United States Department of Agriculture

Water and Climate Update

March 3, 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: Persistent, warm temperatures and lack of snow in Alaska impact Iditarod race

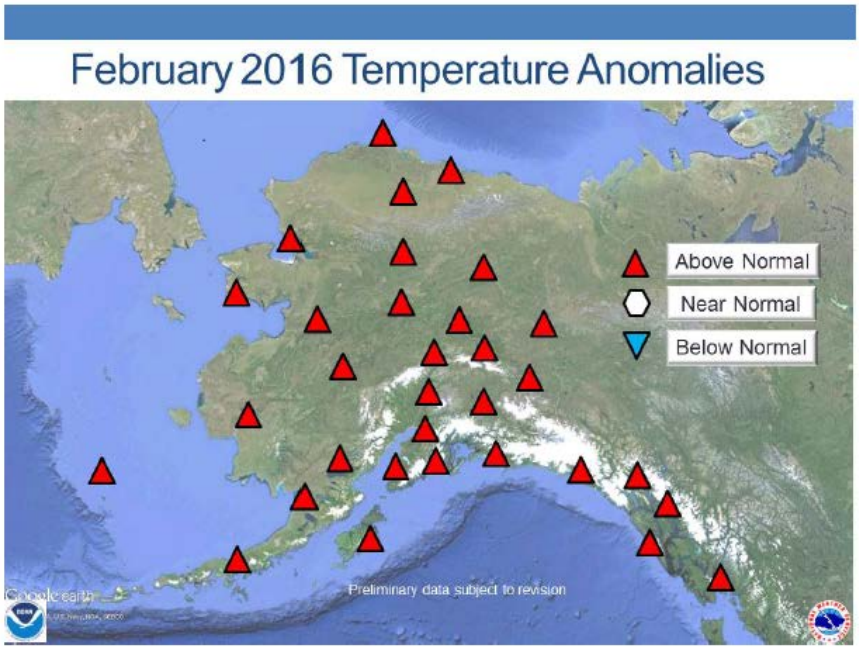


Photo courtesy National Weather Service, Alaska Region Office

Persistent, warm temperatures across Alaska, especially in Anchorage, have shortened the ceremonial start of the Iditarod sled dog race, and required trainloads of snow to be imported for the event.

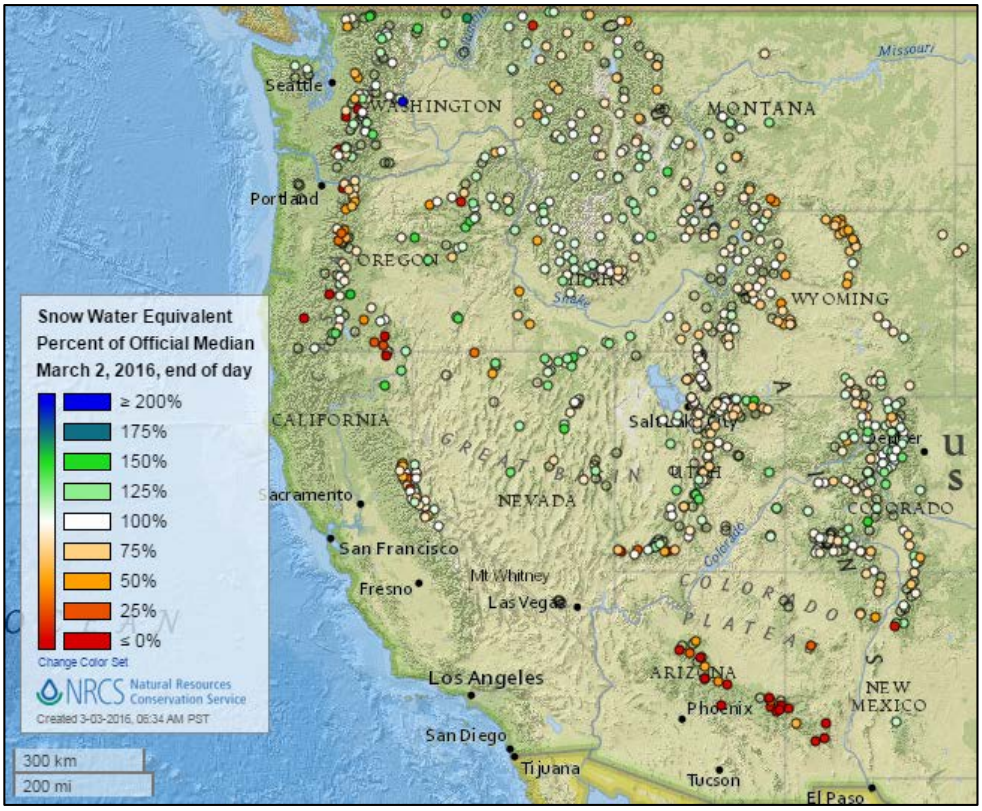
CBS News: Alaska bringing in trainloads of snow for Iditarod race

NBC News: Alaska's Iditarod Sled Dog Race Stymied by Lack of Snow

Alaska Dispatch: With Anchorage icy and snowless, Iditarod officials shorten ceremonial start

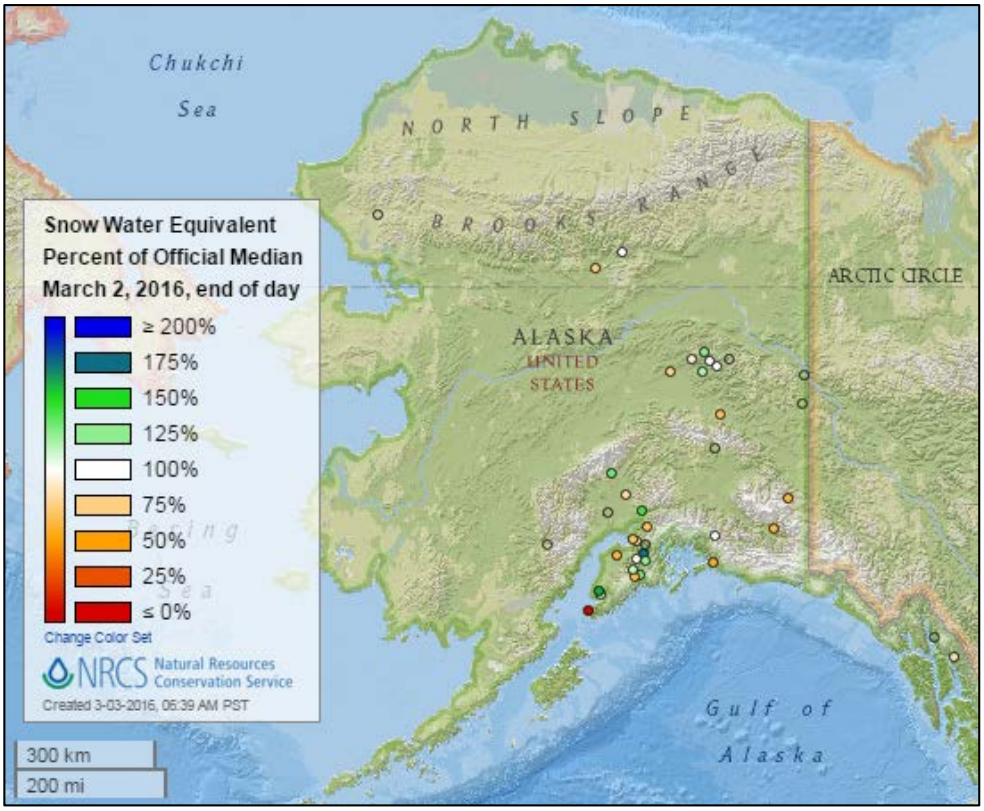
Snow

Current Snow Water Equivalent, NRCS SNOTEL Network



The current **snow water equivalent percent of median** map shows most of the West is near average, but overall shows little change this week. Warm weather has snow water equivalent at stations in the Southwest at well below average. Some stations in the central West report values still above normal.

