

Water and Climate Update

May 12, 2016

The Natural Resources Conservation Service produces this weekly report using data and products from the [National Water and Climate Center](#) and other agencies. The report focuses on seasonal snowpack, precipitation, temperature, and drought conditions in the U.S.

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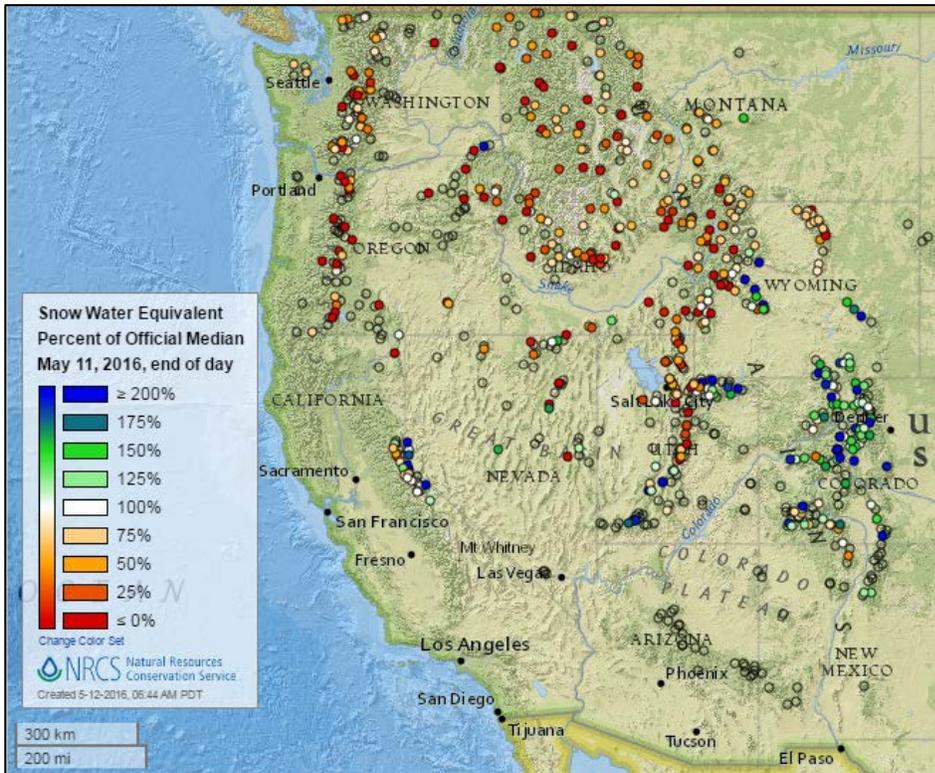
Winding down the 2016 monthly manual measurements at mountain snow courses



Measuring the snowpack at the Redden Mine snow course in shirt sleeves in the high country of Utah. 4/27/2016. Photo by Troy Brosten, NRCS, Utah Snow Survey Program.

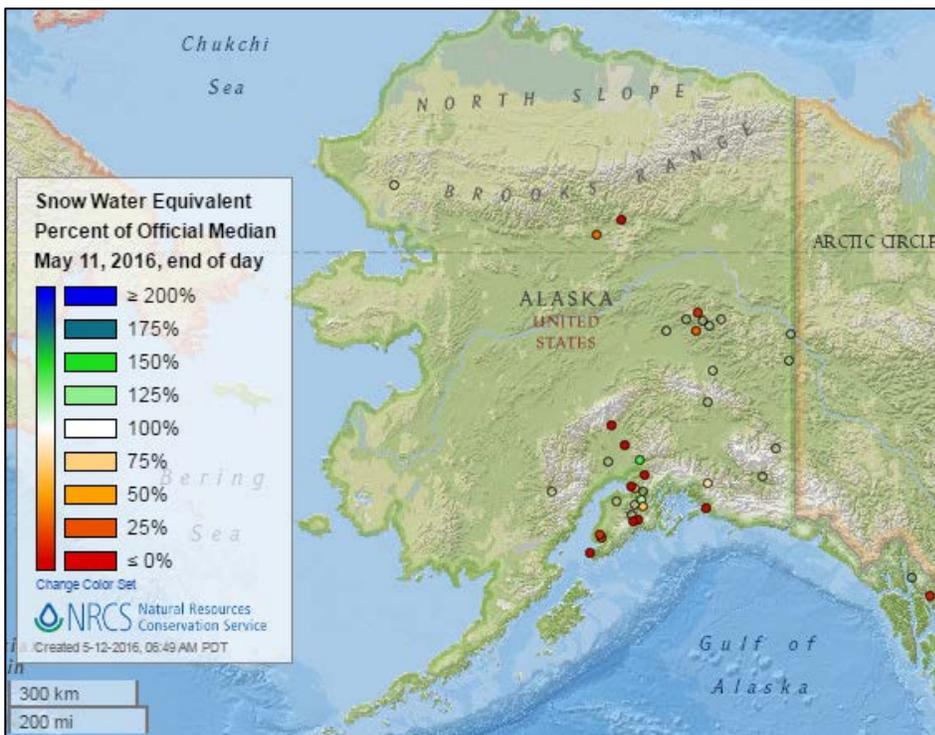
Snow

Current Snow Water Equivalent, NRCS SNOTEL Network



The current [snow water equivalent percent of median](#) map shows that, overall, much of the West is near or below median, with more stations melting out every week. Many stations in the Sierra Nevada and Colorado, as well as some in northern and southern Utah and parts of Wyoming, have above to well above median snow water equivalent due to recent storms. Most of Arizona and New Mexico have already melted out.

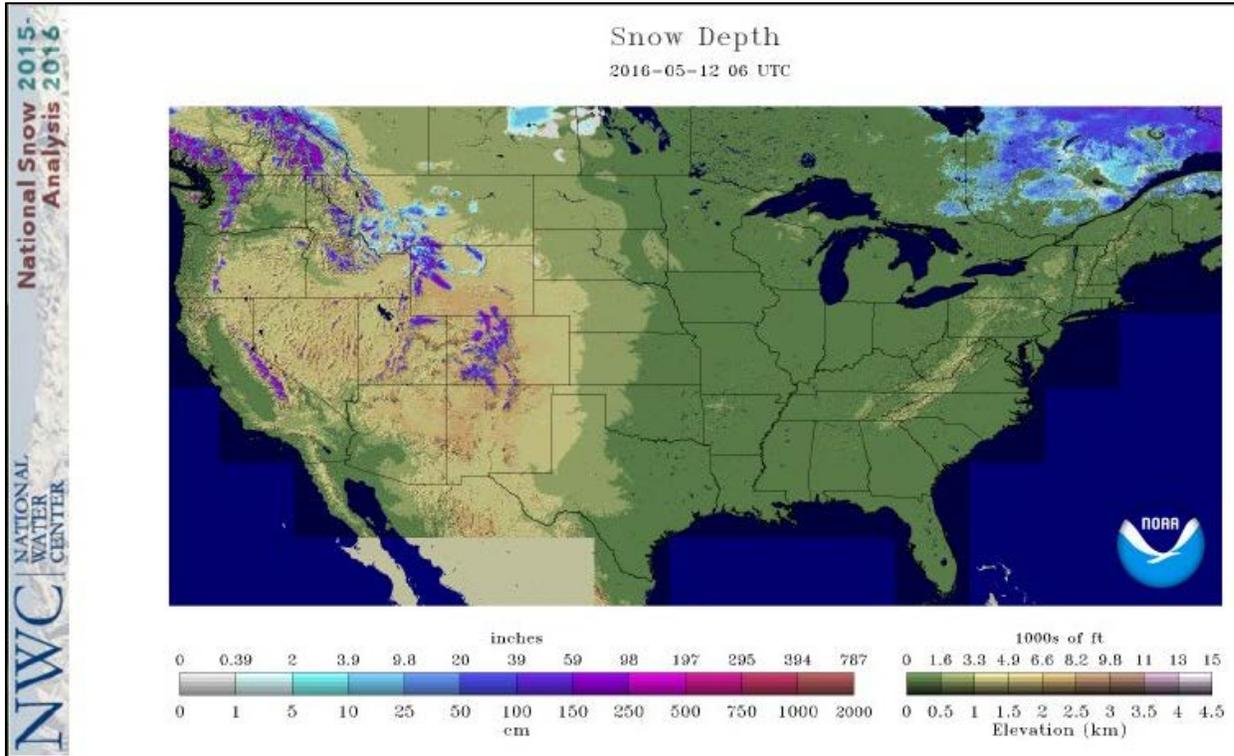
See also: Current [snow water equivalent values \(inches\)](#) map.



