



Water and Climate Update

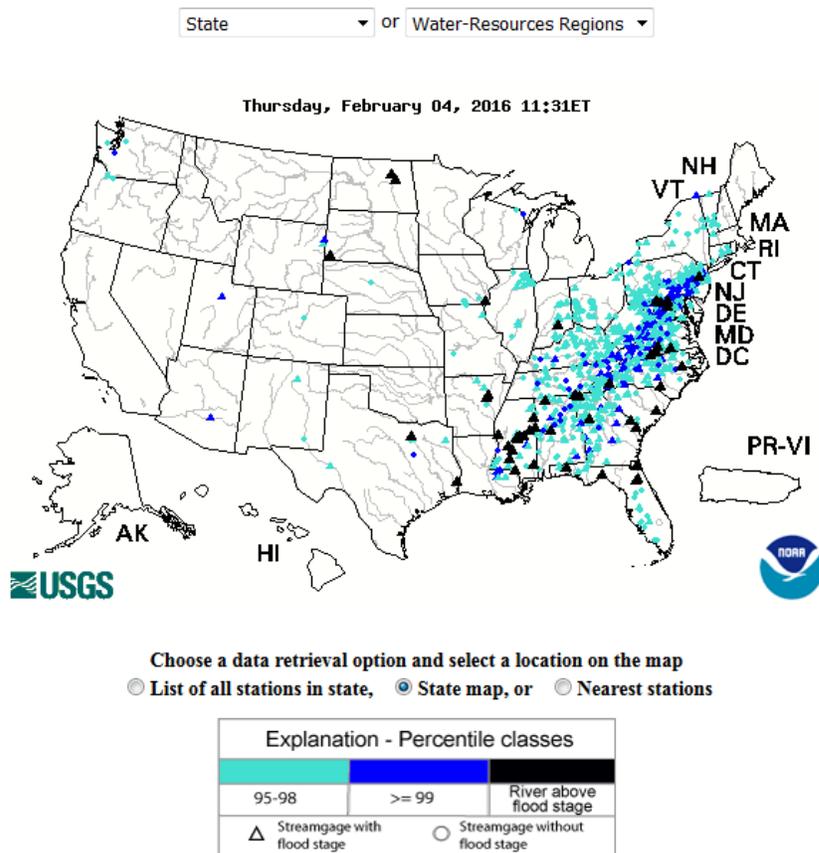
February 4, 2016

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.

Snow.....	2	Drought.....	8
Precipitation.....	4	Other Climatic and Water Supply Indicators.....	10
Temperature.....	7	Short- and Long-Range Outlooks.....	13

Weekly Highlight: Rain, snow, and warm temperatures prompt high streamflow in the eastern U.S.

Map of flood and high flow condition (United States)



