



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

Weekly Report - Snowpack / Drought (& Flood) Monitor Update Date: 1 September 2011

SNOTEL SNOWPACK AND PRECIPITATION SUMMARY

Temperature: SNOTEL and ACIS 7-day temperature anomaly shows +5°F to +10°F departures over the Northern Rockies, Western High Plains, and Southwest with readings up to +5°F elsewhere (Fig. 1). ACIS 7-day average temperature anomalies show the greatest positive temperature departures scattered across the Interior West (>+10°F) and the greatest negative departures over Coastal California (<-4°F) (Fig. 1a).

Precipitation: ACIS 7-day average precipitation amounts for the period ending yesterday shows the heaviest precipitation over the Central and Southern Rockies and over much of Utah (Fig. 2). In terms of percent of normal, the precipitation in the form of widely scattered thunderstorms occurred over these same areas (Fig 2a). The Southwest Monsoon failed to deliver large amounts of heavy rains this week (Fig. 2a). 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, Sierra, and parts of Northern and Central Rockies (Fig. 2b).

[Flooding persists](#) but is diminishing significantly along the flood plain over parts of the [Missouri River](#).

Summary: Hurricane Irene brought widespread, locally excessive rainfall to the mid-Atlantic and Northeast, while heat and dryness maintained or worsened drought conditions across the central and southern U.S.

Four Corners Region: Drought relief over northeastern portions of the region contrasted with an increase in drought designation in southwestern locales. Beneficial showers (1 to 2 inches) further improved soil moisture in northern New Mexico as well as southern and eastern Colorado; consequently, the coverage of Moderate (D1) to Extreme (D3) Drought was reduced in these areas to reflect the most current Standardized Precipitation Indices (3, 6, 9, and 12 month). The coverage of Colorado's Exceptional Drought (D4) was virtually unchanged, with small modifications made to account for the updated VegDri Index as well as the most recent precipitation data. Environs within the core D4 area are still below 25 percent of normal precipitation over the past 180 days, although additional local analysis and input may lead to changes in drought designation over the upcoming weeks. Abnormal Dryness (D0) on the High Plains of Colorado was expanded slightly northeastward due to a lack of rain over the past 30 to 60 days, a low 3-month Standardized Precipitation Index, declining soil moisture, and increasingly poor VegDri Index. In southern and western Arizona, expansion of Moderate (D1) to Extreme (D3) drought was a reflection of a drier-than-normal monsoon to date (less than 50 percent of normal rainfall over the past 90 days). Temperatures over southern and western Arizona averaged 9 to 13°F above normal during the past week, exacerbating the impacts of the drier-than-normal weather. Furthermore, Standardized Precipitation Indices on numerous timescales (3 to 12 months) indicated developing or expanding drought in western Arizona. Dryness has also increased in central and southeastern portions of Nevada as well as much of

Weekly Snowpack and Drought Monitor Update Report

the Northwest, and these areas will need to be monitored closely over the upcoming weeks.
Author: Eric Luebehusen, U.S. Department of Agriculture.

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

Drought Impacts Definitions

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 through 3d).

Soil Moisture

Soil moisture (Figs. 4a and 4b), 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). Another good resource can be found at: <http://www.emc.ncep.noaa.gov/mmb/nldas/drought/>.

Soil Climate Analysis Network (SCAN)

Figure 5 provides supplemental data on soil conditions (moisture and temperatures at various depths from 2 inches to 80 inches. For more information about SCAN see ([brochure](#)).

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 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://www.drought.gov>.

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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>. Reports from 2007 are available on-line while ones from 2001-2006 can be acquired upon request.

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

/s/

Douglas Lawrence
Deputy Chief, Soil Survey and Resource Assessment

Weekly Snowpack and Drought Monitor Update Report

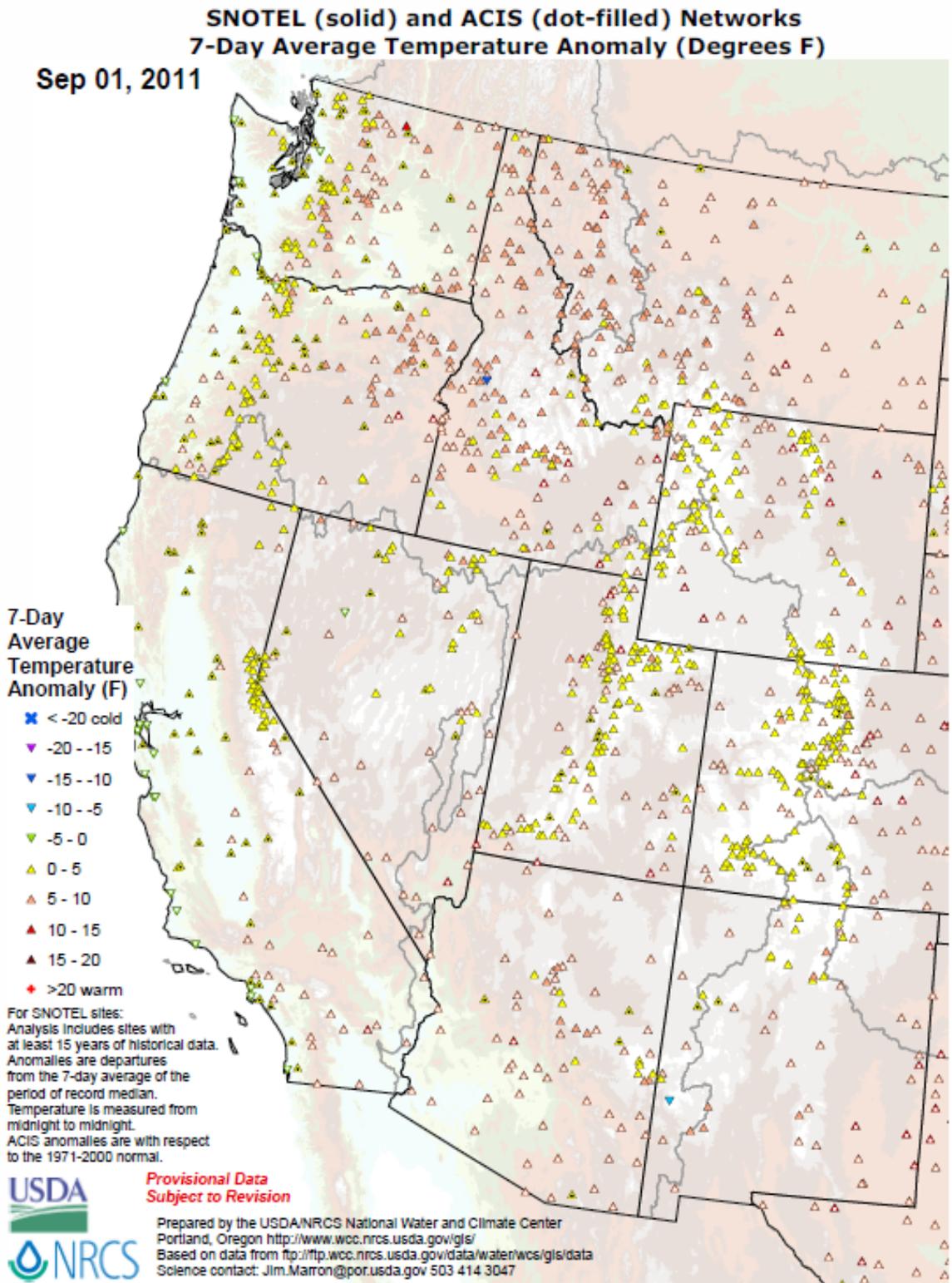
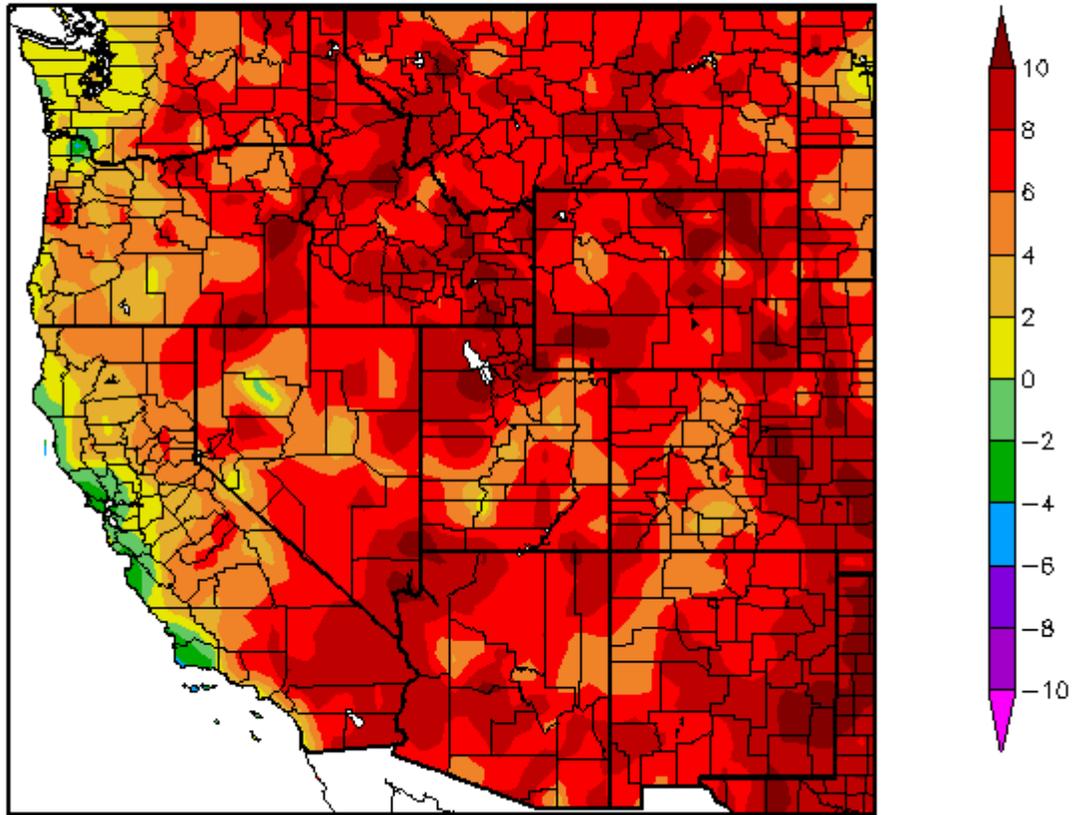


