



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

Weekly Snowpack / Drought Monitor Update

July 31, 2014

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Highlights: Agricultural Weather Highlights – Thursday - July 31, 2014

- “In the **West**, an active monsoon circulation continues to produce locally heavy showers in the southern Rockies and neighboring areas. In addition, isolated showers dot the Great Basin and Intermountain West. However, hot, dry weather continues to plague northern California and much of the Northwest, maintaining heavy irrigation demands and increasing stress on rangeland, pastures, and rain-fed summer crops.
- On the **Plains**, rain has mostly subsided in Oklahoma and northern Texas, following a recent deluge. Parts of central and southeastern Oklahoma, as well as northeastern Texas, received 2 to 6 inches of rain in the last 24 hours, causing some flash flooding. Meanwhile, heat is overspreading the northern High Plains, including Montana, promoting winter wheat harvesting and the maturation of spring-sown small grains.
- In the **Corn Belt**, dry weather and near- to below-normal temperatures remain mostly favorable for corn and soybeans. However, pockets of short-term dryness are becoming a concern in some areas, mainly across the western and southern Corn Belt. On July 27, topsoil moisture was rated 41% very short to short in Nebraska and 39% very short to short in Missouri.
- In the **South**, scattered showers and thunderstorms are heaviest in the Arklatex region. Developing drought remains a concern in several areas of the Southeast. On July 27, for example, topsoil moisture was rated 51% very short to short in Kentucky, along with 44% in South Carolina, 33% in Virginia, and 32% in Georgia.

Outlook: Locally heavy showers will continue to spread across the South. Five-day rainfall totals could reach 2 to 4 inches in the southern Atlantic States. Meanwhile, locally heavy showers will continue in the Four Corners States, with flash flooding possible. In contrast, hot, mostly dry weather will dominate the Pacific Coast States. Elsewhere, a few showers will dot the northern Plains and the Midwest, but dry weather will cover the remainder of the nation’s mid-section. The NWS 6- to 10-day outlook for August 5 – 9 calls for below-normal temperatures in large sections of the central and eastern U.S., as well as the central Rockies, while hotter-than-normal conditions will cover the lower Southeast, the lower Rio Grande Valley, and the Far West. Meanwhile, near- to above-normal rainfall across the majority of the U.S. will contrast with drier-than-normal conditions in the Pacific Northwest, northern Plains, far upper Midwest, and southern parts of Arizona, Texas, and Florida.”

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>.

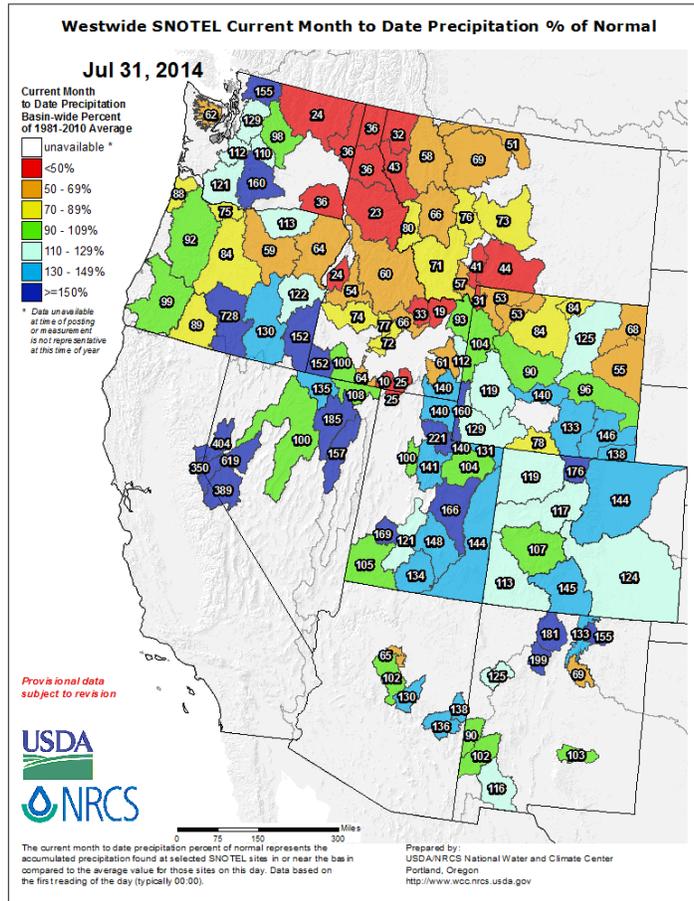
The Natural Resources Conservation Service provides leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment

Weekly Snowpack and Drought Monitor Update Report

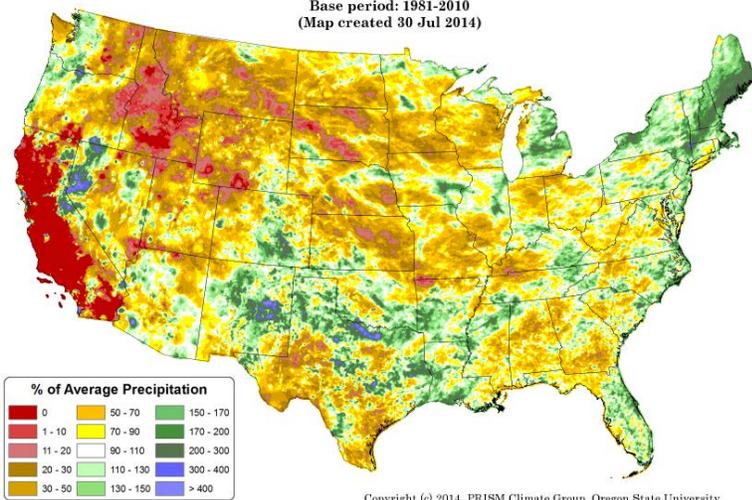
Precipitation

In the West, the July [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 - 29 July 2014
 Period ending 7 AM EST 29 Jul 2014
 Base period: 1981-2010
 (Map created 30 Jul 2014)



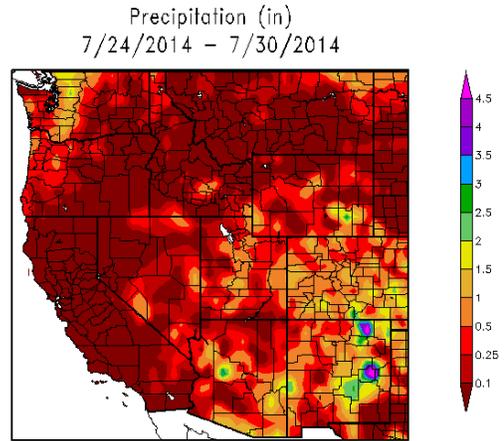
During July 2014, the national [precipitation anomaly](#) pattern reveals some higher than normal precipitation scattered across the south central part of the nation, the northern Sierra Nevada, the Southwest, and the Northeast. Much of the West, especially California, has seen little or no precipitation. Parts of the Southwest, Texas, Idaho, and the Midwest 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 primarily in the mountainous areas of the West. Scattered thunderstorms and precipitation occurred in the northern Cascades, the Southwest, the central and southern Rocky Mountains, and into the Great Plains.

Little, if any, precipitation occurred over vast areas of the West. This includes southern Idaho, Utah, California, and Arizona.

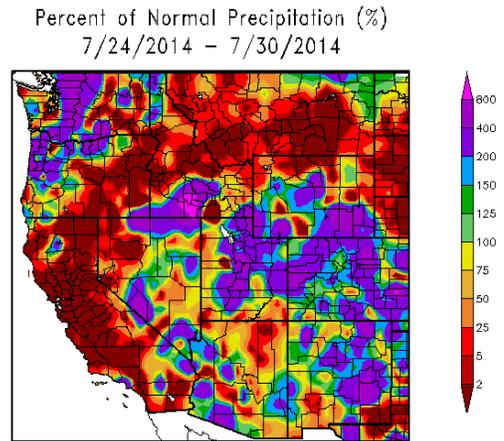


Generated 7/31/2014 at HPRCC using provisional data.

Regional Climate Centers

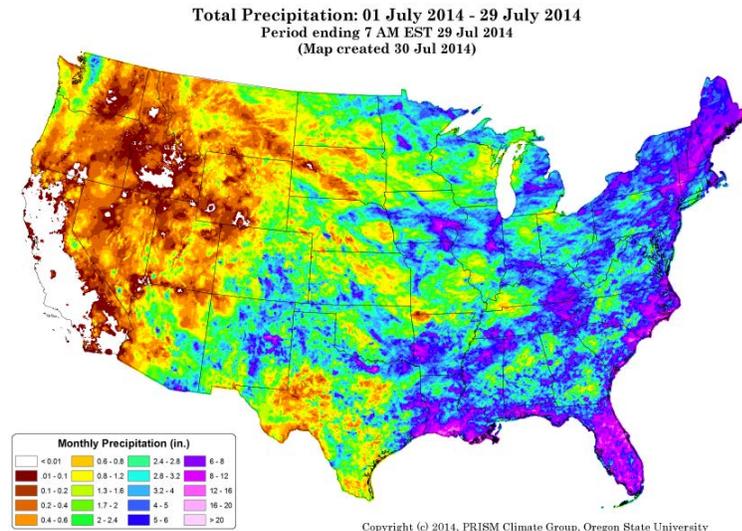
As would be expected based on the map above, this percent of normal [map](#) of the West reflects the heaviest scattered precipitation falling across the Cascades, the central and southern Rocky Mountains, southern Idaho and the Southwest, with some scattered precipitation elsewhere in the West.

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



Generated 7/31/2014 at HPRCC using provisional data.

Regional Climate Centers



In July 2014, the total precipitation across the continental U.S. was heaviest along the Gulf Coast, Florida, and along the Atlantic seaboard to the Northeast. In contrast, the West was mainly dry.