The Alaska current [snow water equivalent percent of median](#) map shows little change from a week ago. Many stations in the central and southern part of the state have little to no snow at this time.

See also: Alaska current [snow water equivalent values \(inches\)](#) map.

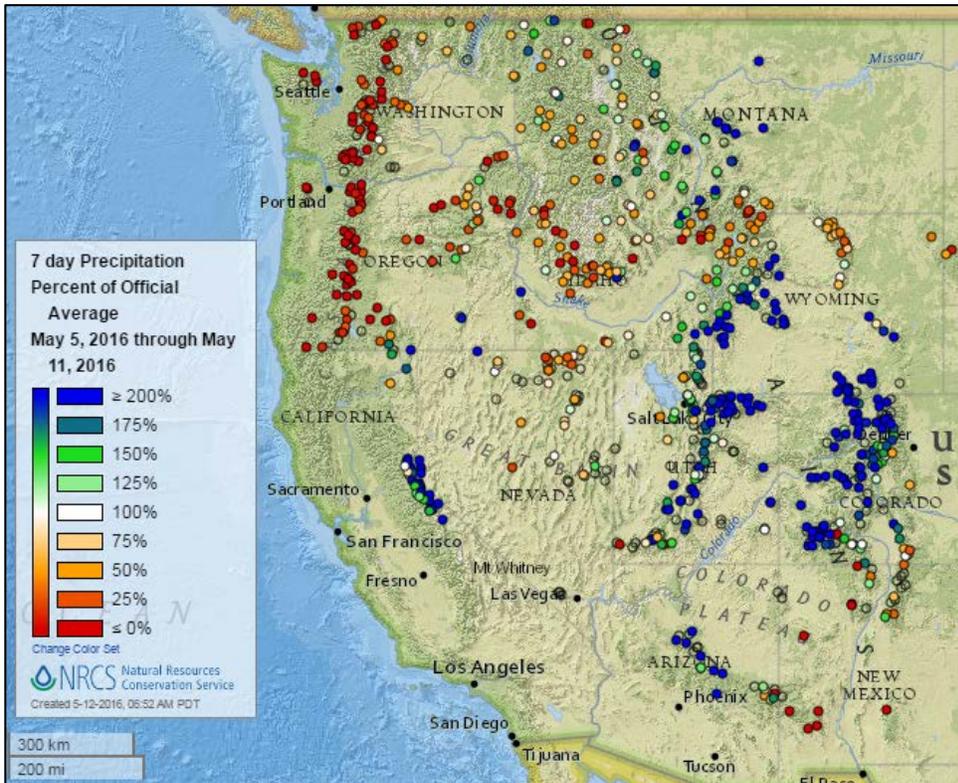
Current Snow Depth, National Weather Service (NWS) Networks



The NOAA National Operational Hydrologic Remote Sensing Center's current [snow depth](#) map shows generally no snow in the central and eastern U.S. Much of the mountains in the West report snow at mid and high elevations. There is new snow in Montana and northern Wyoming this week. Spring snowmelt in the West is continuing, and the mountains in the Southwest, along with some lower elevation mountains elsewhere, have melted out.

Precipitation

Last 7 Days, Western Mountain Sites (NRCS SNOTEL Network)

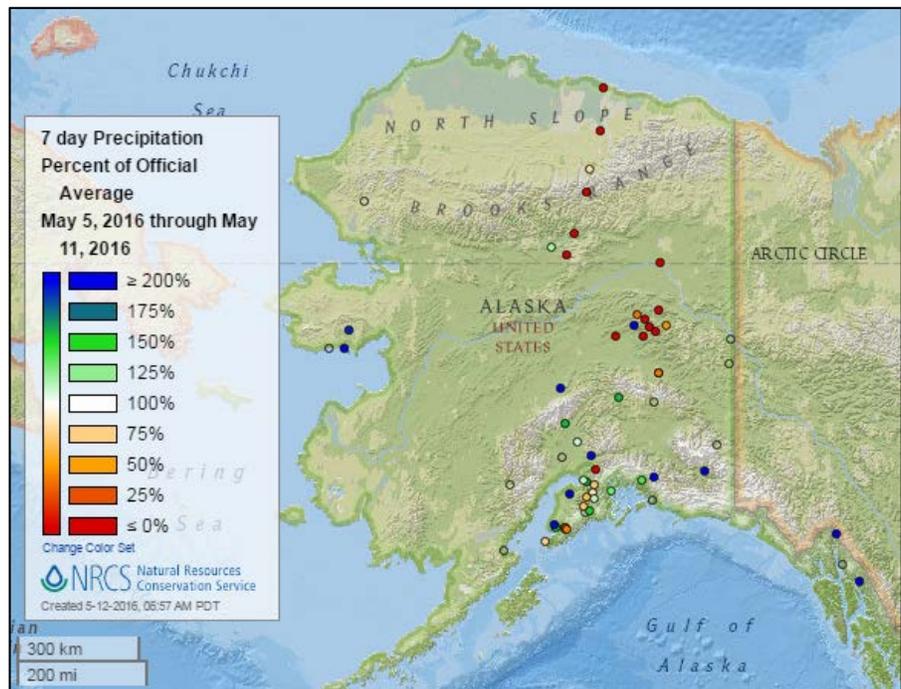


The 7-day [precipitation percent of average](#) map shows many stations in the Sierra Nevada, southeast Oregon, east to the central Rockies, southwest Montana, as well as parts of the Southwest had much above average precipitation this week. Much of the Pacific Northwest, parts of the Rockies, and a few stations elsewhere received less than average precipitation for the week.

See also: 7-day total [precipitation values \(inches\)](#) map.

The Alaska 7-day [precipitation percent of average](#) map shows most of Interior Alaska had another drier than average week, similar to a week ago. Most stations in the southern and southeast part of Alaska had above average precipitation for the week.

See also: Alaska 7-day total [precipitation values \(inches\)](#) map.

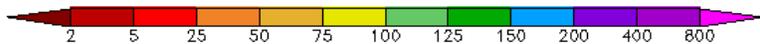
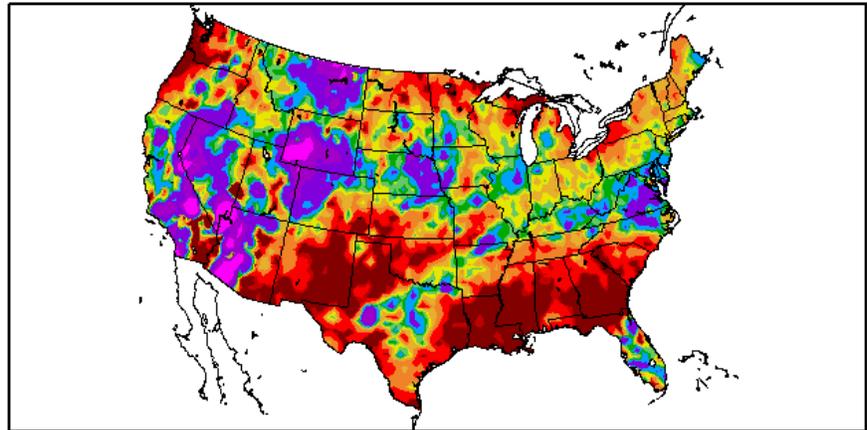


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

The 7-day [precipitation percent of normal](#) map for the continental U.S. shows mainly dry conditions in the eastern Southwest, Pacific Northwest, Great Lakes, and across much of the South. Much above normal precipitation was reported in California and the western Southwest, as well as the central Rockies, northern Montana, parts of the central Plains and Mid-Atlantic states.