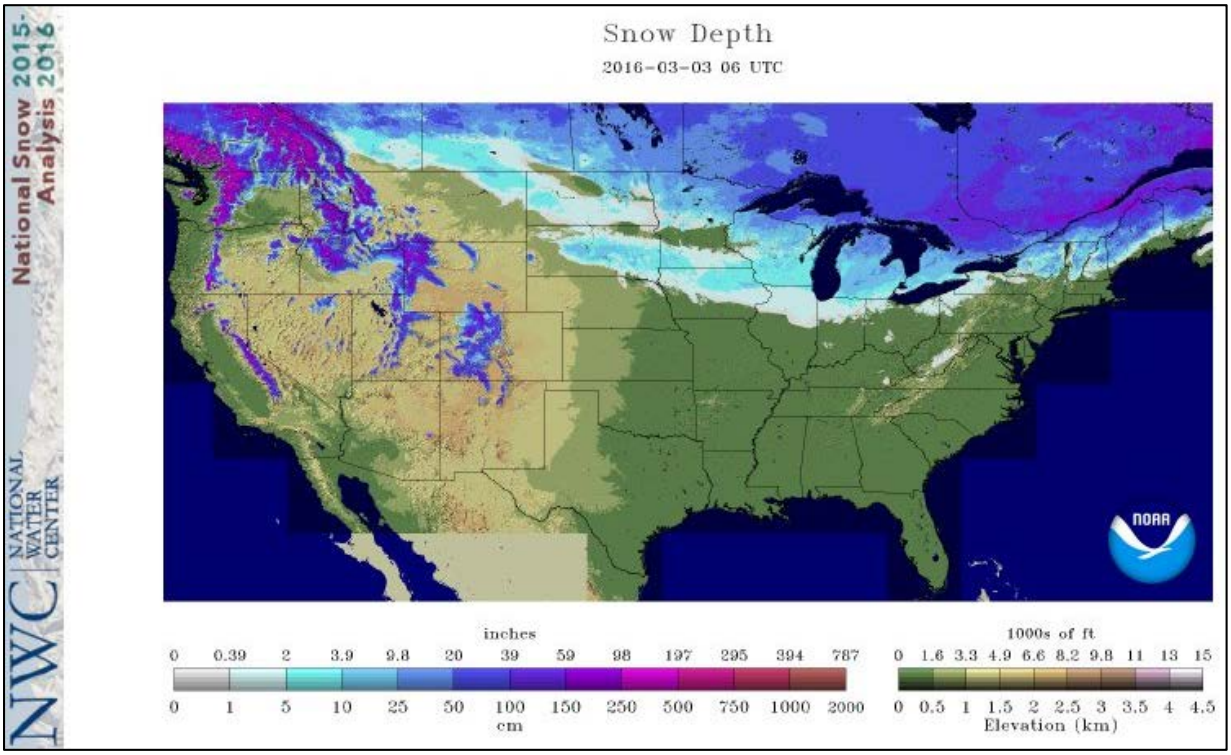
See also: **Current snow water equivalent values (inches) map**



The Alaska current **snow water equivalent percent of median** map shows little change from a week ago. Some stations on the Kenai Peninsula show declines from last week. 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**

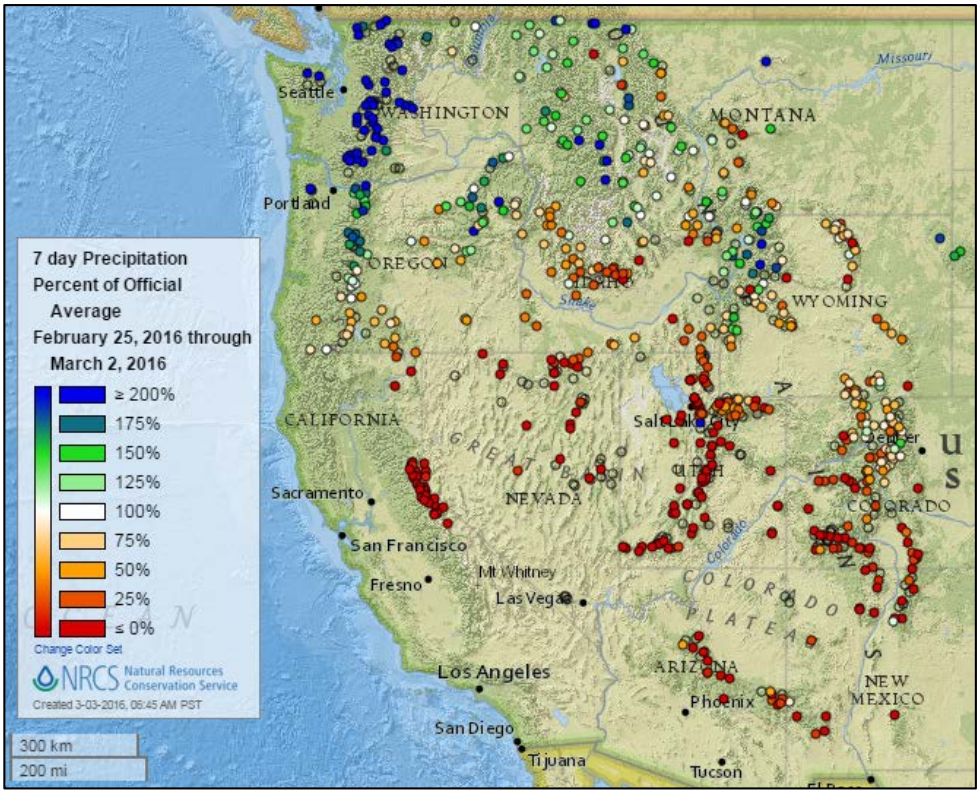
Current Snow Depth, National Weather Service (NWS) Networks



The NOAA National Operational Hydrologic Remote Sensing Center's current **snow depth** map shows a snow reduction across much of the U.S. this week, specifically in the upper Midwest and New England, related to drier conditions and warmer temperatures. New snow has fallen this week in the northern Plains and northern New England. There is still a deep snowpack in the mountains of the West, with the loss of snow in the valleys of southwest Wyoming and in the southern Rockies over the week.

Precipitation

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

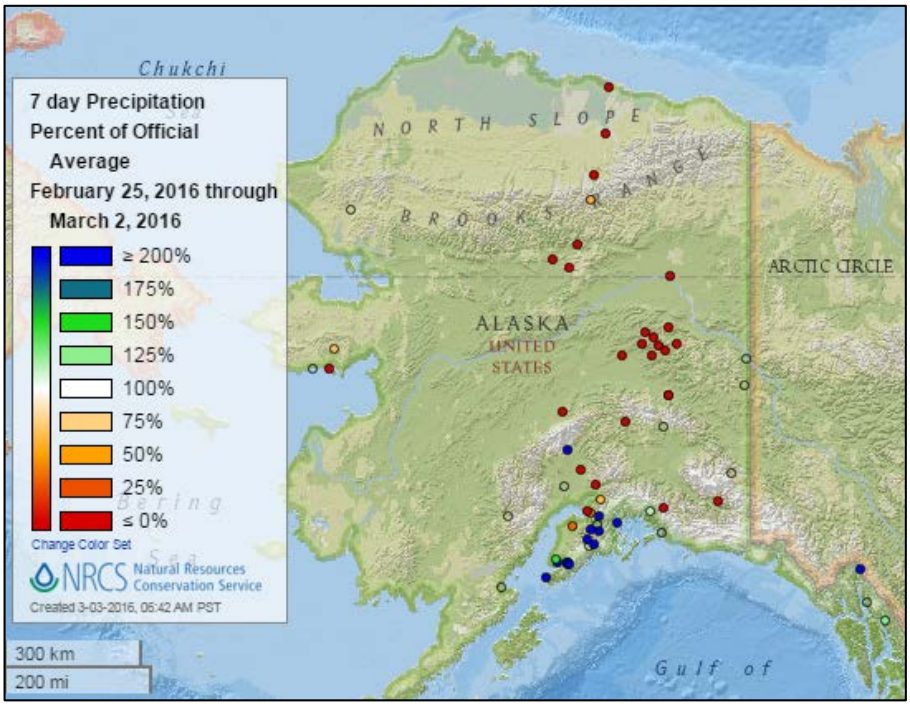


The **7-day precipitation percent of average** map shows a dichotomy of above average precipitation reported at many stations in the North, especially in the Cascades. The central and southern West was primarily dry to below average this week. There were a few areas of above average precipitation along the northern and central Rocky mountains.