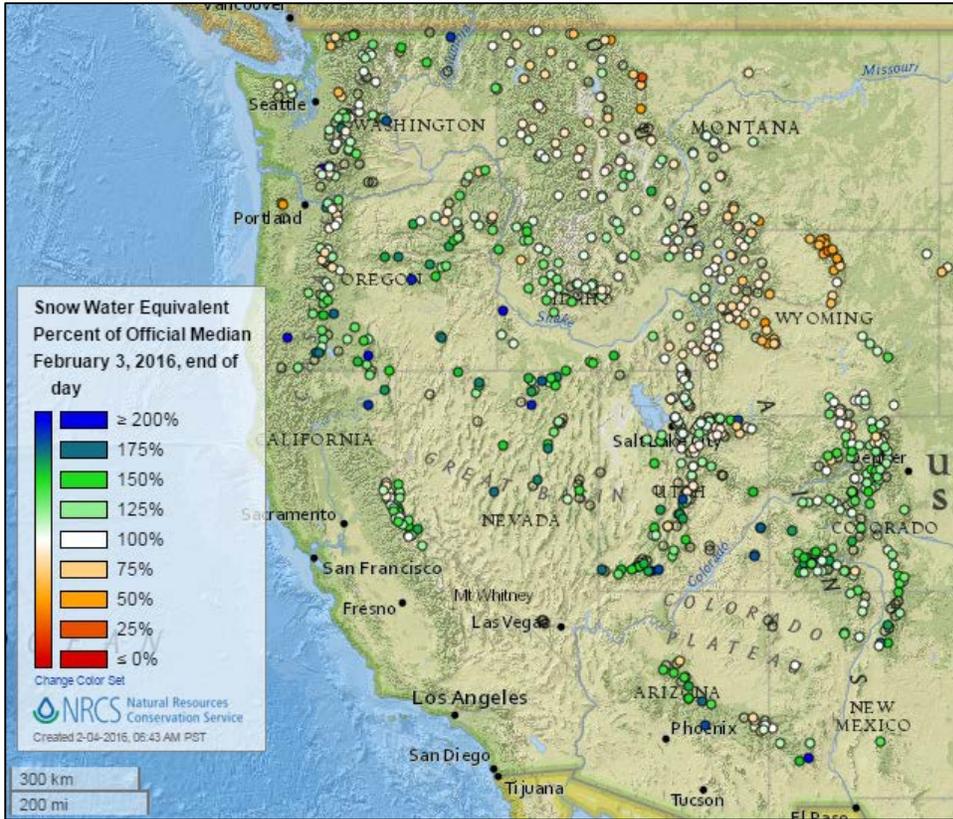
Recent heavy precipitation and warm temperatures contributed to high [streamflow](#) and some flooding across the eastern U.S. Refer to page 12 for more information about streamflow conditions across the country.

NEWS:

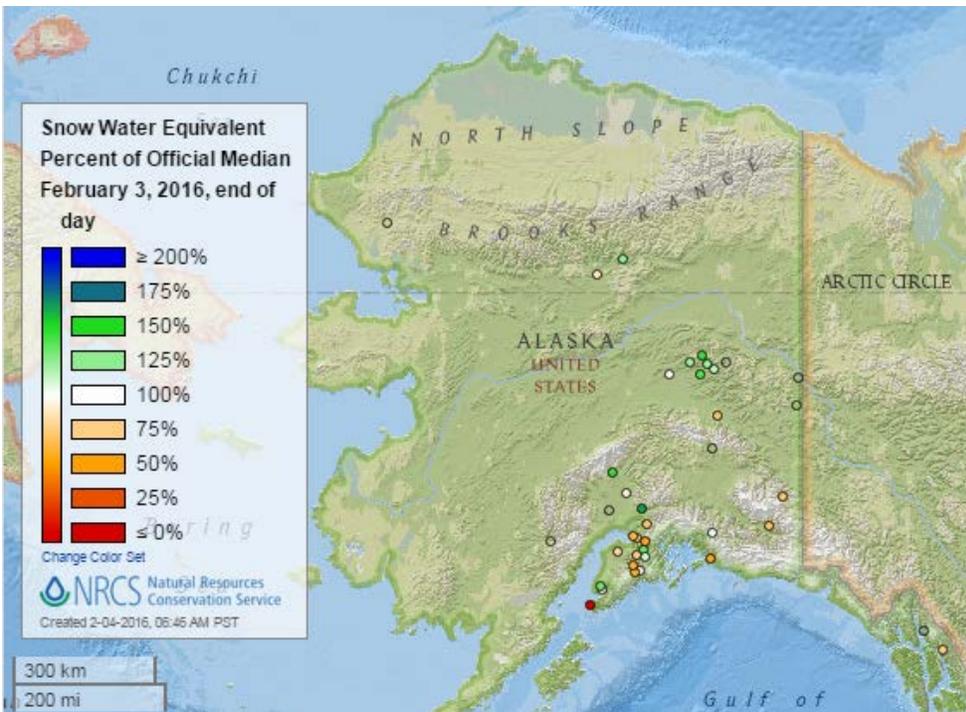
[The Great Northeast Snow Meltdown: From Winter Storm Jonas to Bare Ground In Less Than Two Weeks](#)

