



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

## Weekly Water and Climate Update

### October 2, 2014

Agricultural Weather Highlights.....	1	National Weather Hazards .....	16
Precipitation.....	2	National Drought Summary for September 30, 2014 .....	16
Temperature.....	5	Supplemental Drought Information .....	19
Weather and Drought Summary .....	7	National Fire Potential Outlook.....	20
U.S. Population in Drought Information.....	11	Supplemental Drought-Agriculture News.....	20
Changes in Drought Monitor Categories .....	12	Tea Cup Reservoir Depictions.....	23
Soil Moisture.....	13	U.S. Crops in Drought Monthly Report .....	23
Soil Climate Analysis Network (SCAN) .....	13	California Reservoir Conditions .....	24
Topsoil and Pasture & Rangeland National Conditions .....	14	State Activities .....	25
Streamflow .....	15	More Information.....	25
National Long-Range Outlook.....	15		

### Agricultural Weather Highlights – Thursday, October 2, 2014

- “In the **West**, freeze warnings are in effect early today in several high-elevation valleys, including portions of Utah, western Colorado, western Nevada, northeastern California, and south-central Oregon. Farther west, however, late-season heat is returning to areas along and near the Pacific Coast, particularly in California.
- On the **Plains**, showers in the vicinity of a cold front linger across the southeastern half of the region. The rain is slowing fieldwork but boosting soil moisture for winter wheat establishment. On September 28, both topsoil and subsoil moisture levels were rated at least half very short to short in Oklahoma (64 and 74%, respectively) and Texas (53 and 61%). Farther north, rain and snow showers are spreading across Montana’s High Plains.
- In the **Corn Belt**, showers and thunderstorms are slowing or halting soft red winter wheat planting and early season corn and soybean harvest efforts. In the eastern Corn Belt, warmth lingers in advance of a cold front.
- In the **South**, warm, mostly dry weather is promoting fieldwork, including summer crop harvesting.

**Outlook:** A strong cold front will continue to generate widespread showers and thunderstorms—locally totaling an additional 1 to 3 inches—while pushing across the eastern half of the U.S. The front will reach the Atlantic Seaboard by Saturday, although rain will linger through the day in parts of the Northeast. In the front’s wake, snow showers will develop in a few areas, most notably in the upper Great Lakes region. Throughout the nation, a long period of dry weather will trail the front’s departure, except for some showers early next week in the eastern U.S. By Saturday morning, a growing season-ending freeze—roughly on schedule—can be expected in the Dakotas and environs, with temperatures near 32°F as far south as Nebraska and Iowa. Windy conditions will accompany the Midwestern cold spell, resulting in a fairly uniform temperature distribution—and no frost formation. On Sunday morning, breezy conditions will persist in the Midwest, with temperatures generally ranging from 35 to 45°F in major corn and soybean production areas. The NWS 6- to 10-day outlook for October 7-11 calls for above-normal temperatures in the northeastern, south-central, and western U.S., while cooler-than-normal conditions will be confined to the Midwest. Meanwhile, below-normal precipitation in the West and Southeast will contrast with wetter-than-normal weather from the eastern Plains into the Midwest and Northeast.”

**Contact:** Brad Rippey, Agricultural Meteorologist, USDA/OCE/WAOB, Washington, D.C. (202-720-2397)  
**Website:** <http://www.usda.gov/oce/weather/pubs/Daily/TODAYSWX.pdf>

The Natural Resources Conservation Service provides leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment

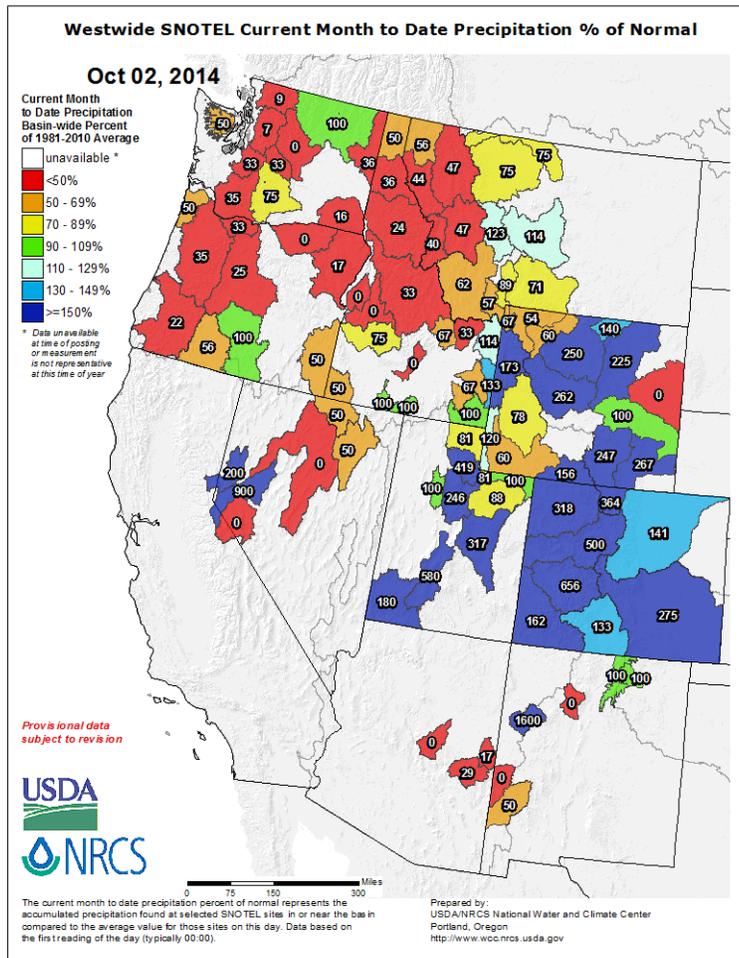
# Weekly Water and Climate Update

The 2015 Water Year began October 1, 2014. Happy New Year!

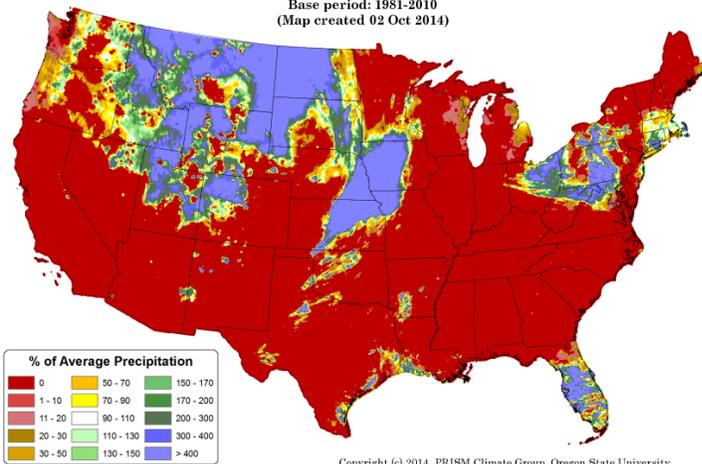
## Precipitation

In the West, for the first two days in October, the [SNOTEL](#) precipitation percent of normal map shows a wide variety of conditions where precipitation occurred in select basins. Colorado, much of Wyoming, most of Utah, and a few basins in New Mexico and Nevada received much above normal precipitation. The percent of normal values (especially in the dark blue areas) may be amplified where normally very little precipitation falls during this time of year.

*Click on most maps in this report to enlarge and see latest available update.*



Total Precipitation Anomaly: 01 October 2014 - 01 October 2014  
 Period ending 7 AM EST 01 Oct 2014  
 Base period: 1981-2010  
 (Map created 02 Oct 2014)

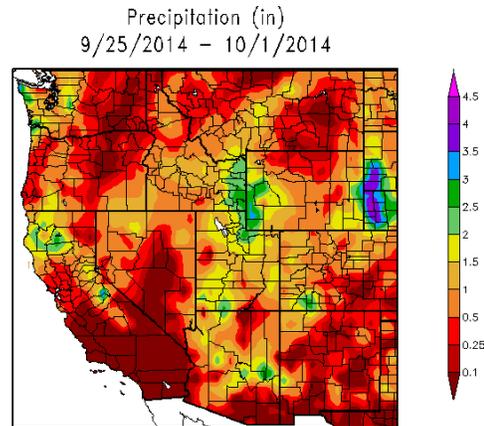


In the first part of October 2014, the national [precipitation anomaly](#) pattern reveals some higher than normal precipitation across the northern Rockies and north to the central Great Plains. Florida, Ohio, Pennsylvania, and northern Virginia also saw above average precipitation for the first two days of the month. A large area of the country has seen little or no precipitation.

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

## Weekly Water and Climate Update

The [ACIS 7-day](#) total precipitation map for the western U.S. shows mainly dry conditions. Precipitation has fallen in a few scattered areas in the central Rockies, western Washington, northern California, Arizona, and Utah. Heavy precipitation fell along the eastern edge of Wyoming into South Dakota and Nebraska.

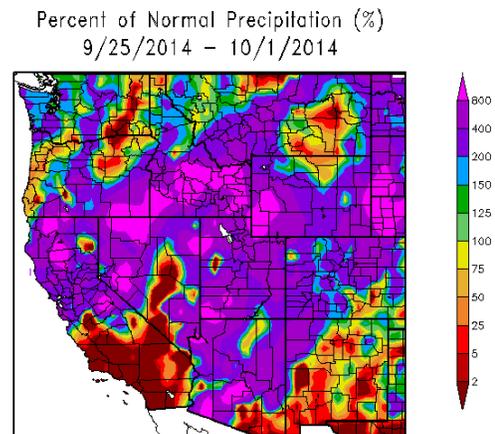


Generated 10/2/2014 at HPRCC using provisional data.

Regional Climate Centers

This percent of normal [map](#) of the West for the last seven days reflects widely scattered precipitation. The heaviest precipitation fell across the central West, from northern California to Wyoming. Some scattered precipitation also occurred across all the western states. Southern California and scattered areas of Arizona, New Mexico, Montana, Washington, and Oregon saw little to no precipitation.

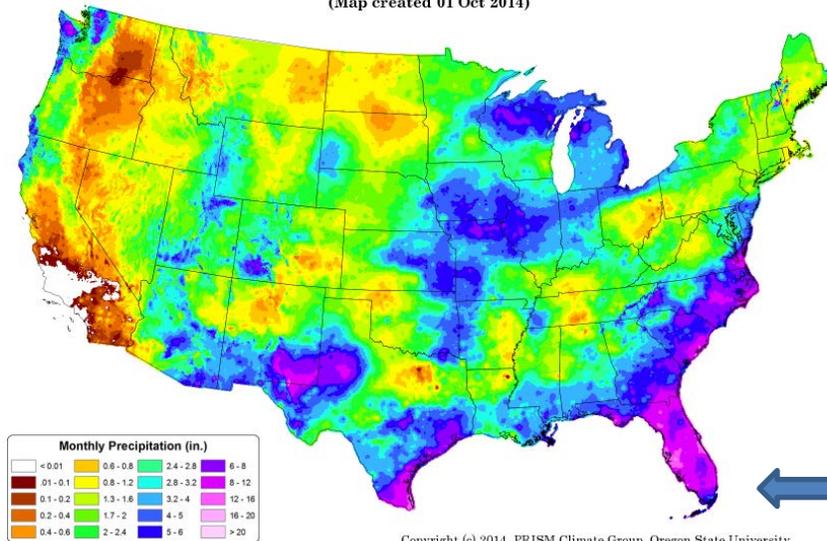
Percent of normal precipitation may be exaggerated in areas where the average for this period is at or near zero.



Generated 10/2/2014 at HPRCC using provisional data.

Regional Climate Centers

**Total Precipitation: September 2014**  
Period ending 30 Sep 2014  
(Map created 01 Oct 2014)



Copyright (c) 2014, PRISM Climate Group, Oregon State University

In September 2014, the [total precipitation](#) across the continental U.S. was heaviest from the central to the eastern part of the country. Heavy precipitation occurred over most of the southeastern U.S., especially in Florida and along the Atlantic coast. Heavy precipitation was also recorded in southern New Mexico, southeast Texas, and in the Midwest. In contrast, the far West, including most of California, northern Nevada, eastern Oregon, and eastern Washington, were mainly dry.



