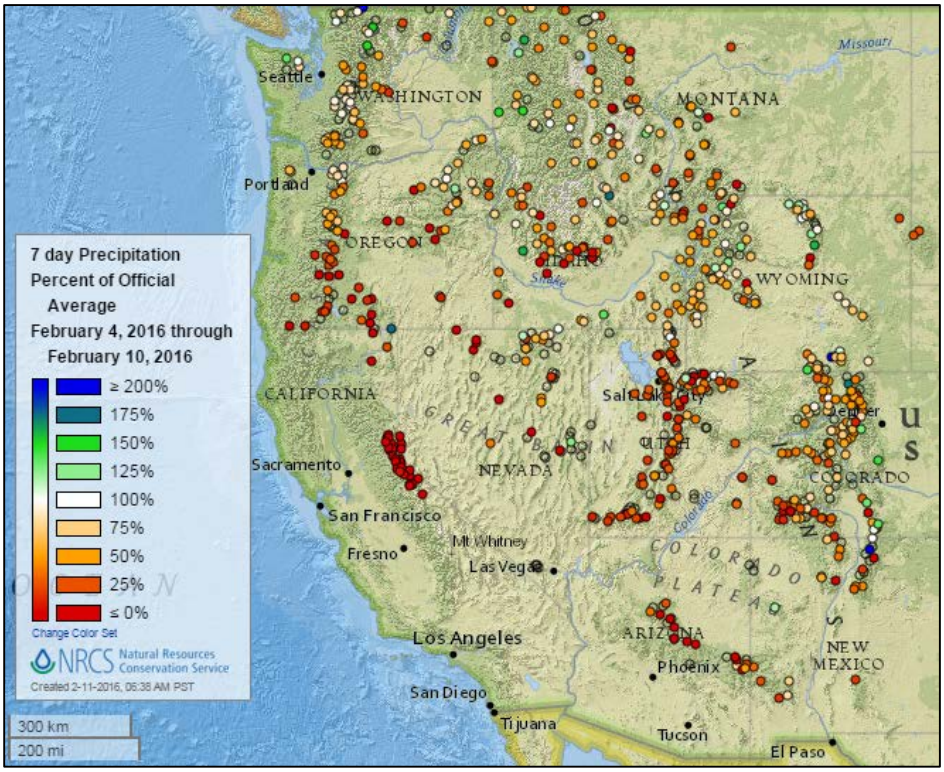
United States Department of Agriculture

Water and Climate Update

February 11, 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.

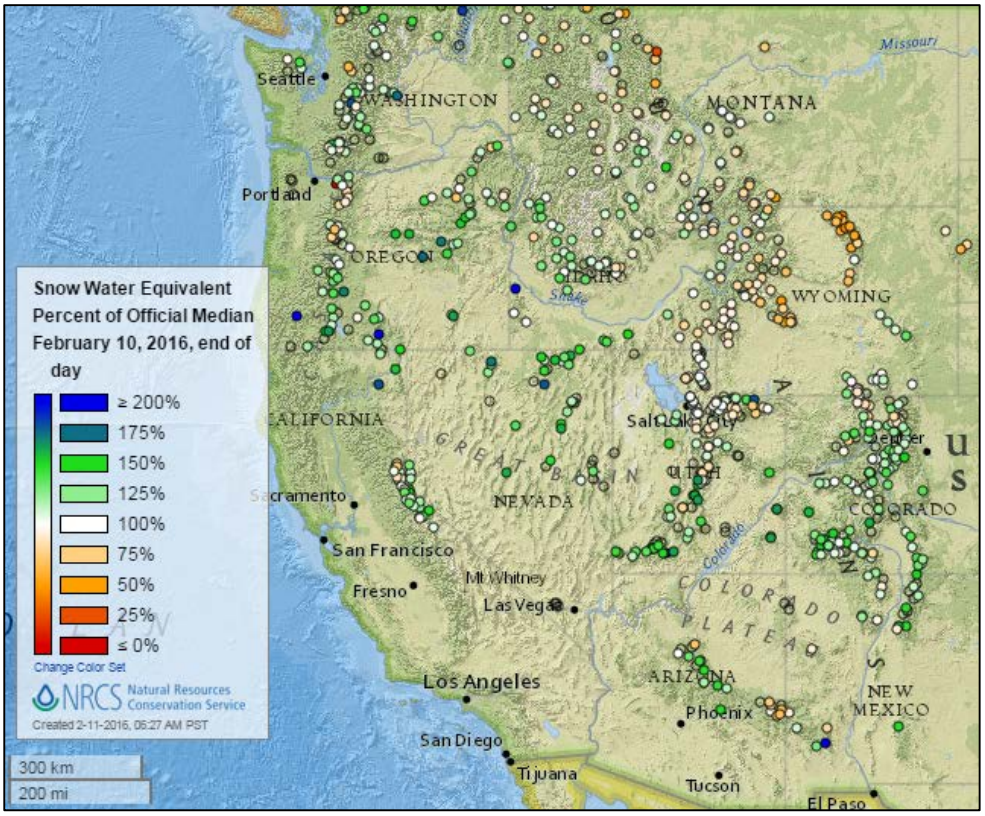
Weekly Highlight: A mostly dry week across the mountains of the West



The **7-day precipitation percent of average** map shows most stations had a dry week, which is very different from the previous weekly report when the West was primarily wet. The accompanying above normal warm temperatures prompted snowmelt across the region.

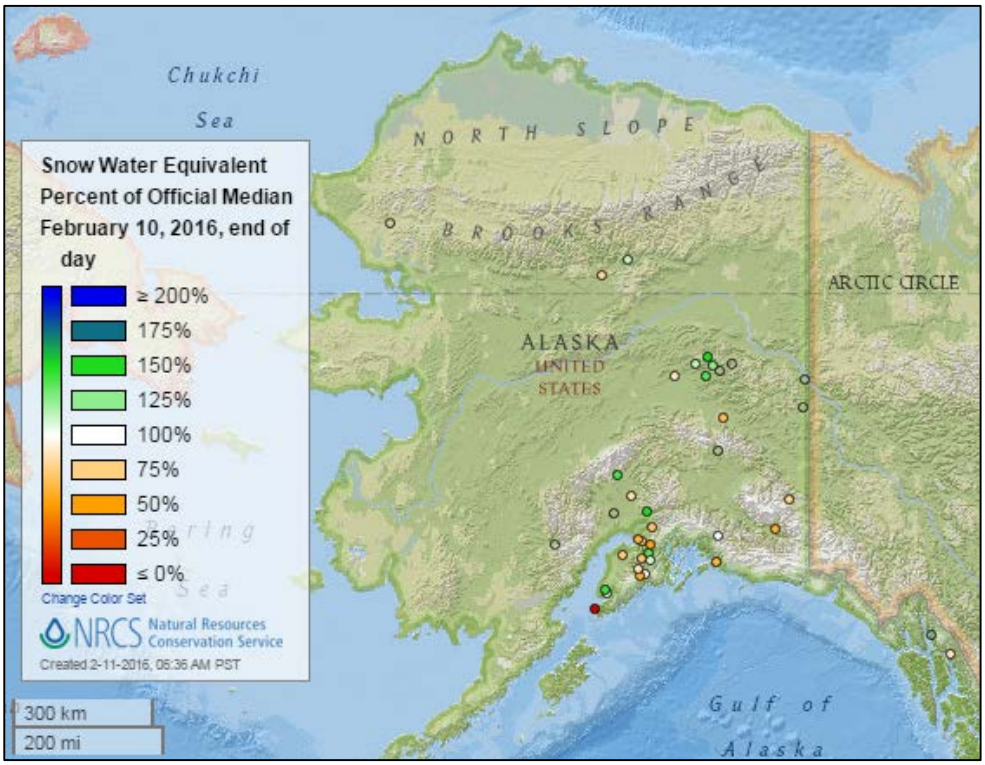
Snow

Current Snow Water Equivalent, NRCS SNOTEL Network



The current **snow water equivalent percent of median** map shows a reduction in percent of median at many stations in the West from a week ago. Many stations in the northern area of the West are near or below median. The highest percent of median continues to be across southern Oregon, northern California, Nevada, southern Utah, Colorado, Arizona, and New Mexico.

