



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

## Weekly Snowpack / Drought Monitor Update

### July 17, 2014

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### Highlights

#### Agricultural Weather Highlights – Thursday - July 17, 2014

- “In the **West**, a Northwestern heat wave is maintaining stress on rain-fed crops and hampering wildfire containment efforts. More than two dozen large wildfires are actively burning in Idaho, Oregon, and Washington. Farther south, monsoon showers have temporarily abated in the Four Corners States.
- On the **Plains**, warmth is returning to Montana’s high plains, but cool conditions persist in other areas. Significant rainfall continues to provide drought relief and benefit rangeland, pastures, and summer crops from Kansas southward into Texas. However, rainfall has become excessive in a few areas, especially in the Red River Valley near the Oklahoma-Texas border.
- In the **Corn Belt**, cool, dry weather remains nearly ideal for reproductive corn and soybeans. However, crop development remains behind the normal pace in some northern production areas. On July 13, corn silking was 15 percentage points behind the 5-year average pace in Minnesota (5% silking) and Ohio (14%).
- In the **South**, showers linger across Florida’s peninsula and are gradually overspreading areas west of the Mississippi Delta. In the Southeast, recent shower activity aided pastures and summer crops, but bypassed some locations. On July 13, topsoil moisture was rated 65% very short to short in South Carolina, along with 50% in Kentucky, 48% in Georgia, 47% in Delaware, 44% in Virginia, and 38% in North Carolina.

#### Outlook

A disturbance crossing the southern Plains will drift eastward, reaching the southern Atlantic States by early next week. Rainfall associated with the disturbance will be widespread across the South, totaling 2 to 5 inches as far east as the Mississippi Delta and 1 to 3 inches in the Southeast. Only light showers—totaling less than an inch—can be expected across the remainder of the country during the next 5 days, except possibly for some heavier rain late in the period across the north-central U.S. Meanwhile, cool weather will persist through the weekend across the eastern half of the U.S., while warmth will return to the High Plains. Elsewhere, the Northwestern heat wave will end during the weekend. The NWS 6- to 10-day outlook for July 22-26 calls for near- to above-normal temperatures nationwide, except for cooler-than-normal conditions in the Pacific Northwest. Meanwhile, below-normal rainfall across southern Texas and from the Great Basin eastward to the High Plains will contrast with wetter-than-normal weather in the Pacific Northwest and across much of the eastern half of the U.S.”

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>.

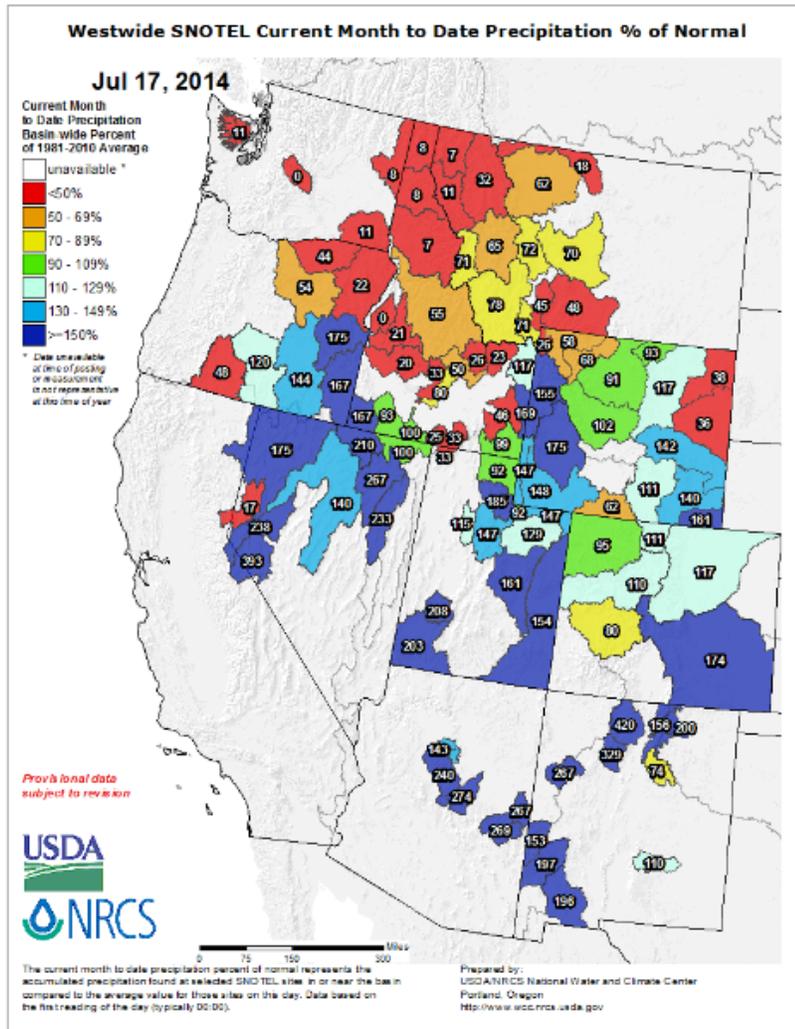
The Natural Resources Conservation Service provides leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment

# Weekly Snowpack and Drought Monitor Update Report

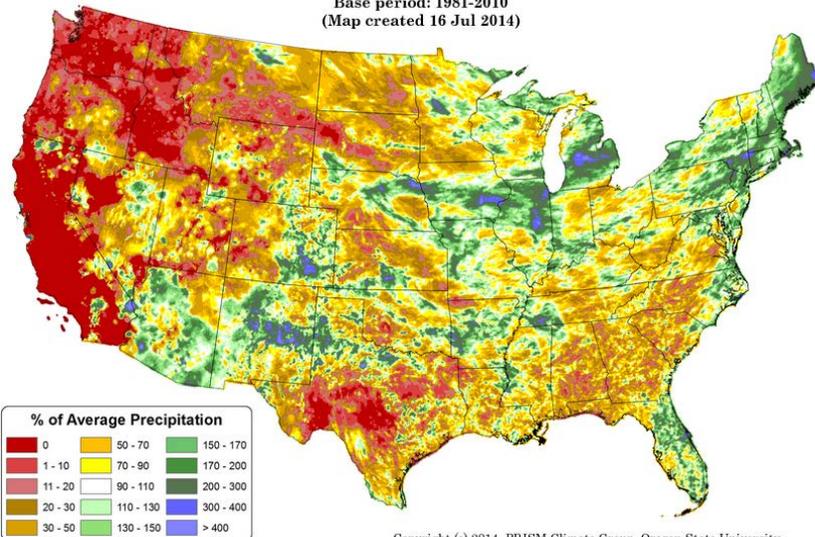
## Precipitation

In the West, the July 1 through 17 [SNOTEL](#) precipitation percent of normal map shows a wide variety of conditions. The percent of normal numbers in the scattered areas may be amplified where normally very little precipitation falls at this time of year.

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



**Total Precipitation Anomaly: 01 July 2014 - 15 July 2014**  
Period ending 7 AM EST 15 Jul 2014  
Base period: 1981-2010  
(Map created 16 Jul 2014)



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

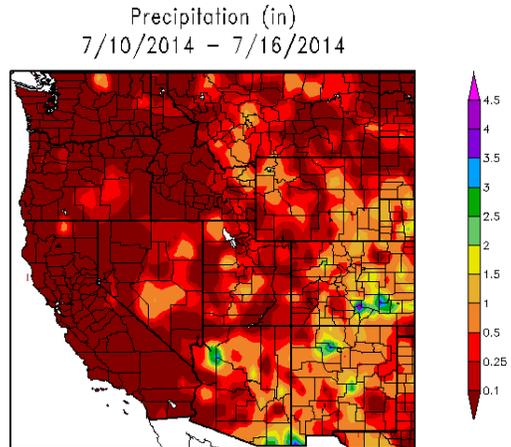
During the first two weeks of July 2014 the national [precipitation anomaly](#) pattern reveals some higher than normal precipitation scattered across the central part of the nation, the Southwest, and the Northeast. Most of the West has seen little or no precipitation. Parts of the Southwest, Texas, and the Southeast have also recorded drier than normal conditions.

*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 Snowpack and Drought Monitor Update Report

The [ACIS 7-day](#) total precipitation map for the western U.S. shows mainly dry conditions. Precipitation has fallen mainly in the Southwest. Scattered thunderstorms and precipitation occurred in the Rocky Mountains and into the Great Plains.

Little, if any, precipitation occurred over vast areas of the West. This includes Washington, Oregon, and most of Idaho, California, northern Nevada, and northern Utah.

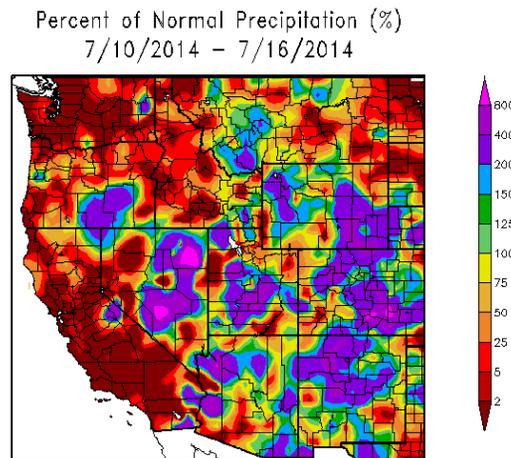


Generated 7/17/2014 at HPRCC using provisional data.

Regional Climate Centers

As would be expected based on the map above, this percent of normal west area [map](#) reflects the heaviest scattered precipitation falling across the central Rockies and the Southwest, with some scattered precipitation elsewhere in the West.

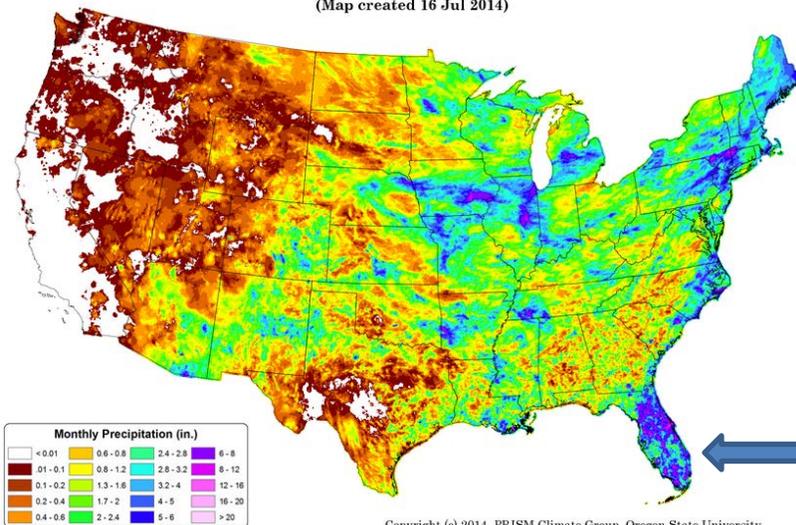
Percent of normal precipitation may be exaggerated in areas where the average for this period is near zero.



Generated 7/17/2014 at HPRCC using provisional data.

