



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

Weekly Report - Snowpack / Drought Monitor Update

Date: 17 May 2012

SNOTEL SNOWPACK AND PRECIPITATION SUMMARY

Snow: [Snow Water-Equivalent](#): River basins over the Northern Pacific Northwest and Northernmost Rockies continue to maintain their high SWE values this week while the opposite is true for the remainder of the West. The Southwest has officially melted out (Fig. 1).

Temperature: [SNOTEL](#) and ACIS 7-day temperature anomaly showed values above normal most of the West with the exception of the southwestern High Plains (Fig. 2). ACIS [7-day average temperature anomalies](#) show the greatest positive temperature departures over the Southern Great Basin and California ($>+8^{\circ}\text{F}$) and the greatest negative departures scattered over southeastern New Mexico ($<-8^{\circ}\text{F}$) (Fig. 2a).

Precipitation: [ACIS](#) 7-day average precipitation amounts for the period ending yesterday shows the wettest areas over much of New Mexico (Fig. 3). In terms of percent of normal, besides New Mexico, southern Arizona, and central Colorado were this week's moisture winners (Fig. 3a). 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 (Fig. 3b). Since the start of [May](#), all but the southern Washington – northern Oregon Cascades, and south-central and northeastern mountains in New Mexico have seen well below normal precipitation (Fig. 3c).

Weather Summary: Highly beneficial rainfall brought additional drought relief to the south-central United States and began to chip away at short-term precipitation deficits in the mid-Atlantic and Northeastern States. Parts of the Southeast also experienced drought relief, but little rain fell in a core drought area centered on central and southern Georgia and northern Florida. In the Midwest, a dry week followed early-May rainfall. Dry conditions also prevailed across much of the West.

The West: Parts of southern and eastern New Mexico received widespread, locally heavy precipitation, but dry weather covered the remainder of the West. The drought impact type was changed to long term (L) across southern New Mexico, where substantial rain fell. Elsewhere, relatively minor changes were highlighted by a modest expansion of severe drought (D2) in northwestern Arizona and southern Nevada, and a slight expansion of severe drought in north-central Colorado. Author: Brad Rippey, 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 (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

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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. 4 through 4c).

Soil Moisture

Soil moisture (Fig. 5), is simulated by the [VIC macroscale hydrologic model](#). The detailed, physically-based VIC model is driven by observed daily precipitation and temperature maxima and minima from approximately 2130 stations, selected for reporting reliably in real-time and for having records of longer than 45 years (and various other criteria). Another good resource can be found at: <http://www.emc.ncep.noaa.gov/mmb/nldas/drought/>.

Soil Climate Analysis Network (SCAN)

Figure 6 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. 7) shows the 7-day average streamflow conditions in hydrologic units of the United States and Puerto Rico for the day of year. The colors represent 7-day average streamflow percentiles based on historical streamflow for the day of the year. Thus, the map shows conditions adjusted for this time of the year. Only stations having at least 30 years of record are used. Sub-regions shaded gray indicate that insufficient data were available to compute a reliable 7-day average streamflow value. During winter months, this situation frequently arises due to ice effects. The data used to produce this map are provisional and have not been reviewed or edited. They may be subject to significant change.

Fire Conditions

Fig. 8 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>.

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.

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/s/

Micheal L. Golden

Deputy Chief, Soil Survey and Resource Assessment

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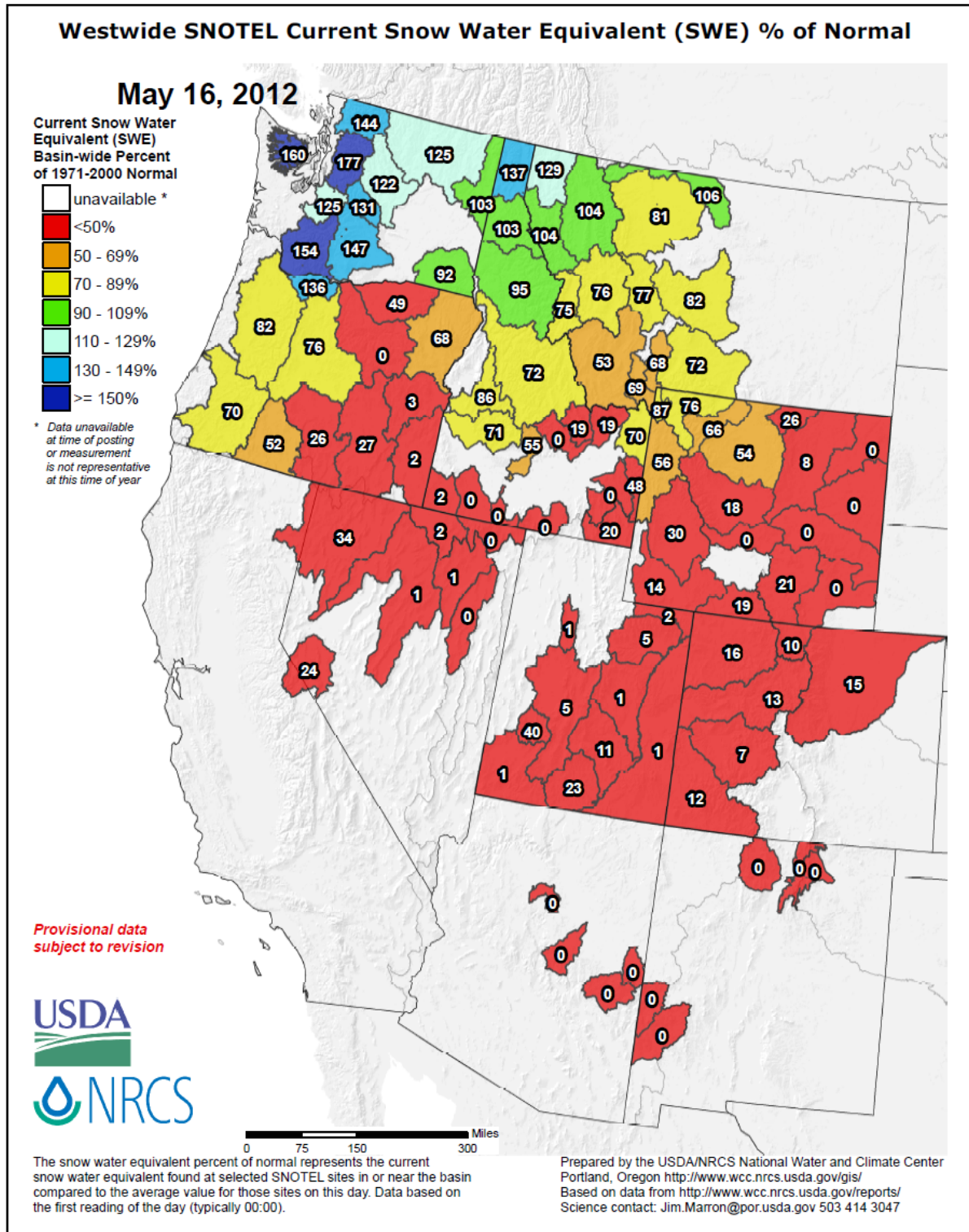


Fig. 1: Snow Water-Equivalent: River basins over the Northern Pacific Northwest and Northernmost Rockies continue to maintain their high SWE values this week while the opposite is true for the remainder of the West. The Southwest has officially melted out. Click on link for latest map.