Fig. 1: SNOTEL and ACIS 7-day temperature anomaly shows +5°F to +10°F departures over the Northern Rockies, Western High Plains, and Southwest with readings up to +5°F elsewhere.

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

Weekly Snowpack and Drought Monitor Update Report

Departure from Normal Temperature (F)
8/25/2011 – 8/31/2011



Generated 9/1/2011 at HPRCC using provisional data.

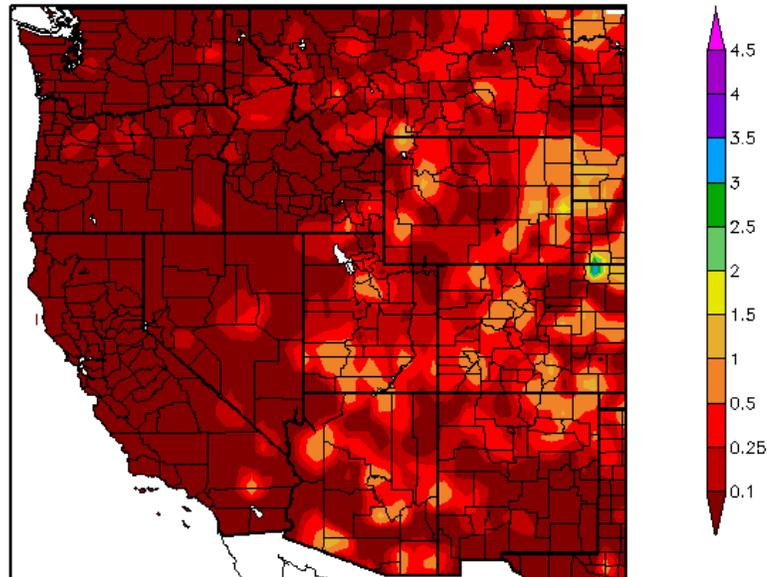
Regional Climate Centers

Fig. 1a: ACIS 7-day average temperature anomalies show the greatest positive temperature departures scattered across the Interior West (>+10°F) and the greatest negative departures over Coastal California (<-4°F).

Ref: http://www.hprcc.unl.edu/maps/current/index.php?action=update_daterange&daterange=14d

Weekly Snowpack and Drought Monitor Update Report

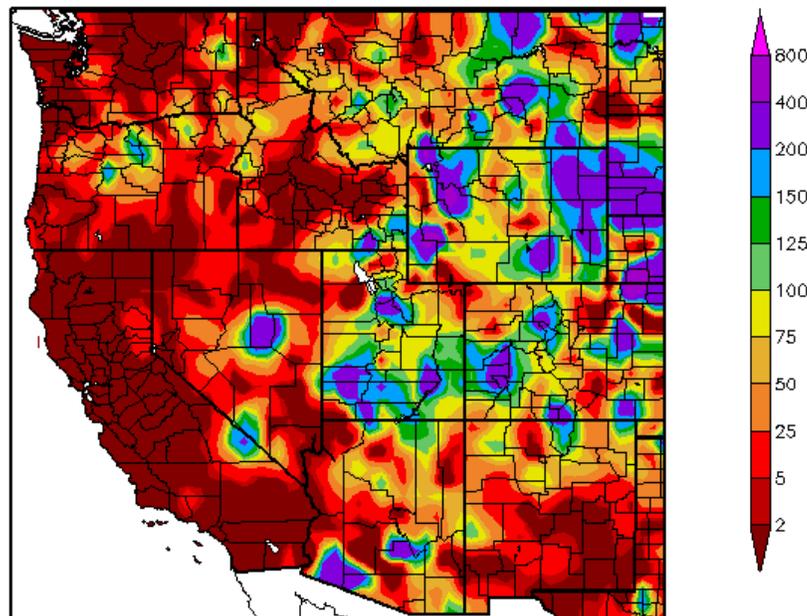
Precipitation (in)
8/25/2011 - 8/31/2011



Generated 9/1/2011 at HPRCC using provisional data.

Regional Climate Centers

Percent of Normal Precipitation (%)
8/25/2011 - 8/31/2011



Generated 9/1/2011 at HPRCC using provisional data.

Regional Climate Centers

Fig. 2 and 2a: ACIS 7-day average precipitation amounts for the period ending yesterday shows the heaviest precipitation over the Central and Southern Rockies and over much of Utah (Fig. 2). In terms of percent of normal, the precipitation in the form of widely scattered thunderstorms occurred over these same areas (Fig 2a). The Southwest Monsoon failed to deliver large amounts of heavy rains this week.

