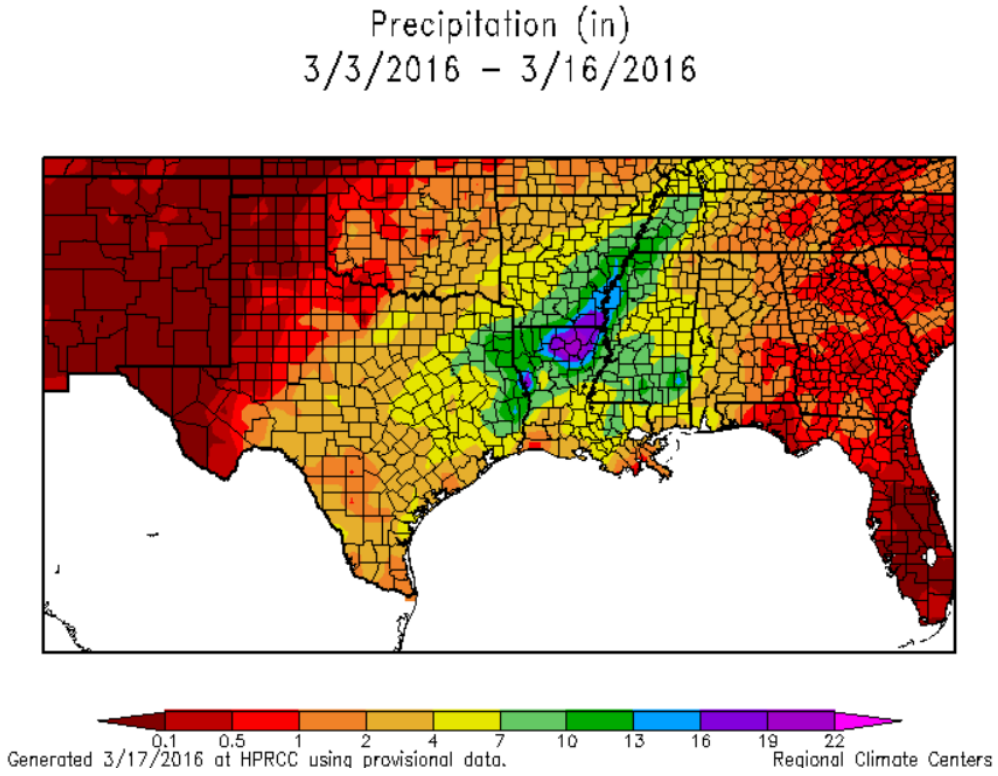
United States Department of Agriculture

Water and Climate Update

March 17, 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.

Weekly Highlight: Heavy precipitation in the South leads to severe flooding



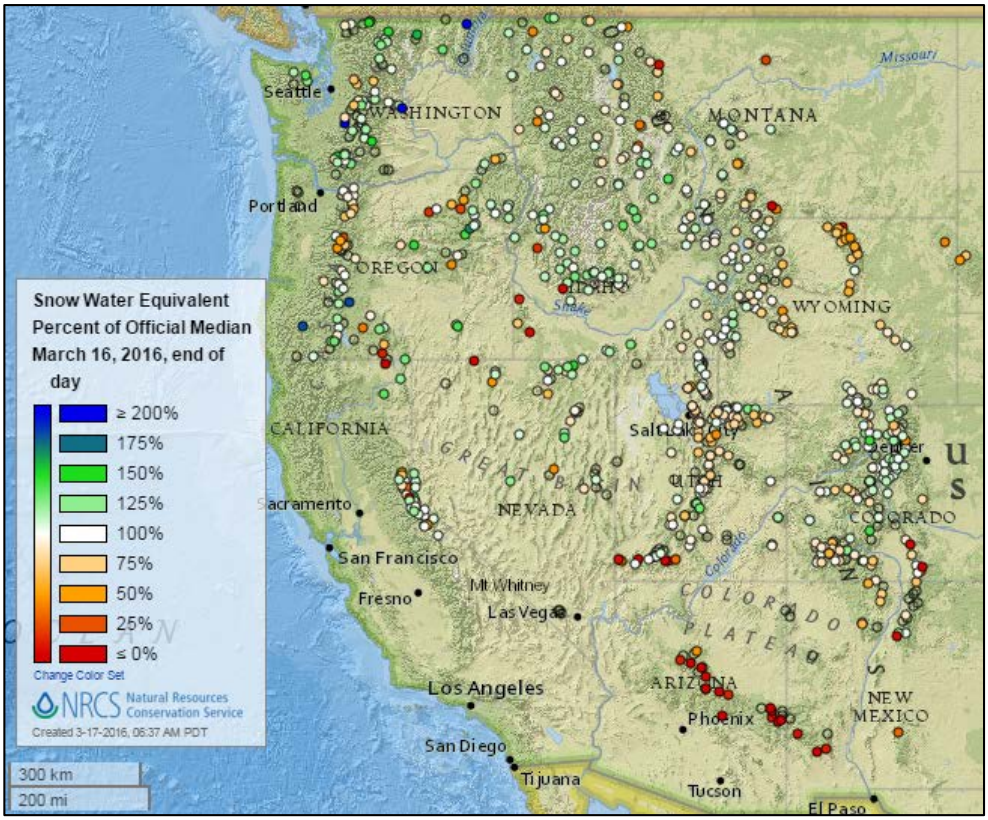
Precipitation in the last two weeks in the southern Mississippi River Valley ranged from 4 to more than 22 inches and has caused severe to record flooding across the region.

Disastrous flooding continues to swamp Texas, Louisiana – USA Today

Flooding Damages Parts of Louisiana and Mississippi – U.S. News

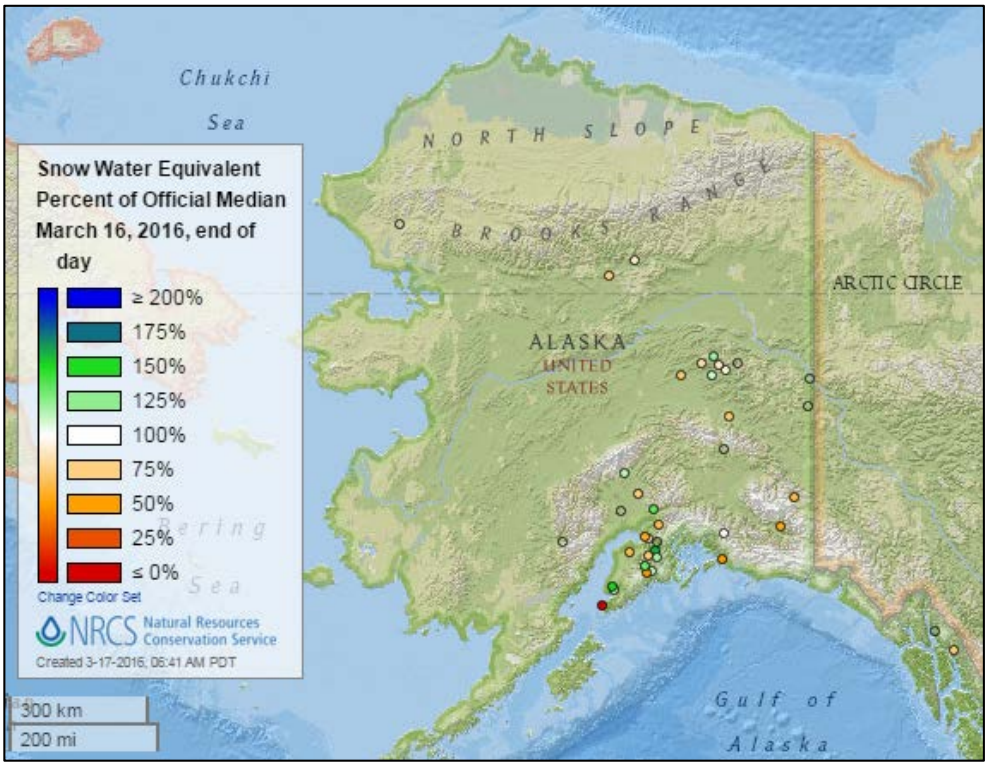
Snow

Current Snow Water Equivalent, NRCS SNOTEL Network



The current **snow water equivalent percent of median** map shows that most of the West is near average. Warm weather has again reduced the snow water equivalent at stations in the Southwest, along the eastern edge of the Rockies, and in Oregon, which are now well below median. A very few stations in the West report values above median.