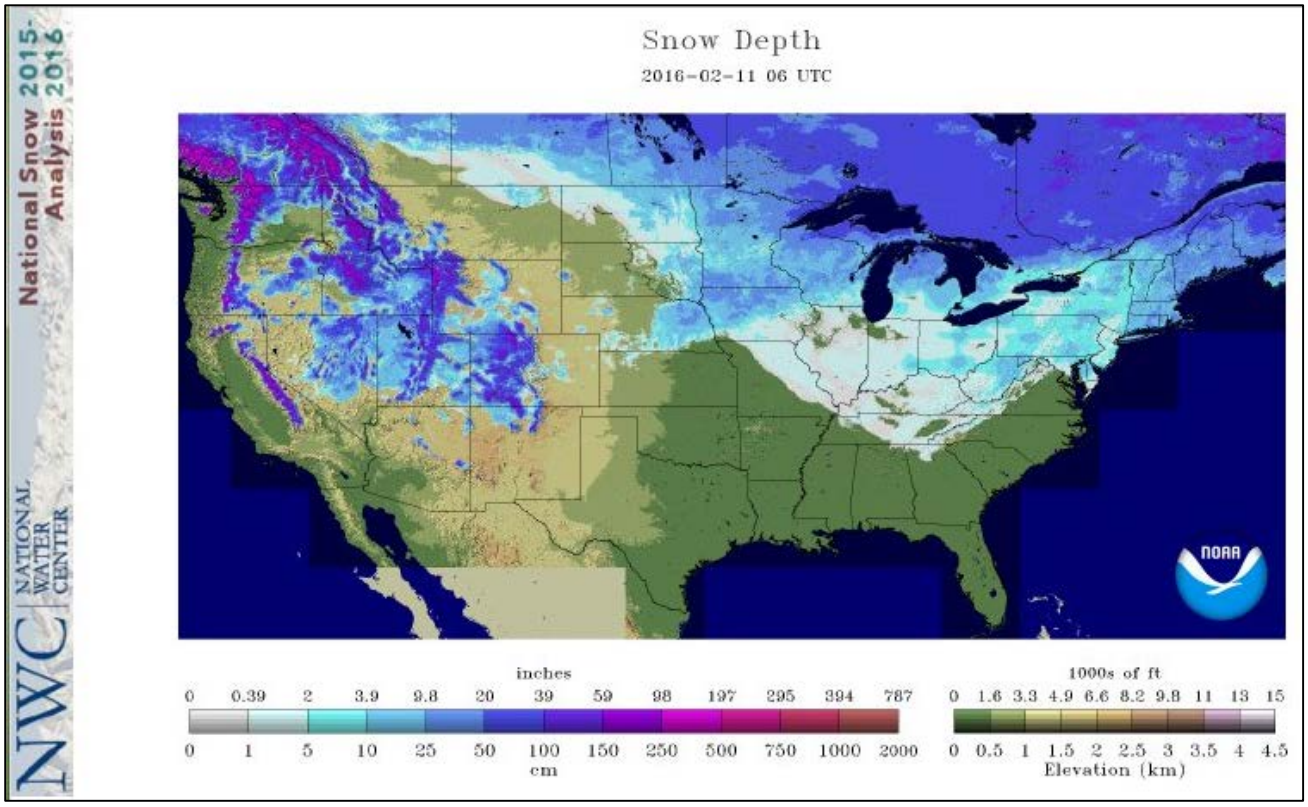
Current snow water equivalent values map



The current **snow water equivalent percent of median** map shows snowpacks in all regions mixed from above to below median across Alaska.

Alaska current snow water equivalent values map

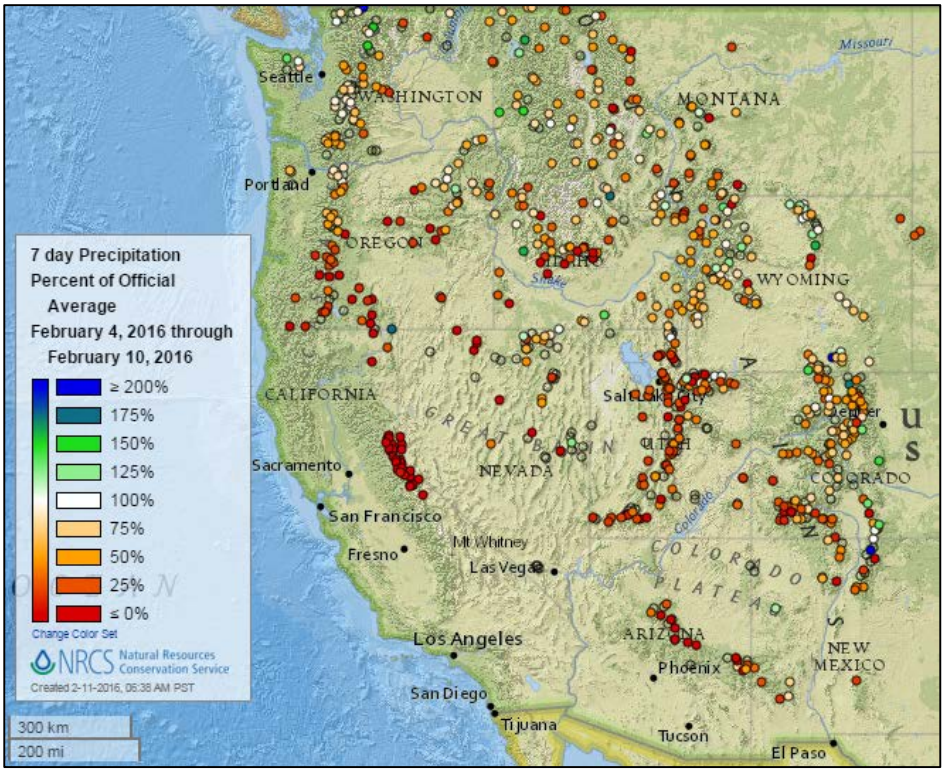
Current Snow Depth, National Weather Service (NWS) Networks



The NOAA National Operational Hydrologic Remote Sensing Center's current **snow depth** map shows new snow accumulation across much of the northern Plains, Midwest, and northern New England from a week ago. There was snowpack melt out across the western U.S. valleys, and the central and northern Plains. New snow fell in the central U.S., Ohio Valley, and the Northeast. Heavy snowpack continues across the mountainous West, and the northern U.S. from northern North Dakota through the Great Lakes to New England.