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

Weekly Snowpack and Drought Monitor Update Report

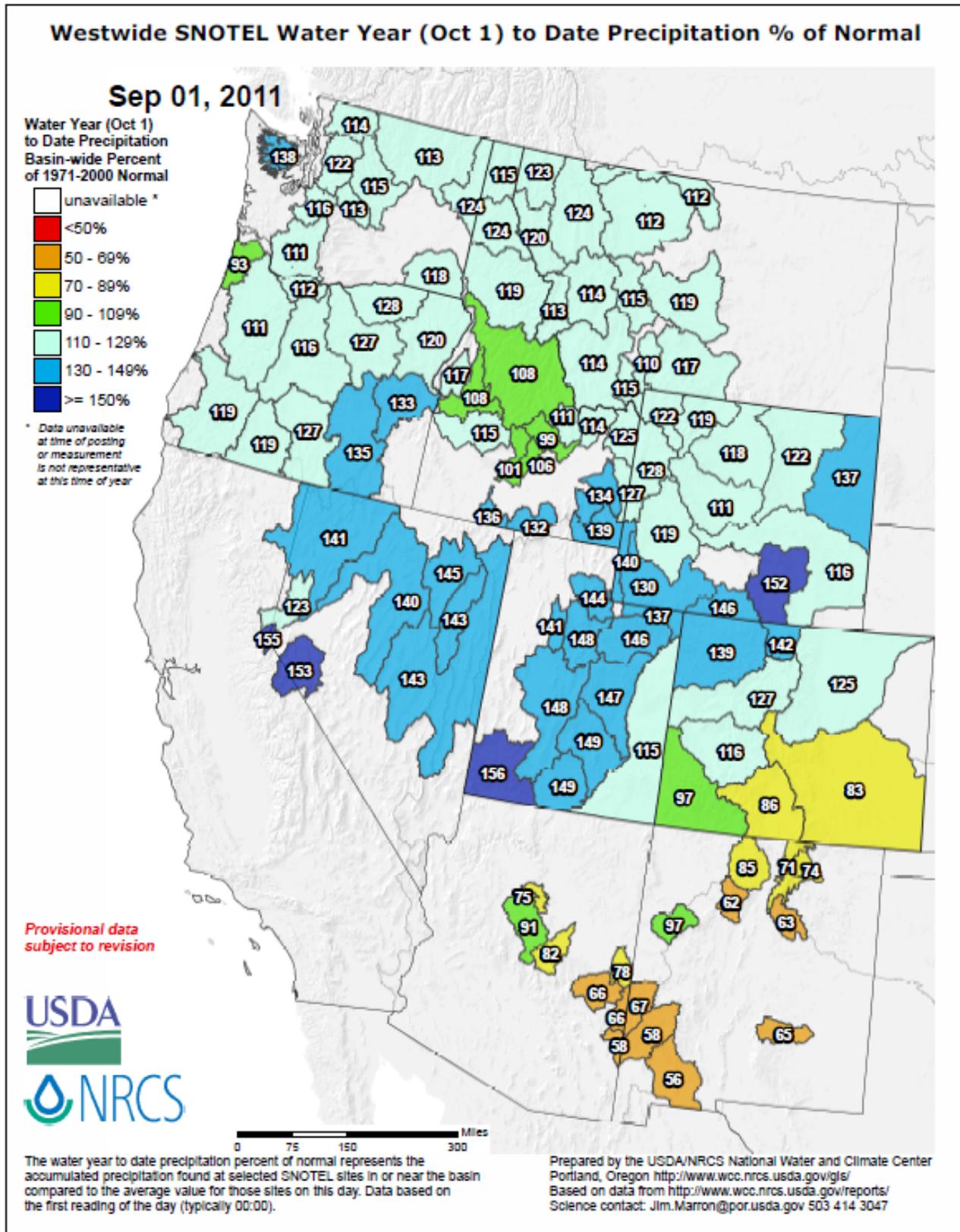


Fig 2b: For the 2011 Water-Year that began on 1 October 2010, the greatest deficits are found over the extreme southern reaches of the Southwest. Areas with the highest values are found over the Great Basin, Cascades, Sierra, and parts of Northern and Central Rockies.

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

U.S. Drought Monitor

August 30, 2011
Valid 8 a.m. EDT

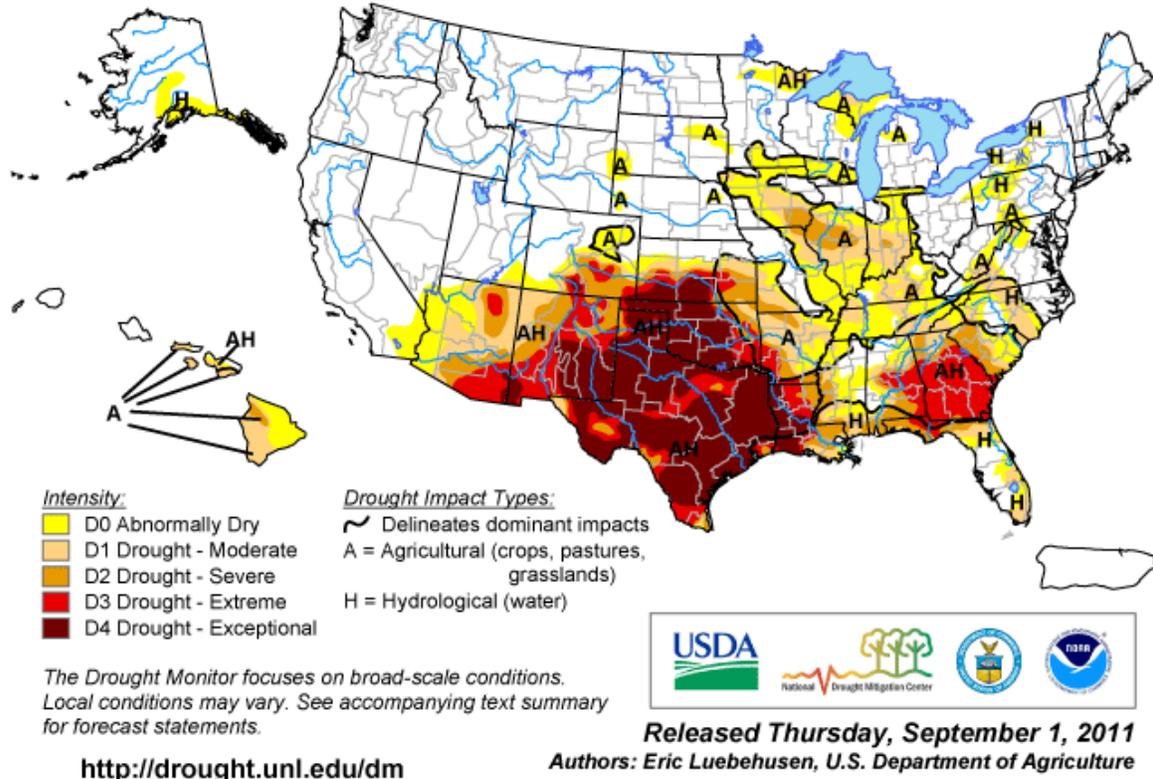


Fig. 3: Current Drought Monitor weekly summary. The exceptional D4 levels of drought are found over southeast Arizona, New Mexico, extreme southeast Colorado, Texas, Oklahoma, Louisiana, and Georgia. Ref: <http://www.drought.unl.edu/dm/monitor.html>

Agriculture

Aug 24, [West Texas](#). Peanut growers in Texas were not able to overcome drought conditions, despite nonstop irrigation starting in May, stated the executive director of Lubbock-based Texas Peanut Producers Board.

Aug 24, [Southern Plains](#). There is great concern about whether or not farmers from Kansas through Texas will be able to plant a winter wheat crop since soil moisture is virtually nonexistent. The 2011 hard red winter wheat harvest was 22 percent less than in 2010, due to drought.