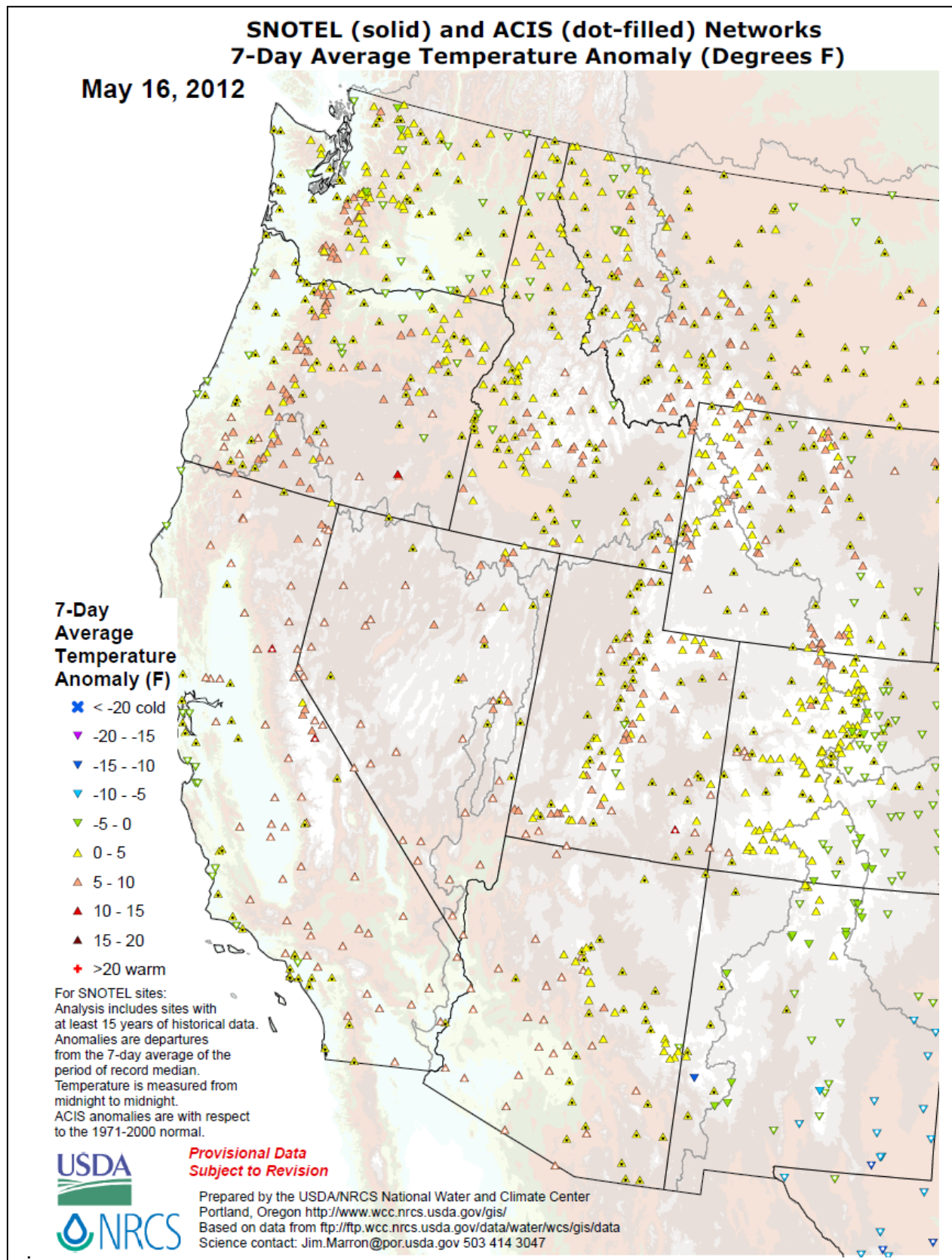
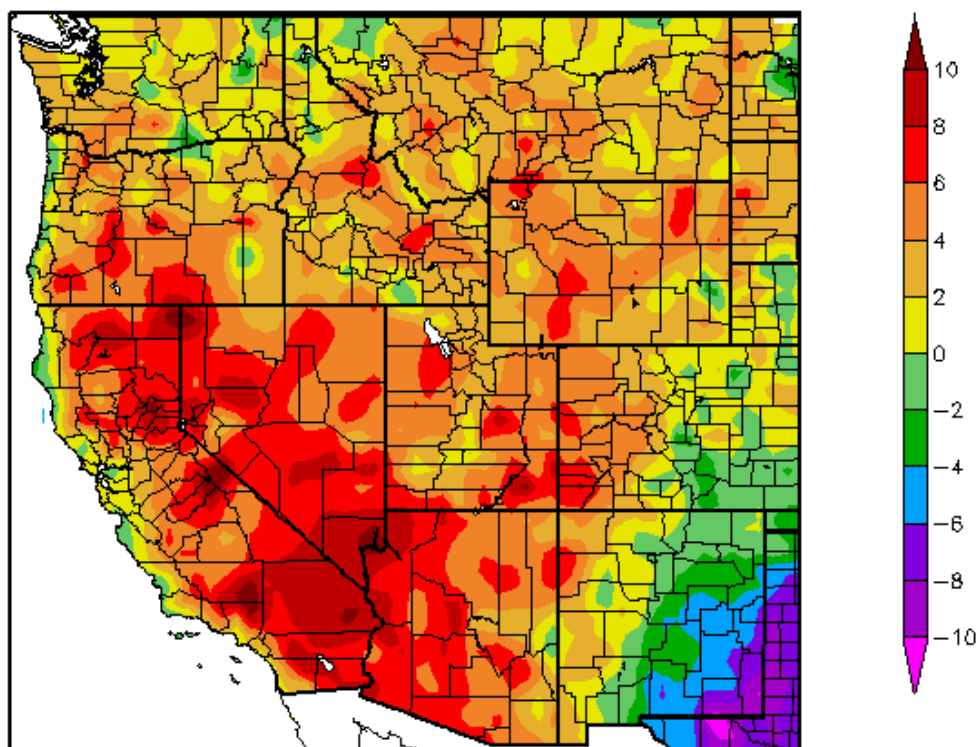


Fig. 2: SNOTEL and ACIS 7-day temperature anomaly showed values above normal most of the West with the exception of the southwestern High Plains.

Departure from Normal Temperature (F)
5/10/2012 – 5/16/2012



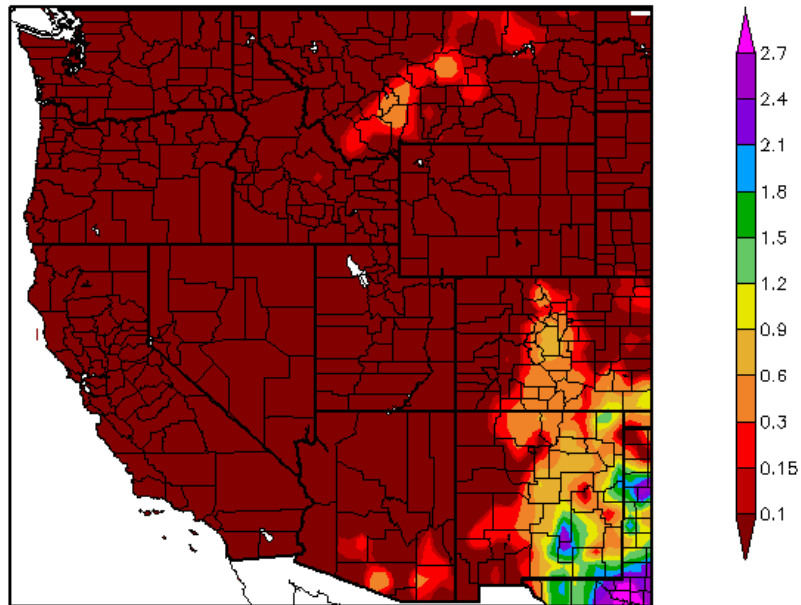
Generated 5/17/2012 at HPRCC using provisional data.

Regional Climate Centers

Fig. 2a: ACIS 7-day average temperature anomalies show the greatest positive temperature departures over the Southern Great Basin and California ($>+8^{\circ}\text{F}$) and the greatest negative departures scattered over southeastern New Mexico ($<-8^{\circ}\text{F}$).