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

The **Alaska 7-day precipitation percent of average** map shows the Kenai Peninsula and two other stations had over 200 percent of normal precipitation this week. The rest of state remained primarily dry. There were a few near normal stations along the southern and southeast parts of the state.

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

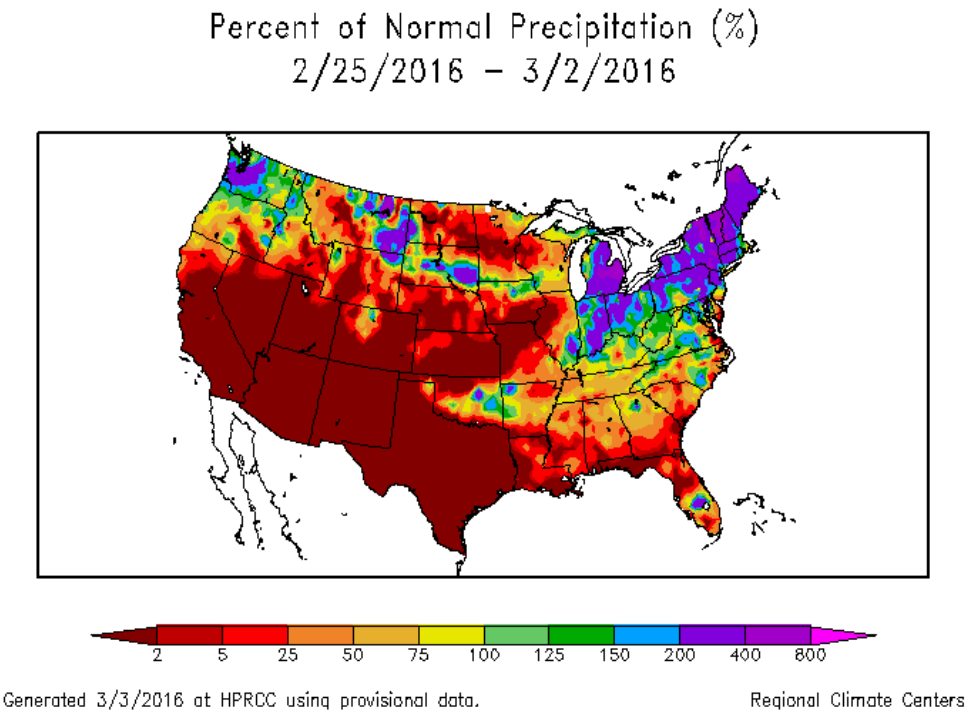


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

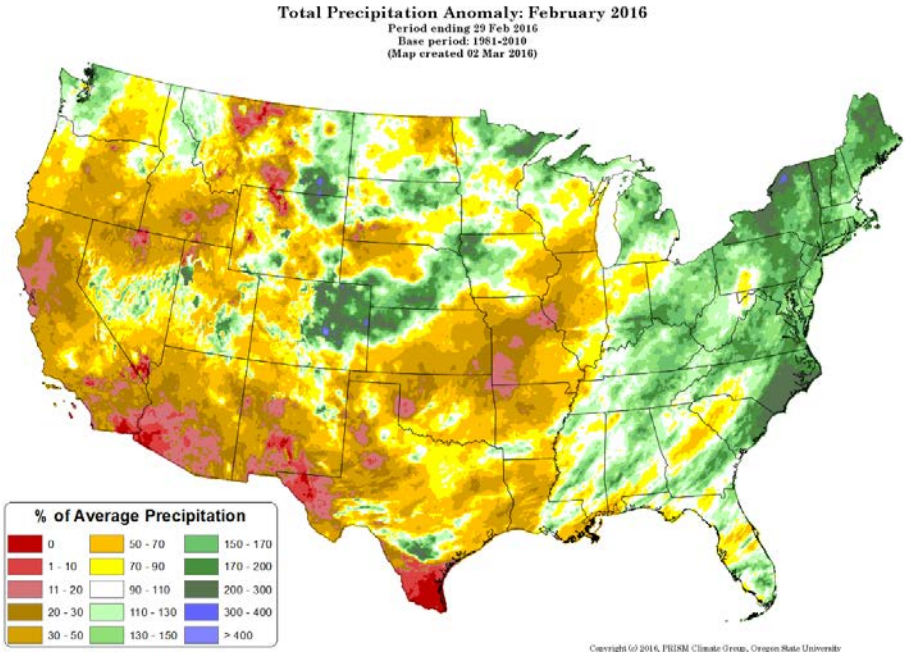
The **7-day percent of normal precipitation** map for the continental U.S. shows well above average precipitation in the Pacific Northwest, northern Plains, and much of the Northeast. Much of the West, central and southern Plains, Southeast, and parts of the Southeast had a dry week.

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



Previous Month, All Available Data Including SNOTEL and NWS Networks

Source: PRISM



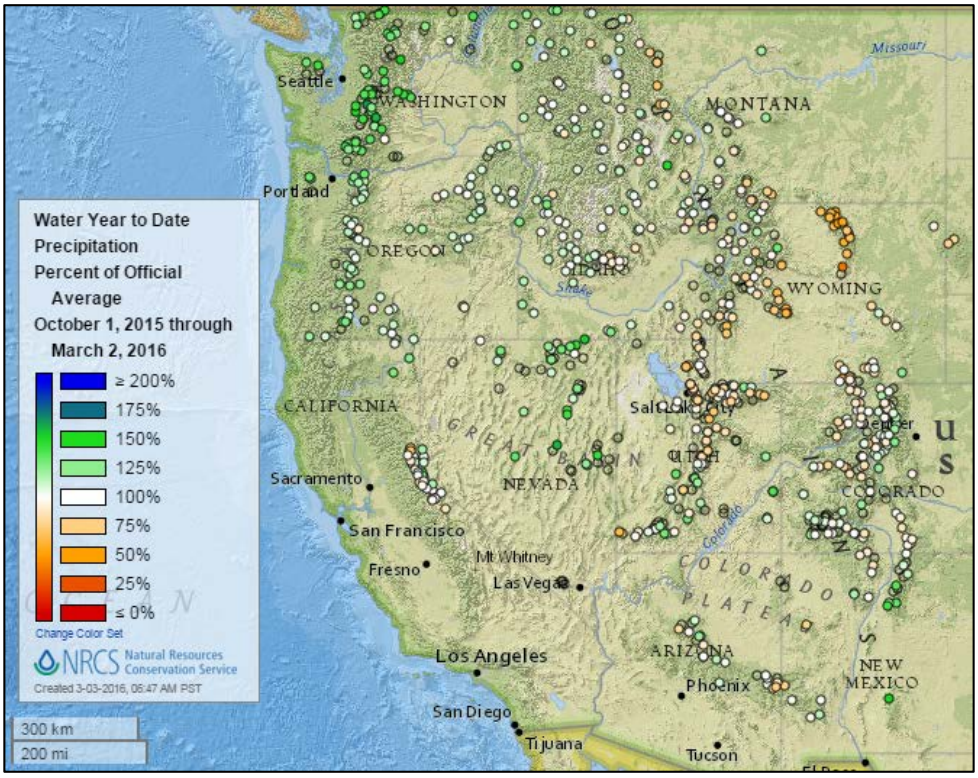
The February national **precipitation percent of average** map shows much of the eastern U.S. had well above normal precipitation. Smaller areas of above normal precipitation were recorded in the central Plains, Great Lakes, and the Pacific Northwest. The central and southern Plains, and much of the West have been drier than normal for the month.

