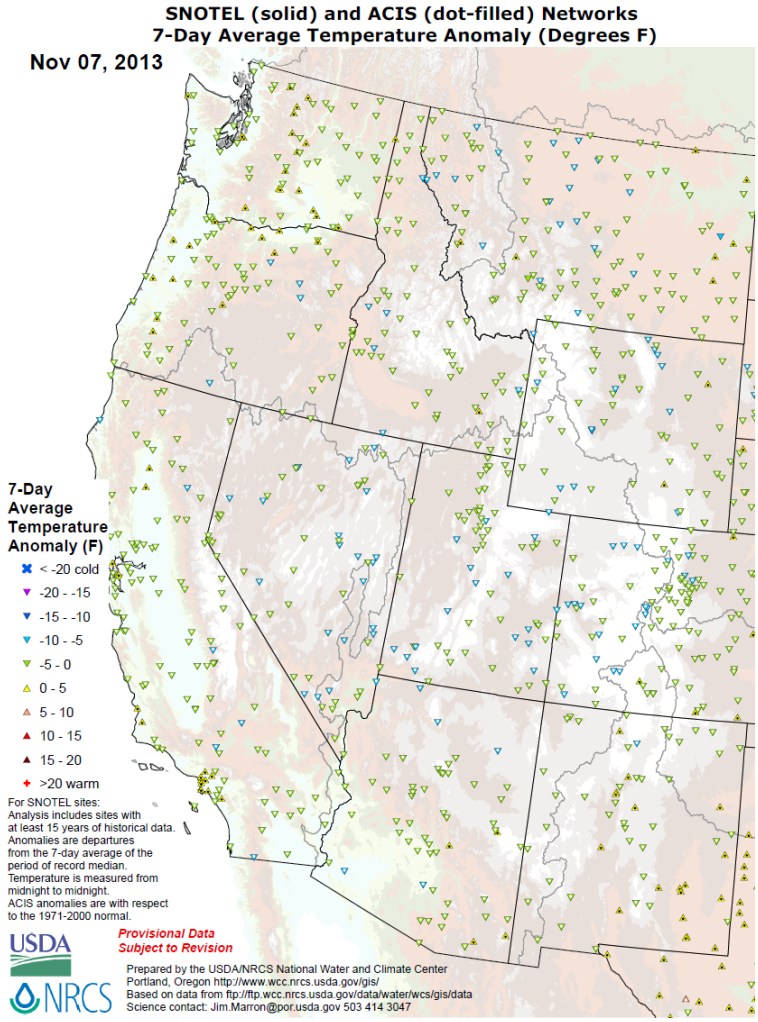
United States Department of Agriculture

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

Weekly Snowpack / Drought Monitor Update

November 07, 2013

Temperature

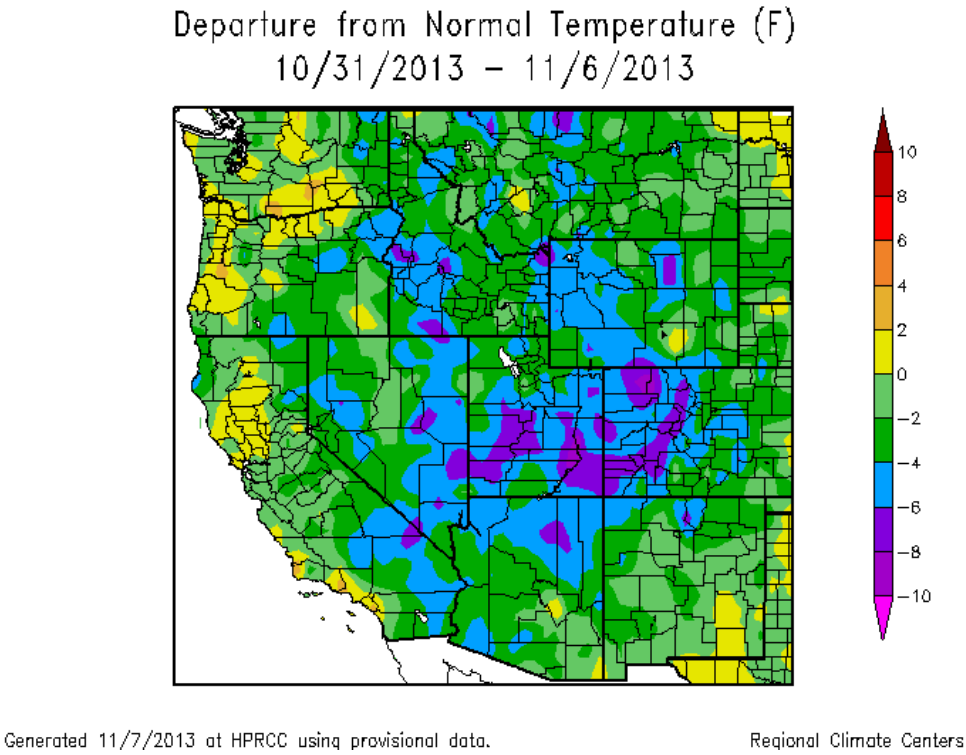


SNOTEL and ACIS 7-day temperature anomaly map shows temperatures below normal across the West.

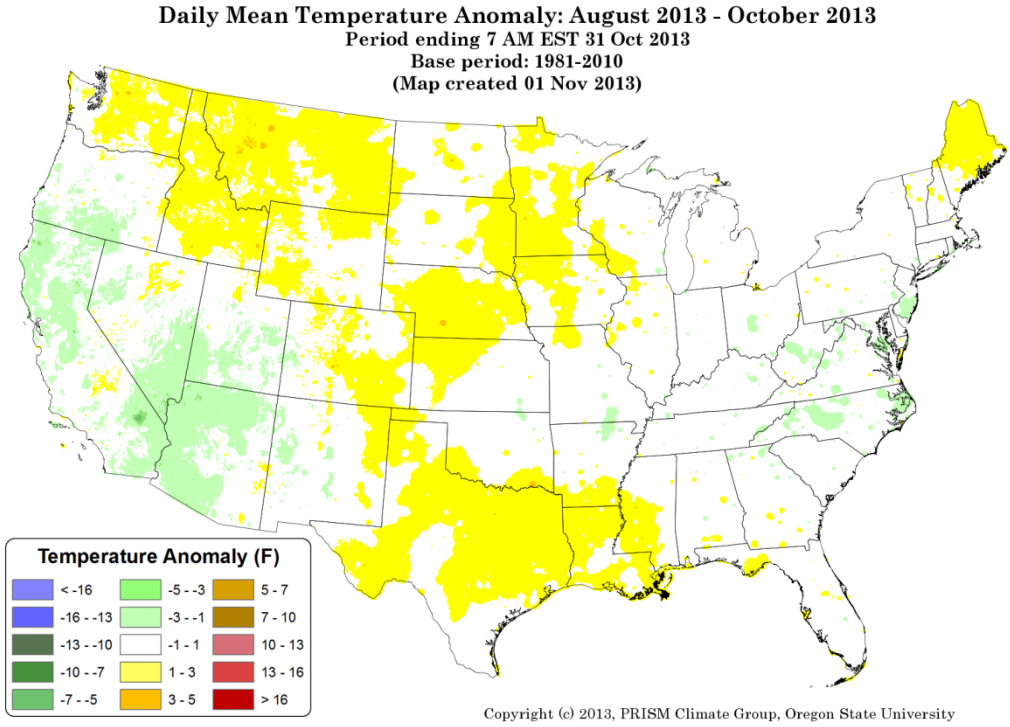
Click on map to see latest available update.

