

Weekly Water and Climate Update

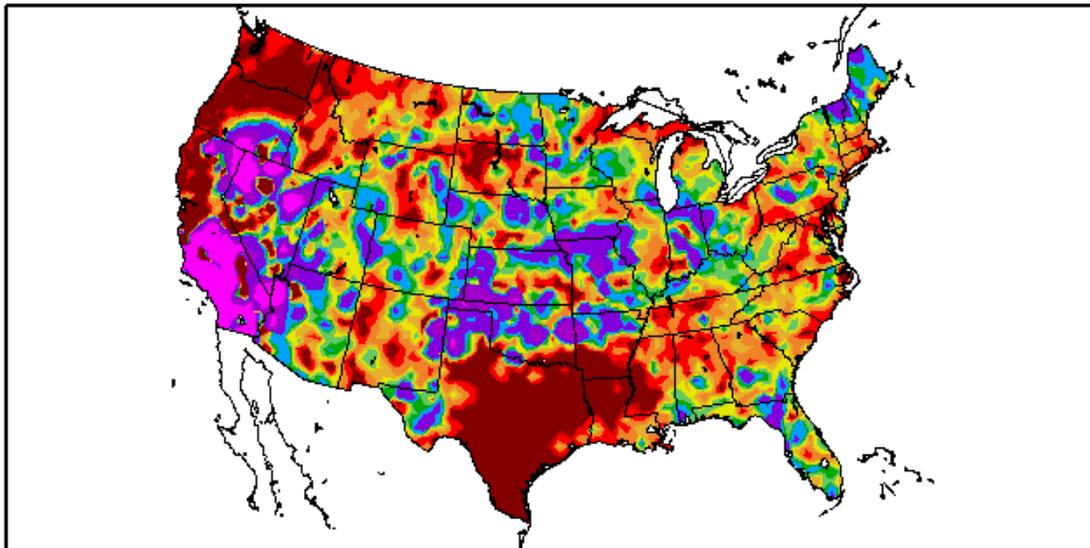
July 23, 2015

This weekly report uses data and products from the National Water and Climate Center and information provided by other agencies. The report focuses on current precipitation, seasonal snowpack, temperature, and drought conditions in the U.S.

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Weekly Highlight: Heavy rain in California; not enough to impact drought

Percent of Normal Precipitation (%)
 7/16/2015 – 7/22/2015



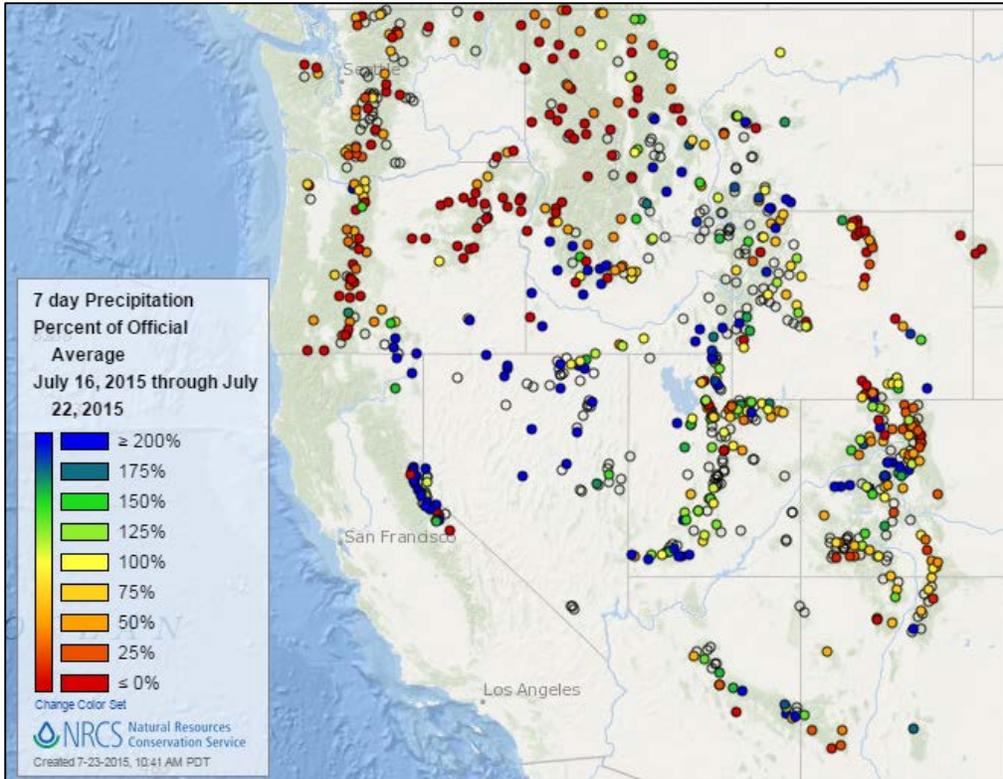
Generated 7/23/2015 at HPRCC using provisional data.

Regional Climate Centers

Heavy rain in California broke records, caused flooding, and washed out a freeway bridge, but it was not nearly enough precipitation to ease the long-term drought situation. See map on page 4 for more details.

Precipitation

Last 7 Days, Western Mountain Sites (NRCS SNOTEL)

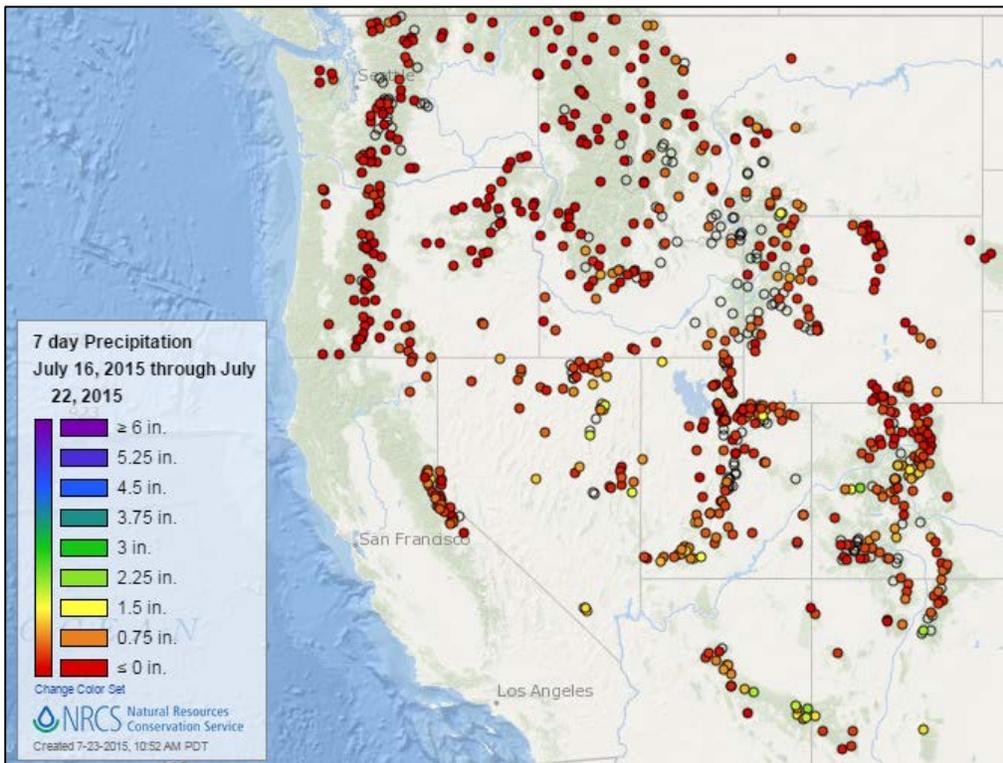


The [precipitation percent of average](#) map highlights the scattered rain that occurred in the past week across much of the West.

The scattered nature of these storms is illustrated in the close proximity of sites in excess of 200% of average precipitation to other sites with 0% of average.

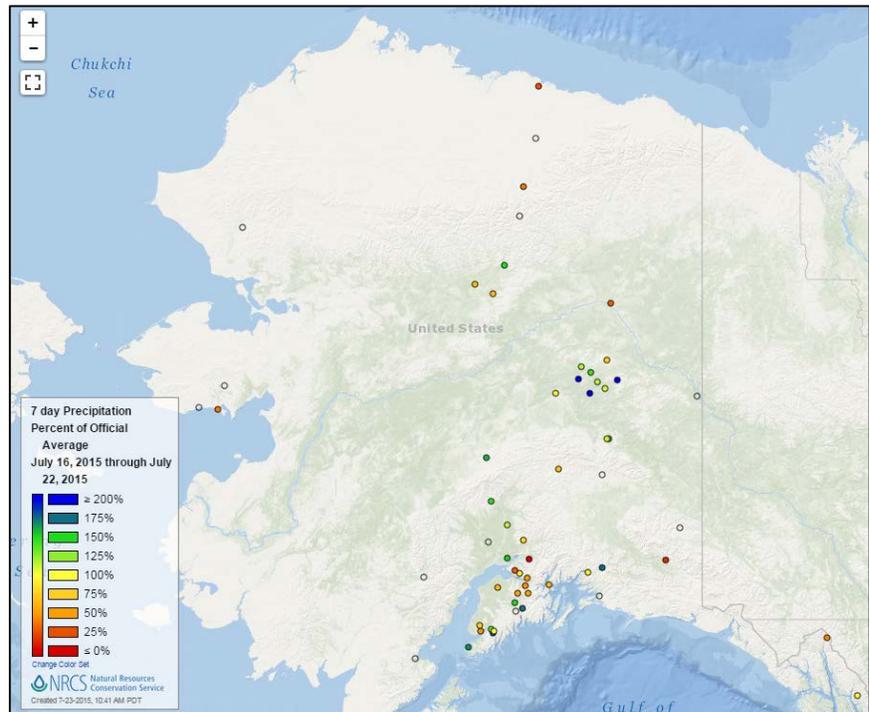
The Northwest and Front Range of the Rockies continued to be dry.