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

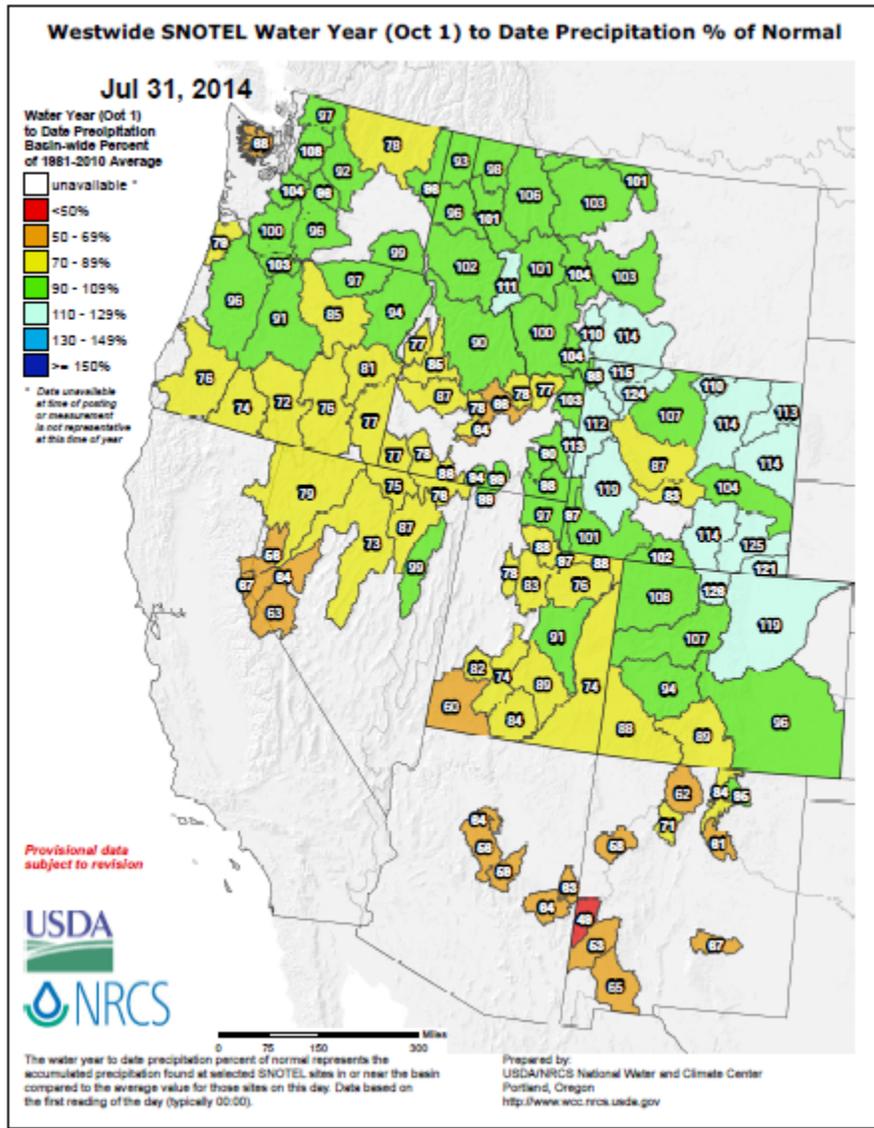
Weekly Snowpack and Drought Monitor Update Report

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.

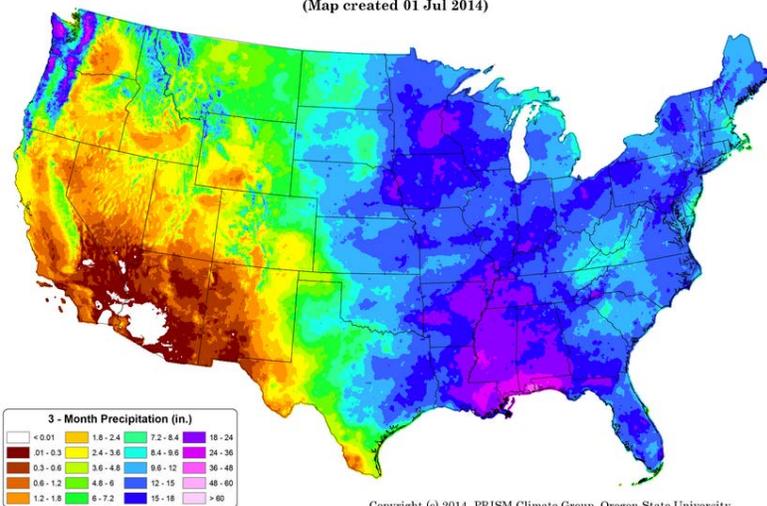
Near average conditions dominated the northern half of the Cascades, the northern half of Idaho, northwestern-most Montana, the Lower Bear River in eastern Utah and southeast Idaho, and parts of the southern half of Colorado.

The largest deficits were centered over southern Oregon, the Sierra Nevada 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)



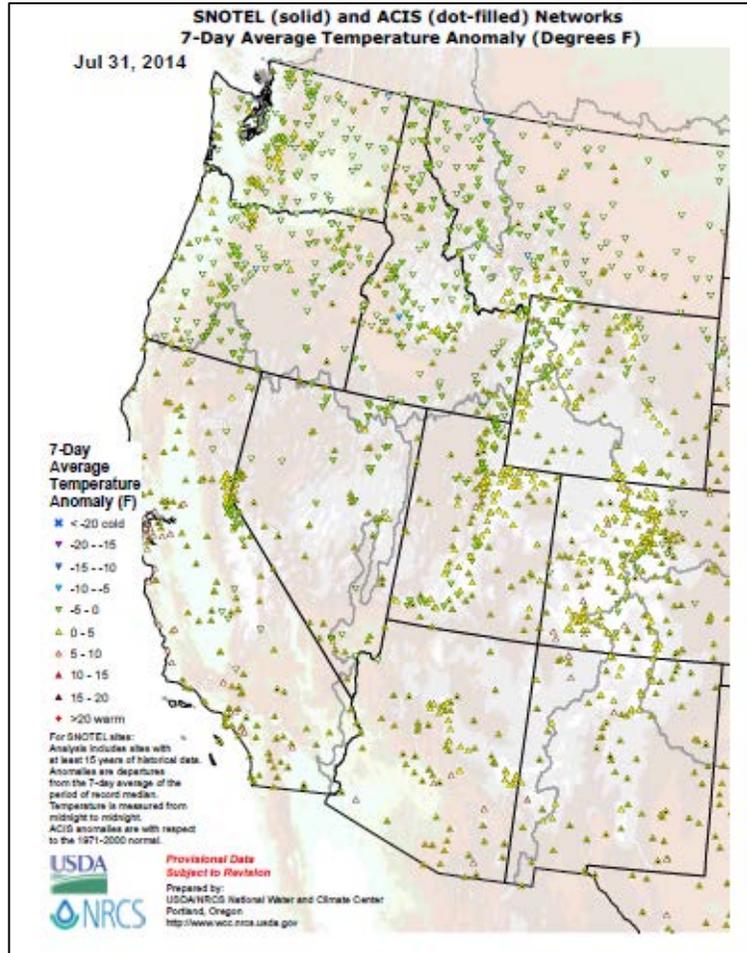
The national map of the [three-month period](#) (April – June) shows that the eastern half of the nation received precipitation in the range from 5 to greater than 36 inches along the Gulf Coast.

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.

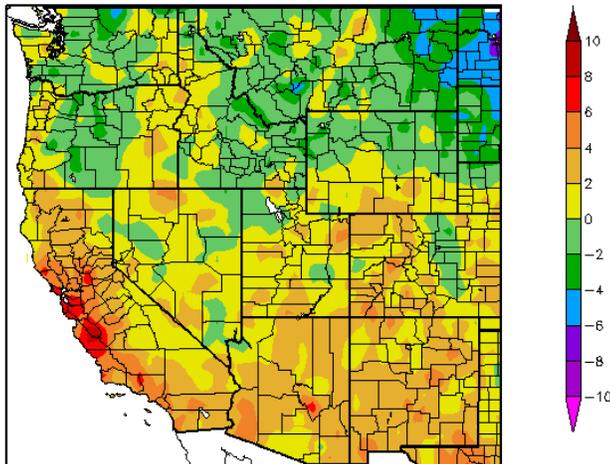
Weekly Snowpack and Drought Monitor Update Report

Temperature

The [SNOTEL](#) and ACIS [7-day temperature anomaly](#) map for the western U.S. shows temperatures near normal for the week throughout the region.



Departure from Normal Temperature (F)
7/24/2014 – 7/30/2014



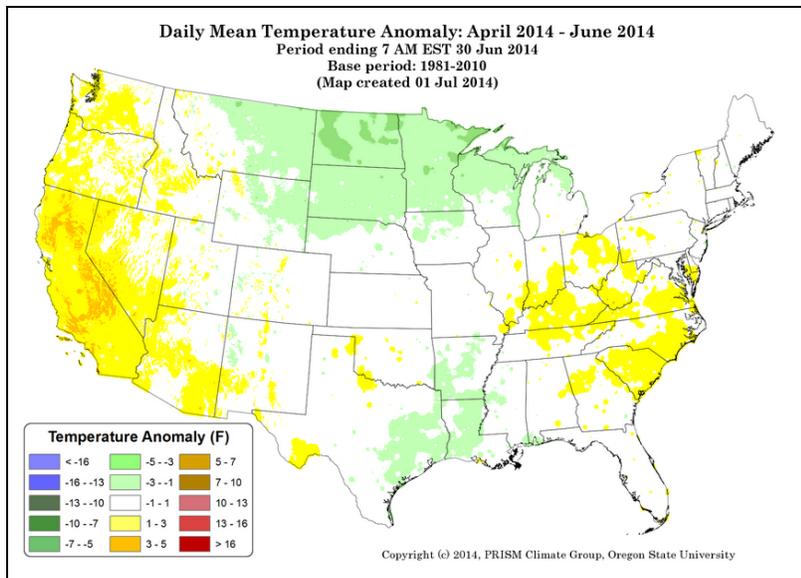
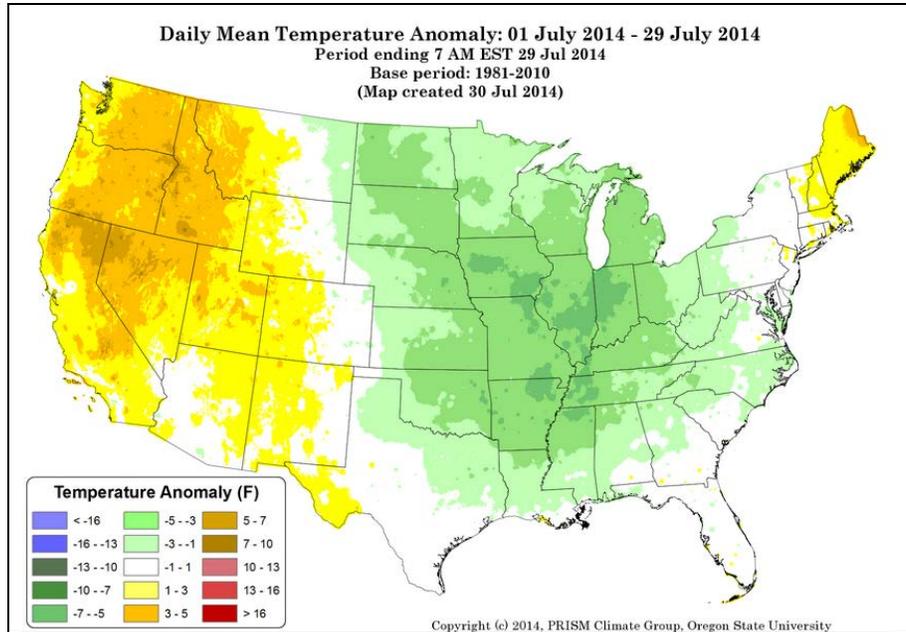
[ACIS](#) map of the 7-day average temperature anomalies in the West ending July 30, show the greatest negative temperature departures scattered over the northern tier states and especially Montana into the Dakotas (<-6°F). The greatest positive temperature departures occurred in California (>+6°F).