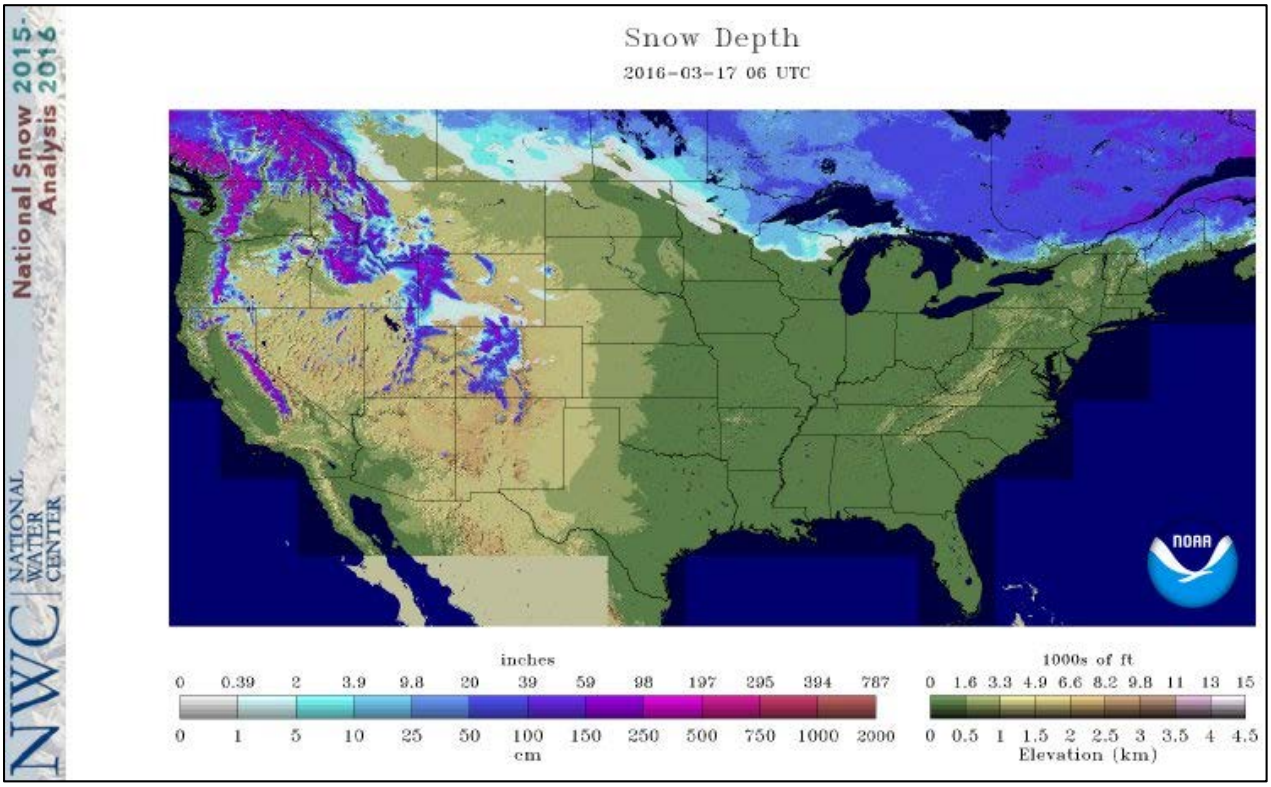
See also: **Current snow water equivalent values (inches) map**



The Alaska current **snow water equivalent percent of median** map shows little change to a slight decrease from a week ago. The snowpacks in all regions are mixed from slightly above to below median across the state.

See also: **Alaska current snow water equivalent values (inches) map**

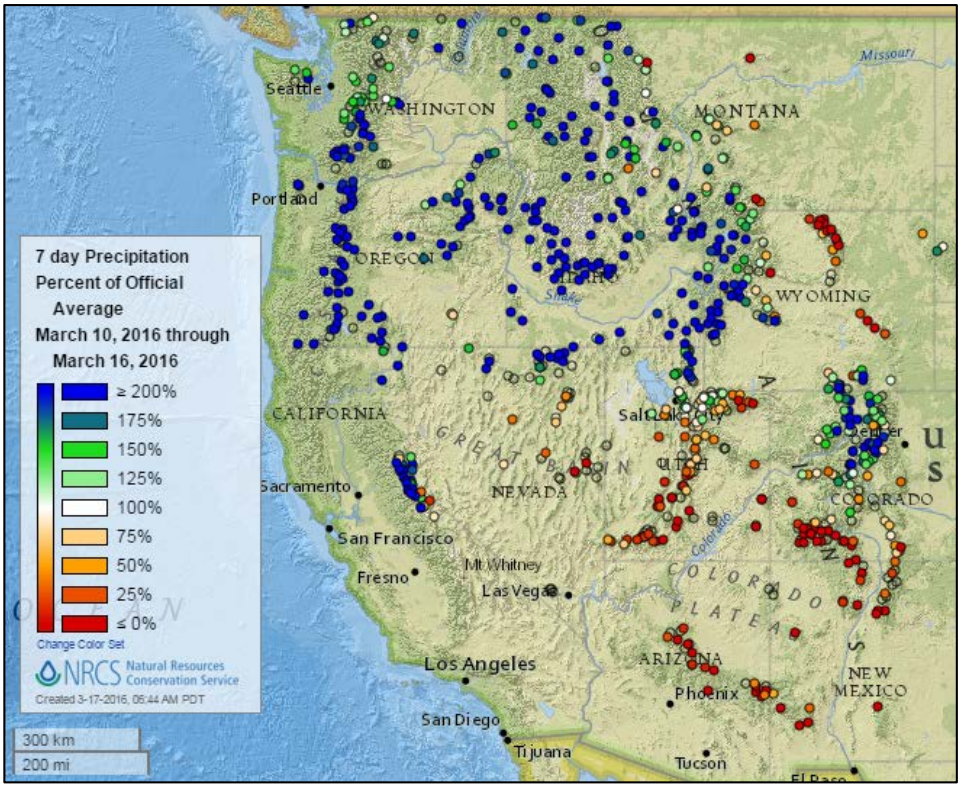
Current Snow Depth, National Weather Service (NWS) Networks



The NOAA National Operational Hydrologic Remote Sensing Center's current **snow depth** map shows a snow reduction across the U.S. this week, specifically in the upper Midwest, northern Great Plains, across the Great Lakes, and in New England. Snow has also decreased in the western mountains and the snowline has risen in elevation.

Precipitation

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

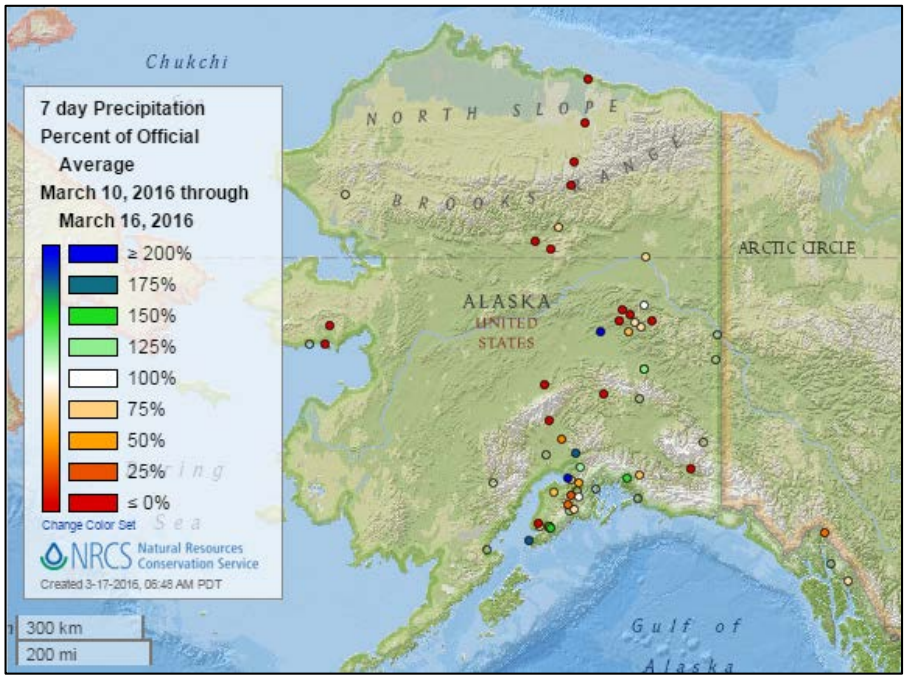


The **7-day precipitation percent of average** map shows above average precipitation at many stations in the north and west areas of the region, especially in the Cascades and the Sierra Nevada across to the central and northern Rockies. The Southwest, eastern Wyoming, and much of the southern Rockies were primarily below average to dry this week.