Percent of Normal Precipitation (%)
5/5/2016 – 5/11/2016



Generated 5/12/2016 at HPRCC using provisional data.

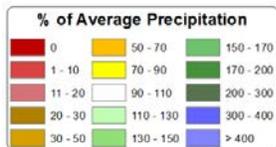
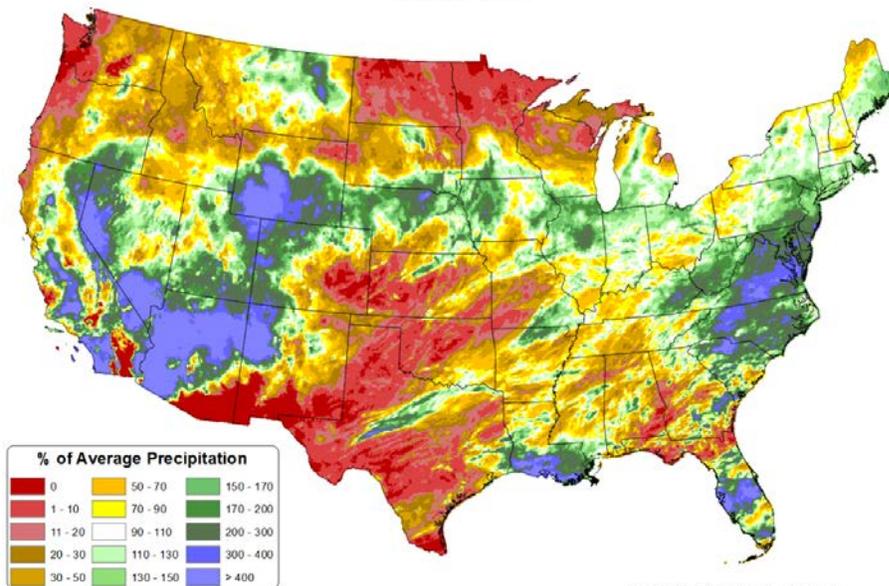
Regional Climate Centers

See also: 7-day total [precipitation values \(inches\)](#) map.

Month-to-Date, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

Total Precipitation Anomaly: 01 May 2016 - 10 May 2016
Period ending 7 AM EST 10 May 2016
Base period: 1981-2010
(Map created 11 May 2016)



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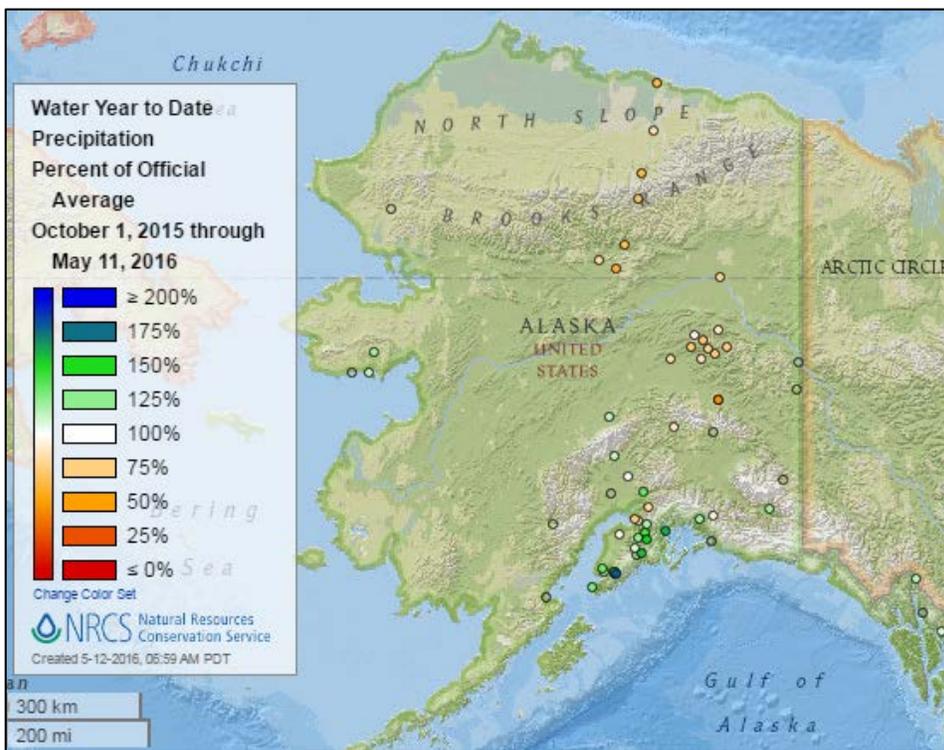
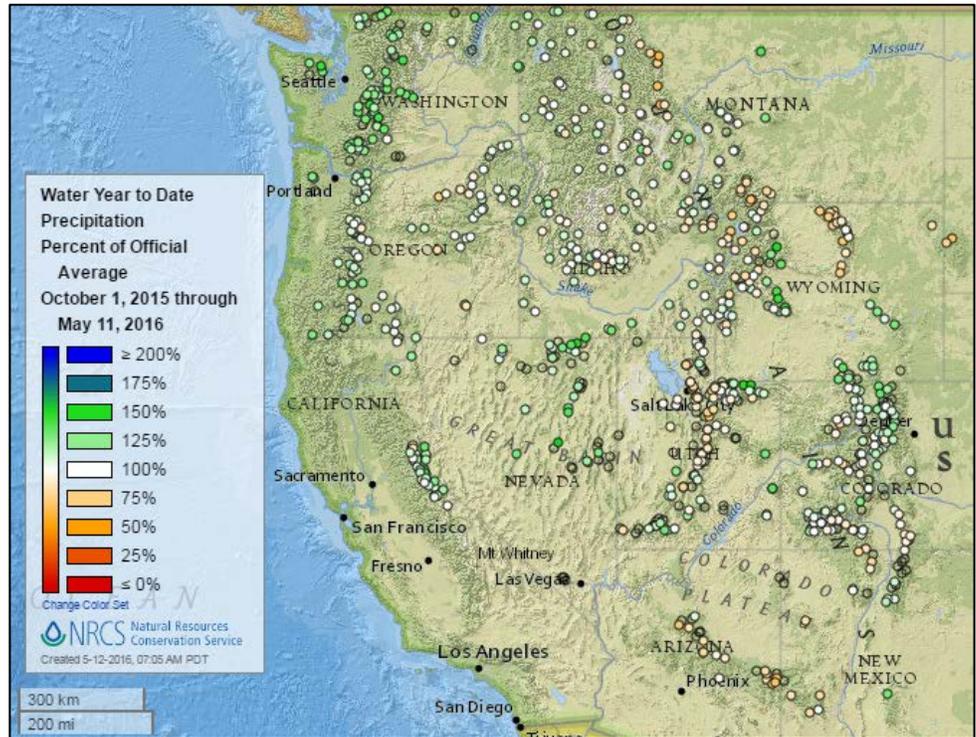
The May national month-to-date [precipitation percent of average](#) map shows generally dry conditions for the Northwest, much of the Midwest, and eastern Southwest into Texas. California, the western parts of the Southwest, and central Rockies had well above normal precipitation. Also, well above normal precipitation was reported in southern Louisiana, central Florida and the Mid-Atlantic region.