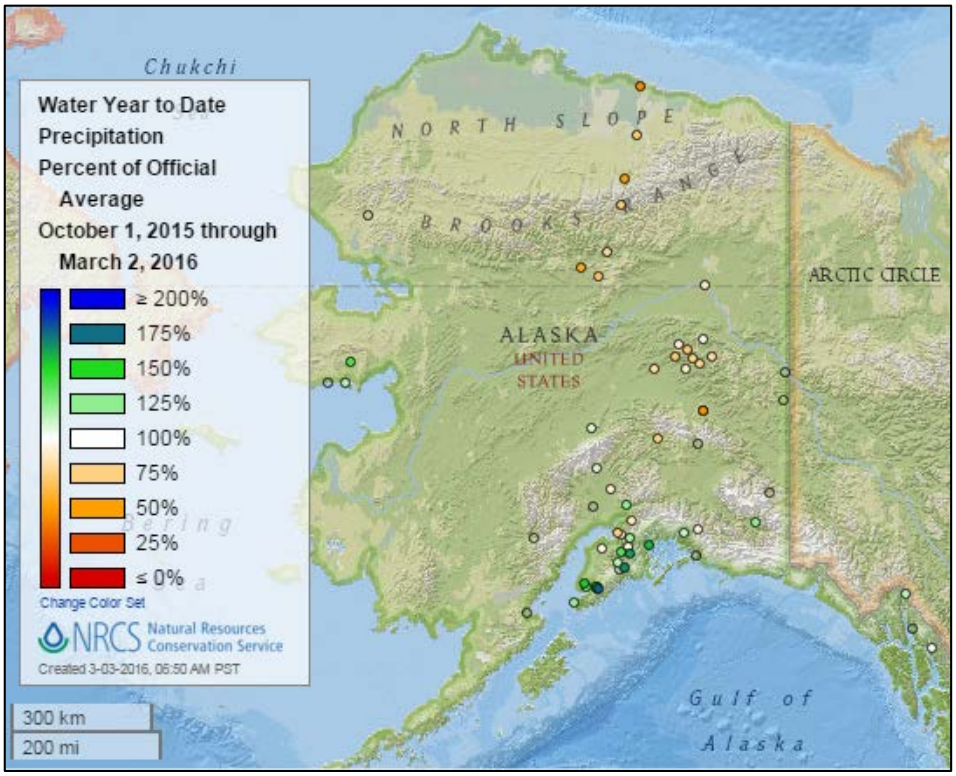
See also: **February total precipitation values (inches) map**

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 in the Cascades, Sierra Nevada, Great Basin, and southern Rockies. Many stations are now reporting near average conditions. Areas of below average precipitation are in the central and northern Rocky Mountains and 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 has dry to average precipitation, with near normal or above normal precipitation along the coast.

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

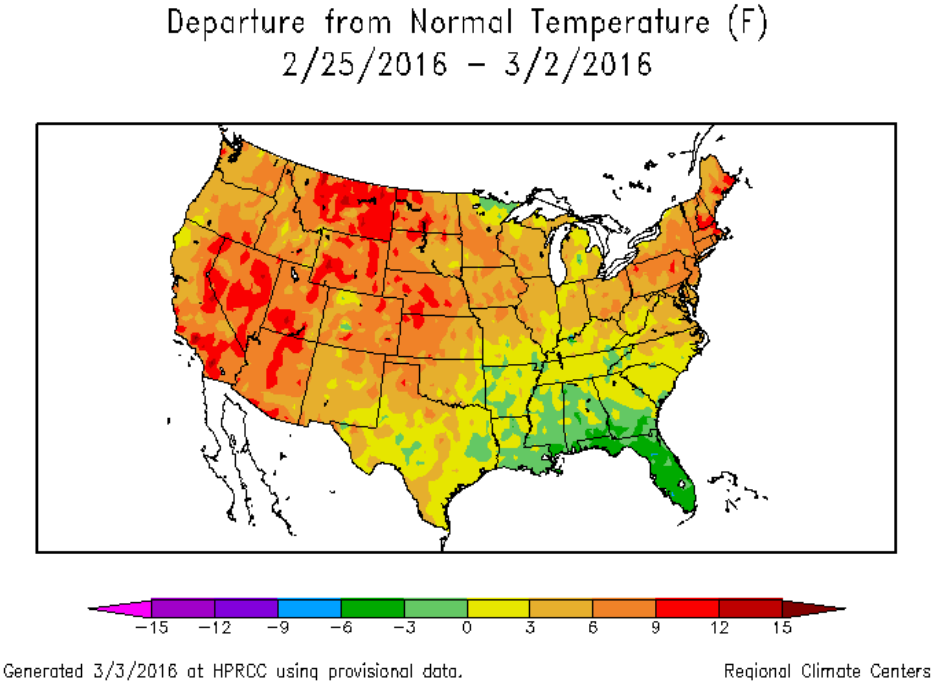
Temperature

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 much of the West. Near normal temperatures were reported in the Southeast, with the coolest departures from normal in Florida.

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

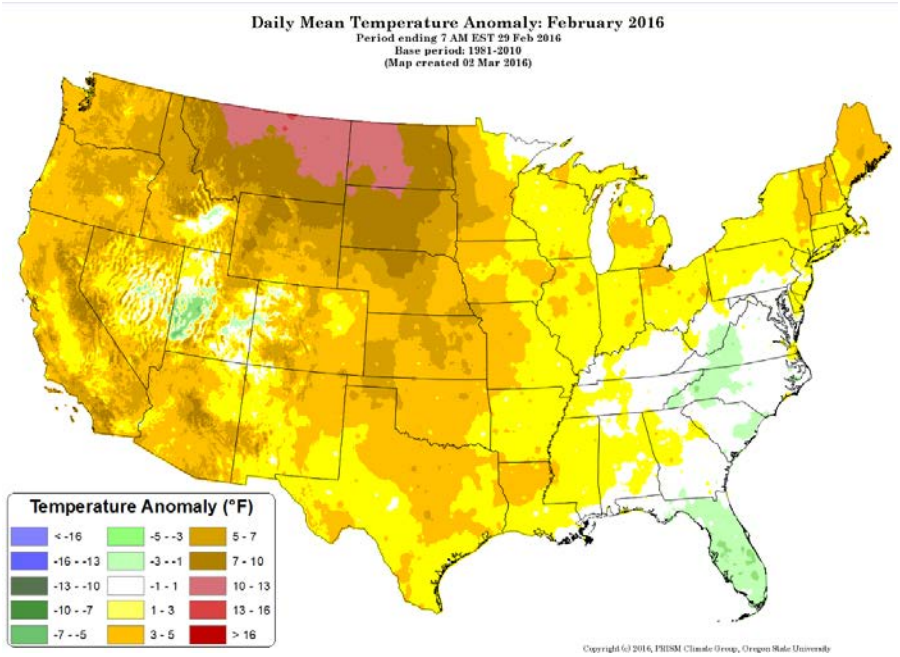


Previous Month, All Available Data Including SNOTEL and NWS Networks

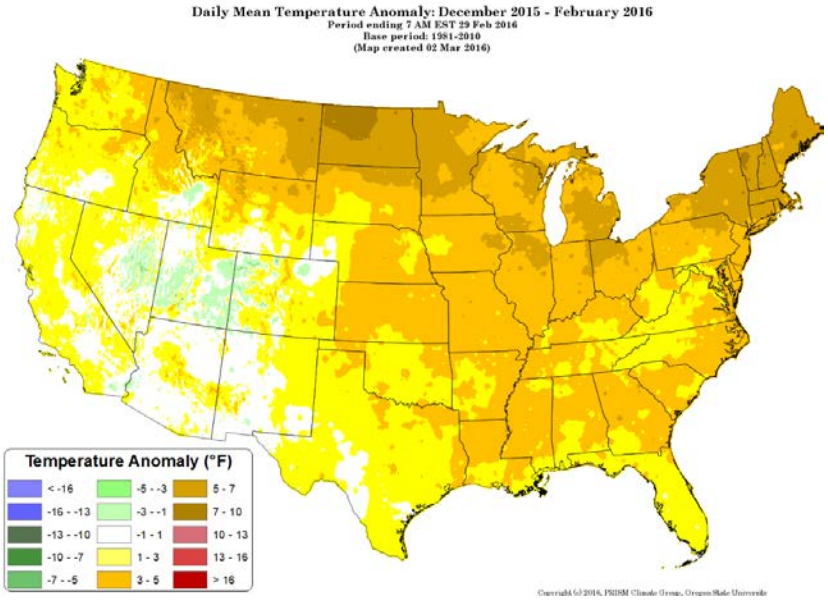
Source: PRISM

The February **daily mean temperature anomaly** map shows above normal temperatures over much of the country, with the warmest temperature departures from normal in Montana and North Dakota. Much of the Southeast and central West have moderated to near normal or slightly cooler than normal temperatures for the month.