Snow

Current Snow Water Equivalent, NRCS SNOTEL Network

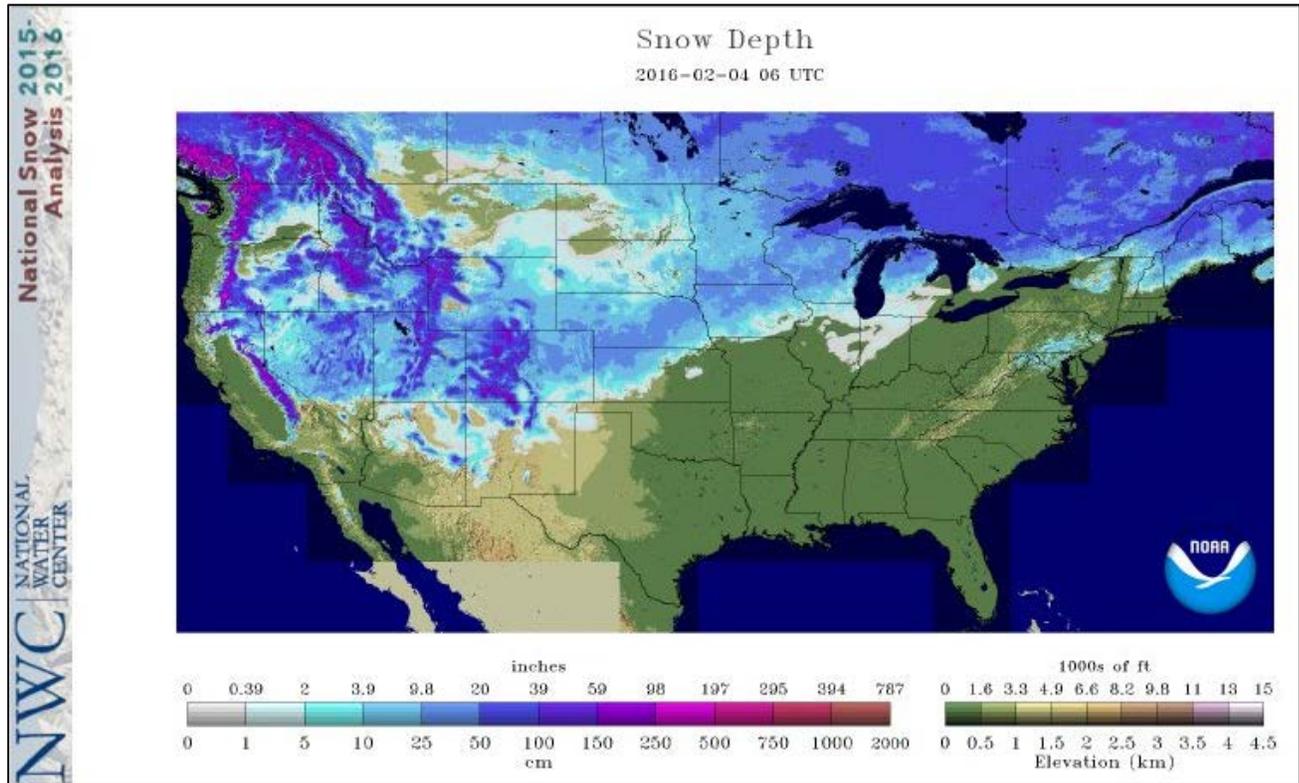


The current [snow water equivalent percent of median](#) map shows stations in Montana, northern Idaho, and Wyoming at median or below. The remainder of the West is primarily at median or above, with some areas above 150% of median at this time. SWE has increased at some stations in Utah and Colorado from a week ago.