ACIS 7-day average temperature anomalies, ending November 6, show the greatest positive temperature departures scattered across the west coast states and southern New Mexico (>1°F). The greatest negative departures occurred mainly over parts of Utah and Colorado (>-6°F).

For more figures, see the latest Western Water Assessment's Intermountain West Climate Dashboard. See the Westwide Drought Tracker.



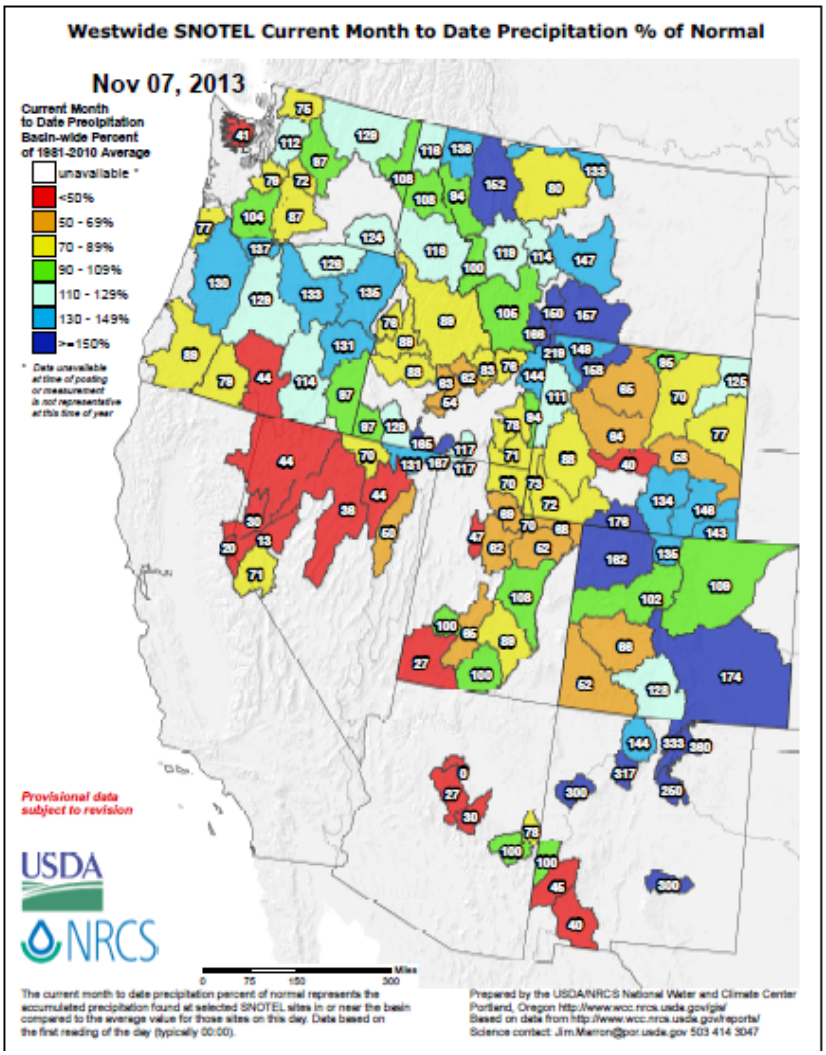
This preliminary PRISM temperature map contains all available network data, including SNOTEL data, and will be updated periodically as additional data become available and are quality controlled.



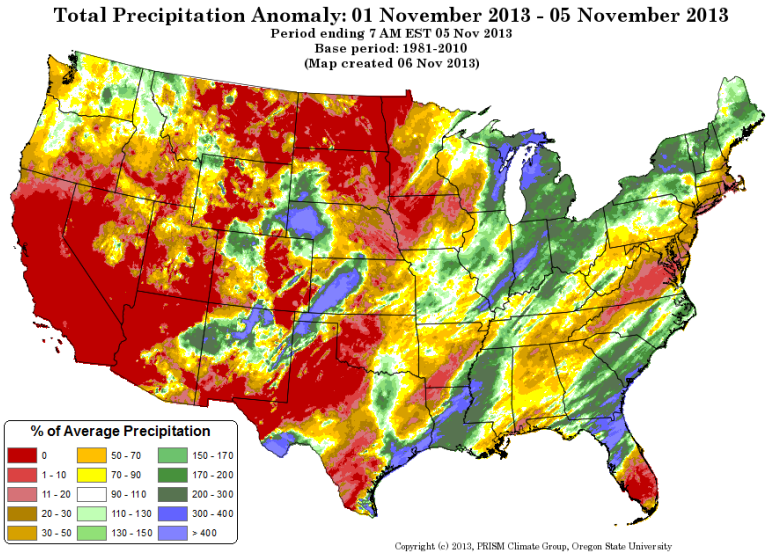
The past three months' (August through October) average temperatures have been near normal across the U.S. Slightly cooler conditions prevailed over the Southwest and California, while slightly warmer conditions dominated from the Pacific Northwest and the Great Plain states. Maine was also slightly warmer than the long-term average.

Precipitation

SNOTEL month to date, thus far, early November has provided scattered abundant moisture across the West but many basins have still not received much in the way of precipitation.



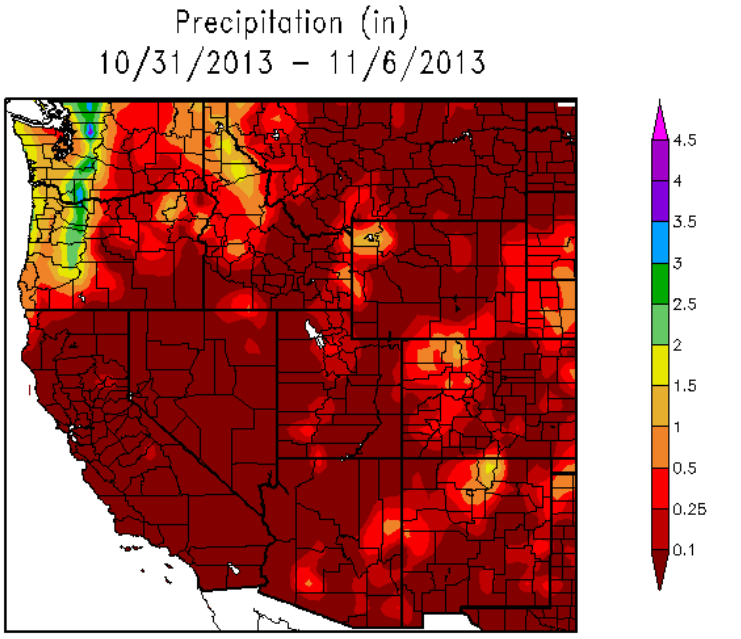
Click images for enlarged latest available update