See also: **February daily mean temperature (° F) map**



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

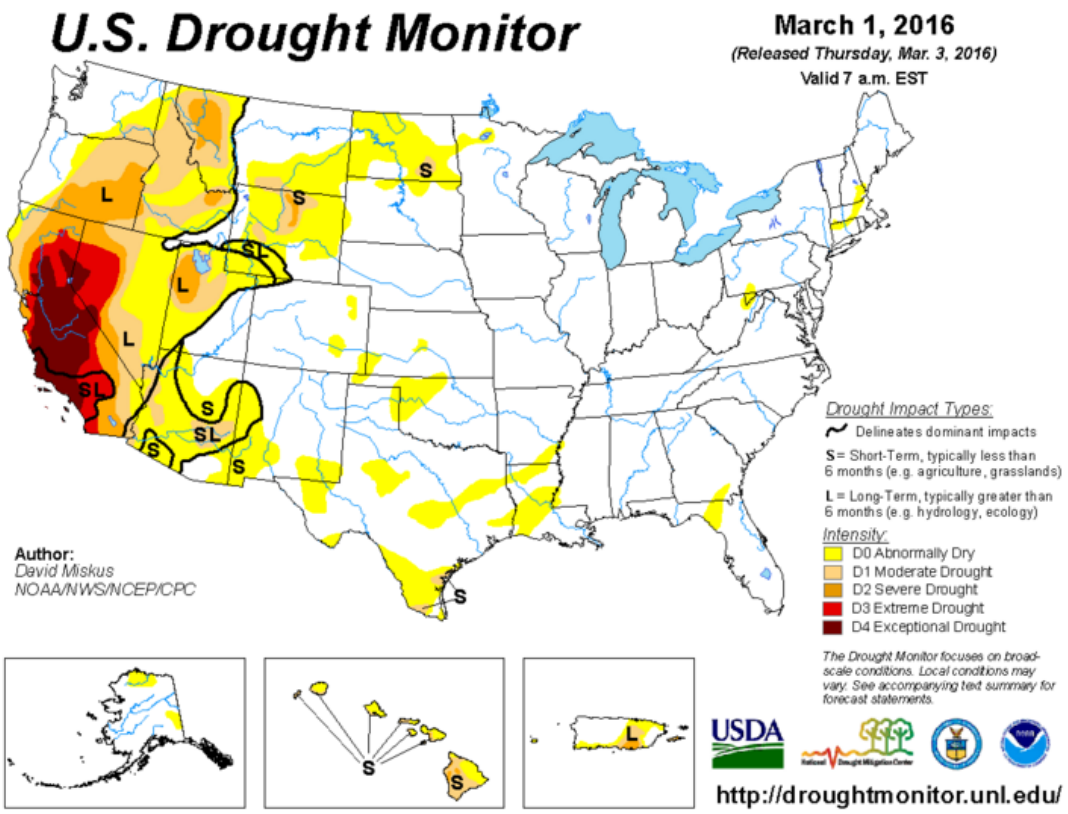


The December through February national **daily mean temperature anomaly** map shows most of the country was warmer than normal. The warmest departure from normal areas were across the northern tier states from Montana to New England. The central West was near normal to slightly cooler than normal.

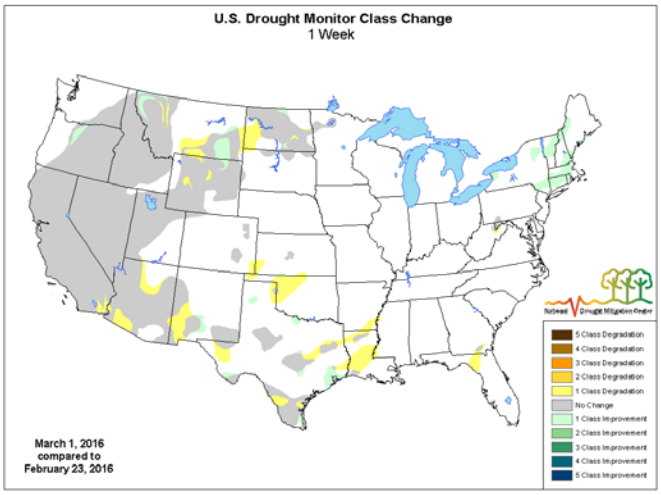
Drought

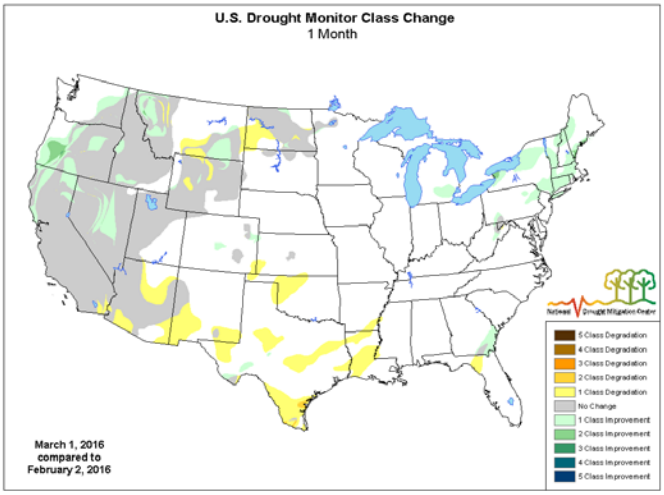
U.S. Drought Portal Comprehensive drought resource.

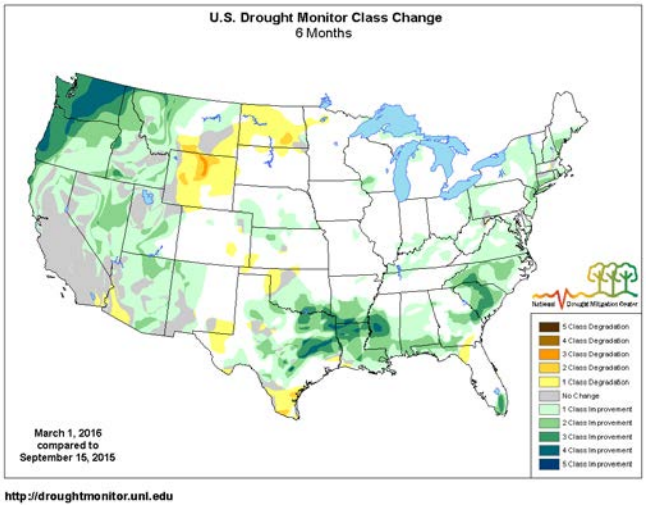
U.S. Drought Monitor See map below. Drought conditions continue in the western states, including the exceptional drought in California and Nevada.