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.

During July 2014, the national temperature anomaly [map](#) shows a cold pattern over the Great Plains ($<-5^{\circ}\text{F}$). Above normal temperatures dominated the West, centered in northern California and the Columbia River Basin ($>+7^{\circ}\text{F}$). Northern New England also experienced warm temperatures ($>+3^{\circ}\text{F}$).



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 ($>+3^{\circ}\text{F}$). Most of the remainder of the country reported normal to cool temperatures this spring, with the coolest temperatures in the upper Midwest ($<-5^{\circ}\text{F}$).

Weekly Snowpack and Drought Monitor Update Report

Weather and Drought Summary

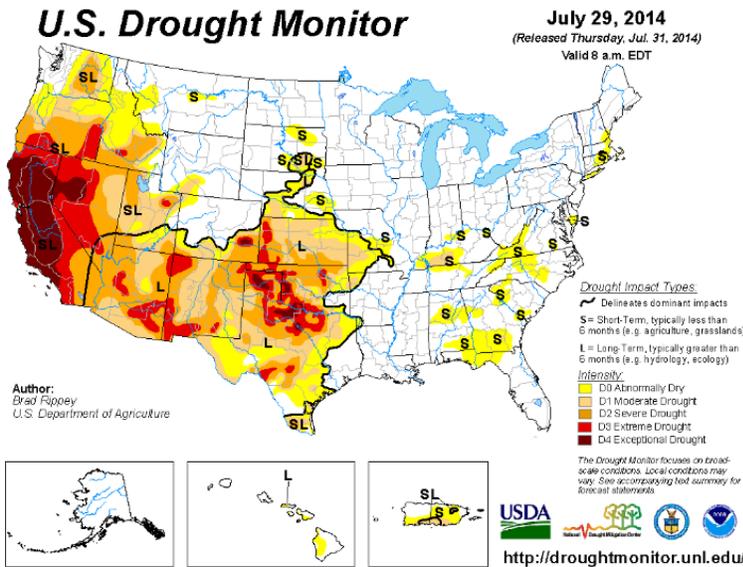
National Drought Summary – July 31, 2014

The following **Weather and Drought Summary** is provided by this week's NDMC Drought Author, Brad Rippey, USDA.

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

“For the contiguous 48 states, the U.S. Drought Monitor showed 34.06 percent of the area in moderate drought or worse, compared with 33.62 percent a week earlier.

For all 50 U.S. states and Puerto Rico, the U.S. Drought Monitor showed 28.47 percent of the area in moderate drought or worse, compared with 28.10 percent a week earlier.”



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

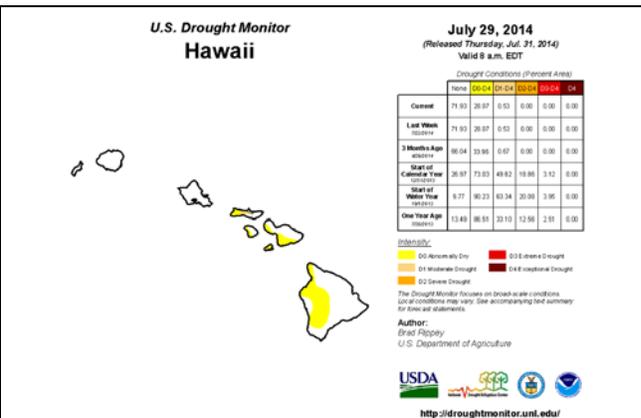
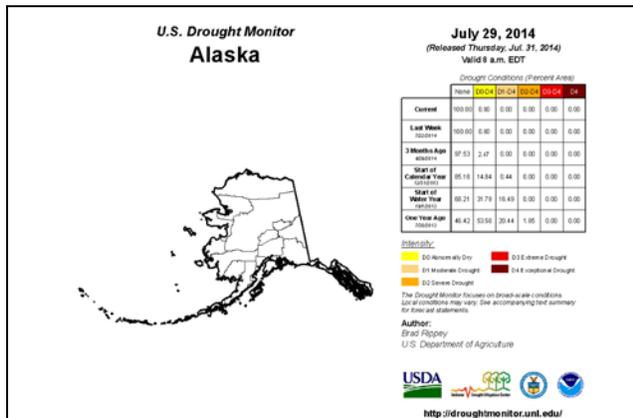
[Current Drought Monitor](#) weekly summary. The exceptional D4 levels of drought are scattered across CA, NV, CO, TX, OK, and NM.

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:

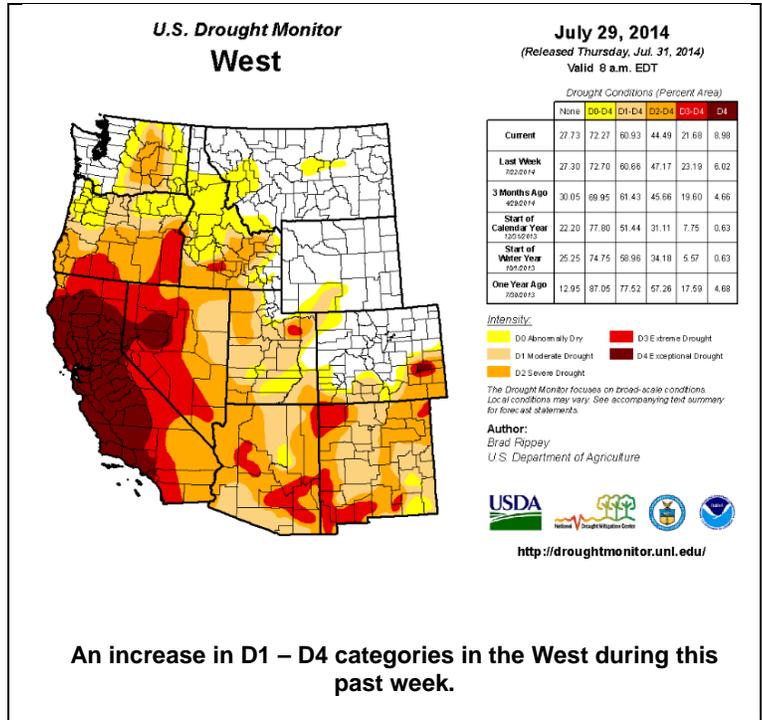
US - [Insured Global Disaster Losses in First Half Reached \\$22B: Aon Benfield](#) – July 23

[Fire Season in West So Far Is Below Expectations](#) – July 24

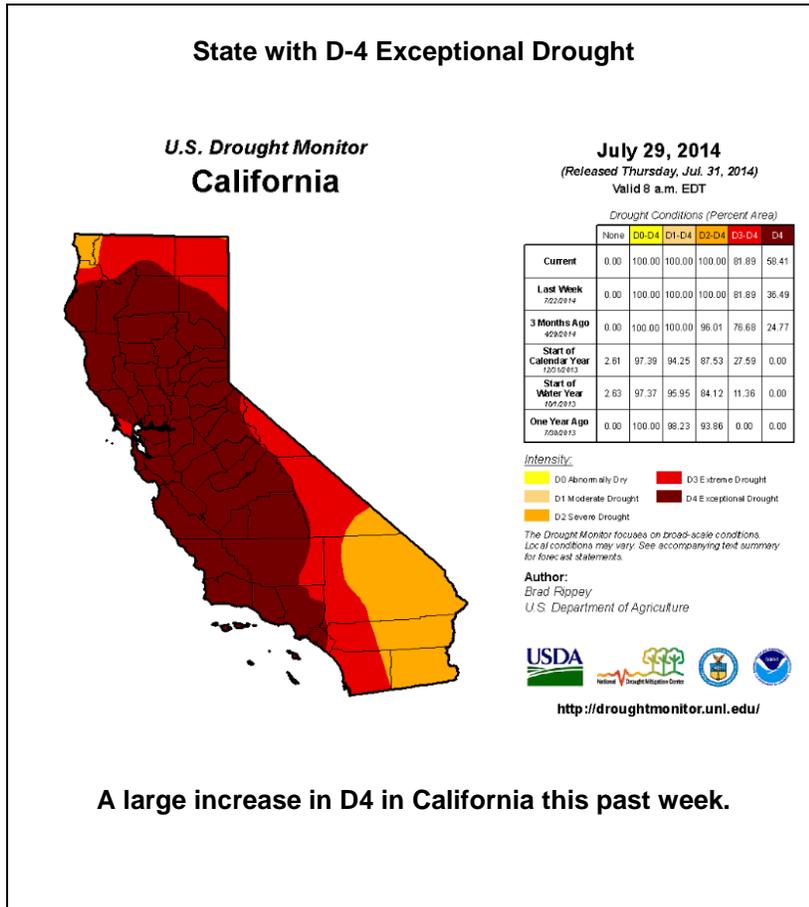
[Tinderbox Explodes in Wildfires Across Northwest](#) – July 21

[UPDATE 2-U.S. meat, seafood prices rising on drought and disease –USDA](#) – July 25

Click to enlarge maps



An increase in D1 – D4 categories in the West during this past week.



A large increase in D4 in California this past week.

CA Drought Information Resources

Drought News from California

[Drought hinders state's emissions goals](#) – July 20

[The Golden-Brown State](#) – July 18

[Drought Starting To Kill Salmon In Klamath Basin](#) – July 24

[California drought: 'Water cops' being hired by Bay Area agencies to root out water waste](#) – July 21

Water conservation coming up short

In January, Gov. Jerry Brown declared a drought emergency and asked Californians to reduce water use by 20 percent. Here's how much some Bay Area water users have reduced between Feb. 1 and May 31.