See also: **7-day total precipitation values (inches) map**

The **Alaska 7-day precipitation percent of average** map shows a dry week across the state. There were only a few scattered stations reporting near normal to above normal precipitation.

See also: **Alaska 7-day total precipitation values (inches) map**

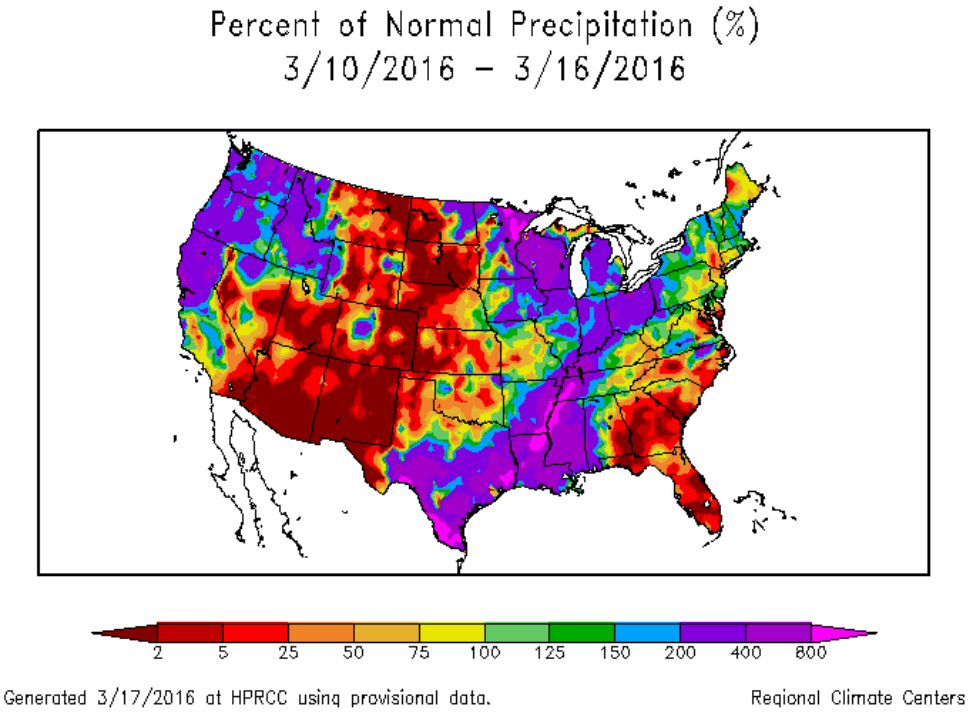


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

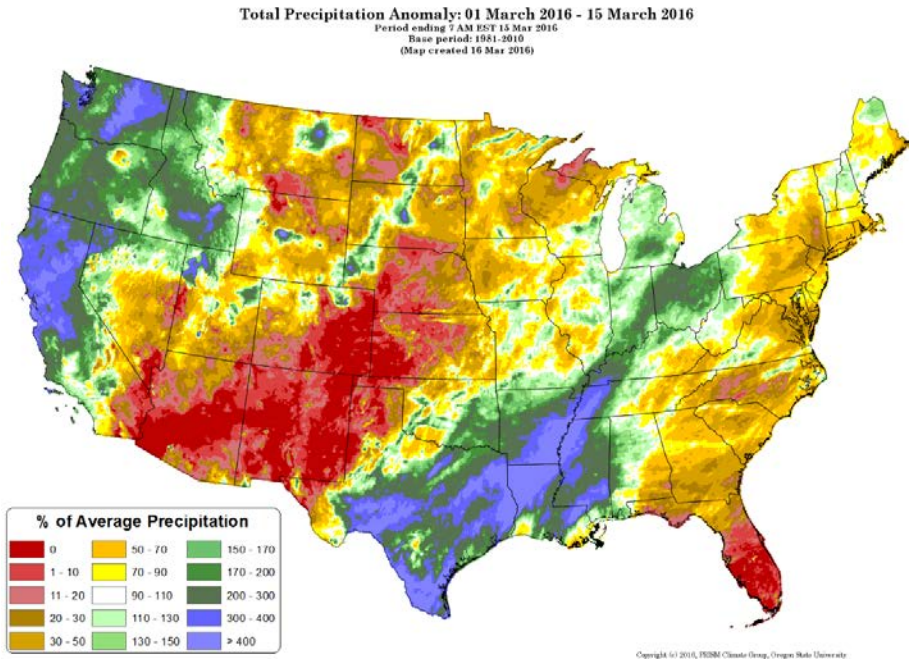
The **7-day percent of normal precipitation** map for the continental U.S. shows well above average precipitation in the Pacific Northwest, northern California, and across Texas to the lower Mississippi River Valley and north to the Great Lakes. Much of the Southwest, Great Plains, and the southeastern U.S. had a dry week.

See also: **7-day total precipitation values (inches) map**



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

Source: PRISM



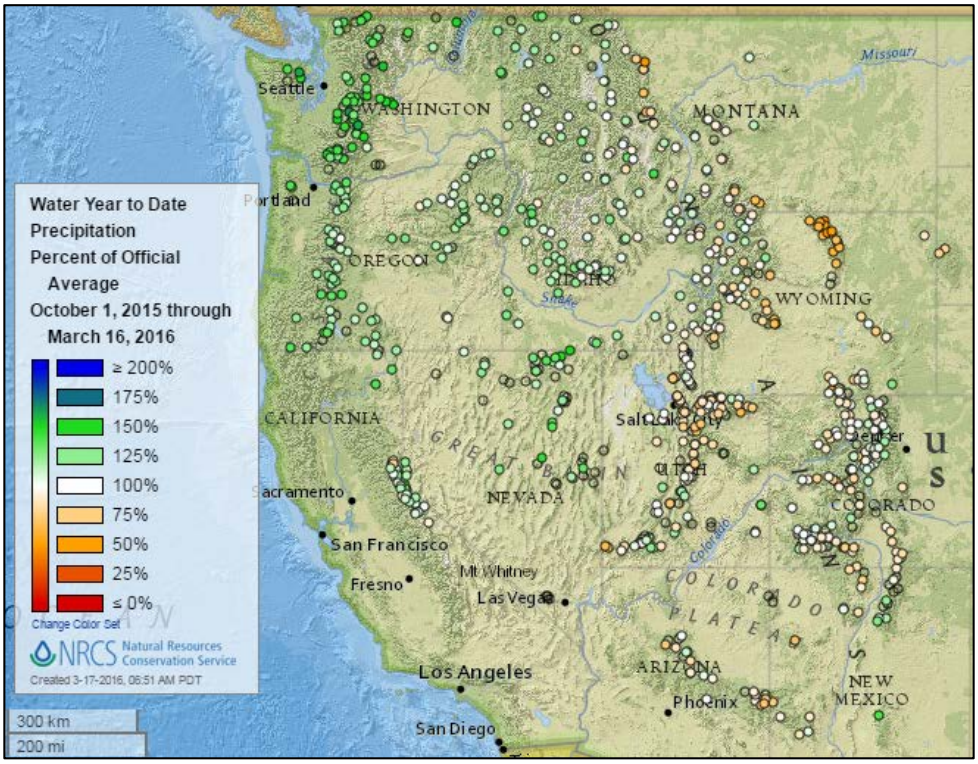
The March national month-to-date **precipitation percent of average** map shows much of the southern Mississippi River Valley, Texas, and the West Coast had well above normal precipitation. The Great Plains, much of the Southwest, and the central and eastern U.S. have been drier than normal for the month.