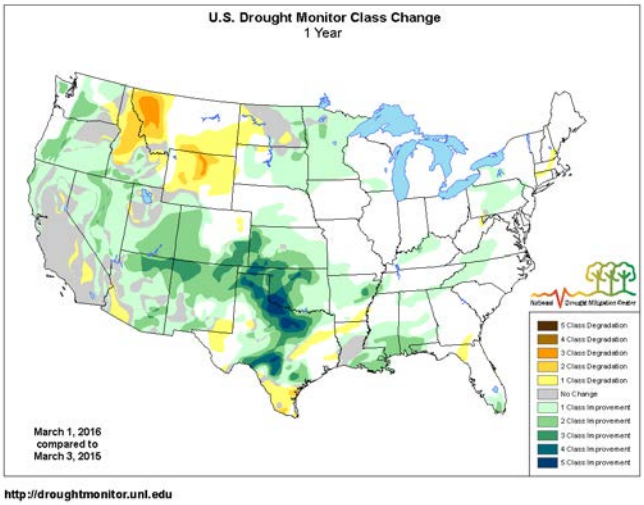


Changes in Drought Monitor Categories over Time









Drought conditions remain essentially the same as last week. Over the past 6-12 months, conditions have improved in much of the country, especially 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.

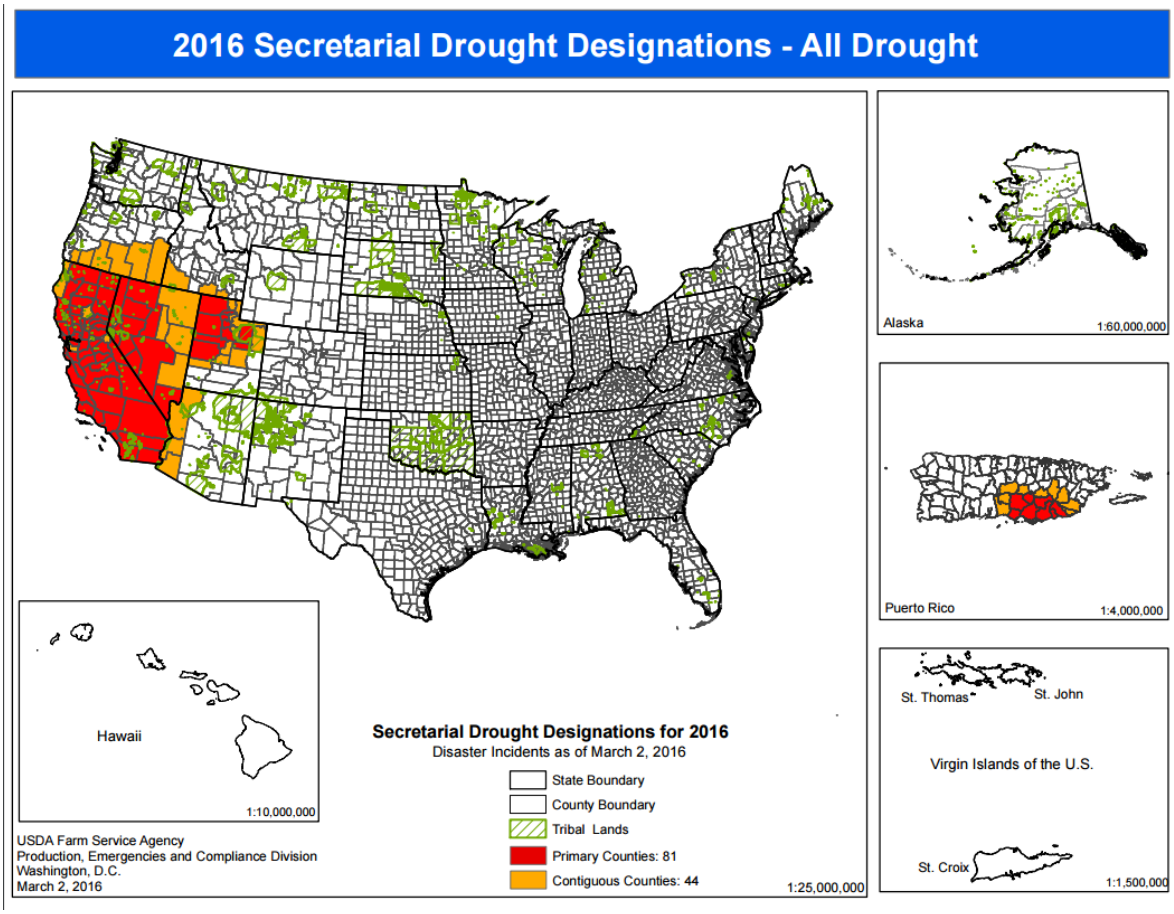
Current National Drought Summary, March 1, 2016

Author: David Miskus, NOAA/NWS/NCEP/CPC

“Early in the period, a strong storm system tracked from the western Gulf Coast northeastward into interior New England, triggering numerous and widespread showers and thunderstorms across most of the eastern third of the Nation. Some of the storms produced severe weather that included numerous reports of tornadoes, some with fatalities, in the Southeast (February 23) and the mid-Atlantic (February 24). As the system traversed the Northeast, moderate to heavy (more than 2 inches) rain fell on most locations as temperatures were well above freezing. In the central Great Lakes region, however, colder air allowed snow to fall, with up to 15 inches measured in northwestern Indiana. As the storm exited the U.S., colder and drier weather enveloped the East. Elsewhere, after a dry start, weak Pacific systems brought light precipitation to the Northwest during the last 4 days of the period, eventually spreading eastward into the Midwest and south-central Great Plains by week’s end. Unfortunately, precipitation bypassed most of the southwestern quarter of the lower 48 States and northern Plains, and weekly temperatures averaged above normal in the West and

across the northern half of the Nation. The El Nino induced dryness across Hawaii has started producing negative impacts as parts of the islands were degraded."