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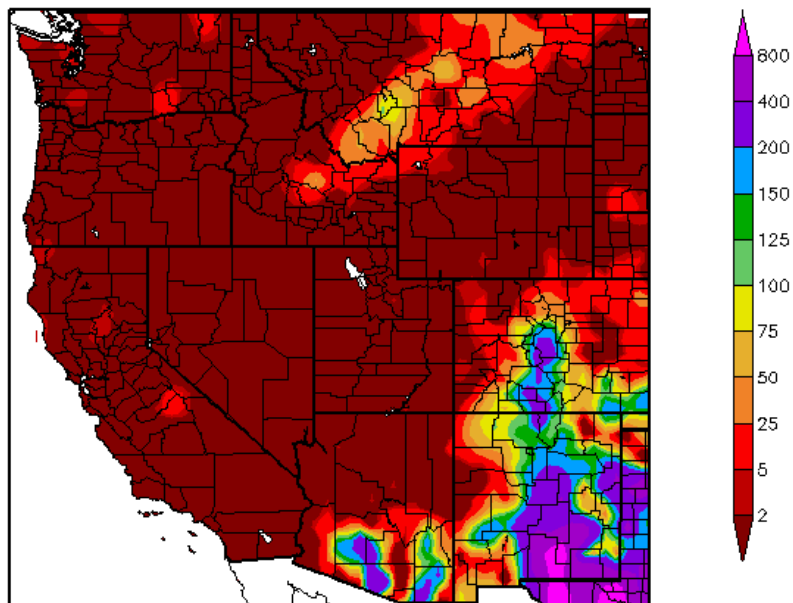
Precipitation (in)
5/10/2012 – 5/16/2012



Generated 5/17/2012 at HPRCC using provisional data.

Regional Climate Centers

Percent of Normal Precipitation (%)
5/10/2012 – 5/16/2012



Generated 5/17/2012 at HPRCC using provisional data.

Regional Climate Centers

Fig. 3 and 3a: [ACIS](#) 7-day average precipitation amounts for the period ending yesterday shows the wettest areas over much of New Mexico (top). In terms of percent of normal, besides New Mexico, southern Arizona, and central Colorado were this week's moisture winners (bottom).

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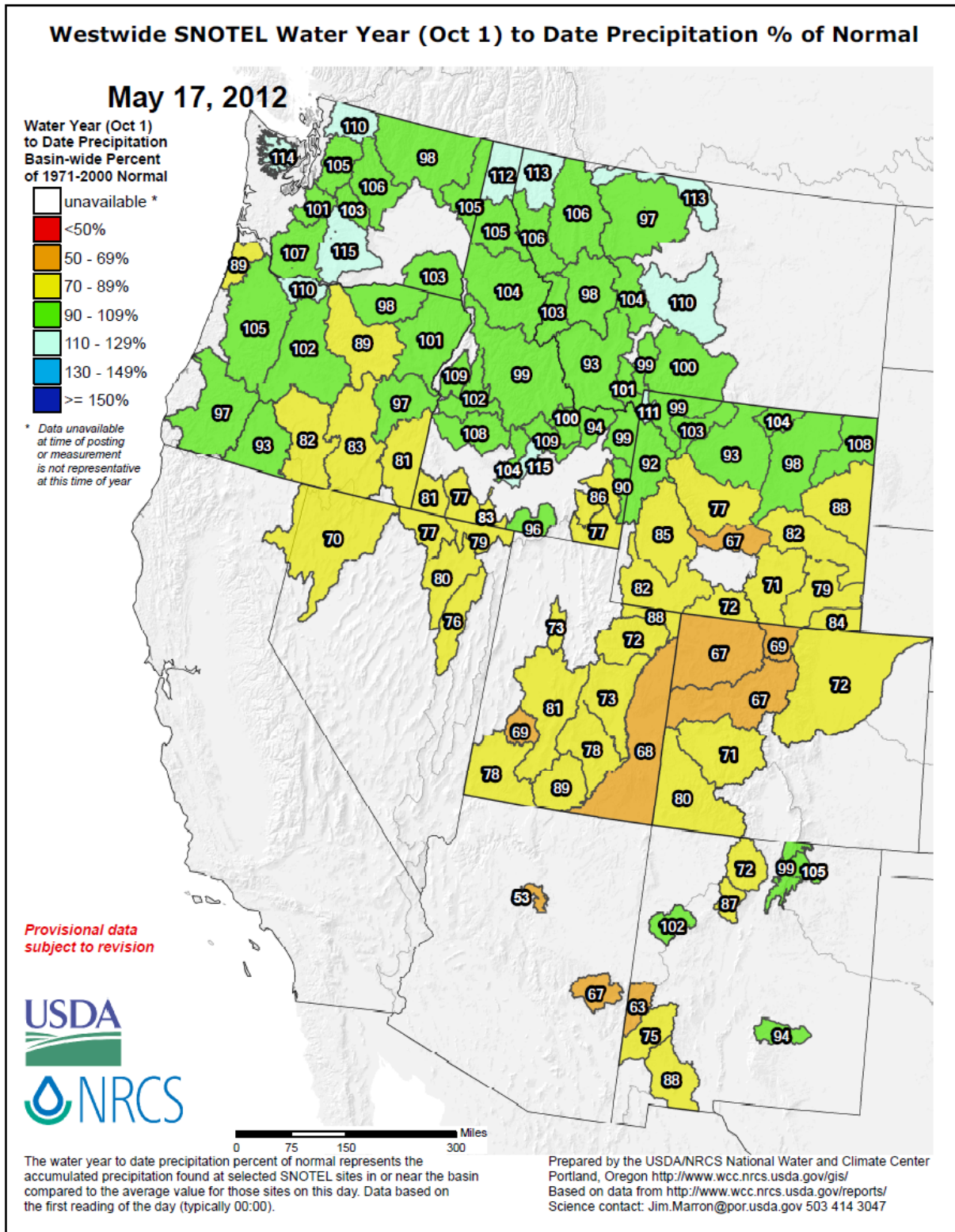


Fig 3b: Since the start of the 2012 Water-Year that began on 1 October 2011, the seasonal moisture has continued to favor the Northern Tier States. Over much of the southern half of the West, drier conditions dominate.

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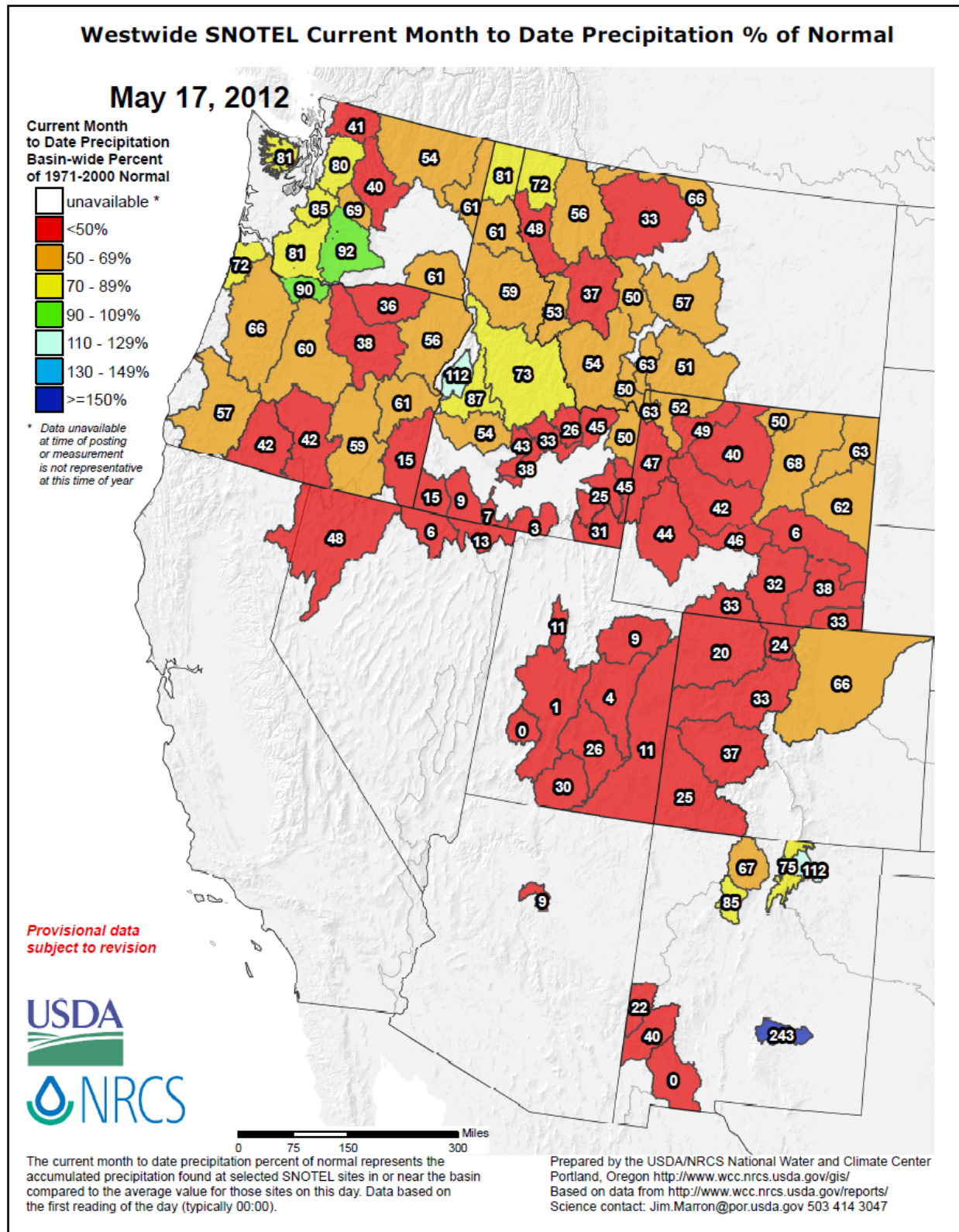