See also: May month-to-date total [precipitation values \(inches\)](#) map.

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

The 2016 water year-to-date [precipitation percent of average](#) map shows average to above average precipitation at most stations in the West. Areas of below average precipitation occurred in the Southwest, eastern Rockies, central Utah, and the Big Horn Mountains of Wyoming.

See also: 2016 water year-to-date total [precipitation values \(inches\)](#) map.



The Alaska 2016 water year-to-date [precipitation percent of average](#) map shows much of the Interior reported below average to average precipitation. The southern part of the state reported near average or above average precipitation, especially in the Kenai Peninsula.

See also: Alaska 2016 water year-to-date [precipitation values \(inches\)](#) map.

Temperature

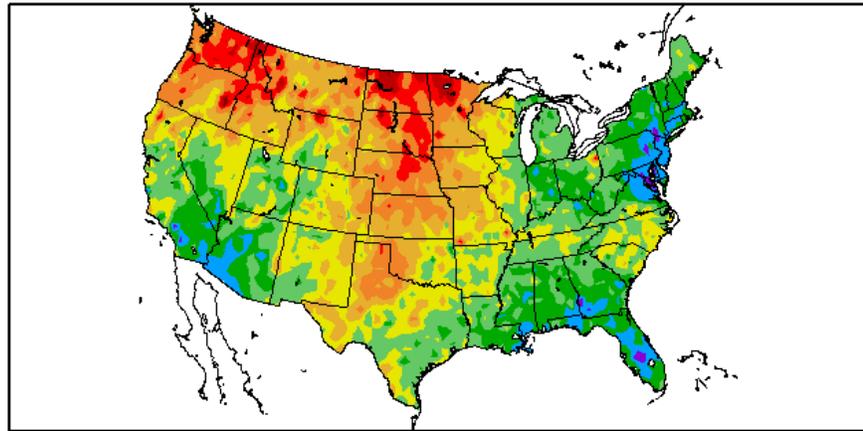
Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

The 7-day [temperature anomaly](#) map shows the Northwest saw another warmer than normal week. In contrast to last week, the northern Rockies and Plains also were warmer than normal this past week. The Southeast reported cooler than normal temperatures. Other cooler than normal areas of the country were in the Northeast and Southwest.

See also: 7-day [temperature \(° F\)](#) map.

Departure from Normal Temperature (F)
5/5/2016 – 5/11/2016



Generated 5/12/2016 at HPRCC using provisional data.

Regional Climate Centers

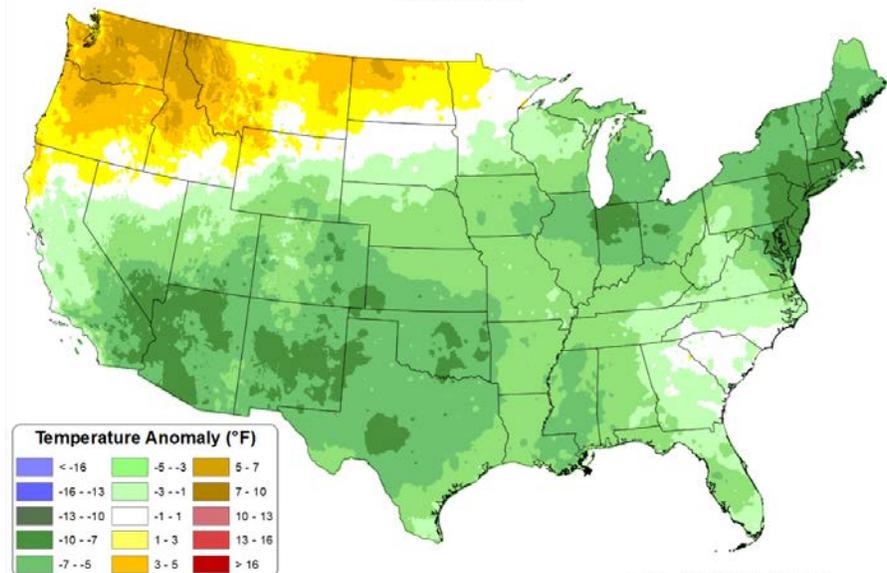
Month-to-Date, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

The May month-to-date [daily mean temperature anomaly](#) map shows above normal temperatures in the Northwest across to the northern Great Plains. Most of the rest of the U.S. reported cooler to much cooler than normal temperatures.

See also: May month-to-date [daily mean temperature \(° F\)](#) map.

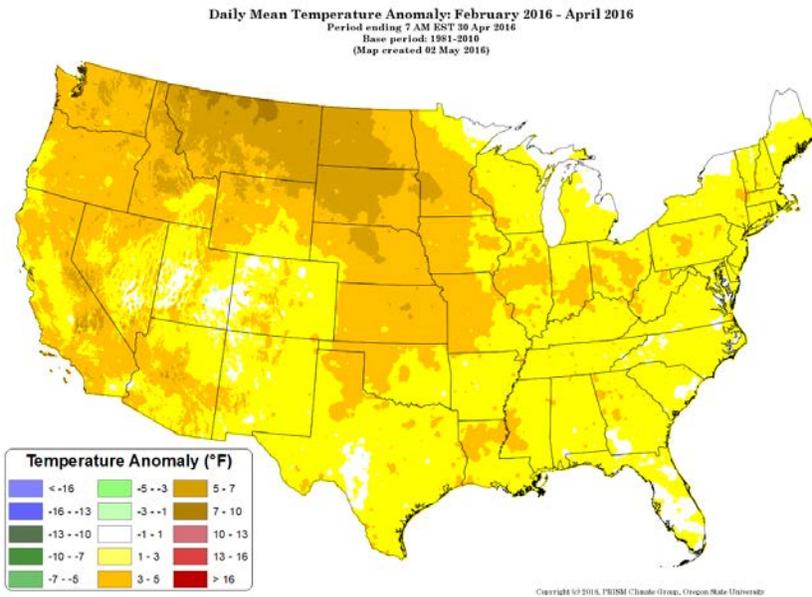
Daily Mean Temperature Anomaly: 01 May 2016 - 10 May 2016
Period ending 7 AM EST 10 May 2016
Base period: 1981-2010
(Map created 11 May 2016)



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Last 3 Months, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