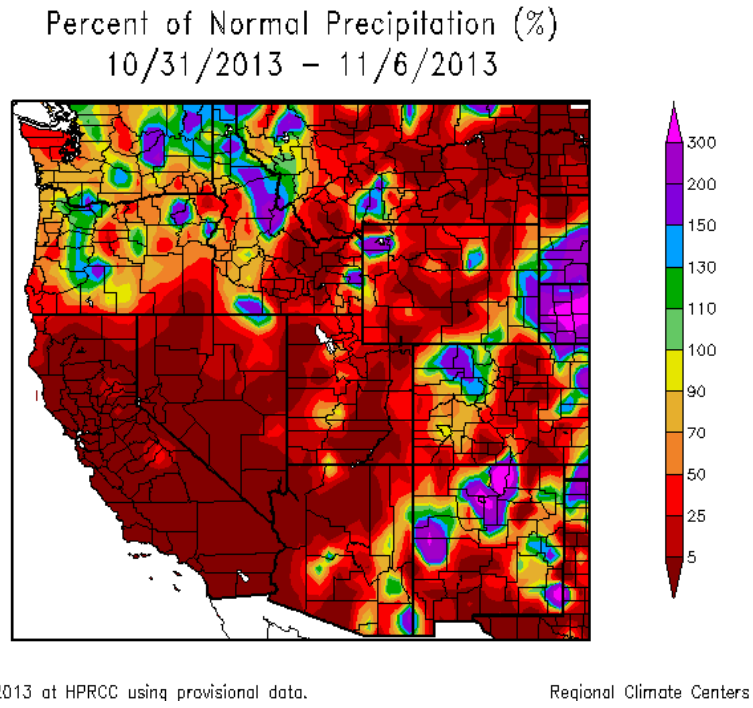
Thus far for early November, precipitation has been largely absent over California, the Great Basin, the northern high plains, much of northern Texas, Florida, and Virginia. Moisture has occurred in abundance over parts of western Nebraska, from northern North Mexico to central Kansas, from the western Gulf States northward to the Great Lakes, and over parts of the Southeast and New England.

This preliminary daily PRISM precipitation contains all available network data, including SNOTEL data, and is updated periodically as additional data become available and are quality controlled.

ACIS 7-day average precipitation amounts for the period ending November 6 show heavier precipitation over the northern Cascades. Some early snow accumulations occurred at the highest elevations across the West. Elsewhere, scattered precipitation totaling up to an inch fell across parts of the Rockies. Elsewhere little, if any, precipitation fell.



This map shows that precipitation which occurs generally results in normal to above normal amounts for this time of year.

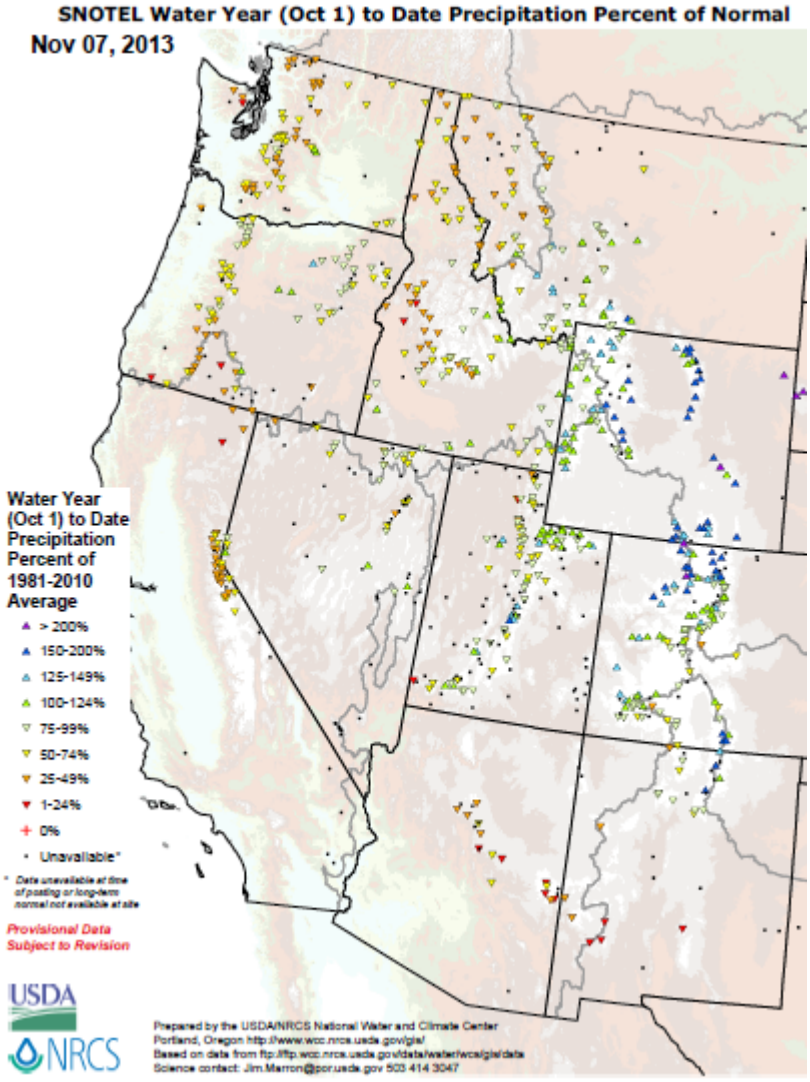


For the 2014 Water Year that began on October 1, 2013, the pattern looks like El Nino, but it is still too early to determine if it will remain drier over the Pacific Northwest.

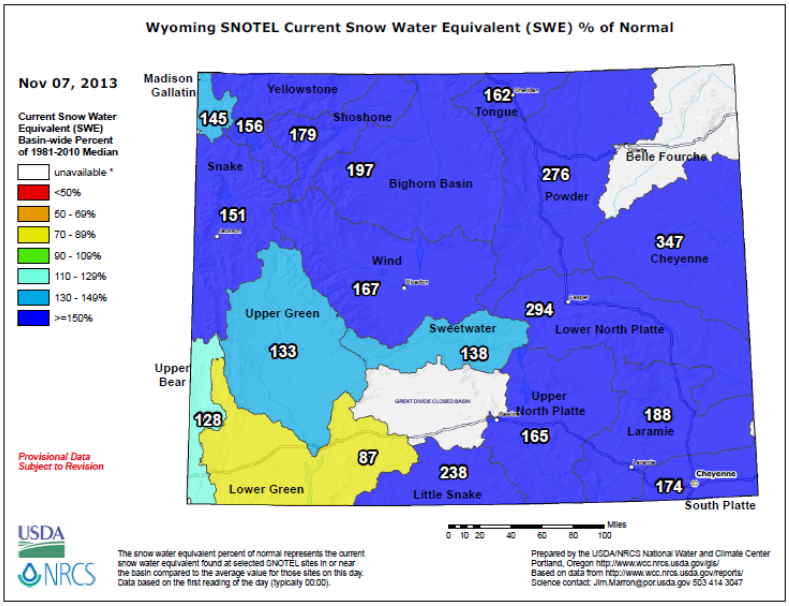
Wyoming (see map below) and Colorado are off to a good start with abundant snow accumulation.

The Rocky Mountains in Montana, the Sierra Nevada, and Cascades reflect the opposite conditions.

For additional information, daily reports by SNOTEL site are available here.



Click image for latest available update



Conditions as of November 7, 2013. Daily updates.

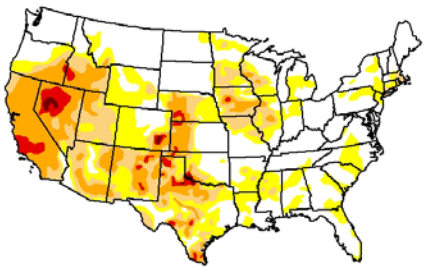
Weather and Drought Summary

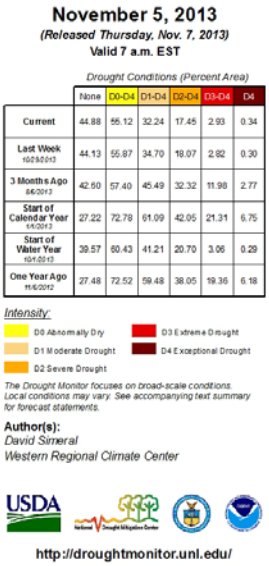
National Drought Summary – October 29, 2013

The following **Weather and Drought Summary** is provided by this week's NDMC Drought Author, Brian Fuchs, from the NDMC).