Fig 3c: Since the start of **May**, all but the southern Washington – northern Oregon Cascades, and south-central and northeastern mountains in New Mexico have seen well below normal precipitation.

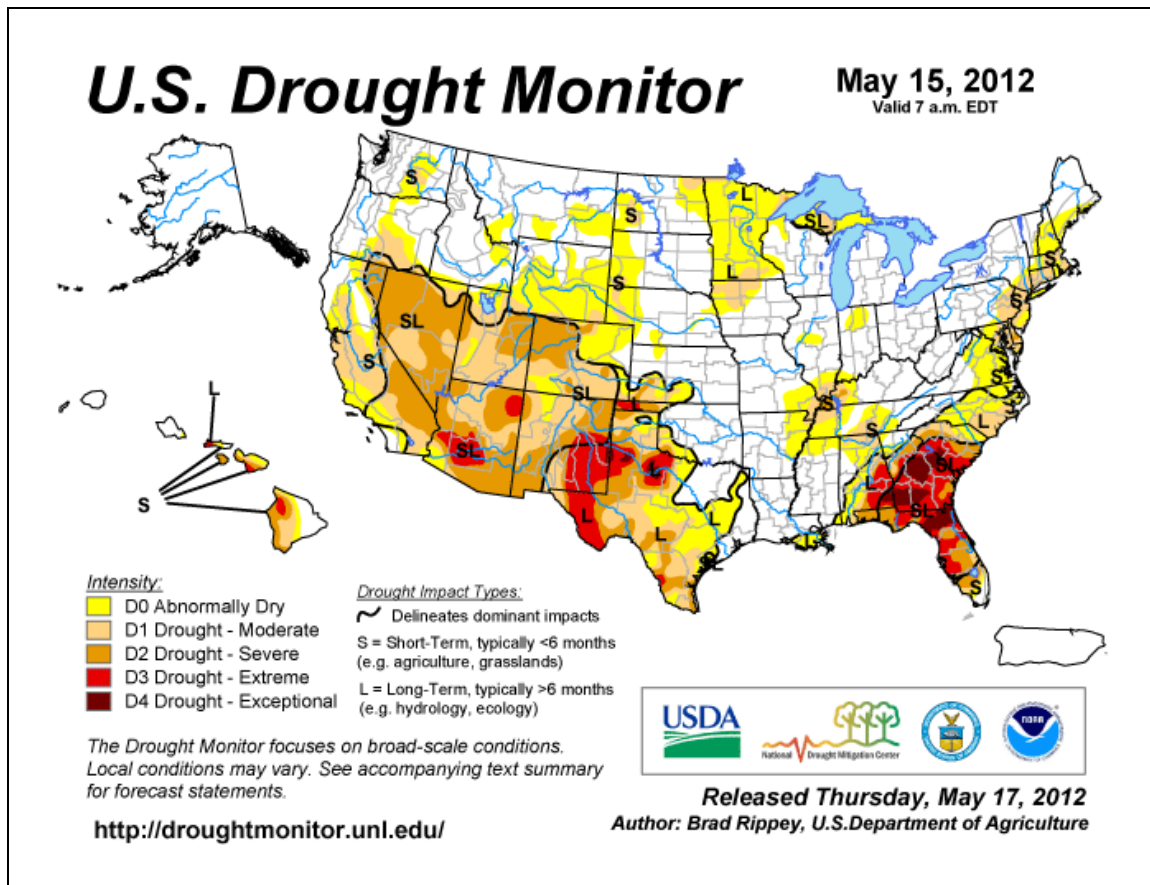


Fig. 4: Current [Drought Monitor](#) weekly summary. The exceptional D4 levels of drought are found over extreme southeastern New Mexico, scattered across north-central Texas and over parts of Georgia, southeast Alabama, and northern Florida. For more drought news, see [Drought Impact Reporter](#). Click for the latest statistics for [California Reservoirs](#). More drought news:

Agriculture

[Keepers buzzing over low bee numbers](#)

Fire

[BLM Gila District begins fire restrictions](#)

[NM governor unveils wildfire-warning system](#)

General Awareness

[Forecasters: Pattern of stormy afternoons herald beginning of local rainy season](#)

[The bad news of a tornado-less April? Not much rain](#)

Plants & Wildlife

[Crews to count drought-related dead trees in Texas](#)

Relief, Response, & Restrictions

[Cape Coral council approves emergency water restrictions](#)