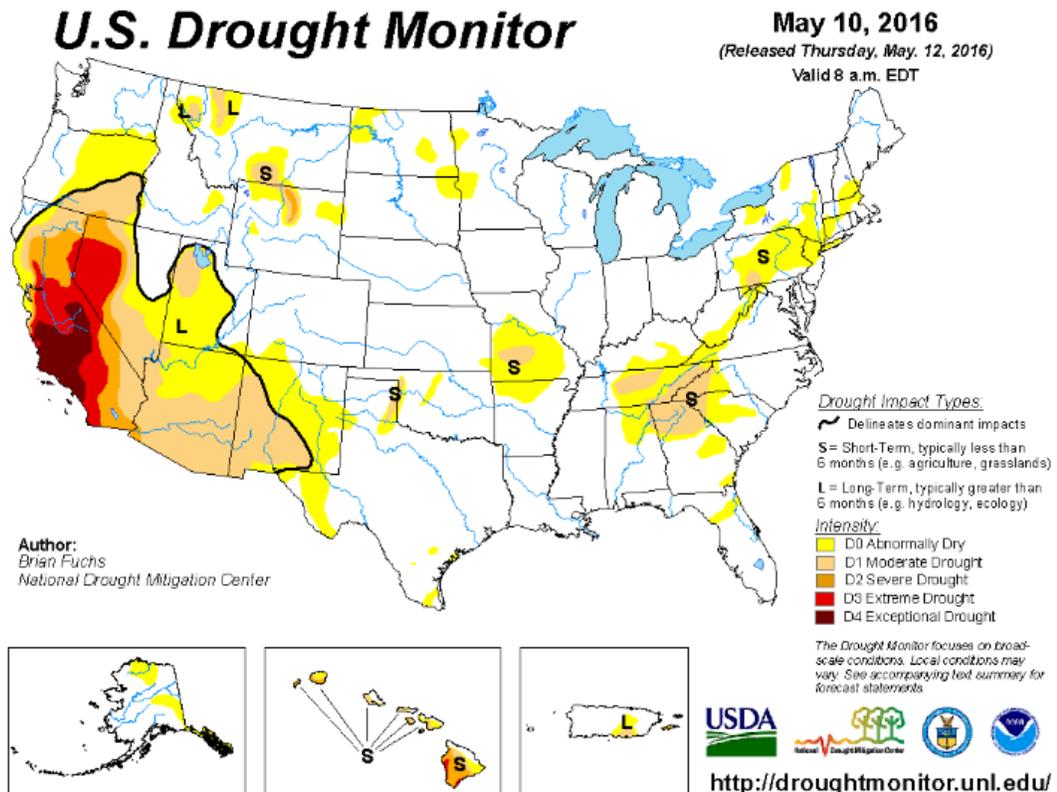


The February through April national **daily mean temperature anomaly** map shows that most of the country was warmer than normal. The warmest departures from normal were across the northern Rockies and northern Plains. The East, South, and much of the central Rockies, were near or slightly warmer than normal.

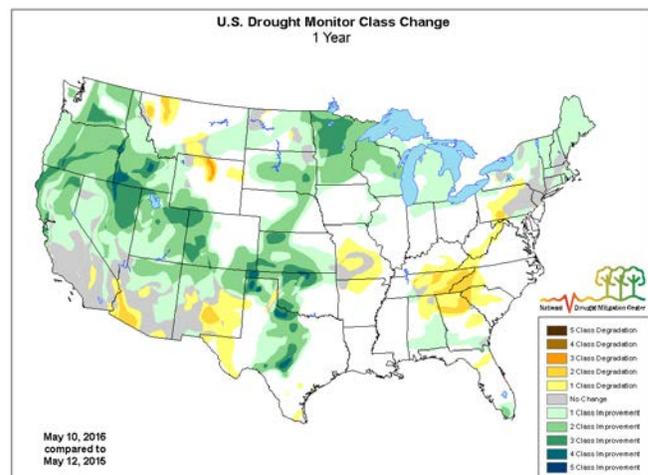
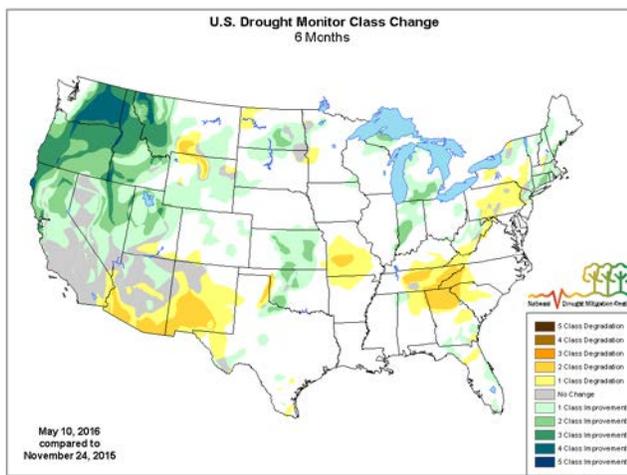
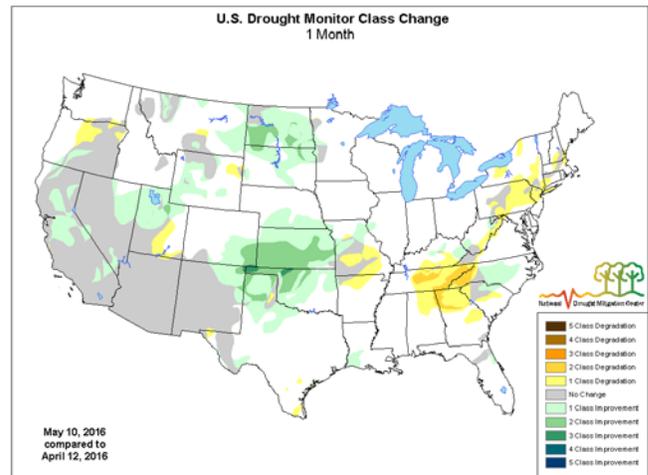
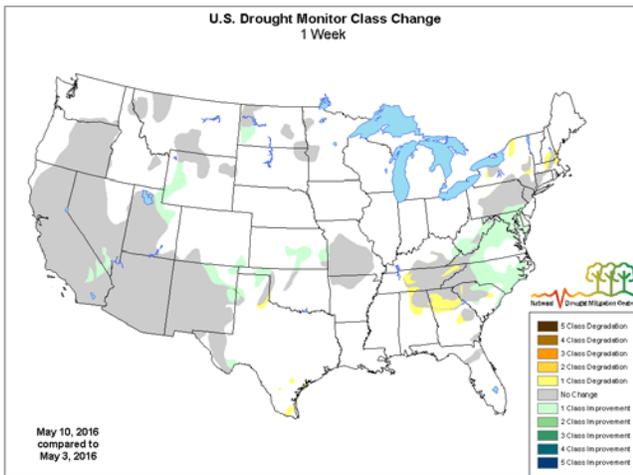
Drought

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

[U.S. Drought Monitor](#) See map below. Drought conditions continue in the western states, including the exceptional drought in California.



Changes in Drought Monitor Categories over Time



Click any map to enlarge it.

Drought conditions continue to improve over much of the country. Over the past 6-12 months, conditions have improved in the south-central U.S., Mississippi River Valley, Great Plains, and much of the Pacific Northwest. Dry conditions are increasing in the East. The remainder of the West has shown improvement, but long-term drought persists in California and the Southwest.