Regional Climate Centers

Total Precipitation: 01 July 2014 - 15 July 2014  
Period ending 7 AM EST 15 Jul 2014  
(Map created 16 Jul 2014)



In the first two weeks of July 2014, the total precipitation across the continental U.S. was heaviest across Iowa, Missouri, Illinois, Florida, and the Northeast, due to Hurricane Arthur. The West and southwest Texas were mainly dry.

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

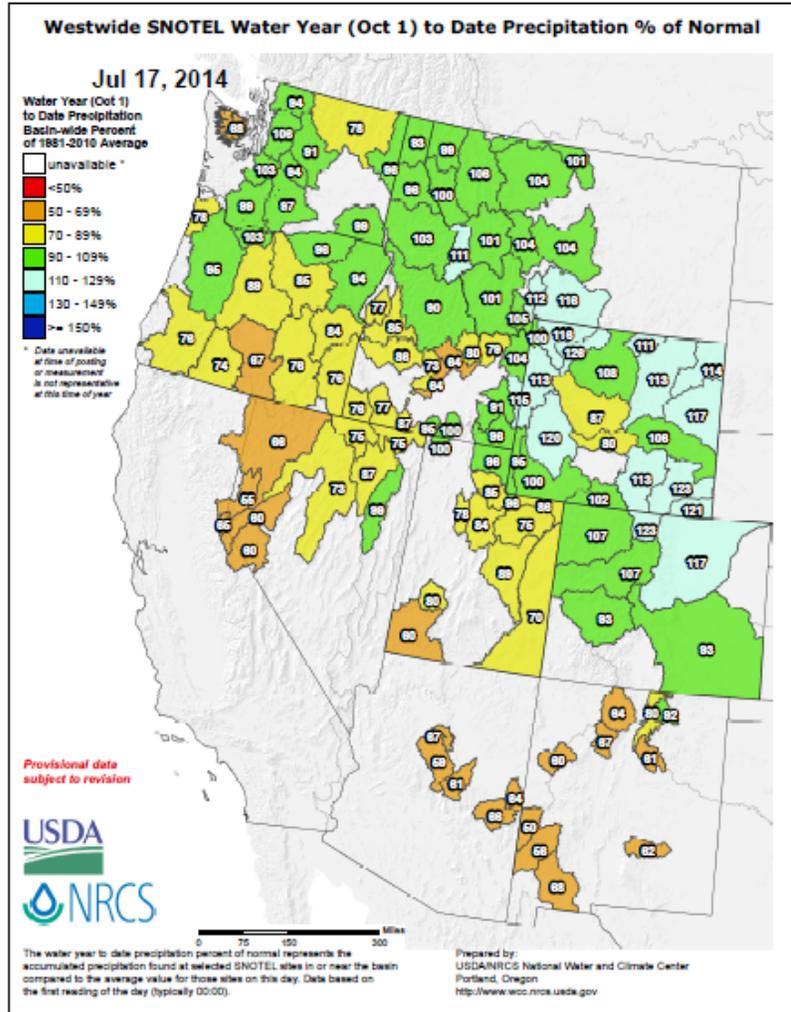
## Weekly Snowpack and Drought Monitor Update Report

For the [2014 Water Year](#) that began on October 1, 2013, surpluses in the western U.S. occurred in central Montana, most of Wyoming, and northern Colorado.

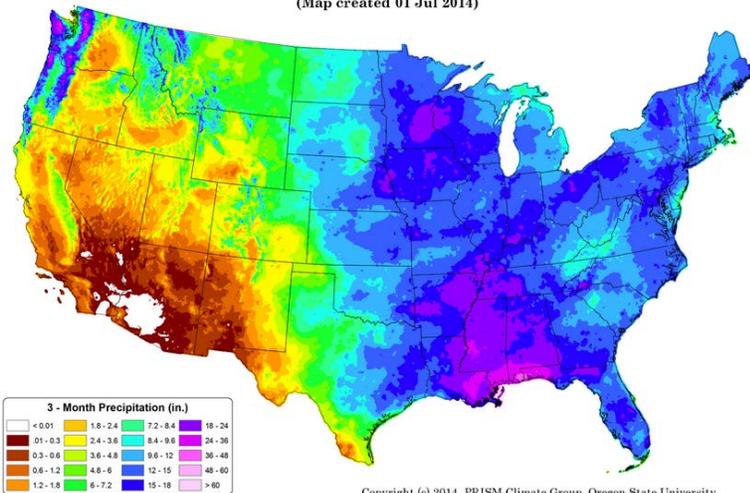
Near average conditions dominated the northern half of the Cascades, the northern half of Idaho, northwestern-most Montana, the Lower Bear River in eastern Utah and southeast Idaho, and parts of the southern half of Colorado.

The largest deficits were centered over southern Oregon, the Sierra Nevada mountains in Nevada and California, southern and eastern Utah, Arizona, and New Mexico.

As the Water Year advances, it becomes more difficult for river basins to change bin categories.



Total Precipitation: April 2014 - June 2014  
Period ending 7 AM EST 30 Jun 2014  
(Map created 01 Jul 2014)



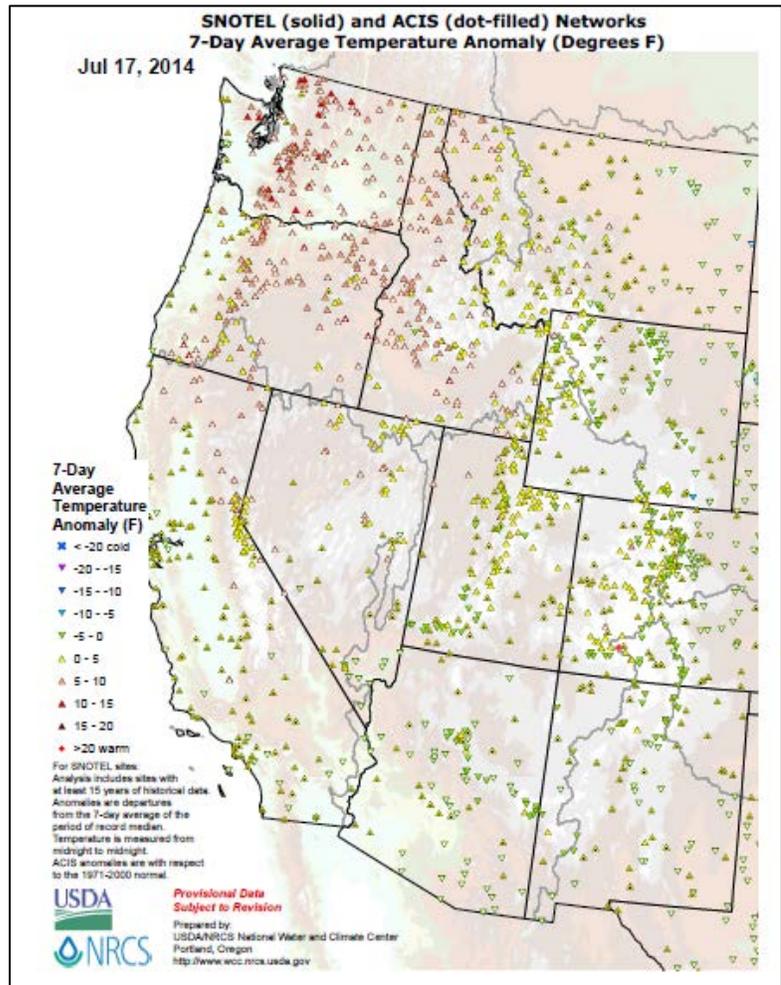
The national map of the [three-month period](#) (April – June) shows that the eastern half of the nation received precipitation in the range from 5 to greater than 36 inches along the gulf coast.

On the other hand, parts of the West received totals of less than 3 inches. The exceptions in the West were over the northern Rockies and Cascades, where totals exceeded 36 inches.

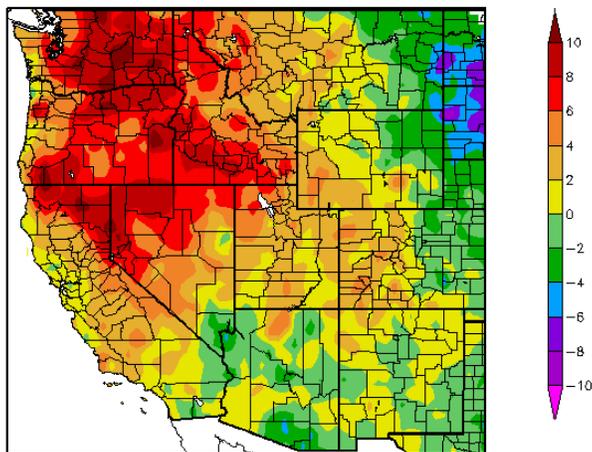
# Weekly Snowpack and Drought Monitor Update Report

## Temperature

The [SNOTEL](#) and ACIS [7-day temperature anomaly](#) map for the western U.S. shows temperatures near normal. Most of the Columbia River Basin in Oregon, Washington, Idaho, western Montana, and northern Nevada and Montana, had much warmer than normal temperatures this past week.