See [Go Hydrology](#) for current and forecast conditions over southern Florida.

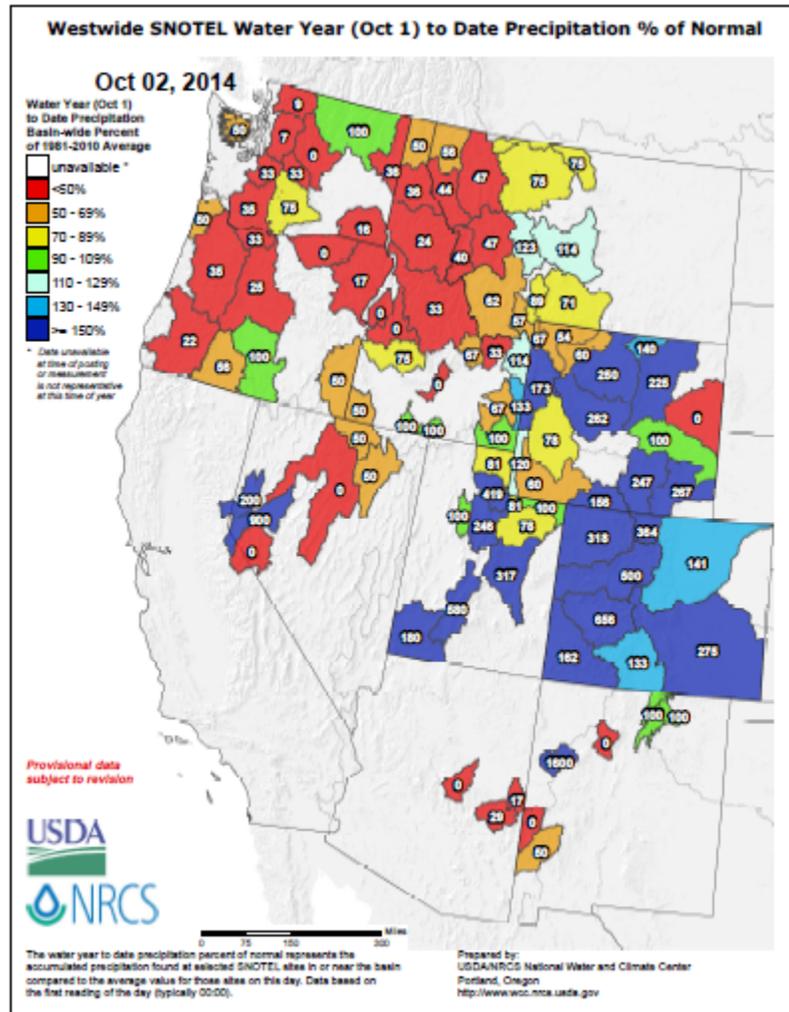
## Weekly Water and Climate Update

For the [2015 Water Year](#) that began on October 1, 2014, surpluses in the western U.S. occurred in most of Wyoming, Utah, and Colorado.

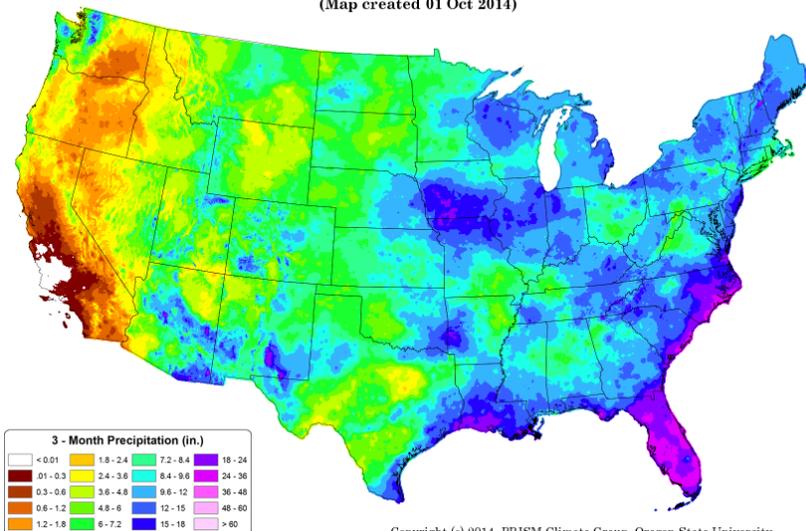
Some basins in Nevada, Montana, and northern New Mexico have received above normal precipitation.

Many basins had no precipitation for the first day of the new Water Year, including Nevada, California, Arizona, New Mexico, Wyoming, Montana, Idaho, Oregon, and Washington.

At the beginning of the Water Year, basin conditions can change rapidly with small amounts of precipitation. As the Water Year advances, it becomes more difficult for river basins to change bin categories.



**Total Precipitation: July 2014 - September 2014**  
 Period ending 7 AM EST 30 Sep 2014  
 (Map created 01 Oct 2014)



The national map of the [three-month period](#) (July - September) shows that the eastern half of the nation received precipitation in the range from 6 inches to greater than 24 inches in Iowa, northern Missouri, Louisiana, Florida, and along the coast from Georgia to Virginia.

On the other hand, much of the West received totals of less than 4.8 inches. Central and southern California had little to no precipitation for the period. The exceptions in the West were over the northern Rockies, the Cascades, and the Southwest where totals exceeded 12 inches.

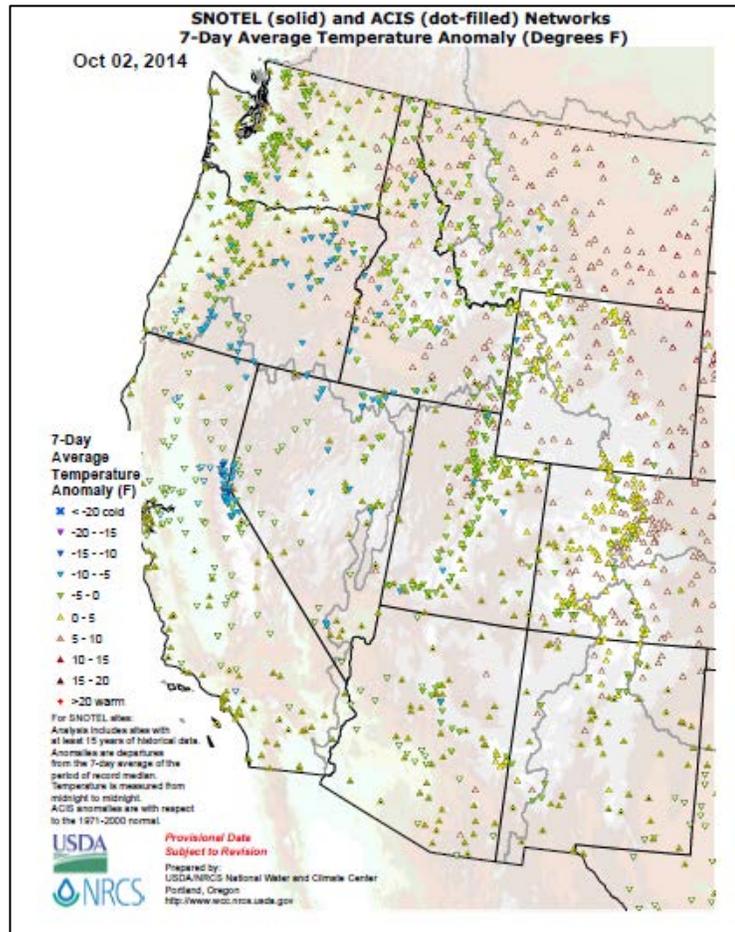
# Weekly Water and Climate Update

## Temperature

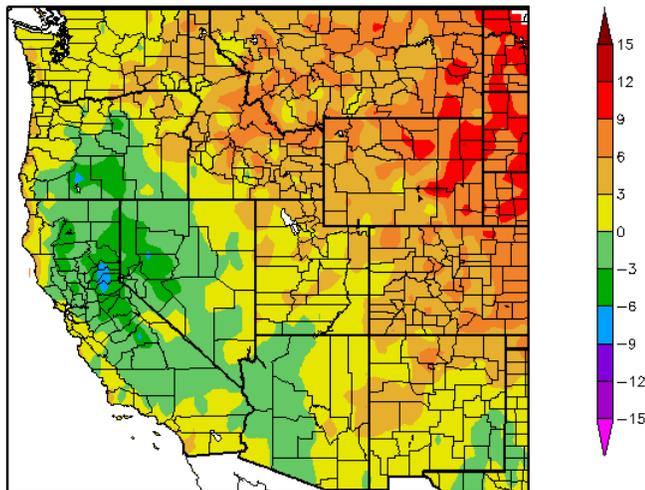
The [SNOTEL](#) and ACIS [7-day temperature anomaly](#) map for the western U.S. shows temperatures above normal for most of the northern states in the West, where eastern Oregon, eastern Washington, Idaho, Montana, Wyoming, Colorado, northern Utah, and northern New Mexico all reported more than 5 degrees F warmer than normal.

Below normal temperatures occurred in the mountain areas of Oregon, Washington, Idaho, Nevada, and California.

The remainder of the West was near normal for the week.



Departure from Normal Temperature (F)  
9/25/2014 – 10/1/2014



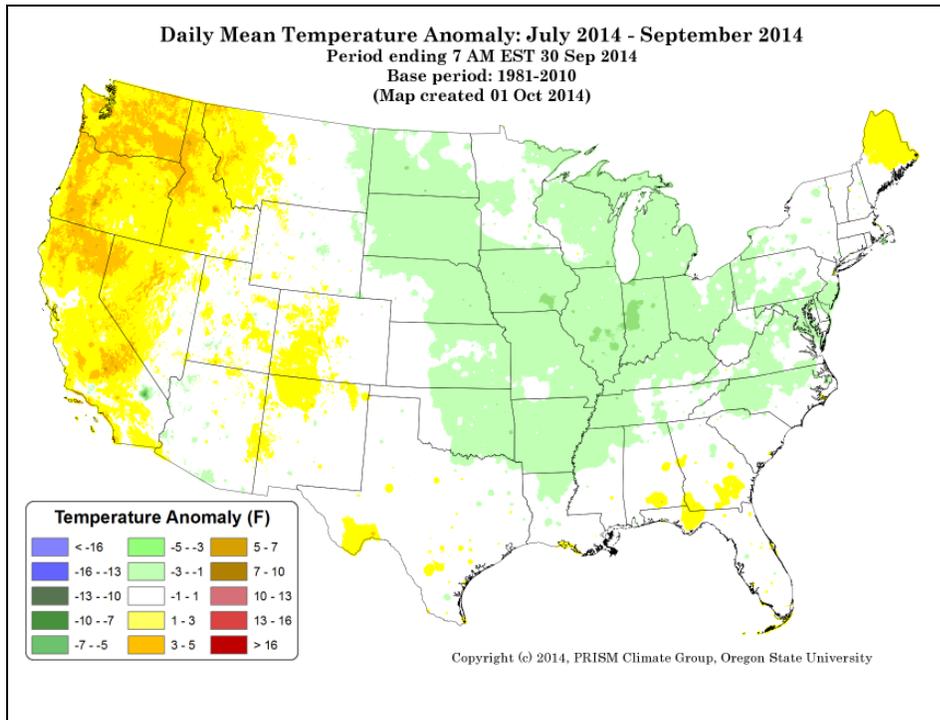
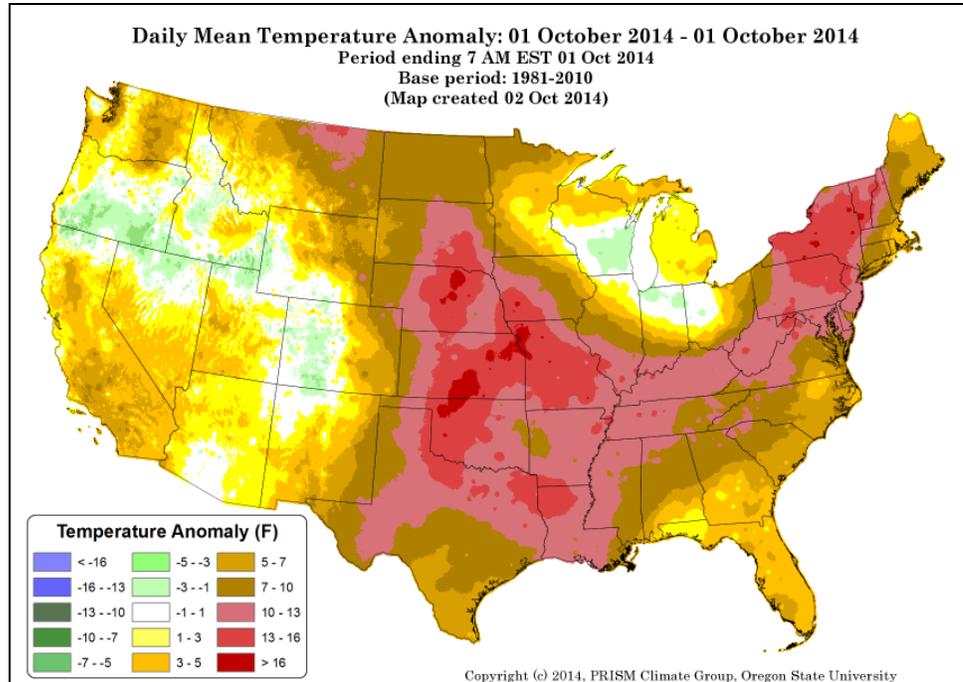
The [ACIS](#) map of the 7-day average temperature anomalies in the West ending October 1, shows the greatest negative temperature departures in central California (<math> < -6 </math>°F). The greatest positive temperature departures occurred in eastern Wyoming and Montana (<math> > +9 </math>°F).