¹Cupertino
²The Blossom Valley-Santa Teresa-Edenvale-Coyote Valley-Almaden Valley area of San Jose
³Los Altos Hills

Source: Santa Clara Valley Water District, staff reporting
 BAY AREA NEWS GROUP

[Law blocks some brown lawn fees during droughts](#) – July 21

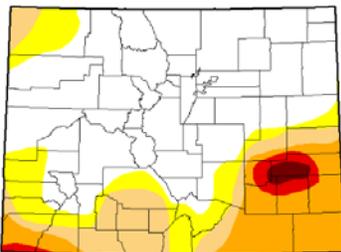
Weekly Snowpack and Drought Monitor Update Report

State with D-4 Exceptional Drought

**U.S. Drought Monitor
Colorado**

July 29, 2014
(Released Thursday, Jul. 31, 2014)
Valid 9 a.m. EDT

	Drought Conditions (Percent Area)				
	None	D0-D1	D1-D2	D2-D3	D3-D4
Current	59.92	40.08	27.03	15.55	3.19
Last Week	59.92	49.09	26.66	15.55	3.74
3 Months Ago	30.40	63.60	29.64	18.77	8.30
Start of Calendar Year	22.04	67.96	22.32	12.96	4.01
Start of Water Year	24.91	75.09	37.88	12.01	4.01
One Year Ago	0.00	100.00	95.26	91.42	15.32



Intensity:
■ D0 Abnormally Dry ■ D3 Extreme Drought
■ D1 Moderate Drought ■ D4 Exceptional Drought
■ D2 Severe Drought

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

Author:
Brad Rippey
U.S. Department of Agriculture






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

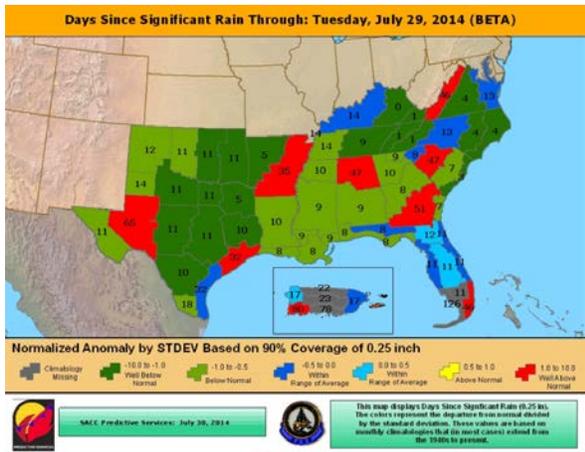
Reductions in the D3 category this past week.

News From Colorado:

[Farmers pushed to the brink – July 23](#)

[Dry Conditions Causing Massive Underground Water Losses In Colorado River Basin – July 25](#)

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



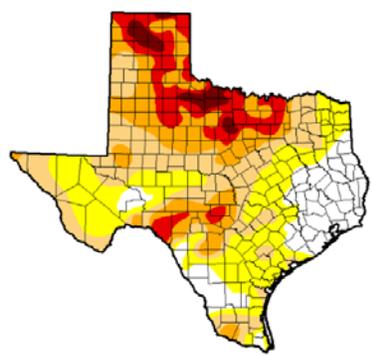
[Days since Significant Rain Summary](#)

State with D-4 Exceptional Drought

**U.S. Drought Monitor
Texas**

July 29, 2014
(Released Thursday, Jul. 31, 2014)
Valid 9 a.m. EDT

	Drought Conditions (Percent Area)				
	None	D0-D1	D1-D2	D2-D3	D3-D4
Current	15.95	84.05	50.10	32.96	14.29
Last Week	16.58	83.42	57.97	33.37	14.99
3 Months Ago	9.88	90.12	74.47	52.91	37.86
Start of Calendar Year	28.40	71.52	43.84	21.15	5.92
Start of Water Year	6.82	93.38	70.95	25.08	4.01
One Year Ago	2.93	97.17	97.69	85.36	25.97



Intensity:
■ D0 Abnormally Dry ■ D3 Extreme Drought
■ D1 Moderate Drought ■ D4 Exceptional Drought
■ D2 Severe Drought

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

Author:
Brad Rippey
U.S. Department of Agriculture

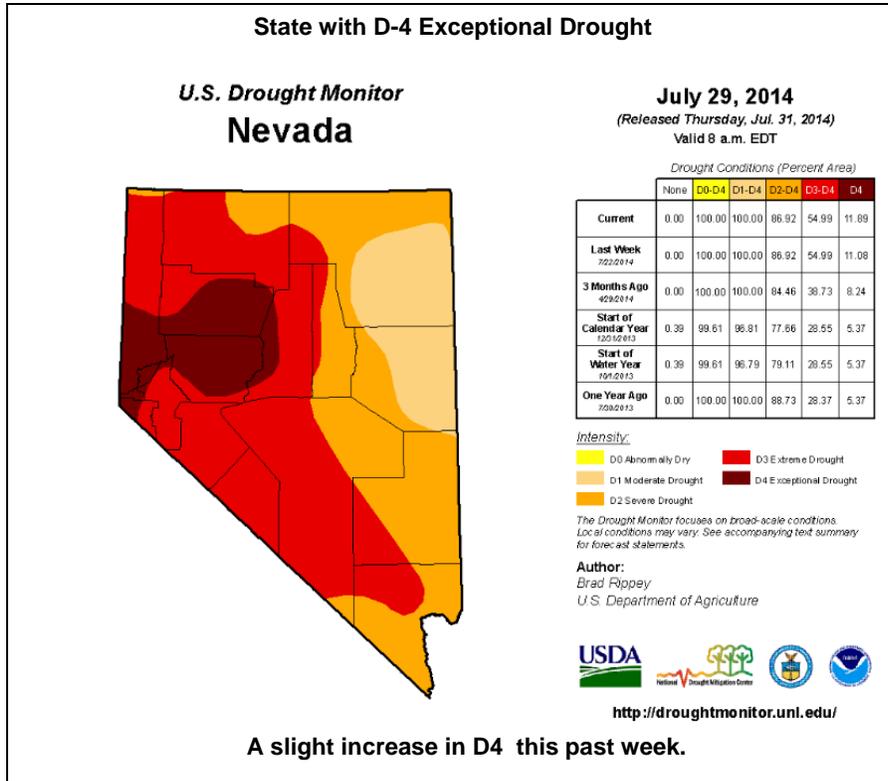




<http://droughtmonitor.unl.edu/>

Decrease in D2 – D4 drought categories this past week.

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Nevada Drought News:

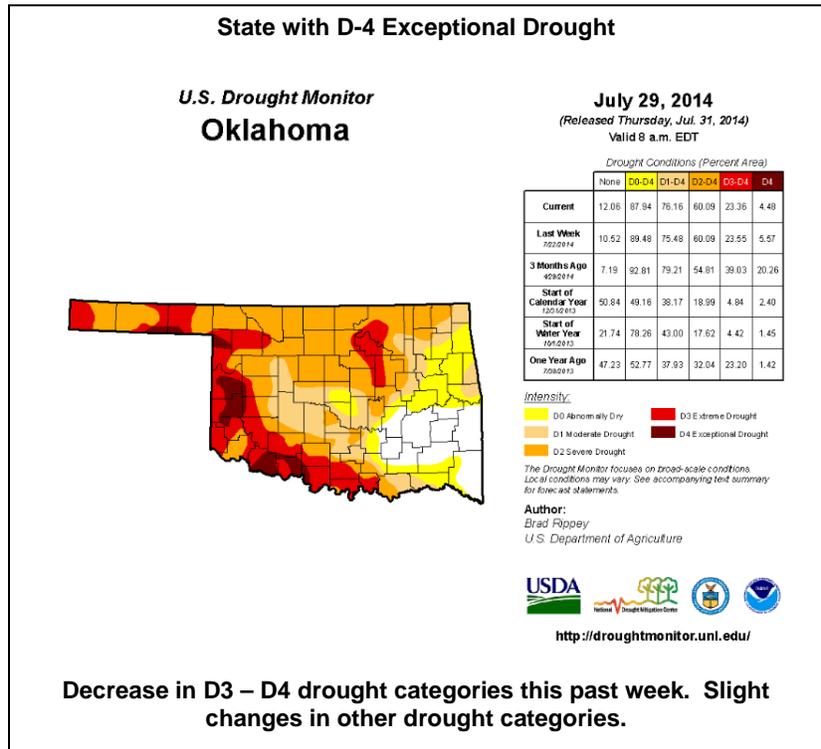
[Northeastern Nevada ranchers hit with grazing closures – July 24](#)

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](#)

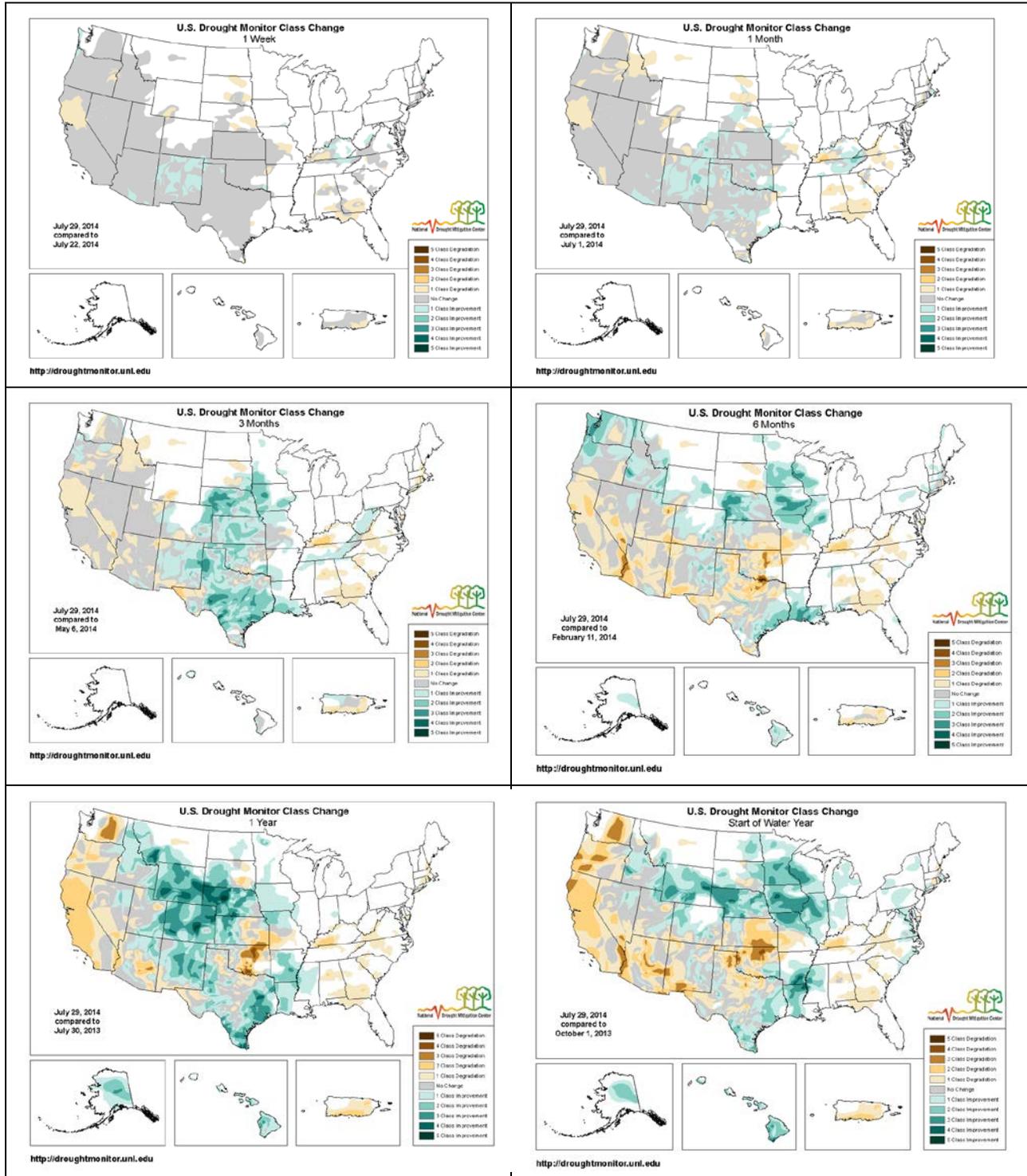
[Chipping away at the drought – July 22](#)