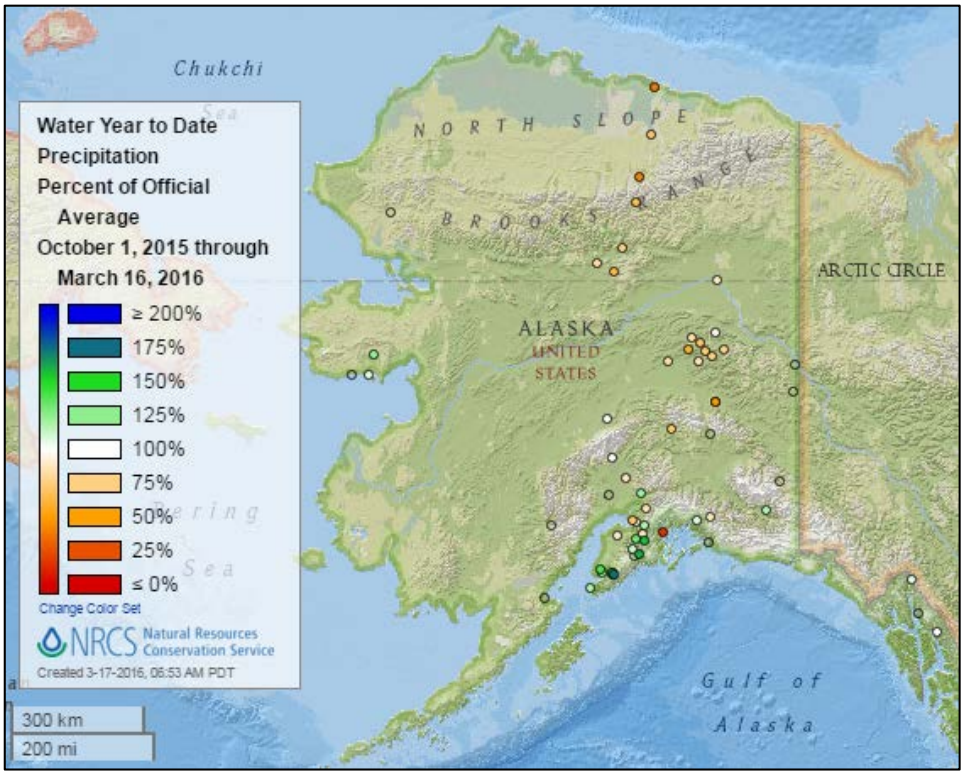
See also: **March month-to-date total precipitation values (inches) map**

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 across the West. Areas of below average precipitation are in the Rocky Mountains, the Southwest, parts of Utah, and in 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 and north coast had drier than normal to average precipitation, with near normal or above normal precipitation in the Kenai Peninsula, and along the south coast and southeast.

See also: **Alaska 2016 water year-to-date total precipitation values (inches) map**

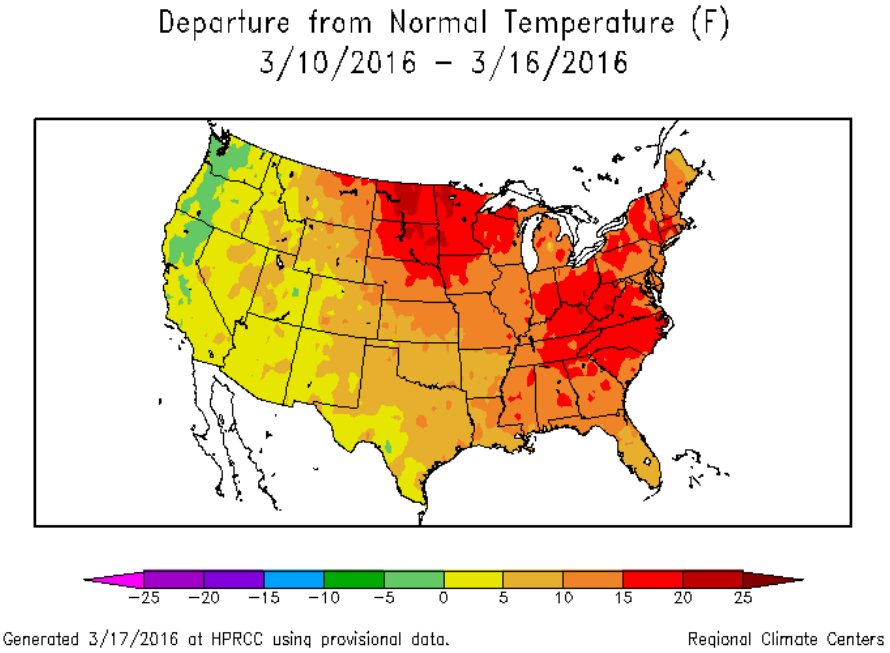
Temperature

Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

The **7-day temperature anomalies** map shows the U.S. was again warmer than normal for much of the country, especially across the northern Great Plains. Near normal to slightly cooler than normal temperatures were reported in the West.