Aug 25, [East central Texas](#). A rancher who raises pasture-fed cattle near Cameron stated that the drought has forced them to market their beef as "pasture-fed" rather than "grass-fed," which was the way they formerly described their beef. Pasture grass wasn't growing, spurring them to feed their cattle hay, baled corn stalks and dehydrated alfalfa hay cubes.

Aug 26, Emory, [Texas \(east of Dallas\)](#). Cattle sales appear to be slowing in northeastern Texas since most of the cattle have already been sold.

Aug 25, [Indiana](#). Fungal infection and ear mold become problematic once insects, birds and weathering damage the kernels.

Aug 23, [North Texas](#). There is presently not enough moisture for farmers in North Texas to consider planting winter wheat. Last year's winter wheat was lost to drought, as was the cotton crop and now, possibly, the upcoming winter wheat crop.

Aug 25, [South Dakota](#). South Dakota farmers with a good hay crop find plenty of willing buyers in Texas.

Aug 23, Hill Country, [\(southwest central\) Texas](#). Wine grape growers in Hill Country could not irrigate enough to avoid a roughly 50 percent reduction in yield on about 500 acres of vineyards, according to a Texas AgriLife Extension Service viticulture adviser to the Gulf Coast region. Drought, a late freeze in February and an April frost contributed to the smaller number of peaches produced in the Hill Country, with drought being less of a factor than the cold weather.

U.S. Drought Monitor

West

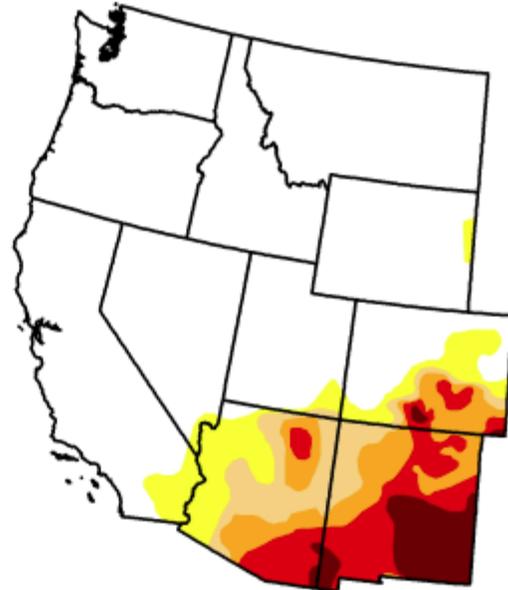
August 30, 2011
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	74.10	25.90	19.67	14.88	9.24	3.43
Last Week (08/23/2011 map)	74.62	25.38	18.81	14.75	9.89	4.70
3 Months Ago (05/31/2011 map)	78.60	21.40	17.94	13.92	9.02	3.36
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 (08/24/2010 map)	75.05	24.95	6.34	0.55	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, September 1, 2011
Eric Luebehusen, USDA

Fig. 3a: Drought Monitor for the Western States with statistics over various time periods. Regionally there were no significant changes this week.

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

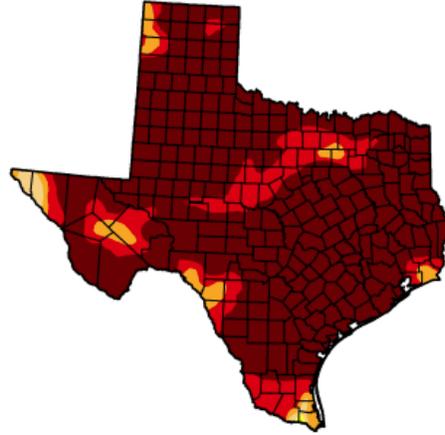
Weekly Snowpack and Drought Monitor Update Report

U.S. Drought Monitor
Texas

August 30, 2011
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	99.92	99.01	95.04	81.08
Last Week (08/23/2011 map)	0.00	100.00	99.93	99.01	94.42	77.80
3 Months Ago (05/31/2011 map)	2.25	97.75	96.07	91.89	81.09	50.65
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 (08/24/2010 map)	75.51	24.49	5.52	0.68	0.00	0.00



Intensity:

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

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Released Thursday, September 1, 2011
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<http://drought.unl.edu/dm>

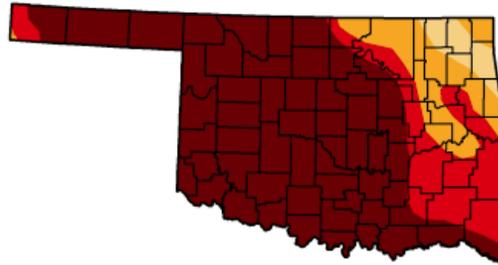
Fig. 3b(1): Currently, 81% of [Texas](#) is experiencing “Exceptional” D4 drought. Over 95% of the state is in D3 and D4 drought! Ref: http://www.drought.unl.edu/dm/DM_state.htm?TX,S

U.S. Drought Monitor
Oklahoma

August 30, 2011
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	100.00	96.64	85.37	69.15
Last Week (08/23/2011 map)	0.00	100.00	100.00	96.63	85.37	66.87
3 Months Ago (05/31/2011 map)	32.30	67.70	55.37	41.36	30.03	9.97
Start of Calendar Year (12/28/2010 map)	13.82	86.18	47.90	1.50	0.00	0.00
Start of Water Year (09/28/2010 map)	66.28	33.72	4.21	0.00	0.00	0.00
One Year Ago (08/24/2010 map)	41.43	58.57	36.55	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.



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

Fig. 3b(2) shows stats for Oklahoma. No changes are noted this week. Ref: http://droughtmonitor.unl.edu/DM_state.htm?OK,S

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U.S. Drought Monitor
New Mexico

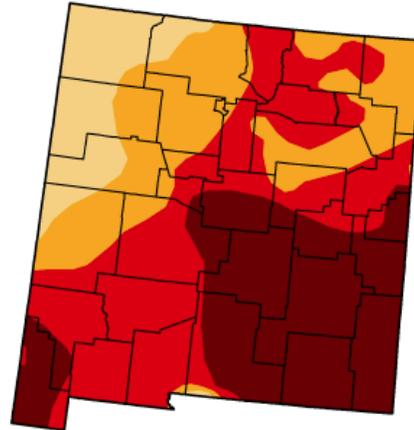
August 30, 2011
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	100.00	88.63	64.88	30.90
Last Week (08/23/2011 map)	0.00	100.00	100.00	92.57	74.10	42.88
3 Months Ago (05/31/2011 map)	0.75	99.25	93.98	87.35	66.72	31.97
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 (08/24/2010 map)	80.04	19.96	0.00	0.00	0.00	0.00

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 1, 2011
Eric Luebehusen, USDA

Fig. 3b(3): Drought Monitor for New Mexico with statistics over various time periods. Thus far, serious impacts to the drought by the Southwest Monsoon have been minor. However, this week, there was almost a 10% improvement in D3-D4. Ref: http://www.drought.unl.edu/dm/DM_state.htm?NM,W

U.S. Drought Monitor
Kansas

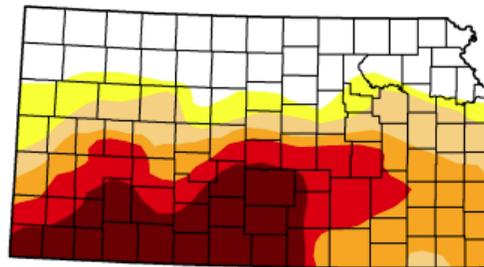
August 30, 2011
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	27.92	72.08	62.31	49.78	31.86	17.46
Last Week (08/23/2011 map)	28.77	71.23	62.24	49.07	23.54	14.55
3 Months Ago (05/31/2011 map)	24.53	75.47	57.17	35.80	11.60	1.05
Start of Calendar Year (12/28/2010 map)	17.82	82.18	43.85	3.48	0.00	0.00
Start of Water Year (09/28/2010 map)	83.23	16.77	0.00	0.00	0.00	0.00
One Year Ago (08/24/2010 map)	92.17	7.83	0.00	0.00	0.00	0.00

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.