Precipitation

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

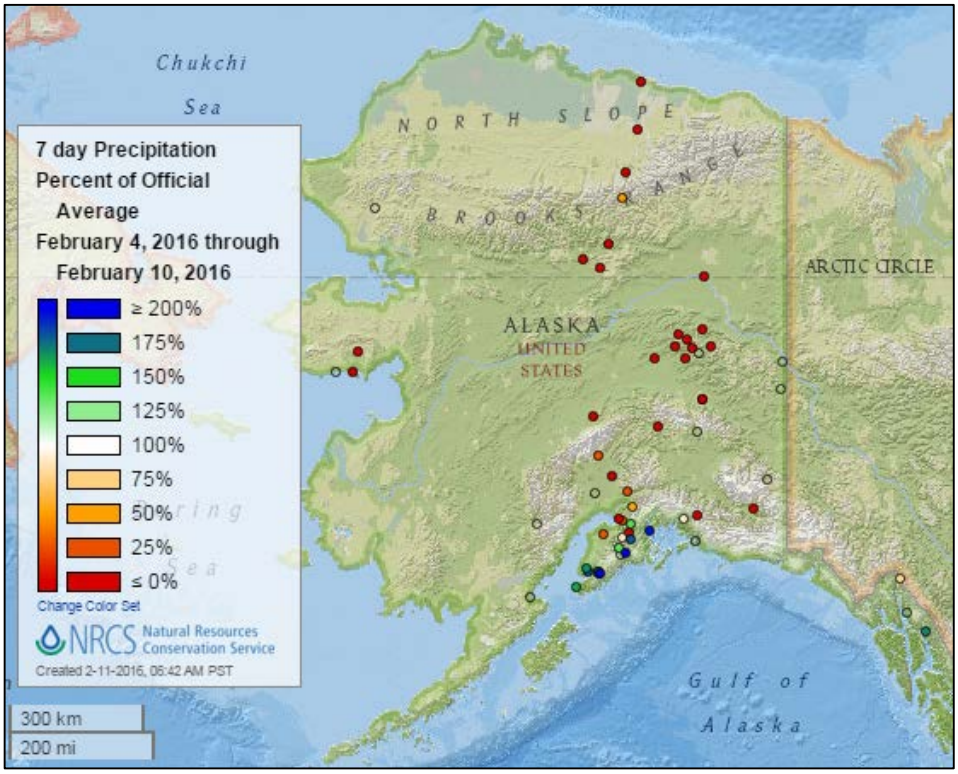


The **7-day precipitation percent of average** map shows a large difference in percent of average from the previous report when the West was primarily wet. This week, the West was very dry, with only a few stations in the Pacific Northwest and the Rockies receiving above average precipitation.

7-day total precipitation map

The **Alaska 7-day precipitation percent of average** map shows primarily a dry week across the state. In contrast, a few stations along the coast had above average to over 200% of normal for the week.

Alaska 7-day total precipitation map

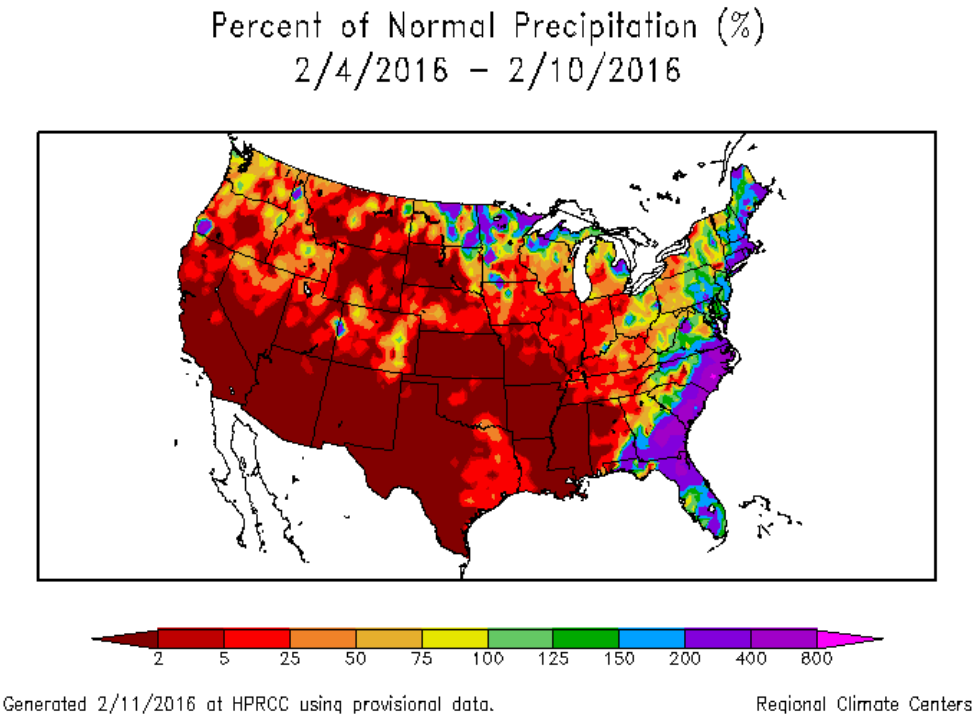


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

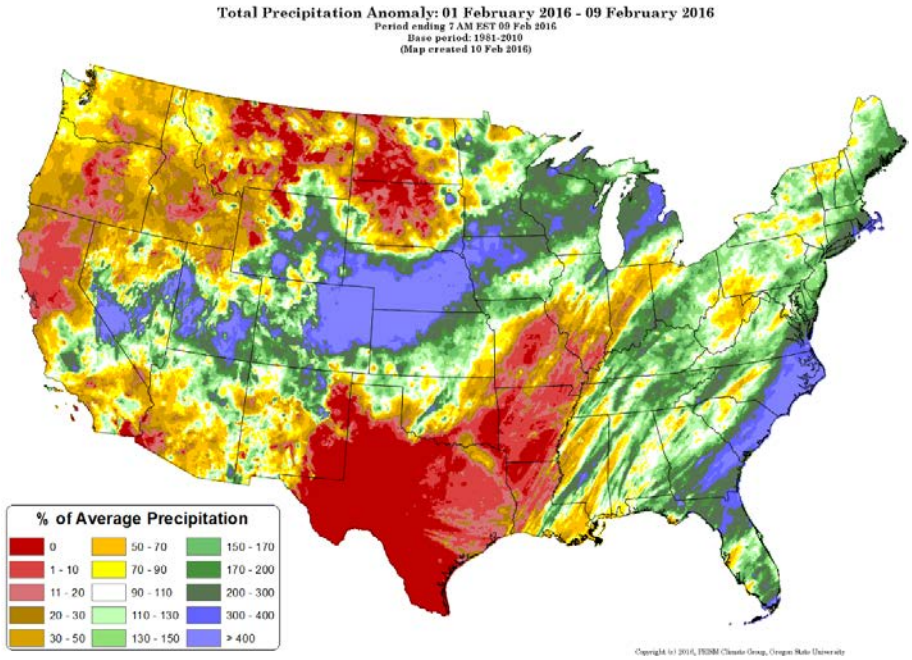
The [7-day percent of normal precipitation] map for the continental U.S. shows well above average precipitation in the north central part of the country and along the eastern seaboard. A majority of the U.S. had a dry week.

[7-day total precipitation map]



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

Source: PRISM



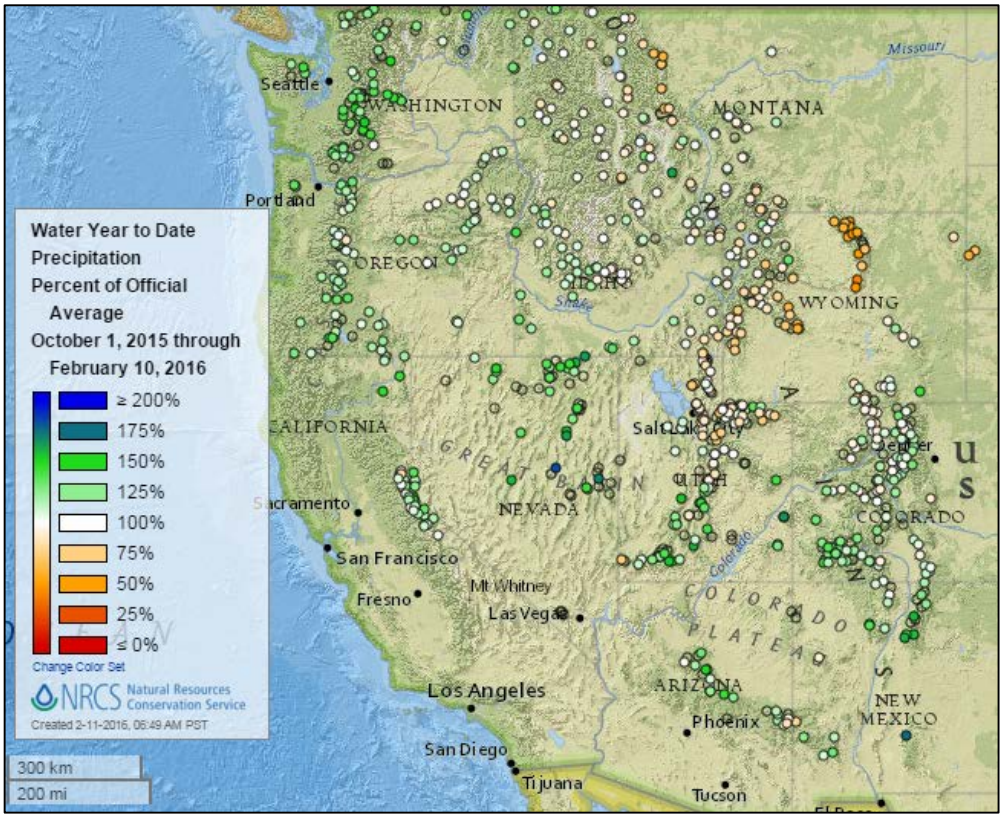
The February national [month-to-date precipitation percent of average] map shows much of the central and eastern U.S. had well above normal precipitation. The south central U.S., northern Plains, and much of the West have been drier than normal for the month.