Weekly Snowpack and Drought Monitor Update Report

Changes in Drought Monitor Categories

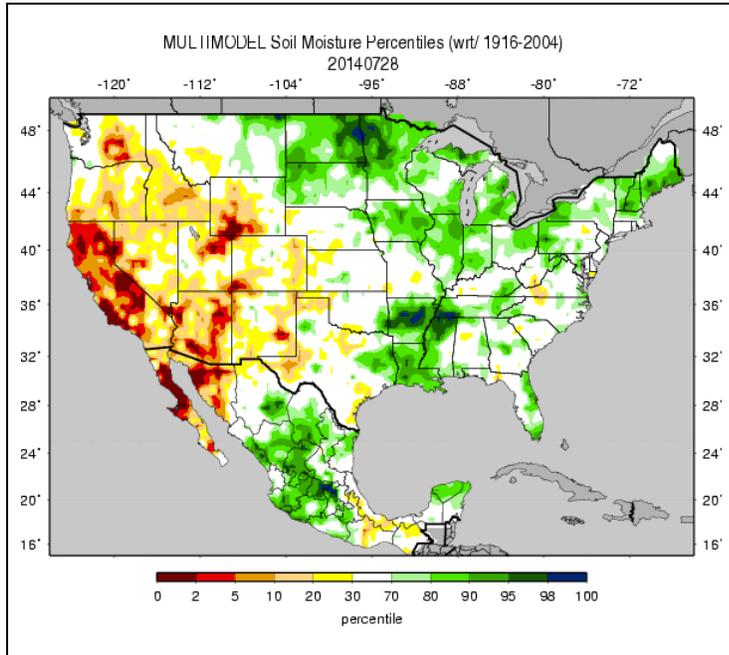
Over Various Time Periods



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 coast states have deteriorated significantly (lower right map).

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Soil Moisture

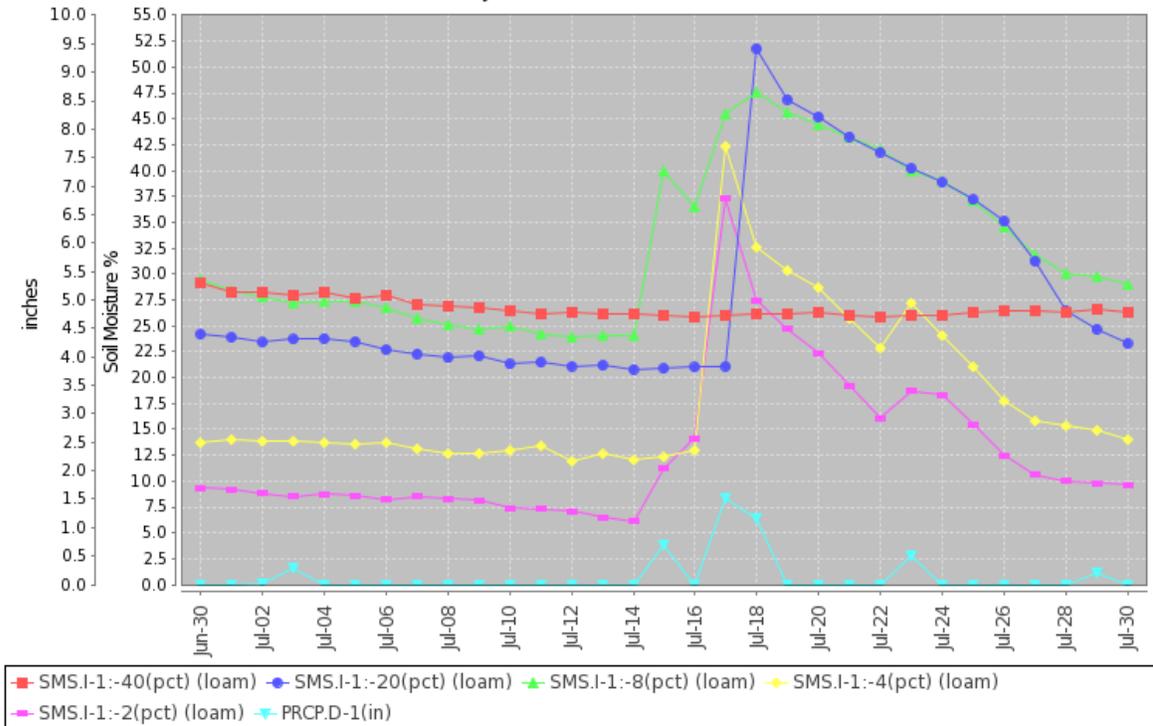


The national soil moisture model ranking in [percentile](#) as of July 28 shows dryness over California, Arizona, New Mexico, and parts of Washington, Oregon, Idaho, northeast Utah, and southwest Wyoming. Scattered dryness was also reported in other areas west of the Rockies. Very moist soils dominated 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 (2006) MONTH=2014-06-30 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision
Wed Jul 30 11:17:03 PDT 2014

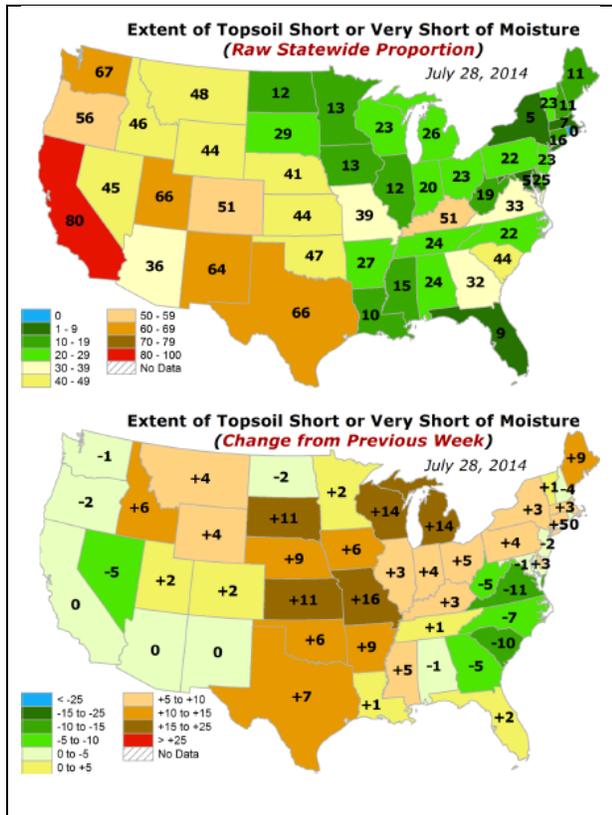


This NRCS resource shows soil moisture data at the [Bushland #1 SCAN](#) station located in northern Texas. Note the rapid increase in soil moisture because of the recent precipitation in the area (precipitation trace in light blue). The deeper soil sensor at 40 inches depth (red trace) doesn't show 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](#).

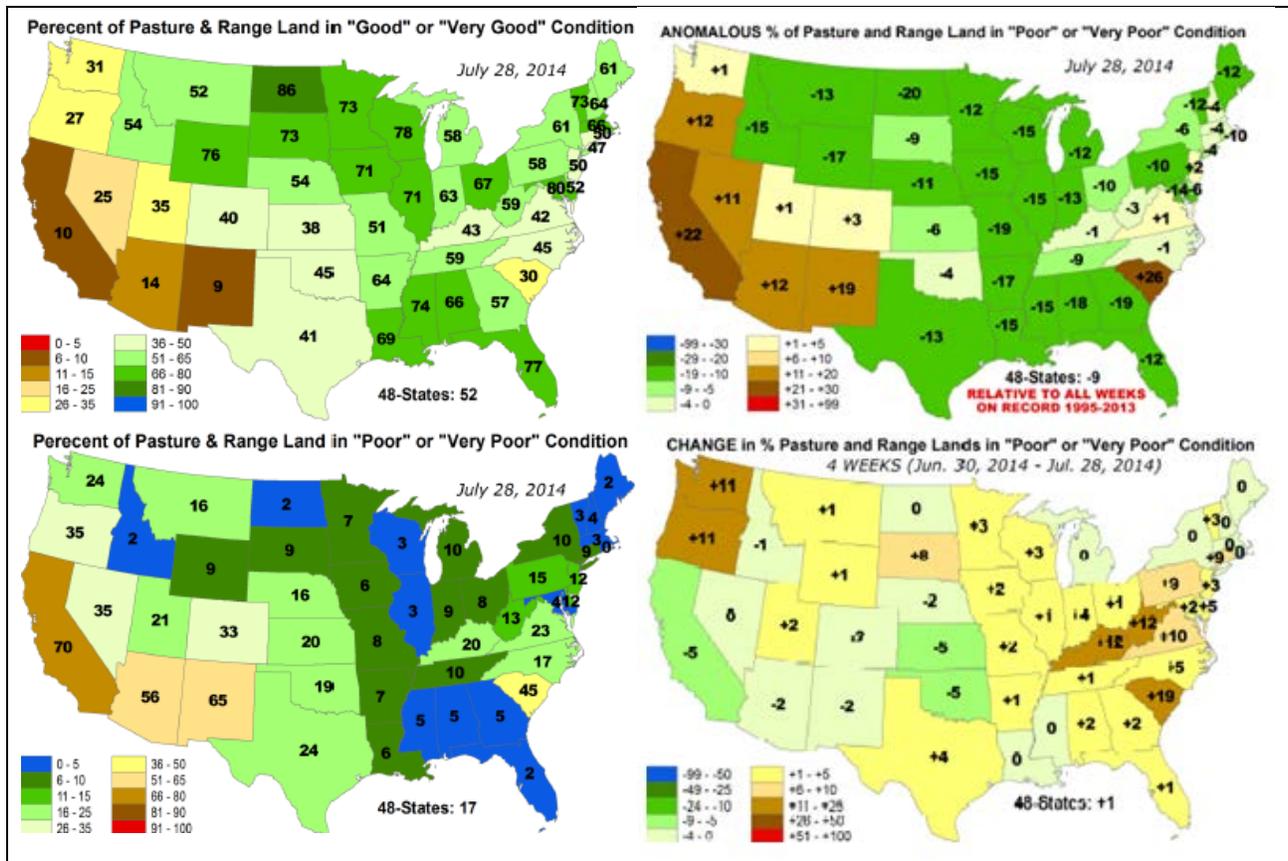
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Topsoil and Pasture & Rangeland National Conditions