Also, see [Dashboard](#) and the [Westwide Drought Tracker](#)

## Weekly Water and Climate Update

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.

On October 1, 2014, the national daily mean temperature anomaly [map](#) shows a cool pattern in the northern Midwest and central West ( $<-5^{\circ}\text{F}$ ). Above normal temperatures were recorded in the Plains states and the Northeast, which had the largest area of warm anomalies ( $>+16^{\circ}\text{F}$ ).



July - September national daily mean temperature anomalies for the U.S. in this [climate map](#) shows the west coast had slightly to above normal temperatures, mainly in California, western Nevada, Oregon, and Washington ( $>+5^{\circ}\text{F}$ ). Most of the remainder of the country reported normal to slightly cooler than normal temperatures this summer, with the coolest temperatures in Iowa, Illinois, and Indiana ( $<-3^{\circ}\text{F}$ ).

# Weekly Water and Climate Update

## Weather and Drought Summary

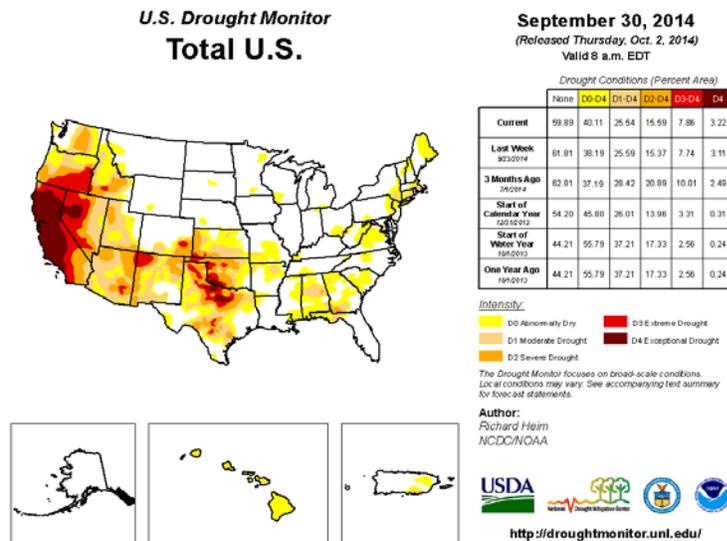
### National Drought Summary – September 30, 2014

The following **Weather and Drought Summary** is provided by this week's NDMC Drought Author, Richard Heim, NOAA/NCDC.

USDM Map Services: contains [archived maps](#)

“For the contiguous 48 states, the U.S. Drought Monitor showed 30.57 percent of the area in moderate drought or worse, compared with 30.62 percent a week earlier. Drought now affects 76,404,294 people, compared with 74,817,650 a week earlier.

For all 50 U.S. states and Puerto Rico, the U.S. Drought Monitor showed 25.54 percent of the area in moderate drought or worse, compared with 25.59 percent a week earlier. Drought now affects 76,474,847 people, compared with 75,030,440 a week earlier.”



See: Latest Drought [Impacts](#) during the past week.

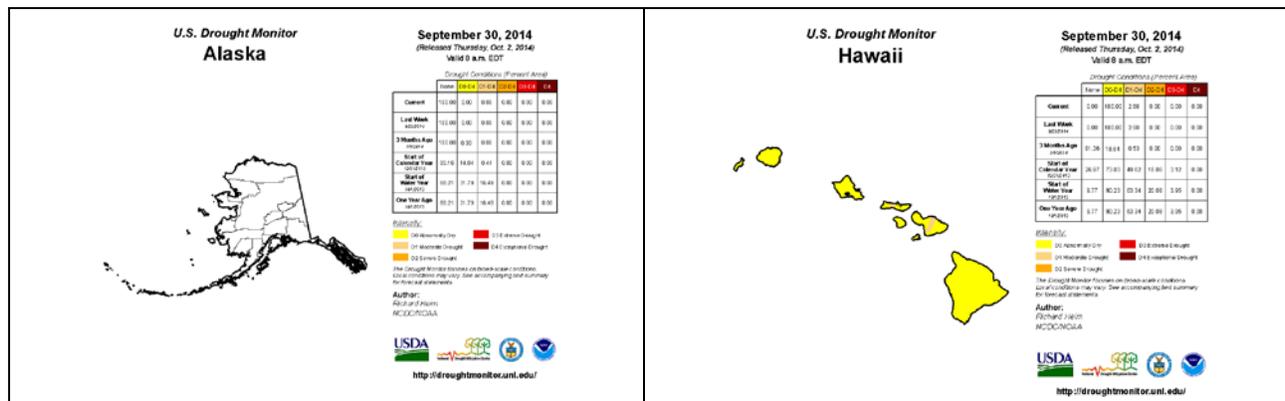
[Current Drought Monitor](#) weekly summary. The exceptional D4 levels of drought are scattered across CA, NV, TX, and OK.

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](#).  
New: [ENSO Blog](#).

#### Drought Management Resources:

- ✓ <http://www.usda.gov/oce/weath/Drought/AgInDrought.pdf>
- ✓ [Watch AgDay TV](#)
- ✓ [Drought Impacts Webinar Series](#)
- ✓ [NIDIS Quarterly Climate Impacts and Outlook](#)
- ✓ [The Spring 2014 edition of DroughtScope](#)



“The [49th](#) and [50th](#) States show normal to abnormally dry conditions. No changes noted for Alaska or Hawaii this week. The whole state of Hawaii is now designated as abnormally dry. 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 that follow, click [here](#).”

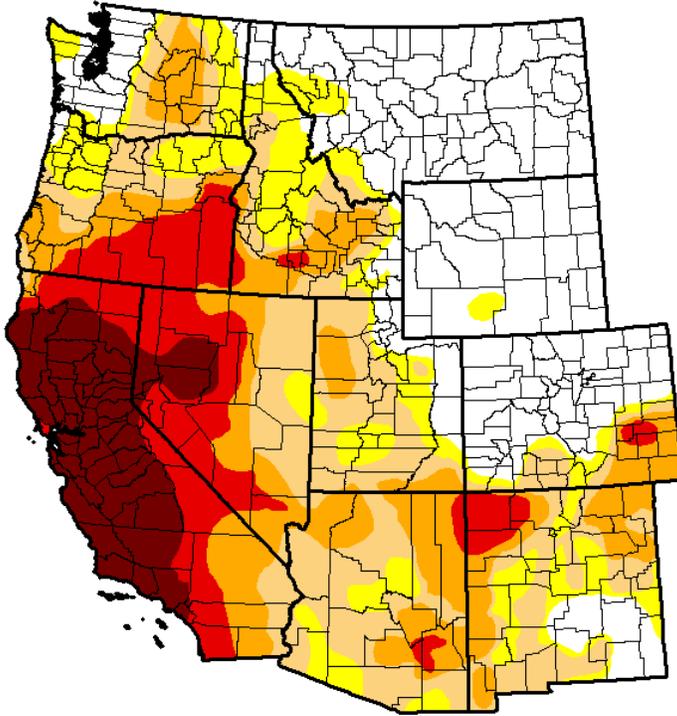
## Weekly Water and Climate Update

### U.S. Drought Monitor West

**September 30, 2014**

(Released Thursday, Oct. 2, 2014)

Valid 8 a.m. EDT



*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	31.48	68.52	55.57	35.65	19.95	8.90
<b>Last Week</b> 9/23/2014	31.18	68.82	56.42	35.96	20.00	8.90
<b>3 Months Ago</b> 7/1/2014	31.10	68.90	60.14	47.98	23.59	6.10
<b>Start of Calendar Year</b> 12/1/2013	22.20	77.80	51.44	31.11	7.75	0.63
<b>Start of Water Year</b> 10/1/2013	25.25	74.75	58.96	34.18	5.57	0.63
<b>One Year Ago</b> 10/1/2013	25.25	74.75	58.96	34.18	5.57	0.63

*Intensity:*

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

*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.*

**Author:**

*Richard Heim  
NCDC/NOAA*



<http://droughtmonitor.unl.edu/>

**A slight decrease in D0-D3 categories occurred in the West during this past week. The drought-free area increased slightly this past week. D4 remained unchanged.**

*Click to enlarge maps*

### Risk Management Web Resources

- Drought Monitor for the [Western States](#)
- Drought Impact Reporter for [New Mexico](#)
- [California Data Exchange Center & Flood Management](#)
- [Intermountain West Climate Dashboard](#)
- [California Sierra Nevada-related snow pack](#)

### U.S. [Impacts](#) during the past week:

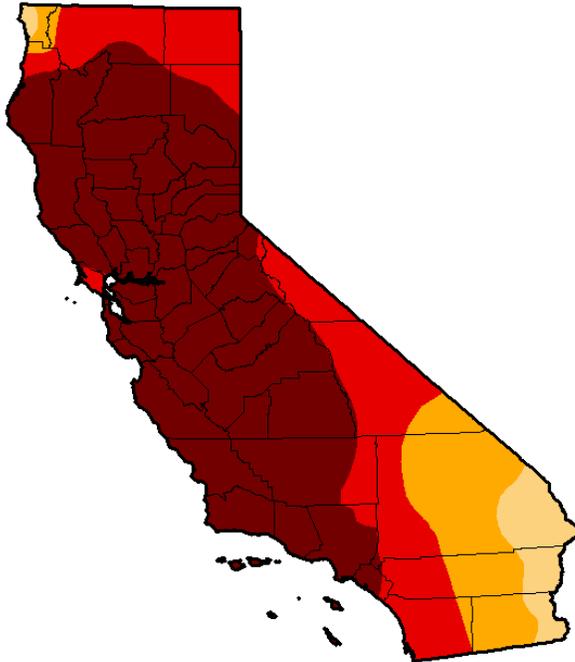
- AL - [Alabama peanut farmers worry about lower yields](#) – Sep 19
- GA - [Georgia farmers wait to see drought's effect on dry-land peanuts](#) – Sep 22
- RI - [Rhode Island is running dry, but we're not in a drought yet](#) – Sep 22
- OR - [Pacific Northwest wildfire season: Oregon and Washington topped nation in acres burned](#) – Sep 24
- CO - [State's two Colo. River basin water districts eye drought contingencies](#) – Sep 23
- ID - [Valley residents report drying wells](#) – Sep 24

# Weekly Water and Climate Update

State with D-4 Exceptional Drought

## U.S. Drought Monitor California

**September 30, 2014**  
(Released Thursday, Oct. 2, 2014)  
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	0.00	100.00	100.00	95.04	81.92	58.41
<b>Last Week</b> 9/23/2014	0.00	100.00	100.00	95.34	81.92	58.41
<b>3 Months Ago</b> 7/1/2014	0.00	100.00	100.00	100.00	78.97	36.46
<b>Start of Calendar Year</b> 1/2/2013	2.61	97.39	94.25	87.53	27.59	0.00
<b>Start of Water Year</b> 10/1/2013	2.63	97.37	95.95	84.12	11.36	0.00
<b>One Year Ago</b> 10/1/2013	2.63	97.37	95.95	84.12	11.36	0.00

*Intensity:*



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:  
Richard Heim  
NCDC/NOAA



<http://droughtmonitor.unl.edu/>

There was a slight decrease in D2 in the California drought conditions this past week.