The [total precipitation](#) map shows the Southwest receiving more than two inches in some locations, but little to no precipitation over most of the remainder of the West. The contrast between the above map and the adjacent map illustrates that even trace amounts of precipitation in the summer can often relate to large percent of average values.

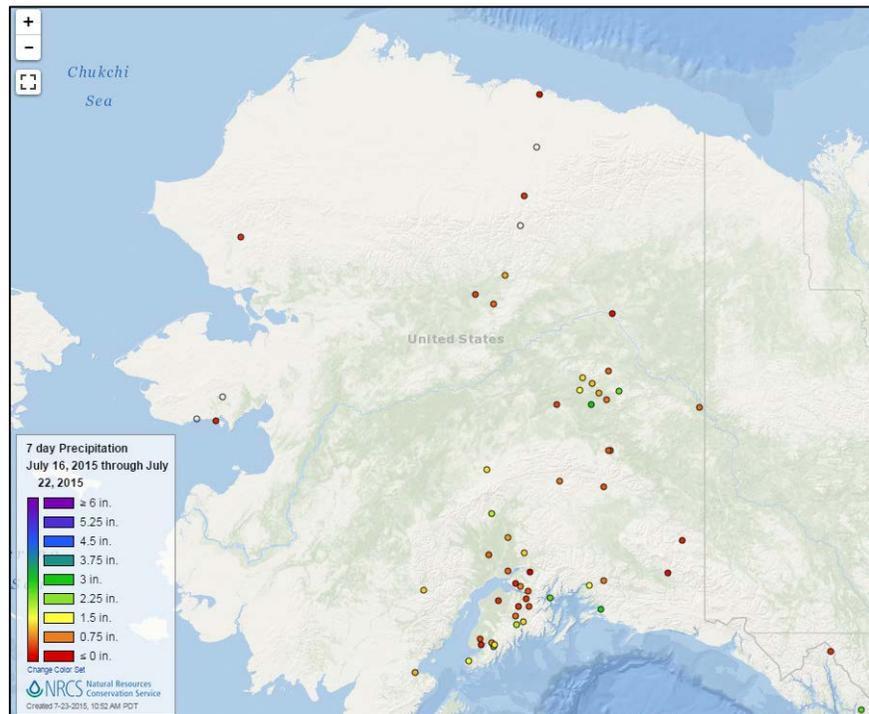


Weekly Water and Climate Update

The Alaska [precipitation percent of average](#) map indicates above average precipitation in parts of central and southern Alaska but little precipitation in the northern part of the state.



The Alaska [total precipitation](#) map for the last seven days shows a few stations with more than 2 inches of precipitation, but mainly less than this in the southern part of the state, and no precipitation in the northern part of Alaska for the week.

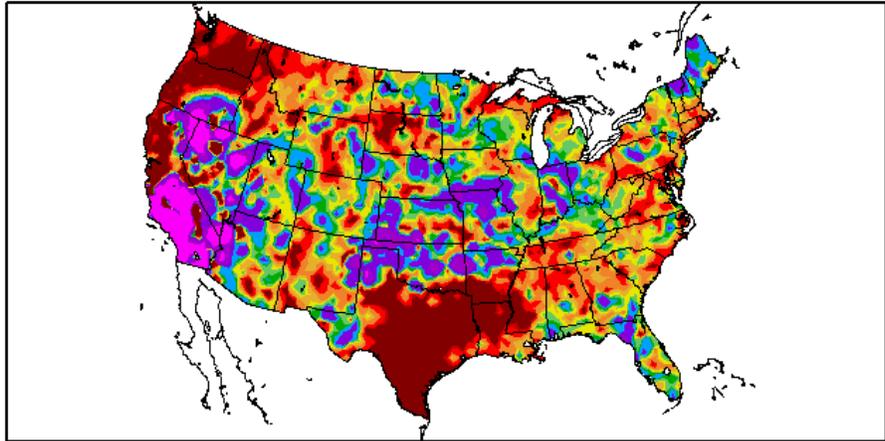


Weekly Water and Climate Update

Last 7 Days, National Weather Service (NWS) Networks

Percent of Normal Precipitation (%)
7/16/2015 – 7/22/2015

This [percent of normal precipitation](#) map for the nation shows major precipitation, compared to normal, for the Southwest and parts of the Midwest. The Pacific Northwest and southern Texas across to the Atlantic coast remained dry.



Generated 7/23/2015 at HPRCC using provisional data.

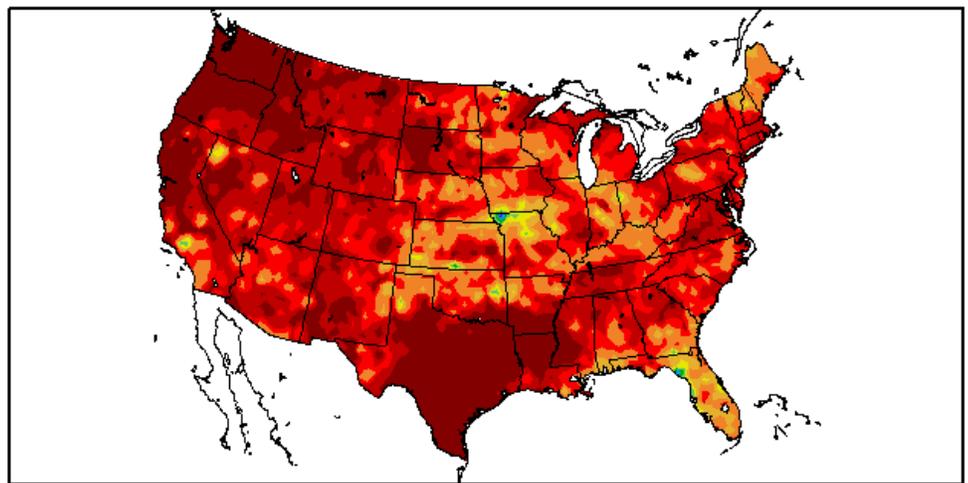
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Precipitation (in)
7/16/2015 – 7/22/2015

The [7-day total precipitation](#) map for the U.S. shows the actual amount of precipitation in inches.

Note that the dark and light orange colors represent one to three inches of precipitation, significant amounts for some areas this time of year.

Much of the nation, especially the West and the Southwest had less than one inch of precipitation. A few isolated areas had precipitation in excess of two inches.



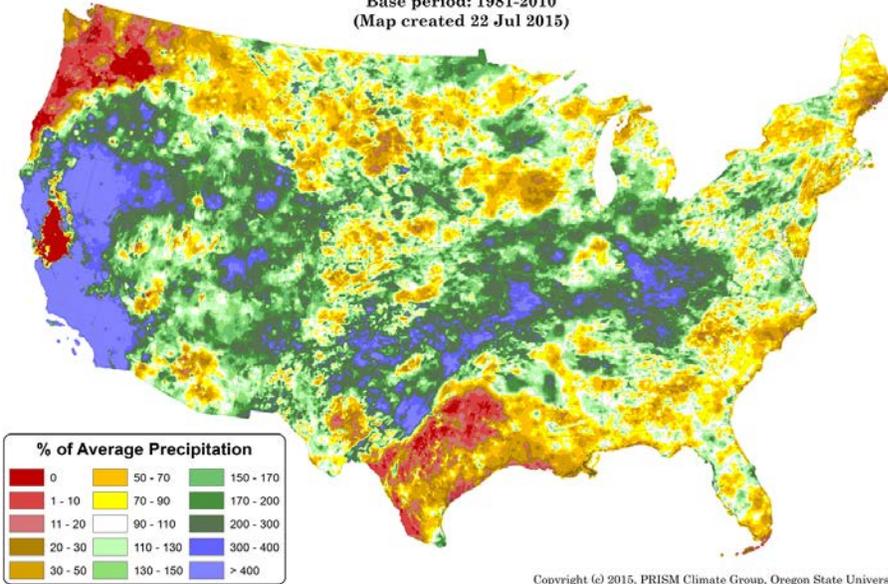
Generated 7/23/2015 at HPRCC using provisional data.