See also: **7-day temperature (° F) map**

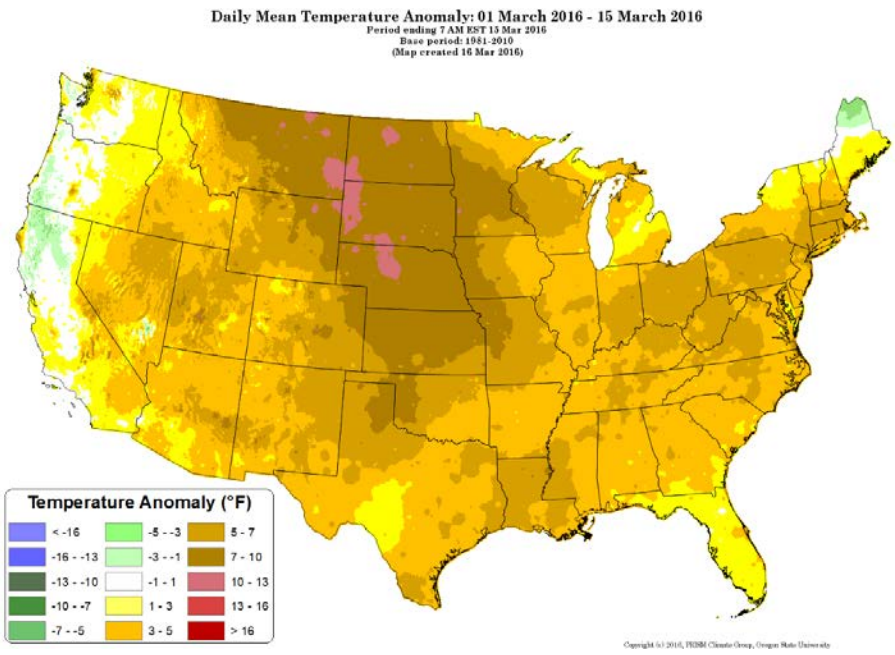


Month-to-Date, All Available Data Including SNOTEL and NWS Networks

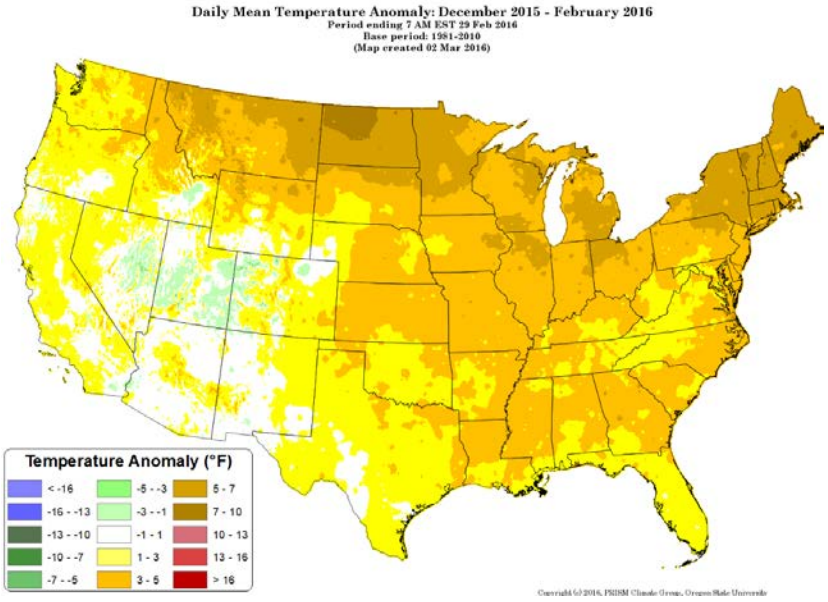
Source: PRISM

The March month-to-date **daily mean temperature anomaly** map shows above normal temperatures over much of the country. The warmest areas were in the northern Great Plains. Parts of the Pacific Coast and northern Maine reported slightly cooler than normal temperatures so far this month.

See also: **March month-to-date daily mean temperature (° F) map**



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

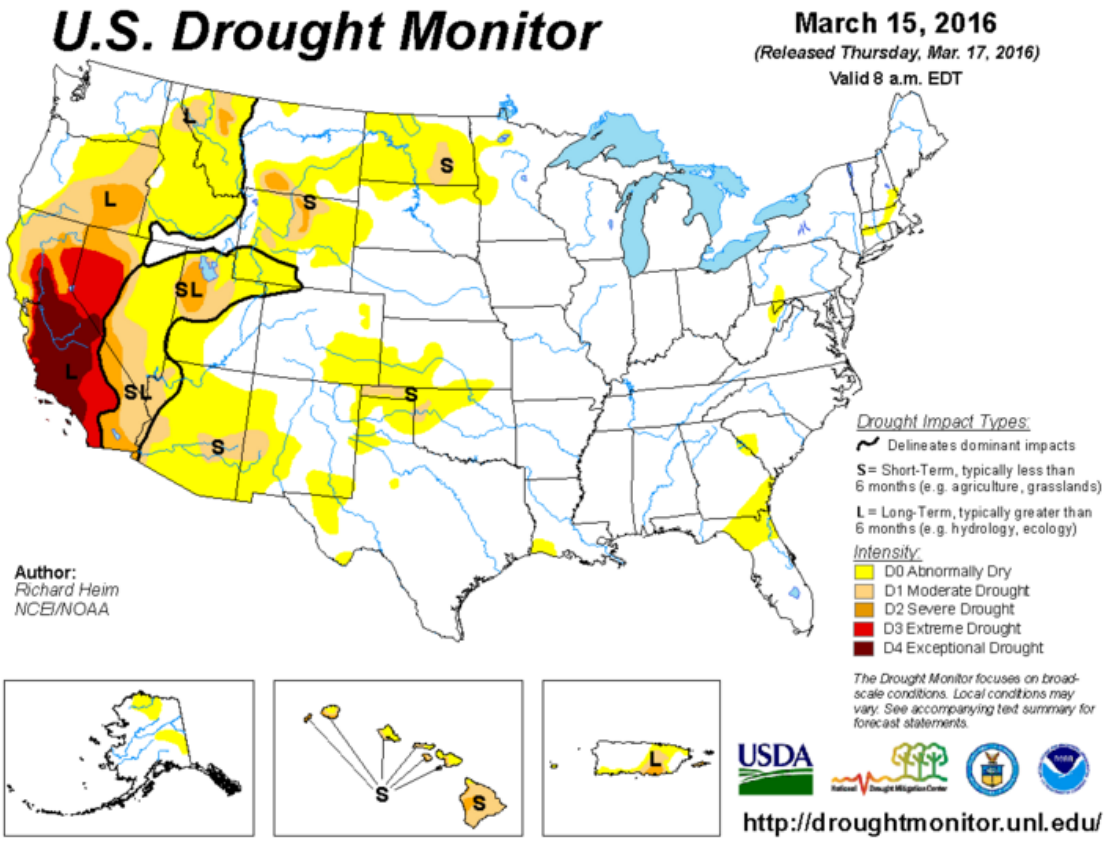


The December through February national **daily mean temperature anomaly** map shows that most of the country was warmer than normal. The warmest departures from normal were across the northern tier states from Montana to New England. The central West was near normal to slightly cooler than normal.

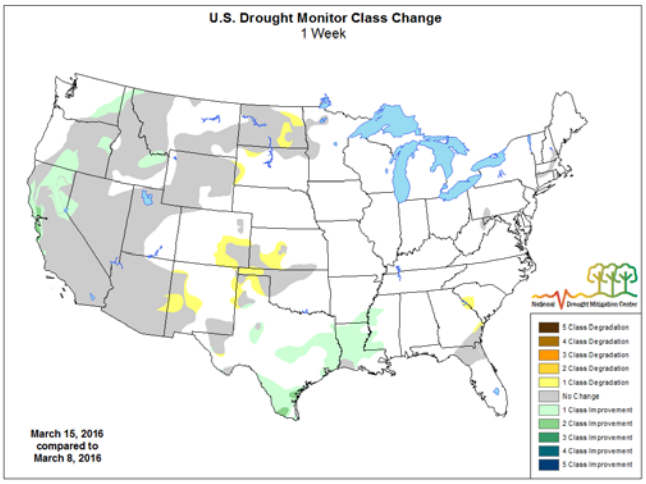
Drought

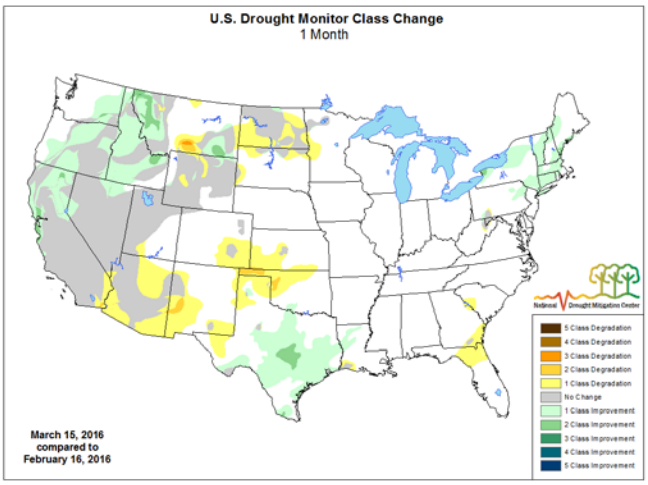
U.S. Drought Portal Comprehensive drought resource.

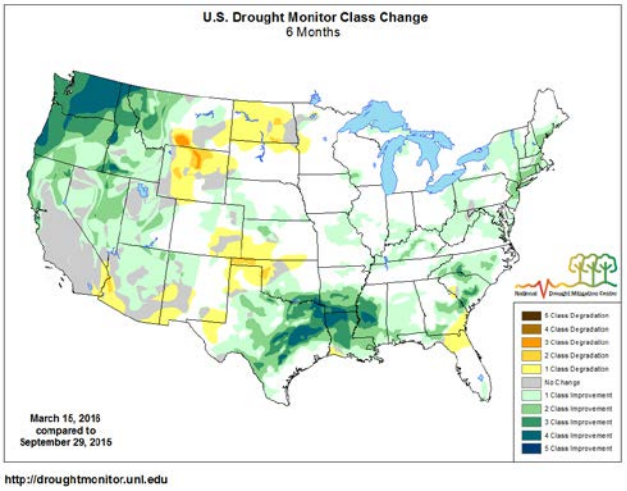
U.S. Drought Monitor See map below. Drought conditions continue in the western states, including the exceptional drought in California and Nevada.