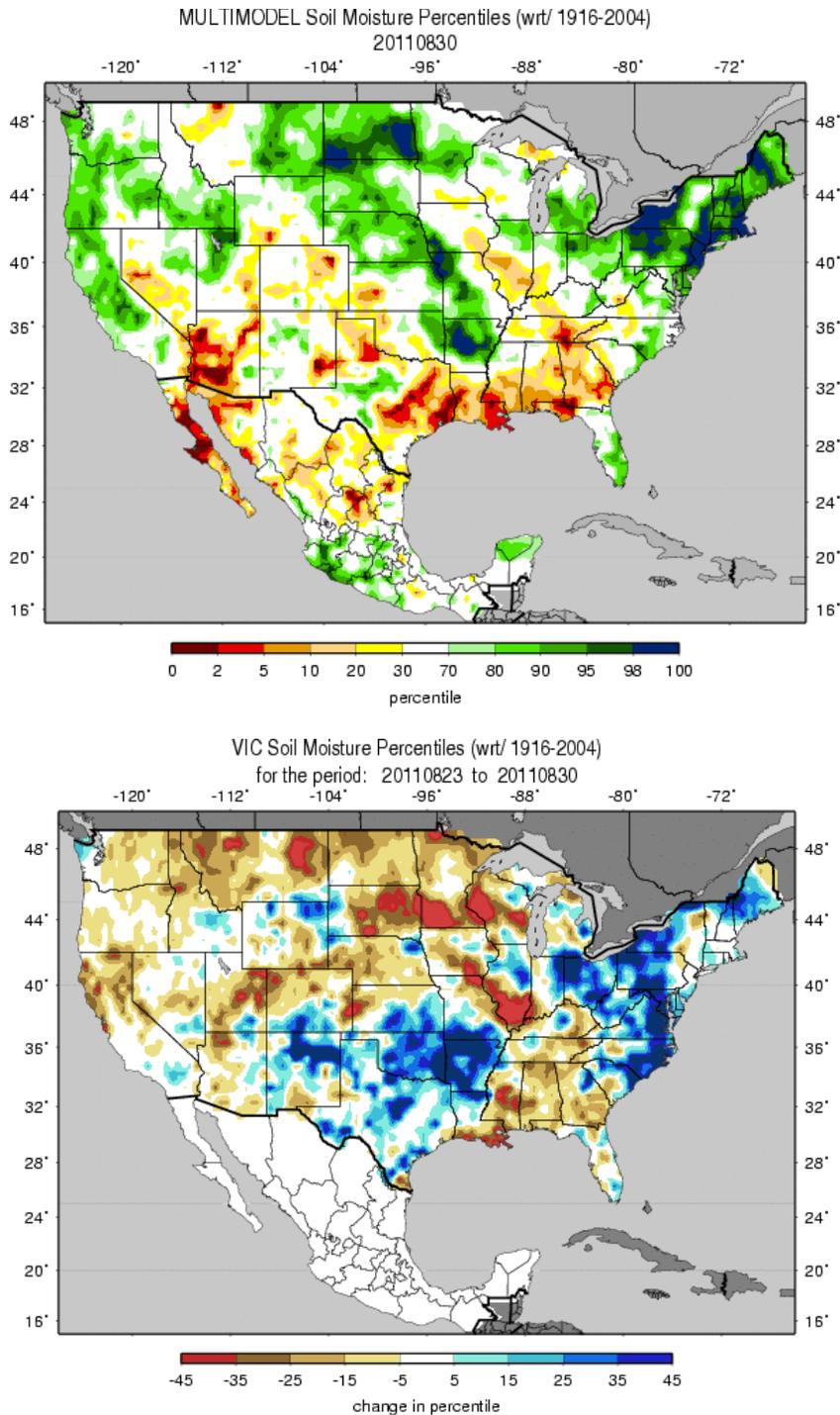
<http://drought.unl.edu/dm>



Released Thursday, September 1, 2011
Eric Luebehusen, USDA

Fig. 3b(4): Drought Monitor for Kansas with statistics over various time periods. Ref: http://droughtmonitor.unl.edu/DM_state.htm?KS,HP

Weekly Snowpack and Drought Monitor Update Report



Figs. 4a and 4b: Soil Moisture ranking in percentile as of 30 August (top) shows accumulated moist conditions over much of the Northern Tier States east of the Mississippi River and New England with dryness over the Southern Tier States. During the week, the impacts from Hurricane/Tropical Storm Irene are obvious over the Mid-Atlantic and New England. Other significant wet spots were over the Southern Plains and northern New Mexico. Heat dominated over much of the Northern Tier States causing rapid drying. Ref:

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

Weekly Snowpack and Drought Monitor Update Report

Soil Climate Analysis Network (SCAN)

Station (2008) MONTH=2011-08-02 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision
Thu Sep 01 07:42:36 PDT 2011

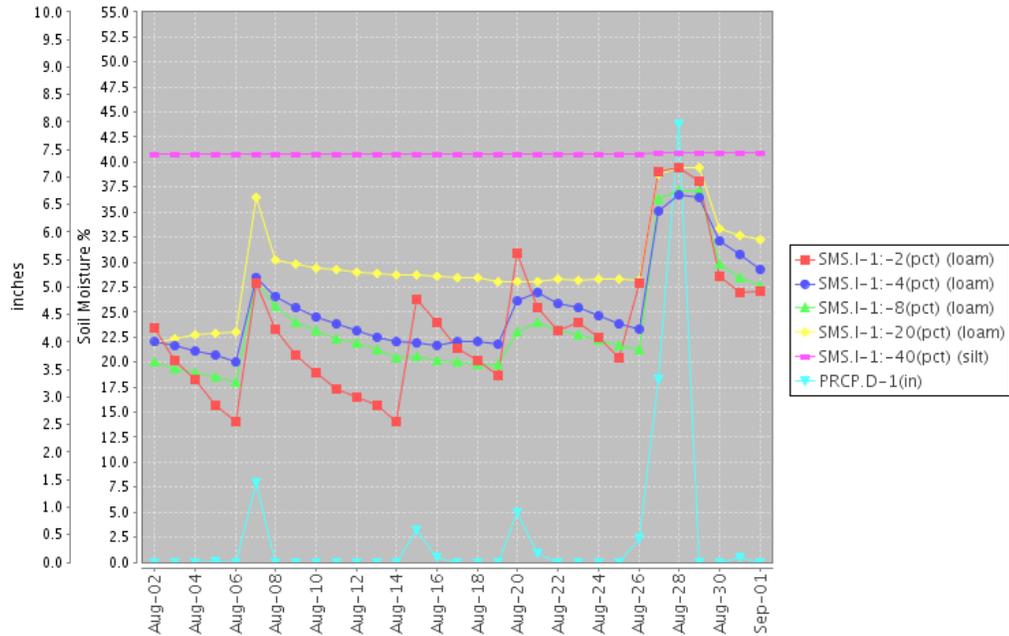


Fig. 5a: This NRCS resource shows a site in coastal North Carolina with saturated soil moisture down to 20 inches as a result of Hurricane Irene this past week.