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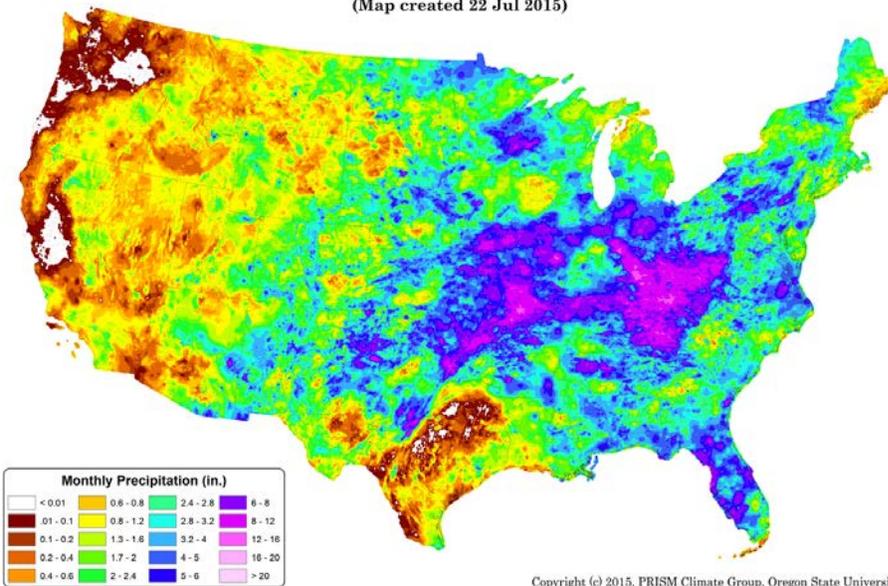
Month-to-Date, PRISM Preliminary, All available data including SNOTEL and NWS

Total Precipitation Anomaly: 01 July 2015 - 21 July 2015
 Period ending 7 AM EST 21 Jul 2015
 Base period: 1981-2010
 (Map created 22 Jul 2015)



For the month of July to date, the national [total precipitation percent of average](#) pattern reveals much higher than normal precipitation in much of California, southern Oregon, and western Nevada, as well as a band from northern Texas eastward across the Ohio Valley. The Pacific Northwest, central California, the northern Great Plains, much of Texas, the Southeast, and the Atlantic coast remain dry.

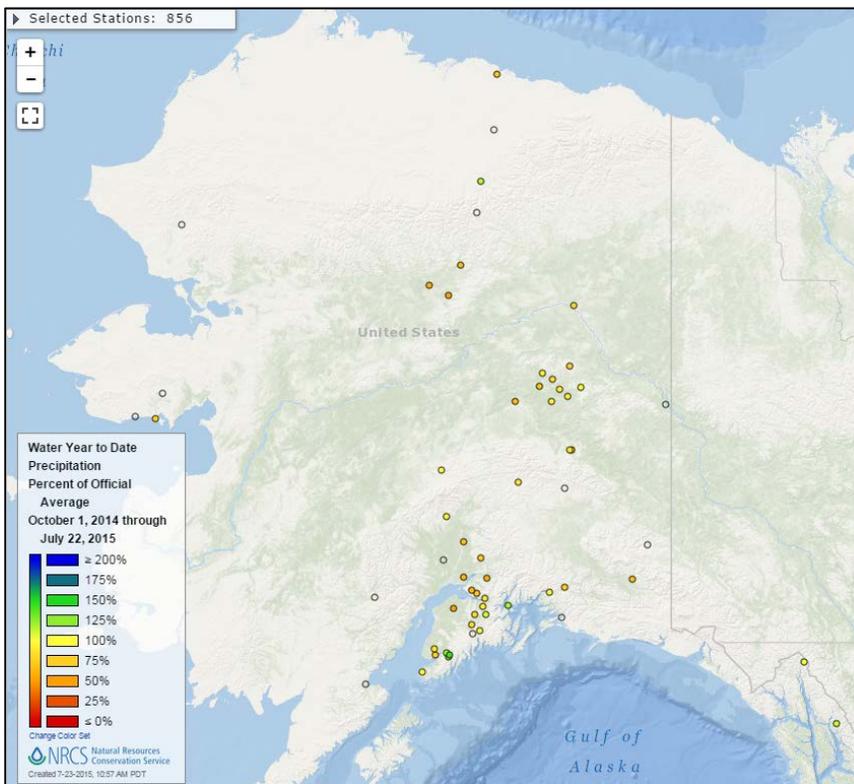
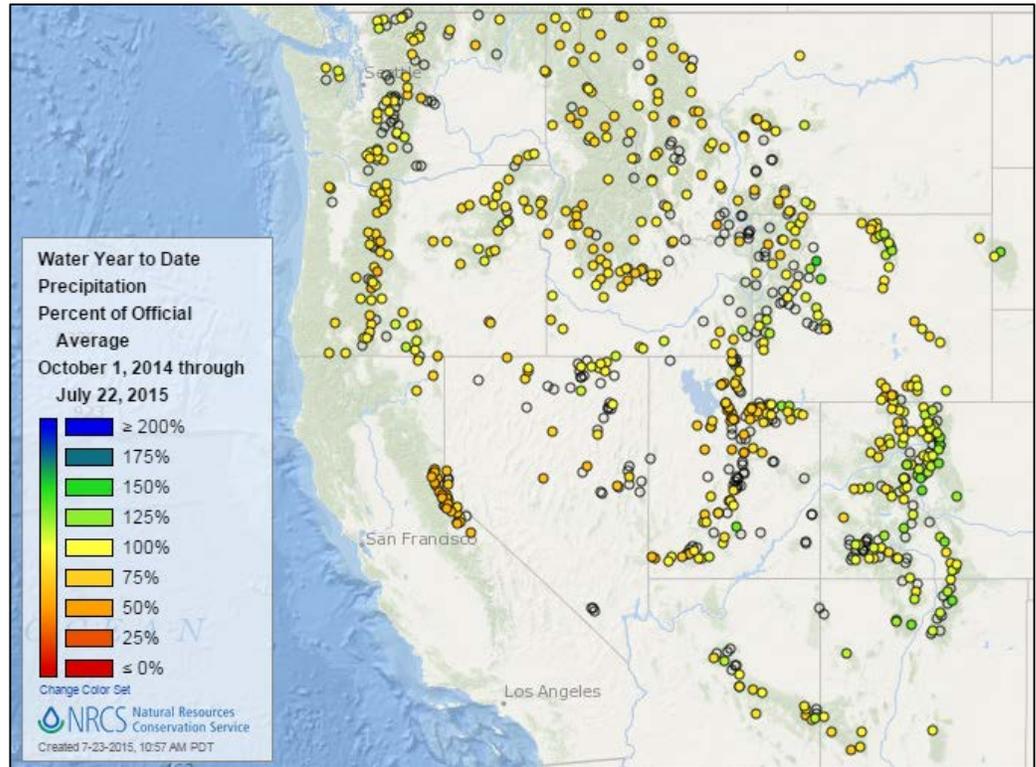
Total Precipitation: 01 July 2015 - 21 July 2015
 Period ending 7 AM EST 21 Jul 2015
 (Map created 22 Jul 2015)



The [total precipitation](#) map shows areas of dry conditions in the West, the far Northeast and southern Texas. Larger amounts of precipitation occurred in Minnesota and from northern Texas across the Ohio Valley.

Water Year-to-Date, Western Mountain Sites (NRCS SNOTEL)

For the [2015 Water Year](#) that began on October 1, 2014, precipitation to date has been above normal along parts of the eastern Rockies in Wyoming, Colorado, and northern New Mexico. To the west and north of these areas, precipitation on the whole fades to average to much below average, such as in the Tahoe Basin.



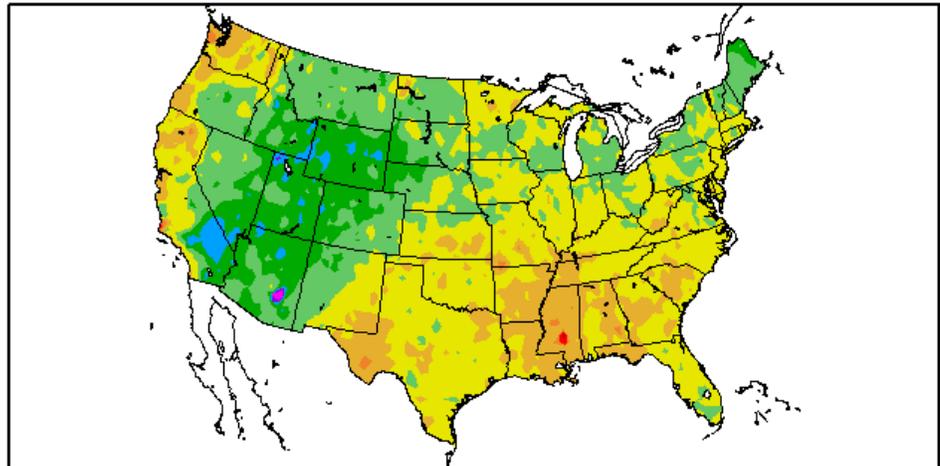
The Alaska [water year-to-date precipitation percent of average](#) map shows a mostly drier than average interior and near to above average conditions in places along the southern coast.