Important update: If you are currently displaying any of the U.S. Drought Monitor maps on your website, there is a new way of doing so. Visit the Map Service page for more information and also to obtain the appropriate HTML code. The old method will continue to work until Monday, December 2nd but will be discontinued beyond that point.

USDM Map Services: http://droughtmonitor.unl.edu/MapsandDataServices/MapService.aspx





Current Drought Monitor weekly summary. The exceptional D4 levels of drought are scattered across NV, CO, TX, and OK.

The latest drought indicator blend and component percentiles spreadsheet is a great resource for climate division drought statistics. This link is for the latest Drought Outlook (forecast). See climatological rankings.

For more drought news, see Drought Impact Reporter.

Drought Management Resources (√):

- ✓ Watch AgDay TV
- ✓ **Drought Impacts Webinar Series**

National Drought Related News (•):

- ADM's 3rd-Quarter Profit Rises on Accounting Credit -- Update - Oct 29.
- Midwest, Southern Plains Remain in Drought - Oct 31, **U.S**.
- Heat, Drought Draw Farmers Back To Sorghum, The 'Camel Of Crops' - Oct 31, **U.S**.
- Drought still impacting Missouri River management - Oct 29, **Upper Missouri River Basin**.

A comprehensive narrative describing drought conditions across other parts of the nation can be found toward the end of this document. For drought impacts definitions for the figures below, click here.

The West: During the past week, most of the West was dry with the exception of the Pacific Northwest where one-to-two inches of rain fell across the coastal lowlands of Oregon and Washington. Snow showers were observed over the high elevations of the Cascades, Northern and Central Rockies, and Intermountain West. According to the Natural Resource Conservation Service SNOTEL network, mountain snowpack conditions are off to a good start in Oregon, northern Idaho, southwestern Montana, Wyoming, and northern Colorado. Early season snowfall and improving moisture conditions led to one-category improvements in areas of Moderate Drought (D1) and Severe Drought (D2) in Wyoming, northeastern Utah, and northwestern Colorado. The vast majority of the West experienced below normal temperatures during the past week.

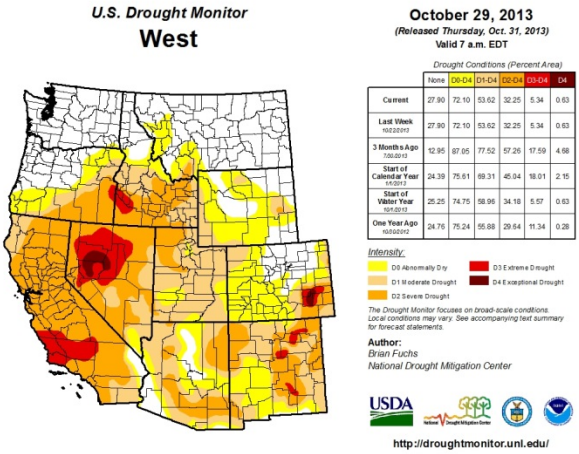
Temperatures: The past three months' (August through October) average temperatures have been near normal across the U.S. Slightly cooler conditions prevailed over the Southwest and California, while slightly warmer conditions dominated from the Pacific Northwest and the Great Plain states. Maine was also slightly warmer than the long-term average.

Precipitation: Much of the Interior West (excluding California and southern Arizona) and central and northern plains experienced considerably great than average moisture during the past three months. On the otherhand, northern texas, southern Oklahoma, and much of the eastern half of the nation saw below normal rains.

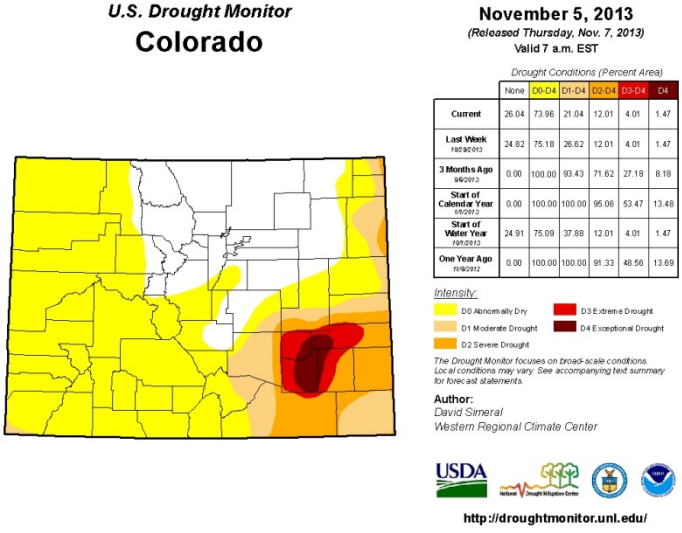
- ✓ Drought Monitor for the Western States
- ✓ Drought Impact Reporter for New Mexico
- ✓ California Data Exchange Center & Flood Management
- ✓ NIDIS Upper Colorado River Regional Drought Earlier Warning System
- ✓ Intermountain West Climate Dashboard
- ✓ Great Basin Dashboard

Western Drought News:

- Lowest rainfall in 143 years - Oct 27, **Southern coast of California**.
- It's a busy season for bears in Nevada - Oct 28, **Nevada**.
- California reservoirs in dire need of a wet winter - Oct 27, **California**.
- Colorado River faces critical snow season - Oct 26, **Colorado River basin**.
- Water Action Plan created to help avoid statewide crisis - Oct 31, **California**.



Note that there was no significant change this week.



No changes have occurred during the past week.

State with D-4 Exceptional Drought

- Protecting Colorado's water future

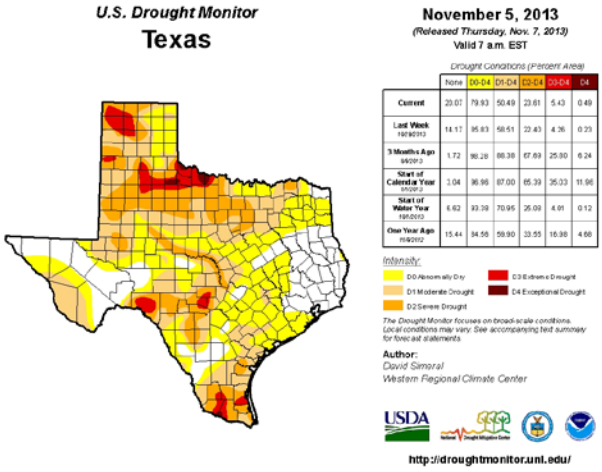
State with D-4 Exceptional Drought

- ✓ Texas Drought Website.
- ✓ Texas Reservoirs.