[CA Drought Information Resources](#)

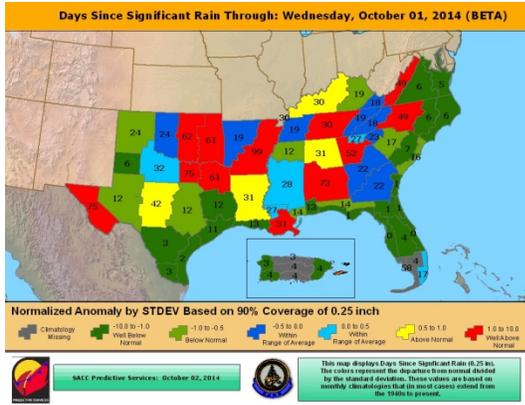
[Drought News from California:](#)

- [Drought Dispatch: The drought tests the results of dry-farming](#) – Sep 19
- [U.S. Lemon Lovers Tasting Bitter Price Shock From Drought](#) – Sep 22
- [Wildfires in California show no sign of abating, officials say](#) – Sep 23
- [Parched California expected to miss out on typical fall rains](#) – Sep 24
- [Rain helps subdue King Fire; containment at 55 percent](#) – Sep 25
- [Drought triggers Southern California tumbleweed infestation](#) – Sep 25
- [Plans for \\$200M in CA drought relief released](#) – Sep 23
- [Mt. Shasta mudslide blamed on drought, melting glacier](#) – Sep 22
- [Poll: Strong support for state water bond -- and for local water bonds too](#) – Sep 24
- [California wildfire razes nearly 3 dozen structures](#) – Sep 22
- [California water wholesaler supply drastically drained](#) – Sep 22
- [City institutes stage 1 water emergency](#) – Sep 19
- [Drought has 14 communities on the brink of waterlessness](#) – Sep 25
- [Some California wells run dry amid drought](#) – Sep 21

# Weekly Water and Climate Update

Texas Drought [Website](#).  
[Texas Reservoirs](#).  
[Texas Drought Monitor Coordination Conference Call](#): on Monday's 2:00 PM - 3:00 PM CST

**Texas Drought News:**  
[Congressional group calls for Obama to intervene on water with Mexico](#) – Sep 23  
[Abilene Council to look at setting times for non-potable watering](#) – Sep 22



[Days since Significant Rain Summary](#)

## State with D-4 Exceptional Drought

*U.S. Drought Monitor*  
**Texas**

**September 30, 2014**  
(Released Thursday, Oct. 2, 2014)  
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	26.92	71.06	48.95	29.54	11.26	2.69
<b>Last Week</b> 9/23/2014	24.37	75.63	52.18	26.54	11.39	1.79
<b>3 Months Ago</b> 7/1/2014	12.86	67.14	60.44	36.99	18.51	4.76
<b>Start of Calendar Year</b> 1/1/2014	26.49	71.52	43.84	21.15	5.62	0.79
<b>Start of Water Year</b> 10/1/2013	6.62	63.36	70.95	25.08	4.01	0.12
<b>One Year Ago</b> 10/1/2013	6.62	63.36	70.95	25.08	4.01	0.12

**Intensity:**

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

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

**Author:**  
Richard Heim  
NCDC/NOAA

<http://droughtmonitor.unl.edu/>

**A decrease in D0, D1, and D3 categories in Texas occurred this past week. D2, D4, and the drought-free areas increased slightly.**

## State with D-4 Exceptional Drought

*U.S. Drought Monitor*  
**Nevada**

**September 30, 2014**  
(Released Thursday, Oct. 2, 2014)  
Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	0.00	100.00	97.04	69.89	48.38	11.89
<b>Last Week</b> 9/23/2014	0.00	100.00	97.06	69.89	48.38	11.89
<b>3 Months Ago</b> 7/1/2014	0.00	100.00	100.00	86.92	54.99	11.08
<b>Start of Calendar Year</b> 1/1/2014	0.39	99.61	96.81	77.66	28.55	5.37
<b>Start of Water Year</b> 10/1/2013	0.39	99.61	96.79	79.11	28.55	5.37
<b>One Year Ago</b> 10/1/2013	0.39	99.61	96.79	79.11	28.55	5.37

**Intensity:**

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

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

**Author:**  
Richard Heim  
NCDC/NOAA

<http://droughtmonitor.unl.edu/>

**There was a very slight decrease in D1 in Nevada this past week.**

## Nevada Drought News:

[Drought to be as bad or worse next year, forecasters say](#) – Sep 21

## Weekly Water and Climate Update

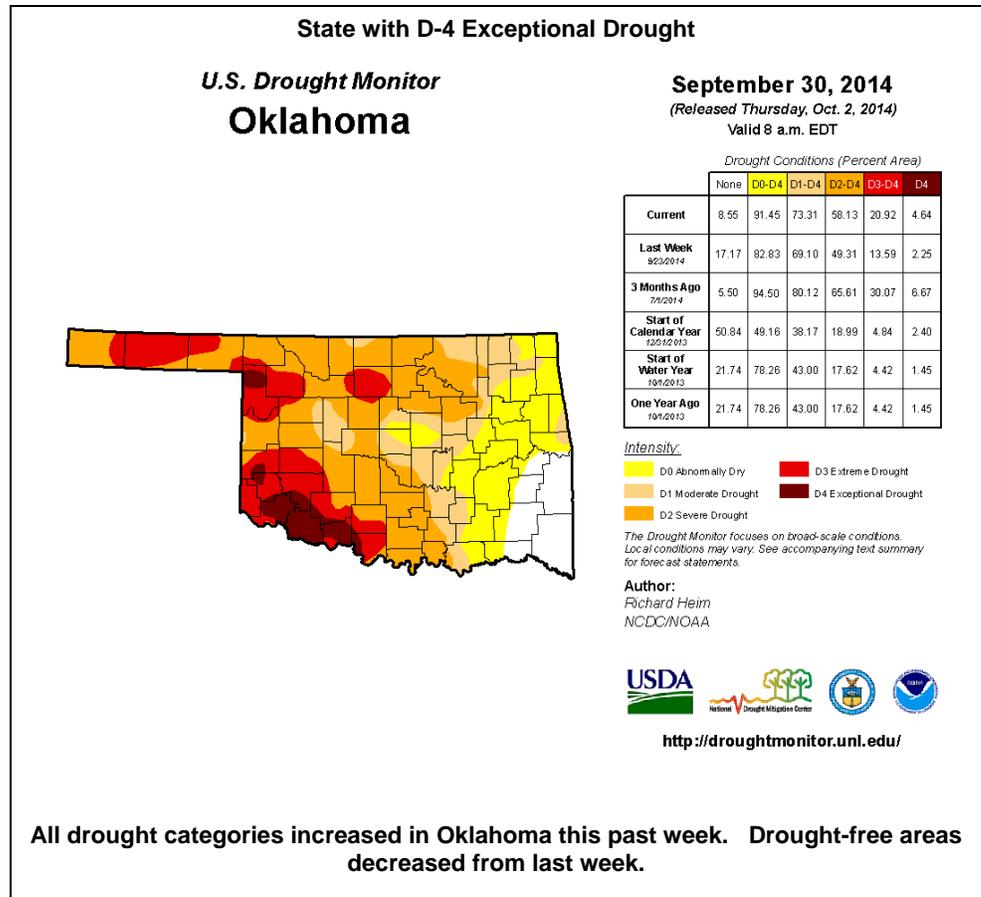
### Related Area News:

[2014 Kansas Drought Report and Summary](#)

- [Past 30 days precipitation totals](#)
- [Past 30 days precipitation percent of normal](#)
- [Calendar Year precipitation totals](#)
- [Calendar Year Precip percent of normal](#)
- [Short Crop ET](#)

### Oklahoma News:

[As farmers begin to plant winter wheat, drought intensifies across Oklahoma](#) – Sep 25



## U.S. Population in Drought Information

**Number of people in each drought category in the U.S. for the week ending September 30, 2014**

Week	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
2014-09-30	165,955,734	139,441,720	76,404,294	52,238,968	40,636,869	29,518,276
2014-09-23	173,342,123	132,055,332	74,817,650	50,584,754	38,809,909	27,626,366

**New population figures added to the U.S. Drought Monitor website show that for this week, more than 76.4 million people in the United States are in a drought-affected area, up by more than 1.5 million people from a week ago.**

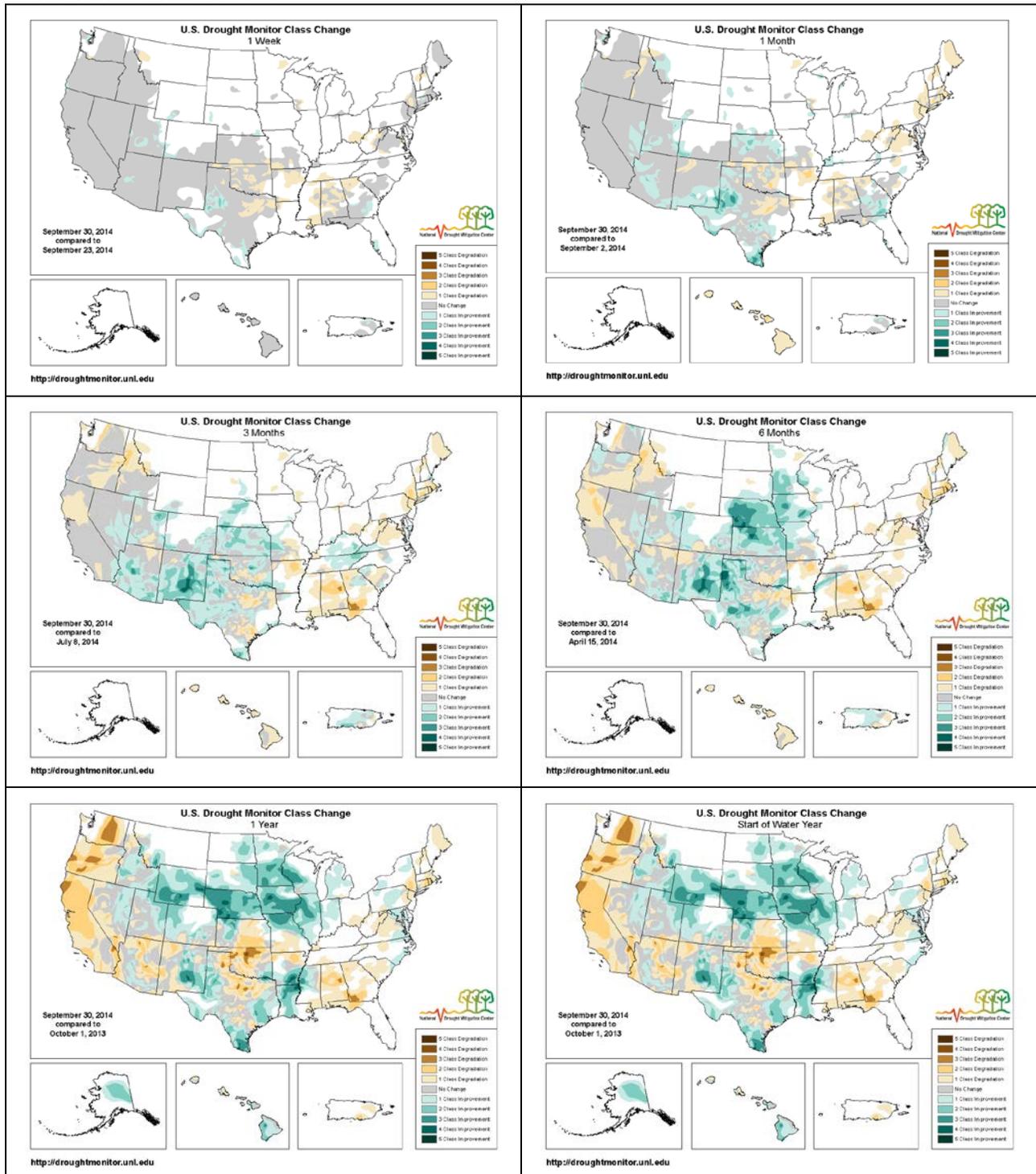
#### Population Statistics Methodology:

The U.S. Drought Monitor population statistics are calculated at the county level, and aggregated to the state, regional, and national levels. The population densities have been calculated for each county. The proportion of the physical area of the county that is in drought is multiplied by the uniform population density in order to obtain a number for each county. The county values are then summed at the state, regional, and national level.