Temperature

Last 7 Days, National Weather Service (NWS) Networks

The map of the [average temperature anomalies](#) for the past week indicate warmer than normal conditions along the Pacific coast, the Pacific Northwest, much of the rest of the nation, except for the mountain west and northern New England.

Departure from Normal Temperature (F)
7/16/2015 - 7/22/2015



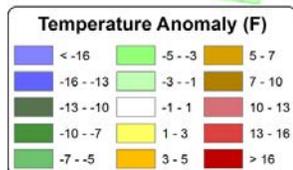
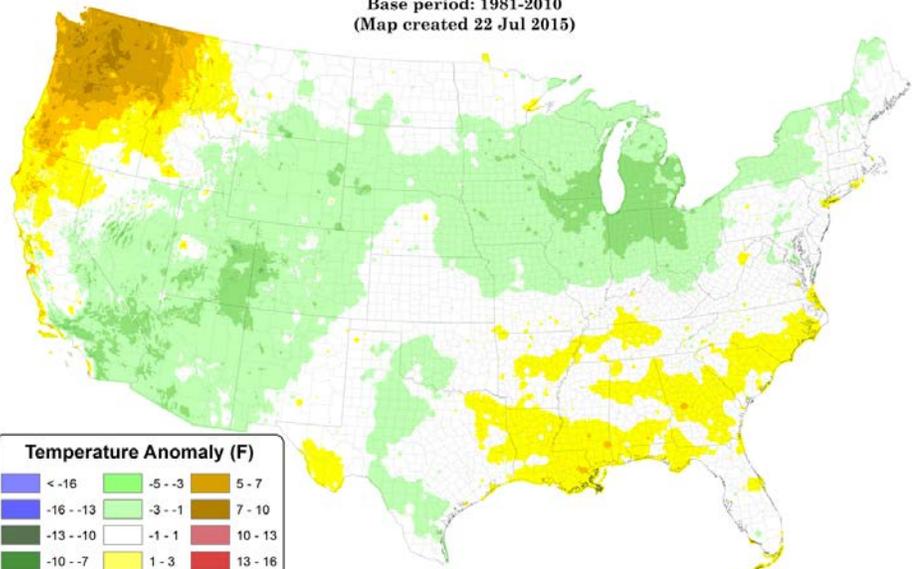
Generated 7/23/2015 at HPRCC using provisional data.

Regional Climate Centers

Month-to-Date, PRISM Preliminary, All available data including SNOTEL and NWS

For July 2015 to date, the national [daily mean temperature anomaly](#) map shows 5-10 degrees F above average in the Pacific Northwest. The Southwest across to the Northeast had generally slightly above normal to normal temperatures. Much of the mountain west in the Great Lakes region was between 1 to 5 degrees below normal.

Daily Mean Temperature Anomaly: 01 July 2015 - 21 July 2015
Period ending 7 AM EST 21 Jul 2015
Base period: 1981-2010
(Map created 22 Jul 2015)

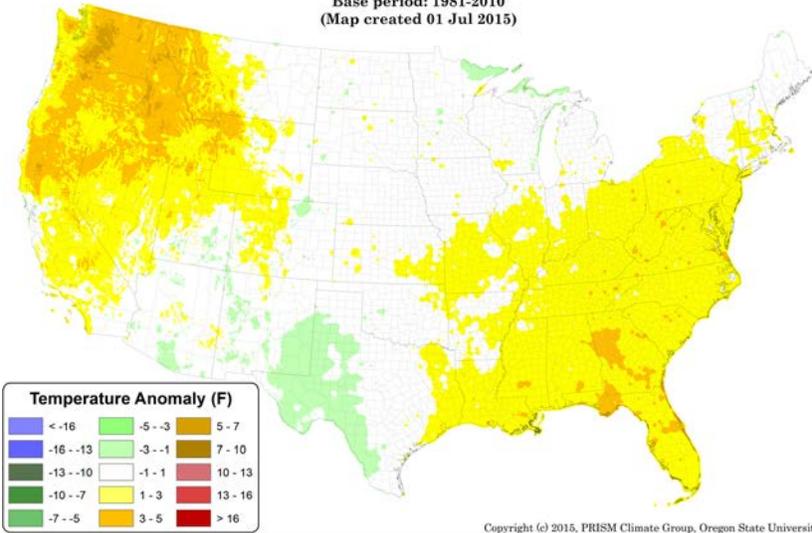


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Weekly Water and Climate Update

Last 3 Months, PRISM Preliminary

Daily Mean Temperature Anomaly: April 2015 - June 2015
 Period ending 7 AM EST 30 Jun 2015
 Base period: 1981-2010
 (Map created 01 Jul 2015)

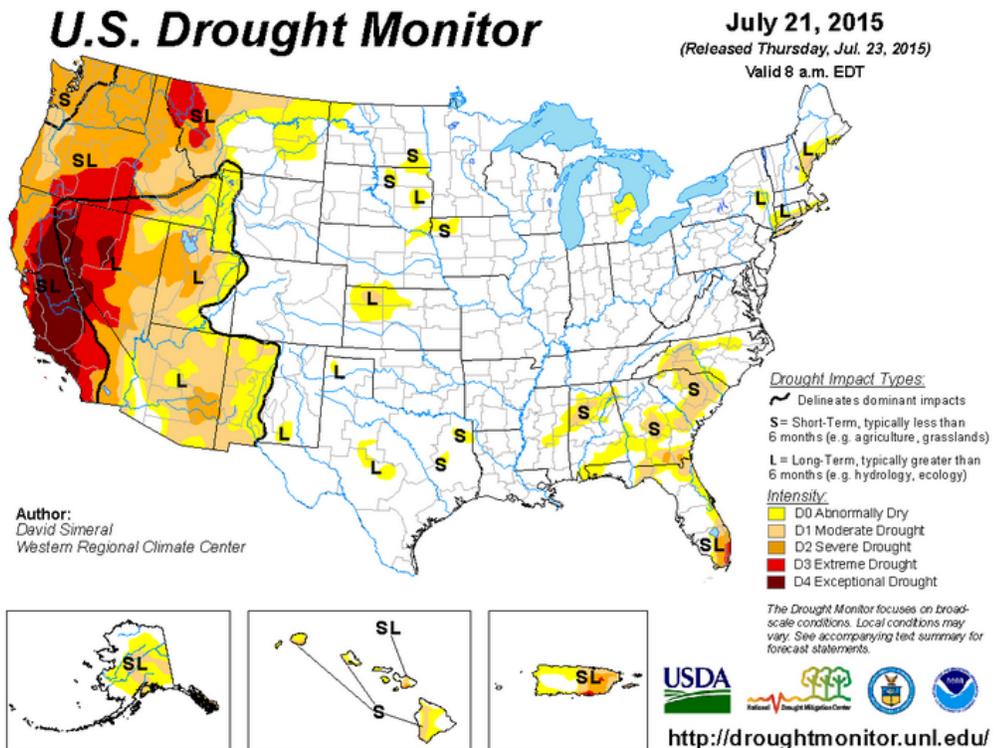


The April through June national [daily mean temperature anomalies](#) for the U.S. show the West and the Southeast had the largest temperature departures above normal. The rest of the country was mostly near average.

Drought

[U.S. Drought Portal](#) Comprehensive drought resource

[U.S. Drought Monitor](#) See map below. Exceptional levels of drought continue in California and Nevada, while extreme drought is emerging in northwestern Montana and the southern tip of Florida. To view regional drought conditions, select a region on the map. State maps are available from regional maps.