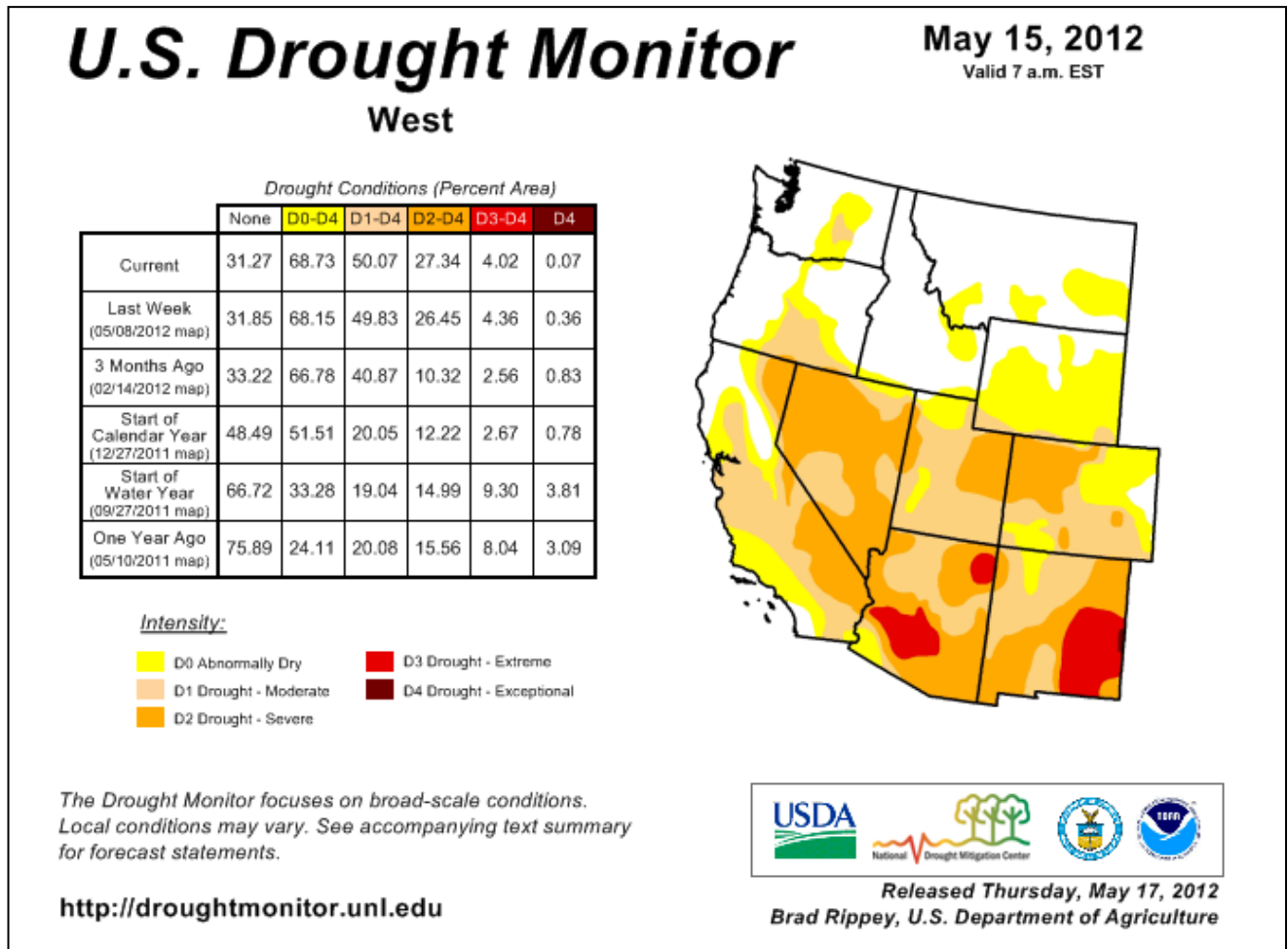


Fig. 4a: Drought Monitor for the [Western States](#) with statistics over various time periods. Note slight deteriorate in D0 through D2 categories this week.

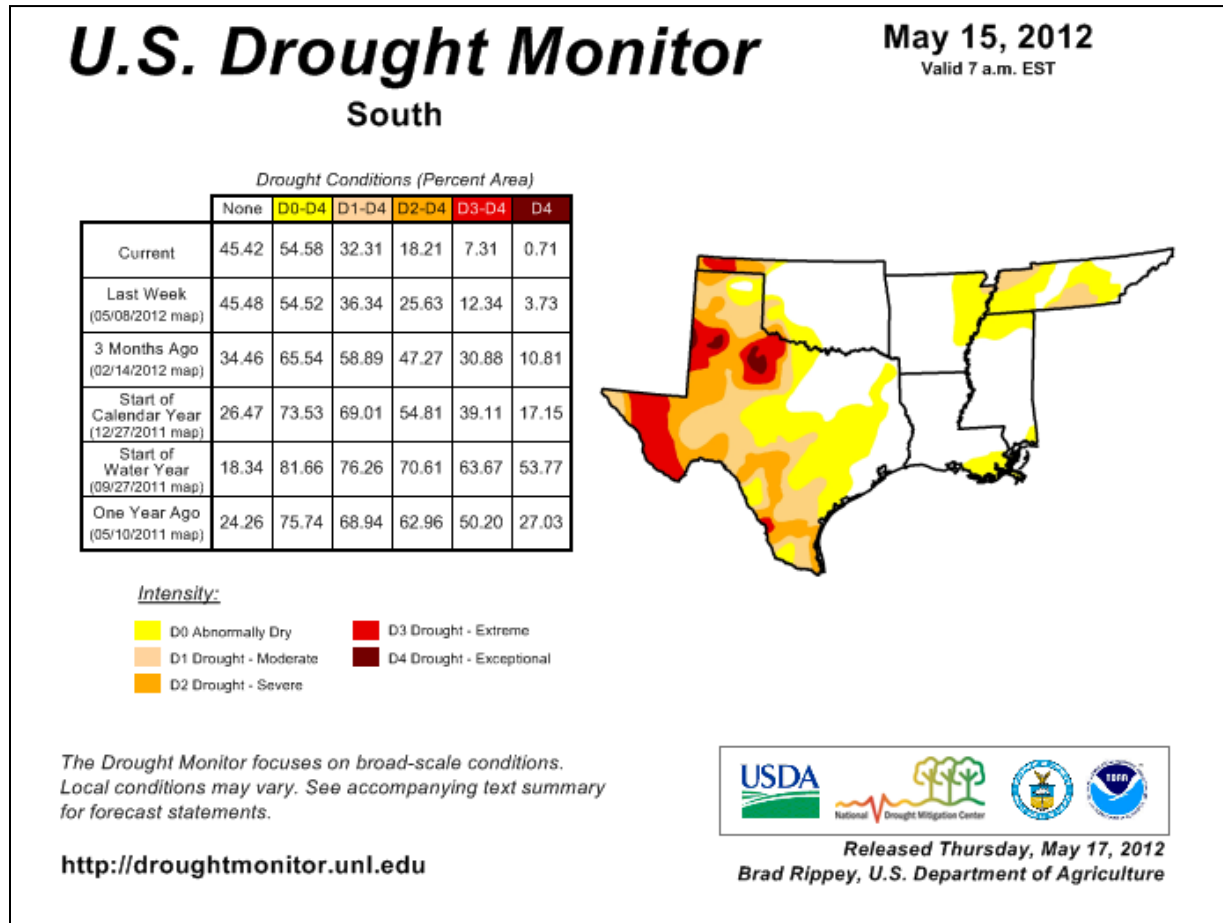


Fig. 4b: Drought Monitor for the [South-Central States](#) with statistics over various time periods. Note some improvements this week in D1-D4 drought categories.

What a difference a year makes: Texas: Midland received 2.45" of rain on May 10, 2012. That represented the wettest day in Midland since June 29, 2010, when 2.61" fell. Last year, during the historic drought of 2011, Midland received precipitation totaling just 0.16" during the first seven months of the year and did not reach the 2 ½-inch mark until October 8. Through May 10, 2012, Midland's year-to-date precipitation reached 4.03 inches (140 percent of normal). In 2011, Midland's precipitation did not surpass the 4-inch mark until December 3.

In 2011, San Angelo, TX (SJT) received 9.21" of rain (46% of normal), its 3rd driest year ever on record, and the driest since 1956.

On Tuesday, May 8, 2012, SJT exceeded that value. In fact, it has done so with a bang. With 11.81" as of yesterday, SJT is now on pace for its 3rd wettest year on record, and sits at nearly 200% of normal YTD. Only 1926 and 2007 were wetter.