- Startling photos highlight impact of Texas drought - Oct 28, **Texas**. See the pictures on Flickr

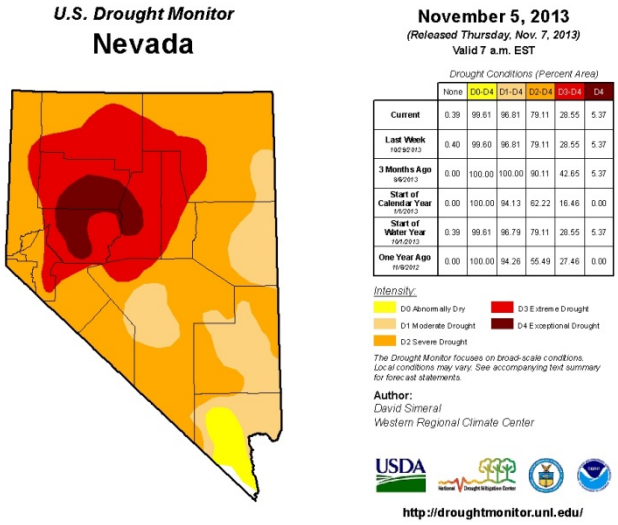
- A River in Trouble, a Question of Who Has to Sacrifice - Oct 31, **The Colorado River in Texas**.

- Drought affecting Texas water utilities' revenues - Oct 29, **Texas**.



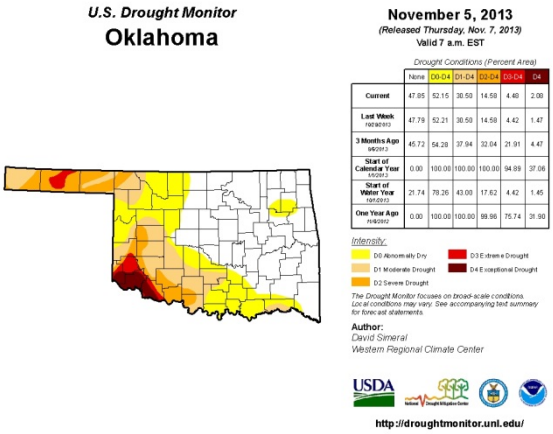
Slight deterioration in D2 to D4 has occurred during the past week.

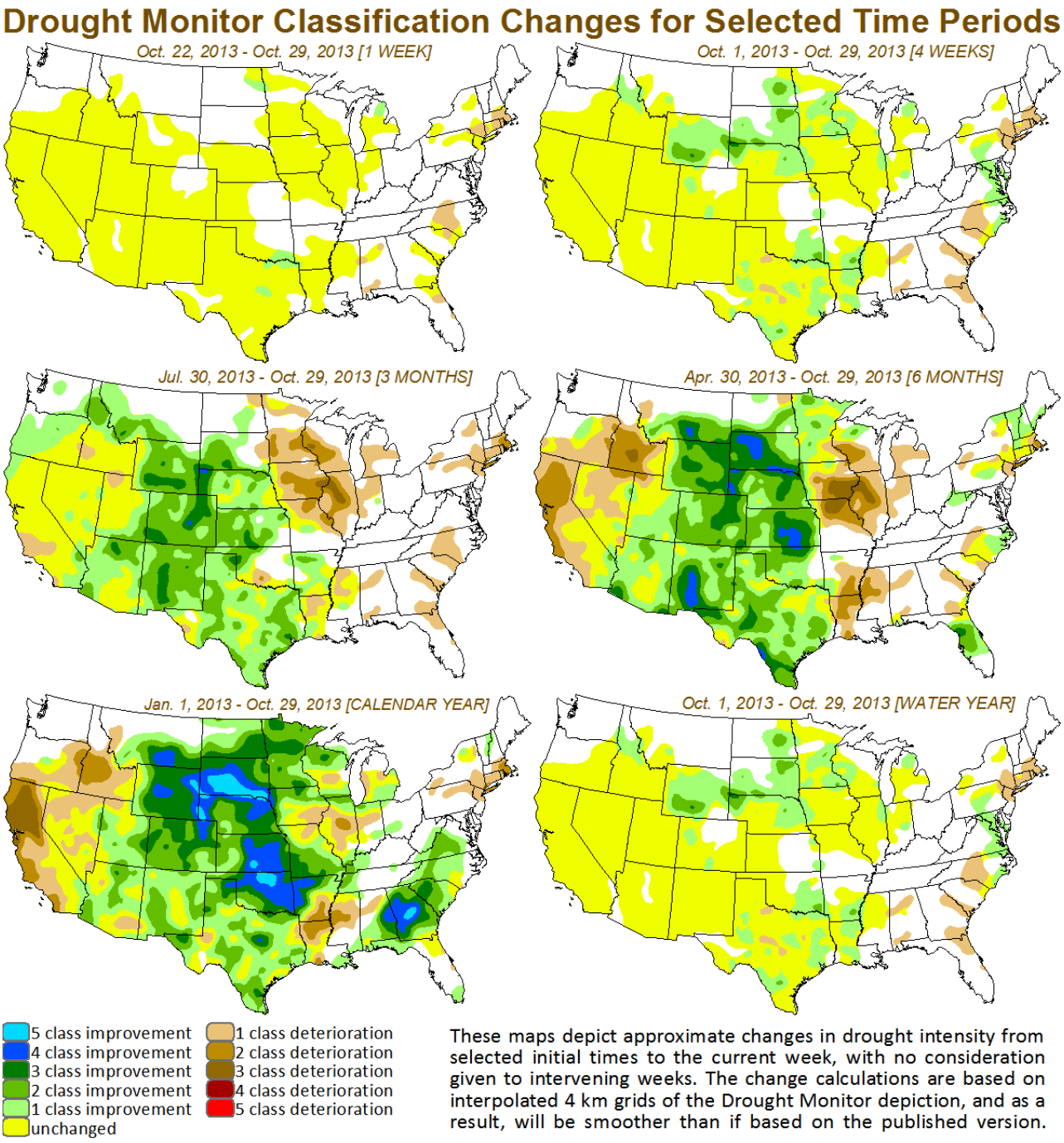
State with D-4 Exceptional Drought



No changes have occurred during the past week.

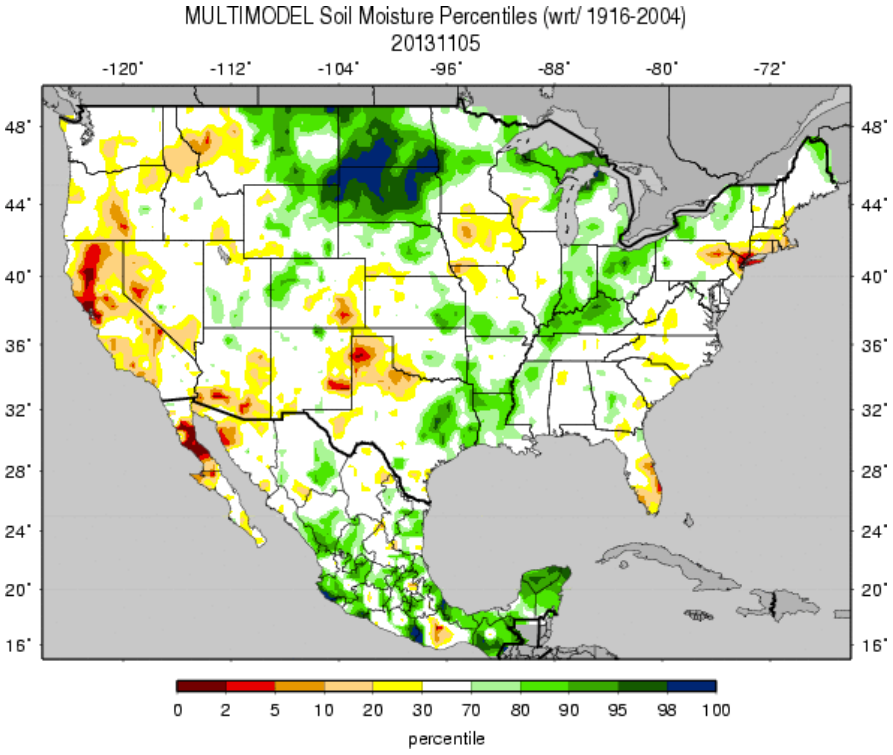
Note slight deterioration in D4 this past week.