Departure from Normal Temperature (F)  
7/10/2014 – 7/16/2014



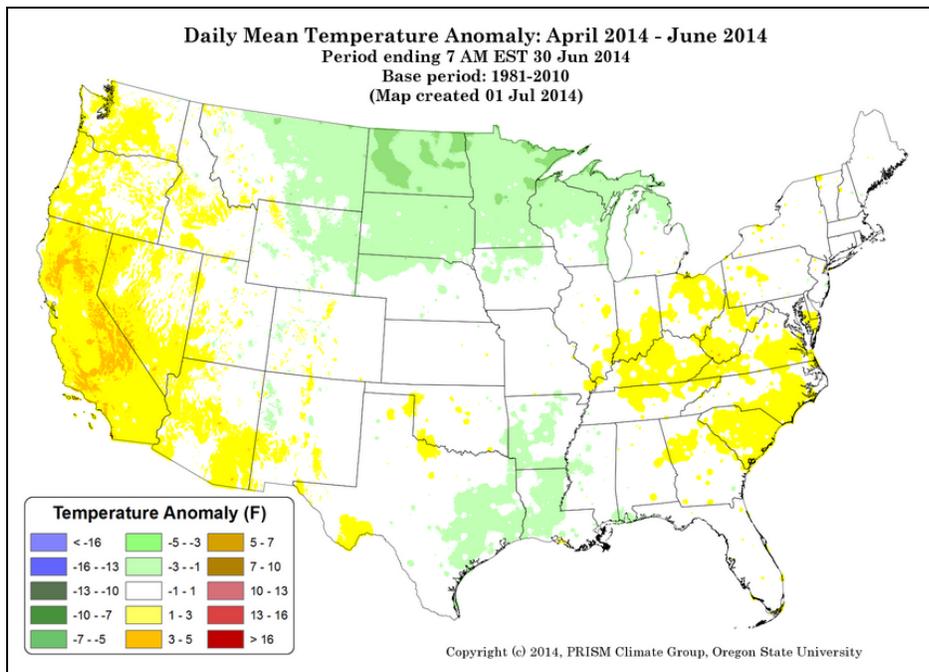
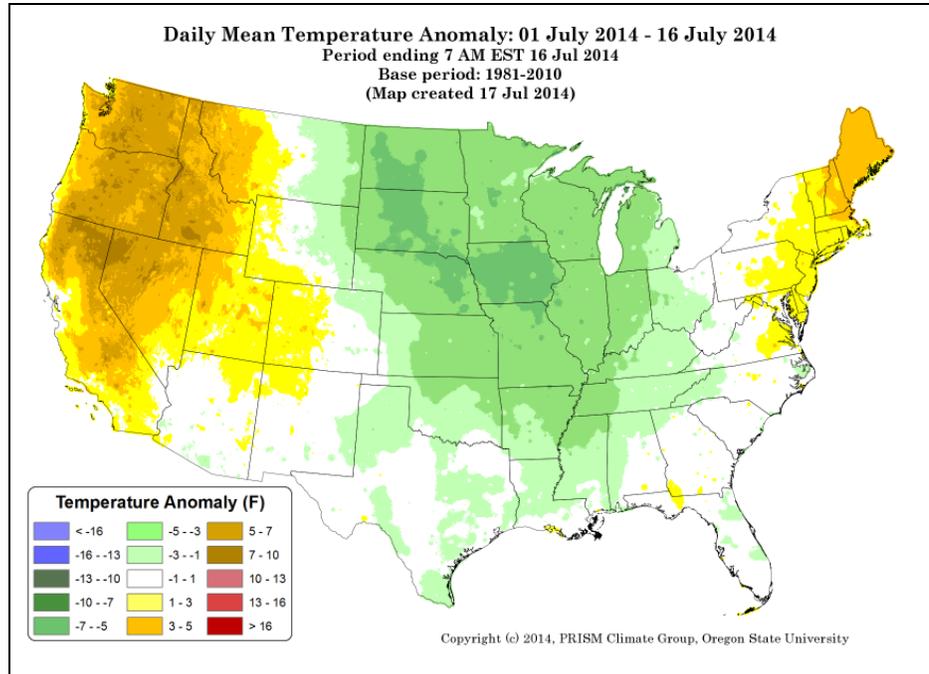
[ACIS](#) map of the 7-day average temperature anomalies in the West ending July 16, show the greatest negative temperature departures scattered over a few spots in the Southwest (<-4°F). The greatest positive temperature departures occurred in northern California, Oregon, and Washington (>+10°F).

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

## Weekly Snowpack and Drought Monitor Update Report

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.

So far during July 2014, the national temperature anomaly [map](#) shows a cold pattern over the northern Great Plains, centered over Iowa (<-7°F). Above normal temperatures dominated the West, centered in northern California and the Columbia River Basin (>+7°F). Northern New England also experienced warm temperatures (>+3°F).



April – June national temperature anomalies for the U.S. in this [climate map](#) show the West had near normal to slightly to above normal temperatures mainly in California and the mid-Atlantic states (>+3°F). Most of the remainder of the country reported normal to cool temperatures this spring, with the coolest temperatures in the upper Midwest (<-5°F).

# Weekly Snowpack and Drought Monitor Update Report

## Weather and Drought Summary

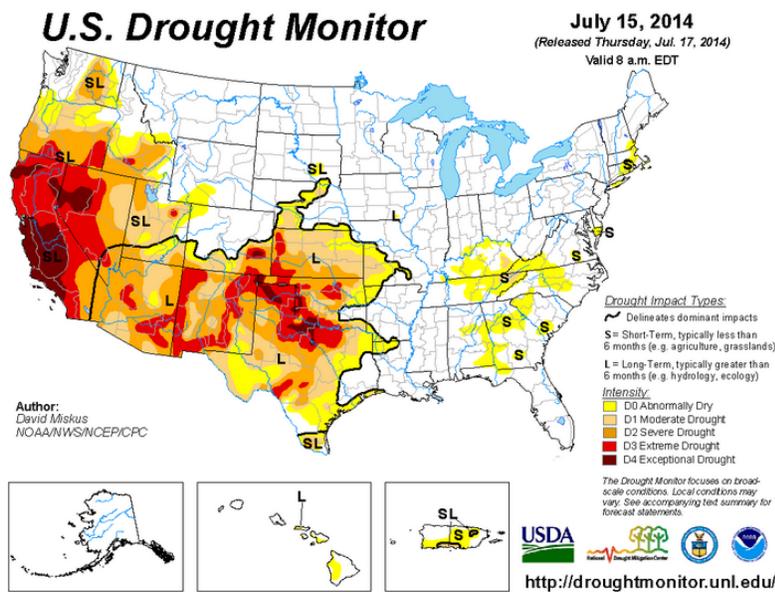
### National Drought Summary – July 15, 2014

The following **Weather and Drought Summary** is provided by this week's NDMC Drought Author, David Miskus, NOAA/NWS/NCEP/CPC

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

“For the contiguous 48 states, the U.S. Drought Monitor showed 34.16 percent of the area in moderate drought or worse, compared with 34.25 percent a week earlier.

For all 50 U.S. states and Puerto Rico, the U.S. Drought Monitor showed 28.55 percent of the area in moderate drought or worse, compared with 28.62 percent a week earlier.”



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

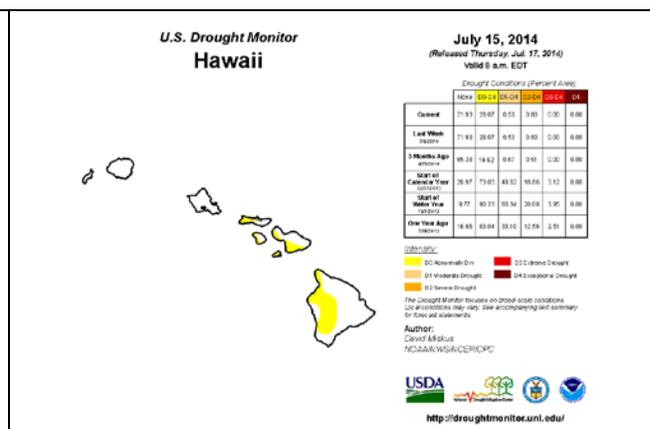
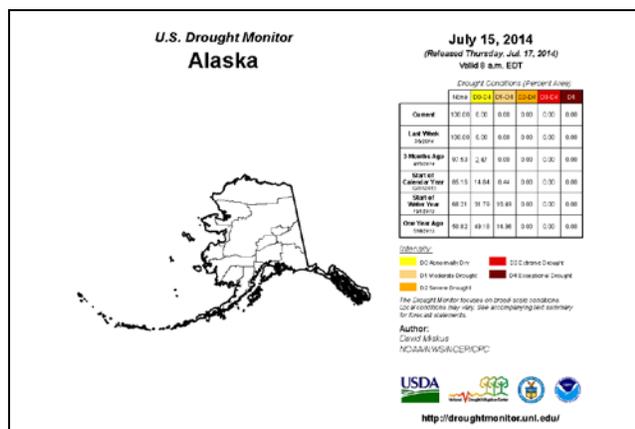
[Current Drought Monitor](#) weekly summary. The exceptional D4 levels of drought are scattered across CA, NV, CO, TX, OK, and NM.

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 er/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 relatively benign drought conditions. No changes noted for Alaska and Hawaii this week. 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 Snowpack and Drought Monitor Update Report

## 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](#)

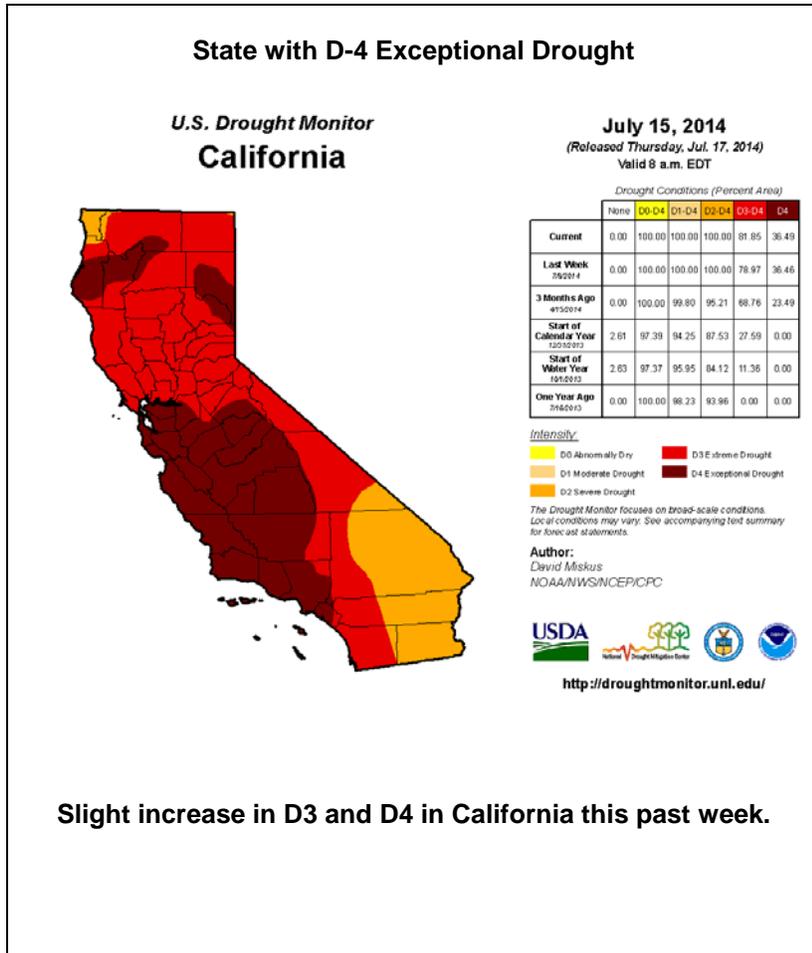
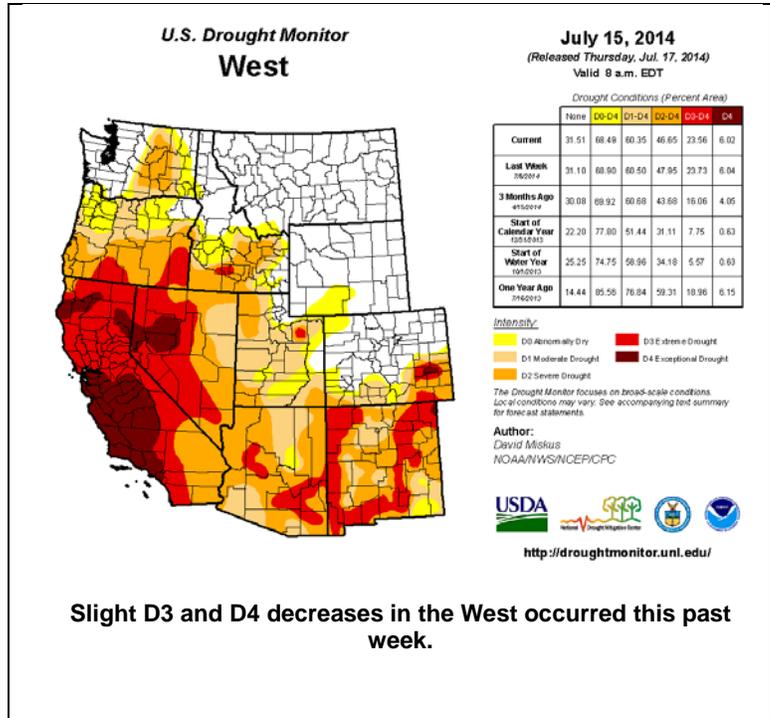
## U.S. Impacts during the past week:

[Cattle at Record Signals Higher Beef Costs for July 4th Grillers](#) – July 3

NE Tennessee: [Recent rain eases drought concerns for local farmers](#) – July 9

Oregon: [Heat tightens logging, business guidelines](#) – July 9

[Click to enlarge maps](#)



## CA Drought Information Resources

### Drought News from California

[Water district reducing flow from reservoirs to Los Gatos Creek](#) – July 9  
[California water regulators up enforcement powers-](#) July 3

[Logging companies ordered to report water use in controlling dust](#) - July 5  
[California Drought Imperils A Dream](#) – July 4

[Got water shortage? Fill 'er up at California's first recycled water station for homeowners](#) – July 7  
[Some Sacramentans let their lawns die, but city says that's not necessary](#)

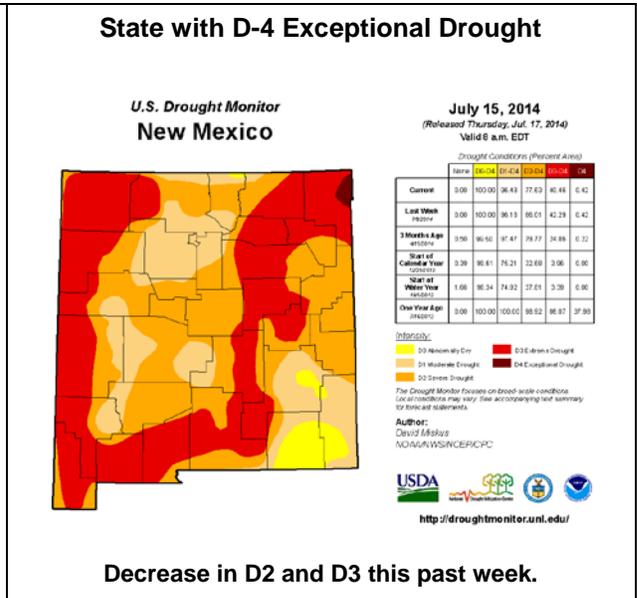
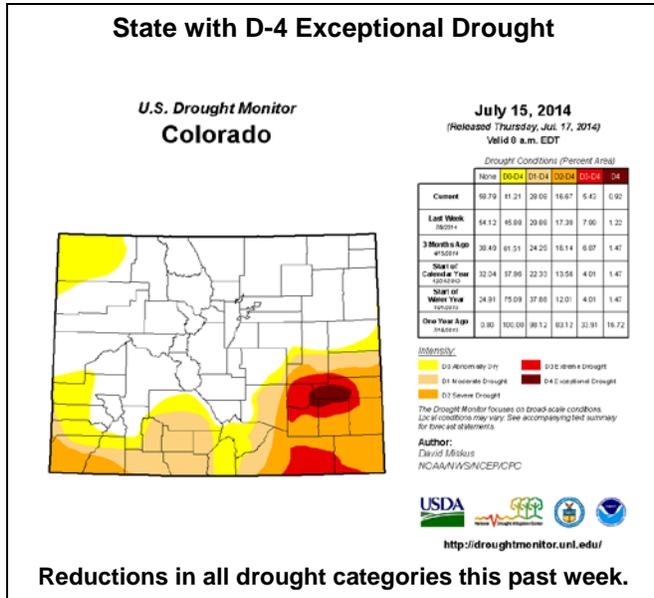
– July 7  
[Water crisis in Tulare County's Seville trigger state help, short-term fixes](#) – July 9

[California hopes fines up to \\$500 slow water waste](#) – July 9  
[California restricts access to water well records](#) – July 6

[Emergency rationing in Rio Dell after state curtails junior water rights](#) – July 10

[In Dry California, Water Fetching Record Prices](#) – July 2  
[Water crisis in Tulare County's Seville trigger state help, short-term fixes](#) – July 9

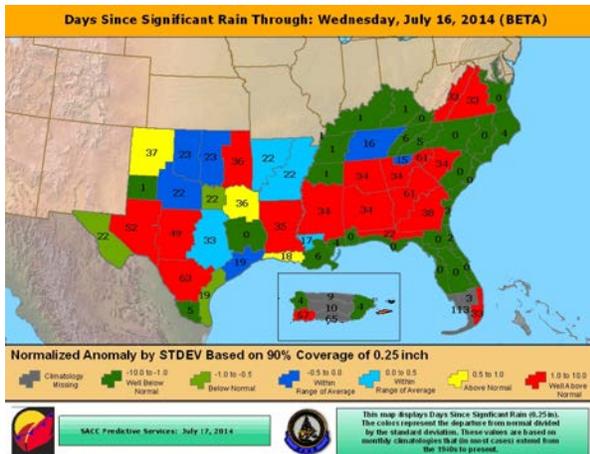
# Weekly Snowpack and Drought Monitor Update Report



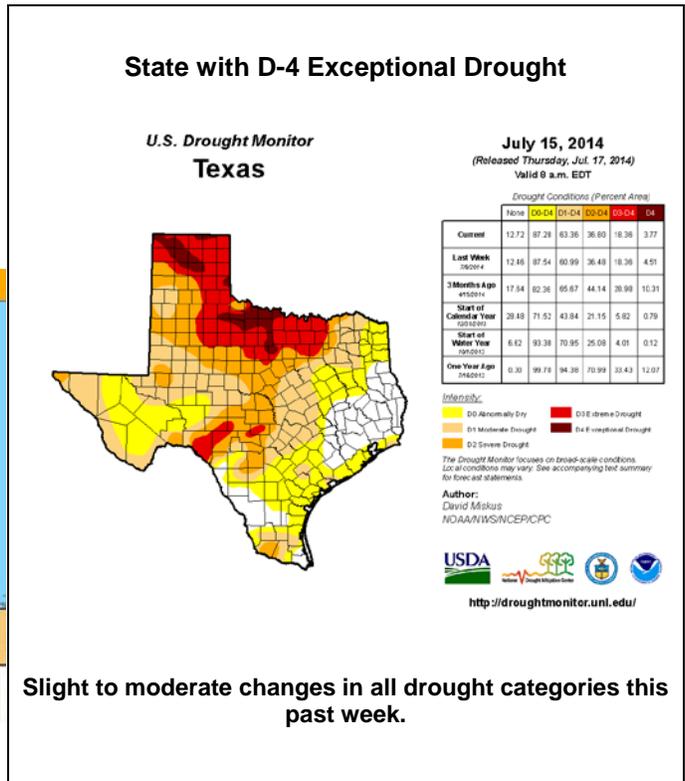
New Mexico News:  
[Doña Ana County farmers to get slight water hike as season winds to a close – July 9](#)

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

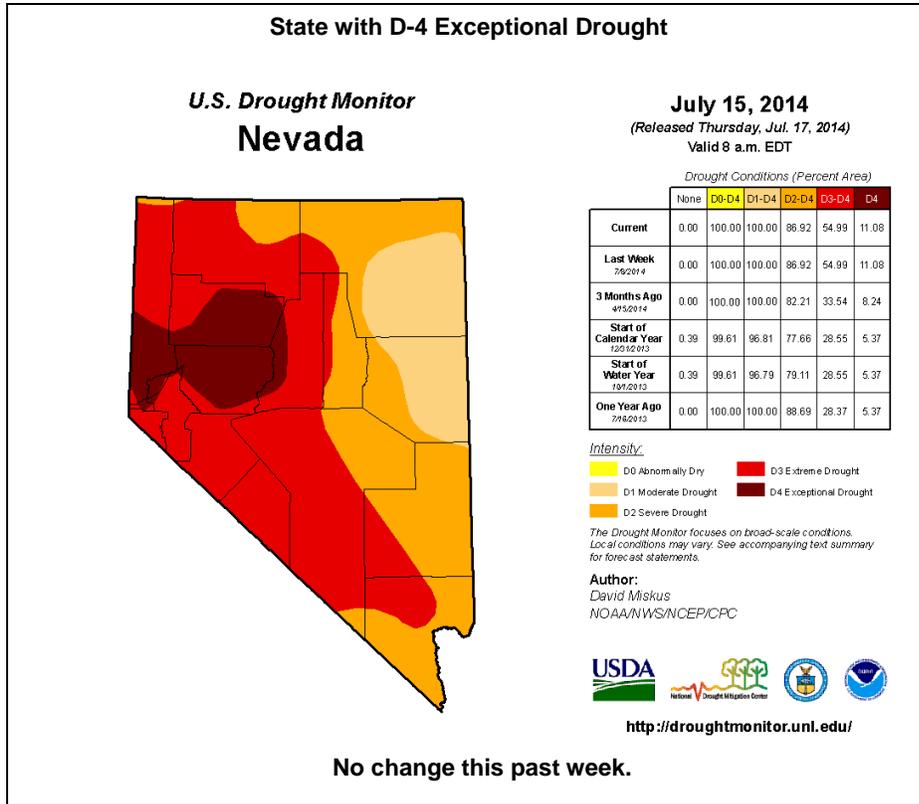
[Texas city using treated wastewater for drinking](#) – July 9



[Days since Significant Rain Summary](#)



# Weekly Snowpack and Drought Monitor Update Report



## Nevada Drought News:

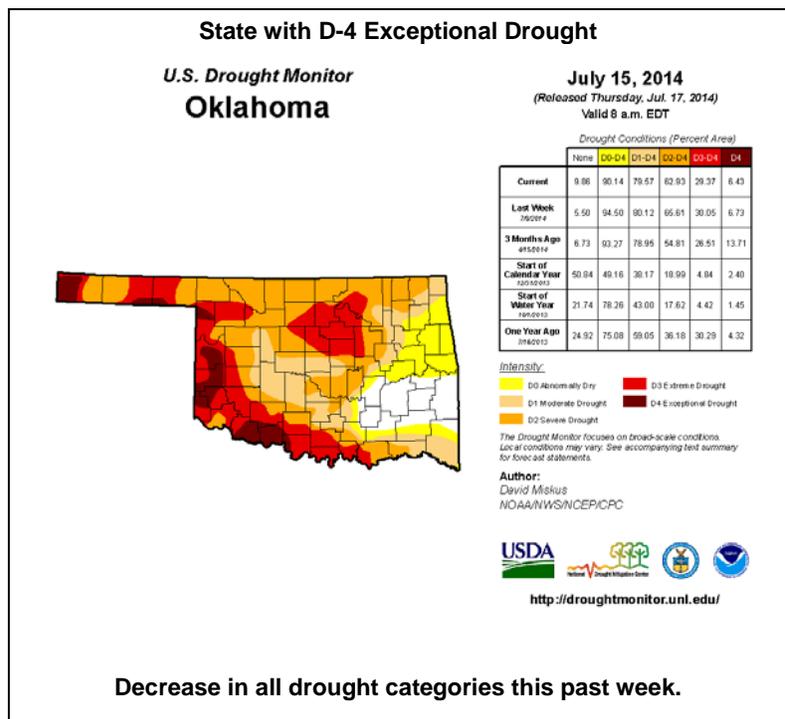
[Drought drawing bears near people at Lake Tahoe – July 11](#)  
[Lake Mead in Nevada pushed to new low by drought – July 9](#)