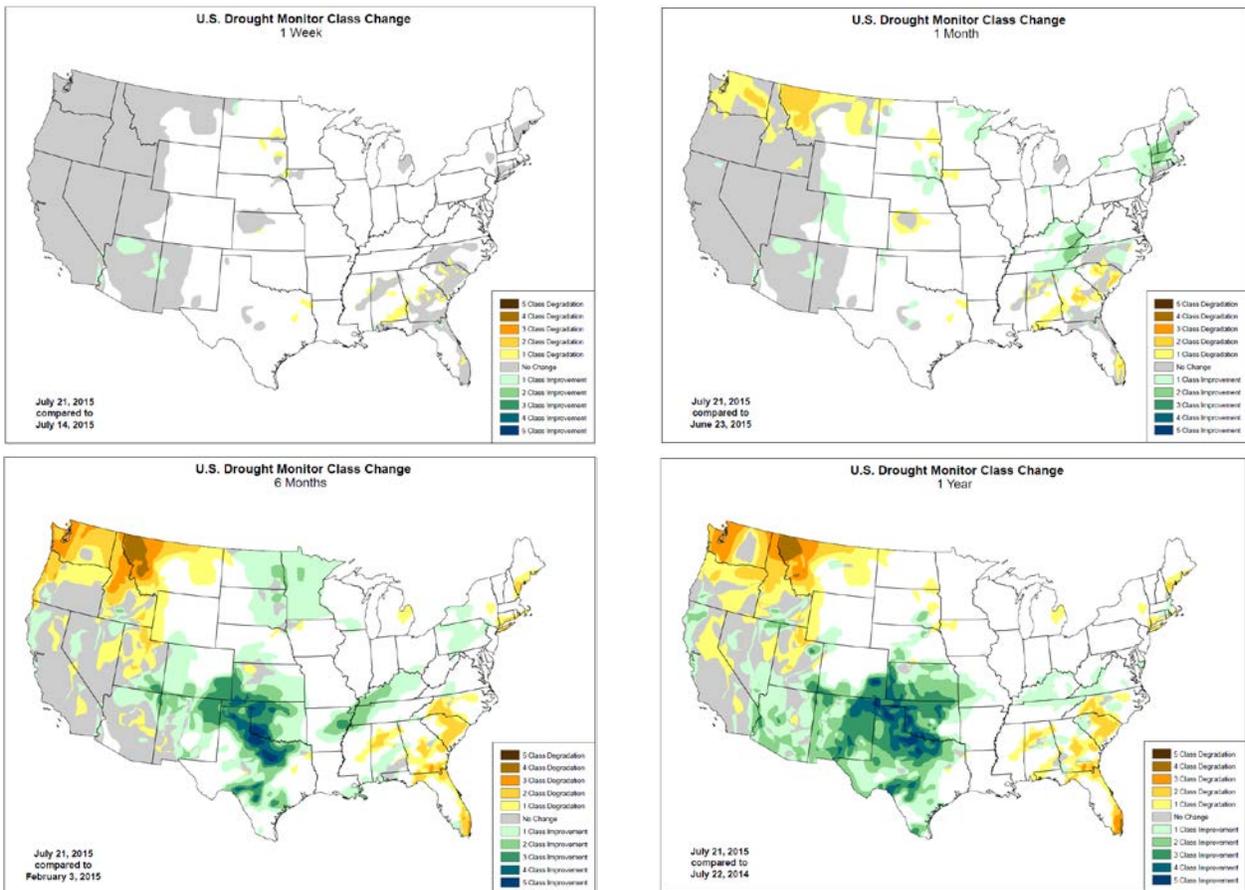


Current National Drought Summary, July 21, 2015

“This U.S. Drought Monitor week saw improvements in the Southwest as overall conditions continued to improve across parts of the region. Improvements primarily were focused upon west-central New Mexico and northern Arizona where most long- and short-term indicators have pointed toward improvements, although reservoir storage levels in various drainage basins remain below normal. During the weekend, residual moisture associated with Hurricane Dolores fueled showers and thunderstorms across southwestern California and western Arizona leading to locally heavy rainfall accumulations and flash flooding. Despite well-above-average precipitation in southern California during the past 90 days, recent rainfall has had little impact on the overall drought situation in the state. In the Pacific Northwest, above average temperatures and precipitation deficits continue to mount across the region with growing concern about potential crop losses in central and eastern Washington. Moving eastward, short-term precipitation deficits led to slight deterioration of conditions in the northern Plains while locally heavy rainfall was observed across drought-free areas of Illinois, Indiana, Ohio, Kentucky, and Missouri. In the Southeast, conditions continued to deteriorate across portions of Alabama, Georgia, and South Carolina where excessive heat and lack of rainfall dried soils and reduced streamflows. According to the National Centers for Environmental Information (NCEI) climatological rankings, the contiguous U.S. average temperature for June was the second hottest in the observational record (1895–2015). On a state level, California, Idaho, Oregon, Utah, and Washington all experienced their hottest average-temperature Junes on record since 1895.” Author: David Simeral, Western Regional Climate Center.

This summary and detailed regional drought narratives for the last week are [here](#).

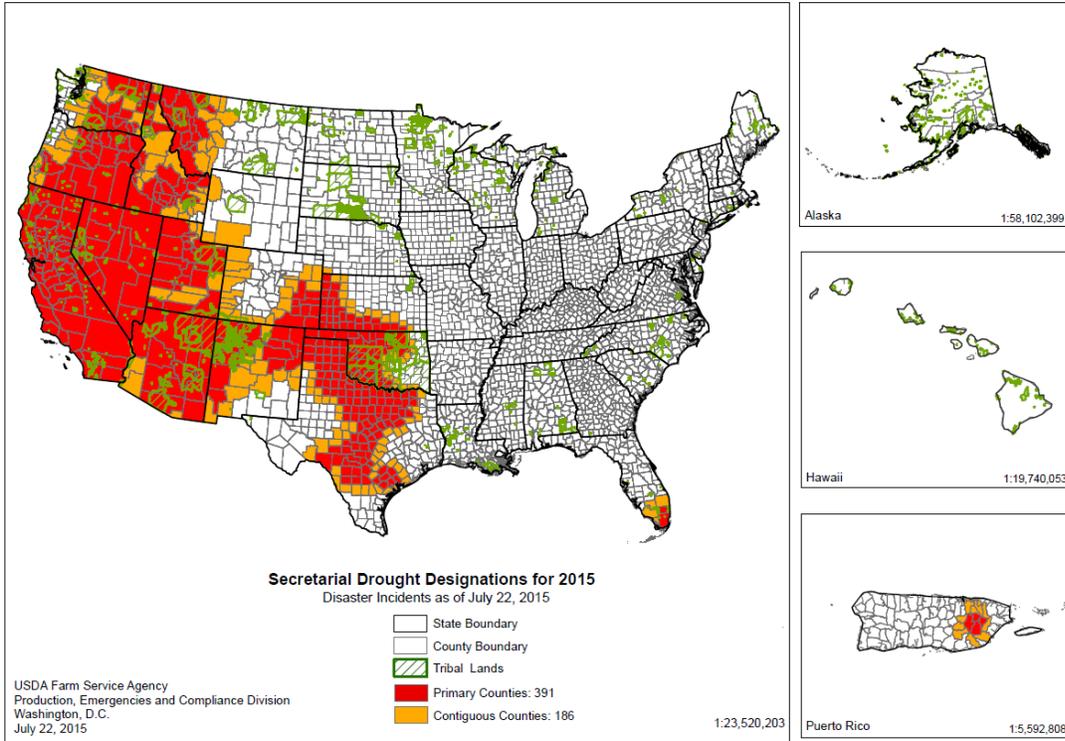
Changes in Drought Monitor Categories over Time



Intensifying drought over the past 1-12 months is particularly notable in the Northwest and to a lesser extent in parts of the Southeast. Conditions have improved significantly in the southern Great Plains and the Southwest.

2015 USDA Drought Designations

2015 Secretarial Drought Designations - All Drought



[USDA Disaster and Drought Information](#)

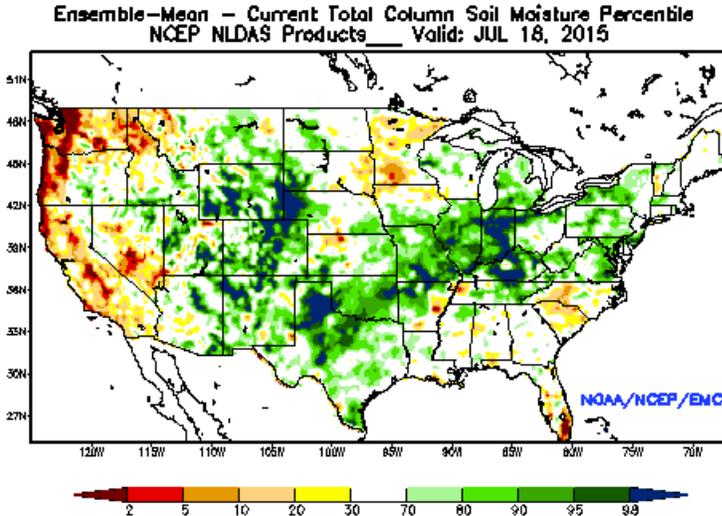
[U.S. Population in Drought, Weekly Comparison](#)

Highlighted Drought Resources

- [Drought Impact Reporter](#)
- [Quarterly Regional Climate Impacts and Outlook](#)
- [U.S. Drought Portal Indicators and Monitoring](#)