USDA Secretarial Drought Designations

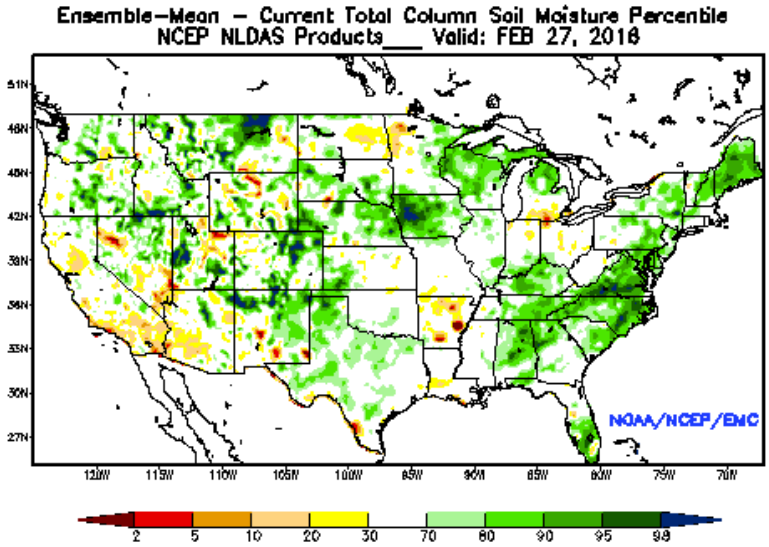


Highlighted Drought Resources

- 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

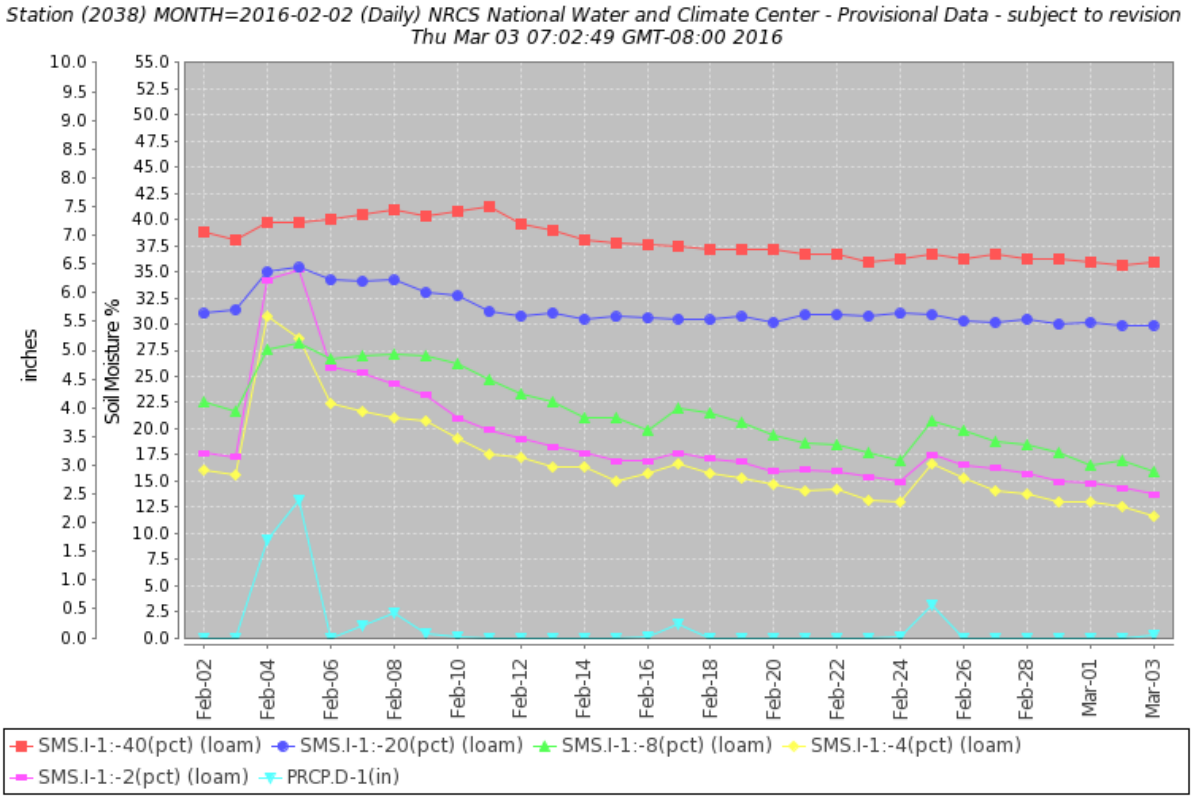
Other Climatic and Water Supply Indicators

Soil Moisture



The modeled **soil moisture percentiles** as of February 27, 2016 show primarily average to above average conditions throughout the country. The East, Great Lakes, upper Midwest, central Plains, and western mountains have the largest areas of wet soil conditions. North central Montana is currently very wet. There are only a few scattered areas of dryness, primarily in parts of the West, the northern Great Plains, Ohio Valley, and the lower Mississippi Valley.

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



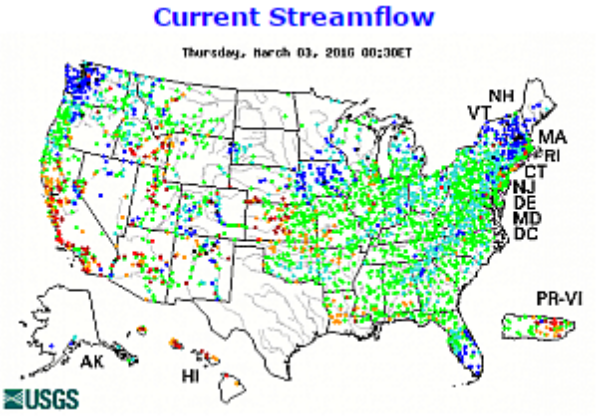
This graph shows soil moisture (at 2-, 4-, 8-, 20-, and 40-inch depths) and precipitation for the past 30 days at the Youmans Farm SCAN Site #2038 in South Carolina. The series of precipitation events in the past 30 days shows soil moisture peaking at the 2-, 4-, and 8-inch depths, before declining. The 20- and 40-inch depth sensors had little to no response to the precipitation events. Overall, the shallow soils at this station became drier over the past month, whereas the deeper sensors remained relatively flat.

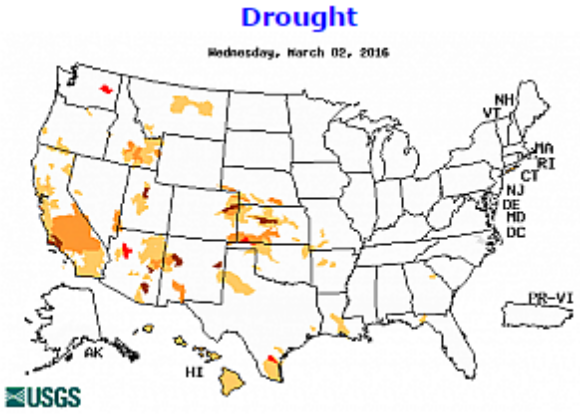
Soil Moisture Data Portals

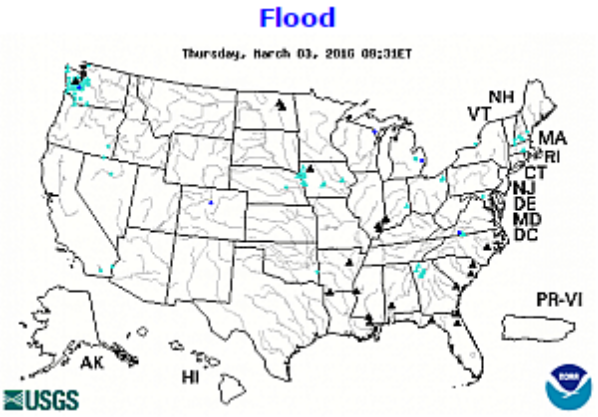
CRN Soil Moisture
Texas A&M University North American Soil Moisture Database
University of Washington Experimental Modeled Soil Moisture

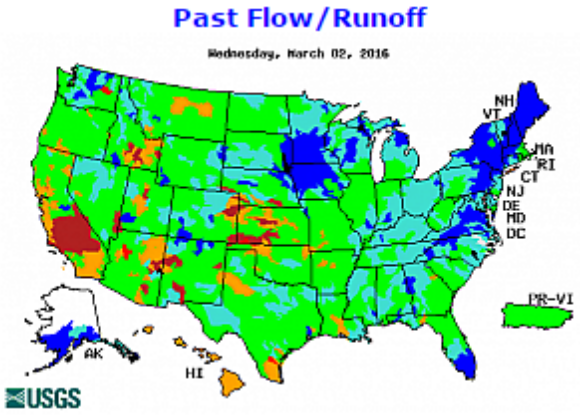
Streamflow

Source: USGS









The **Streamflow** map shows a reduction in the number of stations reporting above flood stage conditions in the East from a week ago. Many gages across the country 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