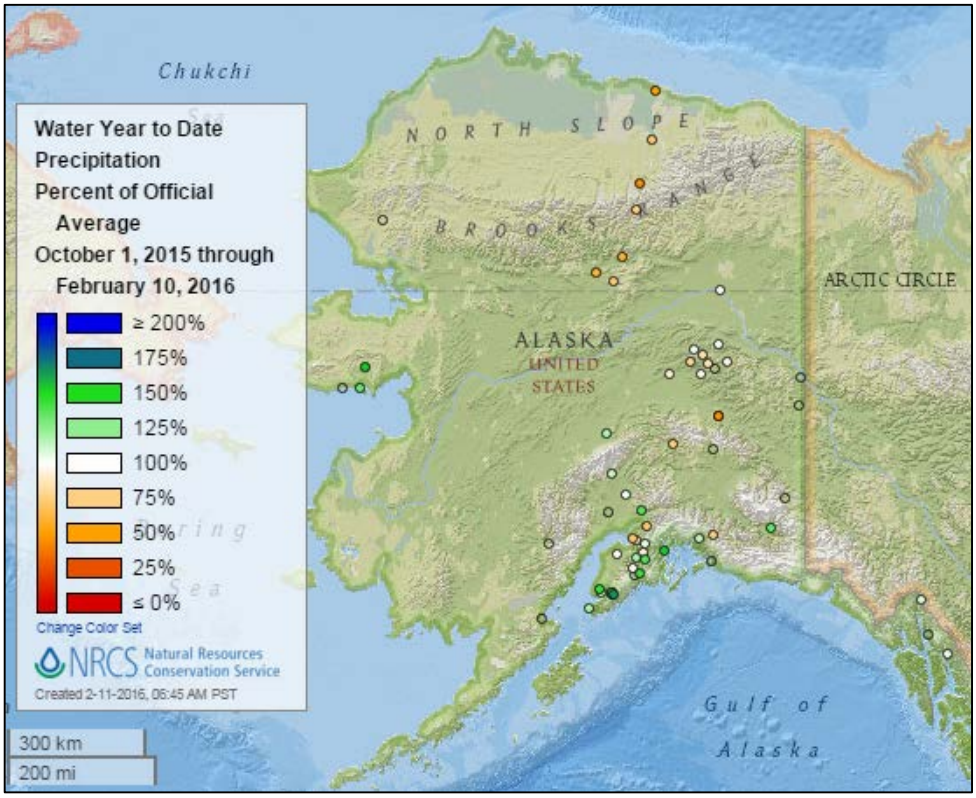
[Month-to-date total precipitation map]

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 northern Rockies and Big Horn Mountains of Wyoming.

2016 water year-to-date total precipitation map





The **Alaska 2016 water year-to-date precipitation percent of average** map shows a gradation of dry to average from the north to much of the Interior, and near normal or above along the coast.

Alaska 2016 water year-to-date total precipitation map

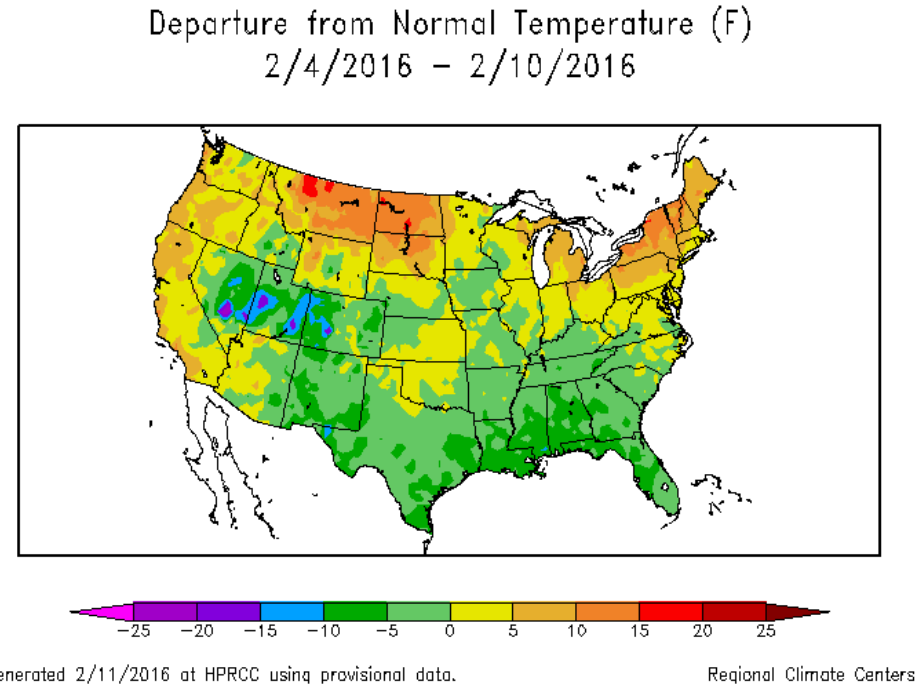
Temperature

Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

The **7-day temperature anomalies** map shows temperatures have moderated from a week ago. There were warmer than normal temperatures in the northern Rockies and northern Plains, along the Pacific coast, the Great Lakes area, and the Northeast. Cooler than normal temperatures were reported across the central West to the Southeast.