Ref: <http://www.wcc.nrcs.usda.gov/nwcc/site?sitenum=2008&state=nc>

Station (2082) MONTH=2011-08-02 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision
Thu Sep 01 07:47:34 PDT 2011

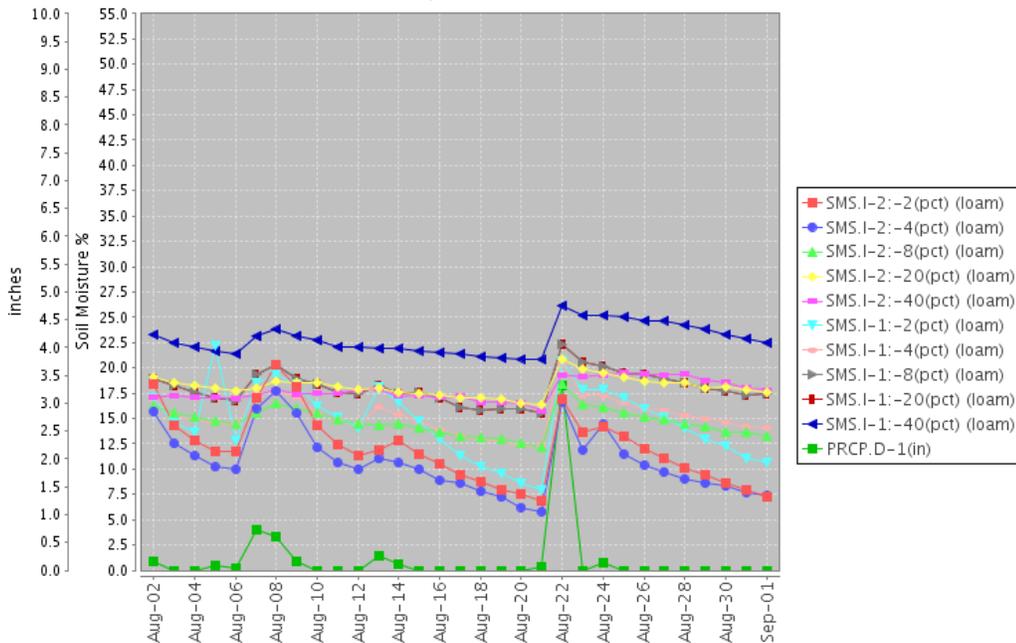
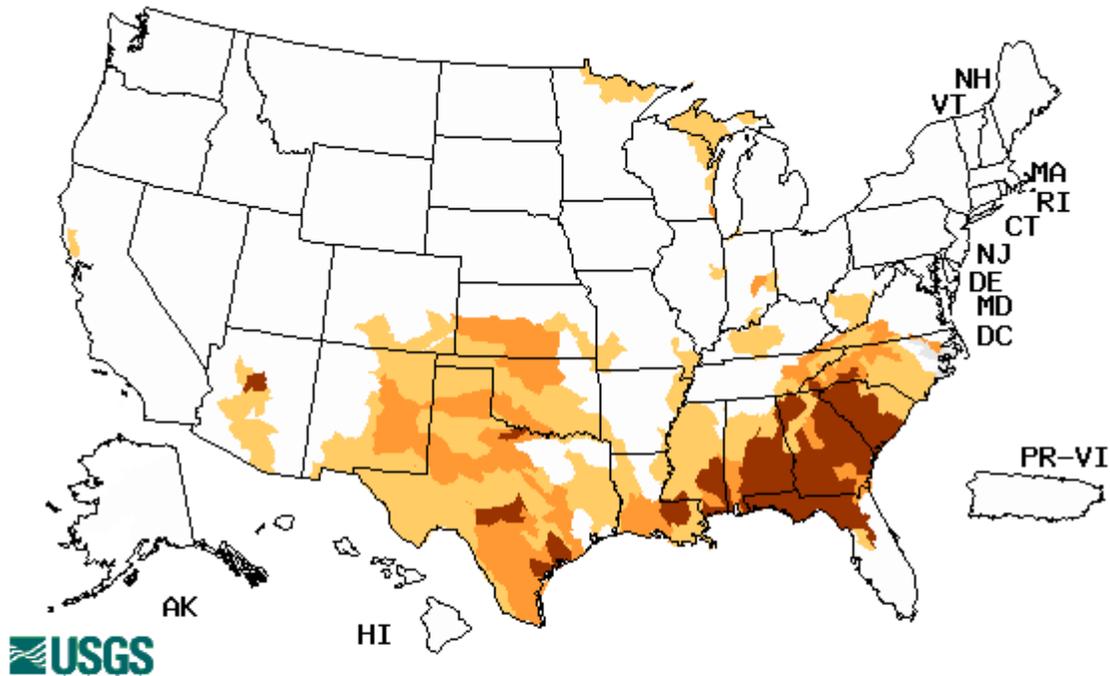


Fig. 5b: This SCAN station is located in west-central Mississippi shows a gradual decline in soil moisture this past week. Ref: <http://www.wcc.nrcs.usda.gov/nwcc/site?sitenum=2082&state=ms>

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Wednesday, August 31, 2011



Explanation - Percentile classes				
Low	≤5	6-9	10-24	Insufficient data for a hydrologic region
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

Fig. 6: Map of below normal 7-day average streamflow compared to historical streamflow for the day of year. Portions of the Arizona, Texas, Louisiana, Mississippi, Alabama, Georgia, South and North Carolina, and Florida, are experiencing severe conditions.