# Weekly Water and Climate Update

## Changes in Drought Monitor Categories

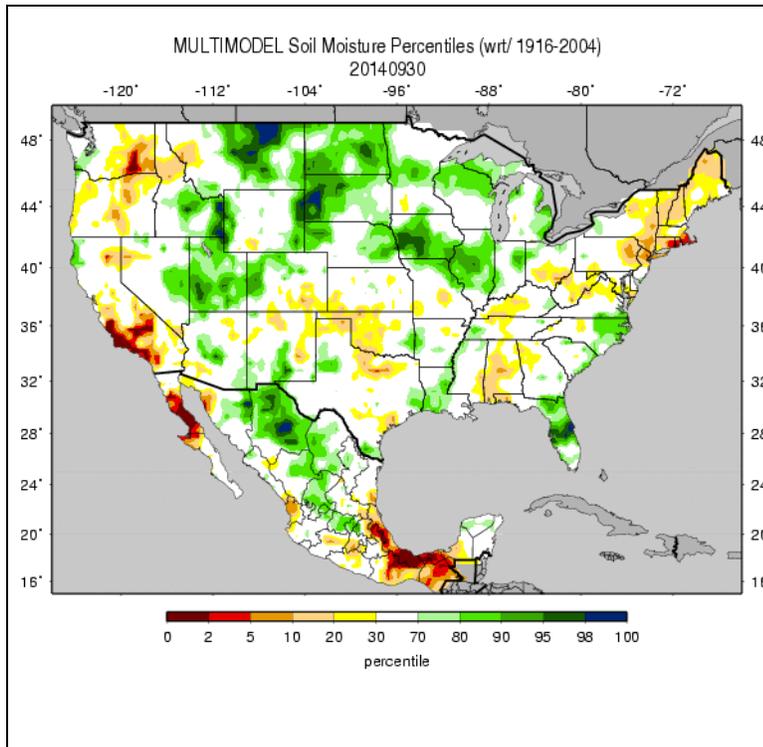
### Over Various Time Periods



Click on any of these maps to enlarge. Note how the conditions over the Rockies and northern Great Plains have improved between 6 to 12 months (middle right to lower left maps). However, also note that since the start of the 2014 Water Year last October, conditions over the Southeast, parts of the southern Great Plains and the Pacific coast states have deteriorated significantly (lower right map).

# Weekly Water and Climate Update

## Soil Moisture

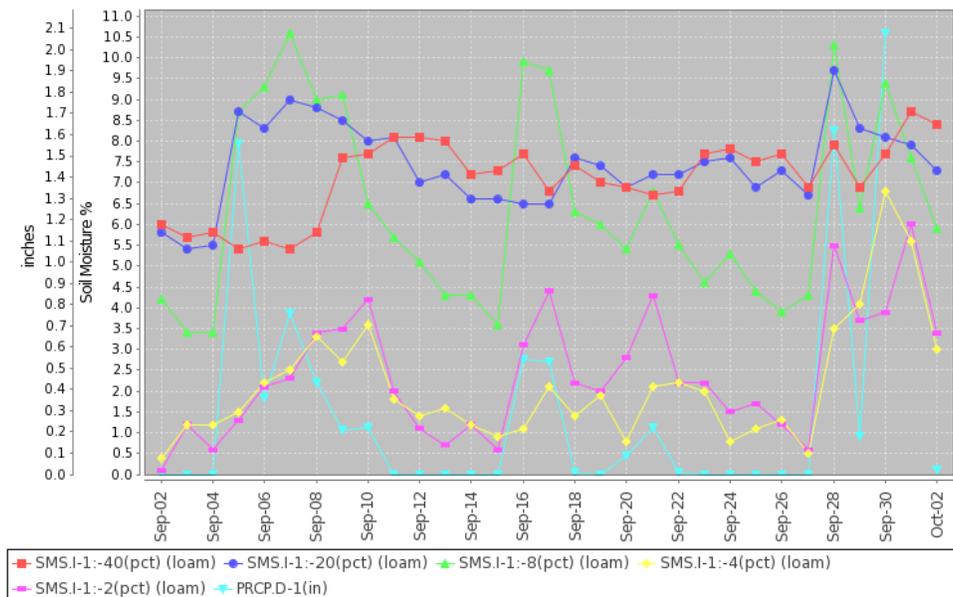


The national soil moisture model ranking in [percentile](#) as of September 30, 2014, shows dryness over California, Washington, Oregon, western Idaho, southwest Wyoming, and southern New England. Scattered dryness was also reported in other areas of the West, Oklahoma, Texas, New York, and parts of the mid-Atlantic coast. Moist soils dominated from Montana, the upper Midwest and Great Lakes states to the southern Atlantic coast. The wettest locations were centered in the Dakotas and eastern Montana. Soils in Iowa, Illinois, northern Wisconsin and Michigan, Louisiana, eastern Kentucky, and northern Florida also had scattered high moisture content.

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 Climate Analysis Network (SCAN)

Station (2012) MONTH=2014-09-02 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision  
Thu Oct 02 10:45:25 PDT 2014

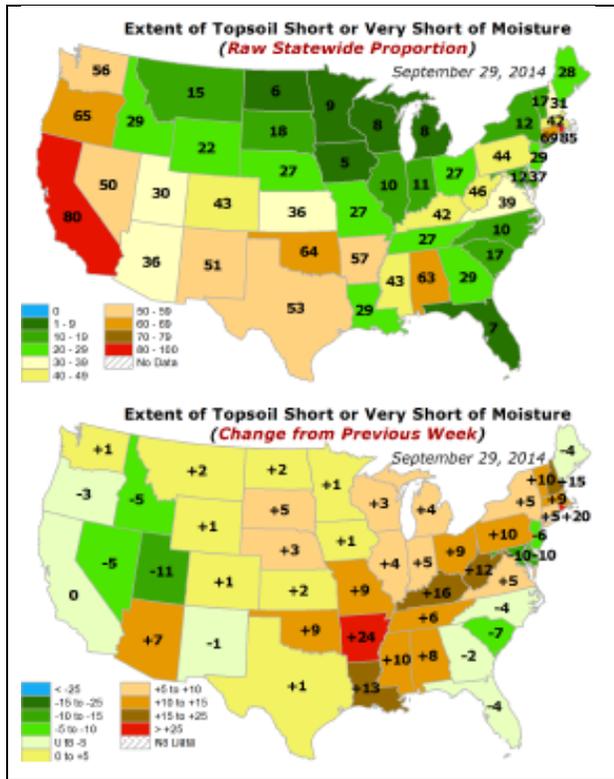


This NRCS resource shows soil moisture data at the [Sellers Lake #1 \(2012\)](#) SCAN site, located in Florida. The precipitation in the area is graphed in light pink. The recent precipitation has increased soil moisture at all depths measured, including the deeper soil sensors at 40 inches.

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](#).

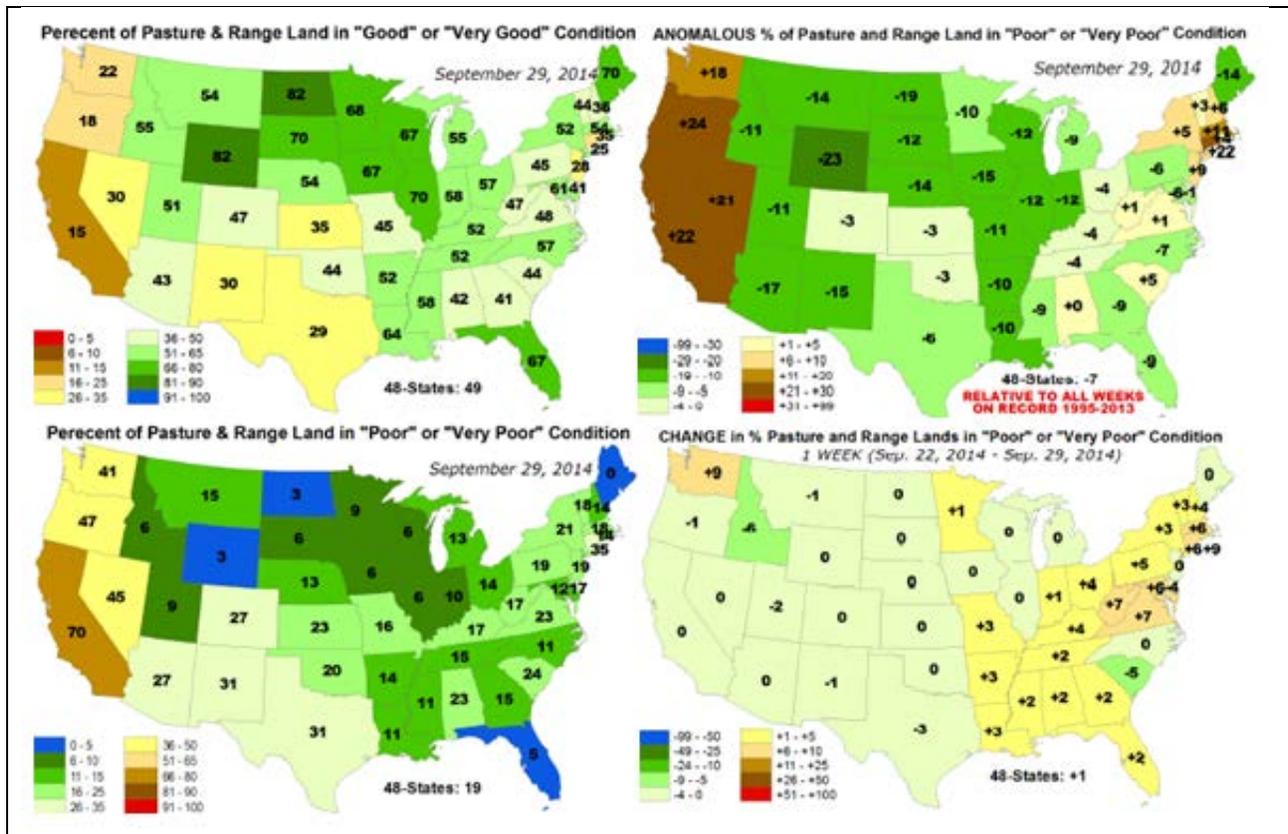
# Weekly Water and Climate Update

## Topsoil and Pasture & Rangeland National Conditions



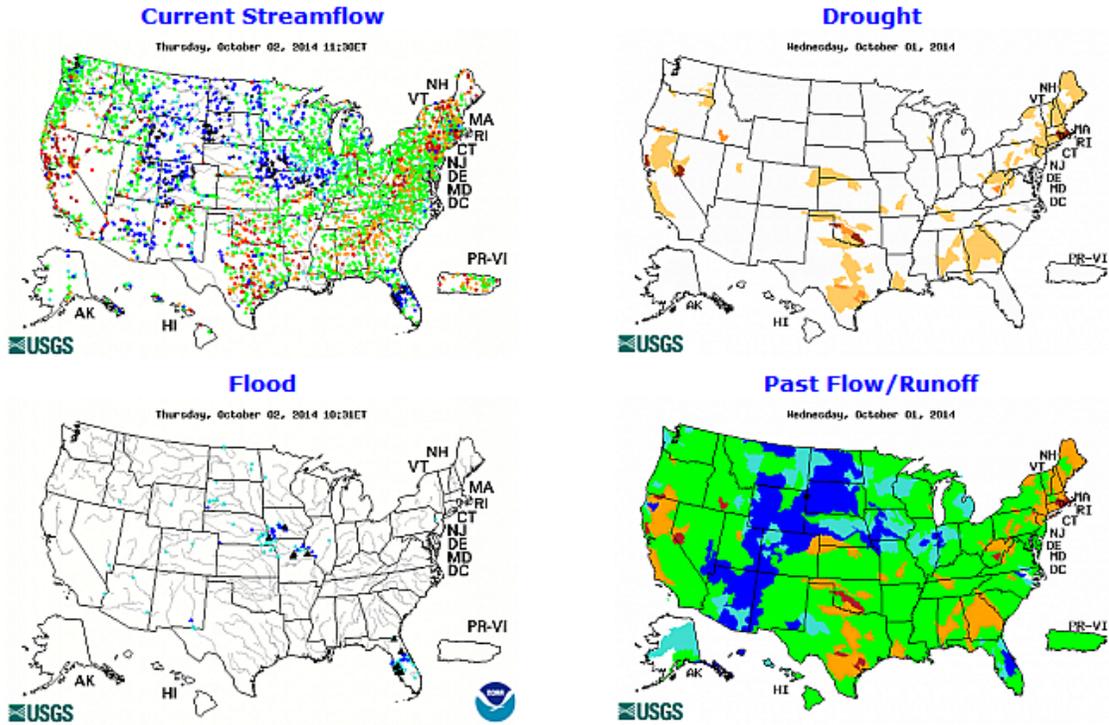
↪ Topsoils are exceptionally poor (top) over Rhode Island, Connecticut, Oklahoma, Alabama, California, and Oregon with values representing 60 percent or more poorer conditions than the median for this time of year (bottom panel). Locations in the upper Midwest, east to New York and many of the mid-Atlantic and southeast states have good soil moisture conditions.