Drought Monitor classification changes for various time periods through October 29, 2013. Changes occur at a slower pace this time of year, but looking at the longer term, improvement has been widespread over the Great Plains

Soil Moisture

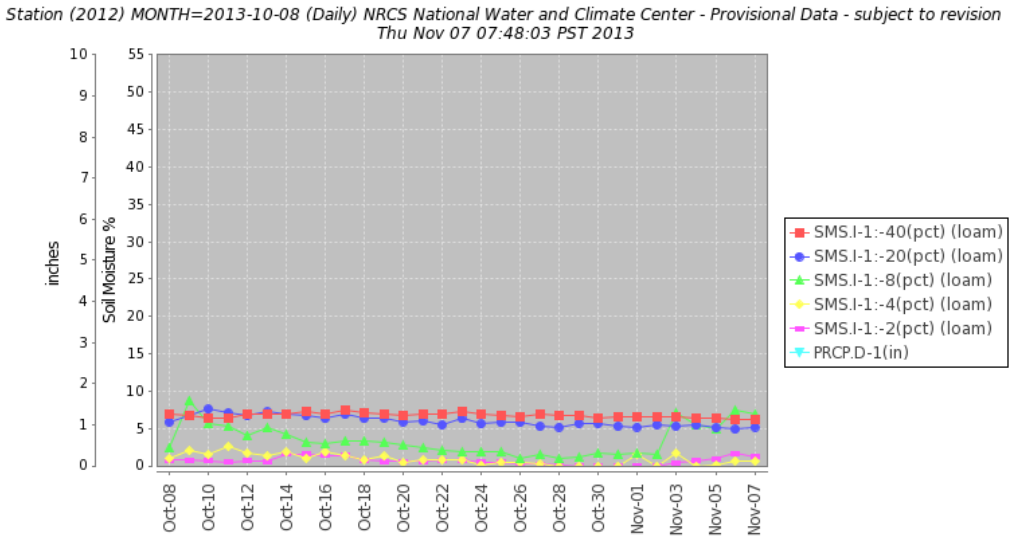


Soil moisture ranking in percentile as of November 5 shows considerable moisture over the northern Great Plains. Excessive dryness is noted over the panhandle of Texas, northern California, and the New York City area.

Useful Hydrological Links: *Crop Moisture Index; Palmer Drought Severity Index; Standardized Precipitation Index; Surface Water Supply Index*; *Weekly supplemental maps*, *Minnesota Climate Working Group; Experimental High Resolution Drought Trigger Tool;* NLDAS Drought Monitor; Soil Moisture.

Soil Health-unlock your farm's potential

Soil Climate Analysis Network (SCAN)



This NRCS resource shows a site over central Florida. Soil conditions are very dry from 2 to 40 inch depths.

Useful Agriculture Links: *Vegetation Drought Response Index; Evaporative Stress Index; Vegetation Health Index; NDVI Greenness Map; GRACE-Based Surface Soil Moisture; North American Soil Moisture Network. Monthly Wild Fire Forecast Report.*

Complete National Drought Summary

The following complete **Weather and Drought Summary** is provided by this week's NDMC Author: David Simeral, from the Western Region Climate Center.

Summary: This U.S. Drought Monitor week saw widespread improvements across portions of the South and Midwest. In the South, heavy rains fell late last week across portions of Texas, Louisiana, and Arkansas. The heaviest accumulations were observed in East Texas, South Central Texas, and the Upper Gulf Coast region where rainfall amounts ranged from two-to-six inches with some isolated locations receiving ten-to-twelve inches. The heavy rains swelled rivers and creeks –triggering flash flooding in the state's capitol, Austin, and surrounding areas. In the Southern Plains, the same system delivered heavy rainfall across eastern Kansas and eastern Oklahoma. In the Midwest, two-to-four inches of rain fell across portions of Illinois, Indiana, Iowa, and Missouri helping to ease drought conditions. Across most of the Eastern tier, precipitation was modest with accumulations generally less than an inch and half. In the West, a cool and dry pattern was observed over most of the region with the exception of rain in the coastal lowlands of Oregon and Washington and mountain snow showers across the Cascades, Central and Northern Rockies, and Intermountain West.

Mid-Atlantic The Mid-Atlantic was generally dry during the last seven days with some light rains observed over the region. Short-term precipitation deficits and low streamflows led to slight expansion of areas of Abnormally Dry (D0) in the Piedmont of North Carolina and Virginia as well as in the Valley and Ridge region of Virginia. Temperatures were above normal during the past seven days.

Midwest
Wet conditions were observed over northern Missouri, southeastern Iowa, and central/northern Illinois where two-to-four inches of rain fell late last week. One-category improvements were made in areas of Abnormally Dry (D0), Moderate Drought (D1), and Severe Drought (D2) in Illinois, Indiana, Iowa, and Missouri where streamflow and soil conditions continued to improve. The Upper Midwest remained unchanged on the map for this week. Overall, temperatures throughout the region were slightly above normal.

South
During the past week, torrential rains soaked the eastern-third of Texas, northwestern Louisiana, and southern Arkansas. The highest accumulations were observed in East Texas, South Central Texas, and the Crossroad region of Louisiana where two-to-twelve inches of rain fell. Heavy rains inundated soils in South Central Texas leading to flash flooding across the region, but provided much needed water to local reservoir systems. According to the Weekly Weather and Crop Bulletin (USDA/NOAA), the official observation site in Austin, Texas had the wettest October on record with 13.29 inches. In areas affected by the precipitation event, widespread one and two-category improvements were made in areas of Abnormally Dry (D0), Moderate Drought (D1), and Severe Drought (D2) with a large portion of East Texas returning to normal conditions. In the Big Bend region, light rains led to one-category improvements in areas of Abnormally Dry (D0), Moderate Drought (D1), and Severe Drought (D2). In the Panhandle and north-central Texas, persistent dry conditions led to slight expansion of areas of Moderate Drought (D1), Severe Drought (D2), Extreme Drought (D3), and Exceptional Drought (D4). In southern Arkansas and Louisiana, improvements were made in areas of Abnormally Dry (D0), Moderate Drought (D1), and Severe Drought (D2). Temperatures were above normal across the region during the past week.

Southeast
The Southeast saw some modest precipitation during the past week with greatest accumulations observed over northern Florida. Short-term precipitation deficits led to the introduction of areas of Abnormally Dry (D0) in South Florida and west-central Georgia. Otherwise, the region remained status quo. Temperatures were above normal during the past week.

The Northeast
The Northeast saw some minor improvements as modest rainfall and lake-effect snow fell across the region leading to the removal of some areas of Abnormally Dry (D0) in New York State. Short-term

precipitation deficits led to expansion of areas of Abnormally Dry (D0) in northeastern Pennsylvania. Strong winds, associated with a frontal passage, were observed at Mt. Washington Observatory in New Hampshire where peak wind gusts reached 130 mph on Saturday. The rest of the region remained unchanged on the map for the week. Temperatures throughout the region were generally below normal during the past seven days.