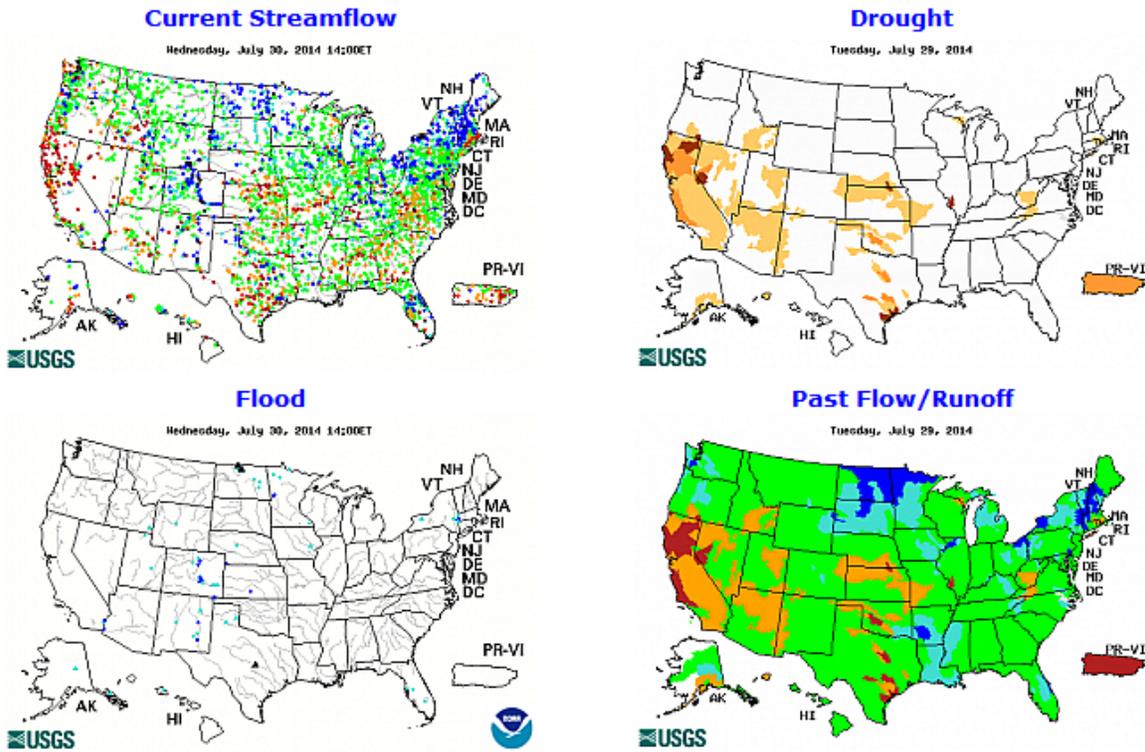
↳ Topsoils are exceptionally poor (top) over New Mexico, California, Utah, Texas, and South Carolina with values representing more than 60 percent poorer conditions than the median for this time of year (bottom panel). Locations in the northern Great Plains across to New England, and along the Mississippi River and Florida 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.



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Streamflow



The streams are high over much of the Mississippi River Basin, the Pacific Northwest, Florida, and the Northeast due to recent precipitation (left maps). Alaska and Hawaii are also reporting some high streamflow. Flooding is occurring along the Souris River in North Dakota, where the river is above flood stage (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 many areas of the upper Mississippi and Missouri Rivers, west-central Florida, and the Connecticut River. Currently, **1** gage has a greater than 50% chance to experience major flooding; **1** gage for moderate flooding; and **14** gages for minor flooding.

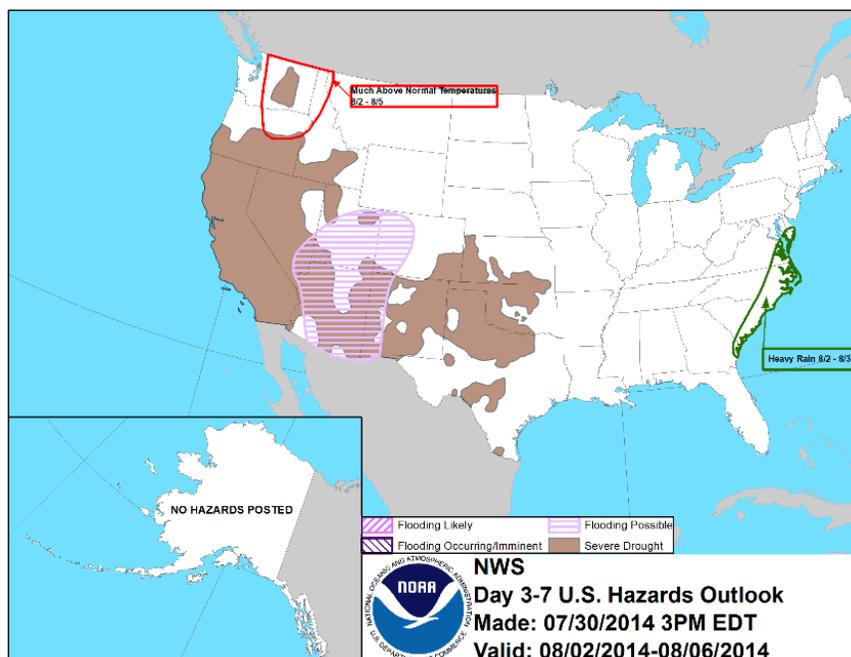
These numbers represent a reduction in the number of gages since last week.

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National [Weather hazards](#)

Heavy rain is expected in the coming week in northeast New Mexico, Southeast Colorado, Northern Texas, western Oklahoma, and southern Kansas. Flooding is likely in these areas. Other areas of heavy rain are expected over the mid-Atlantic states.

There is also a hazard of much above normal temperatures in the Pacific Northwest.



[National Drought Summary for July 29, 2014](#)

Prepared by the Drought Monitor Author: Brad Rippey, USDA

Weekly Weather Summary: Spotty showers were heaviest in the East, where rain benefited pastures and summer crops. Meanwhile, mostly dry weather prevailed in the Midwest, except for a few bands of locally heavy showers. Despite a July drying trend, most Midwestern crops continued to thrive due to near- to below-normal temperatures and abundant soil moisture reserves. On July 27, USDA rated three-quarters of the U.S. corn and 71% of the soybeans in good to excellent condition—the highest such ratings this late in the season since 2004. Farther west, hot weather on the Plains yielded to sharply cooler conditions. In addition, rain overspread the central and southern High Plains late in the drought-monitoring period. The spell of hot weather hastened winter wheat maturation on the northern Plains and promoted rapid crop development throughout the nation's mid-section. However, the Plains' high temperatures also stressed some summer crops, especially in areas dependent upon rain or with lingering subsoil moisture deficits. Elsewhere, heat also arrived across the Southwest during a temporary break in the monsoon circulation, while cooler weather and beneficial showers overspread the Northwest. In particular, Northwestern showers aided containment efforts for a rash of lightning-sparked wildfires. However, the weather pattern reversed during the second half of the drought-monitoring period, with heat returning to the Northwest and a monsoon surge delivering heavy rain to parts of the Southwest.

Northeast: Rain chipped away at abnormal dryness (D0) in southern Maine, where the community of Gray received 2.25 inches on July 27-28. However, showers largely bypassed New York's Long Island, where some D0 expansion was noted. From June 1 – July 29, rainfall in Islip, New York, totaled 4.75 inches (64% of normal).

Southeast: Hit-or-miss showers dotted the region, resulting in a mix of deterioration and improvement. Moderate drought was introduced in a few areas, including parts of western Kentucky, central Alabama, and southern Georgia. USDA commentary for south-central Georgia for the week ending July 27 indicated that hot, dry weather is "taking a toll on crops. Cotton and peanuts are at a critical stage of water requirements in order to make yield. Corn needs rainfall... Hay and pastures need rain for [the] next cutting." From June 1 – July 29, rainfall totaled less than half of normal in locations such as Tallahassee, Florida (6.13 inches, or 42.6% of normal), and Valdosta, Georgia (6.08 inches, or 49.6%). Substantial June 1 – July 29 rainfall deficits were also noted in locations such as Bowling Green, Kentucky (4.25 inches, or 53% of normal), and Birmingham, Alabama (5.73 inches, or 64%). Topsoil moisture shortages

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became more acute in some areas, rated 51% very short to short in Kentucky by July 27. Other Southeastern States reporting topsoil moisture at least one-quarter very short to short were South Carolina (44%), Virginia (33%), Georgia (32%), and Arkansas (27%).

Despite periods of very cool weather, dryness has begun to take a toll on Southeastern pastures. On July 27, USDA reported 45% of the pastures were rated in very poor to poor condition in South Carolina, along with 23% in Virginia and 20% in Kentucky. By the morning of July 30, in the midst of the latest cool spell, daily-record low temperatures were established in Southeastern locations such as Blacksburg, Virginia (49°F); Jackson, Kentucky (52°F); Muscle Shoals, Alabama (55°F); and Meridian, Mississippi (56°F).