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

Weekly Snowpack and Drought Monitor Update Report

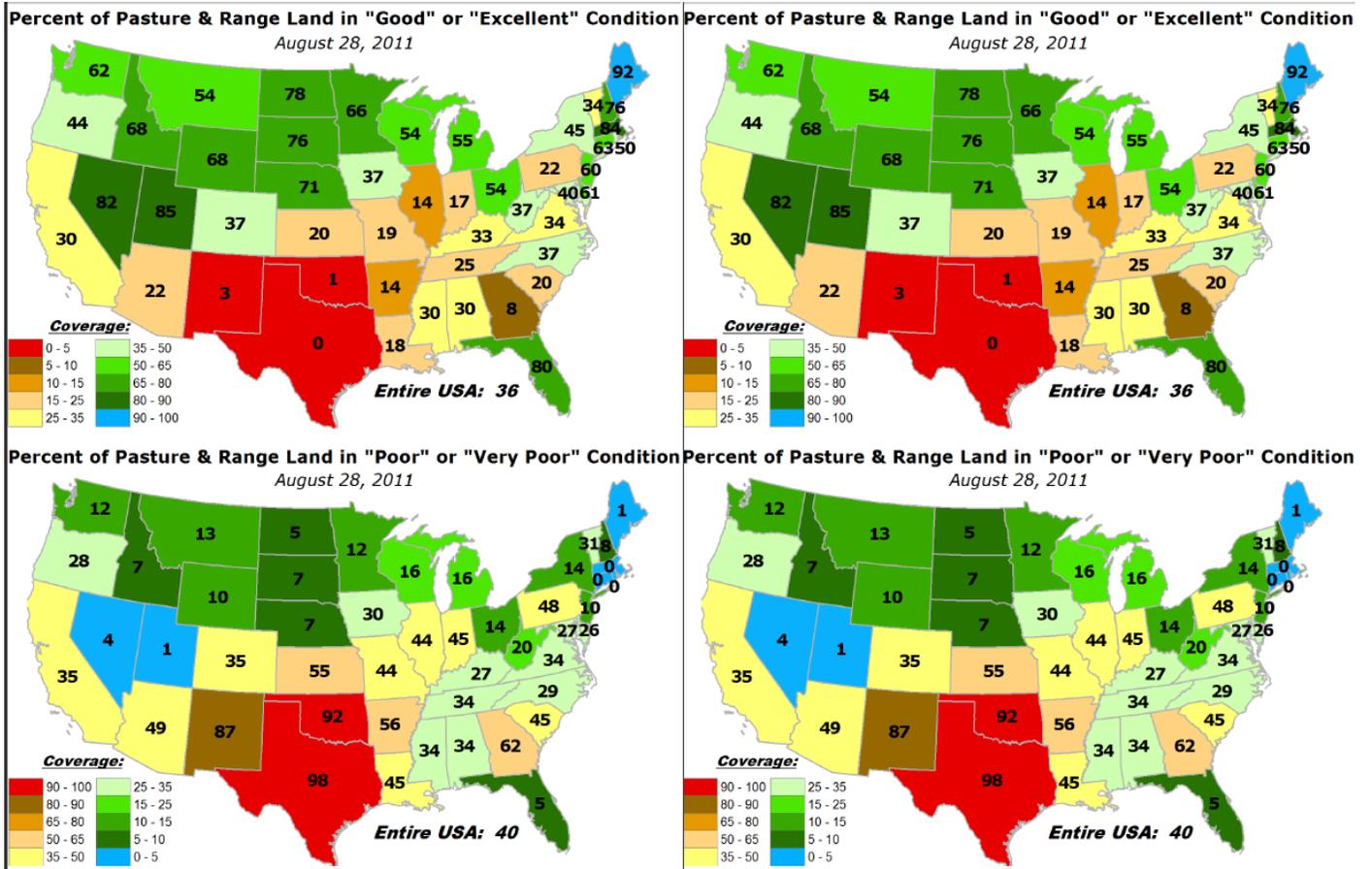


Fig. 7: Current pasture and rangeland conditions and recent changes. For the week, Washington and Montana had the greatest worsening and Arizona and Oregon had the greatest improvement in the West (upper right map).

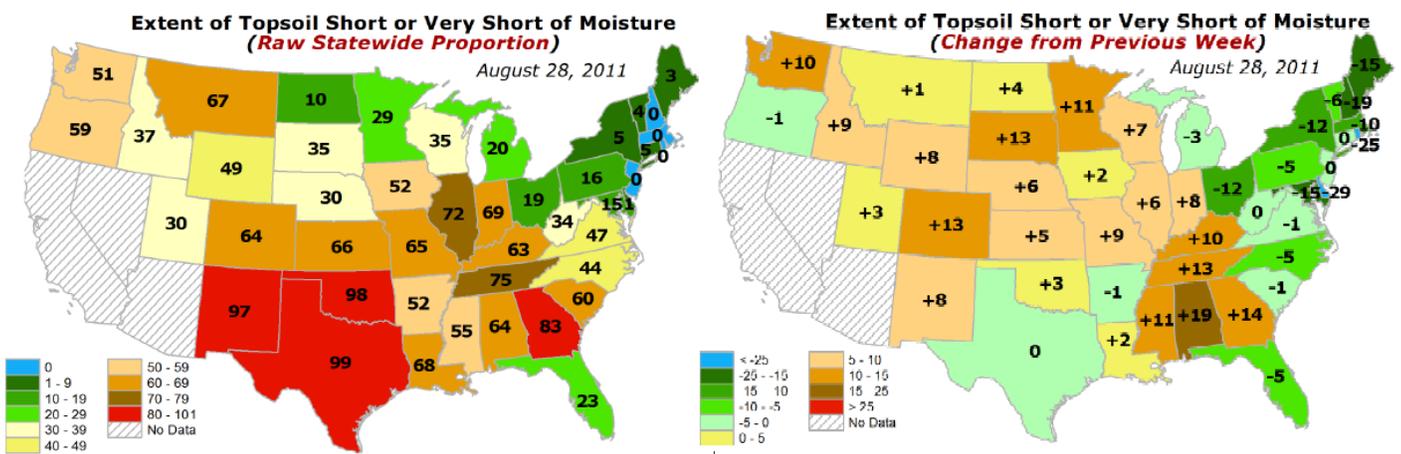


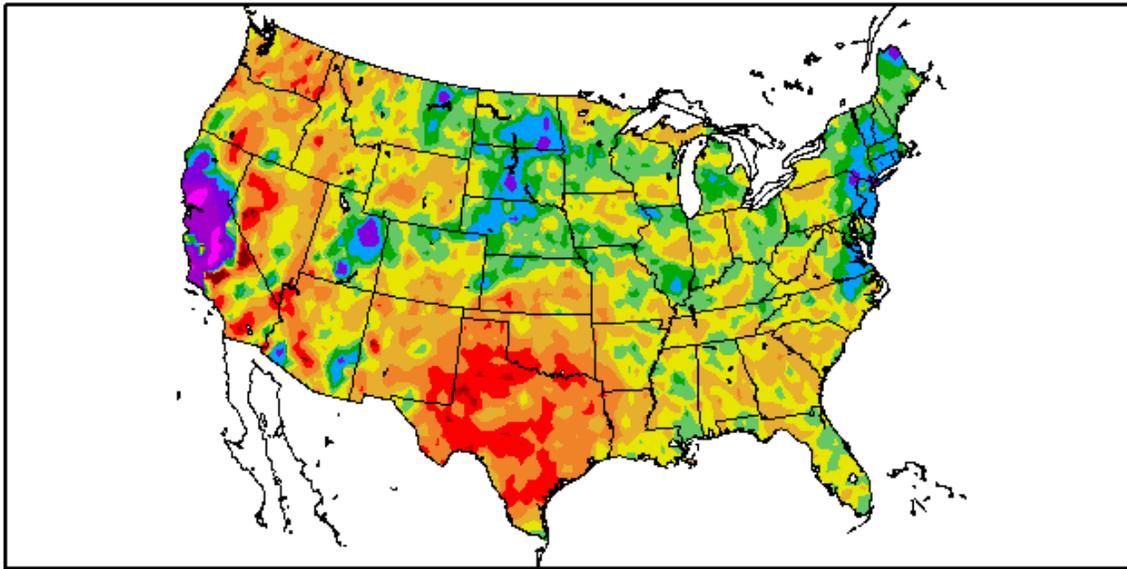
Fig. 7a: Current top soil condition and changes for the past week. Clearly Texas, Oklahoma, and New Mexico have extreme soil moisture deficits.

Weekly Snowpack and Drought Monitor Update Report

Special Report

With the climatological end to summer yesterday, it seems timely to review the past season in terms of precipitation departures from the long-term average.

Percent of Normal Precipitation (%)
6/3/2011 – 8/31/2011



Generated 9/1/2011 at HPRCC using provisional data.

Regional Climate Centers

Dryness dominates Texas while abundant rains dominated the normally dry state of California. The impact from Hurricane-Tropical Storm Irene is noteworthy over the northern half of the Eastern Seaboard. Heavy precipitation also fell over Utah and the Northern Plains.

Weekly Snowpack and Drought Monitor Update Report

National Drought Summary -- August 30, 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/>.

Summary: Hurricane Irene brought widespread, locally excessive rainfall to the mid-Atlantic and Northeast, while heat and dryness maintained or worsened drought conditions across the central and southern U.S.

Mid-Atlantic and Northeast: Hurricane Irene tracked northward along the mid-Atlantic Coast into New England, dropping moderate to heavy rain – in some cases excessive rainfall – from eastern North Carolina into New England. Rain amounts tallied 4 to locally more than 12 inches over eastern sections of North Carolina, Virginia, Maryland, most of Delaware, and New England, eliminating drought and lingering long-term dryness in one sweep. Some Abnormal Dryness (D0) and Moderate Drought (D1) were maintained in central and southern sections of North Carolina, where precipitation was somewhat lighter (generally less than 4 inches), and consequently long-term deficits persist. Showers (locally more than an inch) and improving streamflows and soil moisture led to the removal of D1 from western New York and a reduction of the coverage of D0, although here, too, longer-term (90-day) rainfall was still locally less than 50 percent of normal. Farther inland, 60- to 90-day precipitation continued to run less than 50 percent of normal from eastern West Virginia into southwestern North Carolina, with declining streamflows and soil moisture supporting an increase of D0 and D1.

