



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

Weekly Report - Snowpack / Drought Monitor Update **Date: September 27, 2007**

SNOTEL SNOWPACK AND PRECIPITATION SUMMARY

A winter-like storm moved from off the southern California Coast northeastward into the northern Plains, bringing unseasonably heavy, localized showers to the Southwest, cool conditions to the Far West, and moderate to heavy rain to parts of the central and northern Rockies.

Temperature: During the past seven days, the eastern most mountain SNOTEL sites were 5 degrees above normal while the western most sites were 10 degrees below normal (Fig. 1). At lower elevation weather stations the same pattern of temperatures occurred (Fig. 1a).

Precipitation: For the past week, heavier precipitation fell from southern California to the Central Rockies and from the Intermountain West to the Northern Rockies. Little precipitation fell over Washington, Oregon, and the Northern High Plains (Fig. 2). As the 2007 Water Year ends (began 1 October 2006), very low totals persist over the Sierra Nevada and Arizona mountains. Slightly above normal totals continue to be reflected over the Cascades, Front Range of the southern Rockies, and Northern Bighorn Mountains of Wyoming (Fig. 2a).

WESTERN DROUGHT STATUS

The West: A cold core upper-air low, more typical of the winter than normally dry late September, slowly tracked from off the southern California Coast northeastward into the northern Plains, producing locally heavy showers and thunderstorms in parts of the Southwest. Over 2 inches of rain fell on southern Nevada, central Arizona, southwestern Utah, and southwestern Colorado, with 0.5 to 2 inches common in northern and central Arizona, southeastern California, southern and eastern Nevada, most of Utah, western parts of Colorado and Wyoming, and most of Idaho and Montana. Normally arid Death Valley, CA, received 0.63 inches on Sep. 22, its highest daily total in over 2 years. While Las Vegas, NV, measured 0.67 inches, Mt. Charleston, just to the west of Las Vegas, recorded 5.90 inches. Although much of the West was in hydrologic drought, this week's unseasonably heavy rains, and an active Southwest monsoon during July and August, decreasing temperatures, and an end to the growing season have greatly lowered wildfire danger, increased topsoil moisture, and halted irrigation in much of Utah. Although reservoir storage is still very low on the Bear (23%), Sevier (30%), and Weber (38%), the remainder of the state is close to normal conditions for late summer [Provo (76%), Uintah (76%), southern Utah (60%), and southeast Utah (50%)]. Accordingly, the southern and eastern sections of Utah were improved to D1(H), along with northern Arizona and southwestern Nevada. In Arizona, above-normal July and August monsoon rains helped raise the statewide reservoir percent of normal capacity from 82% at the end of July to 88% by the end of August. In Colorado, a decent 2006-07 wet season as compared to the rest of the West, a wet August and September, and near-normal statewide reservoir capacity resulted in drought improvement for western sections, except in the northwest where the Yampa-White basin Sep. 1 SWSI (Surface Water Supply Index) was -2.5, or moderate drought.

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Farther north, light to moderate rains eased topsoil moisture shortages in Idaho, western Montana, and western Wyoming, but statewide percent of normal reservoir capacities continued to drop since the end of May as compared to the end of August. Montana went from 83% on May 31 to 75% on August 31; and similarly, Idaho 100% to 65%, Wyoming 96% to 79%, and Oregon 82% to 57%. In addition, even with the recent rains, longer-term periods, starting at 60-days, show subnormal precipitation across much of the aforementioned areas, while USGS stream flows generally remain in the lower 25th percentile for the past 1-, 7-, 14-, and 28-day periods. As a result, except for a very slight reduction in the D3(AH) in western Montana where 1-2 inches fell, a slight expansion of D0 in west-central Washington with recent dryness, and a reassessment of the D3(H) in eastern Idaho and northwestern Wyoming (very low reservoir storage on the Upper Snake River basin), conditions were maintained. The Impact line for hydrology (H), however, was shifted northward to reflect the improved short-term moisture situation and decreased wildfire danger. In fact, Idaho, suffering from one of their worst wildfire seasons on record, was down to only one active large wildfire on Sep. 25 thanks to the weekend moisture. And, although the USDA/NASS pasture and range conditions on Sep. 23 were still bleak in California, Nevada, Utah, Idaho, and Oregon [very poor to poor ratings ranged from 58% (UT) to 95% (CA)], the rains had just fallen, so any possible improvements would not show up until next week.

Author: [David Miskus, Joint Agricultural Weather Facility, CPC/NCEP/NWS/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. 3, 3a, and 3b).

SOIL MOISTURE

Soil moisture (Fig. 4), 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. 5 and 5a shows the current active wildfires across the West - <http://geomac.usgs.gov/>.

U.S. HISTORICAL STREAMFLOW

This map, (Fig. 6) 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

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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.

VEGETATION HEALTH

The images (Fig. 7) are color-coded maps of vegetation condition (health) estimated by the Vegetation and Temperature Condition Index (VT). The VT is a numerical index, which changes from 0 to 100 characterizing change in vegetation conditions from extremely poor (0) to excellent (100). Fair conditions are coded by green color (50), which changes to brown and red when conditions deteriorate and to blue when they improve.

<http://www.orbit.nesdis.noaa.gov/smcd/emb/vci/usa.html>. Associated with vegetation health are pasture and rangeland conditions (Fig. 8) as noted at:

<http://www.cpc.ncep.noaa.gov/products/predictions/experimental/edb/pasture-range-statewide-conditions.pdf>

