



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

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## Weekly Report - Snowpack / Drought Monitor Update

Date: 19 July 2012

### SNOTEL SNOWPACK AND PRECIPITATION SUMMARY

**Temperature:** [SNOTEL](#) and ACIS 7-day temperature anomaly showed values cooler over the West Coast States and Southwestern States while warmer conditions are found over the Northern Rockies and Northern High Plains. This pattern has been persistent over the past two weeks (Fig. 1). ACIS [7-day](#) average temperature anomalies show the greatest positive temperature departures over the Northern High Plains ( $>+8^{\circ}\text{F}$ ) and the greatest negative departures over parts of the Southern California ( $<-6^{\circ}\text{F}$ ). The cooler temperatures reflect an ever increasing Southwest Monsoon (Fig. 1a).

**Precipitation:** [ACIS](#) 7-day average precipitation amounts for the period ending yesterday shows the wettest areas over the 4-Corner States occurring as scattered thunderstorms (Fig. 2). In terms of percent of normal, this is clearly revealed and even extends to the Northern Rockies with values exceeding 400 percent for the week (Fig. 2a). Since the start of the [2012 Water-Year](#) that began on 1 October 2011, the seasonal moisture has continued to favor the Northern Tier States. Over much of the southern half of the West, drier conditions dominate. However, values are increasing over Northern New Mexico in response to the Summer Monsoon (Fig. 2b). Since the start of [July](#), parts of the Central Cascades, Northern and Central Rockies, Upper Snake River Basin, and 4-Corner States have been much wetter than the long term average. This situation has helped lessen the fire conditions across a good portion of the West especially during the past two weeks (Fig. 2c).

**Weather Summary:** A strong upper-level ridge of high pressure dominated the nation's weather this U.S. Drought Monitor (USDM) week, bringing well above-normal temperatures to the central and northern tier states. Clouds with scattered showers and thunderstorms along a stalled cool front kept temperatures below-normal in the southern states. But even then, maximum temperatures were 90 degrees F or warmer across much of the country, with maximums exceeding 100 from South Dakota to Kansas. Philip, South Dakota, reached 109 degrees on July 15. Beneficial rain fell from southern Texas to the southern Appalachians along the front. Excessive rainfall occurred over southeast Texas where amounts totaled 10 inches or more in places, but elsewhere rainfall amounts were generally localized with limited relief. Monsoon showers and thunderstorms brought above-normal rain to parts of the West, but the rain had little impact on deficits which have accumulated over several months. Weak fronts triggered localized showers and thunderstorms along the northern tier states. In between, hot and dry weather dominated from the central Plains to Ohio Valley, Great Lakes, and Northeast.

**The West:** Monsoon showers held drought deterioration at bay across much of the West, but with amounts mostly an inch or less, little improvement was seen. Even the 2+ inch rains in parts of Arizona were not enough to change the drought depiction. D4 in northwest Colorado was removed as conditions improved from recent rains, and the D1 was removed and surrounding D0 shrank in central Washington as precipitation in recent weeks justified the reassessment there. But drought conditions deteriorated in other parts of the West. D4 expanded slightly in southeast Colorado, and D0-D2 expanded from southeast Oregon and

## Weekly Snowpack and Drought Monitor Update Report

northern Utah to southern Montana. Author: Richard Heim, National Climatic Data Center, NOAA.

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

### Drought Impacts Definitions

The possible impacts associated with **D4 (S, L)** drought include widespread crop/pasture losses and shortages of water in reservoirs, streams, and wells creating water emergencies. The possible impacts associated with **D3 (S, L)** drought include major crop/pasture losses and widespread water shortages or restrictions. Possible impacts from **D2 (S, L)** drought are focused on water shortages common and water restrictions imposed and crop or pasture losses likely. The possible impacts associated with **D1 (S, L)** drought are focused on water shortages developing in streams, reservoirs, or wells, and some damage to crops and pastures (Figs. 3 through 3e).

### 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). 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.

### **Fire Conditions**

Fig. 7 comes from the [Predictive Services](#) (USFS) facilitates integration of comprehensive climate, weather, situation and fuels information in geospatial format.

### **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>.

## Weekly Snowpack and Drought Monitor Update Report

### 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/

Micheal L. Golden

Deputy Chief, Soil Survey and Resource Assessment

# Weekly Snowpack and Drought Monitor Update Report

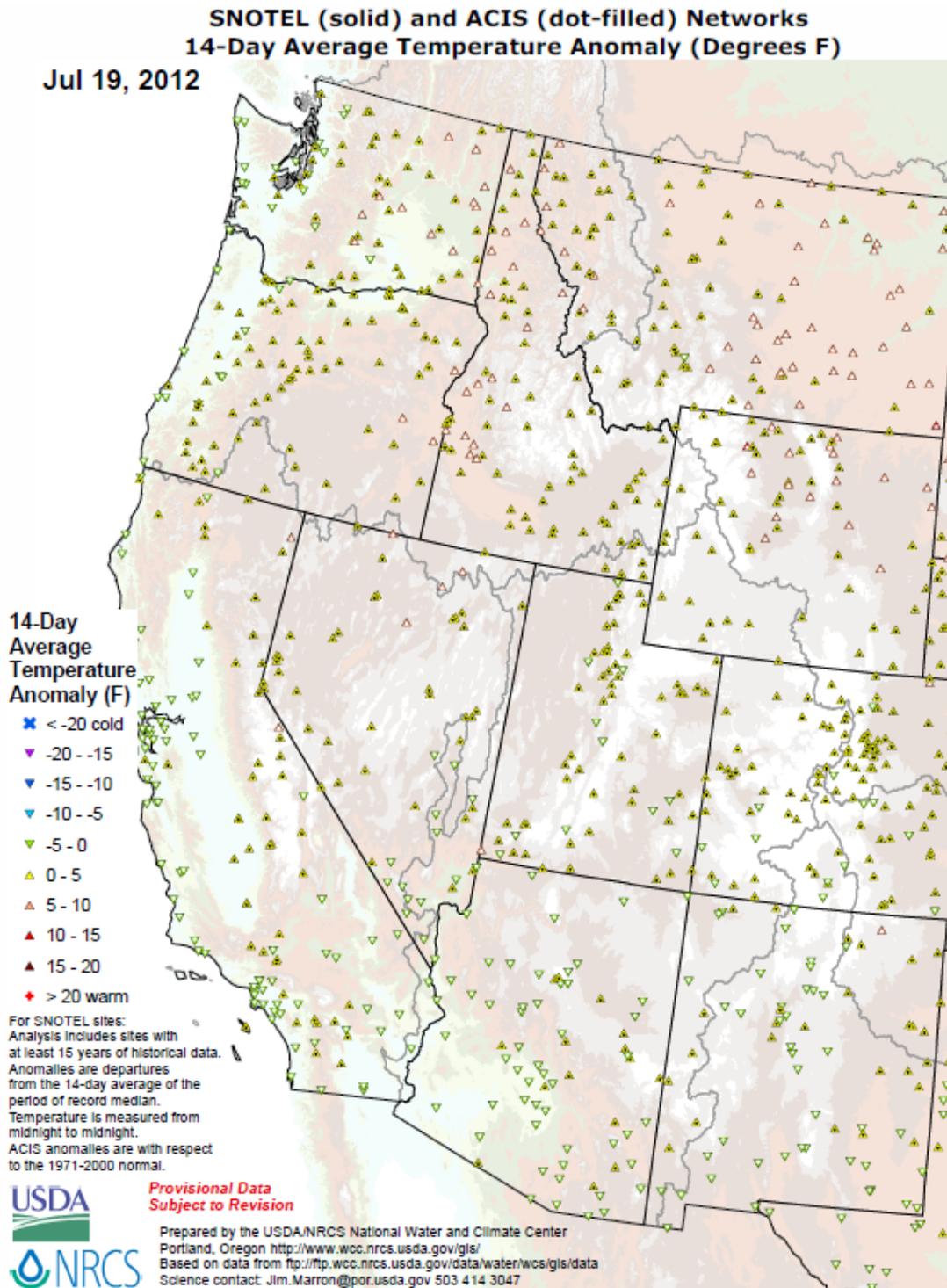
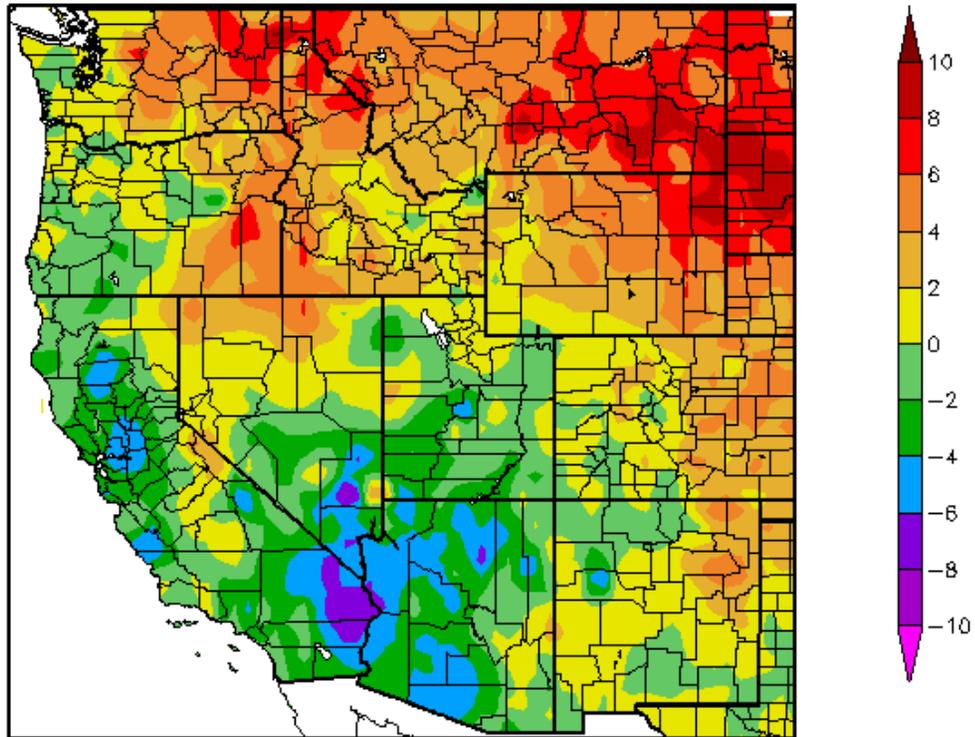