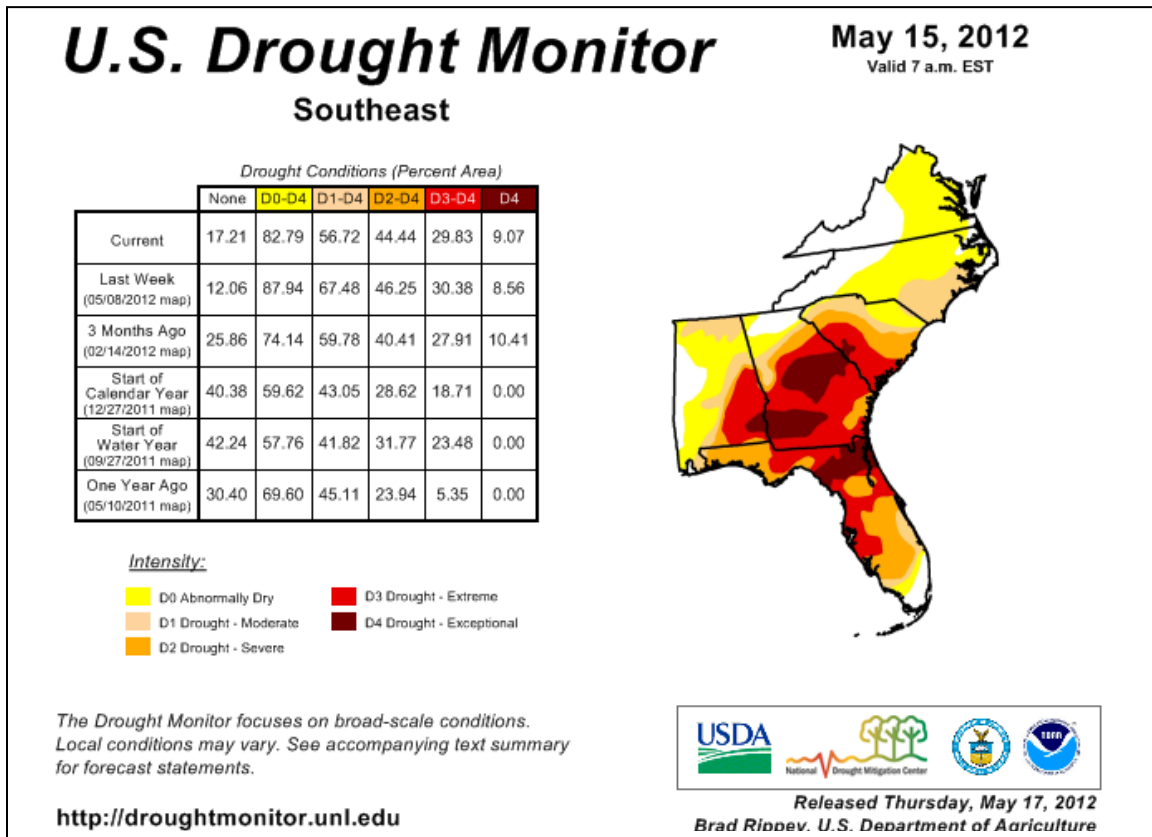
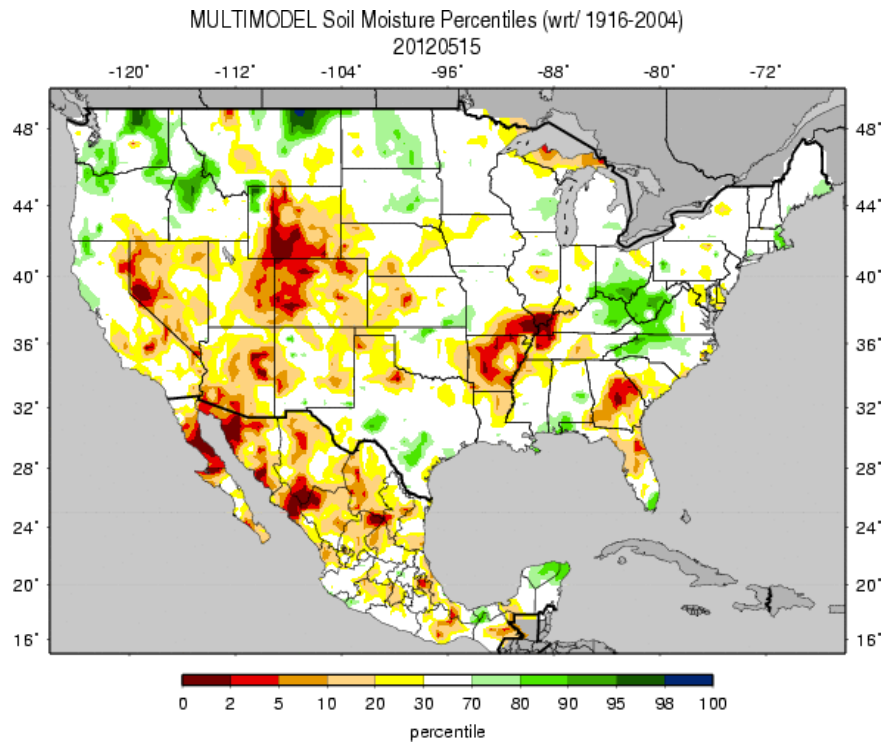
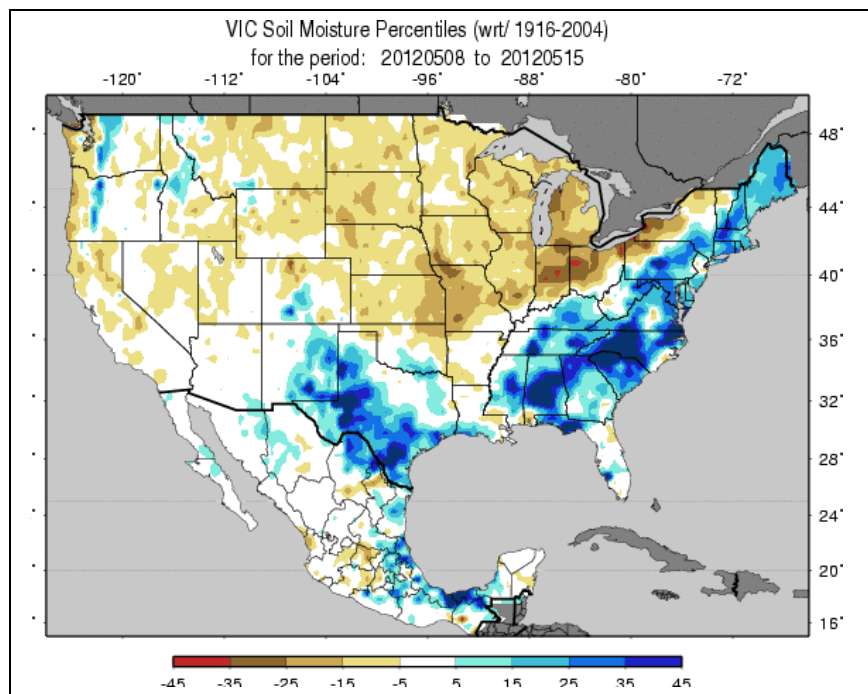


Fig. 4c: Drought Monitor for the [Southeastern States](#) with statistics over various time periods. Note slight deterioration in D4 but some improvement in D0-D3 this week.

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Figs. 5: Soil Moisture ranking in **percentile** as of 15 May shows scattered pockets of dry conditions over the Southeast, mid-Mississippi River Valley, Central Rockies, and Western Great Basin. Note that as snow melts over the Cascades and Northern Rockies, increases in soil moisture are starting to be reflected.



Figs. 5a: Soil Moisture **change** during the past week reveals significant increases East Coast States and Texas and drier elsewhere. Snow melt over the Cascades is now readily apparent.