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

Sep 27, 2007

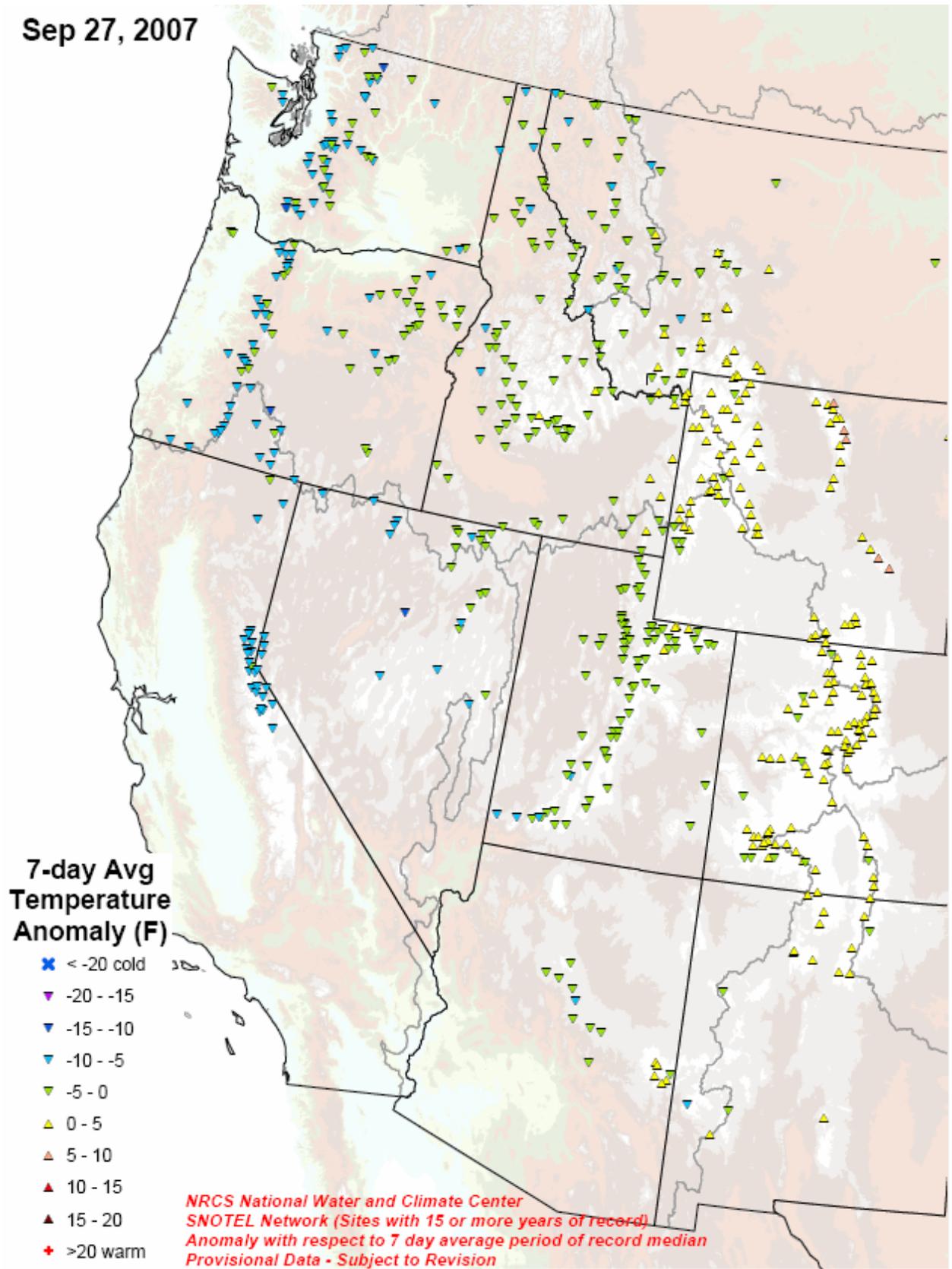
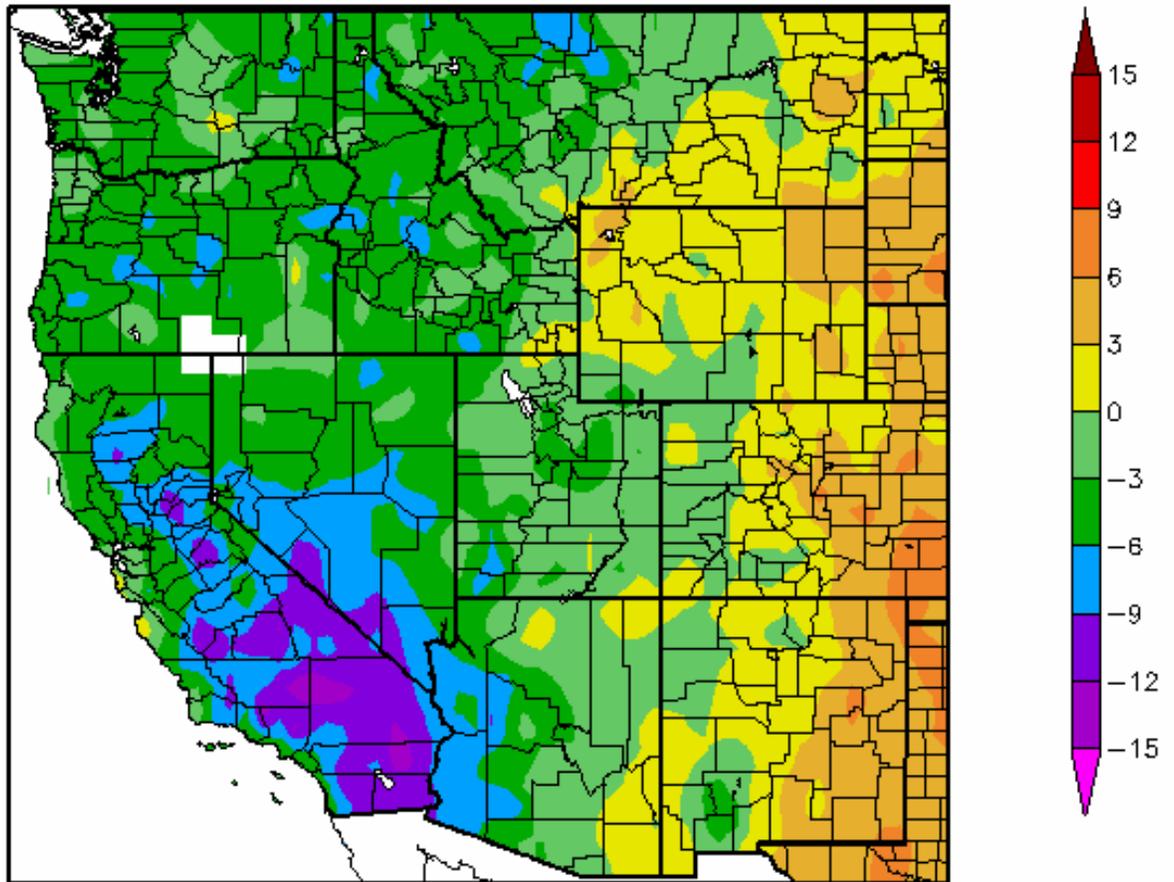


Fig. 1. SNOTEL 7-day average temperature anomaly.

Ref: <ftp://ftp.wcc.nrcs.usda.gov/data/water/wcs/gis/maps/WestwideTavg7dAnomay.pdf>

Departure from Normal Temperature (F)
9/20/2007 - 9/26/2007



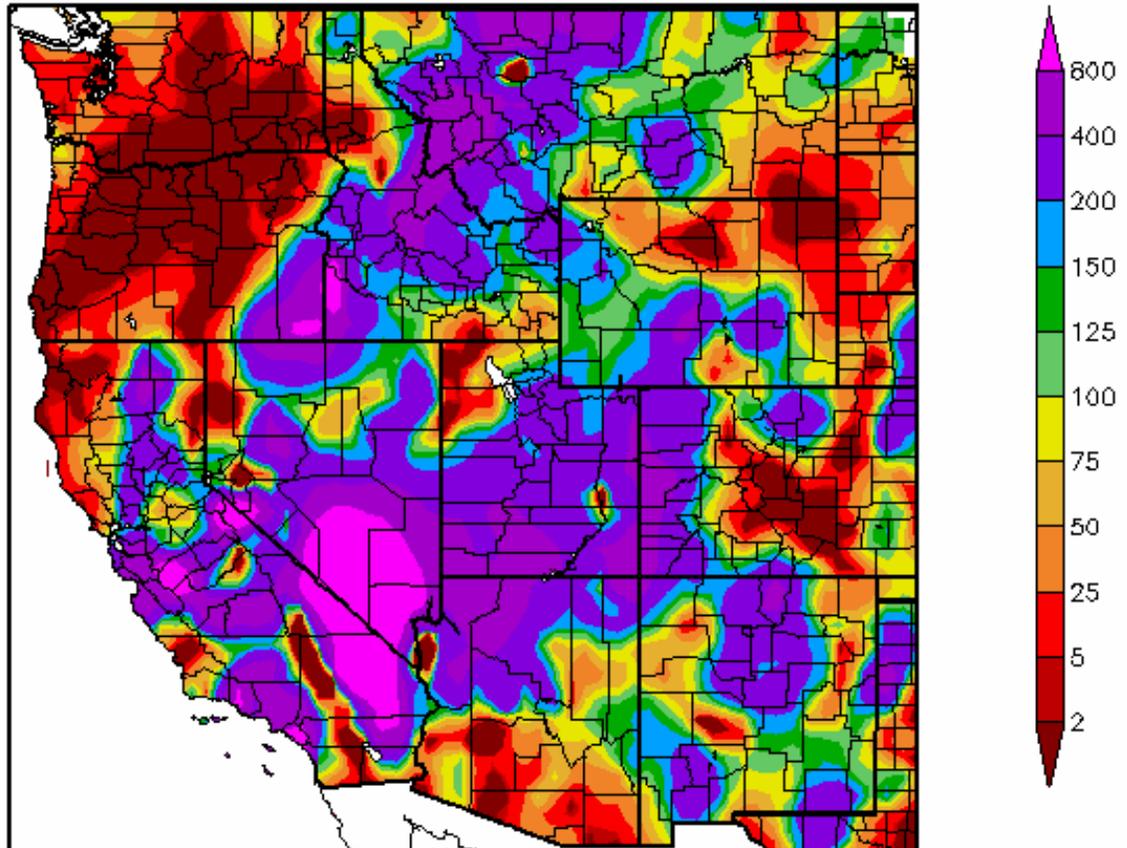
Generated 9/27/2007 at HPRCC using provisional data.

NOAA Regional Climate Centers

Fig. 1a. September 20-26, 2007: Temperature departure from normal show warmer than normal temperatures over the Great Plains with coolest temperatures over much of southern California.

Ref: http://www.hprcc.unl.edu/maps/index.php?action=update_region®ion=WRCC

Percent of Normal Precipitation (%)
9/20/2007 – 9/26/2007



Generated 9/27/2007 at HPRCC using provisional data.

NOAA Regional Climate Centers

Fig. 2. Preliminary precipitation totals for the 7-day period ending 26 September 2007 shows heavier rain falling across much of the West. However, little precipitation occurred over the Pacific Northwest and Eastern High Plains.