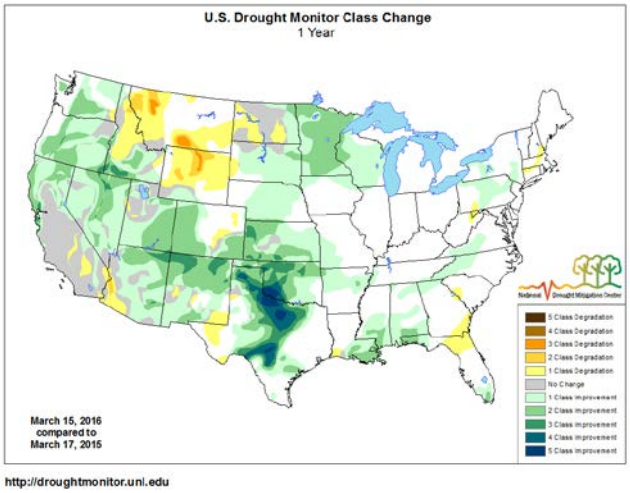


Changes in Drought Monitor Categories over Time









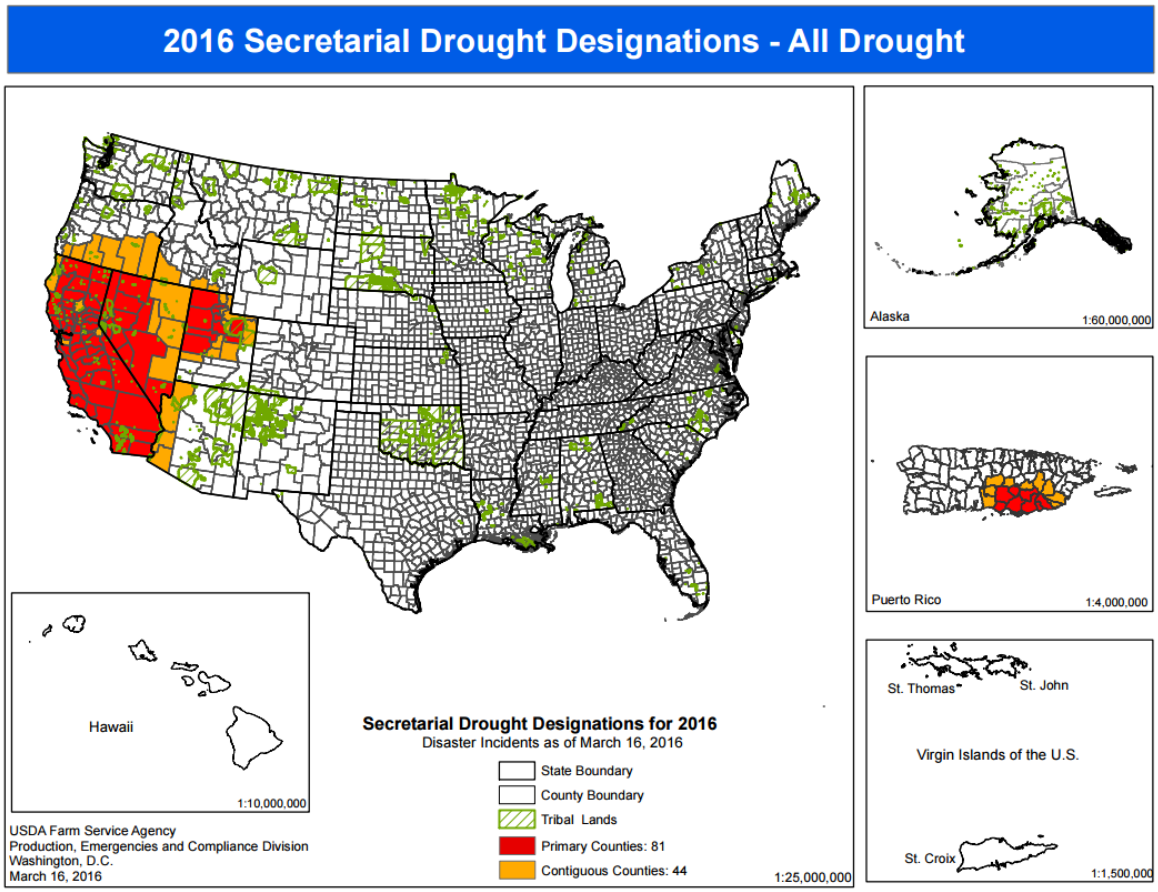
Drought conditions continue to improve over much of the country. Over the past 6-12 months, conditions have improved in the south-central U.S. and the Pacific Northwest. The remainder of the West has shown improvement, but long-term drought persists in California and Nevada.

Current National Drought Summary, March 15, 2016

Author: Richard Heim, NOAA/NCEI

"A westerly flow of Pacific weather systems pummeled the west coast this U.S. Drought Monitor (USDM) week, bringing much-needed rain and snow to northern California and the Pacific Northwest and improving the drought situation. An upper-level low cut off over Mexico early in the period, funneling tropical moisture into the Lower Mississippi Valley and causing widespread heavy rains and flooding. Meanwhile, upper-level ridging brought above-normal temperatures to much of the country. Precipitation largely missed the Southwest, central to northern Plains, and Southeast. Windy conditions coupled with temperatures well above normal were drying out soils across the Plains. Light to moderate showers fell across Puerto Rico, while Alaska and Hawaii saw another warmer- and drier-than-normal week."

USDA Secretarial Drought Designations

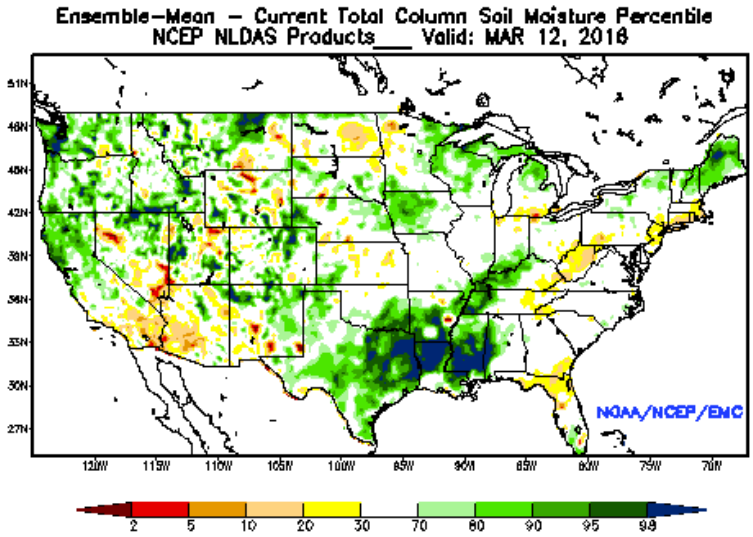


Highlighted Drought Resources

- 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

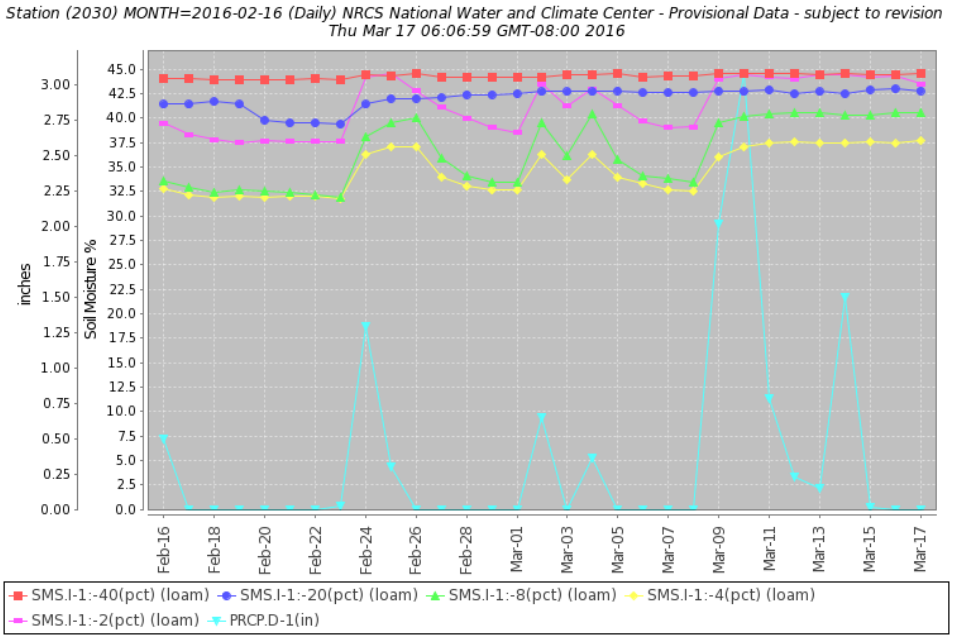
Other Climatic and Water Supply Indicators