7-day temperature map

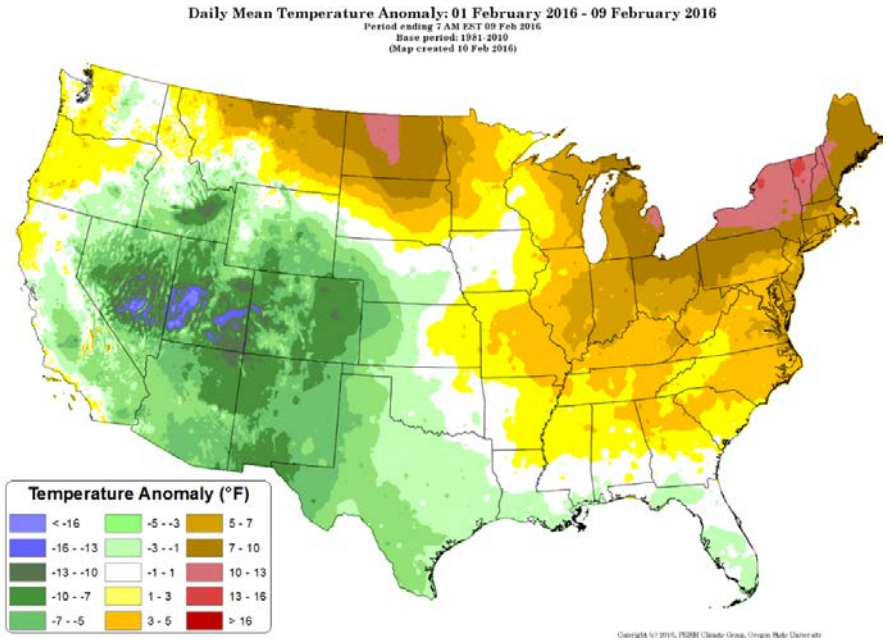


Month-to-Date, All Available Data Including SNOTEL and NWS Networks

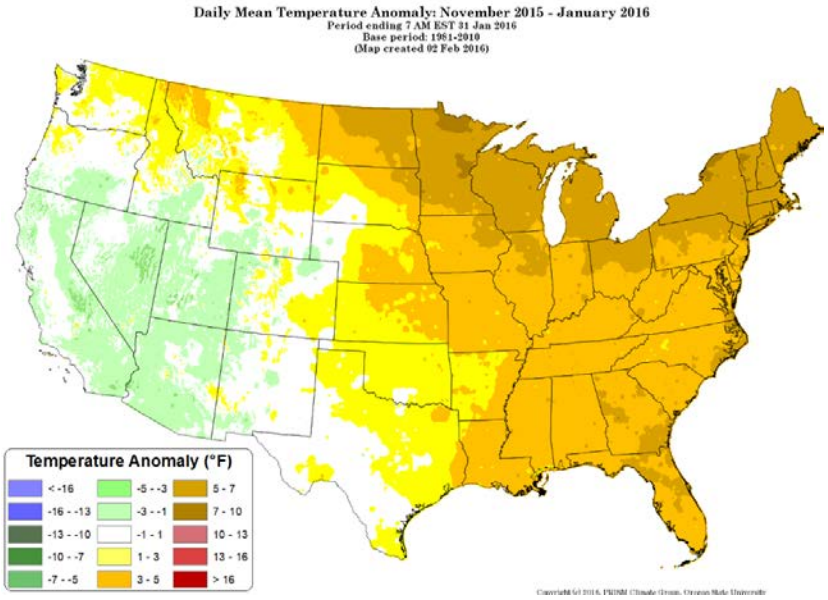
Source: PRISM

The **month-to-date daily mean temperature anomaly** map for the continental U.S. shows continued warm temperatures across the Northern tier states from a week ago. The coolest temperatures are centered in Nevada and Utah, but cover much of the central and southern West.

Month-to-date daily mean temperature map



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

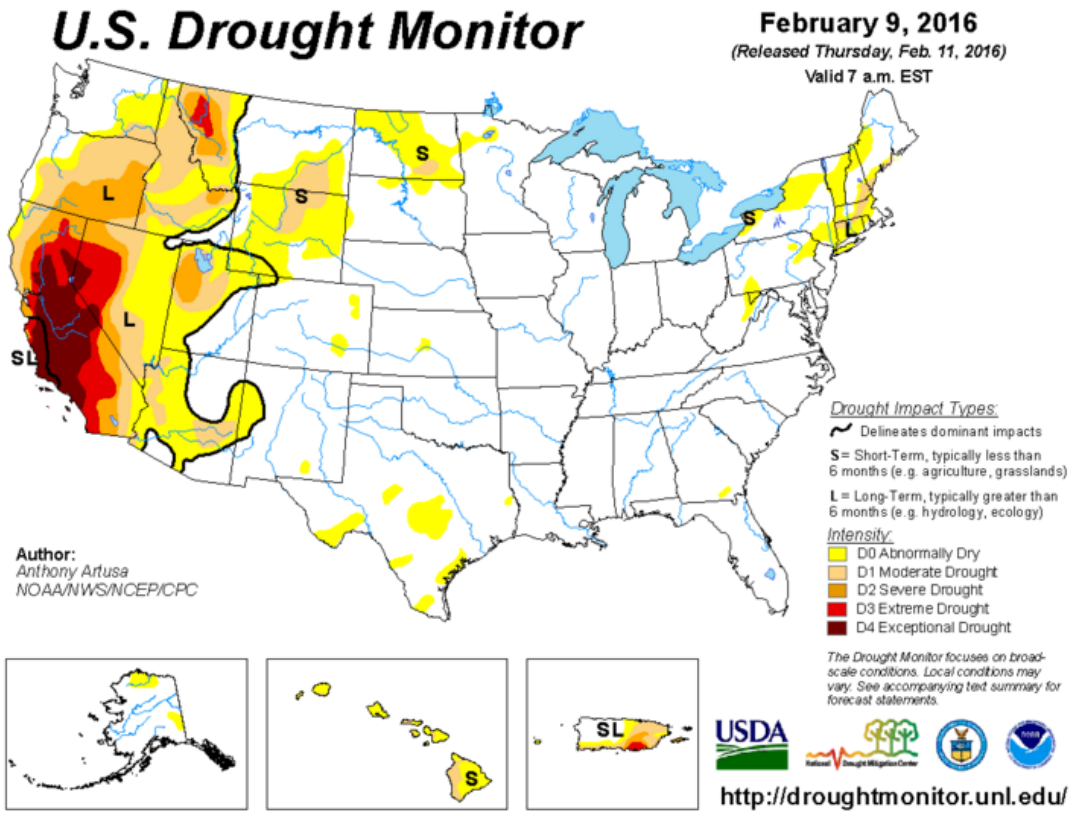


The November through January national **daily mean temperature anomaly** map shows most of the country was warmer than normal. The warmest areas were across the northern tier states from North Dakota to New England. The West was near normal to slightly cooler than normal. The coolest anomalies occurred in California and Nevada, though this was just slightly cooler than normal.

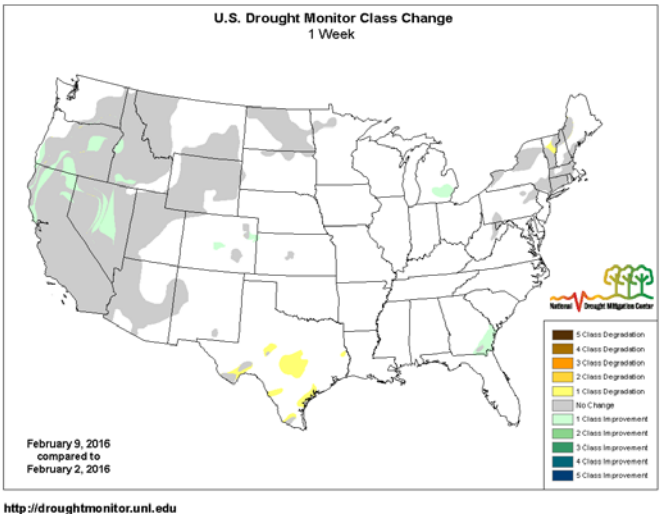
Drought

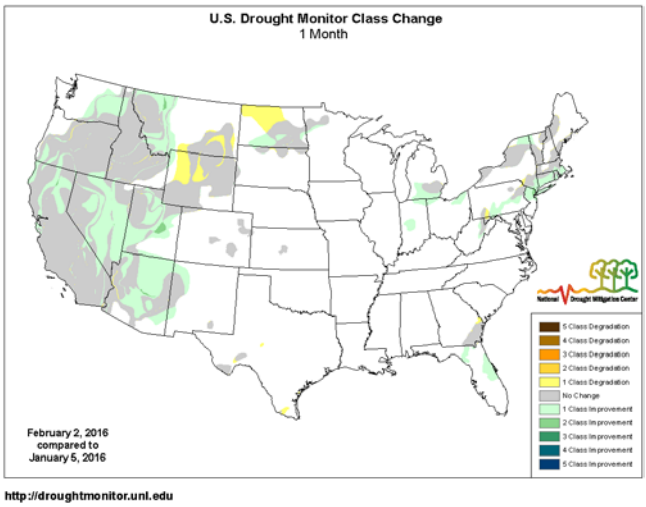
U.S. Drought Portal Comprehensive drought resource.