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

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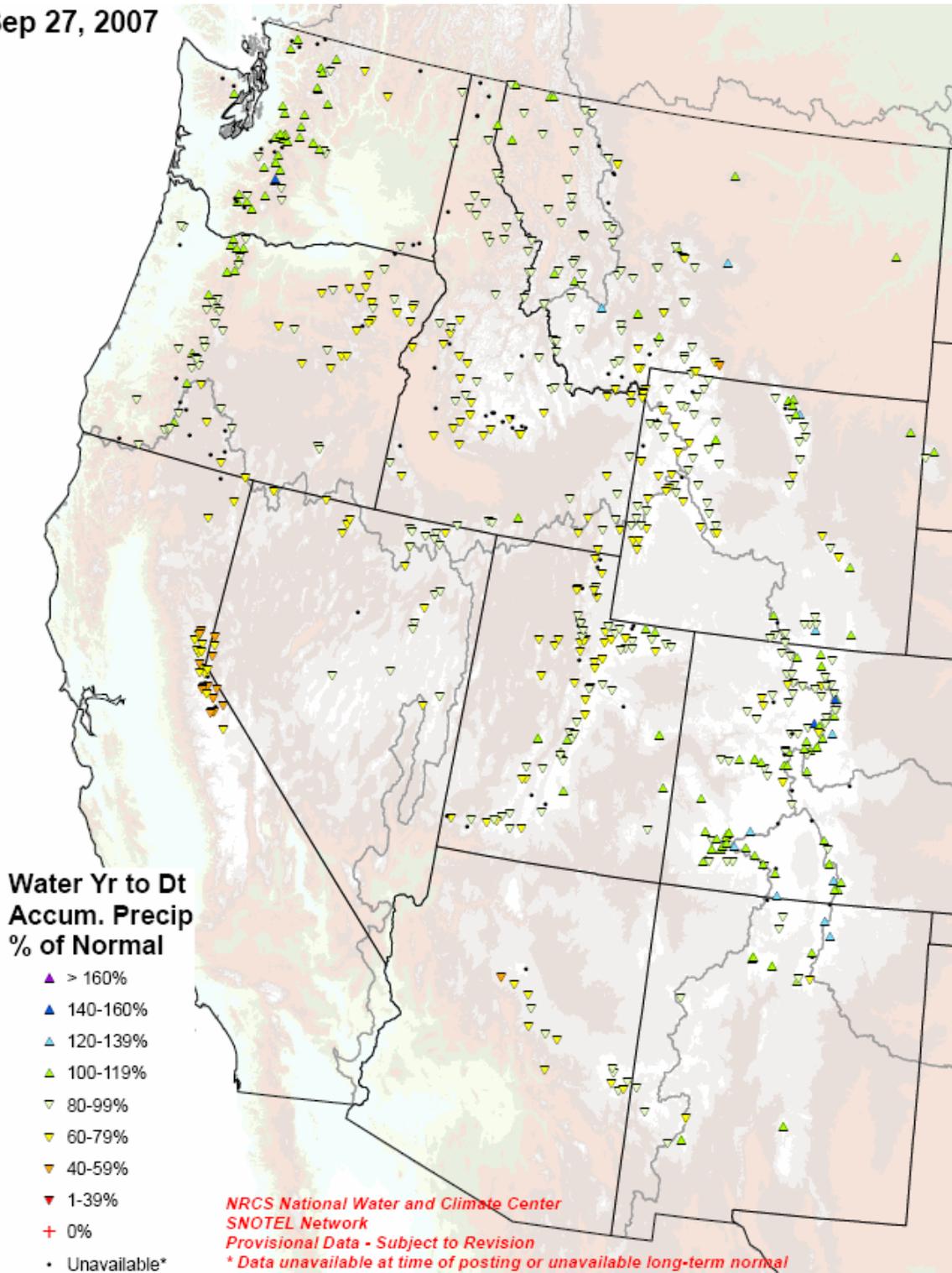


Fig. 2a. SNOTEL station water year (since October 1) precipitation as a percent of normal. Note: No change from last week's map.

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

U.S. Drought Monitor

September 25, 2007
Valid 8 a.m. EDT

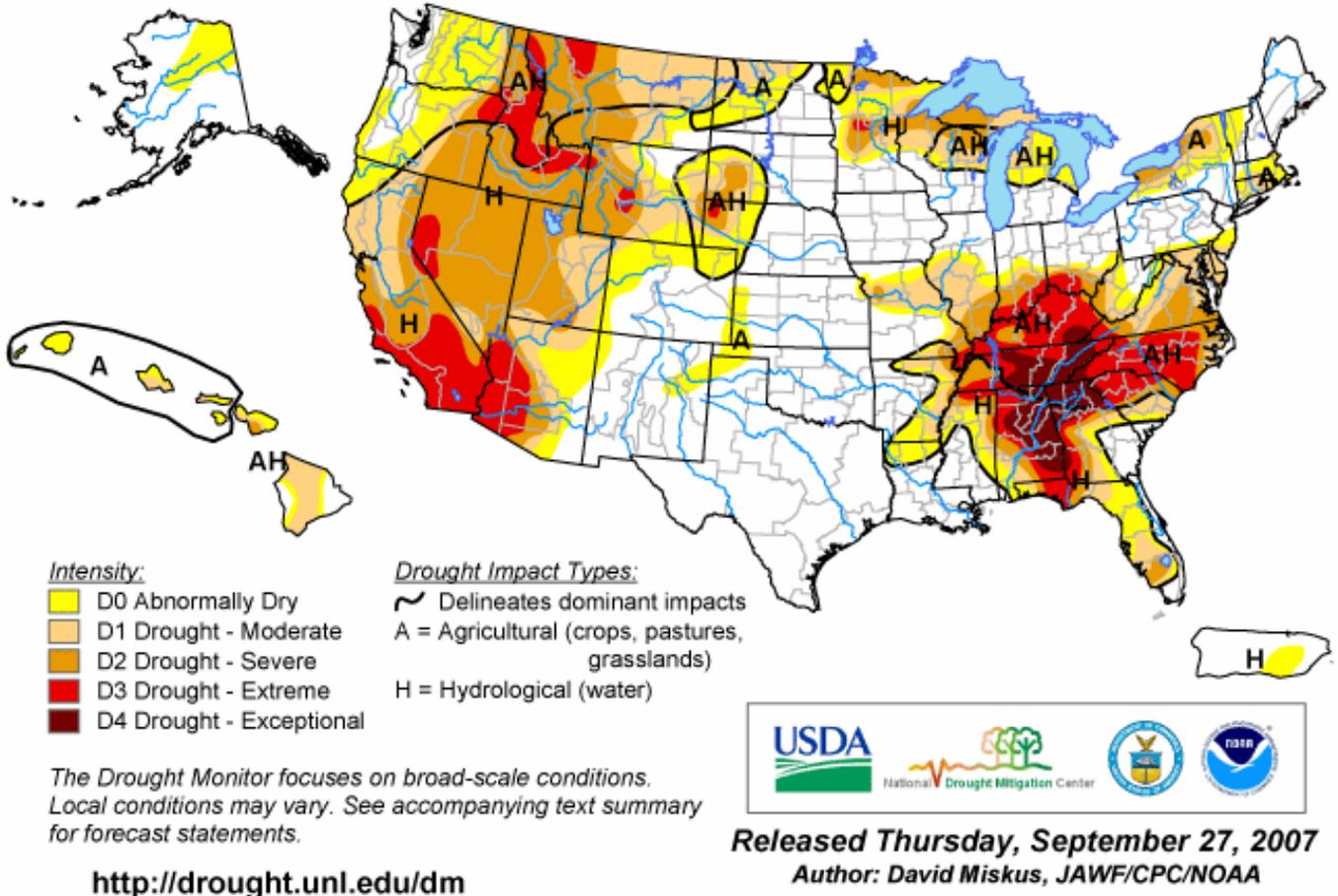


Fig. 3. Current Drought Monitor weekly summary.