Fig. 1: **SNOTEL** and ACIS 7-day temperature anomaly showed values cooler over the West Coast States and Southwest while warmer conditions are found over the Northern Rockies and Northern High Plains. This pattern has been persistent over the past two weeks.

## Weekly Snowpack and Drought Monitor Update Report

### Departure from Normal Temperature (F) 7/12/2012 – 7/18/2012



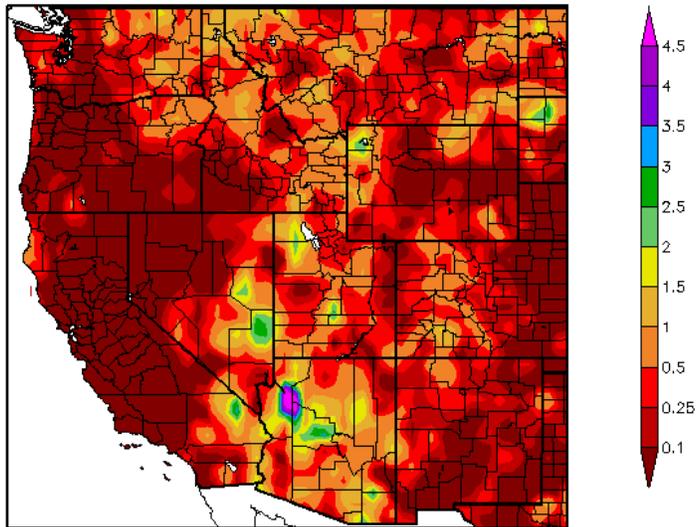
Generated 7/19/2012 at HPRCC using provisional data.

Regional Climate Centers

**Fig. 1a:** ACIS [7-day](#) average temperature anomalies show the greatest positive temperature departures over the Northern High Plains (>+8°F) and the greatest negative departures over parts of the Southern California (<-6°F). The cooler temperatures reflect an ever increasing Southwest Monsoon.

## Weekly Snowpack and Drought Monitor Update Report

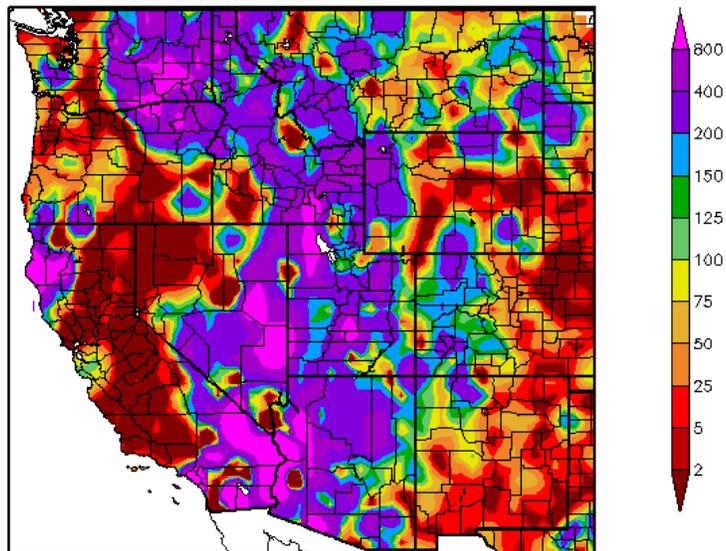
Precipitation (in)  
7/12/2012 - 7/18/2012



Generated 7/19/2012 at HPRCC using provisional data.

Regional Climate Centers

Percent of Normal Precipitation (%)  
7/12/2012 - 7/18/2012

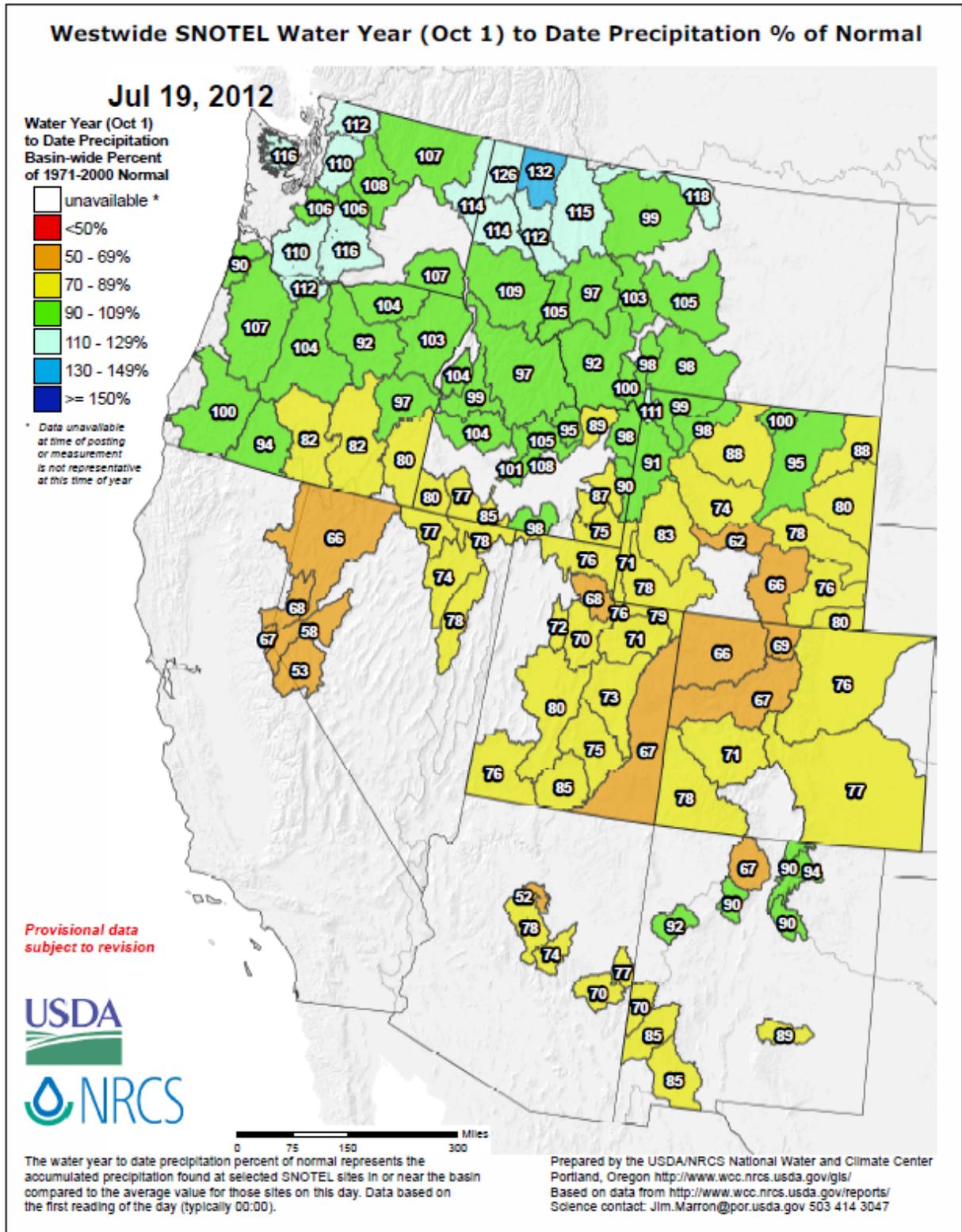


Generated 7/19/2012 at HPRCC using provisional data.