Southeast and Delta: With Hurricane Irene passing well off the southern Atlantic coast, generally dry, hot weather (2 to 5°F above normal) prevailed over much of the region. However, additional improvements in drought designation were noted in eastern and southern Florida, where favorable seasonal showers continued. Across northern Florida, mostly light showers (less than one inch) did little to offset the 100-degree heat; rain will be needed soon in northern Florida to ensure drought conditions do not rapidly worsen. From western South Carolina into Georgia, Alabama, Tennessee, and Florida's panhandle, sunny skies and daytime highs approaching or exceeding 100°F caused drought to intensify. Most notably, Extreme Drought (D3) expanded across southern Georgia, the Florida Panhandle, and central Alabama, reflecting streamflows that were approaching or at historic lows, as well very low soil moisture and poor vegetation health. As of August 29, Georgia's pasture and range condition was rated 62 percent poor to very poor. Similar conditions were reported farther west, where Severe (D2) to Exceptional (D4) drought expanded in southern portions the Delta. In the northern Delta, an area of light to moderate showers (0.5 to 2.5 inches) kept drought from intensifying from southern Missouri into central Arkansas and northern Louisiana. In Tennessee, Moderate Drought (D1) was increased in eastern parts of the state, where streamflows were ranked in the 10th percentile or lower. The same held true in western Tennessee, where D1 was likewise introduced.

Ohio Valley and Midwest: Despite being one of the few locales to experience near- to in some cases below-normal temperatures, drought intensity increased over many primary growing

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areas. Abnormally dry conditions have persisted over the past 60 days from southeastern Minnesota into southern Wisconsin (locally less than 50 percent of normal), with Abnormal Dryness (D0) expanded to account for the lack of rainfall and declining soil moisture. More notably, 60-day precipitation has tallied less than 25 percent of normal (locally less than 10 percent) from southeastern Iowa into central Illinois and southern Indiana; Severe Drought (D2) was added to areas with the greatest precipitation departures and impacts. Likewise, abnormal dryness over the past 90 days (50 percent of normal or less) led to a new D1 area in northeastern Minnesota. In contrast 1 to 2.5 inches of rain in Ohio eased Abnormal Dryness in northwestern portions of the state.

Northern and Central Plains: From the Dakotas and eastern Montana into Nebraska and northern Kansas, scattered showers mingled with pockets dryness, leading to generally small changes in the current drought depiction. Light to moderate rainfall (0.75 to 2.0 inches) in northeastern Nebraska and southeastern South Dakota resulted in small improvements in Abnormal Dryness (D0) and Moderate Drought (D1). Showers (locally more than 2 inches) were reported in southwestern South Dakota and northwestern Nebraska, although above-normal temperatures (highs reaching into the lower 100s degrees F) offset the benefits of the rain somewhat. Short-term dryness and above-normal temperatures (up to 9°F above normal) in western Nebraska led to the introduction of a small D0 area. Short-term dryness (out to 60 days) has likewise been reported in eastern Wyoming, and this area will need to be monitored for developing drought. On the high Plains of Colorado, D0 was expanded slightly northeastward due to a lack of rain over the past 30 to 60 days, low Standardized Precipitation Indices (SPI), declining soil moisture, and an increasingly poor VegDri signal.

Southern Plains: The beat goes on across the southern Plains. In Texas and southern Oklahoma, another week of above-normal temperatures (up to 14°F above normal, with highs eclipsing 110°F) and sunny skies further offset the benefits of early month rainfall. Consequently, drought intensified over many of the remaining D2 and D3 areas (Severe to Extreme Drought), with the vast majority of Texas and Oklahoma under Exceptional Drought (D4). As of August 29, pasture and range condition was rated 98 and 92 percent poor to very poor in Texas and Oklahoma, respectively. Further illustrating the heat and drought's devastating impacts, cotton – a crop that generally thrives in hot, dry weather – was rated 60 percent poor to very poor in Texas and an astounding 92 percent poor to very poor in Oklahoma. 180-day rainfall deficits exceeded 14 inches in southwestern Oklahoma and north-central Texas, and were locally in excess of 20 inches near Houston. Farther east, scattered, mostly light showers offered little if any relief from Severe (D2) to Exceptional (D4) Drought from eastern Oklahoma into eastern and far southern Texas.

Four Corners Region: Drought relief over northeastern portions of the region contrasted with an increase in drought designation in southwestern locales. Beneficial showers (1 to 2 inches) further improved soil moisture in northern New Mexico as well as southern and eastern Colorado; consequently, the coverage of Moderate (D1) to Extreme (D3) Drought was reduced in these areas to reflect the most current Standardized Precipitation Indices (3, 6, 9, and 12 month). The coverage of Colorado's Exceptional Drought (D4) was virtually unchanged, with small modifications made to account for the updated VegDri Index as well as the most recent precipitation data. Environs within the core D4 area are still below 25 percent of normal precipitation over the past 180 days, although additional local analysis and input may lead to changes in drought designation over the upcoming weeks. Abnormal Dryness (D0) on the High Plains of Colorado was expanded slightly northeastward due to a lack of rain over the past 30 to 60 days, a low 3-month Standardized Precipitation Index, declining soil moisture, and

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increasingly poor VegDri Index. In southern and western Arizona, expansion of Moderate (D1) to Extreme (D3) drought was a reflection of a drier-than-normal monsoon to date (less than 50 percent of normal rainfall over the past 90 days). Temperatures over southern and western Arizona averaged 9 to 13°F above normal during the past week, exacerbating the impacts of the drier-than-normal weather. Furthermore, Standardized Precipitation Indices on numerous timescales (3 to 12 months) indicated developing or expanding drought in western Arizona. Dryness has also increased in central and southeastern portions of Nevada as well as much of the Northwest, and these areas will need to be monitored closely over the upcoming weeks.

Alaska, Hawaii, and Puerto Rico: In Alaska, light showers (mostly less than half an inch) and near-to below-normal temperatures were reported, with no change made to the southern Abnormally Dry (D0) area. In Hawaii, Moderate Drought (D1) was expanded eastward on the Island of Lanai to reflect declining pasture conditions and reports from the field. There were no changes made elsewhere in Hawaii. On Puerto Rico, flood recovery efforts following Hurricane Irene's heavy rain continued, with no dryness or drought concerns likely over the upcoming weeks (or longer).

Looking Ahead: The evolution and track of a developing tropical disturbance in the Gulf of Mexico will be closely monitored. This system – should it develop – could play a potentially large role in whether portions of the southern or southeastern U.S. experience much-needed drought relief over the upcoming week. Elsewhere, a slow-moving cold front will generate showers from the northern and central Plains into the Corn Belt and Northeast, with some showers spilling south into Oklahoma and Texas. Out west, monsoon showers will persist in eastern portions of the Four Corners region, while dry, increasingly warm weather prevails from the Great Basin into the northern Rockies and Northwest. The NWS 6- to 10-day outlook for September 6–10 calls for drier-than-normal conditions from the central and northern Pacific Coast into the upper Midwest and central Corn Belt. Conversely, wetter-than-normal weather is expected from the eastern Gulf Coast into the Northeast. Below-normal temperatures across much of the eastern U.S. will contrast with warmer-than-normal weather from the Rockies to the Pacific Coast.

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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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