The Plains
In the northern tier, a generally cool and dry pattern was observed over much of the Dakotas and Nebraska. Near-normal, short-term precipitation totals led to the removal of a small area of Abnormally Dry (D0) in eastern South Dakota. In the southern tier, eastern Kansas and eastern Oklahoma received two-to-four inches of rain late last week, but these rains fell in areas currently not experiencing drought. In southwestern Oklahoma, continued dryness led to the expansion of an area of Exceptional Drought (D4) in Harmon County. During the past week, temperatures in the southern tier were slightly above normal

Hawaii, Alaska and Puerto Rico
The Hawaiian Islands saw some areas of degradation in Oahu and Maui as overall conditions were drier than normal. On the Big Island, above average precipitation for the month of October led to improvements in areas of Severe Drought (D2) and Extreme Drought (D3). Alaska and Puerto remained status quo this week.

State Activities

State government drought activities can be tracked through their drought plans. NRCS Snow Survey and Water Supply Forecasting (SSWSF) Program State Office personnel are participating in state drought committee meetings and providing the committees and media with appropriate SSWSF information. Additional information describing the tools available from the Drought Monitor can also be found at the U.S. Drought Portal.

For More Information

The National Water and Climate Center (NWCC) Homepage provides the latest available snowpack and water supply information. This document is available weekly. CONUS Snowpack and Drought Reports from 2007 are available online. Reports from 2001-2006 are available on 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 Science and Resource Assessment

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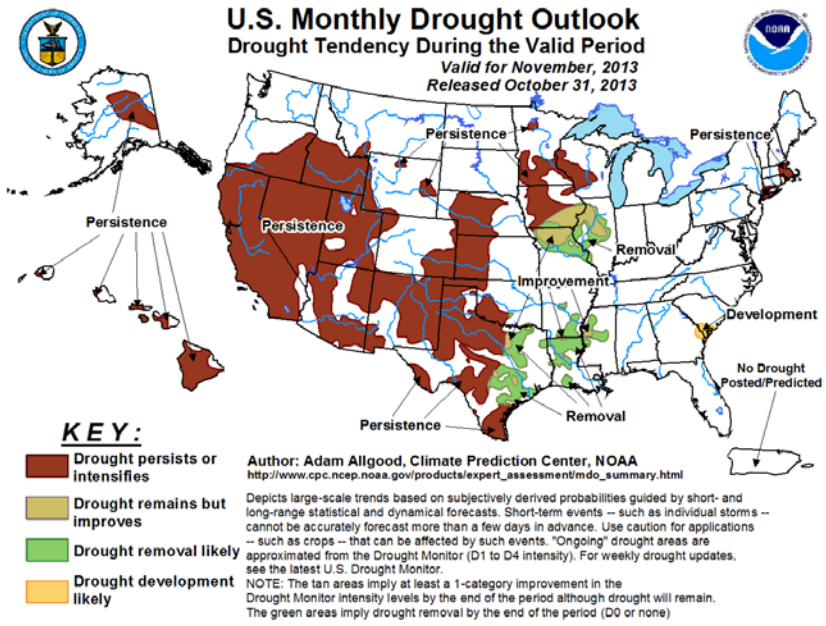
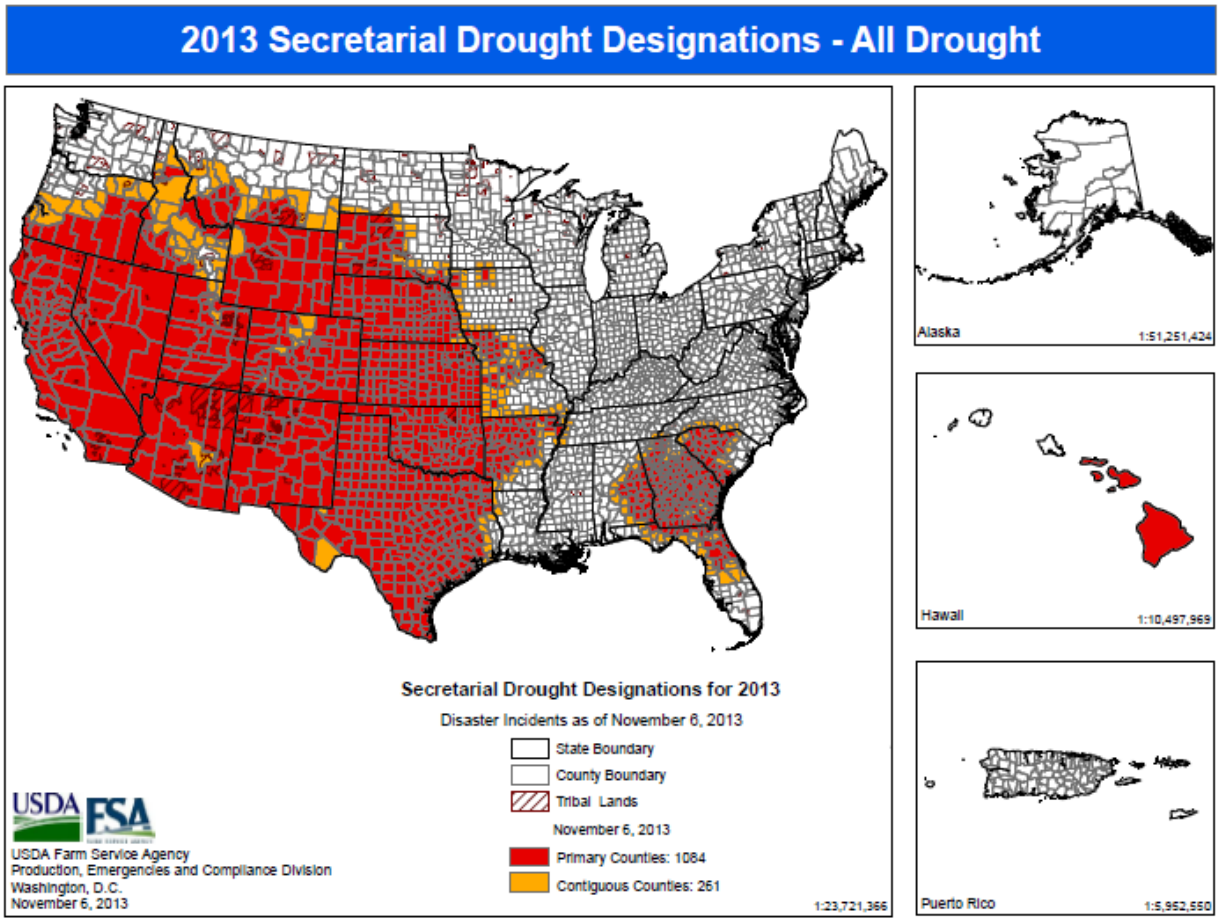
Drought Outlook (Forecast for November)

U.S. Seasonal Drought Outlook for **Novembe**r shows:

- Drought is expected to improve over parts of Iowa, Illinois, and Missouri, as well as over parts of Texas, Arkansas, and Louisiana. Elsewhere, drought persists over much of the West and south-central plains.





Refer to the USDA Drought Assistance website and National Sustainable Agriculture Information Service. Read about the new USDA Regional Climate Hubs.

Supplemental Drought Information

The "Ag in Drought" file that had been previously posted each week by NDMC's Brian Fuchs is now available here. Archived files are available here. Additional U.S. maps are available here.