Current National [Drought Summary](#), May 10, 2016

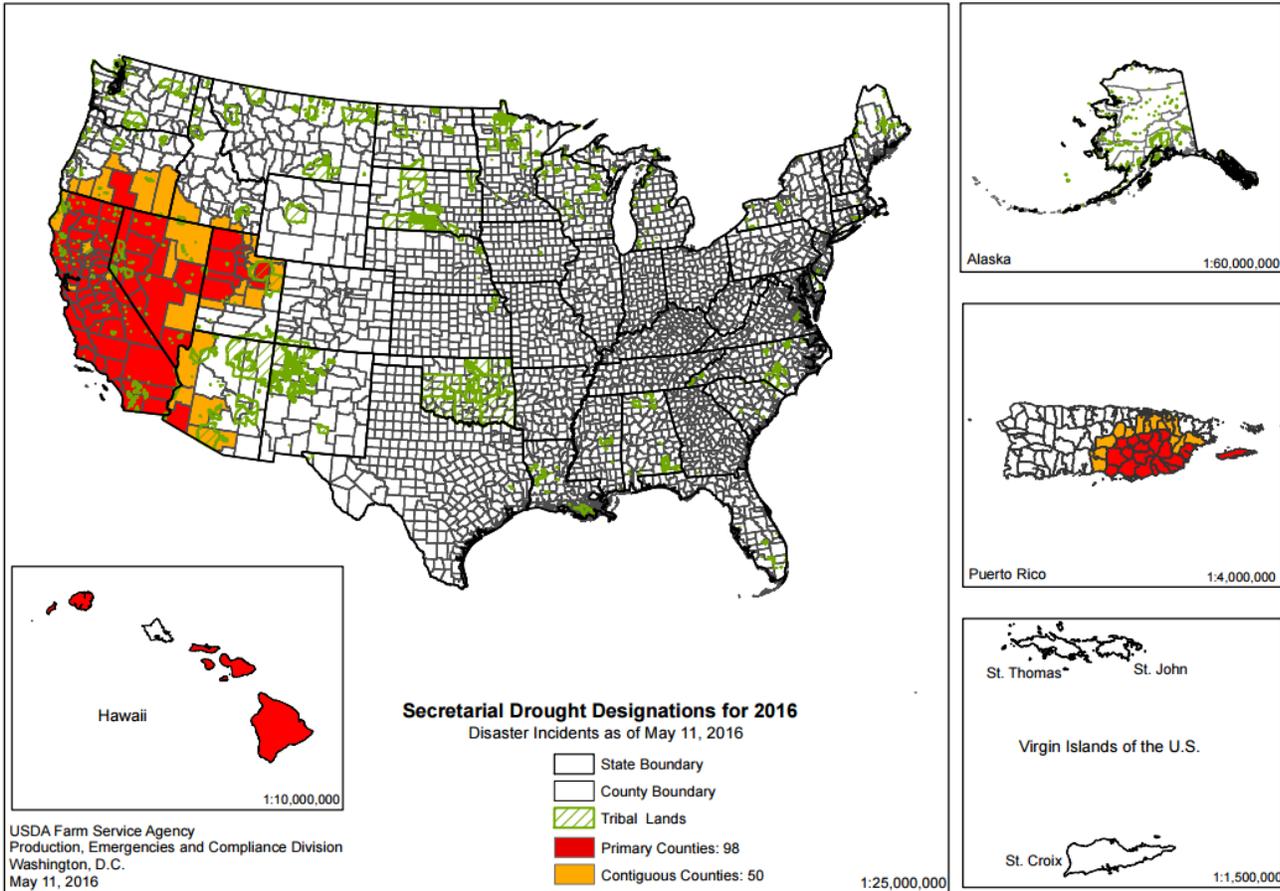
Authors: Brian Fuchs, National Drought Mitigation Center

Deborah Bathke, National Drought Mitigation Center

“An active weather pattern over much of the eastern United States brought with it cooler than normal temperatures for most areas east of the Mississippi River. Areas of the Mid-Atlantic and Florida recorded above-normal precipitation with departures of up to 2 inches above normal for the week. Temperatures were also cooler than normal over the Southwest as above-normal precipitation from southern Oregon to western Arizona helped to keep temperatures down. Areas of the central Rocky Mountains recorded up to 4 inches above normal precipitation as a series of low pressure systems developed there and tracked onto the Plains. Drier than normal conditions dominated much of the South and much of the northern United States had above-normal temperatures.”

USDA 2016 Secretarial [Drought Designations](#)

2016 Secretarial Drought Designations - All Drought

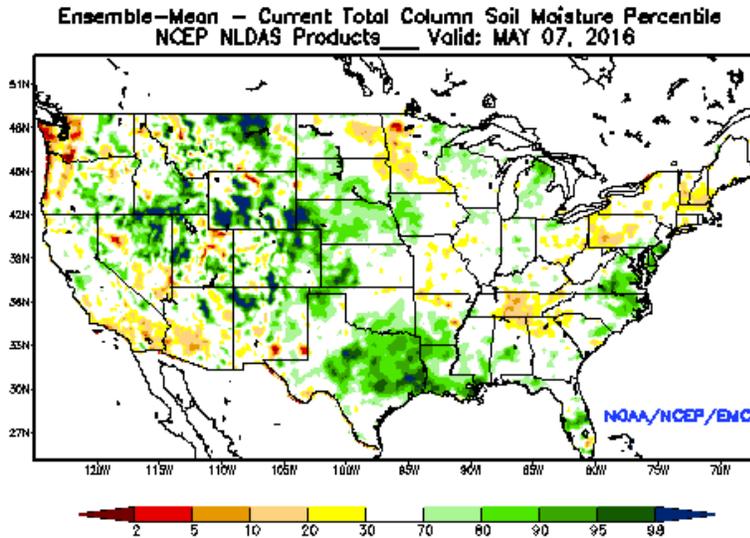


Highlighted Drought Resources

- [Drought Impact Reporter](#)
- [Quarterly Regional Climate Impacts and Outlook](#)
- [U.S. Drought Portal Indicators and Monitoring](#)
- [U.S. Population in Drought, Weekly Comparison](#)
- [USDA Disaster and Drought Information](#)

Other Climatic and Water Supply Indicators

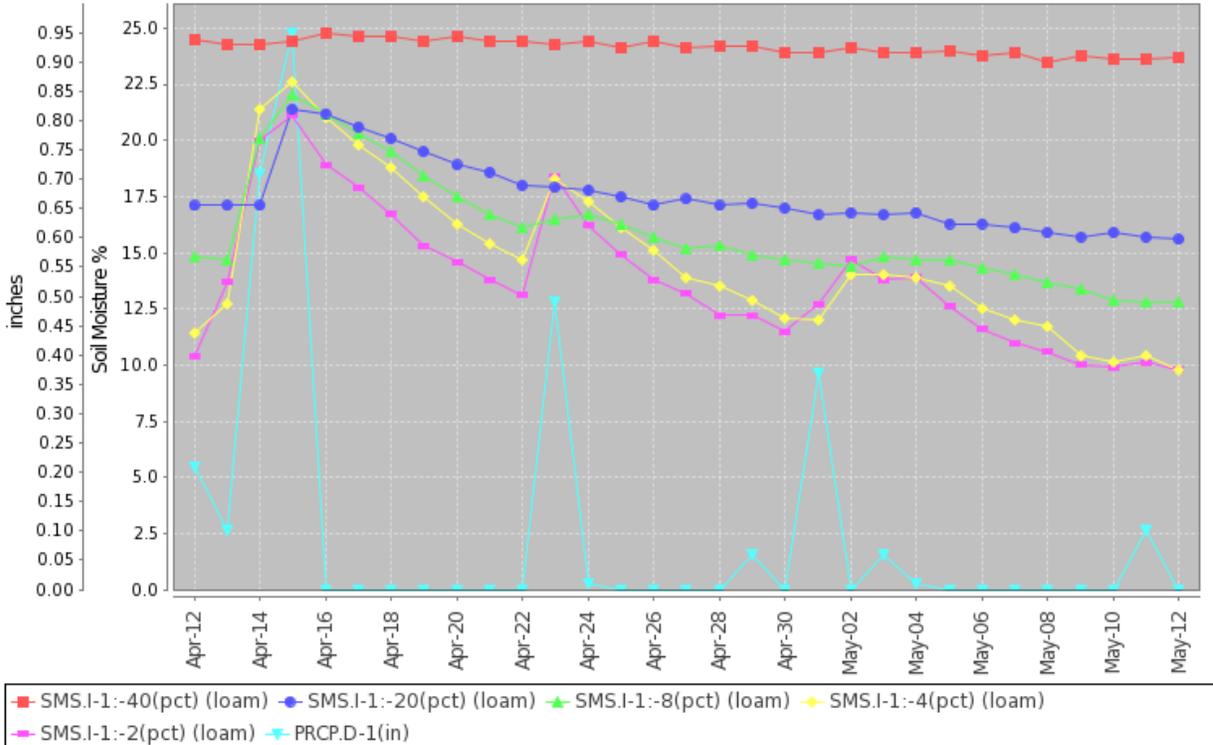
Soil Moisture



The modeled [soil moisture percentiles](#) as of May 7, 2016 show the Great Plains, western mountains, Mid-Atlantic and south-central U.S. have large areas of wet soil conditions. Much of Texas is showing large soil moisture percentages due to recent storms and flooding. The driest area is along the Pacific Coast in Oregon and Washington. Other areas of dryness are scattered in the West, upper Midwest, southern Appalachian Mountains, and Northeast.