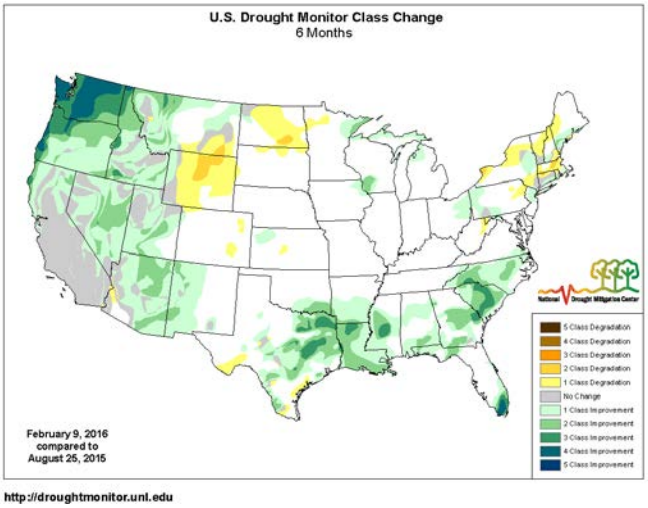
U.S. Drought Monitor See map below. Drought conditions continue in the western states, including the exceptional drought in California and Nevada.

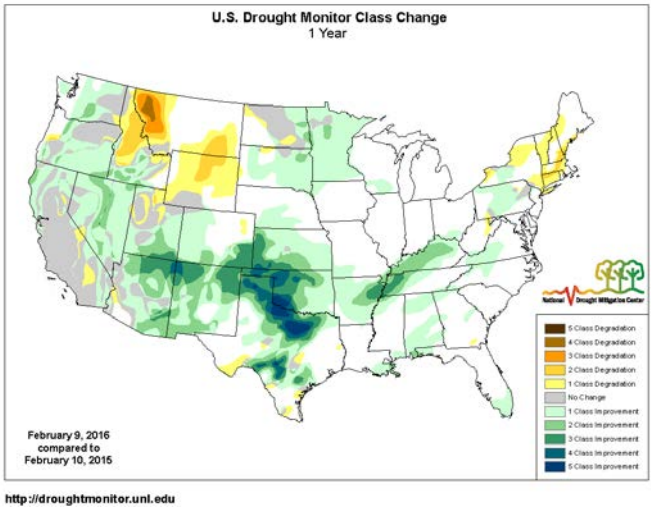


Changes in Drought Monitor Categories over Time









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, February 9, 2016

Author: Anthony Artusa, National Drought Mitigation Center

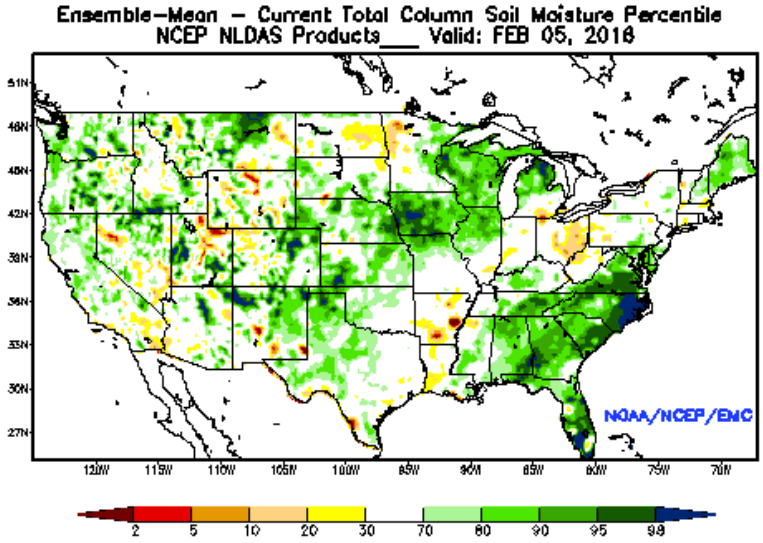
"From February 2-3, a major low pressure system moved from the central Great Plains northeastward across the Great Lakes region and southern Ontario, accompanied by a variety of hazardous weather conditions to the central and eastern contiguous U.S. These hazards included heavy snowfall and blizzard conditions generally to areas north and west of the storm track, and severe weather to the Southeast. Straight-line and tornadic winds were responsible for most of the severe weather damage. Over the weekend, an area of low pressure developed off the Southeast Coast, accompanied by heavy rain over coastal areas, including most of Florida. This ocean storm tracked to the northeast, well off the Atlantic Coast, bringing heavy snow (generally 6-12 inches) to New England and eastern Long Island, NY. Some locations on Cape Cod also experienced high winds and blizzard conditions, with preliminary reports indicating peak wind gusts near 65 mph in Nantucket."

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

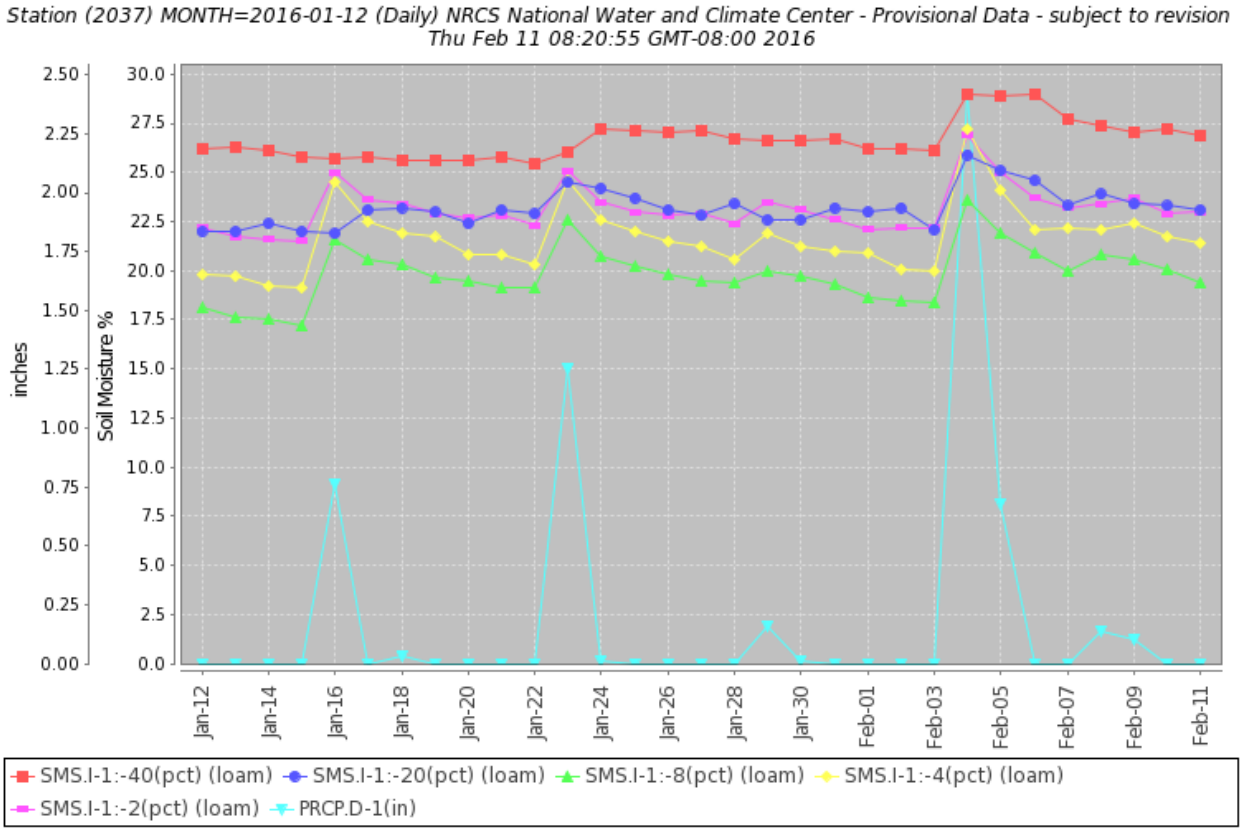
Soil Moisture



The modeled **soil moisture percentiles** as of February 5, 2016 show primarily above average conditions throughout the country. The Southeast has the largest contiguous area of wet soil conditions. 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.