Regional Climate Centers

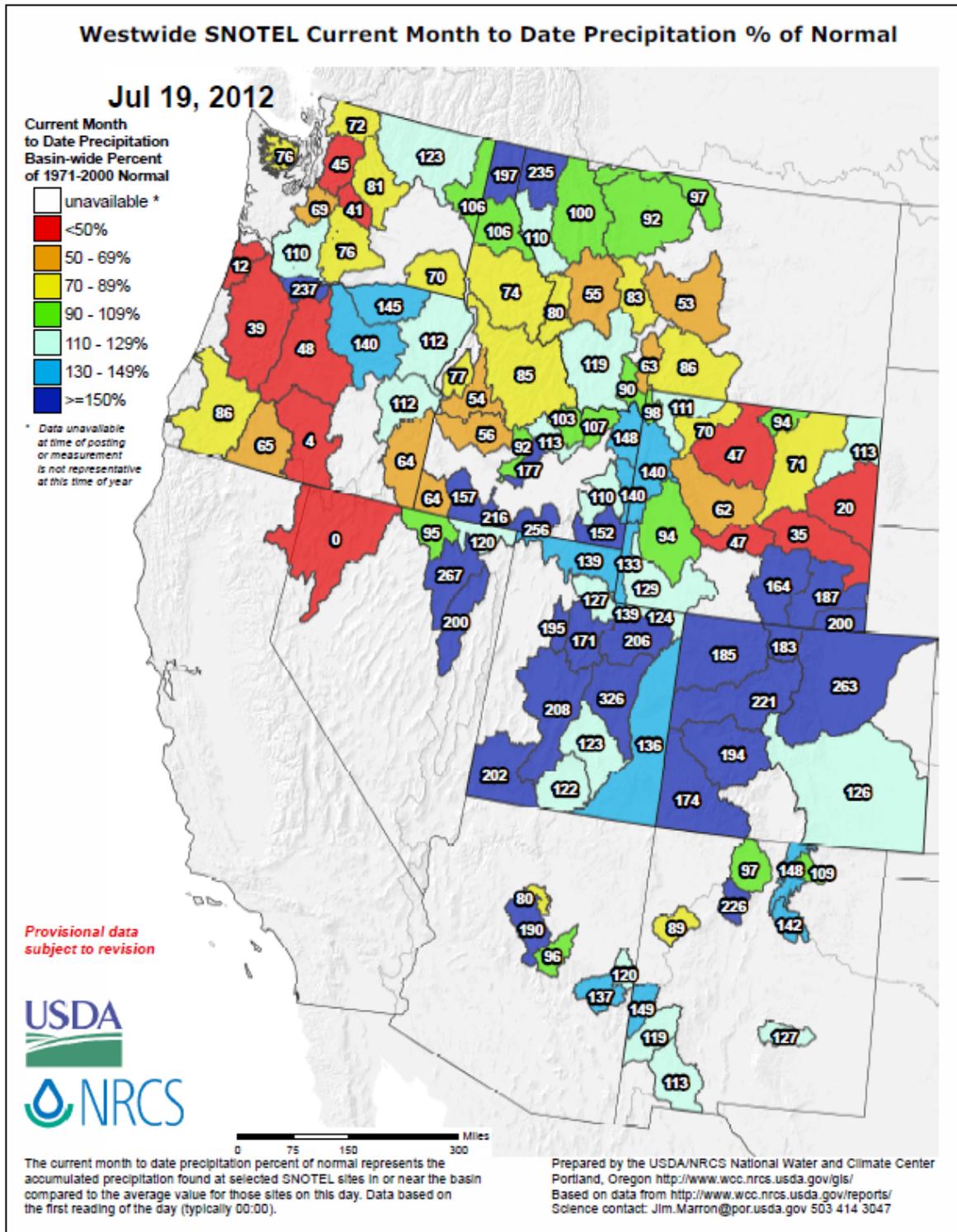
**Fig. 2 and 2a: [ACIS](#) 7-day average precipitation amounts for the period ending yesterday shows the wettest areas over the 4-Corner States in the form of scattered thunderstorms (top). In terms of percent of normal, this is clearly revealed and even extends to the Northern Rockies with values exceeding 400 percent for the week.**

## Weekly Snowpack and Drought Monitor Update Report



**Fig 2b:** Since the start of the [2012 Water-Year](#) that began on 1 October 2011, the seasonal moisture has continued to favor the Northern Tier States. Over much of the southern half of the West, drier conditions dominate. However, values are increasing over Northern New Mexico in response to the Summer Monsoon.

## Weekly Snowpack and Drought Monitor Update Report



**Fig 2c:** Since the start of July, the parts of the Central Cascades, Northern and Central Rockies, Upper Snake River Basin, and 4-Corner States have been much wetter than the long term average. This situation has helped lessen the fire conditions across a good portion of the West especially during the past two weeks.

## Weekly Snowpack and Drought Monitor Update Report

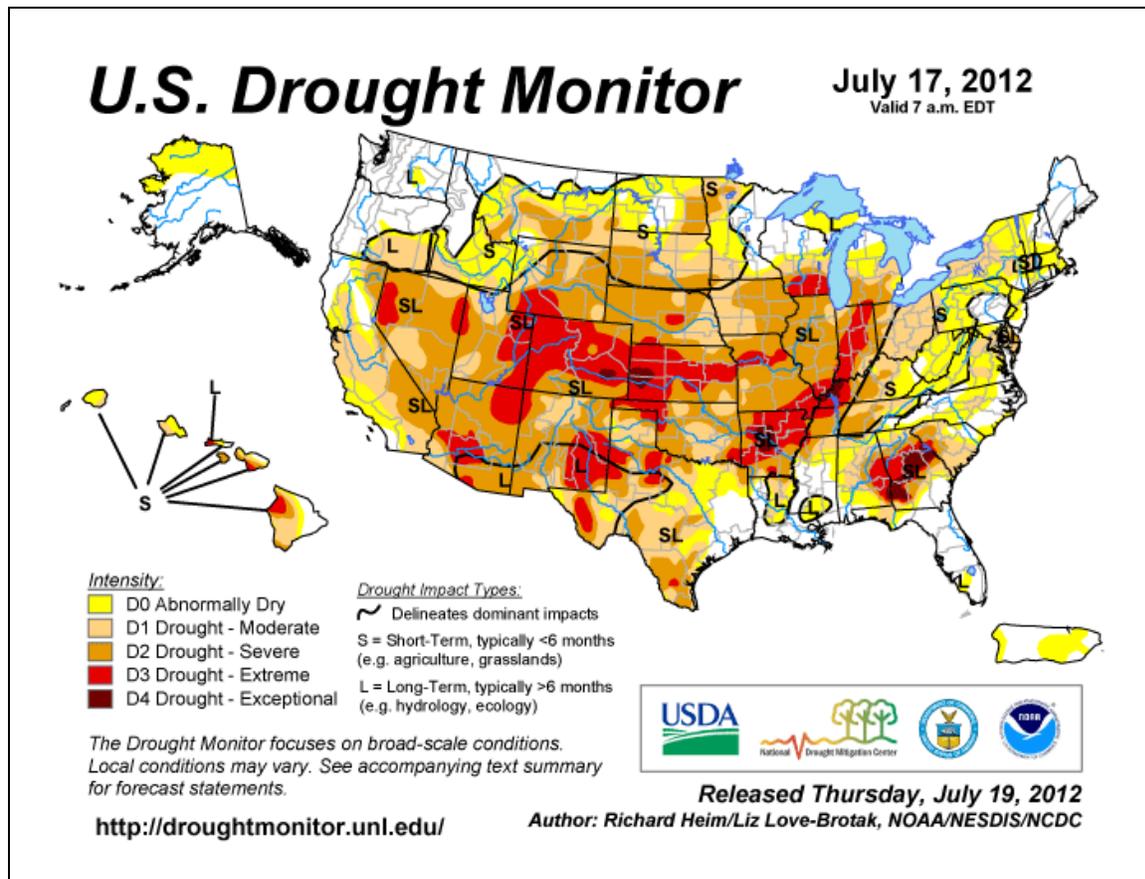


Fig. 3: Current [Drought Monitor](#) weekly summary. The exceptional D4 levels of drought are found over the Southeast and scattered across the corn belt of the Midwest. For more drought news, see [Drought Impact Reporter](#). Click for the latest statistics for [California Reservoirs](#). The monthly [drought indicator blend and component percentiles](#) spreadsheet is a great resource for climate division drought statistics. A number of these articles will be posted on the [Drought Headlines](#) page at the [NDMC website](#).