Northern Plains and Midwest: Patchy July dryness across the northern Plains and Midwest stood in stark contrast to near-record to record-setting June wetness. In one of the more dramatic examples, Sioux Falls, South Dakota, received rainfall totaling 0.80 inch (28% of normal) from July 1-29, following its wettest June and month on record (13.70 inches, or 349%). Due to antecedent wetness and persistently cool conditions, impacts from July dryness have been slow to emerge. However, pockets of abnormal dryness (D0) have begun to develop in a few areas of the western and southwestern Corn Belt. In addition to Sioux Falls, July 1-29 rainfall totaled less than an inch in locations such as Lincoln, Nebraska (0.51 inch); Mobridge, South Dakota (0.53 inch); Aberdeen, South Dakota (0.70 inch); Chesterfield, Missouri (0.70 inch); Valley, Nebraska (0.88 inch); Mason City, Iowa (0.90 inch); and Cahokia, Illinois (0.99 inch). By July 27, about one-sixth of the rangeland and pastures rated in very poor to poor condition Montana and Nebraska (16% in both states). On the same date, topsoil moisture ranged from one-quarter to one-half very short to short in several states across the northern Plains and Midwest, including Montana (48%), Nebraska (41%), Missouri (39%), South Dakota (29%), and Michigan (26%).

Southern Plains: Cooler, showery weather late in the period helped to offset the effects of several hot days, resulting in only minor changes to the drought depiction. There were some improvements noted in a few areas, including Texas' northern panhandle, where the coverage of extreme to exceptional drought (D3 to D4) was further reduced. A bit farther south, Lubbock, Texas, received 10.46 inches of rain (146 percent of normal) from May 1 – July 29, helping to dent the 30.47-inch precipitation deficit that accumulated from January 2011 – April 2014. Effects of the southern Plains' long-term drought can still be observed in low lake levels and subsoil moisture shortages. On July 27, USDA reported that subsoil moisture was rated 65% very short to short in both Oklahoma and Texas. Rangeland and pastures have exhibited some recovery and are currently rated just 24% very poor to poor in Texas, along with 20% in Kansas and 19% in Oklahoma.

California: Increasingly, drought indicators point to the fact that conditions are not appreciably better in northern California than in central and southern sections of the state. In addition, mounting evidence from reservoir levels, river gauges, ground water observations, and socio-economic impacts warrant a further expansion of exceptional drought (D4) into northern California. For California's 154 intrastate reservoirs, storage at the end of June stood at 60% of the historical average. Although this is not a record for this time of year—the standard remains 41% of average on June 30, 1977—storage has fallen to 17.3 million acre-feet. As a result, California is short more than one year's worth of reservoir water, or 11.6 million acre-feet, for this time of year. The historical average warm-season drawdown of California's 154 reservoirs totals 8.2 million acre-feet, but usage during the first 2 years of the drought, in 2012 and 2013, averaged 11.5 million acre-feet.

Given the 3-year duration of the drought, California's topsoil moisture (80% very short to short) and subsoil moisture (85%) reserves are nearly depleted. The state's rangeland and pastures were rated 70% very poor to poor on July 27. USDA reported that "range and non-irrigated pasture conditions continued to deteriorate" and that "supplemental feeding of hay and nutrients continued as range quality declined." In recent days, new wildfires have collectively charred several thousand acres of vegetation in northern and central California. The destructive Sand fire, north of Plymouth, California—now largely contained—burned more than 4,000 acres and consumed 66 structures, including 19 residences.

Southwest: Robust monsoon rains, especially late in the monitoring period, chiseled away at long-term drought. Some of the greatest improvements in the drought depiction were noted across New Mexico and southern Arizona. Through July 29, month-to-date rainfall has totaled more than twice normal in several New Mexico locations, including Albuquerque (3.34 inches, or 242 percent of normal). Still, New Mexico's rangeland and pastures were rated 65% very poor to poor on July 27, slightly worse than the late-July, 5-year average of 62%. In addition, New Mexico's subsoil moisture was rated 67% very short to short.

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Similar conditions existed in other Southwestern States, with very short to short subsoil moisture ratings standing at 70% in Nevada, 68% in Utah, and 58% in Colorado. Meanwhile, Lake Mead—above Hoover Dam—which serves multiple states, recently fell to its lowest level since being filled during the 1930s.

Northwest: Washington State's largest wildfire on record, the quarter-million acre Carlton complex—sparked by lightning on July 14—was largely contained by month's end. Still, the complex of four fires (Stokes, Gold Hikes, French Creek, and the Cougar Flat fires) was enormously destructive while burning through timber, grass, and brush, with more than 300 homes destroyed in the Okanogan County communities of Brewster and Pateros. Following a brief cool spell, intense heat returned across much of the Northwest late in the month. On July 29, daily-record highs in Washington included 107°F in La Crosse and 105°F in Wenatchee. Farther south, moderate to extreme drought (D1 to D3) crept northward in eastern Oregon. Meanwhile, widespread, out-of-season rainfall accompanied the brief cool spell in the Pacific Northwest, allowing for the elimination of abnormal dryness (D0) along the coast and some erosion of moderate drought (D1) in northwestern Oregon. From July 22-24, Oregon rainfall totals reached 1.04 inches in Portland and 0.98 inch in Astoria.

Hawaii and Puerto Rico: There were no changes in Hawaii's coverage of dryness (D0), which persisted in some leeward locations from Molokai to the Big Island. In addition, a small patch of moderate drought (D1) remained on Molokai. Meanwhile, most of southern and eastern Puerto Rico experienced another week of below-normal rainfall. As a result, moderate drought (D1) expanded in southern Puerto Rico. Within Puerto Rico's abnormally dry (D0) area, San Juan's June 1 – July 29 rainfall totaled just 4.17 inches (45% of normal).

Looking Ahead: *From July 31 – August 4, locally heavy showers will shift eastward across the South, eventually reaching the southern Atlantic States. Five-day rainfall totals could reach 1 to 3 inches from Florida into the southern mid-Atlantic region. Meanwhile, showers will linger across the central and southern Rockies in the wake of a significant rainfall event. Most of the remainder of the West will experience dry weather, except for isolated showers across the Great Basin and Intermountain region. Mostly dry weather will also prevail during the next several days from the northern Plains into the middle Mississippi Valley. Elsewhere, an ongoing heat wave in the Northwest will contrast with near- to below-normal temperatures in most other parts of the country.*

The NWS 6- to 10-day outlook for August 5 – 9 calls for the likelihood of below-normal temperatures in large sections of the central and eastern U.S., as well as the central Rockies, while hotter-than-normal conditions will cover the lower Southeast, the lower Rio Grande Valley, and the Far West. Meanwhile, near- to above-normal rainfall across the majority of the U.S. will contrast with the likelihood of drier-than-normal conditions in the Pacific Northwest, northern Plains, far upper Midwest, and southern parts of Arizona, Texas, and Florida.”

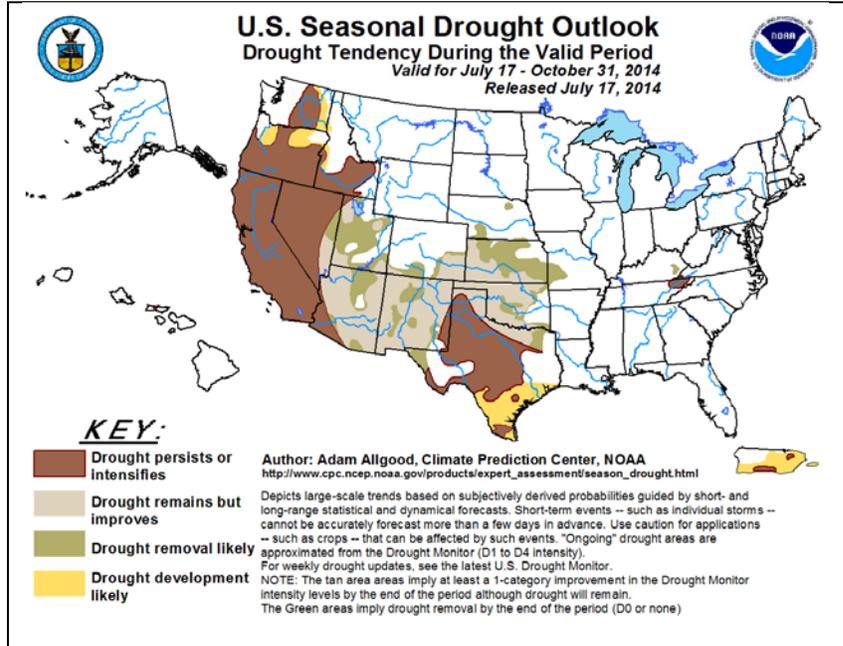
Weekly Snowpack and Drought Monitor Update Report

Supplemental Drought Information

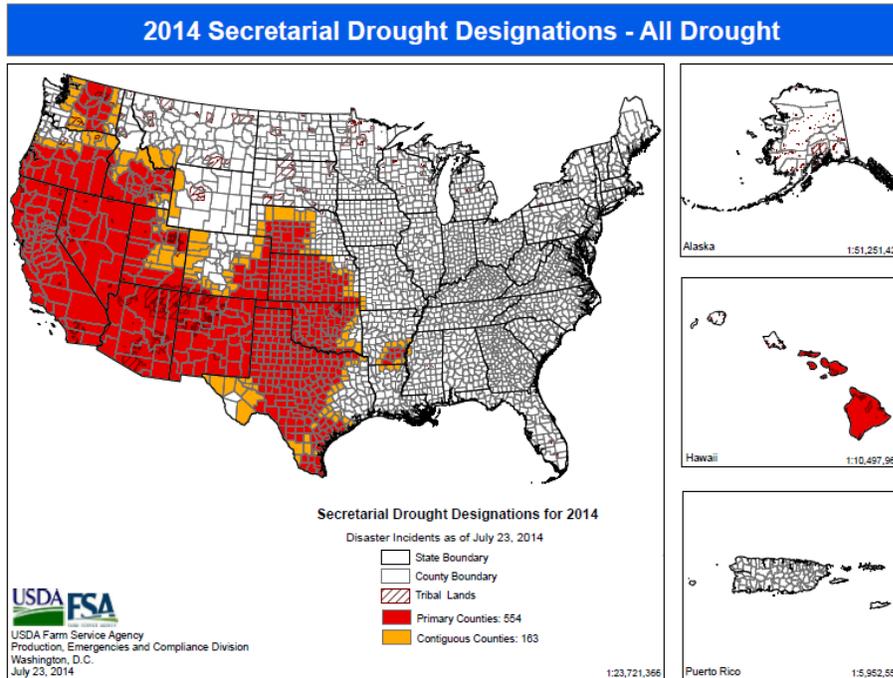
National Seasonal Drought Outlook

[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.