↪ Many of the states east of the Mississippi River are doing well, as noted below. These conditions also extend across the northern Great Plains and northern Rockies. Pasture and rangelands are in poor to very poor condition in California, Oregon, Nevada, New Mexico, and Texas. Conditions have changed slightly over this past week.



# Weekly Water and Climate Update

## Streamflow



The rivers are high over most of the central U.S., including the Mississippi River Basin, the central Rockies, the Southwest, Florida, and parts of the Mid-Atlantic States, due to recent precipitation (left maps). Alaska, and Oahu and Kauai, Hawaii are also reporting some high streamflow. Rivers above flood stage in the U.S. include the Raccoon River near Des Moines, IA, the Nishnabtna River above Hamburg, IA, Moniteau Creek near Fayette MO, Petite Saline Creek near Booneville, MO, the Cuivre River near Troy, MO, and seven rivers in Florida, including the St. Mary's River near MacClenny, the St. Johns River at Astor, the Alafia River at Lithia, the lower Manatee River near Wimauma, the Myakka River near Sarasota, Horse Creek near Arcadia, and the Peace River at Arcadia.

## National Long-Range Outlook



Click maps to enlarge and update

Currently the Upper Midwest part of the map has not been calculated for the long range flood outlook (dark gray dots).

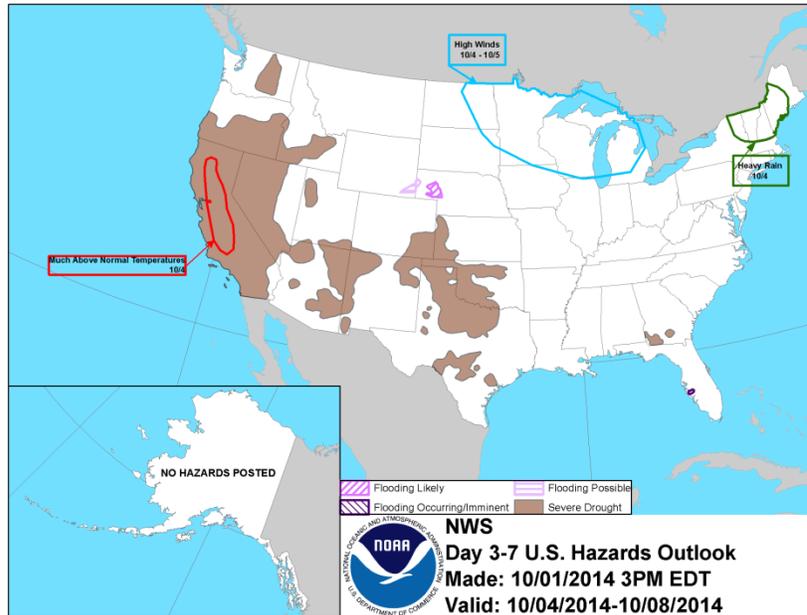
During the next three months, there is a risk of flooding in some areas of the Mississippi and lower Missouri Rivers, west-central Florida, the Gulf Coast and the Connecticut River. Currently, **1** gage has a greater than 50% chance to experience major flooding; **2** gages for moderate flooding; and **52** gages for minor flooding.

These numbers represent a 25-gage increase in the greater than 50 percent chance of minor flooding category in the last week.

## Weekly Water and Climate Update

### National [Weather Hazards](#)

Heavy rain is expected during the next week in northern New England (10/4) outlined in green. High winds are expected from the northern Plains to the Great Lakes. Flooding is occurring in Florida, and is likely in western Nebraska, and is possible in eastern Wyoming. Very warm temperatures are expected in central California (10/4). Severe drought remains a large issue in much of the south-central and western U.S.



### [National Drought Summary for September 30, 2014](#)

Prepared by the Drought Monitor Author: Richard Heim, NOAA/NCDC.

#### Summary

“A large upper-level low pressure system slowly moved across the western CONUS (contiguous United States) this U.S. Drought Monitor (USDMD) week, forcing a strong upper-level ridge ahead of it over the central and eastern CONUS. The upper low, and its associated surface lows and fronts, dropped an inch or more of rain across many parts of the West, with local amounts ranging 3-5 inches or more. The upper ridge brought dry weather to much of the country east of the Rockies and much warmer-than-normal temperatures to the north central states. Two low pressure systems, one at the beginning of the week and the other near the end, brought rain to parts of the East, while a front draped across central Florida dumped over 5 inches of rain on many locations.

#### Hawaii, Alaska, and Puerto Rico

Two weeks of several-inch rains in northeast Puerto Rico have improved streamflows and eased rainfall deficits, so the D1 in northeast Puerto Rico was deleted and D0 contracted. No change was made to the map depiction in Alaska or Hawaii.

#### The Northeast and Mid-Atlantic

An inch or more of rain fell along the coastal areas of southeast Virginia, Delaware, and southern New Jersey, with lesser amounts to the west and north. Half an inch of rain fell on the D1 in Connecticut, improving streamflow and resulting in slight contraction of the D1. But it was generally dry across most of the Northeast and interior Mid-Atlantic States. Soils continued to dry out, with September 29 U.S. Department of Agriculture (USDA) reports indicating topsoils short or very short of moisture (dry to very dry) across 85% of Rhode Island, 69% of Connecticut, and more than 40% of Massachusetts, Pennsylvania, and West Virginia. Subsoil moisture conditions were similarly dire. D0 expanded in several areas to reflect the dry soils, low precipitation at the 2-month time scale, and low streamflows. Low precipitation and agricultural impacts resulted in the introduction of D1 in Ulster-Orange counties in New York.

#### The Plains and Midwest

As the upper low in the West approached the northern Plains, it triggered heavy storms which dumped 3+ inches of rain over parts of western Nebraska and southwest South Dakota. Local storms also dropped an inch or more of rain over parts of central and southeast Nebraska, parts of Kansas, and central to south

## Weekly Water and Climate Update

central Iowa. Lesser amounts of rain fell in other parts of the Plains and Upper Midwest, but Missouri and the Ohio Valley, all the way to the Central Appalachians, were mostly dry. The Nebraska rains shrank the D0 in the southeast and obliterated it in the panhandle. But D0 expanded in southern Missouri and a spot of D1 was added in southwest Missouri as the state's soils further dried out. September 29 USDA reports had 27% of the topsoil and 32% of the subsoil rated short or very short of moisture, both increases compared to last week, and 16% of the pasture and rangeland rated poor to very poor. In nearby Kansas, showers kept the statewide values generally constant at 36% of the topsoil and 47% of the subsoil short or very short of moisture and 23% of the pasture and rangeland poor to very poor. But D2 and D3 expanded in southern Kansas. Low streamflows and drying soils expanded D0 in West Virginia, where 46% of the topsoil and 51% of the subsoil were short to very short. D0 was added to southern Ohio, extreme northern Kentucky, and northeast Minnesota and D0 expanded in southwest Wisconsin. Over 40% (42%) of Kentucky's topsoil was rated short or very short, a jump of 16% compared to last week.

### The South

An inch or more of rain fell in parts of the South, with locally 3 inches or more in western and southern Texas. These rains, and rains from previous weeks, helped replenish soil moisture and refill reservoirs, so D0-D3 were contracted in the west and south. On a statewide basis, little change occurred in the topsoil and subsoil moisture conditions, with 53% of topsoil and 61% of subsoil in Texas short or very short of moisture, and 31% of the pasture and rangeland in poor to very poor condition. This is because the week was dry to the north and east, where soils continued to dry and reservoir levels fall, so D1-D4 expanded in parts of north central and northeast Texas and the Texas panhandle. Dallas-Fort Worth had the driest September and ninth driest year-to-date on record. Further to the north, conditions deteriorated in Oklahoma, where 65% of the topsoil and 74% of the subsoil were short or very short of moisture, and 20% of pasture and rangeland were rated poor or very poor. The bone-dry soils in many areas, accompanied by dried up ponds and, in the panhandle, blowing dust, worried agricultural interests. The fact that more (greater percentage) subsoil was dry to very dry compared to topsoil indicated that the region never fully recovered from the drought of 2011-2012. D0-D4 was expanded in several areas across the state. Soil moisture conditions deteriorated rapidly in Arkansas, with 57% of topsoil rated short or very short by the USDA on September 29, compared to 33% a week ago, and 46% of subsoil short or very short of moisture, compared to 34% a week ago; 14% of pastures and rangeland were rated in poor or very poor condition. D0 expanded in northern and southern Arkansas and parts of the adjoining states, and D1 was added to northeast Arkansas.

### The Southeast

Alabama was the epicenter of drought in the Southeast this week, as rains improved conditions in southern Georgia where D0-D2 were trimmed. One to 3 inch rains in the eastern Carolinas shaved the eastern edge of D0 in the North Carolina piedmont, and 5+ inch rains caused flooding in central Florida and obliterated the D0 in the Tampa Bay area. But the rains missed areas further inland and in the western portions of the region. D0 expanded in northern Georgia, northern and southwestern Alabama, and into south central Tennessee where spring water and ponds were drying up and pastures were suffering. An area of D1 was introduced in northwest Georgia, the D1 in central Alabama expanded and a spot of D2 was added in east central Alabama. D0 expanded in Mississippi and as far as southeast Louisiana. Soils continued to dry out in Alabama, where more than 60% of both topsoil (63%) and subsoil (61%) were rated short or very short of moisture, and in Mississippi, where more than 40% of both topsoil (43%) and subsoil (42%) were so rated.

### The West

The upper low swept bands of heavy rain into the coastal Northwest and northern California, with over 3 inches of rain reported at several stations. But the rains had little impact on the ongoing drought, especially in California, where deficits are huge and the normal annual precipitation in parts of the northern coastal areas can reach 75-100 inches. Topsoil in a few areas benefited, wildfires were hindered, and streamflow increased, but the streamflow recovery was short-lived as streams rapidly returned to the low flows they had prior to the rain event, and reservoir levels did not improve. Statewide, California soil moisture conditions were the same as last week, with 80% of topsoil and 85% of subsoil rated short or very short of moisture by the USDA. Consequently, only D2 was pulled back in Del Norte County (California) and Curry County (Oregon), and D0 was trimmed in Washington's eastern Olympic Peninsula. An inch or more of rain fell from southeast Oregon to central Idaho and southwest Montana, with heavier rainfall (3+ inches) in southeast Idaho and adjoining parts of Wyoming. But the weekly precipitation amounts were below normal across much of northwest Montana, where D0 expanded. D0 also expanded in Skamania County,

## Weekly Water and Climate Update

Washington, to reflect 4-month dryness, and D2 expanded in north central Washington to better match short-term and long-term dryness.