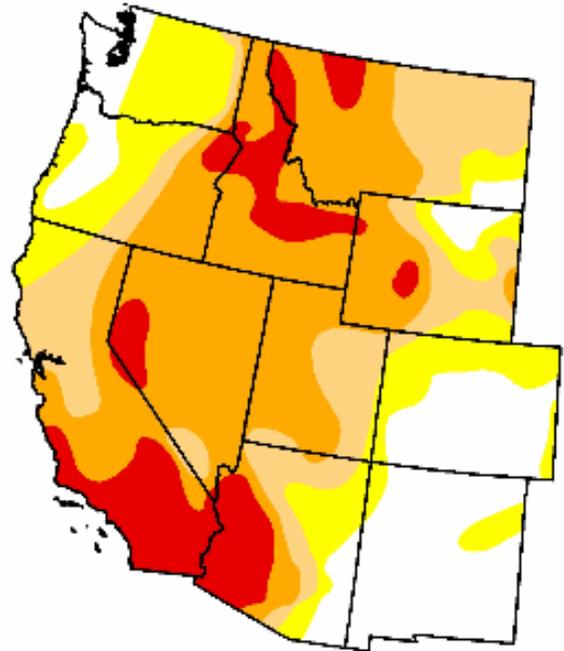
Ref: National Drought Mitigation Center (NDMC) - <http://www.drought.unl.edu/dm/monitor.html>

U.S. Drought Monitor West

September 25, 2007
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	20.3	79.7	63.0	45.4	12.4	0.0
Last Week (09/18/2007 map)	19.7	80.3	64.2	49.9	13.4	0.0
3 Months Ago (07/03/2007 map)	32.7	67.3	50.5	28.6	8.7	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 (09/26/2006 map)	43.4	56.6	32.9	16.4	4.9	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, September 27, 2007
Author: David Miskus, JAWF/CPC/NOAA

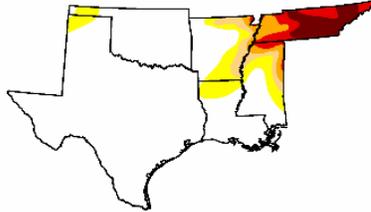
Fig. 3a. Drought Monitor for the Western States with statistics over various time periods. No significant change since last week's map. Ref: http://www.drought.unl.edu/dm/DM_west.htm

Weekly Snowpack and Drought Monitor Update Report

U.S. Drought Monitor South

September 25, 2007
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	79.0	21.0	13.2	10.2	7.4	4.0
Last Week (09/18/2007 map)	79.0	21.0	13.2	10.2	7.4	4.0
3 Months Ago (07/03/2007 map)	74.5	25.5	19.1	12.5	7.9	0.3
Start of Calendar Year (01/02/2007 map)	39.8	60.2	33.3	22.3	12.1	1.9
Start of Water Year (10/03/2006 map)	22.6	77.4	48.4	28.6	13.0	0.8
One Year Ago (09/26/2006 map)	23.3	76.7	47.7	28.4	12.5	0.8



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

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

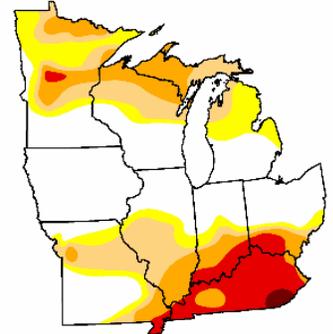


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U.S. Drought Monitor Midwest

September 25, 2007
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	45.1	54.9	40.7	23.7	10.2	0.6
Last Week (09/18/2007 map)	46.0	54.0	42.1	27.0	9.8	0.6
3 Months Ago (07/03/2007 map)	45.7	54.3	23.0	5.3	0.5	0.0
Start of Calendar Year (01/02/2007 map)	57.8	42.2	18.0	11.1	7.1	0.0
Start of Water Year (10/03/2006 map)	63.5	36.5	21.9	10.3	7.7	0.0
One Year Ago (09/26/2006 map)	63.6	36.4	20.8	10.3	7.7	0.0



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>

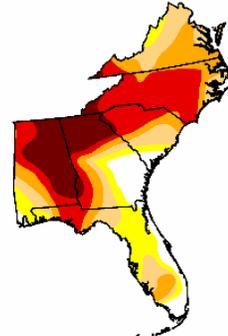


Released Thursday, September 27, 2007
Author: David Miskus, JAWF/CPC/NOAA

U.S. Drought Monitor Southeast

September 25, 2007
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	10.4	89.6	76.7	59.0	41.0	15.5
Last Week (09/18/2007 map)	8.2	91.8	76.7	58.1	41.7	15.9
3 Months Ago (07/03/2007 map)	7.1	92.9	65.5	40.1	23.1	7.5
Start of Calendar Year (01/02/2007 map)	52.2	47.8	10.2	1.5	0.0	0.0
Start of Water Year (10/03/2006 map)	47.0	53.0	33.2	0.0	0.0	0.0
One Year Ago (09/26/2006 map)	52.5	47.5	23.1	0.0	0.0	0.0



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

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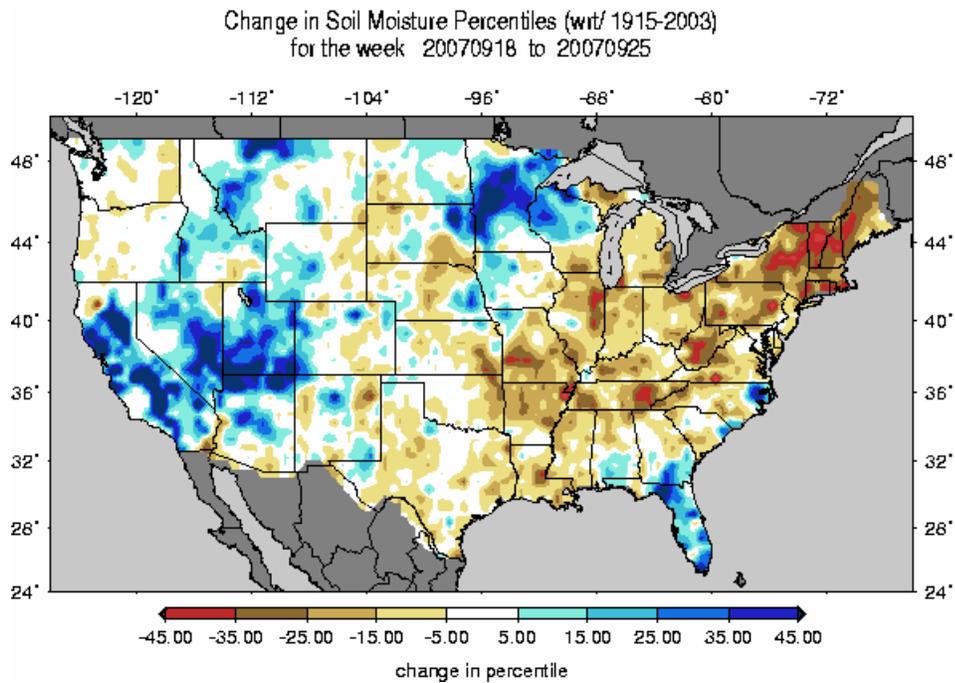
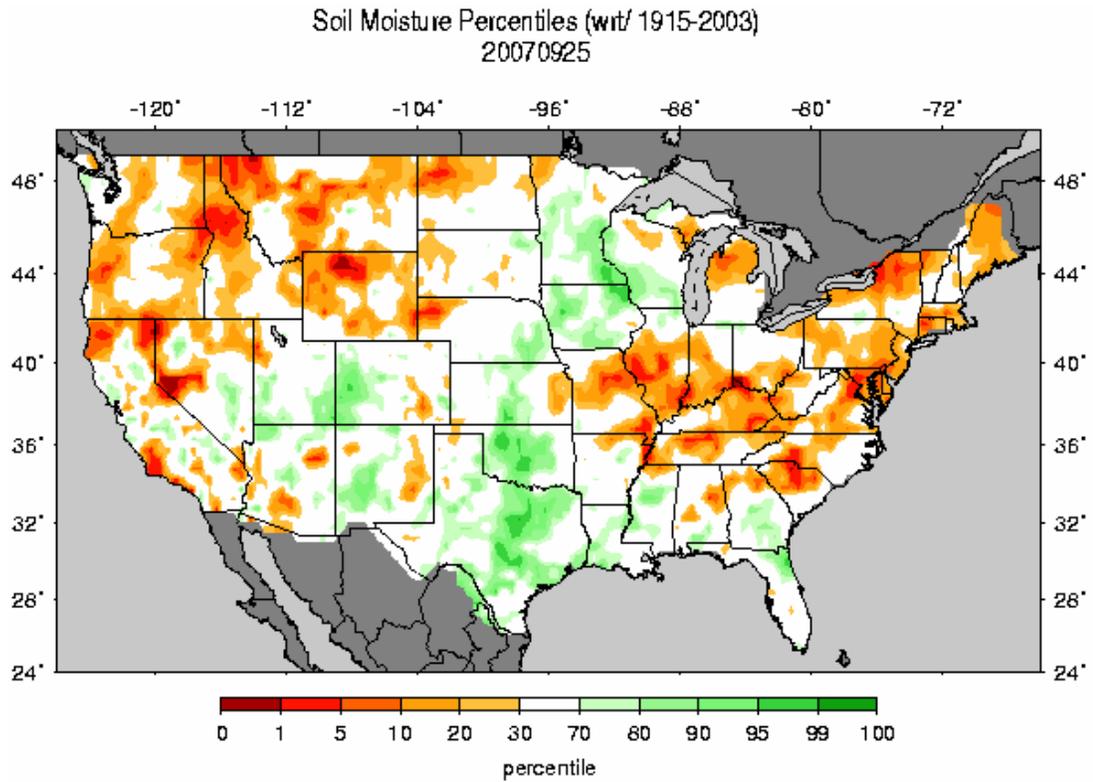
<http://drought.unl.edu/dm>



Released Thursday, September 27, 2007
Author: David Miskus, JAWF/CPC/NOAA

Fig. 3b. Drought Monitor for the South, Midwest and Southeastern States with statistics over various time periods shows some of the severest drought conditions in the US.

