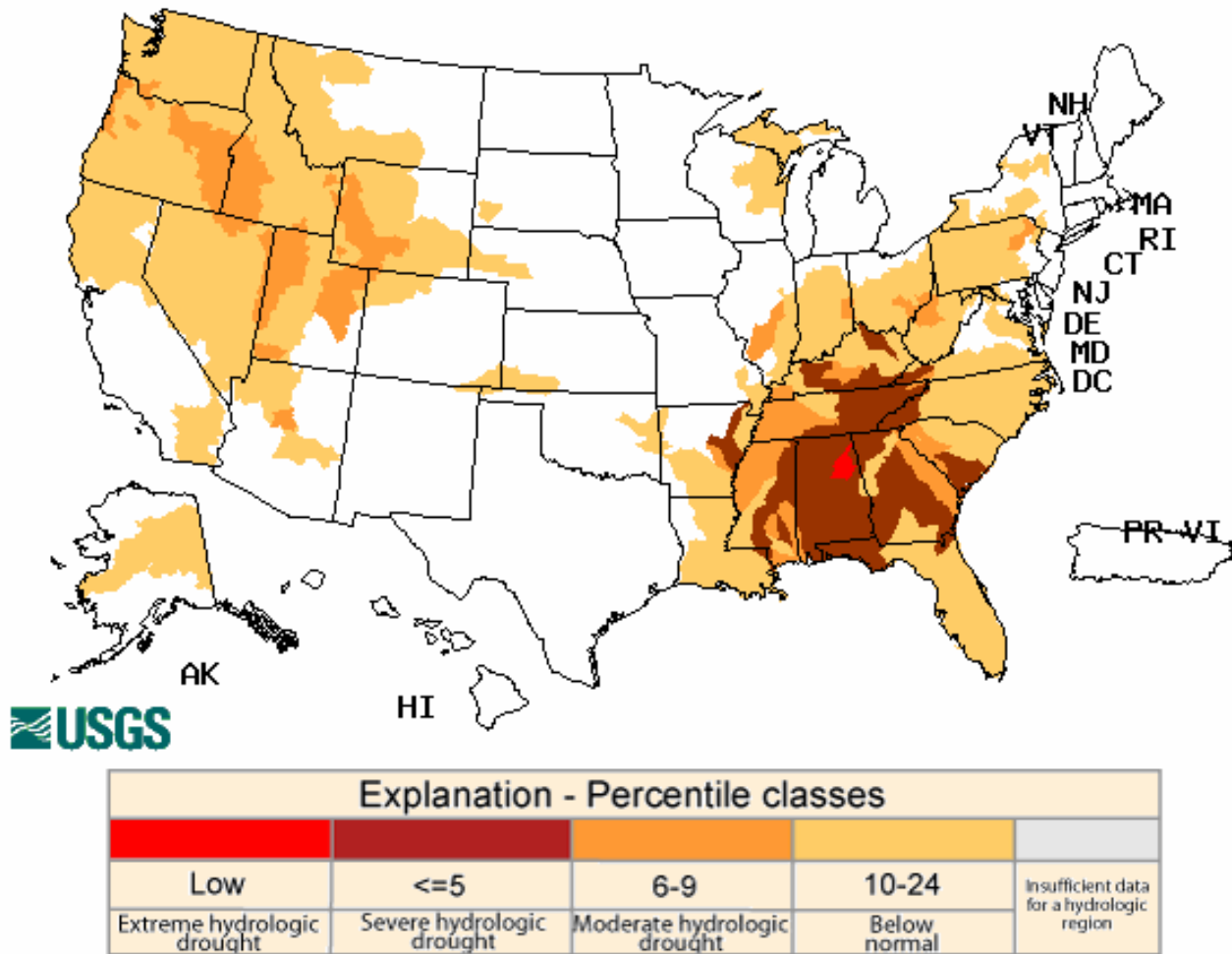


Fig. 7. Map of below normal 7-day average streamflow compared to historical stream flow for the day of the year. Note the extremely low streamflows over the Southeast.

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

Weekly Snowpack and Drought Monitor Update Report

National Drought Summary – June 5, 2007

The West: A northern storm track through the Pacific Northwest eastward into the northern Rockies continued to bring beneficial precipitation to this part of the country, lessening drought concerns across areas of Montana eastward through northeastern Wyoming and the Dakotas. Abundant precipitation in North and South Dakota virtually eliminated short-term drought concerns in the western part of these two states, although a footprint of longer-term hydrological drought remained. Elsewhere throughout the region, a seasonal lack of precipitation continued the ongoing drought classification.

The Plains, Upper Midwest & Western Great Lakes: A storm system tracking out of the northern Rockies brought additional rainfall to areas of northern Minnesota over the weekend, allowing for a continued slow improvement in conditions around the periphery of the western Great Lakes drought area. Rainfall brought a notable erosion of D0/D1 in the eastern sections of Michigan's Upper Peninsula.

The Southeast & Mid-Atlantic: Tropical Storm Barry developed on the traditional start of the Atlantic hurricane season, forming on June 1 and moving across Florida then up the Atlantic Seaboard over the weekend. Heavy rainfall on the order of one to three inches fell across much of Florida, southeastern Georgia and portions of the coastal plain of the Carolinas. Locally, more than six inches of rain fell in southeastern Georgia. One-category improvements were common in these areas, although the progressive movement of Barry prevented excessive rainfall, and thus the storm failed to eliminate drought. Severe long-term hydrological drought concerns remained, as evidenced by sluggishly-responding streamflows and lake levels. As of June 5, the level of Lake Okeechobee was at 8.98 feet, up slightly from the record-breaking level of 8.94 feet set last week on May 31. Elsewhere in south Florida, low well levels and lingering water supply concerns continued the socioeconomic drought in this part of the Sunshine State.

Ohio Valley to the Gulf Coast: Well west of Tropical Storm Barry's rain shield, this area experienced worsening conditions after another week of spotty, lackluster rainfall. Exceptional drought classification (D4) was introduced in areas of northern Alabama, while D0/D1 areas were expanded northward across the Ohio River into most of the Ohio Valley. Short-term dryness continued to expand westward into Arkansas and extending into southeastern Missouri and eastern Illinois.

Alaska, Hawaii, and Puerto Rico: Locally heavy windward showers during the past week erased D0 classification in extreme eastern Puerto Rico. Otherwise, no there were no changes to existing drought status across Alaska and Hawaii.

Looking Ahead: During the next 5 days (June 7-11), a strong storm system crossing the northern Plains at the beginning of the period will spread drought-easing rains into Montana eastward into the Dakotas, where additional improvement in dryness is expected to continue. This same storm will bring showers to the western Great Lakes region, with potential improvement in areas of Minnesota, Wisconsin and Michigan. Outside of the northern Rockies and Cascades, the remainder of the West will generally remain devoid of significant precipitation. In the South and Southeast, only isolated to scattered showers and thunderstorms are expected, with perhaps some modest improvement possible in Florida where the frequency and coverage of daily thunderstorm activity may be somewhat higher.

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The 6-10 day outlook (June 12-16) suggests a continuation of wetter than normal conditions from the northern Rockies eastward to the Great Lakes where embedded drought areas may be positively affected. Overall, somewhat cooler than average weather is expected in much of the West, while warmer weather relative to normal is expected throughout most of the East. Scattered to numerous showers and thunderstorms could slowly modify drought conditions in parts of the Southeast.

Author: [Scott Stephens, National Drought Mitigation Center](#)

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

Updated June 7, 2007