University of Washington Experimental Modeled Soil Moisture

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



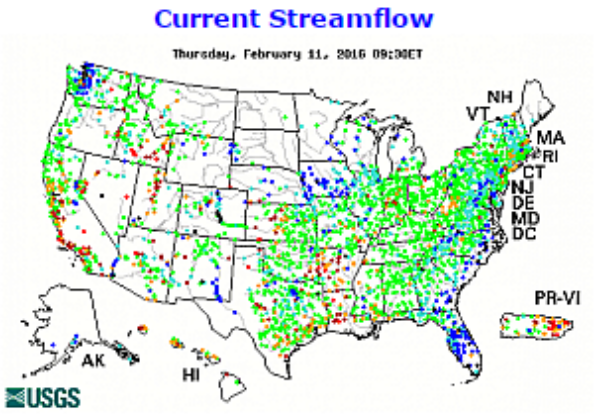
This graph shows soil moisture (at 2-, 4-, 8-, 20-, and 40-inch depths) and precipitation for the past 30 days at the Pee Dee SCAN Site #2037 in South Carolina. The series of precipitation events in the past 30 days shows soil moisture increases at all sensor depths.

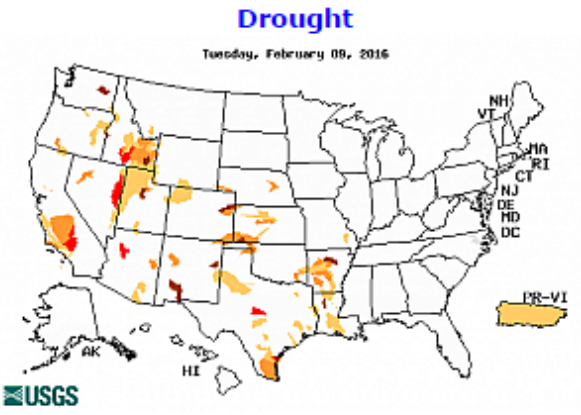
Soil Moisture Data Portals

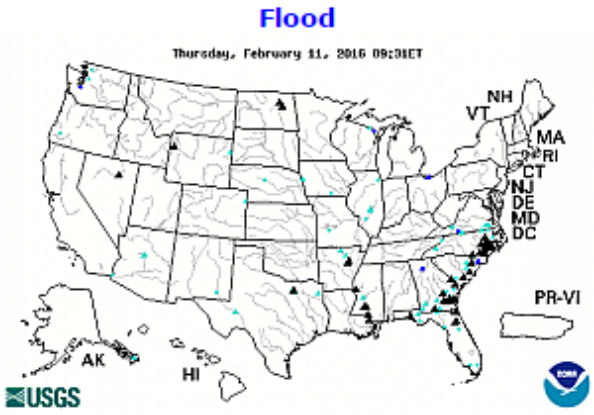
CRN Soil Moisture
Texas A&M University North American Soil Moisture Database

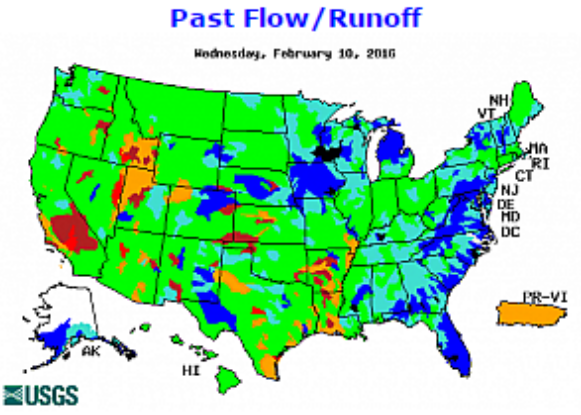
Streamflow

Source: USGS









Streamflow map shows a decline of the number of stations reporting above flood stage conditions in the Southeast. Many gages across the U.S. 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

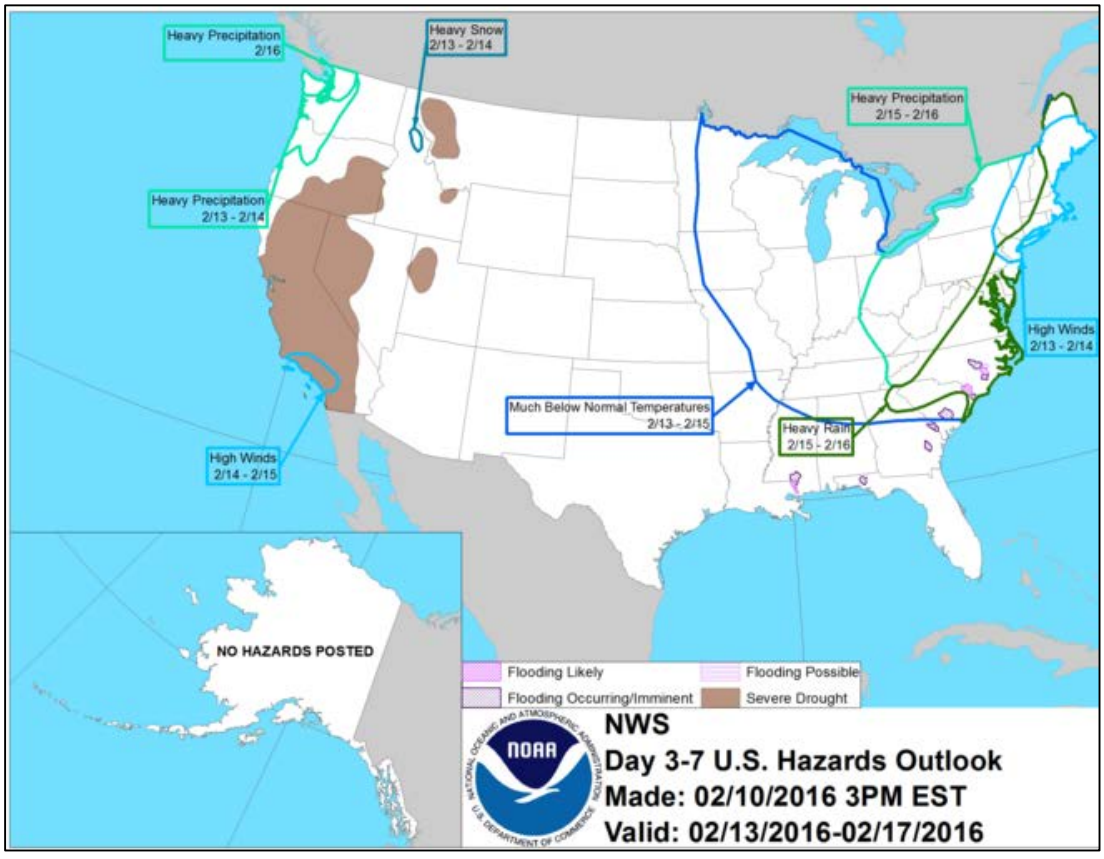
Short- and Long-Range Outlooks

Agricultural Weather Highlights

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

National Outlook, February 11, 2016: "Some of the coldest air of the season will arrive across the upper Midwest on Friday and surge across the Corn Belt and Northeast by Saturday. On Saturday morning, temperatures below -20°F can be expected in parts of the upper Midwest. The following day, temperatures could fall to near 0°F as far south as the Ohio Valley, where only a shallow snow cover exists to help insulate winter wheat. Meanwhile, precipitation will return to the Northwest; 5-day totals could reach 1 to 3 inches in the northern Rockies and 4 to 8 inches in western Washington. In contrast, dry weather will prevail from California to the central and southern High Plains. Early next week, wintry precipitation should return to several regions, including the northern Plains, Midwest, and Northeast. The NWS 6- to 10-day outlook for February 16 – 20 calls for the likelihood of above-normal temperatures nationwide, except for cooler-than-normal conditions in the southern Atlantic region. Meanwhile, below-normal precipitation in roughly the southern half of the U.S. will contrast with wetter-than-normal weather across the Northern and Mid-Atlantic States."