The current [snow water equivalent percent of median](#) map for Alaska stations have snowpacks near or above median in the Interior and at or below median in the south.

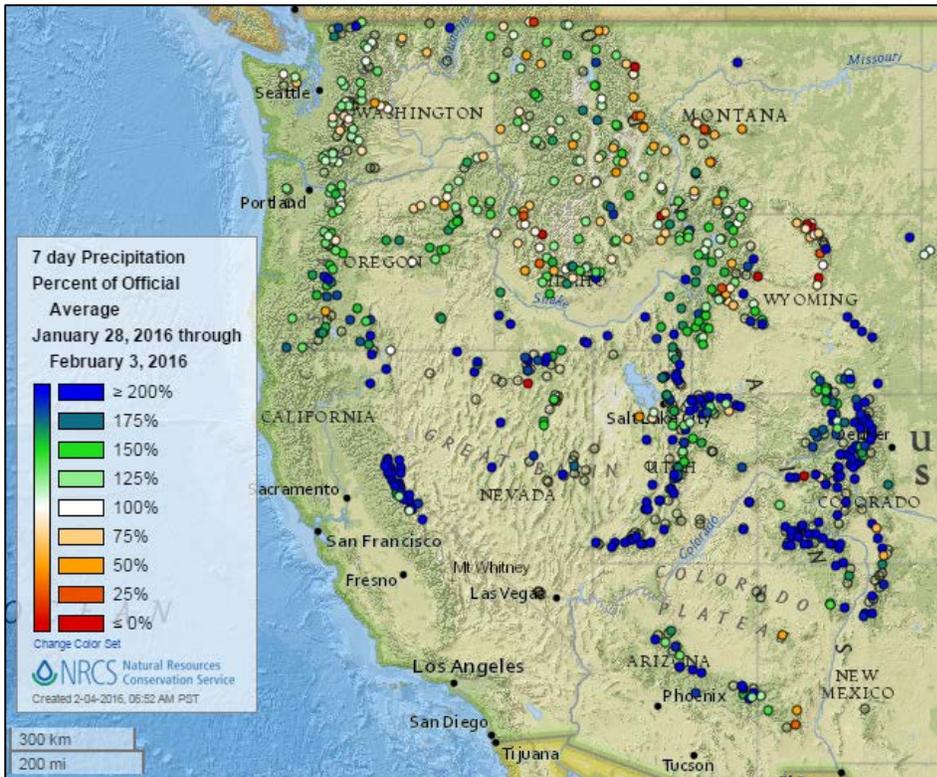
Current Snow Depth, National Weather Service (NWS) Networks



The NOAA National Water Center's current [snow depth](#) map shows snow accumulation across much of the northern Plains, Midwest, and northern New England. Significant snow fell in the central Plains, which was bare of snow last week. The western mountains and some valley areas have deep snowpacks at this time. Snow also lingers in the Mid-Atlantic states from the record snowfall in the area, although the snow in the southern Appalachian Mountains has melted off at this time.