### [USDA ANNOUNCES STREAMLINED DISASTER DESIGNATION PROCESS WITH LOWER EMERGENCY LOAN RATES AND GREATER CRP FLEXIBILITY IN DISASTER AREAS](#)

#### [Worst-in-Generation Drought Dims U.S. Farm Economy Hopes](#)

#### Agriculture Drought Related News

- [Area's corn crop could be total loss](#)
- [Colorado water shortages leave farmers, ranchers desperate](#)
- [Corn crop SOS](#)
- [Drought has Wis. farmers looking to move cattle north](#)
- [Drought-afflicted farmers make their case for water](#)
- [Drought-stricken corn fields mowed as heat wave continues](#)
- [U.S. corn growers farming in hell as heat spreads](#)
- [Wyoming ranchers sell off cattle in record amounts to cope with drought](#)

Summer issue of [DroughtScape](#) is now available.

July 2012 [Intermountain West Climate Summary](#) is now available.

# Weekly Snowpack and Drought Monitor Update Report

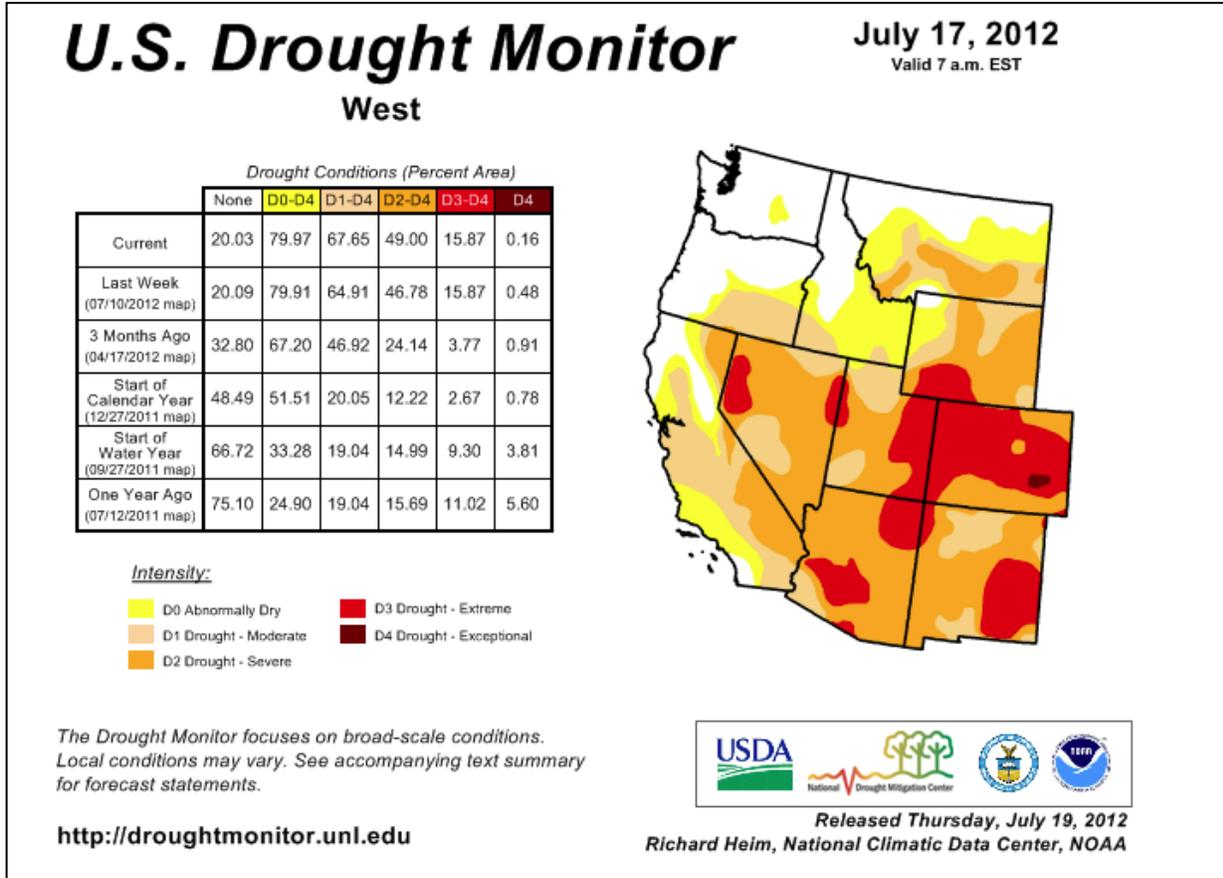
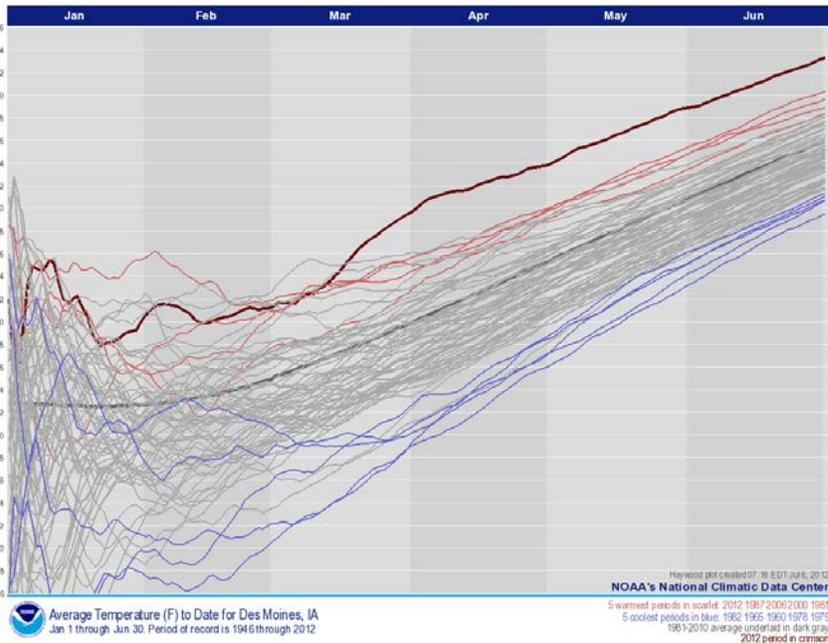


Fig. 3a: Drought Monitor for the [Western States](#) with statistics over various time periods. Note some deterioration in D1-D2 this week.



For Des Moines, IA the average daily temperatures for the 1<sup>st</sup> 6 months of the year from 1900 to 2012 are shown. The blue represent the 5 coldest periods: (1982, 1965, 1960, 1978, and 1979). The red represent the 5 warmest periods: (2012 (darkest red), 1987, 2006, 2000, and 1981). Courtesy: NOAA.