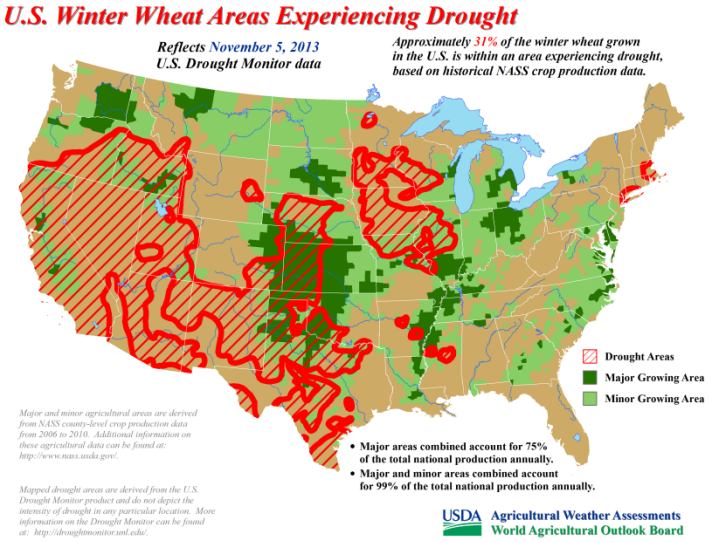
Highlights for the 7-day drought-monitoring period ending 7 am EST on November 5 include:

- Widespread precipitation continued to chip away at drought across the Great Plains and Midwest. Nearly all of the remaining U.S. drought is considered to be long-term in nature, or a combination of long- and short-term effects. Only in the Northeast is drought considered to be a short-term feature, as precipitation deficits have developed over the last couple of months. On November 5, overall U.S. drought coverage stood at 32.24%, down 2.46 percentage points from a week ago. This represents the smallest areal extent of drought in the contiguous U.S. since January 3, 2012.

- Based on the definitions of drought employed in the production the U.S. Drought Monitor, historical U.S. drought coverage should average near 20%. The last time contiguous U.S. drought coverage was below 20% was December 14, 2010.

- On November 3, USDA/NASS reported that 73% of the U.S. corn and 86% of the soybeans had been harvested. Lingering drought remains a concern in a few Midwestern States, including Iowa (68% in drought on November 5), Illinois (38%), Wisconsin (27%), Missouri (26%), and Minnesota (26%).

- Cattle in drought (36%), winter wheat in drought (31%), and hay in drought (22%) were down two to three percentage points from a week ago. USDA/NASS reported that 91% of the **winter wheat** had been planted by November 3, with 78% of the crop emerged. Although most of the wheat crop is growing well – rated 63% good to excellent on November 3 – dryness remains a concern on the southern High Plains. For example, 20% of the winter wheat in Texas was rated very poor to poor on November 3, up from 5% two weeks ago.



- Weather outlook: For the remainder of today, a weakening cold front will generate scattered showers across the eastern U.S. Meanwhile, a Pacific storm will arrive in the Northwest. During the next several days, the storm will traverse the nation's northern tier, resulting in generally light rain and snow. However, storm totals could reach two to four inches from the Pacific Northwest to the northern Rockies. In contrast, mostly dry weather will prevail across the southern two-thirds of the U.S., except in southern sections of Florida and Texas. Early next week, a surge of cold air will arrive across the Midwest and Northeast. - Provide by Brad Rippey, USDA

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Noteworthy topics in the news this week:

Corn harvest in the Midwest
Farmers got through the growing season with better corn yields than expected, but the challenge of drying the corn on-farm remains. Low propane supplies in the Midwest were preventing farmers from drying their corn, which was moister than normal, due to late planting in many cases, and must be dried to a moisture level of 15 percent or less before storage.

Elevators use natural gas to dry corn, so elevators were operating as usual.

Bear activity near Lake Tahoe
Black bears have been causing more problems than usual for Nevada wildlife officials as the bears seek out food in northern Nevada and the foothills of the Carson Range in advance of winter hibernation. Drought reduced the amount of nuts and berries available, leaving the bears to roam into residential areas in search of a meal. Three black bears have wandered into Carson City in recent days.

The exact number of nuisance bears was not available because the state biologist has been too busy answering calls about bears to tally it up, but 2013 may turn out to be one of the most active years on record for the bears.

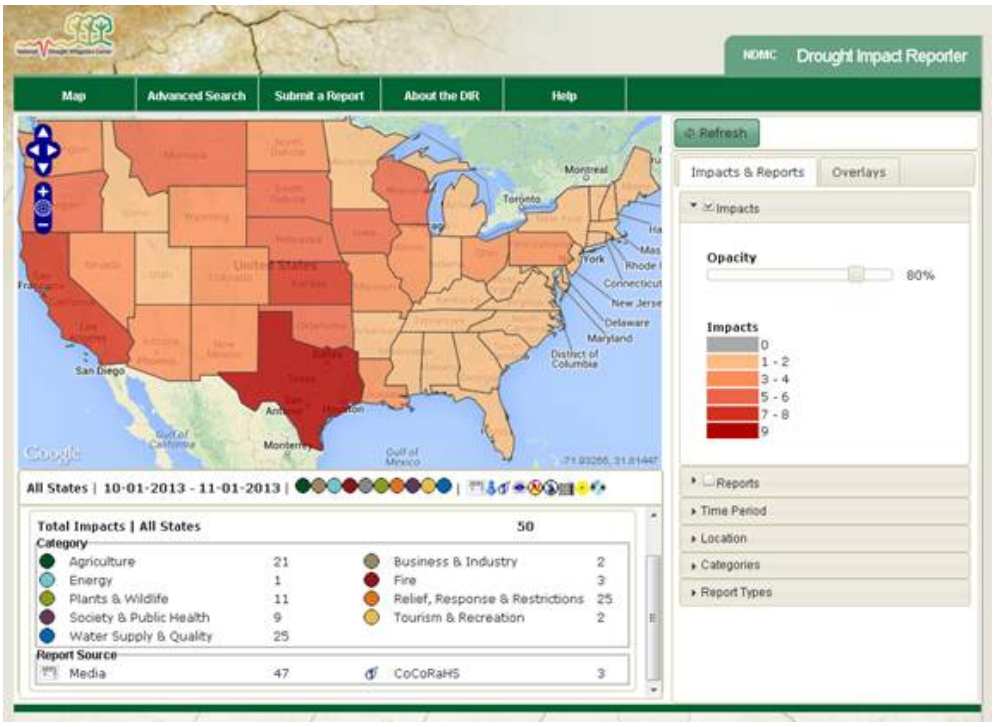
Rating of water and sewer bonds in Texas during drought
Fitch downgraded Fort Worth's water and sewer bonds in April 2013, the first time a reduction was directly related to drought. Garland and the San Patricio Municipal Water District's water and sewer revenue bonds were on negative outlook.

Missouri River management

Despite heavy snowfall in parts of the Dakotas, the Army Corps of Engineers continues to keep water releases at a minimum from upper Missouri River reservoirs to allow them to refill after intense drought in 2012 reduced the amount of water in storage. Above normal precipitation during October 2013 improved soil moisture and will result in record monthly run off for the Oahe and Fort Randall areas of South Dakota.

Full-service navigation on the Missouri River in 2014 is not expected, due to the present low reservoir levels.

The Drought Impact Reporter on Nov. 1, 2013



Other Headlines: N.J. dry spell continues, but reservoirs remain at acceptable levels - Oct 30, **New Jersey**; Propane shortage could stop harvest - Oct 25, **Midwest;** Drought took toll on dryland corn, sorghum - Oct 28, **Nebraska**.