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Figs. 4 and 4a: Soil Moisture Ranking Percentile based on 1915-2003 climatology. Note major improvement over much of the West since last week.

Ref: http://www.hydro.washington.edu/forecast/monitor/curr/CONUS.sm_gnt.gif and http://www.hydro.washington.edu/forecast/monitor/curr/CONUS.sm_gnt.1wk.gif.

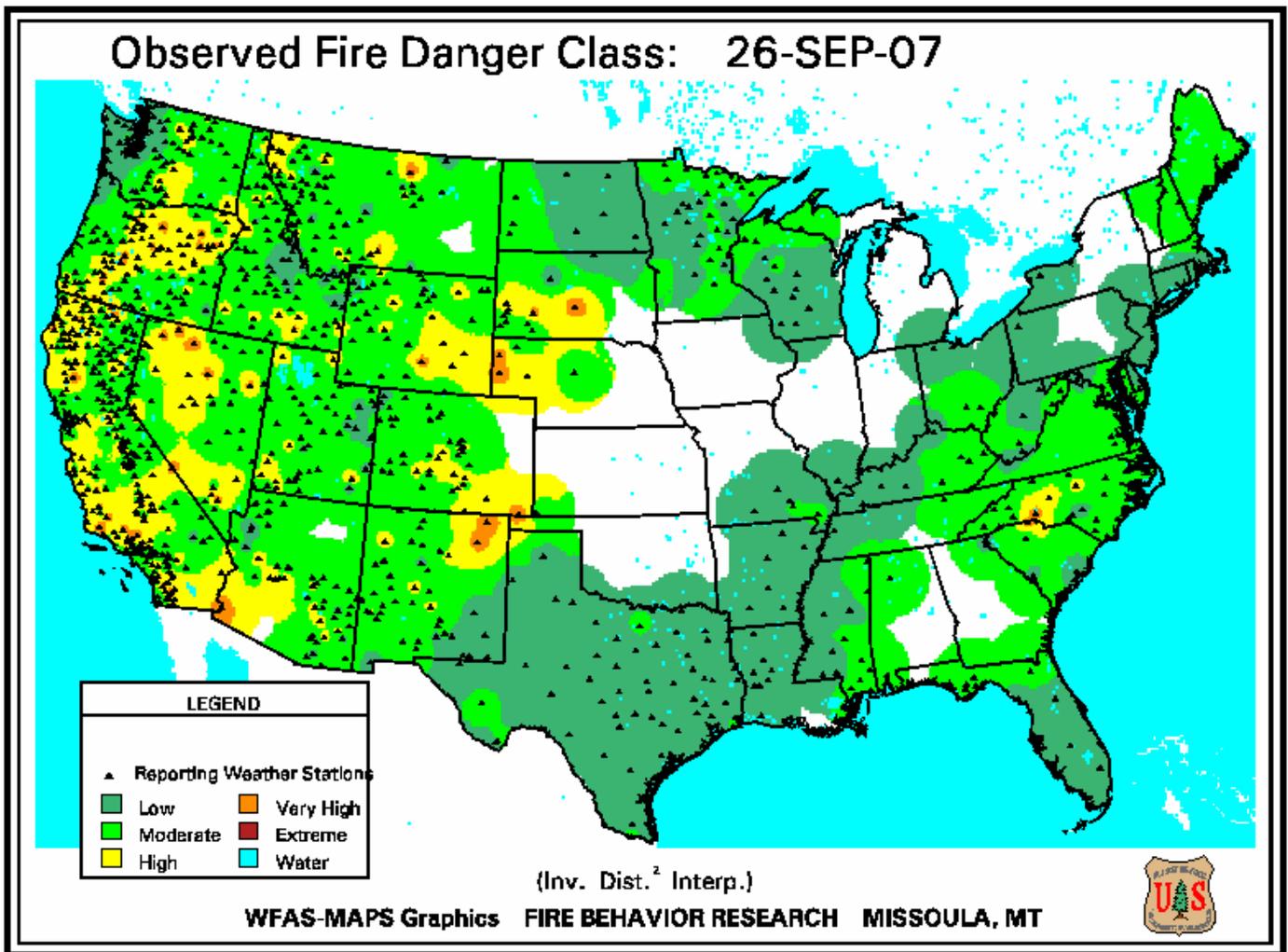


Fig. 5. Observed Fire Danger Class. Conditions have greatly improved over California, Nevada and Utah since last week. Source: Forest Service Fire Behavior Research – Missoula, MT.

Ref: http://www.fs.fed.us/land/wfas/fd_class.gif

Weekly Snowpack and Drought Monitor Update Report

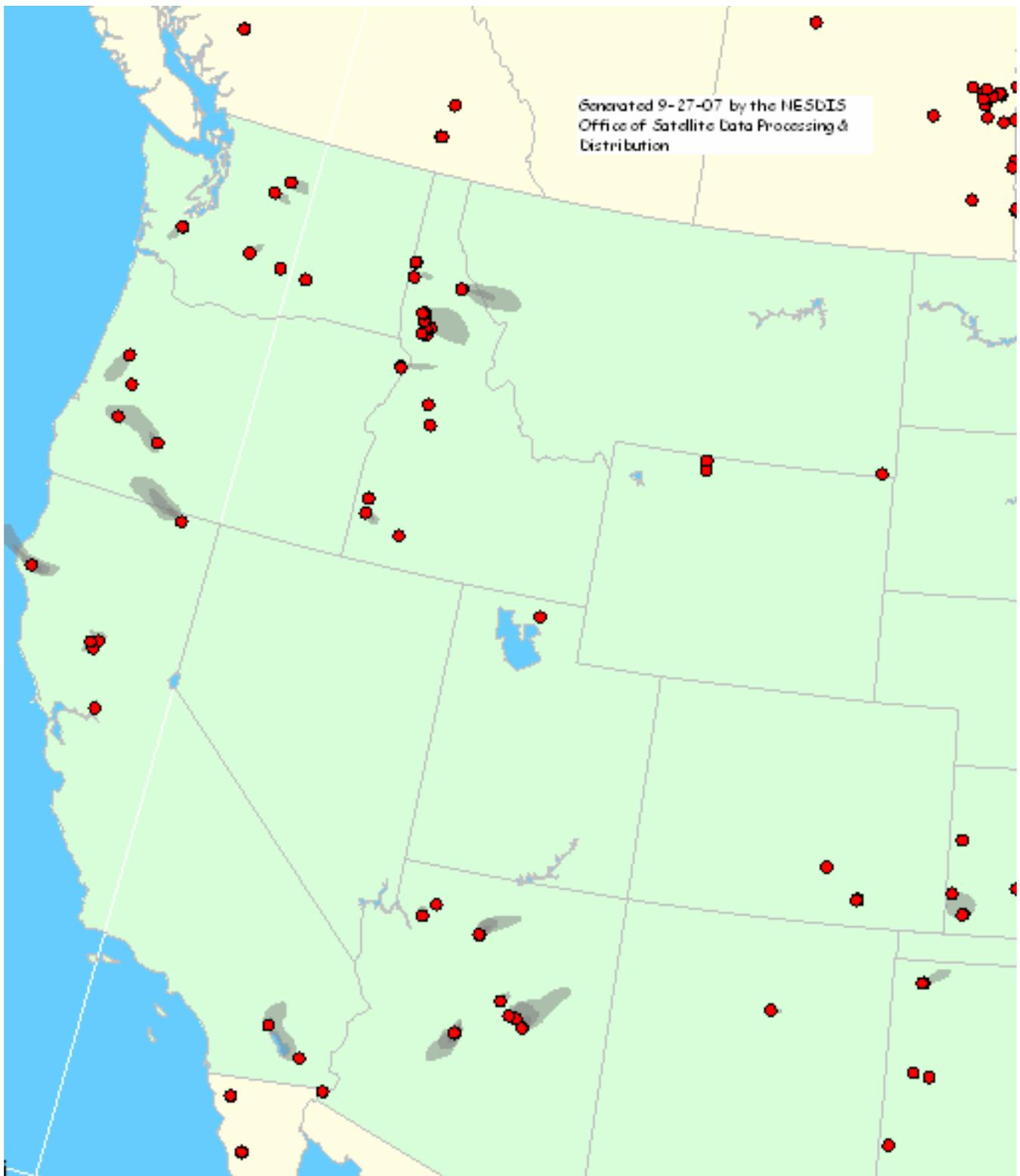


Fig. 5a. Location of active wildfires as detected from satellite across the West as of 27 September 2007. Gray areas depict smoke and blue areas depict fire potential.