## Weekly Snowpack and Drought Monitor Update Report

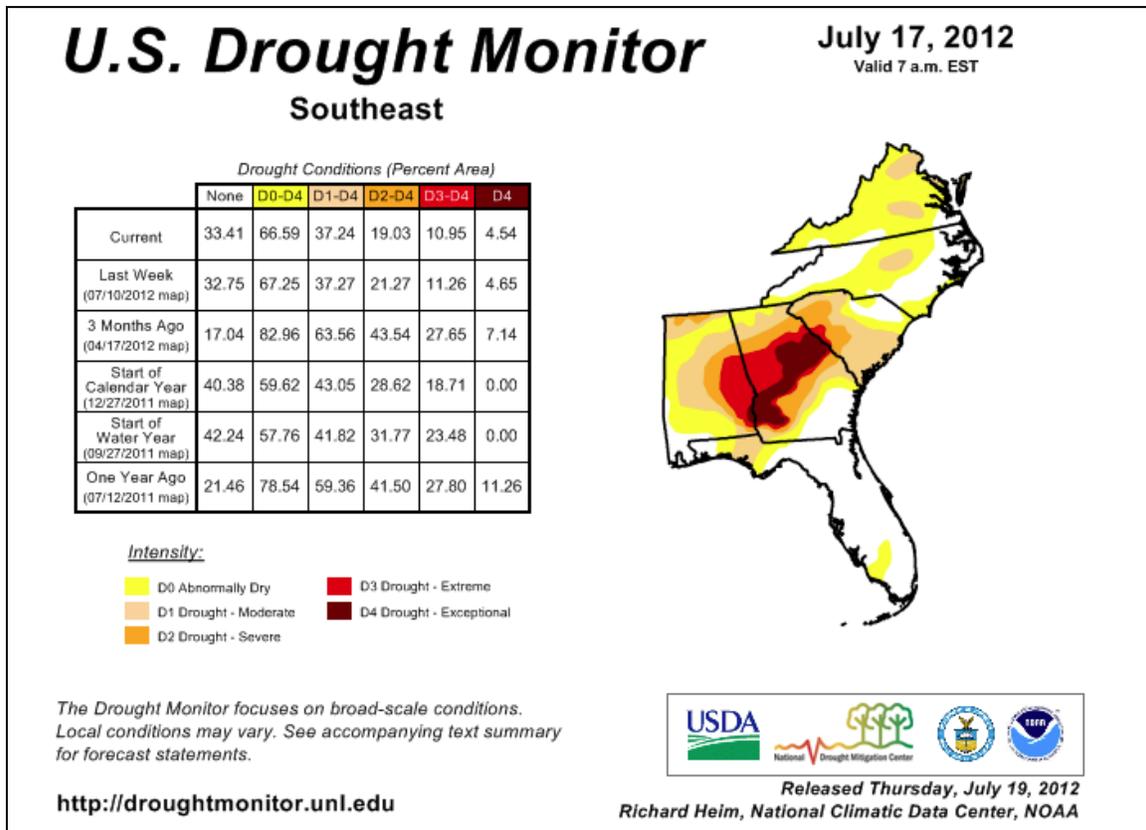


Fig. 3b: Drought Monitor for the [Southeastern States](#) with statistics over various time periods. Note a slight improvement in D2-D3 this week.

### GA 7/16/2012

According to the National Agriculture Statistics Service's Georgia Field Office, there were 5.3 days suitable for fieldwork for the week ending Sunday, July 15, 2012. Statewide topsoil moisture was rated at 8% very short, 38% short, 49% adequate, 5% surplus. Subsoil moisture 16% very short, 45% short, 37% adequate, 2% surplus. Precipitation estimates for the state ranged from no rain up to 4.0 inches. Average high temperatures ranged from the mid 80's to the mid 90's. Average low temperatures ranged from the high 60's to the high 70s

### SC 7/16/2012

Much needed rainfall brought cooler temperatures to the State during the week ending July 15, 2012. Monday began with temperatures in the triple digits for much of the State. Intense thunderstorms arrived Monday evening and continued through Thursday, usually popping up in the evening and providing multiple inches of rain in many counties. No crop damage was reported and the rainfall improved soil moisture conditions to 8% very short, 30% short, 60% adequate and 2% surplus. The State average rainfall for the period was 1.8 inches. Seasonal temperatures coupled with clear skies were present through the weekend. The State average temperature for the period was one degree above normal with 5.2 days suitable for fieldwork.

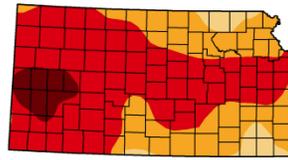
# Weekly Snowpack and Drought Monitor Update Report

**Recent States falling into Extreme Drought (D4)**

## U.S. Drought Monitor Kansas

July 17, 2012  
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	94.75	63.78	6.14
Last Week (07/10/2012 map)	0.00	100.00	100.00	80.18	27.95	0.00
3 Months Ago (04/17/2012 map)	78.32	21.68	10.12	2.36	0.03	0.00
Start of Calendar Year (12/27/2011 map)	42.48	57.52	47.15	23.21	12.79	0.22
Start of Water Year (09/27/2011 map)	16.39	83.61	66.03	48.78	28.54	17.83
One Year Ago (07/12/2011 map)	33.66	66.14	48.63	34.36	17.08	6.66



**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://droughtmonitor.unl.edu>



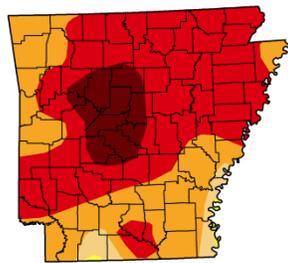
Released Thursday, July 19, 2012  
Richard Heim, National Climatic Data Center, NOAA

Fig. 3c: Drought Monitor for the [Kansas](#) with statistics over various time periods. Note new D4 area in the western part of the state.

## U.S. Drought Monitor Arkansas

July 17, 2012  
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	99.66	96.12	64.92	10.81
Last Week (07/10/2012 map)	0.00	100.00	99.79	92.67	70.57	3.25
3 Months Ago (04/17/2012 map)	99.96	0.04	0.00	0.00	0.00	0.00
Start of Calendar Year (12/27/2011 map)	86.20	13.80	3.95	1.08	0.23	0.00
Start of Water Year (09/27/2011 map)	1.21	98.79	75.99	39.48	18.92	1.53
One Year Ago (07/12/2011 map)	15.29	84.71	39.69	11.38	3.66	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://droughtmonitor.unl.edu>



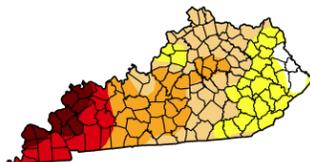
Released Thursday, July 19, 2012  
Richard Heim, National Climatic Data Center, NOAA

Fig. 3d: Drought Monitor for the [Arkansas](#) with statistics over various time periods. Note the large increase in D4 this week.

## U.S. Drought Monitor Kentucky

July 17, 2012  
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	3.52	96.48	74.68	43.92	20.32	7.81
Last Week (07/10/2012 map)	0.00	100.00	86.84	46.86	20.32	2.49
3 Months Ago (04/17/2012 map)	61.71	38.29	8.16	0.00	0.00	0.00
Start of Calendar Year (12/27/2011 map)	100.00	0.00	0.00	0.00	0.00	0.00
Start of Water Year (09/27/2011 map)	86.72	13.28	0.04	0.00	0.00	0.00
One Year Ago (07/12/2011 map)	100.00	0.00	0.00	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.

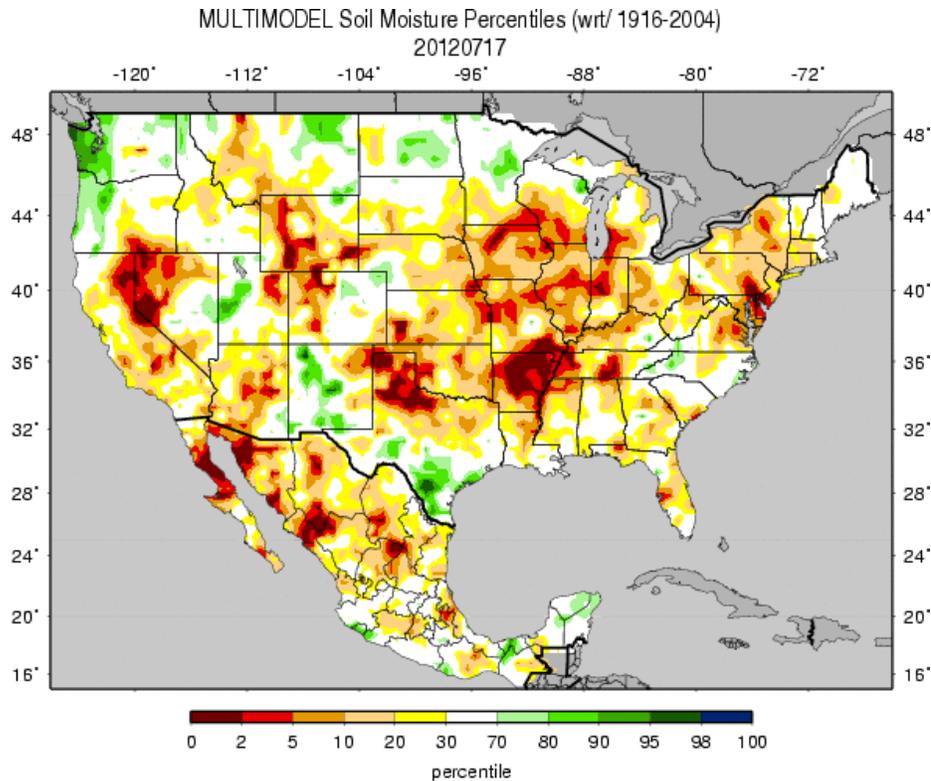
<http://droughtmonitor.unl.edu>



Released Thursday, July 19, 2012  
Richard Heim, National Climatic Data Center, NOAA

Fig. 3e: Drought Monitor for the [Kentucky](#) with statistics over various time periods. Note the large increase in D4 this week.