## 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](#)

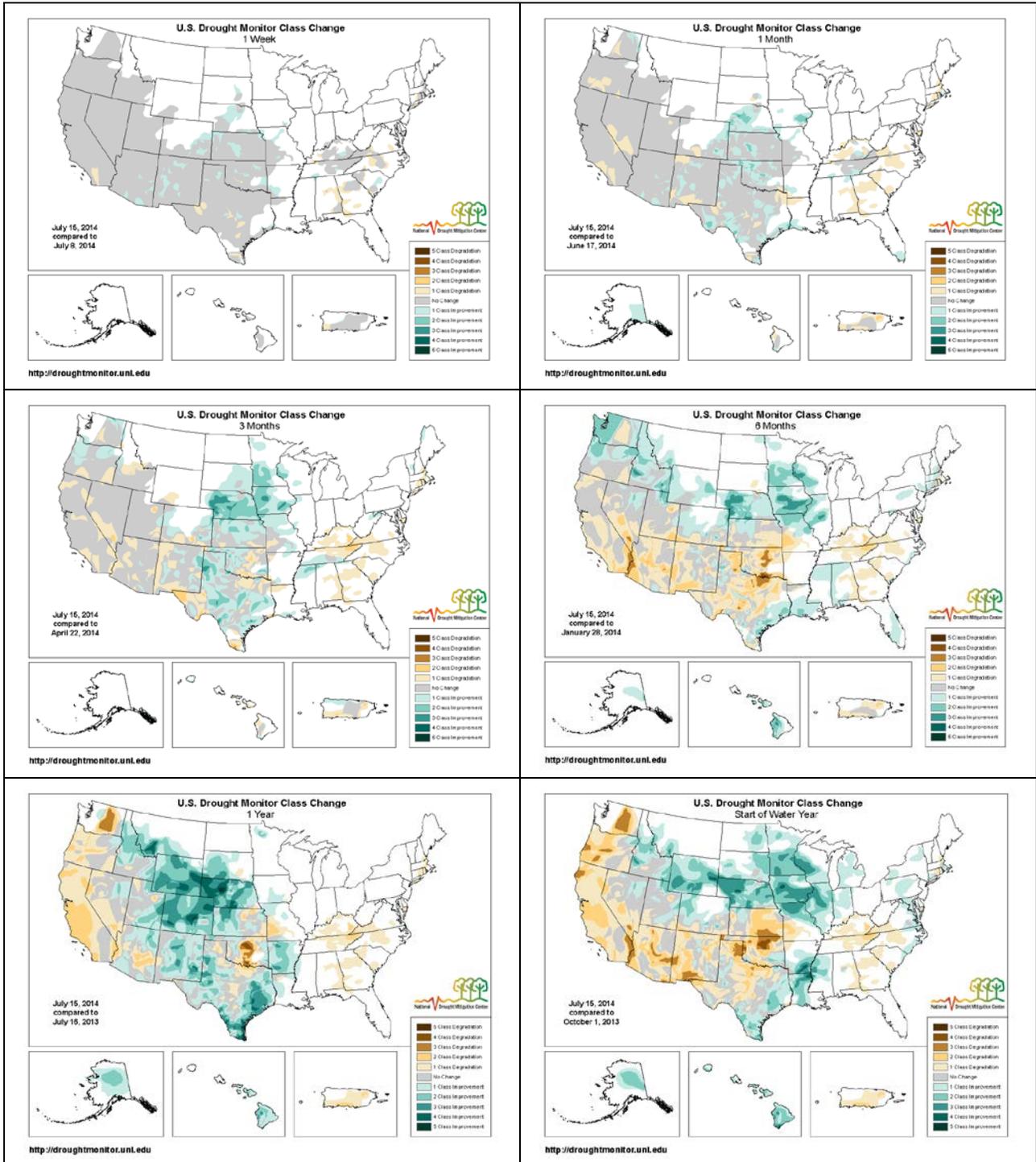
[Woods County Hopes Oil Success Offsets Failing Wheat Crop – July 7](#)



# Weekly Snowpack and Drought Monitor Update Report

## Changes in Drought Monitor Categories

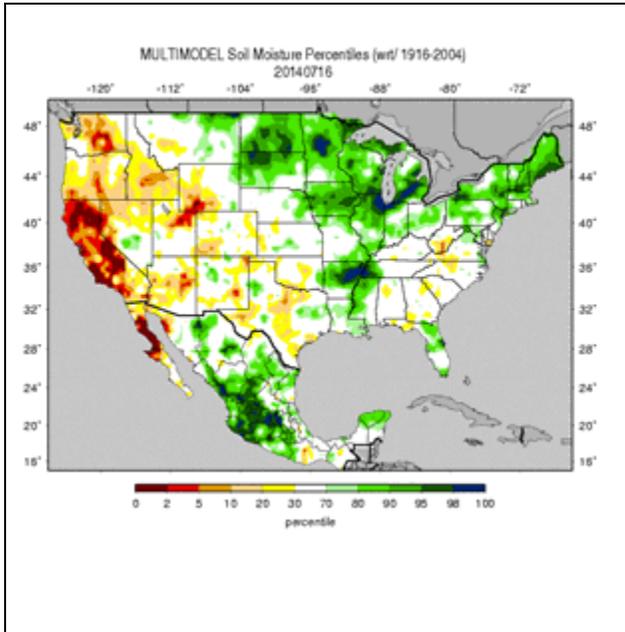
### Over Various Time Periods



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 middle and southern Great Plains and the Pacific coastal states have deteriorated significantly (lower right map).

# Weekly Snowpack and Drought Monitor Update Report

## Soil Moisture

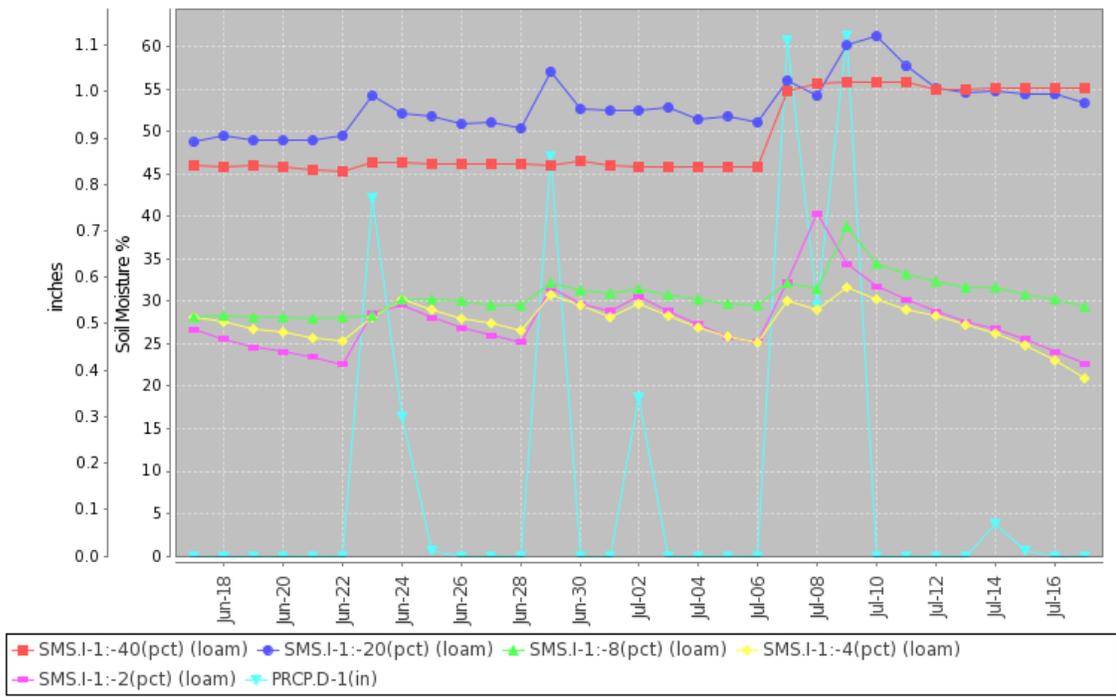


The national soil moisture model ranking in [percentile](#) as of July 15 shows dryness over California, Arizona, New Mexico, and parts of Washington, Oregon, and Idaho. Scattered dryness is also reported in other areas west of the Rockies. Very moist soils dominated eastern Montana to the Great Lakes, where the wettest locations were centered in Minnesota, and parts of the Dakotas, Wisconsin, and Iowa. The soils in the lower Mississippi River Basin and parts of the New England states also had 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 (2193) MONTH=2014-06-17 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision  
Thu Jul 17 10:51:58 PDT 2014

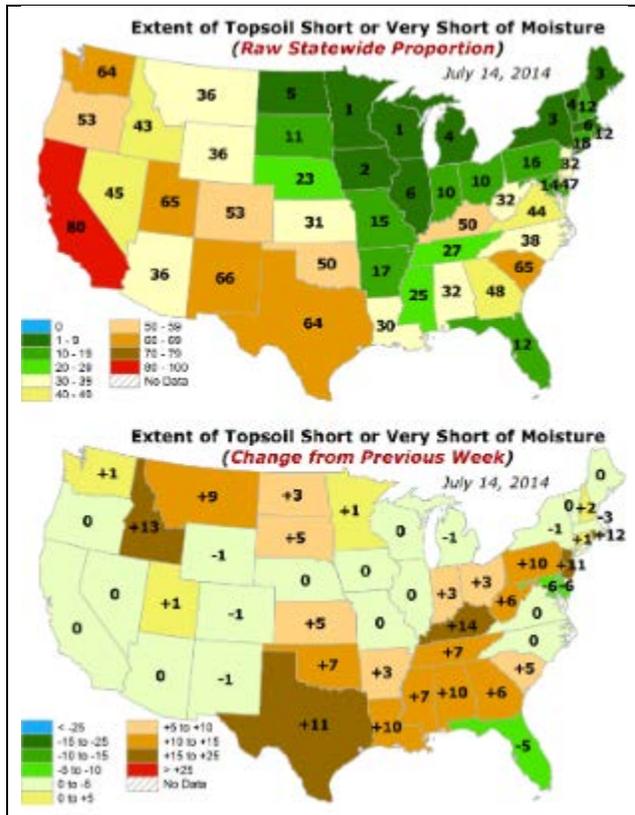


This NRCS resource shows soil moisture data at the [Schell-Osage SCAN station](#) located in western Missouri. Note the rapid increase in soil moisture as a result of recent heavy rainfall (precipitation trace in light blue). The deeper soil sensors at 20 and 40 inches depth also show an increase from the recent precipitation.