Ref: <http://www.firedetect.noaa.gov/viewer.htm>

Weekly Snowpack and Drought Monitor Update Report

Hednesday, September 26, 2007

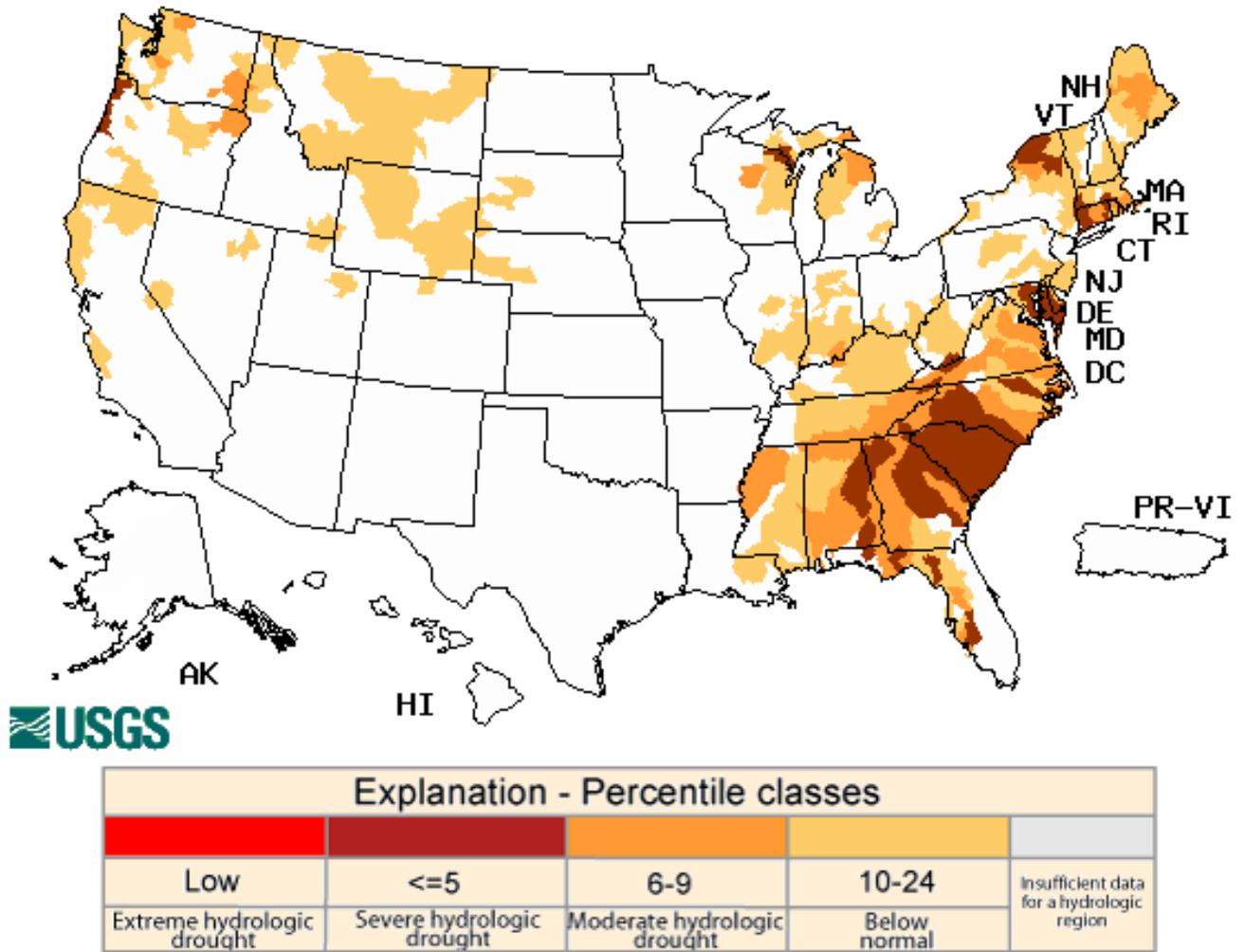


Fig. 6. This week's map shows a significant improvement over the Southwestern States but some worsening over portions of Washington and Oregon since last week.

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

**Vegetation Health: Red - stressed, Green - fair,
Blue - favorable, White - Cold Surface**

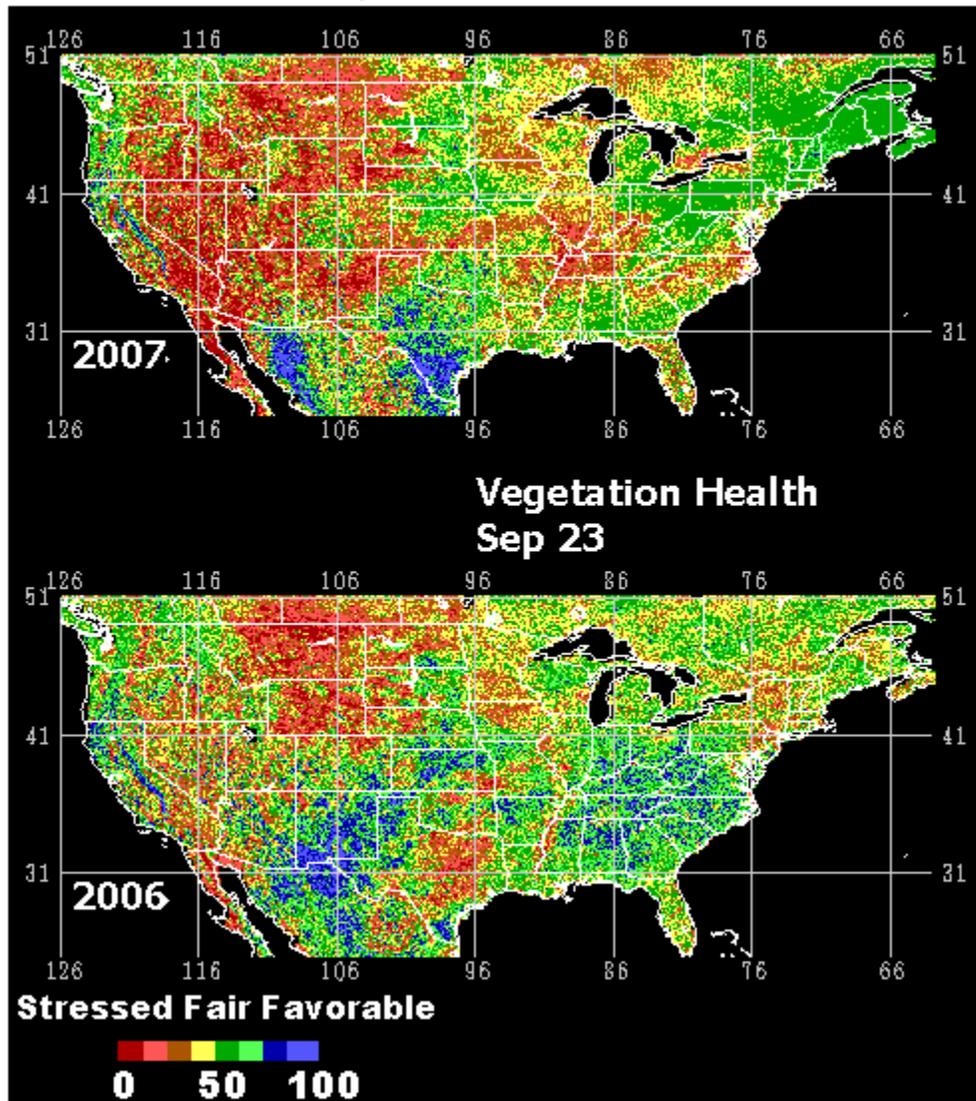


Fig. 7: This remote satellite AVHRR map shows stressed vegetation as compared to last year. Not worse conditions over the Interior West (especially over the Southwestern States) as compared to last September.
Ref: <http://www.orbit.nesdis.noaa.gov/smcd/emb/vci/usa.html>.