## Weekly Snowpack and Drought Monitor Update Report



**Figs. 4:** Soil Moisture ranking in [percentile](#) as of 17 July shows dryness over much of the US. Exceptions include the Coastal Region of Oregon & Washington, parts of Utah, New Mexico and northeast Montana. Eastern Colorado has improved significantly since the Waldo Canyon fire last month.

### *Useful Hydrological Links:*

USDA western U.S. mountain snow water content anomaly map.

- USGS (U.S. Geological Service) [observed streamflow](#);
- NOAA Climate Prediction Center (CPC) modeled runoff [anomalies](#) and [percentiles](#);
- VIC (University of Washington Variable Infiltration Capacity macro scale hydrologic model) [1-](#), [2-](#), [3-](#), and [6-month](#) and [water year-to-date](#) runoff percentiles;
- NLDAS (North American Land Data Assimilation System) modeled streamflow [anomalies](#) and [percentiles](#);
- NLDAS model runoff [anomalies](#) and [percentiles](#);
- USGS groundwater observations ([real-time network](#), [climate response network](#), [total active network](#));
- USDA snow water content observations for the West (SNOTEL station [percentiles](#) and [percent of normal](#), SNOTEL basin [percent of normal](#) and [percent of average](#)) and Alaska ([SNOTEL station percent of normal](#), [SNOTEL basin percent of normal](#));
- USDA reservoir storage as [percent of capacity](#).

## Weekly Snowpack and Drought Monitor Update Report

### Soil Climate Analysis Network ([SCAN](#))

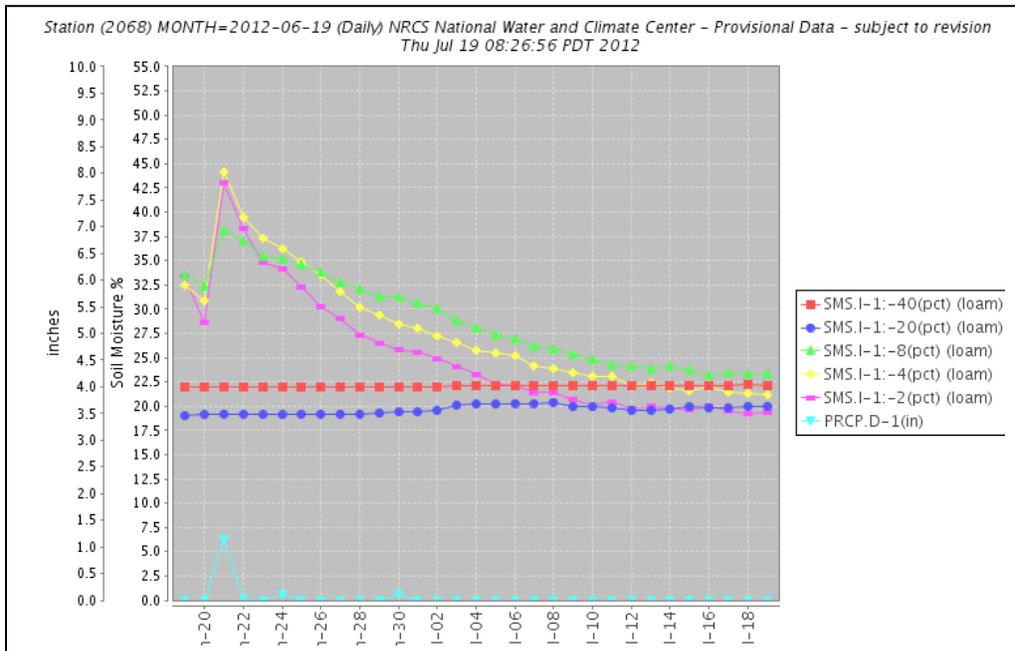
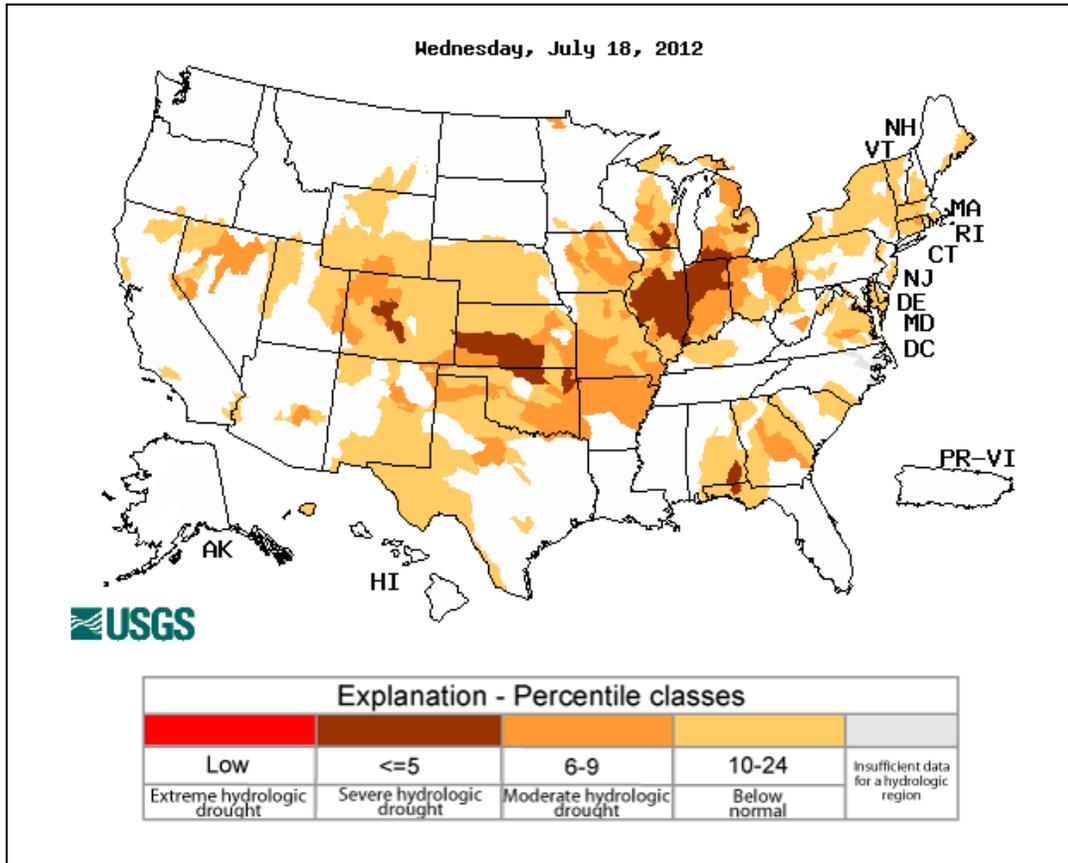


Fig. 5: This NRCS resource shows a site over the [western Iowa](#) rapidly decreasing soil moisture.