The low continued a trend of above-normal monsoon rainfall for parts of the Great Basin and Southwest. D2 was removed in southwest Arizona and the nearby D1 was pulled back, D1 was contracted in southwest Utah and D0-D1 shrank in eastern Utah, D0 contracted and D1 was deleted in southwest Wyoming, D0-D2 were pulled back in southwest Colorado, and D3 slightly trimmed in northwest New Mexico. Even though 3+ inches of rain was reported in parts of Arizona, Colorado, and Utah, many of the reservoirs in these states remained depleted, and long-term precipitation deficits remained huge (especially in the Southwest), so no other changes were made to the drought depiction. Statewide soil moisture conditions in Colorado changed very little compared to last week, with 43% of the topsoil and 50% of the subsoil still rated short or very short of moisture, and 27% of the pasture and rangeland rated in poor to very poor condition. Some of the D3 expansion from southwest Kansas and the Oklahoma panhandle bled into the very extreme southeast corner of Colorado.

### Looking Ahead

An upper-level ridge of high pressure will build over the West during October 2-9, bringing a return of dry and warmer-than-normal weather, while the upper-level trough of low pressure slowly moves east of the Rockies. The trough will funnel cooler-than-normal air into the north central and eastern states, with widespread areas of rain forecasted along fronts and surface lows from the Mississippi River to the East Coast, and in parts of the Plains. The heaviest rain, 1-4 inches, is expected from Missouri to the Great Lakes, with areas of about an inch in parts of Nebraska, the Tennessee Valley to Southern Appalachians, and parts of the Northeast.

The upper-level circulation pattern will become stalled during October 9-15, with a ridge over the western CONUS and trough over the east. Dry and warm weather should dominate the West, while colder-than-normal air masses frequent the Plains to Midwest states. Gulf of Mexico moisture is expected to feed weather systems which bring above-normal precipitation to the Plains, Midwest, and Northeast states. The Southeast is forecast to have near to below-normal precipitation during this period. Alaska should be wetter than normal in the south and drier than normal in the north, warmer than normal in the west and near to below normal in the southeast.”

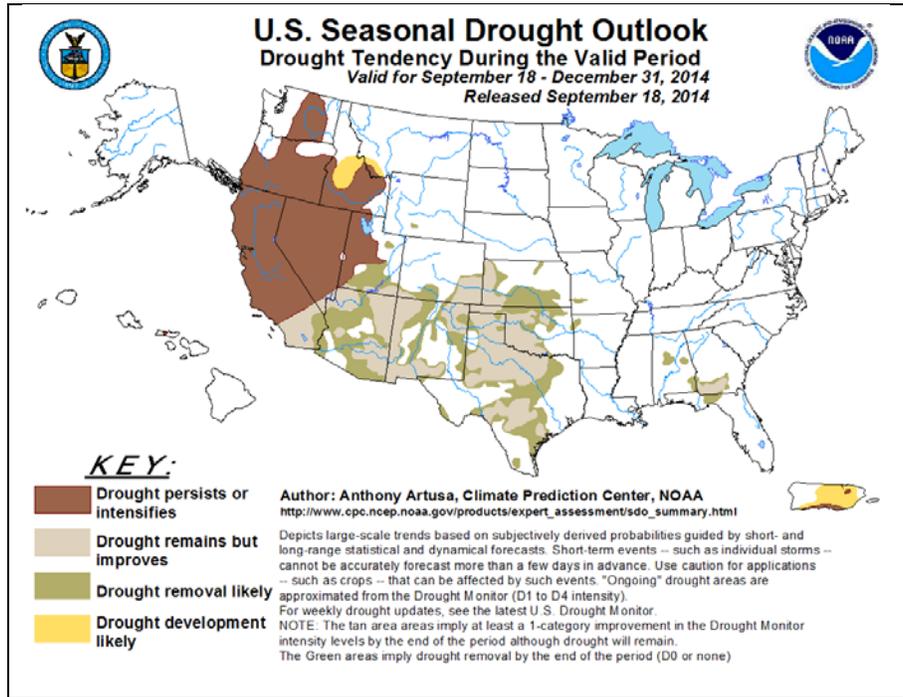
# Weekly Water and Climate Update

## Supplemental Drought Information

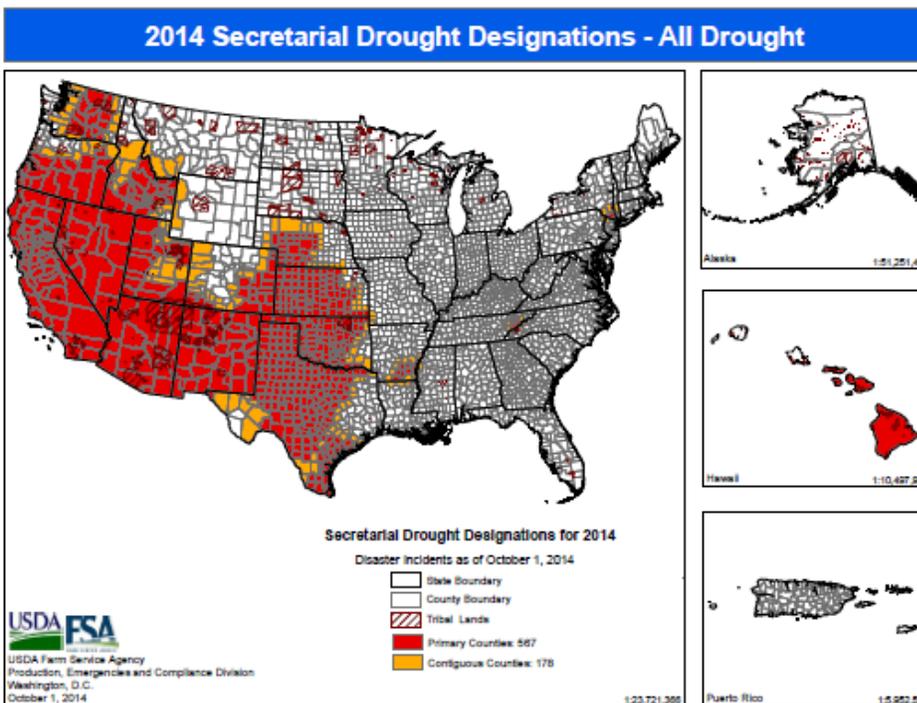
### National Seasonal Drought Outlook

Nationally, [drought](#) is expected to persist or intensify over Puerto Rico and much of the West, including California, Oregon, Washington, Idaho, and Utah. Improvements are expected from the Southwest to Oklahoma, Texas, and in a few areas of the Southeast.

Also see: [National Significant Wildland Fire Potential Outlook](#) (updated on the first of each month) contains a content summary of the previous month's conditions.



### 2014 USDA Secretarial Drought Designations



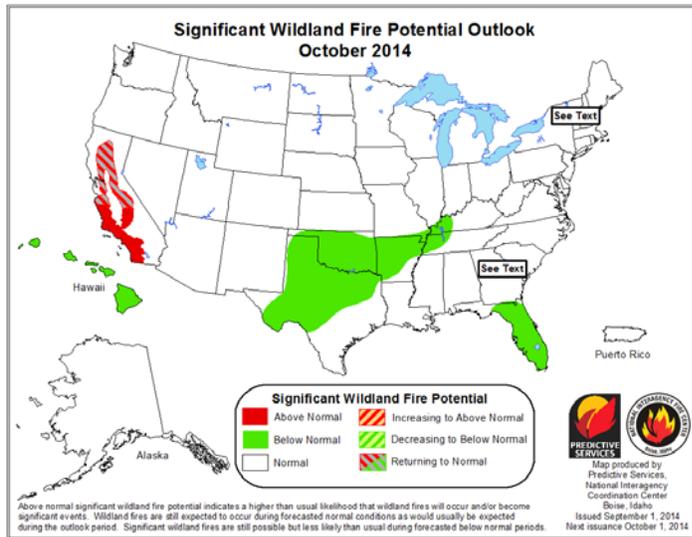
Refer to the USDA Drought Assistance [website](#) and [National Sustainable Agriculture Information Service](#).

Read about the new [USDA Regional Climate Hubs](#).

[New useful resource: NASS Quick Stats](#)

## Weekly Water and Climate Update

### National Fire Potential Outlook



#### October Forecast

Above normal [fire potential](#) will persist in parts of California.

The below normal fire potential area in green on the map is forecast for Florida, Texas, Oklahoma, Arkansas, western Tennessee and Kentucky, and Hawaii.

#### Additional Maps

U.S. Maps PowerPoint presentation: <http://dmcommunity.unl.edu/maps/US-Maps.ppt>.

Regional zooms of ACIS station data percent-of-normal precipitation: <http://dmcommunity.unl.edu/maps/All-CONUS-ACIS-PNP.pptx>.

National Water and Climate Center (NWCC) Surface Water Supply Index (SWSI) maps: <http://www.wcc.nrcs.usda.gov/wsf/swsi.html>

#### Supplemental Drought-Agriculture News

Download [archived](#) "U.S. Crops in Drought" files

The following is a collection of drought-related news stories from the past seven days or so. Impact information from these articles is entered into the [Drought Impact Reporter](#). A number of these articles will also be posted on the [Drought Headlines](#) page at the NDMC website. The list is compiled by Denise D. Gutzmer, Drought Impact Specialist, National Drought Mitigation Center.

##### **"Contingency steps in Colorado to bolster lakes Powell and Mead**

The Colorado River and Southwestern water conservation districts, representing the entire Colorado River Basin in Colorado, devised three contingency steps to bolster low water levels at lakes Powell and Mead. Water could be released from Flaming Gorge, Navajo and the Aspinall Unit (Blue Mesa Reservoir) to increase the level of Lake Powell; thirsty non-native trees could be removed; and cloud seeding could increase precipitation during the winter to yield more run off.

##### **Metropolitan Water District of Southern California water supplies down more than two-thirds**

The Metropolitan Water District of Southern California has used slightly more than two-thirds of its stored supplies during the past three years, leaving about 18 months' worth of water remaining.

##### **Spending California's emergency drought relief package**

California water officials revealed plans for spending more than \$200 million of the \$687 million emergency drought relief package on 110 projects across the state as recommended by the state Department of Water Resources. Another \$400 million will be needed from local and federal sources to complete the projects. The water department will be distributing another \$250 million to various projects next spring.

## Weekly Water and Climate Update

### **Stage 1 water emergency, changing water quality in Fort Bragg, California**

The Fort Bragg city manager declared a stage 1 water emergency on Sept. 18 as the town's raw water flow dropped below a 10 percent margin of safety between the raw water supply and water demand. Mandatory restrictions on water use took effect with the goal of cutting water use by 10 percent. City staff has warned water customers to expect taste and odor issues as the operators of the city's water treatment plant use water from an alternate source that they normally would not use at this time of year, due to the presence of dissolved solids and a brackish taste.

### **High lemon prices due to California drought**

The drought in California has driven up the wholesale price of lemons to \$2.327 per pound in August, roughly twice the cost compared to one year ago, according to the U.S. Bureau of Labor Statistics. Ninety-one percent of the nation's lemons are produced in California. The prices for other fresh fruits are also rising, with the U.S. Department of Agriculture expecting an uptick of 5 to 6 percent this year, in line with the rising cost of meats and eggs. The California drought could have "large and lasting effects" on produce, dairy and eggs, said the USDA in its Aug. 25 report. Domestic lemon production in the 2013-14 year ending July 31 fell 8.8 percent to 832,000 short tons (754,800 metric tons), but the rise in lemon prices increased the value of the crop by 62 percent to \$647.7 million.

### **Mudslide on Mt. Shasta in Northern California thought to be drought-related**

An immense mudslide in Mud Creek Canyon on Mt. Shasta has been attributed to drought after debris and mud flowed down the mountain on Sept. 20, crossing Pilgrim Creek Road and Forest Service Road 31. Experts think that glacial melting, hastened by drought, could have produced water which destabilized huge ice blocks and caused the debris flow in the Shasta-Trinity National Forest.