Other Climatic and Water Supply Indicators

Soil Moisture

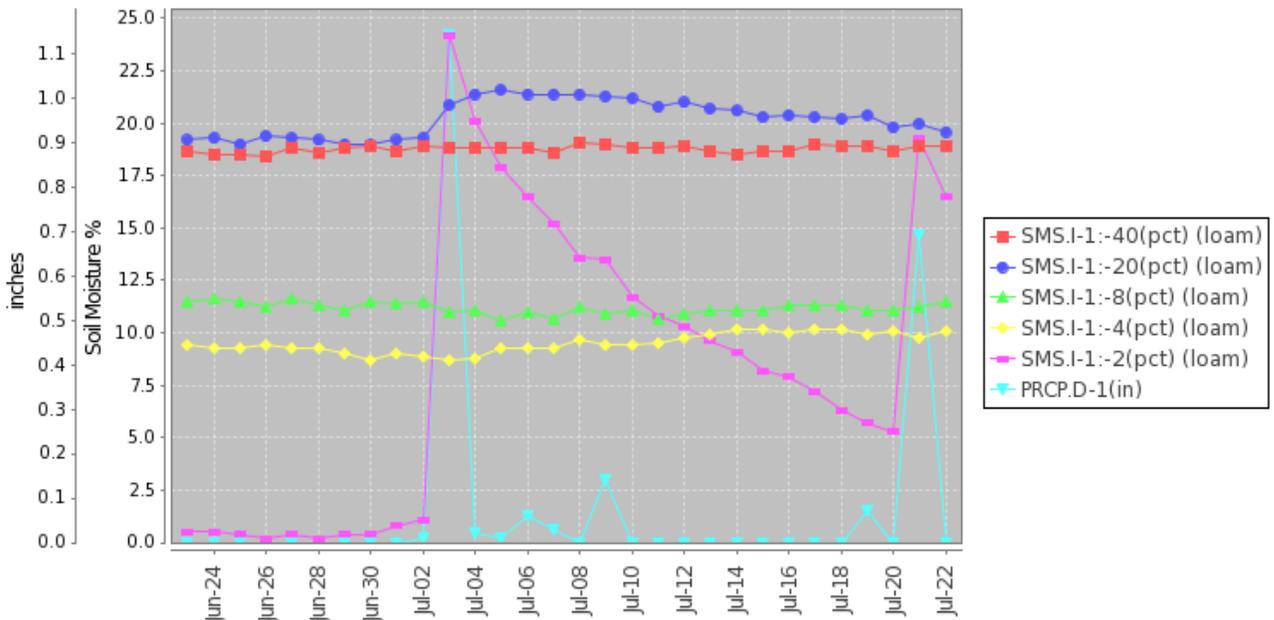


The modeled [soil moisture percentiles](#) as of July 18, 2015 show significant dryness in the far West, Minnesota, and Florida. Areas of above normal soil moisture include much of the Rocky Mountains, the southern Great Plains, the Midwest, and the Northeast.

[University of Washington Experimental Modeled Soil Moisture](#)

Soil Moisture Data: NRCS [Soil Climate Analysis Network \(SCAN\)](#)

Station (2145) MONTH=2015-06-23 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision
Thu Jul 23 06:43:13 PDT 2015



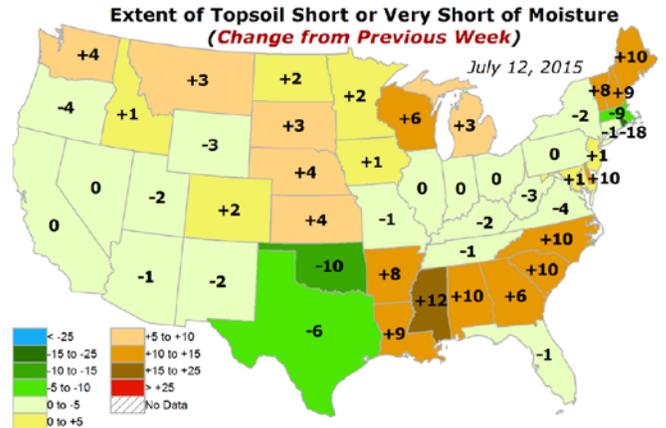
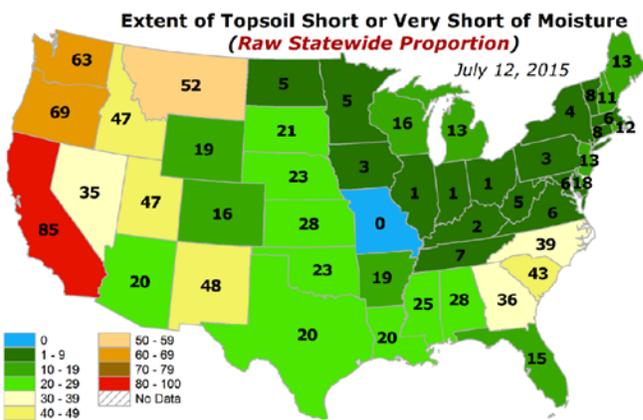
This example NRCS graph shows soil moisture (2, 4, 8, 20, and 40 inch depth) and precipitation for the last month at the [Charkiln SCAN site](#) (station number 2145) in Nevada. The rapid soil moisture response to precipitation at the 2 inch depth is especially noticeable.

Soil Moisture Data Portals

[CRN Soil Moisture](#)
[Texas A&M University North American Soil Moisture Database](#)

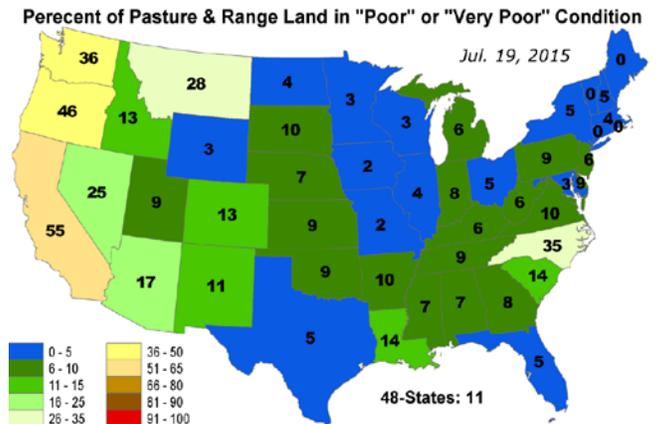
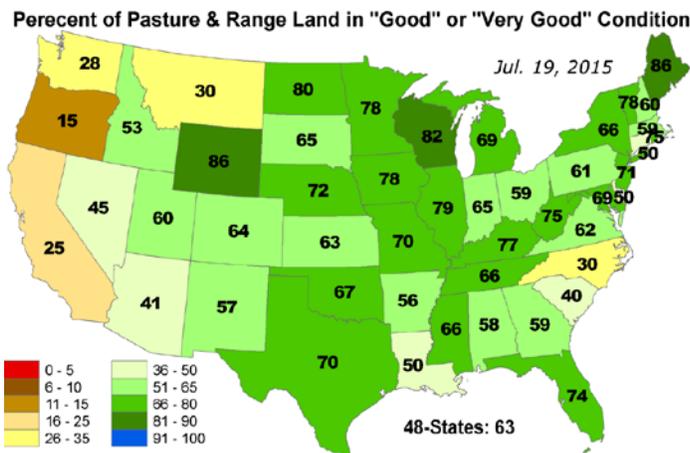
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Topsoil



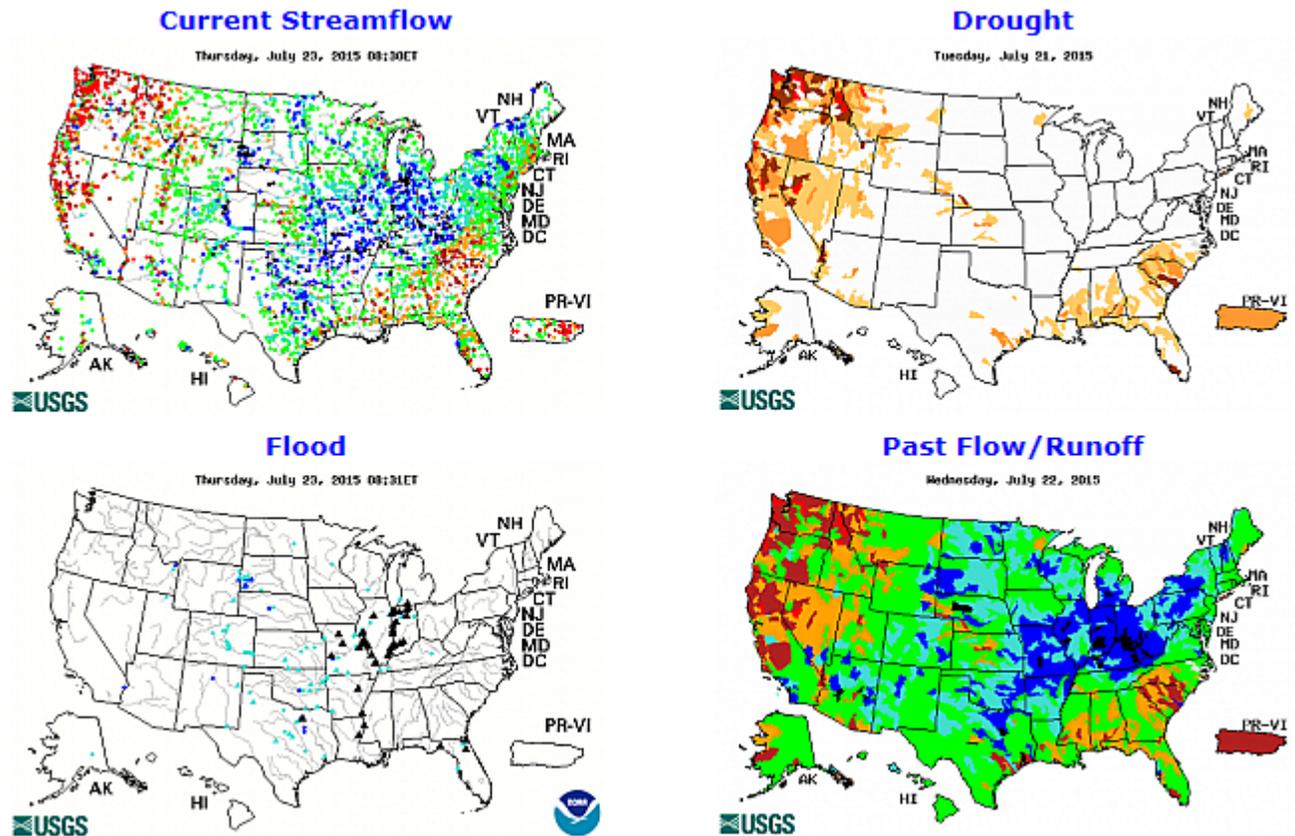
Low [topsoil moisture](#) conditions are especially notable all along the West Coast.