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

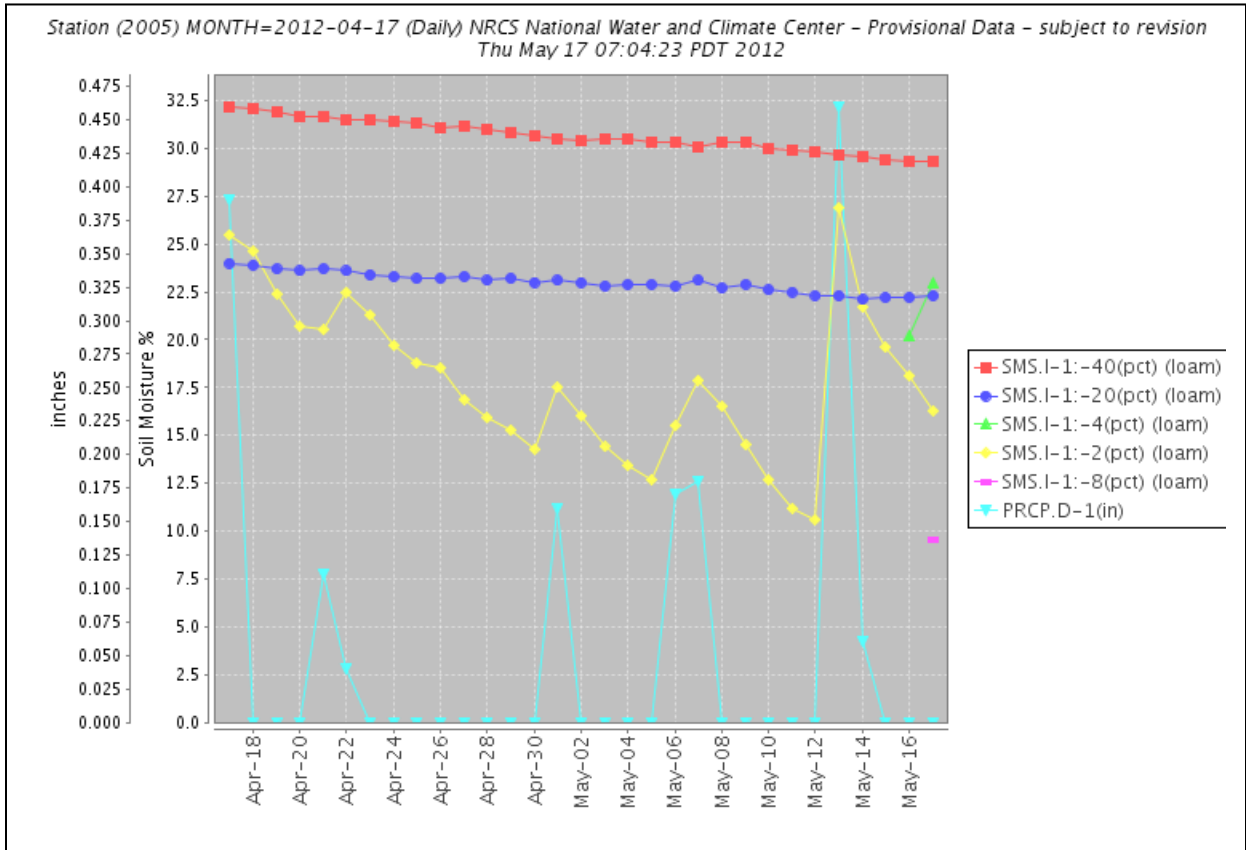


Fig. 6: This NRCS resource shows a site over [western Kentucky](#) with soil moisture responding to recent rains near the surface but not penetrating to lower depths.

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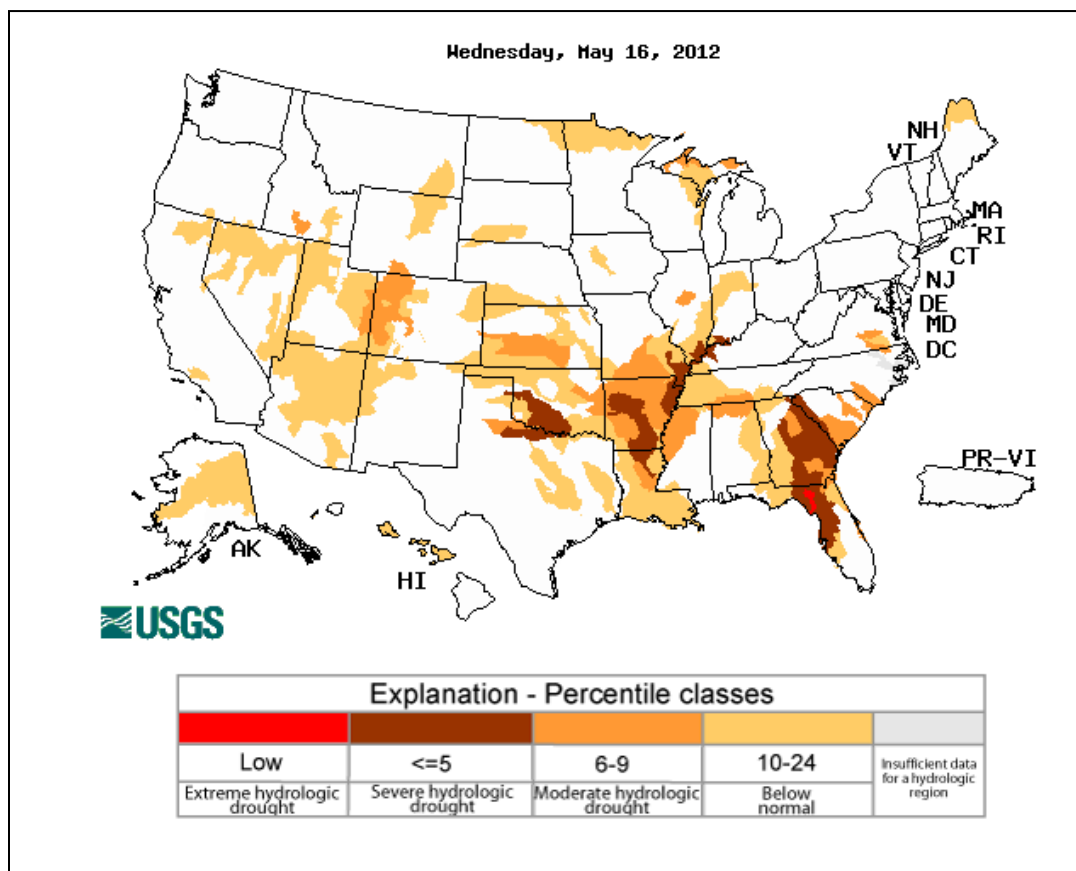


Fig. 7: Map of below normal 7-day average streamflow compared to historical streamflow for the day of year. **Extreme** conditions exist over northern Florida this week.

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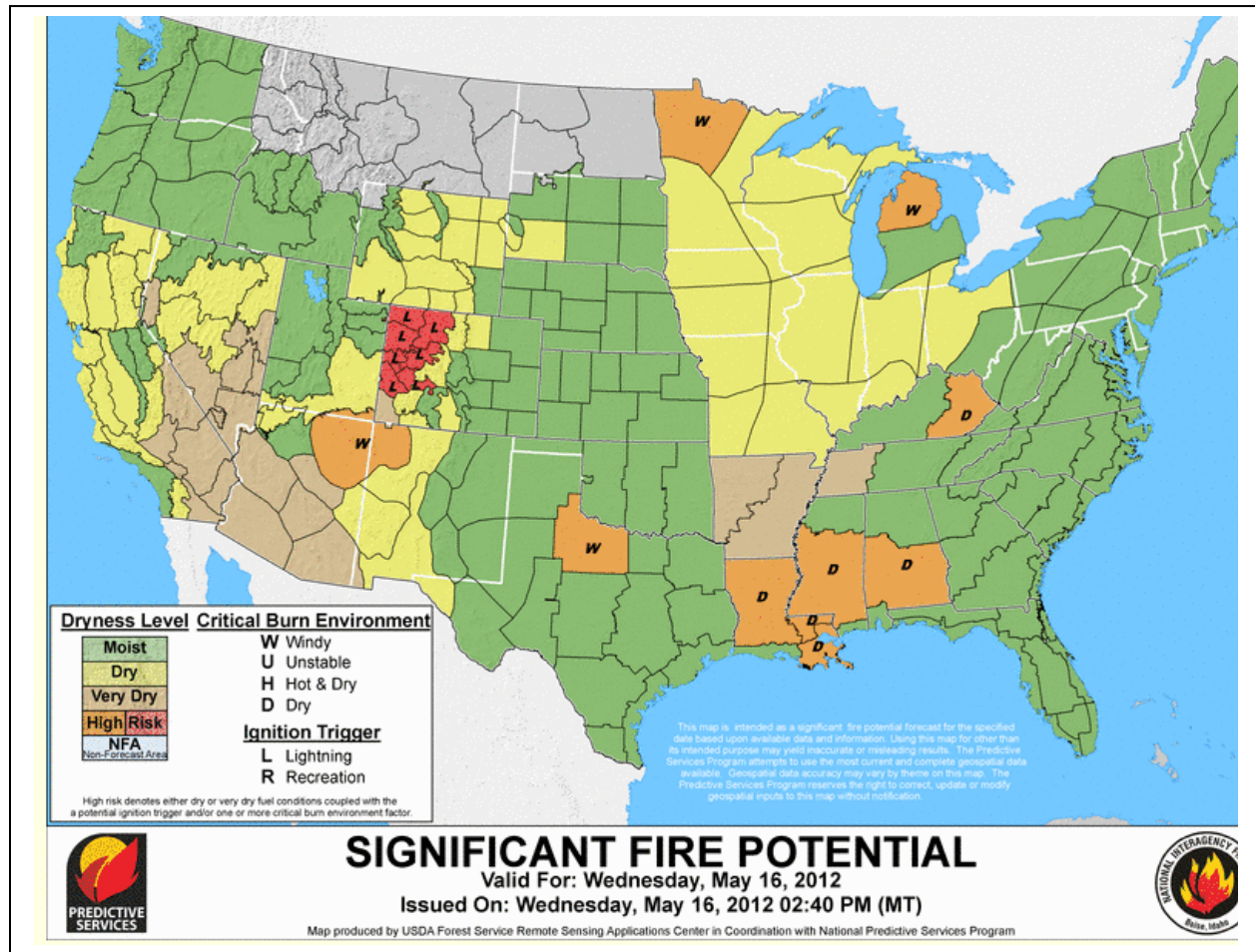
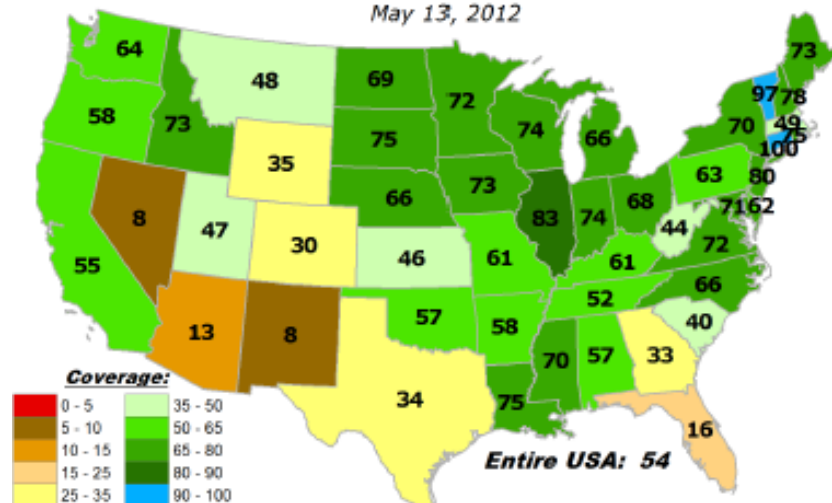