#### Useful Agriculture Links:

- USDA (U.S. Department of Agriculture) [observed soil moisture conditions](#), [departures and percentiles](#), and comparison to [5-year average](#) and [10-year average](#);
- the Palmer [Crop Moisture Index \(CMI\)](#), which intensified during the month in the West and Lower to Mid-Mississippi Valley (weeks [1](#), [2](#), [3](#), [4](#), [5](#));
- CPC modeled soil moisture [anomalies](#) and [percentiles](#) for end of May, and [soil moisture anomaly change](#) compared to previous month;
- CPC's Leaky Bucket model [soil moisture percentiles](#);
- NLDAS modeled soil moisture percentiles for the [top soil layer](#) and [total soil layer](#);
- VIC modeled [soil moisture percentiles](#), and [soil moisture percentile change](#) compared to previous month;
- USDA observed [pasture and rangeland conditions](#);
- [Vegetation Drought Response Index \(VegDRI\)](#);
- the NOAA/NESDIS satellite-based [Vegetation Health Index \(VHI\)](#);
- the USGS agro-hydrologic model ([Soil Water Index](#), [Water Requirement Satisfaction Index](#));
- Selected SNOTEL Sites (measured [2"](#), [4"](#), [8"](#), [20"](#), and [40"](#) soil moisture depths);

## Weekly Snowpack and Drought Monitor Update Report



**Fig. 6:** Map of below normal 7-day average [streamflow](#) compared to historical streamflow for the day of year. **Extreme** conditions exist over parts of Colorado, Kansas, northern Oklahoma, Wisconsin, Michigan, Illinois, Indiana, and the Panhandle of Florida-Alabama region.

## Weekly Snowpack and Drought Monitor Update Report

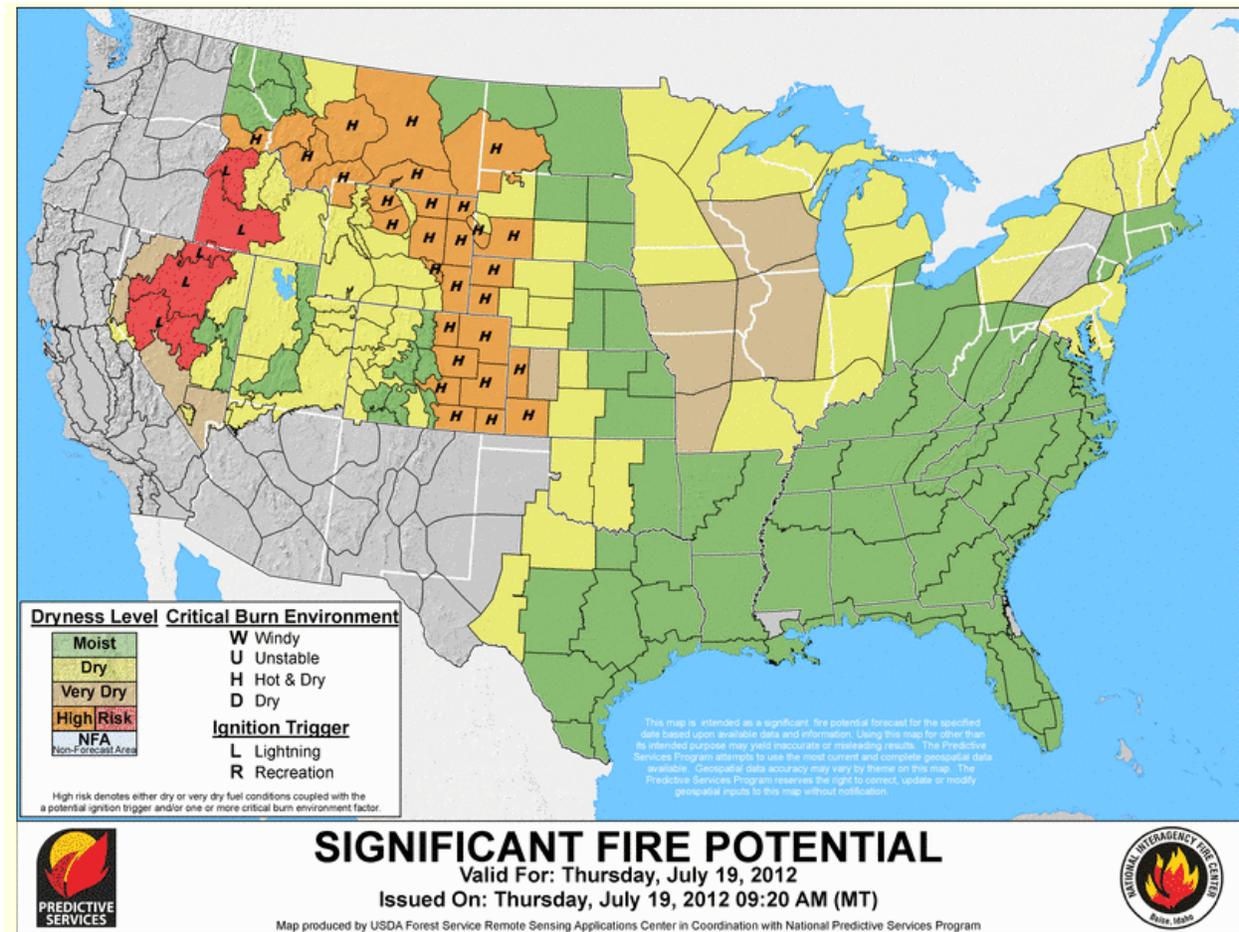
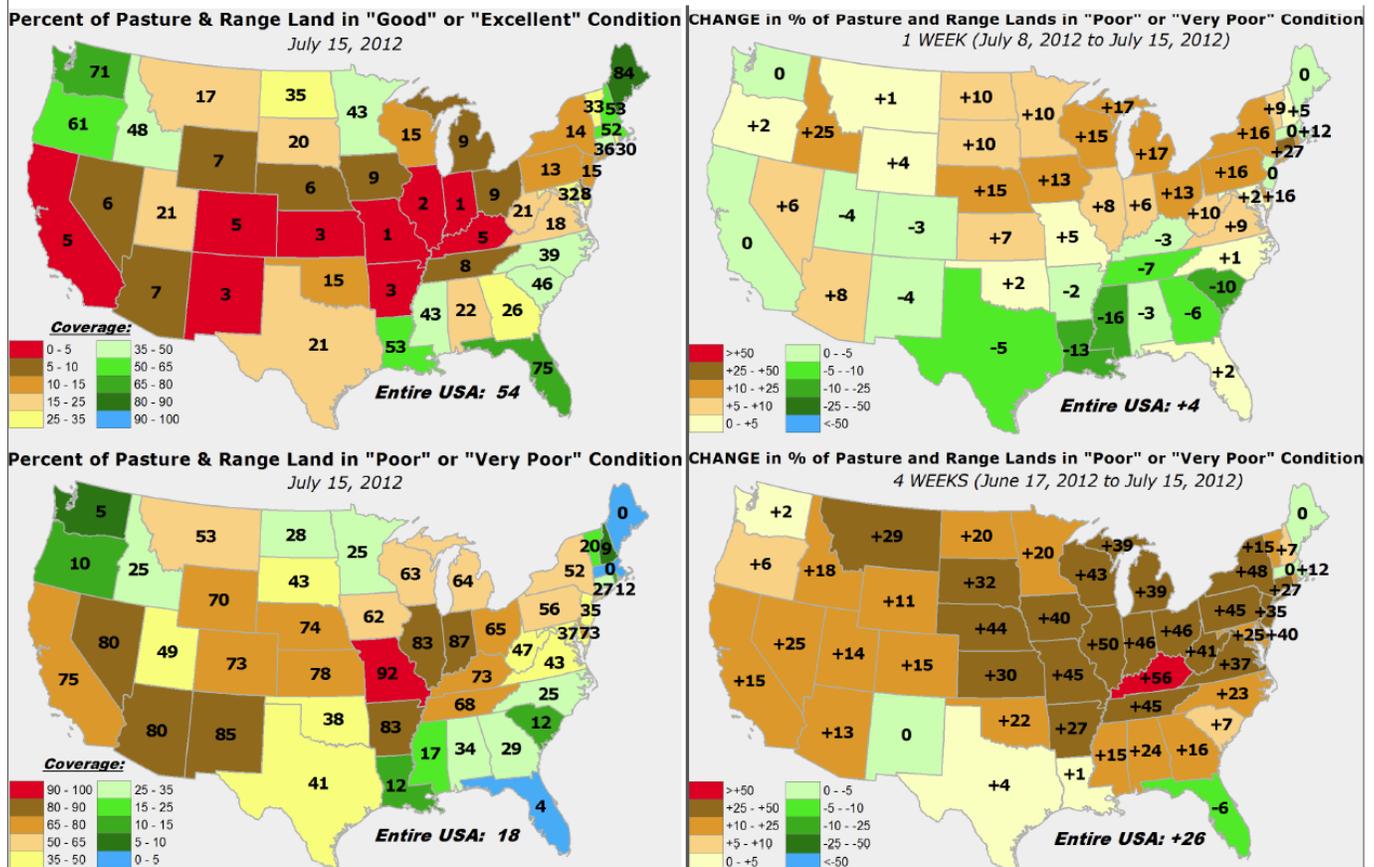


Fig. 7: [Significant fire potential](#) for today. This resource also provides forecasts out to 7 days. Also check out: [NOAA's Fire Server](#). Risk has increased over Wyoming during the past several days. Also see: [Experimental Southwest area wildland fire smoke impact awareness page](#) and the latest, [National Interagency Fire Agency Report](#). Note high risk over much of Colorado and parts of southern Wyoming and New Mexico.