Pasture and Rangeland



[Pasture and rangeland](#) conditions are generally good except on the West Coast.

Streamflow



[Streamflow](#) remains below normal in northern California, the Northwest, and parts of the Southeast, whereas it is above normal in the central and northeastern parts of the country. Southern California streamflow has increased in response to the heavy rain received there over the past week. From the USGS web site, select any individual map to enlarge and display a legend.

Current Reservoir Storage

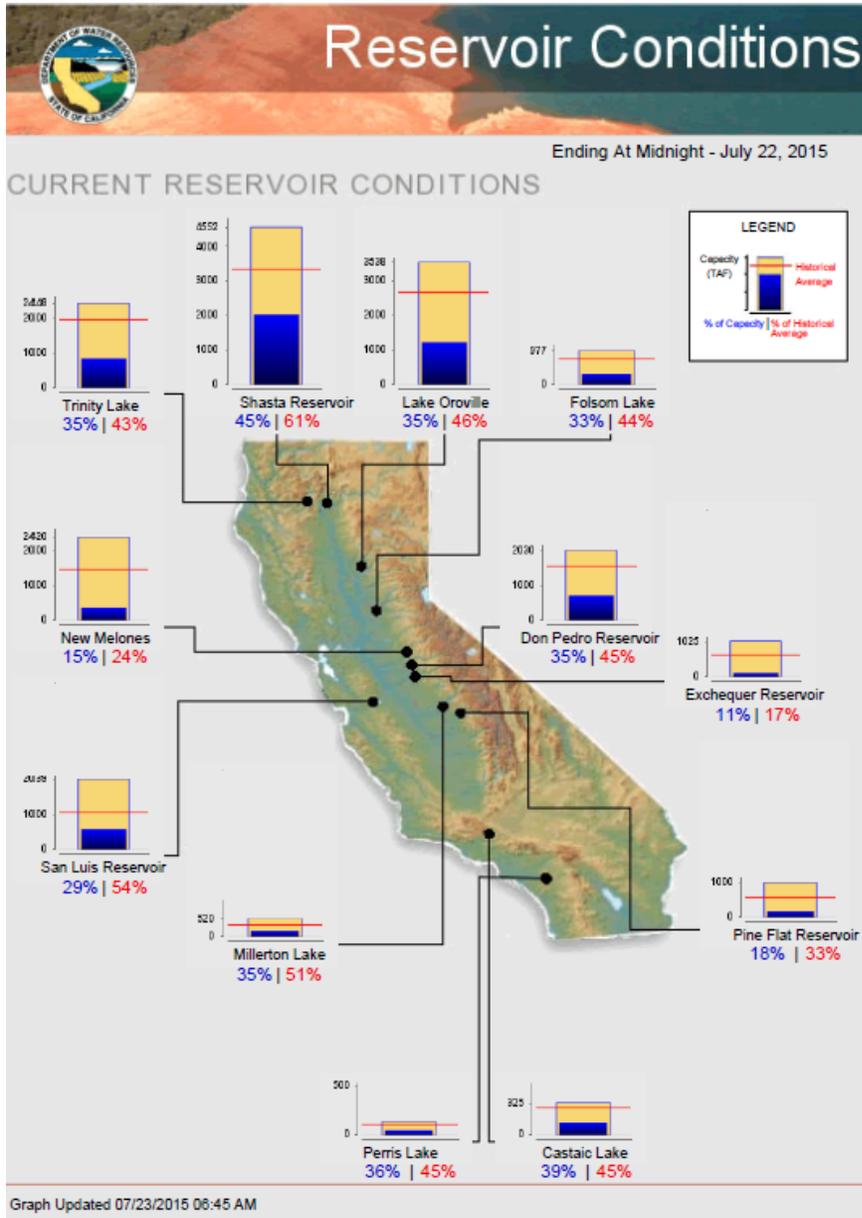
[National Water and Climate Center Reservoir Data](#)

U.S. Bureau of Reclamation Hydromet Tea Cup Reservoir Depictions:

- [Upper Colorado](#)
- [Pacific Northwest/Snake/Columbia](#)
- [Sevier River Water, Utah](#)
- [Upper Missouri, Kansas, Oklahoma, Texas](#)