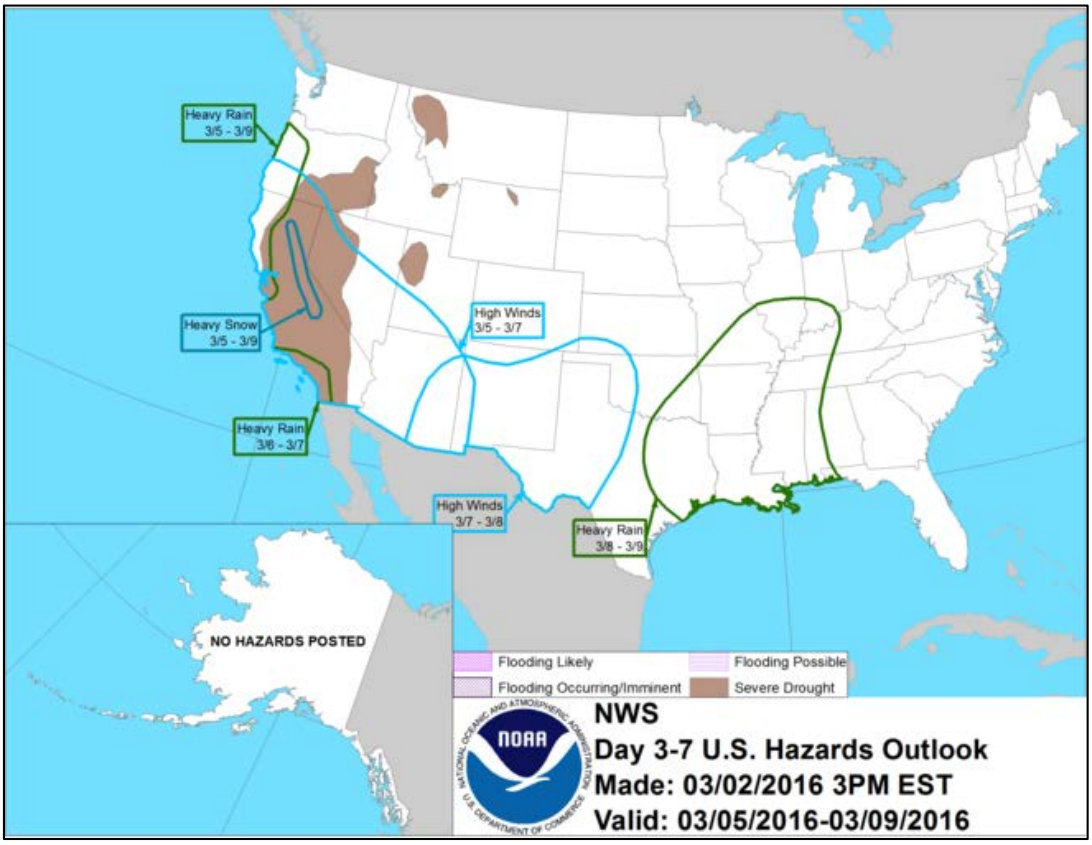
Short- and Long-Range Outlooks

Agricultural Weather Highlights

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

National Outlook, March 3, 2016: "For the remainder of today and early Friday, showers and thunderstorms will cross the Southeast. Farther north, a mix of rain and snow will spread from the lower Midwest into the southern Mid-Atlantic States. Later, a pair of storms will reach the Pacific Coast during the weekend. Five-day precipitation totals could reach 4 to 10 inches or more in parts of northern and central California and 2 to 4 inches in the Pacific Northwest. Generally light precipitation will fall across the remainder of the western U.S. By early next week, a complex weather system will begin to evolve across the nation's mid-section, leading to widespread precipitation and possibly severe thunderstorms. The NWS 6- to 10-day outlook for March 8 – 12 calls for warmer-than-normal weather from the Plains to the East Coast, while near- to below-normal temperatures will prevail in the West. Meanwhile, near- to above-normal precipitation will cover the entire country, with the greatest likelihood of wet weather expected in northern California, the Pacific Northwest, and the lower Mississippi Valley."

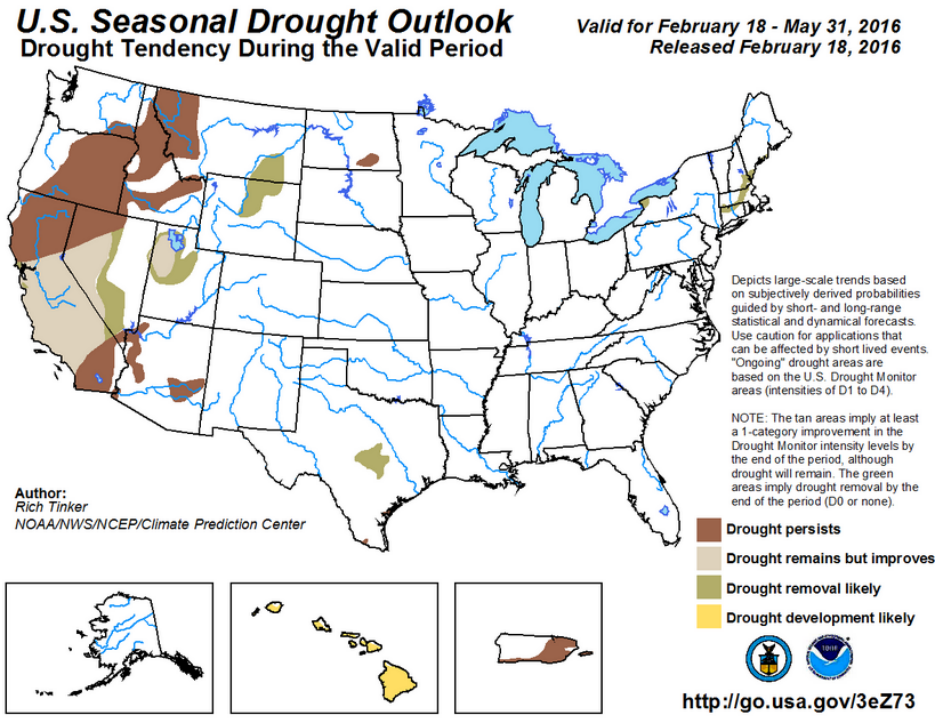
National Weather Hazards



The NWS Climate Prediction Center's outlook for **weather hazards** over the next week shows heavy rain over the southern Mississippi River Valley. High winds are expected across much of the Pacific coast, the Southwest, and the southern Plains this week. Heavy snow is expected in the Sierra Nevada, with heavy rain along most of the Pacific coast. The severe drought continues in parts of the West.

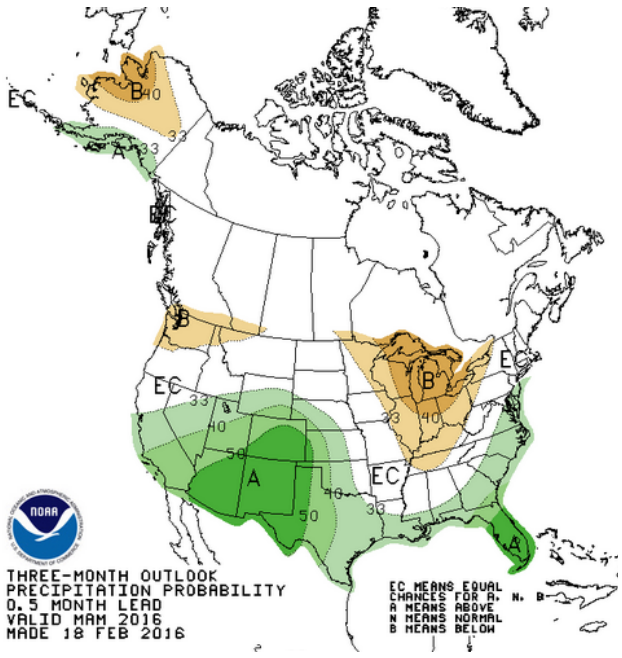
Seasonal Drought Outlook

During the next three months, **drought** will persist in Puerto Rico, the Northwest, and southern California. Drought may develop in Hawaii. Elsewhere, most drought designations are expected to improve or be removed.

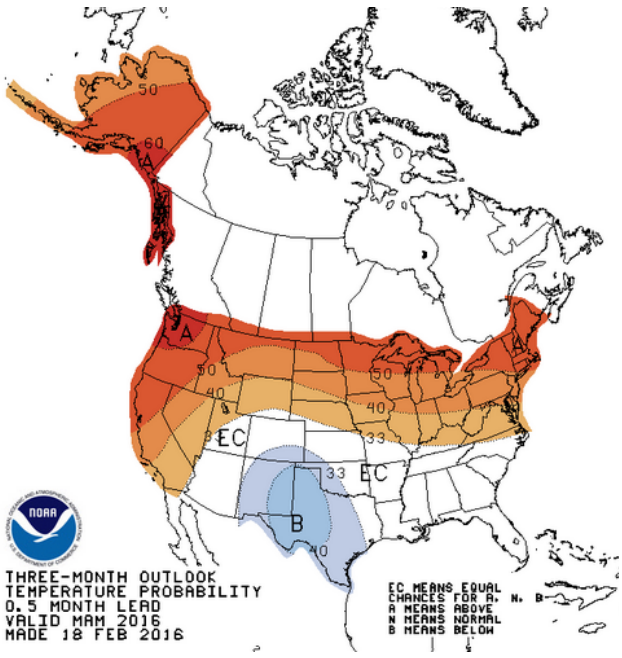


NWS Climate Prediction Center 3-Month Outlook

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**.