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

Station (2180) MONTH=2016-04-12 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision
Thu May 12 06:27:55 GMT-08:00 2016



This graph shows soil moisture (at 2-, 4-, 8-, 20-, and 40-inch depths) and precipitation for the past 30 days at the [Koptis Farms SCAN site 2180](#) in Alabama. All sensor depths show soil moisture increases from the large precipitation on April 15, while storms in late April and early May show a limited effect on the soil moisture at the 2-, 4-, and 8-inch depths, or a slight delay in soil drying.

Soil Moisture Data Portals

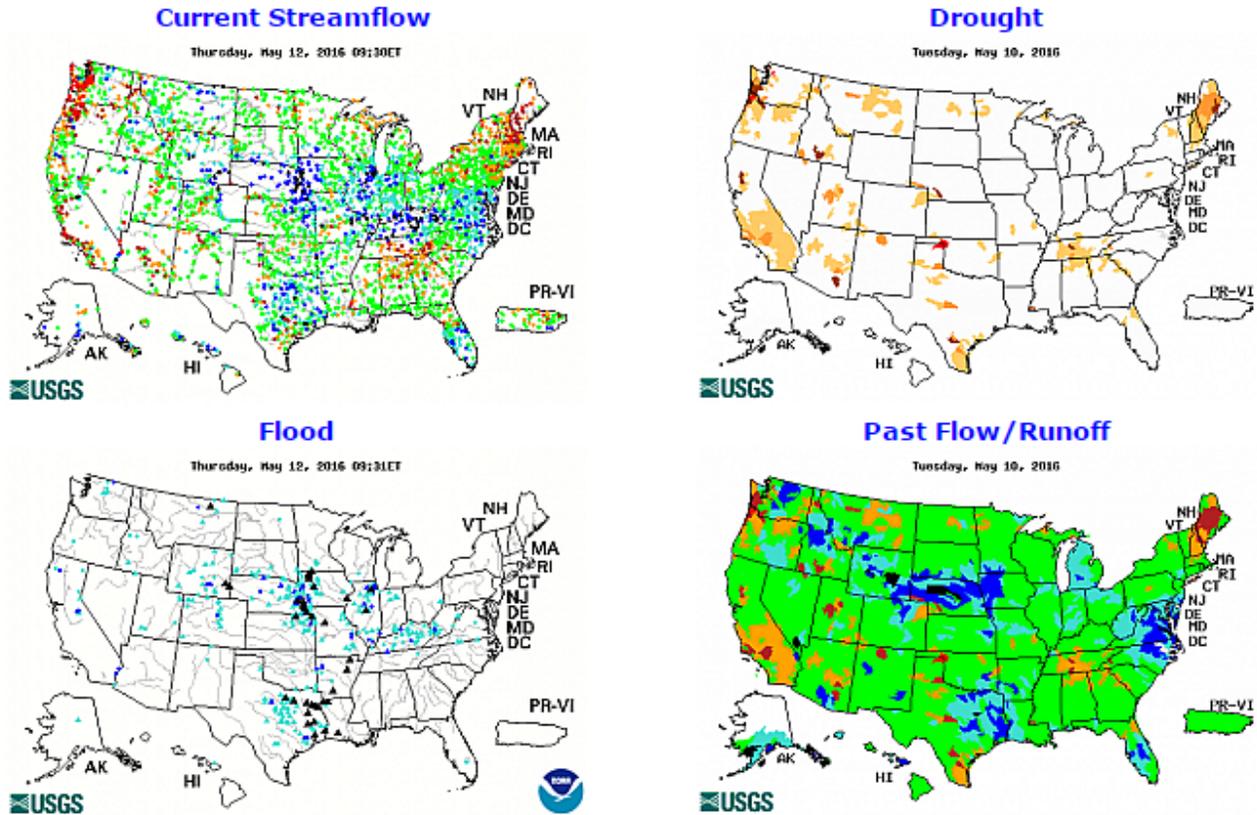
[CRN Soil Moisture](#)

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

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

Streamflow

Source: USGS



[Click to enlarge and display legends](#)

The [current streamflow](#) map shows stations continue to report above flood stage conditions at many locations in the central U.S., including the lower Missouri River Basin, much of East Texas, Louisiana, and a few gages in the western Great Plains. In addition, many gages in the central U.S. continue to report above normal streamflow at this time.

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](#)

[California Reservoir Conditions](#)

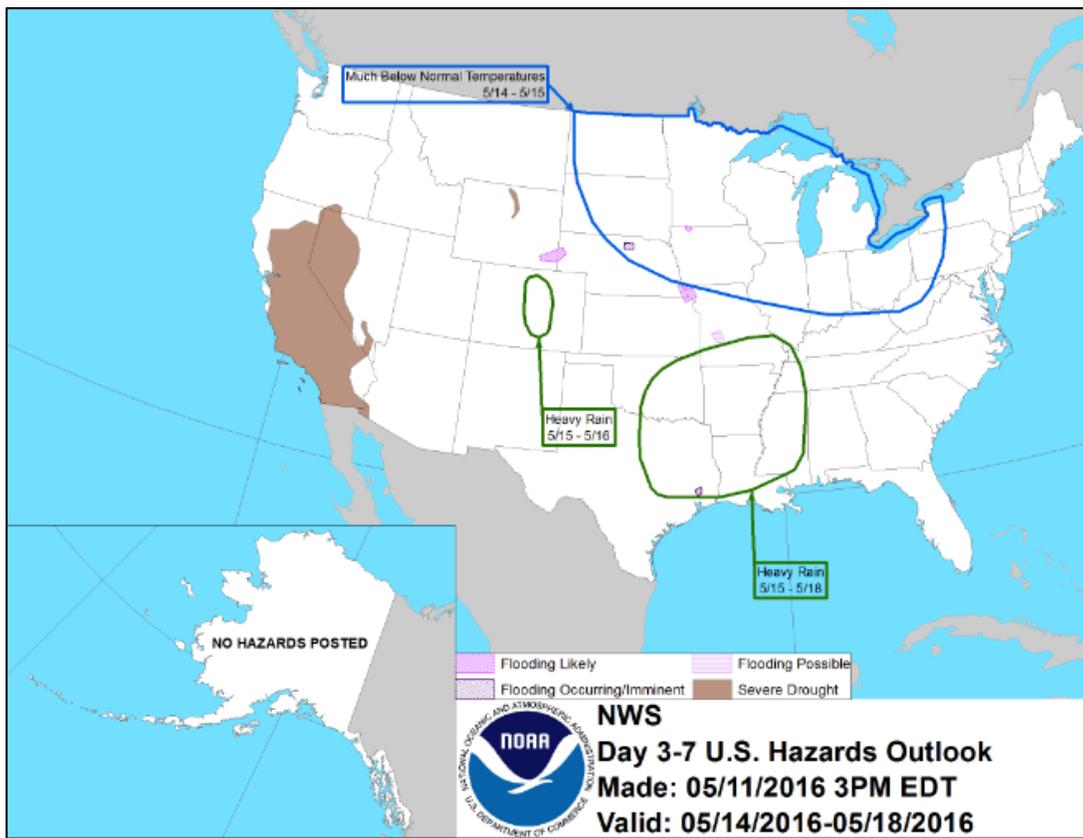
Short- and Long-Range Outlooks

Agricultural Weather Highlights

Author: Brad Rippey, Agricultural Meteorologist, USDA/OCE/WAOB

National Outlook, May 12, 2016: “The slow-moving storm system that has been affecting the central and eastern U.S. will drift eastward, reaching northern New England by Sunday. The storm’s trailing cold front will clear the Atlantic Seaboard during the weekend. However, cool, breezy, showery conditions will linger through the weekend in the Northeast, where additional rainfall could reach 1 to 2 inches. Farther west, morning frost and freezes can be expected during the next few days across portions of the northern Plains and upper Midwest. Meanwhile, a new storm system will bring an increase in weekend showers (locally an inch or more) from the Pacific Northwest to the central Rockies. Farther east, showers and thunderstorms (generally 1 to 3 inches) will develop by early next week across the central and southern Plains before spreading into the mid-South and lower Midwest. The NWS 6- to 10-day outlook for May 17 – 21 calls for the likelihood of near- to below-normal temperatures and near- to above-normal precipitation across most of the country. Warmer-than-normal weather should be limited to the South, from Texas to the southern Atlantic States, while drier-than-normal conditions will be confined to the upper Great Lakes region.”