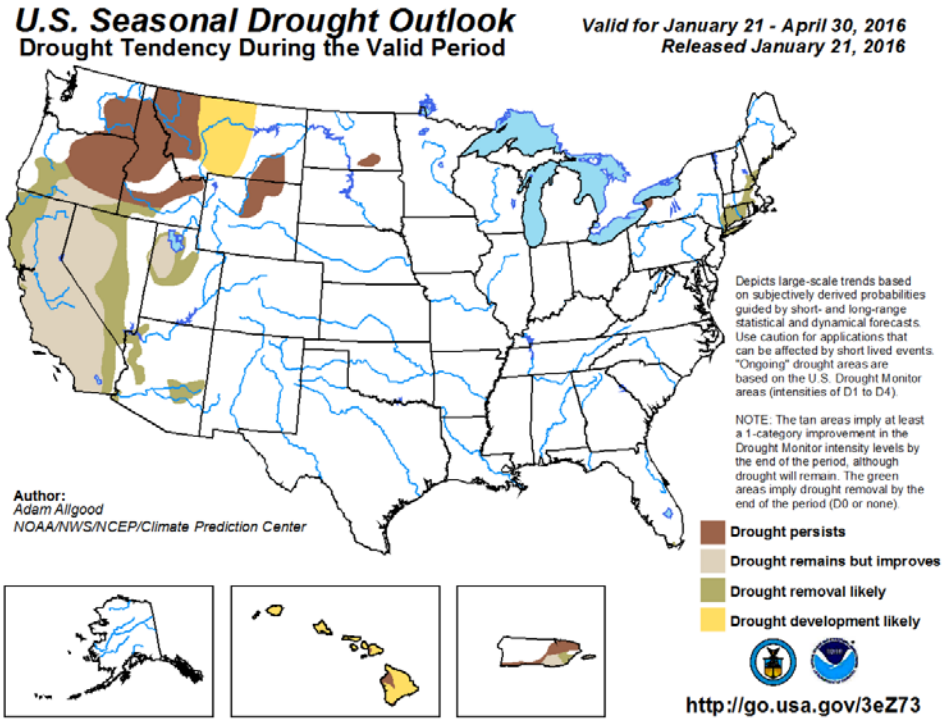
National Weather Hazards



The NWS Climate Prediction Center's outlook for **weather hazards** over the next week show much below normal temperatures will cover much of the central and eastern U.S. Accompanying high winds and heavy precipitation will blanket much of the East and Northeast. A heavy snow pocket is expected in northern Idaho. Heavy precipitation is expected to start in the northern California coast and move to the Olympics and Cascades in Washington. High winds are expected in southern California. Severe drought conditions remain across parts of the West.

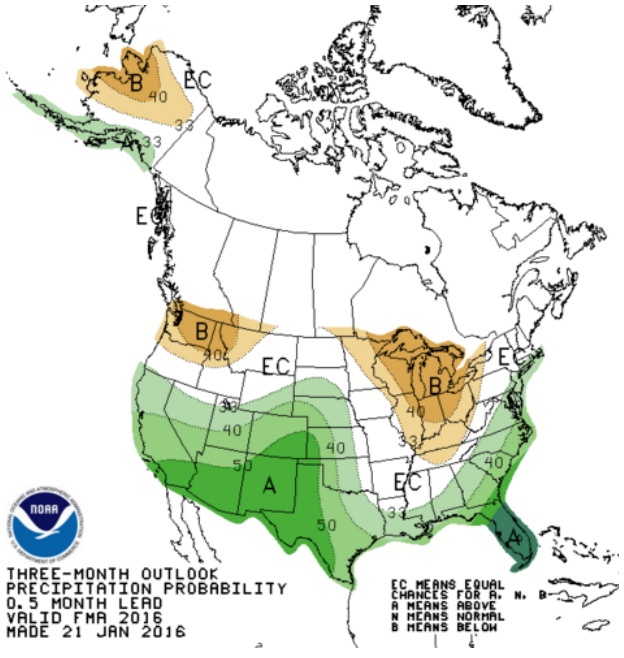
Seasonal Drought Outlook

During the next three months, **drought** will persist in Puerto Rico, the Northwest, and may develop in eastern Montana and in Hawaii. Elsewhere, most drought designations are expected to improve.

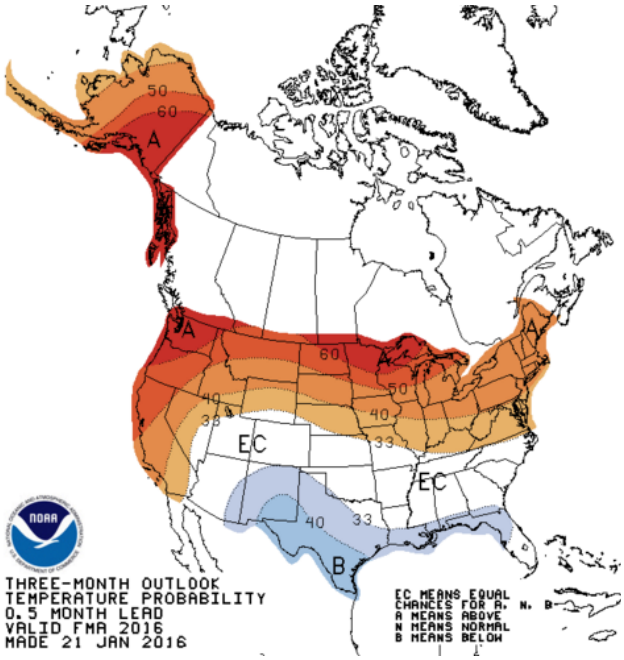


NWS Climate Prediction Center 3-Month Outlook

Precipitation



Temperature



Outlook Summary

NWS Climate Prediction Center:

The February-March-April (FMA) 2016 precipitation outlook: "The FMA 2016 precipitation outlook through the early spring continues to favor a pattern that is typically associated with El Niño. Enhanced odds for above-median precipitation are forecast across California, the Southwest, central/southern Great Plains, Gulf Coast states, and parts of the east coast. The highest probabilities (above 60 percent) for above-median precipitation are forecast across the Florida peninsula for FMA 2016 which typically has the strongest wet signal during El Niño. Compared to last month's outlook for FMA 2016, odds for above-median precipitation are slightly decreased over northern California and slightly increased over the central plains and Florida, where model guidance has the strongest signal and where the response to El Niño is the strongest. Below-median precipitation is favored through the early spring across the northern Rockies, parts of the northern Great Plains, Great Lakes, and the Ohio Valley. The dry signal in the Ohio Valley is slightly reduced in coverage due to the record tying strength of the ongoing El Niño event. This dry signal slowly weakens with time through late spring and early summer."

The February-March-April (FMA) 2016 temperature outlook: "The early lead (FMA through AMJ) temperature outlooks are changed very little as they rely heavily on the low-frequency ENSO response, evident among all the current dynamical and statistical guidance. Statistical guidance is generally colder than the dynamical guidance across the southeast, where a very slight shift toward colder temperatures is indicated near the gulf coast. Dynamical guidance is warmer across much of North America when compared to last month. All temperature tools continue to strongly favor above-normal temperatures across the northern half of the continental U.S. through the early spring, which is consistent with a strong El Niño. Also, above-normal SSTs along the west coast contribute to the enhanced odds for above-normal temperatures in early leads. Below-normal temperatures favored for the southern high plains during the 2016 spring are partly related to the expectation of abnormally moist topsoil at that lead time."

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**.