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](#).

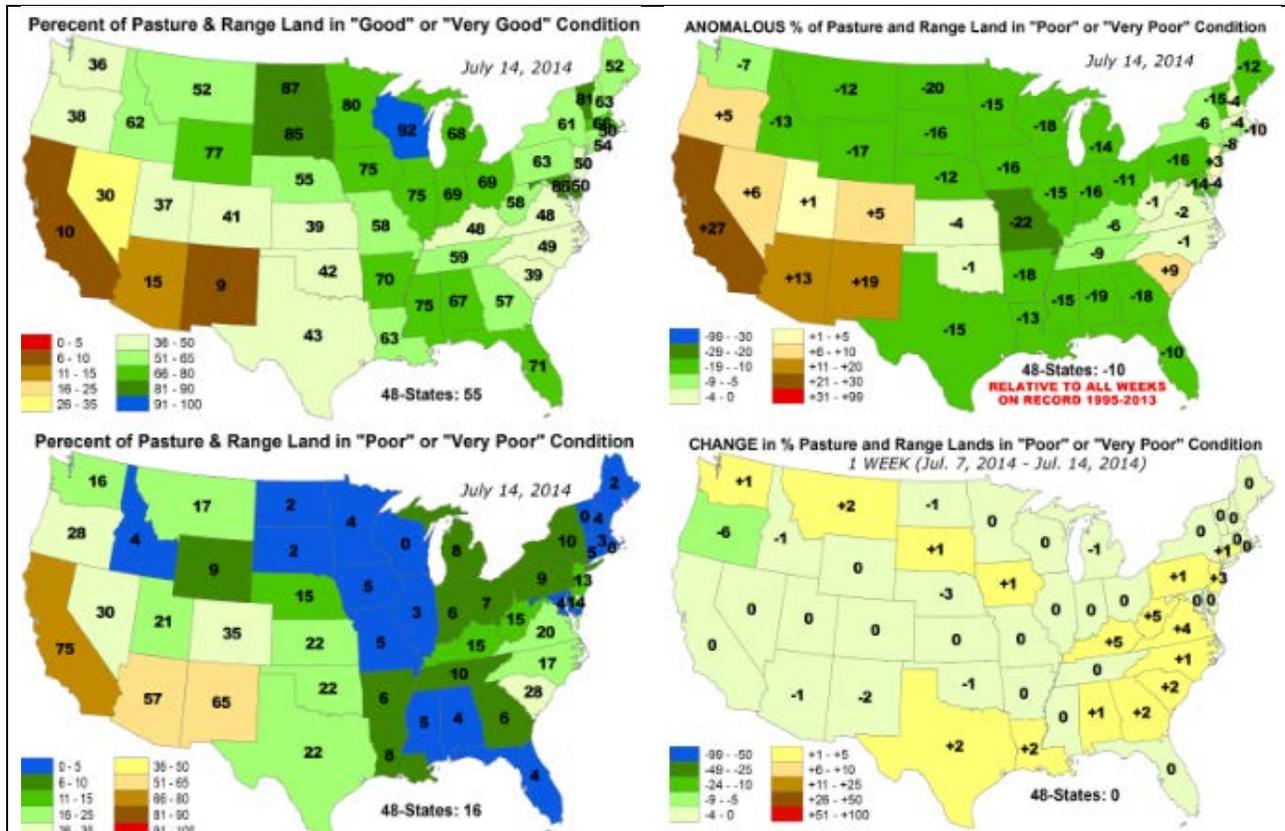
# Weekly Snowpack and Drought Monitor Update Report

## Topsoil and Pasture & Rangeland National Conditions



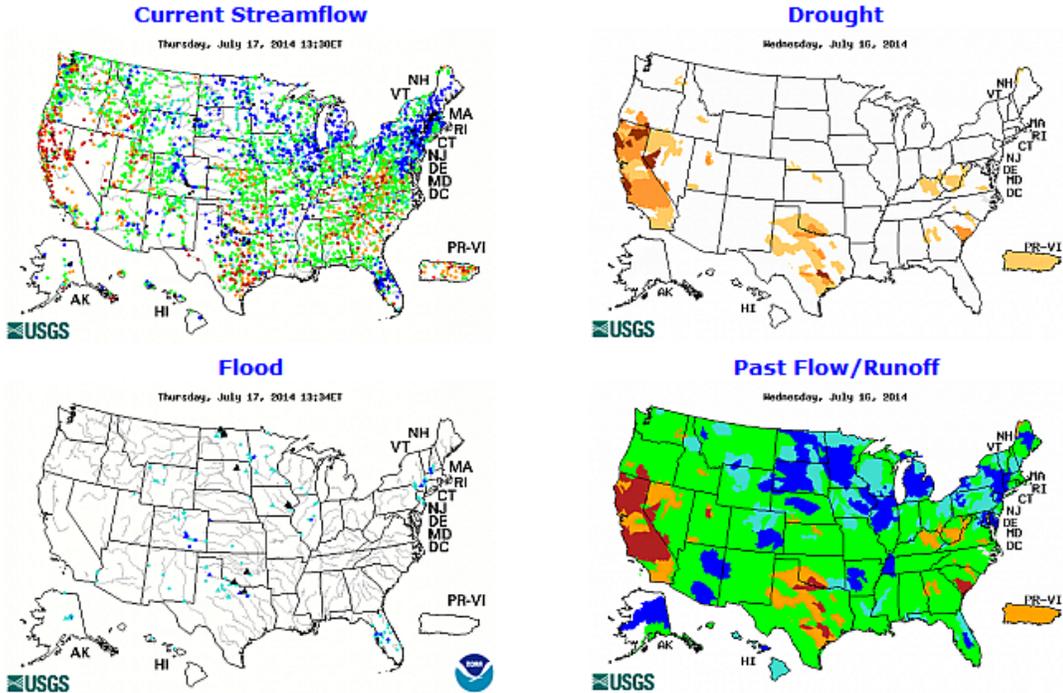
↪ Topsoils are exceptionally poor (top) over New Mexico, California, Utah, Texas and South Carolina with values representing more than 60 percent poorer conditions than the median for this time of year (bottom panel). Locations in the northern Great Plains across to New England, and along the Mississippi River 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 stressed over California, the Great Basin, and the Southwest. Conditions have remained about the same over this past week.



# Weekly Snowpack and Drought Monitor Update Report

## Streamflow



Streams are high over much of the upper Mississippi River Basin and New England due to recent precipitation (left maps). Flooding is occurring along the upper Mississippi River, the Souris River in North Dakota, the James River in South Dakota, several rivers in eastern Iowa, and in southern Oklahoma and northern Texas (lower left map).

## 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 a many areas of the upper Mississippi and Missouri Rivers and west-central Florida. Currently, **1** gage has a greater than 50% chance to experience major flooding; **3** gages for moderate flooding; and **19** gages for minor flooding.

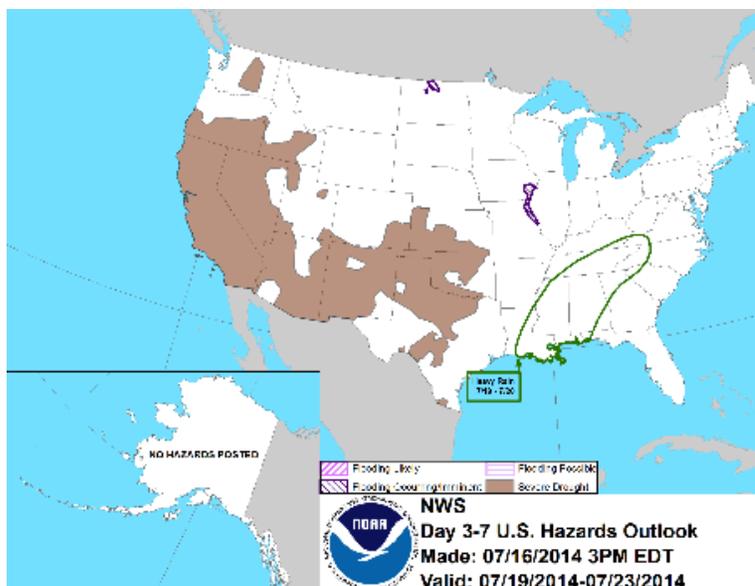
These numbers represent an increase in gages since last week.

## Weekly Snowpack and Drought Monitor Update Report

### National [Weather hazards](#)

Flooding is occurring along the Mississippi River in Iowa, Illinois, Missouri, and in northern North Dakota during the next several days.

There is also a hazard of much above normal precipitation in the Southeast.



### [National Drought Summary for July 15, 2014](#)

Prepared by the Drought Monitor Author: David Miskus, NOAA/NWS/NCEP/CPC

#### Summary

“During the past 7-days, a series of slow-moving cold fronts traversed the eastern two-thirds of the Nation, triggering numerous and widespread showers and thunderstorms. Areas that recorded over 2 inches of rain for the week included portions of the central Plains, Midwest, Tennessee Valley, lower Delta, the Appalachians, most of Florida, the coastal Carolinas, and the mid-Atlantic. A northward surge of monsoonal moisture into the Southwest brought welcome rainfall to portions of the Four Corners States and Nevada, including more than 2 inches in southern and eastern Arizona, western New Mexico, and eastern Colorado. Unfortunately, hot and dry weather enveloped much of the Far West, including California. In the Northwest, temperatures averaged 8 to 12oF above normal with highs in the 90’s and 100’s, and numerous wild fires were reported. In Puerto Rico, scattered showers fell across the northern and eastern sections of the island, but dry weather prevailed in the southwest as D0 developed there. Scattered showers on Hawaii were enough to maintain conditions.

#### Hawaii and Puerto Rico

In Hawaii, light scattered showers fell over the D0 and D1 areas of the leeward sides of the central and eastern islands. The showers were enough to prevent further deterioration, but not great enough to improve conditions. On the Big Island, 2-4 inches of rain, locally to 8 inches, fell on the southern and eastern sections, but this area was drought free.

In Puerto Rico, little or no rain fell along the southwestern coast, accumulating short-term deficits similar to deficiencies to the east where D0 and D1 currently exist. Since conditions are basically the same in the southwest as they are in south-central Puerto Rico, D0(S) was expanded into the southwestern portion of the island. In contrast, light to moderate rains (1-3 inches) fell across the northern two-thirds of Puerto Rico, especially in the drought-free northwest (4-8 inches), maintaining conditions across the remainder of the island.

Drought is not an issue at this time in Alaska.