2014 USDA Secretarial Drought Designations



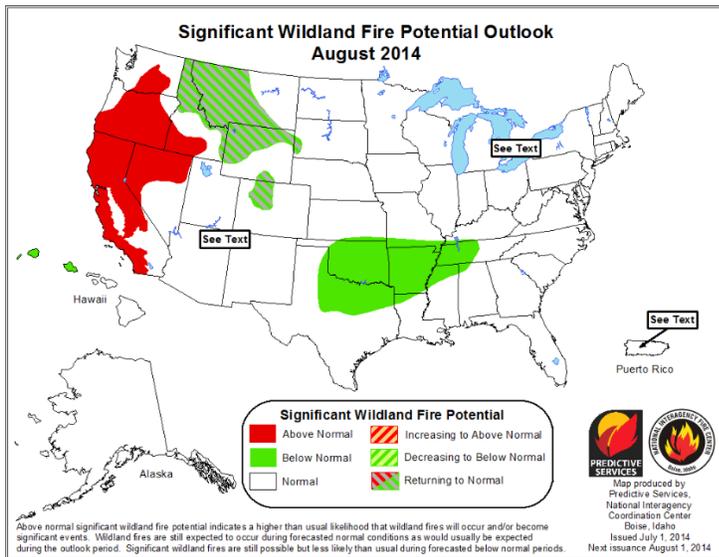
Refer to the USDA Drought Assistance [website](#) and [National Sustainable Agriculture Information Service](#).

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

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

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National Fire Potential Outlook



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.

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.

"Drought costs

In the first half of 2014, drought cost the U.S. \$4.0 billion and Brazil \$4.3 billion, according to Aon Benfield, a global reinsurance firm.

U.S. food prices

Recent increases in vegetable prices could not clearly be tied to drought in California, said the Economic Research Service of the USDA in a [Food Price Outlook](#) released July 25. Persistent drought in Oklahoma and Texas could cause meat prices to further rise.

Water losses in the Colorado River Basin

The Colorado River Basin lost nearly 53 million acre-feet between December 2004 and November 2013, with 75 percent of that loss coming from underground sources, said researchers from NASA and University of California, Irvine. Data from the NASA Gravity Recovery and Climate Experiment mission were used to calculate changes to the basin's mass.

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Groundwater sources can become so depleted that they may never refill, said Stephanie Castle, the study's lead author and a water resource specialist at the University of California, Irvine. The groundwater depletion in the Colorado River Basin could threaten water supplies in the basin and in parts of Mexico.

Higher energy costs in California

Drought has cut into hydropower production in California, driving energy costs higher as the state turns to other energy sources, which cost more than hydropower does. Hydropower generation dropped from 18.2 percent in 2011 to 11.7 percent in 2012 when drought began.

Salmon dying in Klamath Basin in northern California

Fifty-five adult salmon and an unusually high number of juvenile salmon were found dead along a 90-mile stretch of the Salmon River in Northern California's Klamath Basin. Low water flows and high temperatures are expected to kill more fish. Given the drought, there is little to no available water to improve conditions for the fish. A massive fish kill occurred in the same area in 2002.

California homeowners cannot be fined by HOAs for having brown lawns

Homeowners who allow their lawns to turn brown for lack of watering during drought cannot be fined by homeowners associations since Gov. Jerry Brown signed AB2100 into law on July 21. Prior to signing the bill, some homeowners found themselves caught between trying to keep their homeowners associations happy by watering their lawns and trying to cut water use and avoid government fines.

California cities to hire water police

Some California cities are considering hiring water police to look into complaints about water use violations, write tickets and issue fines. The Santa Clara Valley Water District board met on July 22 to decide whether to hire as many as 10 temporary employees to enforce water restrictions. The proposal is expected to be approved. Santa Cruz and Sacramento are two cities that fine scofflaws, but water authorities in many cities prefer to avoid penalizing customers.

How are California cities and water districts planning to respond to the new state law that potentially fines residents \$500 for outdoor watering?

It's a mixed bag. While some cities say they will fine violators, other cities say they will not. There seems to be confusion about exactly what is expected of cities/districts in terms of enforcing the new law, which goes into effect on Aug. 1.

- **Bakersfield** will be going easy on residents whom police or water officials spot letting their sprinklers run a little too freely, City Attorney Ginny Gennaro said. "My understanding is no you will not see tickets right away," Gennaro said — noting the state's emergency regulations nevertheless make wasting water an infraction like a traffic ticket, but punishable by a fine of up to \$500.

"... We're going to take... more of an educational approach that when we hear about things like that (water waste) we're going to send out a door hanger and perhaps a letter and progress it through that," the city attorney said.

<http://www.bakersfieldcalifornian.com/pick-6/x855031351/Bakersfield-to-close-spray-parks-due-to-drought>
- The **East Bay** Municipal Utility District will declare several water wasting practices illegal during the drought, but will not impose fines to enforce the rules.
http://www.mercurynews.com/ci_26196767/ebmud-ban-water-wasting-practices-but-not-fine
- The board president of the North Coast County Water District (**Pacifica**, just south of San Francisco) said the law would be hard to enforce and hopes that the public will conserve voluntarily, without any persuasion from the water district or law enforcement.
http://www.mercurynews.com/ci_26197220/conserving-water-pacifica
- **Napa** officials were looking at the new law, trying to figure out how the new law will take effect for them. They would like to update the city code to work in the new fines, but cannot accomplish that before Aug. 1. They prefer to educate rather than punish violators.
http://napavalleyregister.com/news/local/city-to-fine-tune-its-response-to-water-conservation-mandate/article_05a93396-44ab-52cb-9de1-4f28a8233d5d.html

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U.S. fire stats

From the [National Interagency Fire Center](http://www.nifc.gov/fireInfo/nfn.htm) at <http://www.nifc.gov/fireInfo/nfn.htm>:

Year-to-date statistics

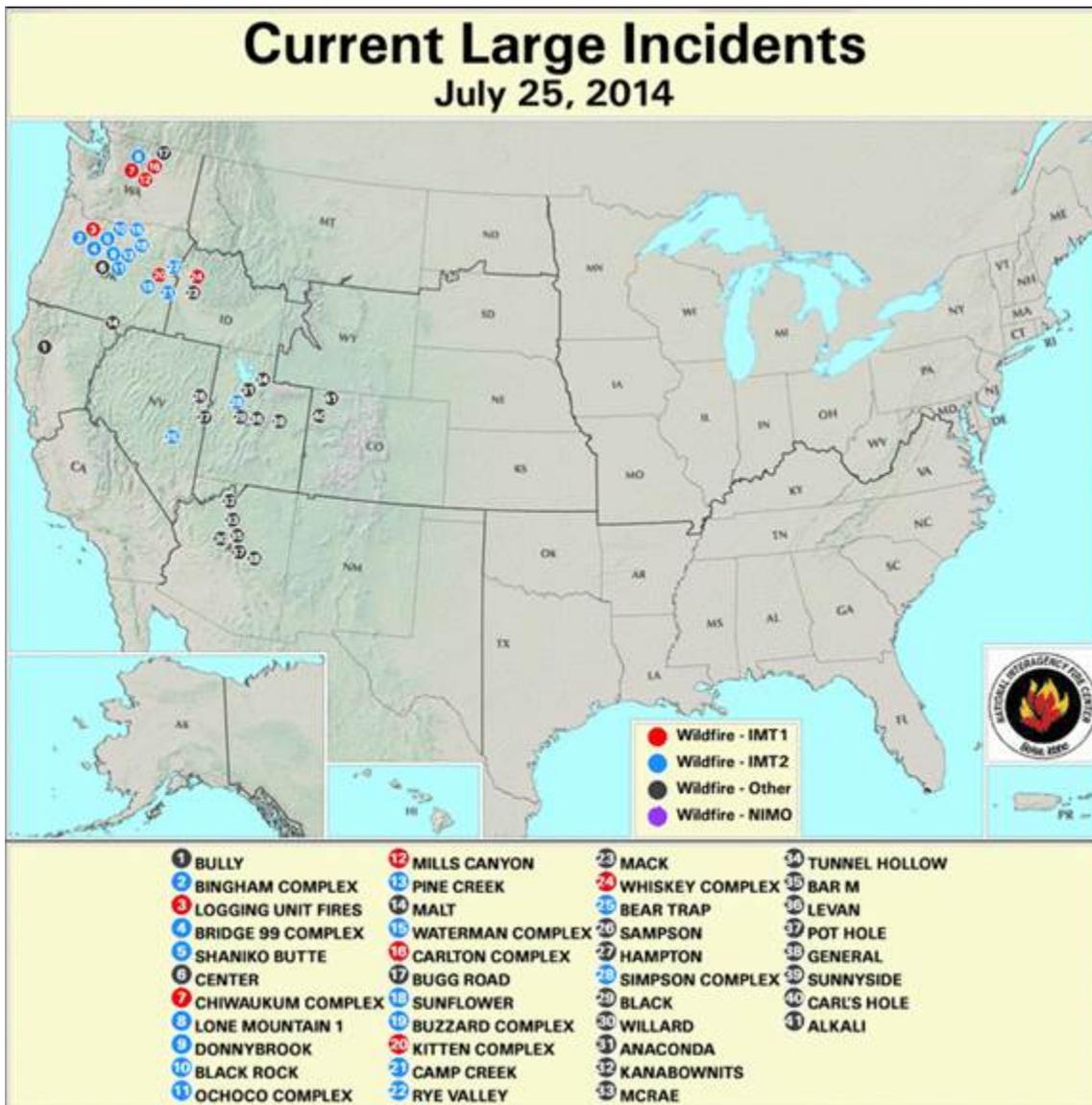
2014 (1/1/14 - 7/25/14) Fires: 31,559 Acres: 1,628,052 (2,544 sq. mi.)

Annual average prior 10 years

2004-2013 Fires: 45,487 Acres: 3,948,973 (6,170 sq. mi.)

Nearly one million acres of land in Washington and Oregon burned in recent weeks since lightning strikes sparked many fires. At least 150 homes were destroyed, while thousands of homes and buildings remained threatened by the fires. Twenty counties in eastern Washington and all of Oregon were in a state of emergency.

The [Active Fire Mapping Program](#) from the USDA Forest Service's Remote Sensing Applications Center"



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Tea Cup Reservoir Depictions

- <http://www.usbr.gov/uc/water/basin/> ← Upper Colorado
- 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 ← 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)

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