Soil Moisture



The modeled **soil moisture percentiles** as of March 12, 2016 show primarily average to above average conditions throughout the country. The lower Mississippi River Valley, Northeast, Great Lakes, central Great Plains, and western mountains have the largest areas of wet soil conditions. Texas, Louisiana, Arkansas, and Mississippi have the wettest soil moisture percentiles for the country. There are only a few scattered areas of dryness, primarily in parts of the West, the northern Great Plains, and in parts of the eastern U.S.

Soil Moisture Data: NRCS Soil Climate Analysis Network (SCAN)



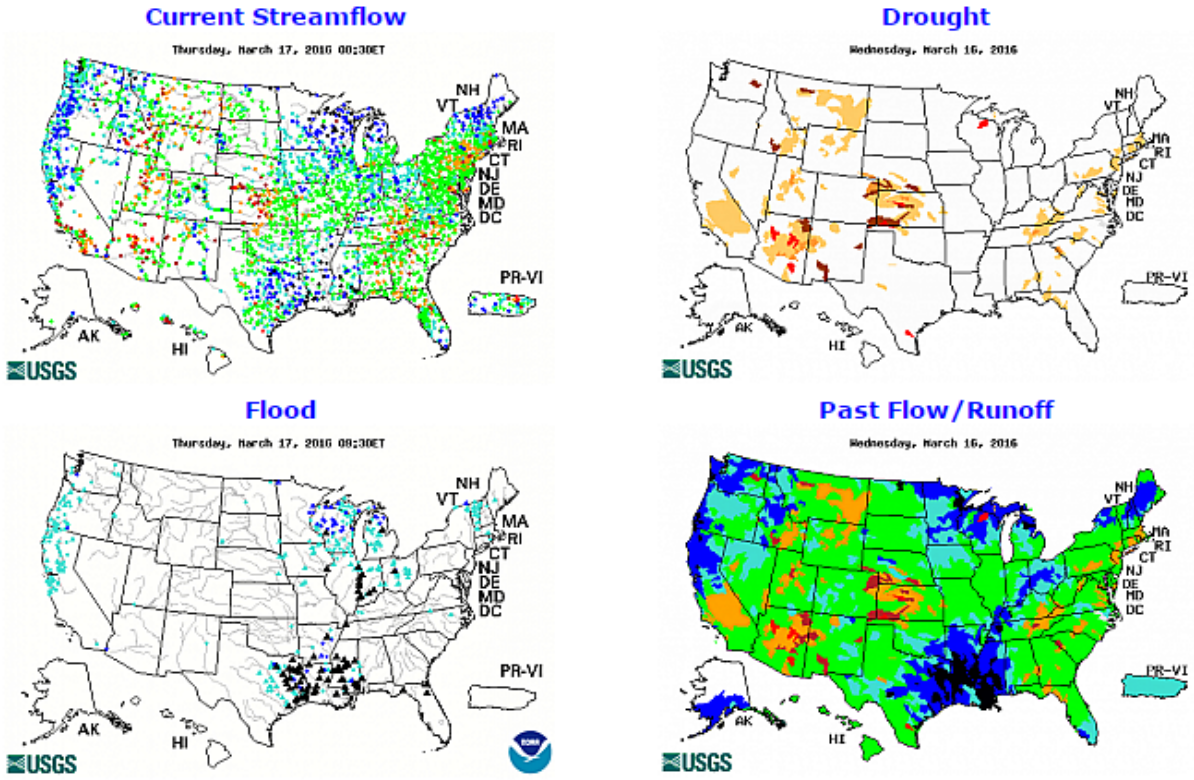
This graph shows soil moisture (at 2-, 4-, 8-, 20-, and 40-inch depths) and precipitation for the past 30 days at the Uapb-Lonoke Farm SCAN Site #2030 in Arkansas. The heavy precipitation events in the past 30 days resulted in soil moisture increases at the 2-, 4-, and 8-inch depths. The 20- and 40-inch depth sensors are at or near saturation from the rainfall.

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



The **Streamflow** map shows stations reporting above flood stage conditions in the Ohio River Valley, Upper Midwest, and throughout the lower Mississippi River Valley due to recent storms. Northern Florida continues to have river gages with lingering above flood stage conditions. Some gages along the West Coast, Great Lakes, Great Plains, Southeast, and northern New England are reporting above normal streamflow at this time.

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

California Reservoir Conditions

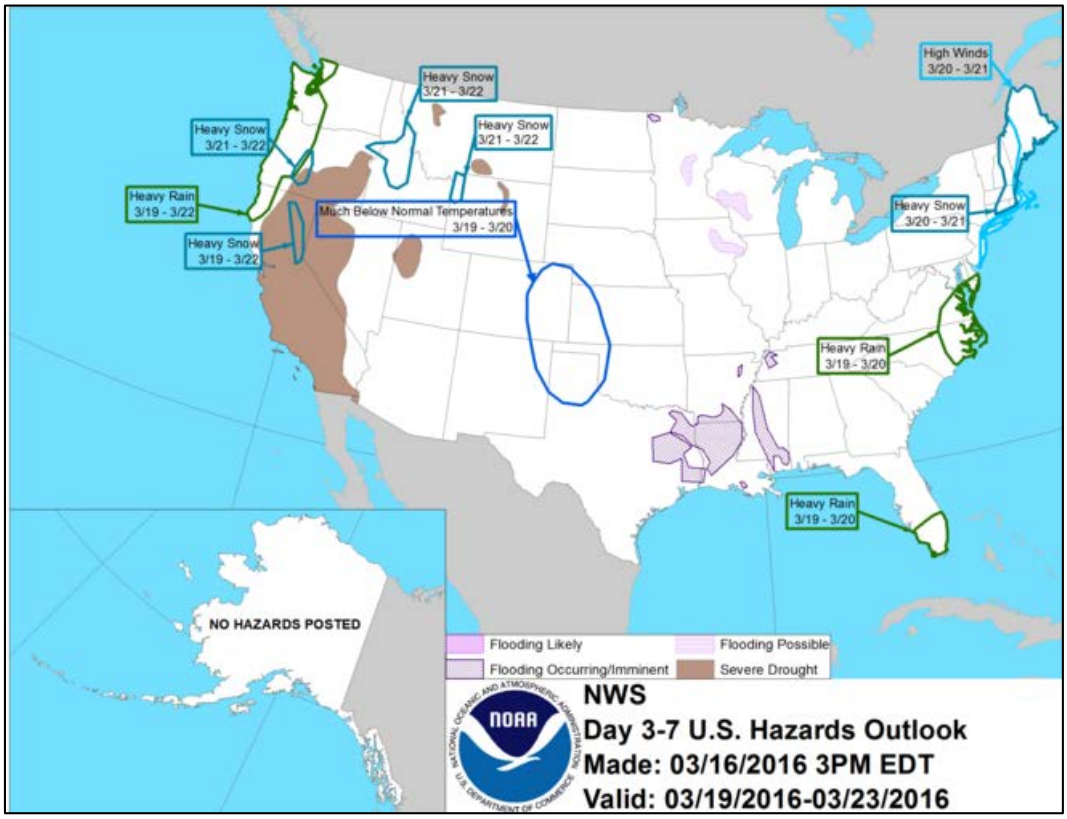
Short- and Long-Range Outlooks

Agricultural Weather Highlights

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

National Outlook, March 17, 2016: "During the next 24 hours, the focus for widespread precipitation will shift from the North to the Southeast. Across the North, mainly from the Great Lakes region into the Northeast, lingering rain and snow showers will mostly end by Friday. Meanwhile, showers and thunderstorms will become more numerous across the South before shifting eastward. During the weekend, rain can be expected along the Atlantic Seaboard, with some snow possible farther inland—especially in the central Appalachians. Five-day totals could reach 1 to 3 inches along parts of the Gulf Coast and 1 to 2 inches along the Atlantic Coast. In contrast, little or no precipitation will fall from the northern Plains into the Midwest, as well as from southern California into the Southwest. Late in the weekend and early next week, precipitation will return to northern California and the Northwest, where totals could reach 1 to 5 inches. The NWS 6- to 10-day outlook for March 22 – 26 calls for the likelihood of warmer-than-normal weather nationwide, except for near-normal temperatures in northern New England, southern Florida, and the Northwest. Meanwhile, wetter-than-normal conditions in the Mississippi Valley and across the northern half of the U.S. will contrast with below-normal precipitation in the southern Atlantic region and from central and southern California to the southern half of the High Plains."