## Weekly Snowpack and Drought Monitor Update Report

### Middle and Lower Missouri Valley

Thunderstorms moving from northwest to southeast dropped moderate to heavy rains on sections of southern South Dakota, eastern half of Nebraska, northeastern Kansas, and most of Missouri. Moderate to heavy rain also fell on the small D0 area in southeastern Iowa. Accordingly, the D0 and D1 areas of the aforementioned regions were improved by 1-category where more than 2 inches of rain fell and short- to medium-term shortages were gone. The exceptions to this included: extreme southern South Dakota (D0) where totals were less than 0.5 inches and short- to medium-term deficits still existed; northern Nebraska where 1-1.5 inches of rain was not enough to remove 90- and 180-day deficiencies; and in southeastern Iowa as the small D0(L) still had a shallow aquifer that just recently climbed out of record low territory. Current pasture and range conditions are quite different from 2 years ago when 33, 59, 49, and 87% of SD, NE, IA, and MO were rated poor or very poor, respectively – and now are rated 85, 55, 75, and 58% good or very good. Corn and soybeans are mostly in good or excellent condition. Much of this is based upon a near-record wet June – according to NCDC, June 2014 ranked as the 1st, 3rd, 4th, 4th, 4th, 6th, 6th, and 10th wettest June or record (since 1895) in MN, IA, SD, NE, KS, WI, TN, and IL, respectively.

### New England and mid-Atlantic

Widespread showers and thunderstorms (1-3 inches of rain) covered most of the Northeast during the period, generally maintaining conditions across the region. The exceptions to this included drier conditions (<0.5 inches) across northern and coastal New England, parts of Virginia, and central North Carolina. With much of this region reporting long-term wetness, only spotty areas of short-term dryness remained, namely in eastern Massachusetts, Rhode Island, eastern Connecticut, and into central Long Island where 60- and 90-day precipitation was between 75-90% of normal, accumulating deficits of 1-3 inches. 7-day USGS stream flows were generally near to slightly below average values in these 4 areas, but above-normal to the west. In the mid-Atlantic, moderate to heavy rains generally prevented any possible development of dryness; however, lighter amounts (<0.5 inches) in southern Virginia, southern Delmarva Peninsula, and central North Carolina maintained and expanded D0 as 60-day deficits of 2-4 inches accumulated. USGS 1-, 7-, 14-, and 28-day averaged stream flows also responded to the recent dryness as several sites reported values in the 10-24th percentile. Similarly, July 13 USDA pasture and range conditions rated very poor or poor have gradually increased to 20, 15, and 17 percent, up from 11, 3, and 9 percent on June 8 in VA, WV, and NC, respectively

### Ohio and Tennessee Valleys

Through the first 5 days of this period, little or no rain had fallen on much of the region, prompting the possibility for additional dryness and drought expansion. Fortunately, heavy rains (2-5 inches) fell during the last few days of the period, stabilizing short-term D0 and D1 and removing D0 in southeastern Kentucky and southwestern Tennessee. In western Kentucky, however, the rains mostly missed, and D0 slightly expanded into the area. 60-day precipitation has averaged between 50-75%, creating deficits of 3-6 inches. According to NASS/USDA, statewide topsoil moisture was rated 11% very short and 39% short in Kentucky, although this was reported before the Monday rainfall.

### Pacific Northwest

July and August are normally the driest months in the Northwest, so little or no precipitation during this time would only yield small deficits. However, above normal temperatures would increase water demand, and this could exacerbate moisture conditions. This week, temperatures averaged 8 to 12oF above normal with highs in the 90's and 100's as little or no rain fell. Fortunately, unseasonable rains occurred during late June, creating 30-day surpluses, while surpluses also existed at 90- and 180-days due to a wet spring. Accordingly, no modifications were made this week, except for the impact designation now at SL for the entire West. If weather conditions continue to be hot and dry, degradation is possible in a few weeks. One sign of possible future impacts included 34% of the Washington spring wheat rated poor or very poor.

### Southeast

Hit and miss showers and thunderstorms were mostly a miss this week in much of Alabama, western and central Georgia, and the central Carolinas. In contrast, decent rains (>2 inches) fell on most of Florida, Mississippi, Tennessee, northern Alabama, extreme southern and northern Georgia, southern

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Appalachians, and the eastern Carolinas. The subnormal weekly rain amounts added to the growing short-term deficits in parts of the Southeast, especially during the past 60-days (since mid-May). As a result, D0 expanded where 60-day deficits were 2-6 inches and precipitation was 60-80% of normal (e.g. central and eastern Alabama, western Georgia, southern South Carolina, and central North Carolina), but was erased where significant rainfall (>2 inches) greatly diminished or eliminated short-term deficiencies (e.g. eastern South Carolina, northern Georgia, northwestern Alabama/southwestern Tennessee). Fortunately, excessive heat has not been a problem (yet) in the Southeast as temperatures have been close to normal the past 3 weeks. This has kept conditions from rapidly expanding and worsening during the growing season. With respect to impacts, South Carolina reported 28% of their pasture and range in poor or very poor condition, while many USGS stream flow sites in the D0 areas have dropped into the below normal (10-24 percentiles) category at 1-, 7-, 14-, and 28-days.

### Southern and Central Plains

Similar to the middle Missouri Valley (e.g. Nebraska), southeastward moving thunderstorms dumped heavy rain (>2 inches) on swaths of central Kansas into eastern Oklahoma and western Arkansas, providing improvement where the greatest rains fell. In central Kansas, D2 replaced D3 as both short and medium-term (to 6-months) surpluses existed. In Oklahoma, D3 and D2 were improved by 1-category in the northeast, D2 was chipped away in central sections, and D0 was eliminated in eastern Oklahoma and western Arkansas. However, the southwestern section of Oklahoma observed dry and warm weather, justifying a small expansion of D2 there. In Texas, it was a relatively dry week, following a wet May and near-normal June. Accordingly, only small changes were made, with a slight reduction of D4 and D2 in the Panhandle, some trimming of the D0 along the western Gulf Coast, and slight downgrades in southwestern, south-central, and extreme south Texas. Although Oklahoma's winter wheat crop was estimated to be the smallest since 1957 (51 million bushels) and its 17 bushels per acre yield matched 1967 (due to drought and freezes), summer row crops and pastures were rated much better, with the worst conditions in the west. Similarly, Texas crops were doing okay, with oats, cotton, and sorghum rated 28, 23, and 9% poor or very poor, respectively, and pastures and ranges at 22%, generally better off than the past several years.

### Southwest and Great Basin

With much of California in either D3 or D4 and May-September normally dry, there is not much more room for further deterioration, at least during the dry season. With that said, however, further investigation of the long-term (36-month) deficits in southern California east of San Diego were similar to conditions to the north, along with overall impacts. Therefore, D3 was expanded east of San Diego to include the mountains, and to cities such as Riverside and San Bernardino. With June in the books, NCDC rankings for California for the July 2013-June 2014 period were the warmest and 3rd driest since 1895. The only drier July-June periods were in 1923-24 and 1976-77. This is the first time California experienced 3 consecutive years in the top 20 for dryness: 2011-12 ranked 20th, 2012-13 ranked 18th, and statewide precipitation has averaged 67% of normal during this 3-year period, and was just 56% of normal in 2013-14. Fortunately California's reservoirs hold more water than they did in 1977 when the state experienced its 4th and 2nd driest years on record from July 1975-June 1977. However, a recent study estimated that this drought will cost California \$2.2 billion in 2014, with a loss of over 17,000 agricultural jobs.

In contrast, a robust start to the July southwest monsoon was seen in parts of the Southwest. More than 2 inches of rain fell on central and southeastern Arizona, much of western and central New Mexico, and most of southern and eastern Colorado. Totals were much lower (<0.5 inches) in southwestern Arizona, southeastern California, most of Nevada and Utah, western Colorado, and southeastern New Mexico. Since this was the first wet week in Arizona, only small improvements were made where the largest rains fell (southern sections). In New Mexico and Colorado, wetter weather back in May and June, plus this week's rains, allowed for larger and more significant 1-category improvements as both short and medium-term (to 180-days) surpluses existed, albeit somewhat tempered in New Mexico and southeastern Colorado by 2- and 3-year deficits. Fortunately, over 2 inches of rain fell on D4 areas of eastern Crowley, northeastern Otero, and northwestern Bent counties, improving conditions to D3 there, while just to the south, similar totals upgraded conditions from D3 to D2 (southern sections of Otero and Bent and northern Las Animas). Eastern Colorado and adjacent western Kansas also saw a 1-category improvement with additional rains this week. Elsewhere, status-quo prevailed.

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## Looking Ahead

During July 17-21, moderate to heavy rains are expected from the central Rockies southeastward to the lower Delta, and then into the Southeast during Days 6-7. Florida should also see moderate rains. The largest amounts (3 to 6 inches) for the 5-day period are forecast for the Red River Valley and eastward into Arkansas. The West will be seasonably dry, and the southwest monsoon is predicted to be quiet, with only light totals (<0.5 inches) in eastern Arizona and New Mexico. The northern Rockies and Plains, plus the Midwest, should be mostly dry. Subnormal temperatures are forecast for the West Coast and eastern half of the Nation, with above-normal readings expected in the Rockies and northern Plains.

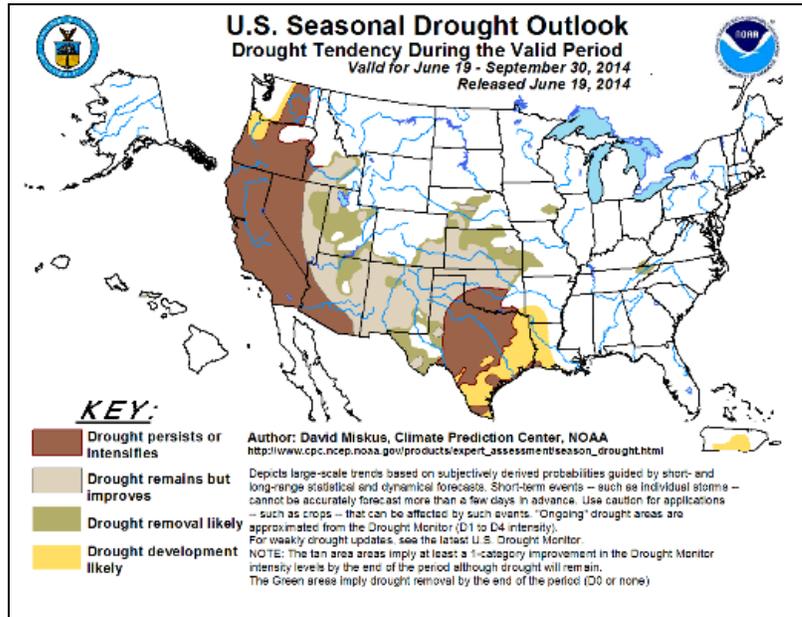
For the ensuing 5-day period, July 22-26, the odds favor above-median precipitation in the eastern half of the U.S., Pacific Northwest, and northern Alaska, with below-median rainfall likely in the Great Basin, Rockies, High Plains, and south Texas. Temperatures are expected to average below normal in the Pacific Northwest and Alaska, but likely to be above-median in the Southwest, Rockies, Plains, Great Lakes region, and New England.”