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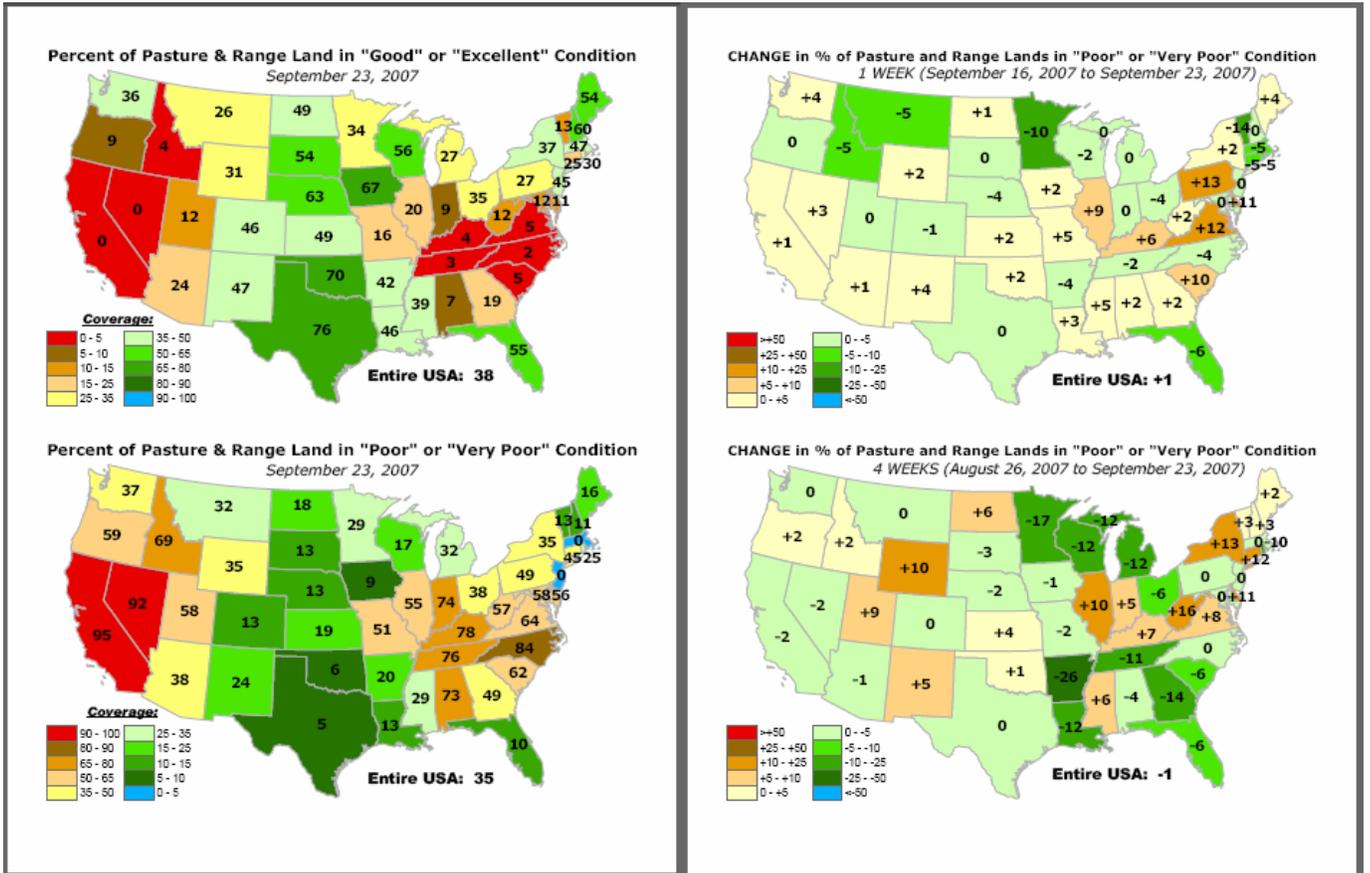


Fig. 8. Pasture and rangeland conditions for various time periods are shown above. The worst conditions exist over California, Idaho, and Nevada (left panels). During the past week, Idaho and Montana shows the largest decrease in poor to very poor conditions (top right panel) and during the past four weeks Wyoming, Utah, and New Mexico shows the largest increase in deteriorated lands (bottom right panel). Ref: <http://www.cpc.ncep.noaa.gov/products/predictions/experimental/edb/pasture-range-statewide-conditions.pdf>

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National Drought Summary -- September 25, 2007

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/>.

A winter-like storm moved from off the southern California Coast northeastward into the northern Plains, bringing unseasonably heavy, localized showers to the Southwest, cool conditions to the Far West, and moderate to heavy rain to parts of the central and northern Rockies. In the Southeast, Tropical Depression 10 formed over the northeastern Gulf of Mexico but quickly faded once making landfall near Fort Walton Beach, FL, but not before dropping decent rains on most of Florida and southern Georgia. And once again, widespread heavy showers and thunderstorms provided additional drought relief to the north-central Great Plains, upper Midwest, and western Great Lakes region. In contrast, dry and warm weather returned to the remainder of the Southeast and the Ohio Valley, Northeast, and mid-Atlantic, either maintaining or expanding drought and dryness. Elsewhere, light showers in Puerto Rico and on the windward side of the Hawaiian Islands kept conditions status-quo.

The West: A cold core upper-air low, more typical of the winter than normally dry late September, slowly tracked from off the southern California Coast northeastward into the northern Plains, producing locally heavy showers and thunderstorms in parts of the Southwest. Over 2 inches of rain fell on southern Nevada, central Arizona, southwestern Utah, and southwestern Colorado, with 0.5 to 2 inches common in northern and central Arizona, southeastern California, southern and eastern Nevada, most of Utah, western parts of Colorado and Wyoming, and most of Idaho and Montana. Normally arid Death Valley, CA, received 0.63 inches on Sep. 22, its highest daily total in over 2 years. While Las Vegas, NV, measured 0.67 inches, Mt. Charleston, just to the west of Las Vegas, recorded 5.90 inches. Although much of the West was in hydrologic drought, this week's unseasonably heavy rains, an active Southwest monsoon during July and August, decreasing temperatures, and an end to the growing season have greatly lowered wildfire danger, increased topsoil moisture, and halted irrigation in much of Utah. Although reservoir storage is still very low on the Bear (23%), Sevier (30%), and Weber (38%), the remainder of the state is close to normal conditions for late summer [Provo (76%), Uintah (76%), southern Utah (60%), southeast Utah (50%)]. Accordingly, the southern and eastern sections of Utah were improved to D1(H), along with northern Arizona and southwestern Nevada. In Arizona, above-normal July and August monsoon rains helped raise the statewide reservoir percent of normal capacity from 82% at the end of July to 88% by the end of August. In Colorado, a decent 2006-07 wet season as compared to the rest of the West, a wet August and September, and near-normal statewide reservoir capacity resulted in drought improvement for western sections, except in the northwest where the Yampa-White basin Sep. 1 SWSI (Surface Water Supply Index) was -2.5, or moderate drought.

Farther north, light to moderate rains eased topsoil moisture shortages in Idaho, western Montana, and western Wyoming, but statewide percent of normal reservoir capacities continued to drop since the end of May as compared to the end of August. Montana went from 83% on May 31 to 75% on August 31; and similarly, Idaho 100% to 65%, Wyoming 96% to 79%, and Oregon 82% to 57%. In addition, even with the recent rains, longer-term periods, starting at 60-days, show subnormal precipitation across much of the aforementioned areas, while USGS

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stream flows generally remain in the lower 25th percentile for the past 1-, 7-, 14-, and 28-day periods. As a result, except for a very slight reduction in the D3(AH) in western Montana where 1-2 inches fell, a slight expansion of D0 in west-central Washington with recent dryness, and a reassessment of the D3(H) in eastern Idaho and northwestern Wyoming (very low reservoir storage on the Upper Snake River basin), conditions were maintained. The Impact line for hydrology (H), however, was shifted northward to reflect the improved short-term moisture situation and decreased wildfire danger. In fact, Idaho, suffering from one of their worst wildfire seasons on record, was down to only one active large wildfire on Sep. 25 thanks to the weekend moisture. And, although the USDA/NASS pasture and range conditions on Sep. 23 were still bleak in California, Nevada, Utah, Idaho, and Oregon [very poor to poor ratings ranged from 58% (UT) to 95% (CA)], the rains had just fallen, so any possible improvements would not show up until next week.