### **Tumbleweeds thriving in Southern California**

Tumbleweeds are thriving in Southern California since drought and meager late spring rainfall offered enough moisture for Russian thistles to flourish and crowd out other vegetation. The worst afflicted areas include parts of the San Fernando Valley, Griffith Park, the hill country between Orange and Riverside counties, the foothills of the San Gabriel and Santa Monica Mountains, and the Antelope Valley. The tumbleweeds pose a fire danger as the vegetation dries out, breaks off and rolls with the wind.

### **Current drought makes Californians more concerned about water issues**

Californians surveyed recently have shown more support for the \$7.5 billion state water bond that will be on November's ballot. Seventy-two percent of participants said the water supply is a "big problem," compared with 61 percent two months ago, according to the Public Policy Institute of California. Twenty-nine percent of those surveyed chose water and drought as the most important issue facing the state's residents at present, second to jobs and the economy at 32 percent. The current drought has provided momentum for the water bond among California voters.

The poll involved 1,702 adults, including 916 likely voters, from Sept. 8 to Sept. 15. The margin of error was plus or minus 3.6 percentage points for all adults and 4.9 percent points for the likely voters.

### **Park superintendents in the Inland Empire in Southern California curbing water use**

Park superintendents in the Inland Empire were taking steps to reduce water use as California's drought continued.

- The water spigot at Lake Perris State Recreation Area has been shut off to conserve water. A message was also posted on the park's website forewarning potential visitors that, "Grass at the day use and group use areas is dead and brown."
- Some grassy areas in Eastvale parks in the Jurupa Community Services District were less lush and even yellowing in spots. The district installed a high-tech irrigation system one year ago that waters minimally.
- The San Jacinto-based Valley-Wide Recreation and Park District also installed a high-tech irrigation system that monitors temperature, humidity, water evaporation and moisture levels in the grass and waters according to parameters set by the operator. The district is connecting to recycled water and putting in drought tolerant plants in place of little-used turf.

## Weekly Water and Climate Update

### **King Fire in El Dorado, Placer counties in California**

The King Fire was 55 percent contained on the evening of Sept. 25 after burning 95,347 acres or 149 square miles in nearly two weeks. More than 8,000 personnel were fighting the blaze, but with wetter, cooler weather and partial containment, some firefighters may be allowed to go home.

### **Smoke from King Fire prompted cancellation of Ironman events in Lake Tahoe area**

Smoke from the blazing King Fire in the Tahoe National Forest prompted the cancellation of two Ironman events in the Lake Tahoe area on the morning of Sept. 21. Roughly 3,000 competitors from around the globe came to participate, but the air quality was poor.

### **Oregon, Washington wildfires**

Oregon and Washington endured 3,270 wildfires that burned 1,284,013 acres of federal, state and private land from the start of 2014 through Sept. 22, according to the National Interagency Fire Center. The number of fires was lower than the 10-year average, but the spatial extent of the fires was nearly three times the 10-year average of 452,039 acres. The largest fire in each state was the Carlton Complex in Washington at 256,108 acres and the Buzzard Complex in southeastern Oregon at 395,747 acres. Both states have been affected by drought since the start of the year.

Total firefighting costs have risen to \$446 million, in comparison with \$235 million at this time last year, according to the Northwest Interagency Coordination Center.

### **Alabama peanuts**

The hot, dry conditions this summer made Alabama peanuts prone to aflatoxins, rendering them inedible. Aflatoxin-affected peanuts can still be crushed and used for oil. A research associate for Auburn University stated that about half of the peanuts had aflatoxin.

### **Southwestern Oklahoma wheat farmers waiting for rain**

Many wheat farmers in southwestern Oklahoma were waiting for rain before planting their winter wheat because the soil was very dry, according to the executive director of the Oklahoma Wheat Commission.

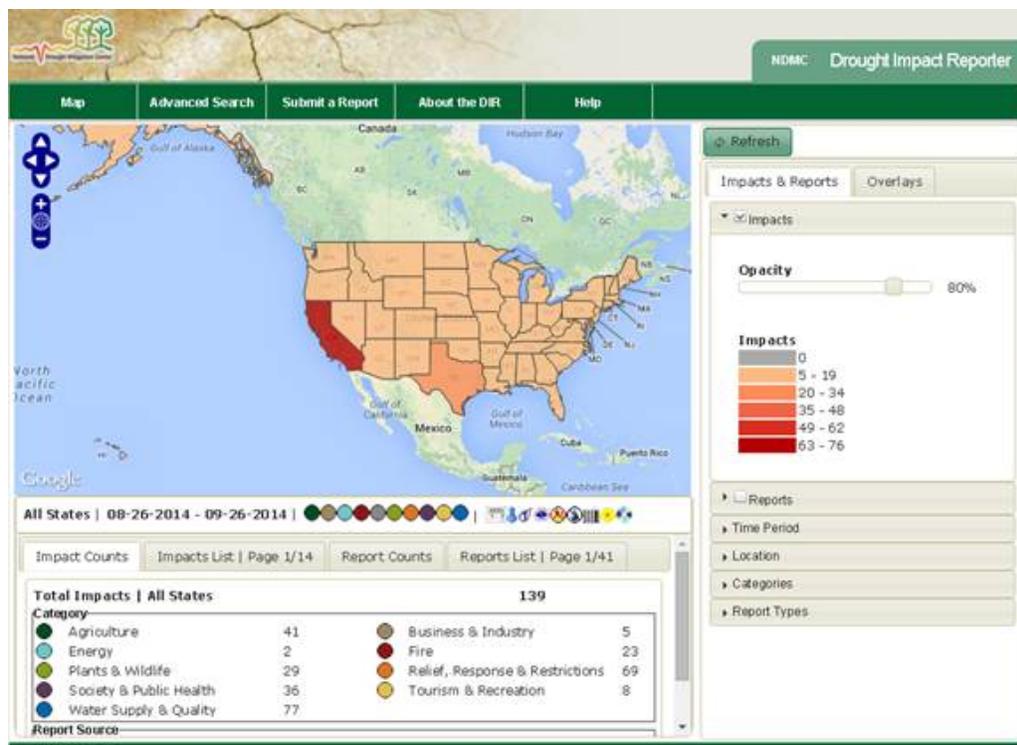
### **Dry wells near Ketchum, Idaho**

Wood River Valley residents had low water pressure and discolored water streaming from their faucets as the area's water table drops and wells run dry. Older homes with shallower wells seem to be having more problems as two relatively dry winters have depleted groundwater levels. A well driller reported that they were deepening wells on riverside lots in the Golden Eagle subdivision from a depth of 35 feet to 60 feet or so.

### **Rhode Island**

The Blackstone River Valley Greenway Challenge, in which athletes run, paddle and bike, has been tweaked to eliminate some paddling and include more biking because the Blackstone River was far too low to accommodate the kayaking portion of the race. Some sections of the river have no water."

## Weekly Water and Climate Update



### Tea Cup Reservoir Depictions

- <http://www.usbr.gov/uc/water/basin/> ← Upper Colorado
- [http://www.usbr.gov/uc/wcao/water/basin/tc\\_gr.html](http://www.usbr.gov/uc/wcao/water/basin/tc_gr.html); ← Upper Snake
- <http://www.usbr.gov/pn/hydromet/burtea.html> ← Upper Colorado
- [http://www.usbr.gov/uc/water/basin/tc\\_cr.html](http://www.usbr.gov/uc/water/basin/tc_cr.html) ← Upper Colorado
- <http://www.usbr.gov/pn/hydromet/select.html> ← Pacific Northwest
- <http://www.sevierriver.org/reservoirs/teacup-diagram-of-reservoirs/> ← Sevier River Water (UT)

### U.S. Crops in Drought Monthly Report

Author: Brad Rippey, USDA

<http://www.usda.gov/oce/weather/Drought/AgInDrought.pdf>

#### Summary:

“During the four-week period ending on September 30, 2014, contiguous U.S. drought coverage decreased to 30.57% -- a 2.21 percentage point drop. Coverage reached its year-to-date peak of 40.06% on May 6, but subsequent rainfall in various regions has reduced drought’s overall imprint.

- During September, statewide decreases in drought coverage of at least 10 percentage points were noted in states such as Kansas (from 72 to 46% in drought), Texas (from 61 to 49%), and Georgia (from 25 to 15%). However, there was a large area of dry weather during September stretching from the southeastern Plains into the mid-South, middle and upper Ohio Valley, and the Northeast. In particular, coverage of moderate drought (D1) increased during September from 0% to 99% in Rhode Island, 0 to 38% in Connecticut, and 0 to 27% in Massachusetts. Several other Eastern States are not yet experiencing drought, but saw sharp increases during September in the coverage of abnormal dryness (D0). Among them: Maine (from 0 to 54% abnormally dry), New Jersey (from 1 to 42%), Virginia (from 11 to 48%), and New Hampshire (from 0 to 36%).

## Weekly Water and Climate Update

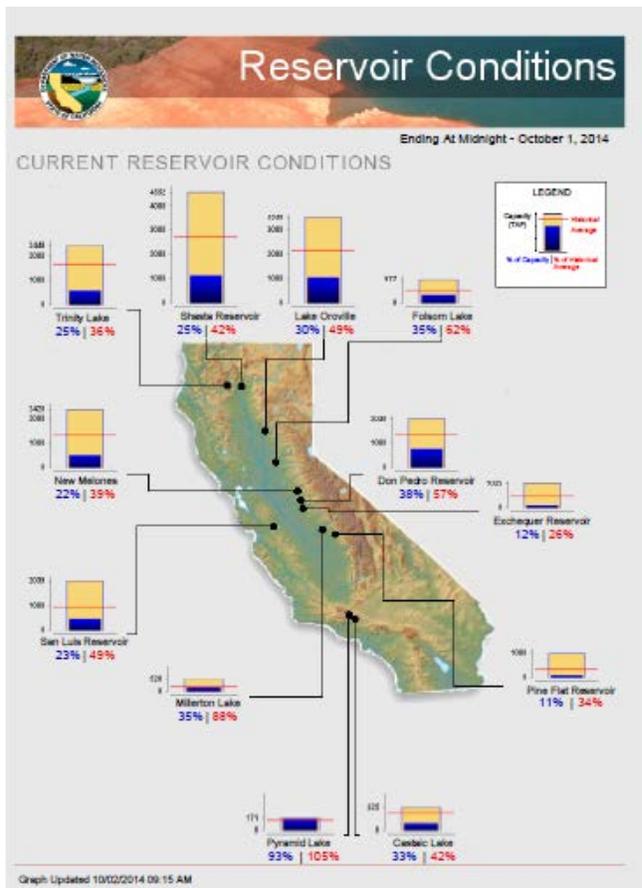
- Drought still covers a substantial portion of the southern Plains and the western U.S. On September 30, the highest level of drought—D4, or exceptional drought—was noted in portions of California (58%), Nevada (12%), Oklahoma (5%), and Texas (3%). California also led the nation with 82% coverage of extreme to exceptional drought (D3 to D4).

- In addition, California topped the U.S. with 70% of its rangeland and pastures rated in very poor to poor condition on September 28, according to USDA. Following California were Oregon (47% very poor to poor), Nevada (45%), Washington (41%), New Mexico (31%), and Texas (31%). According to the latest “agriculture in drought” statistics, based on the September 30 Drought Monitor, 21% of the domestic hay acreage and 30% of the U.S. cattle inventory were located in a drought-affected area.

- In recent weeks, unfavorably dry weather has returned to portions of the southern Great Plains. This resurgent dryness could have implications for fall grazing of recently planted wheat on the southern Plains, as well as possible issues with establishment of the winter wheat crop. On September, 35% of the nation’s winter wheat production area was located within a drought-affected region.

- As the end of 2014 growing season nears, conditions remain mostly favorable for Midwestern corn and soybeans. By September 28, nearly three-quarters of the U.S. corn (74%) and soybeans (72%) were rated in good to excellent condition. On September 30, drought covered just 5% of the U.S. corn production area and 2% of the soybean area.”

## California Reservoir Conditions



[California Major Reservoir Conditions from the CA Department of Water Resources](#)

## Weekly Water and Climate Update

### 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](#).

### 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 Weekly Water and Climate Updates from 2007 are available online. Updates 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/

David W. Smith

Deputy Chief, Soil Science and Resource Assessment