## Supplemental Drought Information

### National Seasonal Drought Outlook

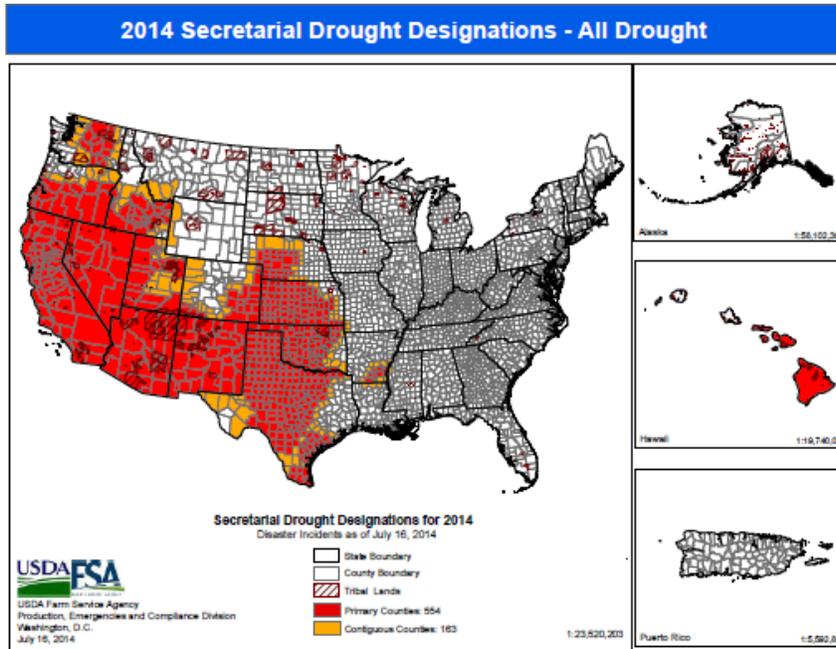
[Drought](#) is expected to persist over much of the West and the southern Great Plains. Improvements are expected from the Southwest to the central Great Plains.

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.



# Weekly Snowpack and Drought Monitor Update Report

## 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](#).

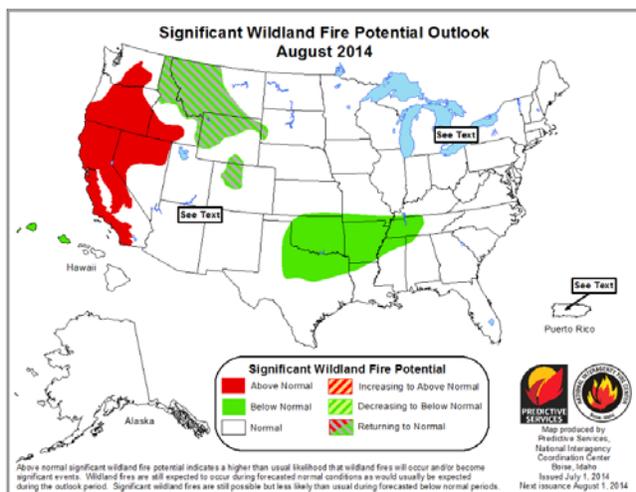
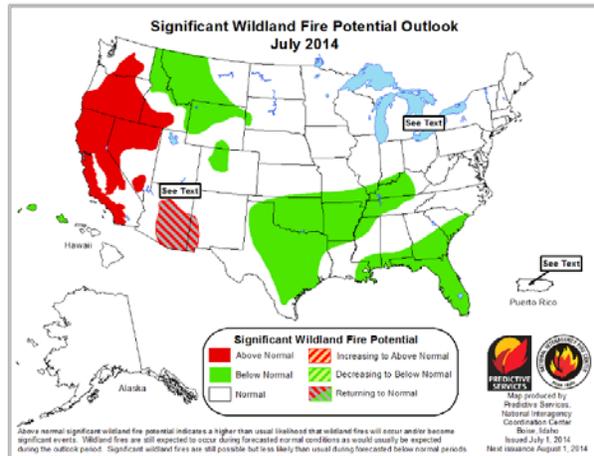
[New useful resource: NASS Quick Stats](#)

## National Fire Potential Outlook

### July Forecast

Above normal fire potential will expand to include northern California, Nevada, Oregon, eastern Washington, and southern Idaho.

Below normal fire potential will continue over the northern Rockies, the lower- and mid-Mississippi River, Texas, Florida, and along the Gulf Coast.



### August Forecast

Above normal fire potential continues in California, Nevada, Oregon, Washington, and Idaho. Fire potential is returning to normal in the northern Rockies of Idaho, Montana, Wyoming, and Colorado.

The below normal fire potential area in the lower Mississippi River Basin is reduced in size. Florida and the southeast have returned to normal fire potential.

## Weekly Snowpack and Drought Monitor Update Report

### 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, and National Drought Mitigation Center.

#### **"Emergency regulations on water use in California?"**

The California Water Resources Control Board is considering adopting emergency regulations on outdoor water use to promote water conservation as drought dries up water supplies. Conservation efforts statewide have curbed water use by 5 percent through May, considerably less than the 20 percent requested by Gov. Brown in January when he declared a drought emergency.

#### **Greater enforcement powers for California State Water Resources Control Board**

The California State Water Resources Control Board increased their drought enforcement powers to deal with water rights holders who have not responded to the curtailment notice to stop diverting water. The board approved emergency regulations, effective for the next nine months, to simplify and hasten the process for making water rights holders comply with the curtailment notice. The board can also fine scofflaws \$500 per day without a hearing, a process that used to last months or even years. The State Water Resources Control Board took these measures after learning that 69 percent of the state's almost 10,000 water rights holders did not respond to curtailment notices sent out six weeks ago.

#### **Exorbitant prices for California water**

Water continues to sell at fantastic prices of up to \$2,200 per acre-foot in California as those with private stores of water sell it to the highest bidder. The Madera Irrigation District recently took in \$7 million from the sale of 3,200 acre-feet to farmers, who outbid the city of Santa Barbara for the water.

#### **Desired access to California water well records**

Drought has drawn considerable attention to California's water supplies, including a desire for access to records about water wells, which remain inaccessible to the public. Some are pushing for more open access to those records, which include details on well depth, diameter and geological composition of the layers drilled through to reach water, which could help scientists and water policy specialists protect the groundwater supply.

#### **Emergency regulations on California logging companies' water use**

The California Board of Forestry enacted emergency regulations, due to the drought plaguing the state. It was feared that logging companies taking water from depleted mountain streams would further reduce the flow in those streams. The new regulations require logging companies to report the amount of water they take from streams for dust control. Previously logging companies only had to report the amount of water taken from streams where salmon or steelhead live, but now water drafts from all streams must be reported. Regions most affected by the emergency regulations are the central and southern Sierra Nevada.

#### **Water shortages**

As the summer wears on, more communities were restricting water use as wells run dry, groundwater levels fall and municipal supplies shrink.

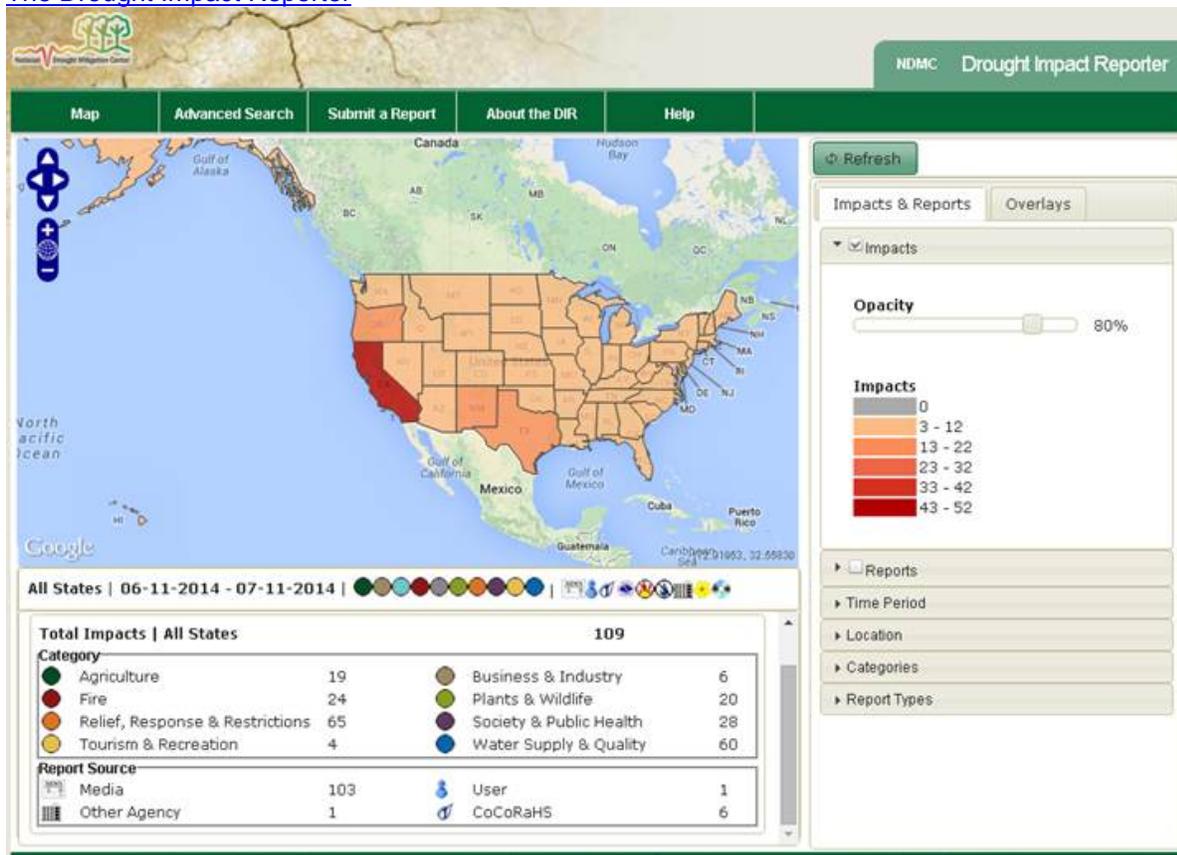
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- The water supply in Seville, California was deteriorating due to drought reducing the amount of water available and adversely affecting the quality of the remaining water.
- The community of Rio Dell, California declared a stage three water shortage emergency because Rio Dell has junior water rights to the mainstem Eel River, and the California State Water Resources Control Board ordered junior water rights holders to stop diverting water.
- The Santa Clara Valley Water District in California has opted to reduce flows from Lexington and Vasona reservoirs to extend the length of time that water can be released from the reservoirs to keep Los Gatos Creek from going dry.
- The wells that supply Cañada de los Alamos, a town east of Santa Fe, New Mexico, were not producing enough water to meet demand, prompting water officials to send out notices on July 3 warning people that they could run out of water.
- Irrigators with the Elephant Butte Irrigation District in southern New Mexico will have received 7.5 acre-inches by the end of the irrigation season, which is considerably less than the full allotment of 3 acre-feet. Low rainfall has kept farmers from receiving a full allotment for several years.

### Wheat damage in Woods County, Oklahoma

Drought cost Woods County, Oklahoma roughly \$20 million in winter wheat losses, said the Oklahoma State University extension agent for the county. Normally farmers in the county plant 175,000 acres of wheat, but only 100,000 acres made a crop this year. Yields were down from an average of 33 bushels per acre to 18 bushels per acre.”

### [The Drought Impact Reporter](#)



### 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)

## Weekly Snowpack and Drought Monitor Update Report

### 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 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/

David W. Smith

Deputy Chief, Soil Science and Resource Assessment