Weekly Water and Climate Update

California Reservoir Conditions



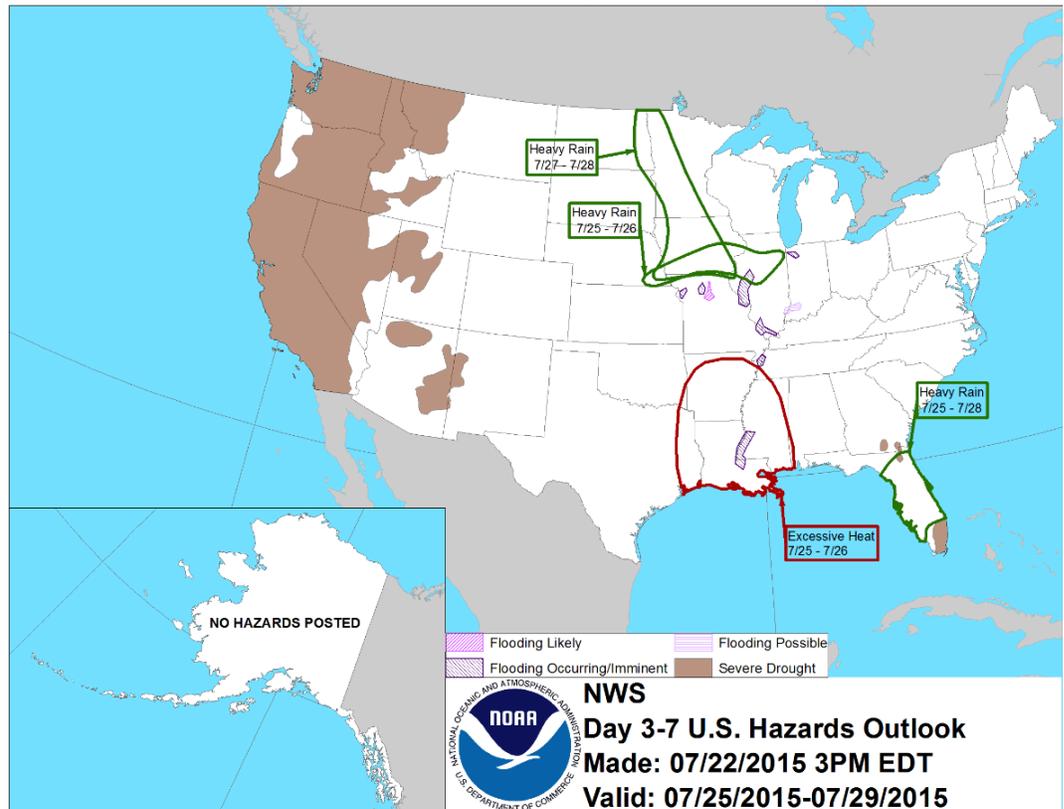
Short- and Long-Range Forecasts

Agricultural Weather Highlights

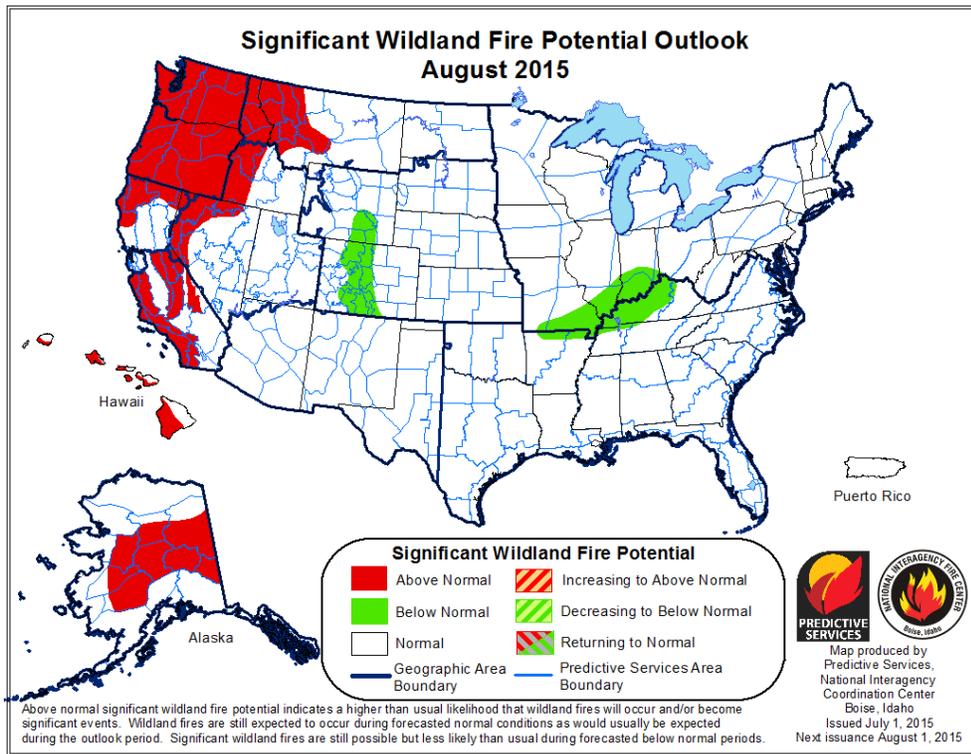
Outlook, July 22, 2015: “Cool, mostly dry weather will continue through Thursday across the Midwest and Northeast. Late in the week, however, hot, humid conditions will return to the Midwest and spread eastward, accompanied by showers and thunderstorms. Late-week heat will also develop across the Plains. Five-day rainfall totals could locally exceed an inch in the western Corn Belt, but mostly dry weather will prevail in the Mid-Atlantic region. Farther south, rainfall totals of 1 to 3 inches can be expected in parts of the Southeast, especially over Florida. Elsewhere, shower activity will diminish across the West, although temperatures will remain at mostly near- or below-normal levels. The NWS 6- to 10-day outlook for July 27 – 31 calls for the above-normal temperatures along the Pacific Coast and across the central and eastern U.S., while cooler-than-normal conditions will be limited to the interior West. Meanwhile, near- to below-normal rainfall across the majority of the U.S. will contrast with wetter-than-normal weather in a few areas, including parts of the Northeast, Southeast, and Midwest.” Author: Eric Luebehusen, USDA Agricultural Meteorologist.

National Weather Hazards

The outlook for [weather hazards](#) over the next several days includes excessive heat in the Louisiana-Arkansas-Mississippi region, heavy rain in the upper Midwest and Florida, a few isolated areas of flood potential, and persistent drought in the far West.



Fire Potential Outlook: August 2015



In August, above normal **fire potential** exists in the Pacific Northwest, California, Alaska, and Hawaii.

Long-Range Flood Outlook



During the next three months, there is some **flooding potential** primarily in the central part of the country.

2358 total gauges
[Show locations with 50% or greater chance of flooding during Jul-Aug-Sep \(58\)](#)

- 2 Gauges: > 50% Major Long-Range Flood Risk
- 13 Gauges: > 50% Moderate Long-Range Flood Risk
- 43 Gauges: > 50% Minor Long-Range Flood Risk
- 1938 Gauges: < 50% Long-Range Flood Risk
- 362 Gauges: No forecast within selected timeframe

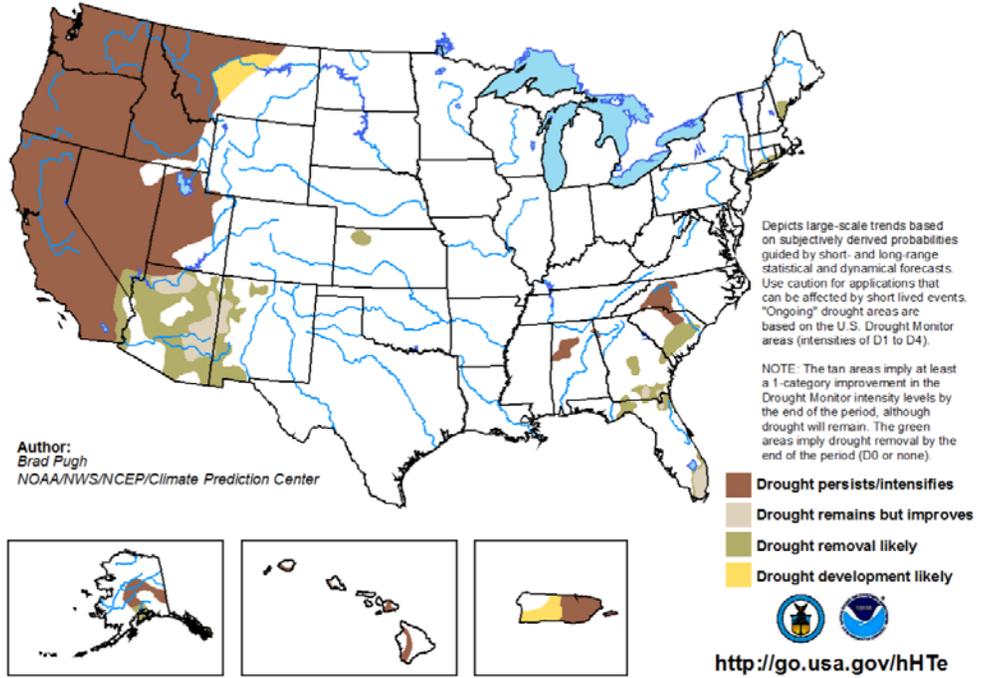
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Seasonal Drought Outlook

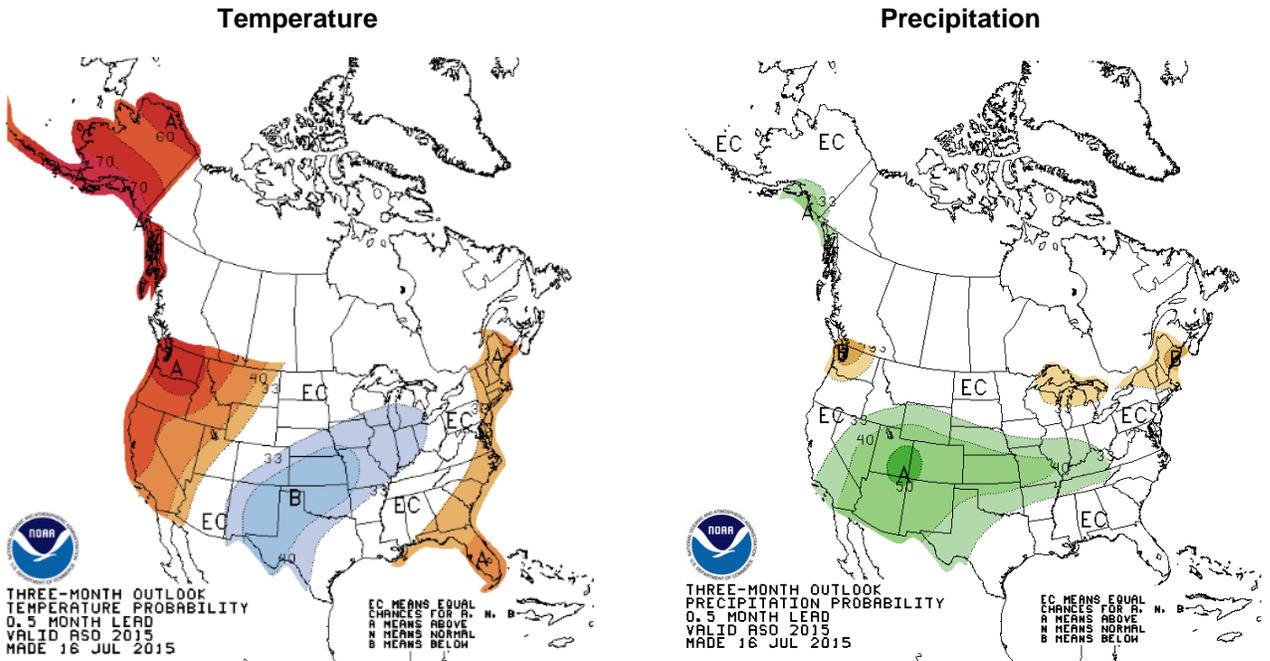
Drought will persist over the far West.

U.S. Seasonal Drought Outlook
Drought Tendency During the Valid Period

Valid for July 16 - October 31, 2015
Released July 16, 2015



Climate Prediction Center 3-Month Outlook



During **August-October**, there is enhanced probability of above normal temperatures in the West, Alaska, and the East Coast, while below normal temperatures are likely in the southern Great Plains and the Midwest. Enhanced probability for above normal precipitation is predicted for the Southwest, the central part of the country, and south coastal Alaska, with below normal precipitation in Washington, the Great Lakes area, and the Northeast.

More Information

The NRCS [National Water and Climate Center](#) publishes this weekly report. We welcome your feedback. If you have questions or comments, please [contact us](#).