Western Governors Praise Firefighters, Urge Congressional Action on Forest Management

<http://www.westgov.org/component/content/article/261-new-s-2012/410-western-governors-praise-firefighters-urge-congressional-action-on-forest-management>

## Weekly Snowpack and Drought Monitor Update Report



**Fig. 8: Pasture and range land conditions and changes during the past week.** New Mexico has the most poor or very poor conditions (lower left panel) Idaho has experienced the worst declines this week over the West (upper right panel). Kentucky as experienced the worst decline nationally due the past 4 weeks (lower right panel).

- 54% of the country's pastures/ranges are poor or very poor - ALL-TIME HIGH FOR GROWING SEASON WEEKLY HISTORY (to 1995, 18 yrs, 450+ wks)
- Only other times at/over 50%...
  - Sep 8 & 15, 2002 - 52%
  - Aug. 6,13,20,27, 2006 - 50%-51%
- This is week 28 of the year; previous greatest extents week 28...
  - 39% 7/14/2002
  - 38% 7/9/2006
  - Below 30% for the other 15 years on record
- Extent of poor / very poor conditions has doubled nationally in last 4 weeks.
  - For this period, p/vp extent dropped in only 1 state (FL)
  - It was unchanged in 3 others (NM/MA/ME), but in NM only because it started out bad
    - NM p/vp unchanged at 85% this period
- TYPICAL PEAK EXTENT IS LATE AUG / EARLY SEP, so without widespread rain it could keep dropping for 4 to 6 weeks climatologically

Also see: [Vegetation anomaly map](#)

## Weekly Snowpack and Drought Monitor Update Report

### National Drought Summary – July 17, 2012

*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/>.*

**Weather Summary:** A strong upper-level ridge of high pressure dominated the nation's weather this U.S. Drought Monitor (USDM) week, bringing well above-normal temperatures to the central and northern tier states. Clouds with scattered showers and thunderstorms along a stalled cool front kept temperatures below-normal in the southern states. But even then, maximum temperatures were 90 degrees F or warmer across much of the country, with maximums exceeding 100 from South Dakota to Kansas. Philip, South Dakota, reached 109 degrees on July 15. Beneficial rain fell from southern Texas to the southern Appalachians along the front. Excessive rainfall occurred over southeast Texas where amounts totaled 10 inches or more in places, but elsewhere rainfall amounts were generally localized with limited relief. Monsoon showers and thunderstorms brought above-normal rain to parts of the West, but the rain had little impact on deficits which have accumulated over several months. Weak fronts triggered localized showers and thunderstorms along the northern tier states. In between, hot and dry weather dominated from the central Plains to Ohio Valley, Great Lakes, and Northeast.

Another week of hot and dry weather continued the deterioration of crop conditions in America's breadbasket. U.S. Department of Agriculture (USDA) reports for the week ending July 15 indicated that 38 percent of the nation's corn crop was in poor to very poor condition, compared to 30 percent a week ago, and 30 percent of soybeans were in poor to very poor condition (compared to 27 percent last week). Fifty-four percent of the nation's pasture and rangeland was in poor to very poor condition, which is a jump of 4 percent compared to last week and is an all-time high for the 1995-2012 growing season weekly history. About two dozen large wildfires, mostly in the West, were burning on July 17, about half the number compared to a week ago. Streamflows were in the lower tenth percentile of record, or at record low values at several time scales, across much of the Midwest and parts of the central Plains, West, Southeast, and even parts of New England. As a result, the impacts boundaries were shifted to reflect short-term and long-term drought conditions from the west coast to Ohio Valley and Southeast, with short-term conditions indicated in the northern tier states and from eastern Tennessee to New England. Long-term impacts were indicated for parts of the Southwest and central Gulf of Mexico states.

**The Northeast and Mid-Atlantic:** Light to locally moderate rain fell across parts of the region. But even the heaviest amounts, which fell in southeastern Pennsylvania and extreme southeast New York, were barely above normal for the week. Most areas were drier than normal and hot, with abnormally dry (D0) conditions expanding across New York, southern New England, northern Pennsylvania, and northern New Jersey. Moderate drought (D1) spread eastward from western New York, grew in the Chesapeake Bay area, and was added to western Massachusetts.

**The Southeast, Deep South, and Southern Texas:** Widespread heavy rains and flooding in southeast Texas resulted in significant improvement with the USDM depiction improving by two categories in parts of Texas and adjacent Louisiana. Elsewhere along the front, drought conditions improved by one category in a few local areas where 2-3 inches, or more, of rain fell, from Mississippi and southern Arkansas to West Virginia, and from Georgia to North Carolina. But expansion occurred in a few local areas missed by the rains in Alabama and North Carolina. Exceptional drought (D4) expanded in western Kentucky and southern Illinois, severe drought (D2) expanded in northwest Kentucky, and D1 filled in the hole from northern Kentucky into southwest Ohio. D1 expanded in the Florida panhandle which had below-normal rainfall and where low lake levels persisted.

## Weekly Snowpack and Drought Monitor Update Report

**The Great Plains to Midwest:** Unrelenting heat and lack of rain continued the downward spiral of drought conditions. D0 to D2 expanded across parts of the Plains from Texas to North Dakota, from Missouri to Minnesota, and in the southern Great Lakes. Extreme drought (D3) was introduced in Nebraska, Missouri, and Wisconsin, and D3 expanded in Arkansas, Oklahoma, Kansas, and Indiana. The city of Indianapolis, Indiana, implemented mandatory water restrictions for the first time ever with many trees dropping their leaves and going dormant months early. Exceptional drought (D4) expanded in Arkansas and was introduced in western Kansas.

**The West:** Monsoon showers held drought deterioration at bay across much of the West, but with amounts mostly an inch or less, little improvement was seen. Even the 2+ inch rains in parts of Arizona were not enough to change the drought depiction. D4 in northwest Colorado was removed as conditions improved from recent rains, and the D1 was removed and surrounding D0 shrank in central Washington as precipitation in recent weeks justified the reassessment there. But drought conditions deteriorated in other parts of the West. D4 expanded slightly in southeast Colorado, and D0-D2 expanded from southeast Oregon and northern Utah to southern Montana.

**Hawaii, Alaska and Puerto Rico:** The week was mostly drier than normal at most stations in Alaska and Hawaii, but no change was made to the depiction there. It was another dry week for much of Puerto Rico, with accumulated deficits exceeding 8 inches for the last two months. D0 was added to the western and eastern sections of the island which were persistently drier than normal out to 90 to 180 days and where below-normal streamflows were beginning to appear.

**Looking Ahead:** Beneficial rains could continue from the Gulf of Mexico coast to Mid-Atlantic States during July 18-23, with amounts in excess of two inches in places. Some of these rains could spread into the eastern sections of the Tennessee and Ohio valleys. Monsoon showers are expected in the Southwest and showers and thunderstorms may develop with fronts moving across the northern tier states, although rainfall amounts should generally be less than an inch in these areas. The southern to central Plains will likely be devoid of precipitation. Temperatures for much of the country east of the Rockies will be above normal, with departures possibly 10 to 15 degrees above normal from the central Plains to Great Lakes.

For July 24-August 1, dry weather is expected to dominate in the southern to central Plains, across the Gulf coast, and along the west coast, while monsoon showers should bring above normal precipitation to the Southwest. Above-normal temperatures should maintain their hold across the interior U.S. from the Plains to Southeast, with cooler-than-normal conditions along the west coast. Alaska is forecast to be wet with above-normal temperatures in the northeast and cooler-than-normal conditions in the west and south.

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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

S ... Short-Term, typically <6 months (e.g. agricultural, grasslands)

L ... Long-Term, typically >6 months (e.g. hydrology, ecology)

## Weekly Snowpack and Drought Monitor Update Report

*Updated July 18, 2012*

***For the latest NOAA CPC Seasonal Outlook, released today, click [here](#).***