National Weather Hazard Outlook



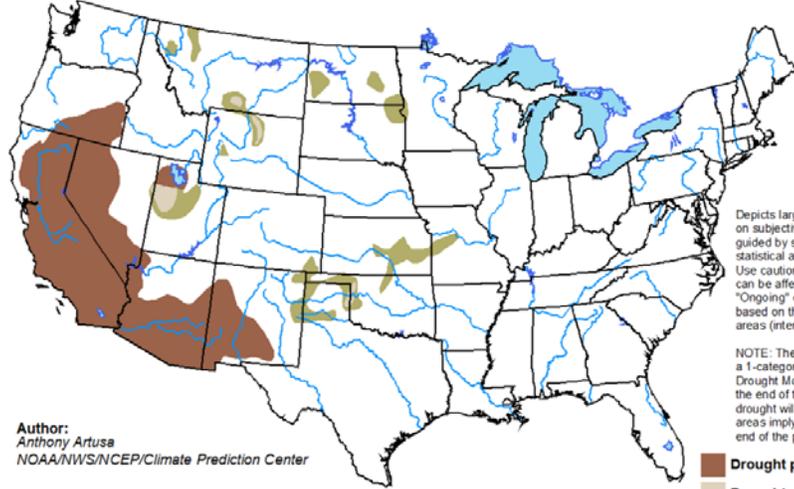
The NWS Climate Prediction Center’s outlook for [weather hazards](#) shows heavy rain is again expected from central Missouri south through Oklahoma and central Texas, and East to Mississippi and west Tennessee. This again covers much of the area experiencing flooding. Heavy rain is also expected in central Colorado this week. Much below normal temperatures are expected in a large area of the north-central U.S., from North Dakota to New York, and south to northern Kentucky. Flooding is occurring in southeast Texas and north-central Nebraska. Flooding is likely or possible in southeast Wyoming, northern Iowa, and in parts of central and northwest Missouri. The severe drought continues in parts of the West.

Seasonal Drought Outlook

During the next three months **drought** will persist on the Big Island in Hawaii, California, western Nevada, northern Utah, Arizona, and New Mexico. Elsewhere, most drought designations are expected to improve or be removed.

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

Valid for April 21 - July 31, 2016
Released April 21, 2016



Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

Author:
Anthony Artusa
NOAA/NWS/NCEP/Climate Prediction Center

- Drought persists
- Drought remains but improves
- Drought removal likely
- Drought development likely

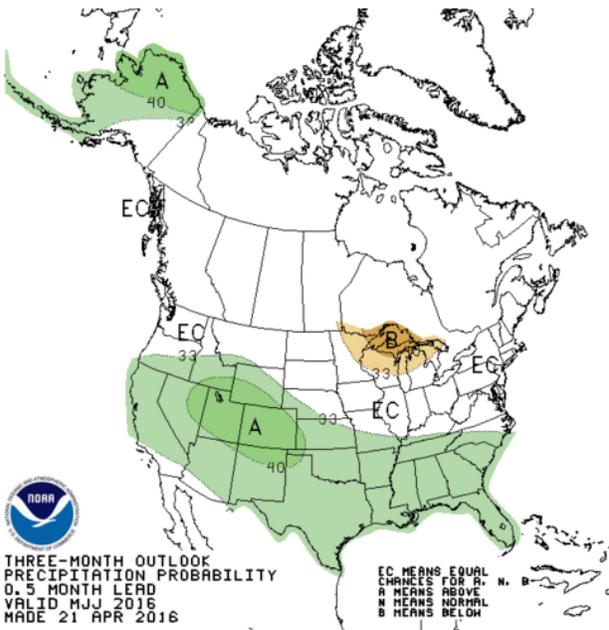


<http://go.usa.gov/3eZ73>



NWS Climate Prediction Center 3-Month Outlook:

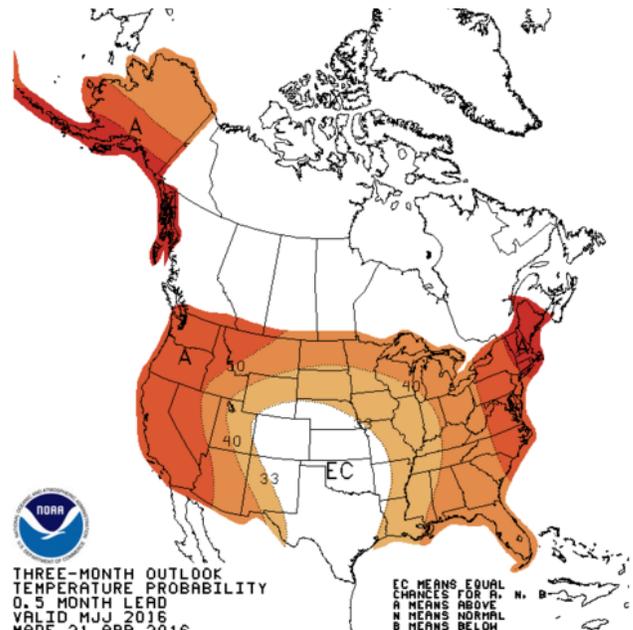
Precipitation



THREE-MONTH OUTLOOK
PRECIPITATION PROBABILITY
0.5 MONTH LEAD
VALID MJJ 2016
MADE 21 APR 2016

EC MEANS EQUAL
CHANCES FOR A, N, B
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW

Temperature



THREE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
0.5 MONTH LEAD
VALID MJJ 2016
MADE 21 APR 2016

EC MEANS EQUAL
CHANCES FOR A, N, B
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW

Outlook Summary

NWS Climate Prediction Center:

[The May-June-July \(MJJ\) 2016 precipitation outlook](#): “The MJJ 2016 precipitation outlook favors above-median precipitation for a region stretching from northern California eastward to include much of the Interior West, parts of the Southwest, southern Plains, and Southeast. Residual El Niño impacts support the highlighted area across much of the West and southern Plains while dynamical and statistical model guidance favor areas in the Southeast. It is important to note that these probabilities are quite modest and represent only a slight tilt to the above-median category, especially across the Southeast CONUS. Below-median precipitation is most likely for northern regions of the Pacific Northwest and the western Great Lakes consistent with any remaining El Niño influence and dynamical model guidance. An increased chance of above-median precipitation is also forecast for western and northern Alaska through JJA 2016 by dynamical models, resulting from anomalously open sea ice and warm open-ocean temperatures.”

[The May-June-July \(MJJ\) 2016 temperature outlook](#): “The suite of temperature outlooks this month are similar to those released last month as the general thinking over the outlook period remains generally unchanged, although potential La Niña impacts were considered earlier than in previous sets of outlooks.

Overall for temperature, changes were primarily minor adjustments for the first several leads where probabilities are modified somewhat in some areas based on the latest calibrated dynamical model guidance and current soil moisture conditions. For MJJ 2016, calibrated model guidance and in some areas positive departures in soil moisture support a slightly adjusted region of equal chances (EC) and a slight decrease in probabilities for above normal temperatures for some locations in the northern Plains, upper Mississippi Valley, and Great Lakes. Probabilities for above normal temperatures were increased for parts of the far West and Southwest CONUS based on dynamical model guidance, long term trends, and below average winter and early spring precipitation.”

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](#).