The Plains: Although light showers (0.2 to 0.4 inches) fell on most of North Dakota, precipitation has been well below normal the past 90-days (less than 50% of normal in the northwest, with deficits of 2 to 4 inches), creating short-term impacts. According to local county extension agents, winter wheat plantings were reduced due to dry conditions, pastures and ranges have decreased production, and many normally active grasses have gone dormant. On the other hand, the dry weather was good for harvesting activities. As a result, abnormal dryness was expanded into the southwest, and moderate drought now covered northwestern North Dakota. In contrast, 0.5 to 1.2 inches of rain in northeastern North Dakota, plus 1-3 inches in northeastern South Dakota, was enough to alleviate D0(A). Additionally, an inch of rain fell on west-central Nebraska, trimming back the D0(A), but lesser amounts (less than 0.5 inches) fell nearby. The Impact line (AH) was redrawn to reflect lingering short (less than 30-days) and long-term (6- to 12-months) deficiencies in the north-central High Plains, but improved short-term conditions elsewhere (H only).

Upper Midwest and western Great Lakes region: For the fourth consecutive week, much of this region experienced moderate (0.5 to 2 inches) to heavy (over 2 inches) rains. With the growing season effectively over plus dropping temperatures, evapotranspiration rates have also greatly decreased, meaning that any additional precipitation should start to 'accumulate' in the soil. According to USDA/NASS, Minnesota topsoil moisture rated short to very short dwindled from 46% on Sep. 16 to 21% a week later. With the continued precipitation surpluses and decreasing evaporative demands, a one-category improvement was made across most of the northern half of Minnesota and extreme northwestern Wisconsin, where over 5 inches fell in the latter area. Heavy rains (2 to 5 inches) also soaked western sections of Michigan's upper Peninsula, producing short-term (30-day) surpluses of 2 to 5 inches, but long-term deficits still remained (6-months: 2 to 4 inches; 12-months: 4 to 8 inches). Accordingly, D3 was removed near Lake Superior, but D2(H) remained, although another week of decent rain could provide further relief. In northeastern Wisconsin, however, rainfall was much lighter (0.1 to 0.7 inches), and conditions were degraded to D2(AH) as USGS 1-, 7-, 14-, and 28-day stream flows ending Sep. 25 remained at near to record-low levels. In northern lower Michigan, 0.3 to 0.6 inches of rain maintained D0-D1 conditions.

New England and eastern Great Lakes region: With little or no rain, temperatures averaging 4 degrees F to 8 degrees F above normal, and highs in the mid-80s, short- to medium-term shortages further increased. During the past 60-days, under half of normal rainfall occurred across extreme western and northern New York, accumulating deficiencies of 3 to 8 inches, and at 6-months, 8 to 12 inch deficits were observed in north-central New York. Most USGS 1- and 7-day stream flows have fallen into the lower 10th percentile across the region, with near-record lows on the Black River at Watertown, and reported water shortages in the northern Adirondacks and in the headwaters of the Black River. In northwestern Vermont, one town is trucking in water, but their water system is marginal and susceptible to dry conditions. Although

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D2 was added into this area, with D0 and D1 expanding eastward and somewhat southward, large-scale negative impacts have been minimal with the growing season coming to an end, with conditions actually aiding harvest activities. Similarly in eastern New England, dry and warm weather increased deficiencies, especially after subnormal summer rainfall (50 to 75% of normal) in eastern Connecticut, Rhode Island, and Massachusetts. After last week's 1.5 to 2.5 inches of rain and minor improvement, no rain this week rapidly dropped USGS stream flows back under the 10th percentile, with several at record low levels. In response, D1 was returned to eastern Connecticut and Rhode Island, and D0 slightly expanded westward.

The Southeast, mid-Atlantic, Ohio and lower Missouri Valleys: After receiving heavy rains (more than 2 inches) from the remnants of Hurricane Humberto last week, little or no rain fell this week from southeastern Texas northeastward into southwestern Virginia and the Carolinas, so conditions stabilized in these areas. In contrast, rain from weak Tropical Depression 10 brought widespread, decent rains (2 to 5 inches) to most of Florida and southern Georgia. This week's rain, in combination with more scattered and moderate rain (1 to 2 inches) the previous week, was enough to provide some relief to eastern Florida, southern and central Georgia, and southeastern Alabama. In eastern North Carolina, two weeks of decent rains nudged the D2 and D3 edge slightly westward, with improvement to counties near the Pamlico Sound and Onslow Bay. Plus, with short-term conditions close to normal, the Impact line became H only (instead of AH) as long-term drought (1 to 2 years plus) remained. In Florida, however, a general increase in rainfall coverage and intensity since July has yet to effectively eliminate hydrologic drought. For example, the average level of Lake Okechobee has slowly crept upward to 9.86 feet, but this was still 5 feet below normal as of Sep. 25, and with the normally dry season fast approaching, water supplies were not looking good. Additionally, USGS stream flows at various time periods still remained in the lower 10th percentiles at most sites in western Florida and the in the Panhandle.

In contrast, two consecutive weeks of little or no rain, plus a return to unseasonable warmth and highs in the 80sF and 90sF, rapidly deteriorated conditions in the northernmost extent of the drought area. This was especially true in the Ohio Valley and mid-Atlantic, with quickly accumulating short-term deficiencies, declining short-term drought indicator blends, very low soil moisture anomalies and percentiles, near or record low USGS stream flows at 1-, 7-, 14-, and 28-days, Sep. 23 NASS/USDA topsoil moisture rated short to very short (KY 95%; IL 69%; IN 69%; OH 52%; WV 70%; VA 87%; MD 80%; DE 92%, and PA 55%), and percent of pastures rated poor to very poor (55% in IL to 78% in KY). To reflect this, D3 was expanded across southern Indiana and most of Kentucky, D0-D2 pushed northward into central Indiana, D0-D1 increased into central West Virginia, D1 extended into Maryland, D2 was put in north-central Virginia, and D0 increased in southern New Jersey.

Alaska, Hawaii, and Puerto Rico: Little or no precipitation fell on northeastern Alaska, and temperatures averaged 4 degrees F to 8 degrees F above normal. However, with readings normally dipping below freezing at night, and average temperatures approaching 32 degrees F in the far north, D0 impacts were negligible as the state awaits the fall and winter snow season for building mountain snowpacks. In Puerto Rico, scattered showers (under an inch, with a few isolated totals exceeding 2 inches) fell on southeastern sections. They were not great enough to alleviate long-term dryness, nor light enough to increase to D1(H), so conditions remained at D0(H). In Hawaii, scattered light windward showers (generally less than 0.25 inches) were not enough to improve conditions, with the possible exception of eastern Maui. With good consistent windward rains, 7-day totals (from 8:45am HST Sep. 18 to 8:45am HST Sep. 25) included 6.14 inches at Puu Kukui, 3.25 inches at West Wailuaiki, and 2.00 inches at Oheo Gulch. This may have been enough to drop mandatory water restrictions in eastern Maui, but it

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won't be known for sure until Thursday, Sep. 27 at the earliest. Until confirmation is made, Hawaii remains at status quo.

Looking Ahead: For September 27-October 1, a cold front will bring a chance of showers (0.5 inches or more) from the Tennessee Valley northeastward into western New England early in the period, then move off the East Coast by late Friday, with dry and cooler weather in store for the eastern third of the nation. Two systems will move through the Northwest, with precipitation possible on Friday and Monday, while more rain is forecast for the northern Plains and upper Midwest over the weekend. Little or no rain is predicted for the southern half of the U.S. during late September, with near to slightly above normal temperatures. In the tropics, Tropical Storm Karen (south-central Atlantic Ocean) and Tropical Depression 13 (southwest Gulf of Mexico) were far away from the lower 48 States and were not expected to affect the U.S. through October 1.

For the ensuing 5 days (October 2-6), the odds favor wetter-than-normal weather for the Pacific Northwest, northern Great Plains, upper Midwest, western Great Lakes region, Mississippi Valley, and Florida, while subnormal precipitation is expected in the Southwest and northeastern quarter of the nation. Above-normal temperatures are forecast for the eastern half of the U.S., especially in the Northeast and Great Lakes region, with cool conditions in the western third of the nation.

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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