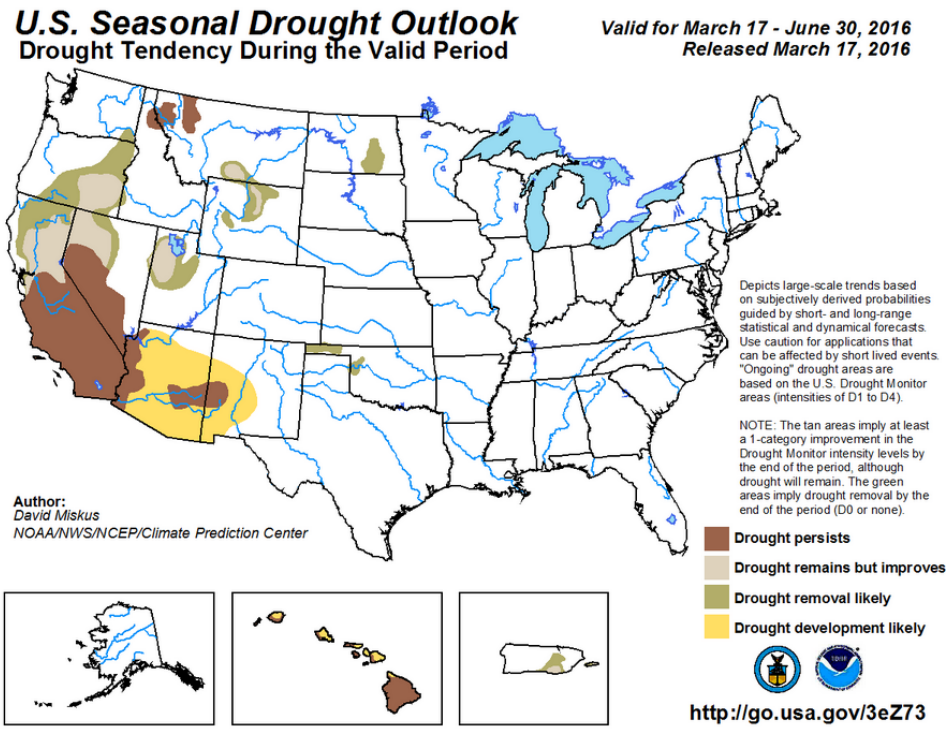
National Weather Hazards



The NWS Climate Prediction Center's outlook for **weather hazards** over the next week shows high winds and heavy snow over New England. Heavy rain is forecast for southern Florida and the Mid-Atlantic states. Heavy snow is expected in the northern Sierra, southern Cascades, and central and eastern Idaho. Cold temperatures are forecast for the central Great Plains. Flooding is occurring over much of the southern Mississippi River Valley. The severe drought continues in parts of the West.

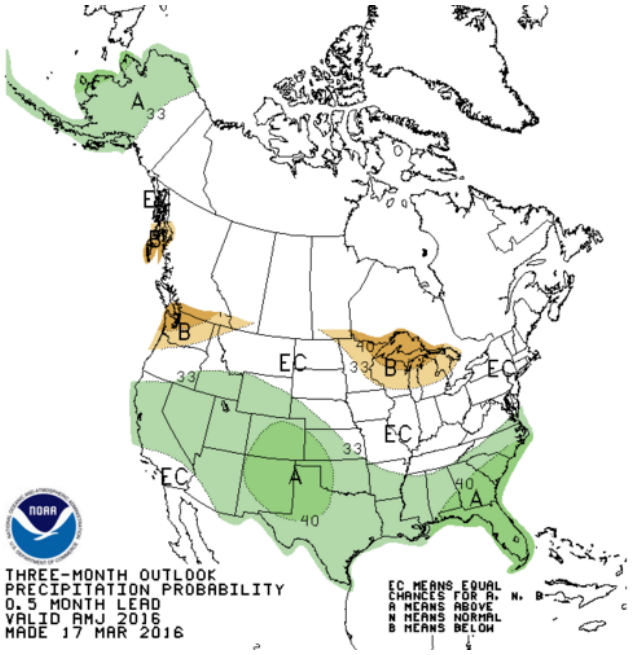
Seasonal Drought Outlook

During the next three months, **drought** will persist in Hawaii, the northern Rockies, southern California, western Nevada, Arizona, and New Mexico. Drought may develop in Hawaii and the Southwest. Elsewhere, most drought designations are expected to improve or be removed.

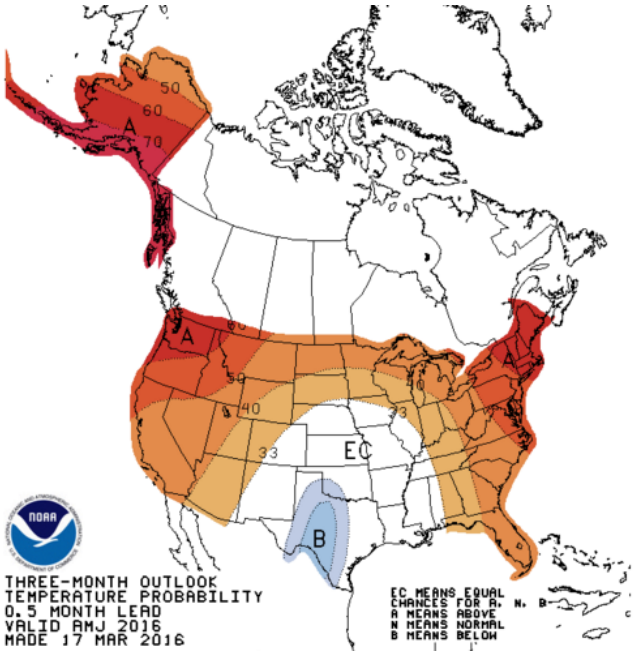


NWS Climate Prediction Center 3-Month Outlook

Precipitation



Temperature



Outlook Summary

NWS Climate Prediction Center:

The March-April-May (MAM) 2016 precipitation outlook: "The March-April-May (MAM) 2016 temperature outlook favors above-normal temperatures across much of the continental U.S., Hawaii, and all of Alaska. Above-normal temperature are favored for the West Coast states, Nevada, and from the northern Rockies across the Great Plains to the Mid-Atlantic and New England. The odds of above-normal temperatures are highest across the Pacific Northwest and from the upper Great Lakes to North Dakota. Below-normal temperatures are favored for a small area of the southern Rockies and Texas."

The March-April-May (MAM) 2016 temperature outlook: "The MAM 2016 precipitation outlook is changed minimally from the prior outlook for that period. Above-median precipitation is forecast from California to the central and southern Great Plains, and from the Gulf Coast to the Mid-Atlantic and southern New England. Above-median precipitation is also forecast for southern Alaska. Below-median precipitation is favored for the Pacific Northwest, portions of the northern Rockies, and from the Great Lakes to the Tennessee Valley. Western and interior Alaska are also likely to experience below-median 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**.