Fig. 8: Significant fire potential from yesterday. This resource also provides forecasts out to 7 days.

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Percent of Pasture & Range Land in "Good" or "Excellent" Condition
May 13, 2012



Percent of Pasture & Range Land in "Poor" or "Very Poor" Condition
May 13, 2012

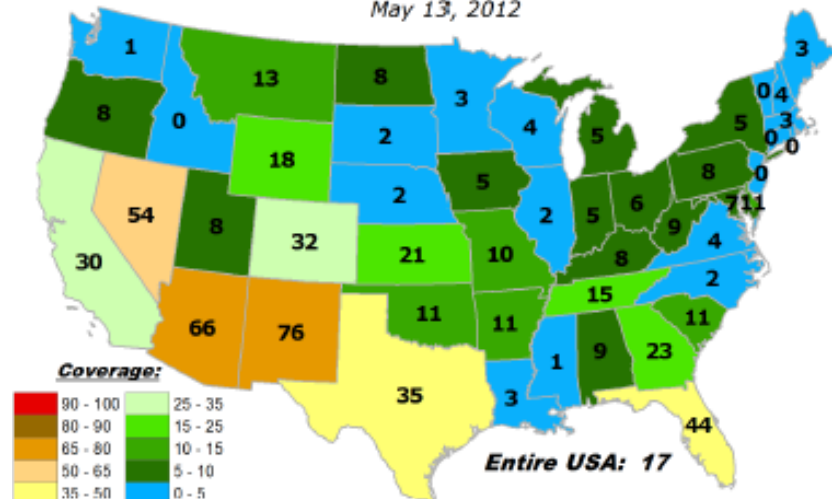


Fig. 9: Pasture and range land conditions and changes during the past week. Nevada and New Mexico have the least good or excellent conditions and Arizona and New Mexico have the poorest conditions by area.

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National Drought Summary -- May 15, 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: Highly beneficial rainfall brought additional drought relief to the south-central United States and began to chip away at short-term precipitation deficits in the mid-Atlantic and Northeastern States. Parts of the Southeast also experienced drought relief, but little rain fell in a core drought area centered on central and southern Georgia and northern Florida. In the Midwest, a dry week followed early-May rainfall. Dry conditions also prevailed across much of the West.

The East: Much-needed rain put a significant dent in short-term dryness (D0) and moderate to severe drought (D1 and D2) across the mid-Atlantic and Northeastern States. In fact, rain eradicated nearly all of the D2 in the northern Atlantic coastal plain. Farther south, rain provided drought relief in many areas, especially from parts of Alabama into northern Georgia and the Carolinas. Some of the most widespread heavy rain affected North Carolina, where totals of at least 4 to 6 inches were common across the central one-third of the state. Meanwhile, only light showers dotted the core area of extreme to exceptional drought (D3 to D4) across the lower Southeast. For the year ending May 15, 2012, Augusta, Georgia, received only 22.44 inches of rain. The previous driest such period on record occurred a year ago, from May 16, 2010 – May 15, 2011, when 29.72 inches fell. At times, early-season heat has aggravated drought conditions in the lower Southeast. For example, recent daily-record highs in Florida included 95°F (on May 11) in Ft. Myers and 94°F (on May 12) in Sarasota-Bradenton.

The Mid-South: “Flash drought” conditions began to develop in an area centered on the lower Ohio Valley and the northernmost portion of the Mississippi Delta. The term “flash drought” refers to acute short-term dryness, often aggravated by above-normal temperatures. A decline in crop conditions has been noted across the Mid-South, with 10% of the Arkansas rice crop rated in very poor to poor condition by May 13, according to USDA. Some of the most significant drought was noted across western Kentucky, where severe drought (D2) expanded. Drought also began to creep northward into southern Illinois.

The Midwest: Mostly dry weather returned, following a period of beneficial rainfall in late April and early May. There were only minor changes to the depiction of dryness (D0) and moderate drought (D1). A core area of dryness and drought still existed across the upper Midwest, including most of Minnesota and northern Iowa.

The Plains: Much of Texas, except northern areas, experienced substantial drought relief. Widespread 2- to 4-inch totals were noted across southern and western Texas, primarily from May 10-12, allowing for a broad improvement in the drought depiction. In the vicinity of Houston, Texas, May 11-12 totals included 9.83 inches at Sugar Land and 6.23 inches at Hobby Airport. Despite some rainfall on the southern High Plains, winter wheat continues to struggle, with 39% of the Texas crop rated in very poor to poor condition on May 13. Farther north, some

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modest expansion of dryness (D0) was observed across the northern and central Plains, as a relatively wet April was followed by a rather dry first half of May.

The West: Parts of southern and eastern New Mexico received widespread, locally heavy precipitation, but dry weather covered the remainder of the West. The drought impact type was changed to long term (L) across southern New Mexico, where substantial rain fell. Elsewhere, relatively minor changes were highlighted by a modest expansion of severe drought (D2) in northwestern Arizona and southern Nevada, and a slight expansion of severe drought in north-central Colorado.

Hawaii, Alaska and Puerto Rico: Currently, there is neither dryness nor drought depicted in Alaska and Puerto. The drought situation in Hawaii remained virtually unchanged, except for the expansion of severe drought (D2) on the southern portion of the Big Island due to deteriorating pasture conditions, and the removal of some lingering dryness (D0) from eastern Oahu.

Looking Ahead: During the next 5 days (May 17-21), periods of rain will continue to provide drought relief in the southern Atlantic States, particularly across Florida's peninsula. In Florida, 5-day rainfall totals could reach 1 to 3 inches, with locally higher amounts. Meanwhile, generally light to moderately heavy showers will spread across the northern and central Plains and the upper Midwest, although most totals will be less than an inch. Elsewhere, mostly dry weather can be expected through May 21 from southern California to the southern Plains, and from the Mid-South into the Ohio Valley. The NWS 6- to 10-day outlook for May 22-26 calls for near- to above-normal temperatures nationwide, except for cooler-than-normal conditions in Florida and the Northwest. Meanwhile, below-normal rainfall in the Northeast and from California to the central and southern Plains will contrast with wetter-than-normal weather along the southern Atlantic Coast and across the nation's northern tier from the Pacific Northwest to Minnesota.

Author: [Brad Rippey, U.S. Department of Agriculture](#)

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)

Updated May 16, 2012

[Latest NOAA CPC Seasonal Outlook Released Today!](#)