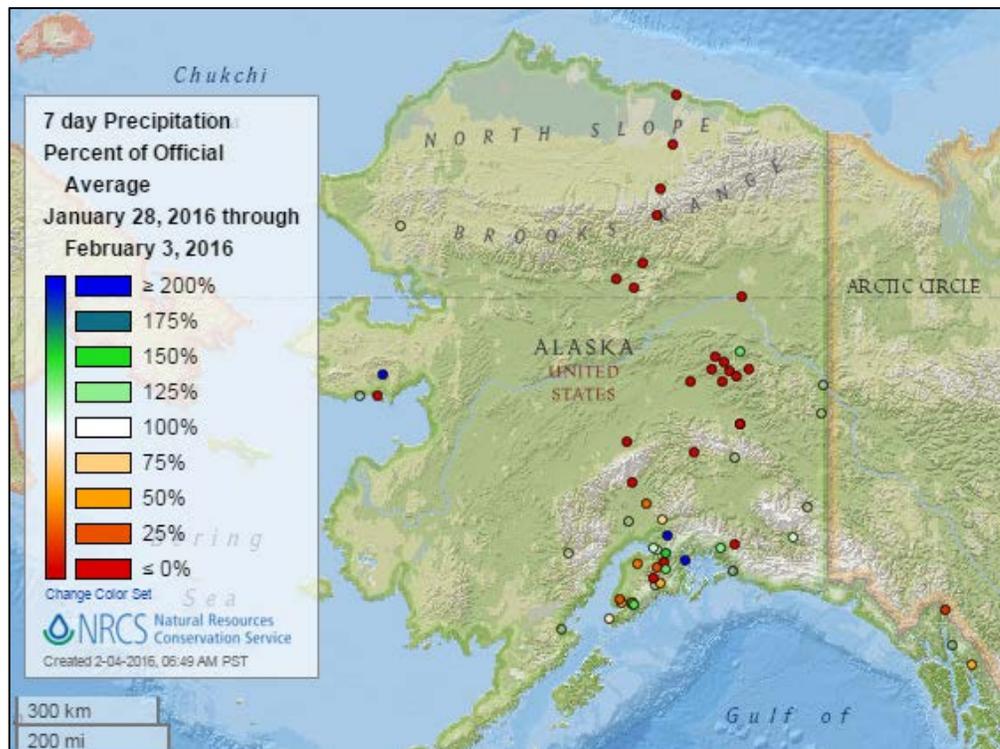
Precipitation

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 dry. This week, the southern part of the region had many stations reporting above 200% of average precipitation. While the northern areas of the West reported a mix of below and above average precipitation, a dry week was reported at some stations in Idaho, Montana, and Wyoming.

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.

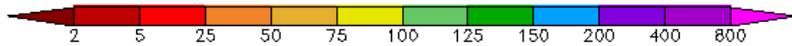
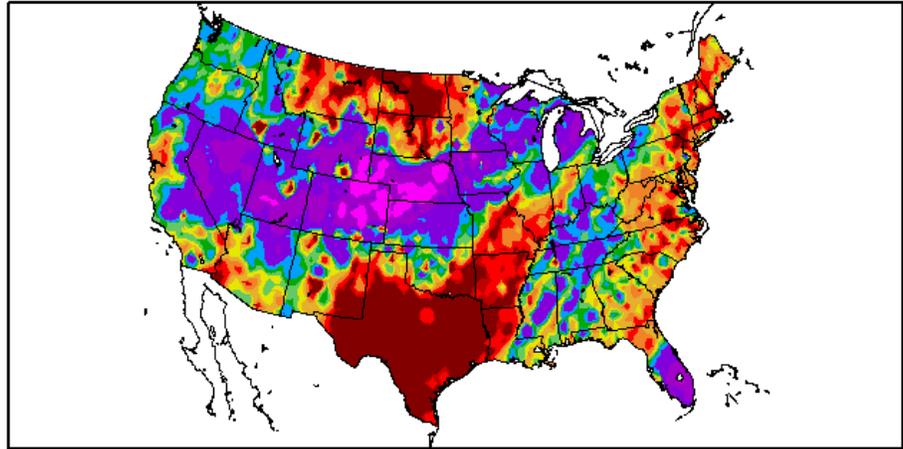


Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

Percent of Normal Precipitation (%)
1/28/2016 - 2/3/2016

The [7-day percent of normal precipitation](#) map for the continental U.S. shows well above average precipitation from parts of California through the central Plains into the Great Lakes area. Central and southern Florida also had an above normal week. In contrast, Texas and the northern Plains were dry.



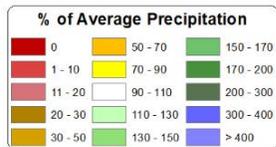
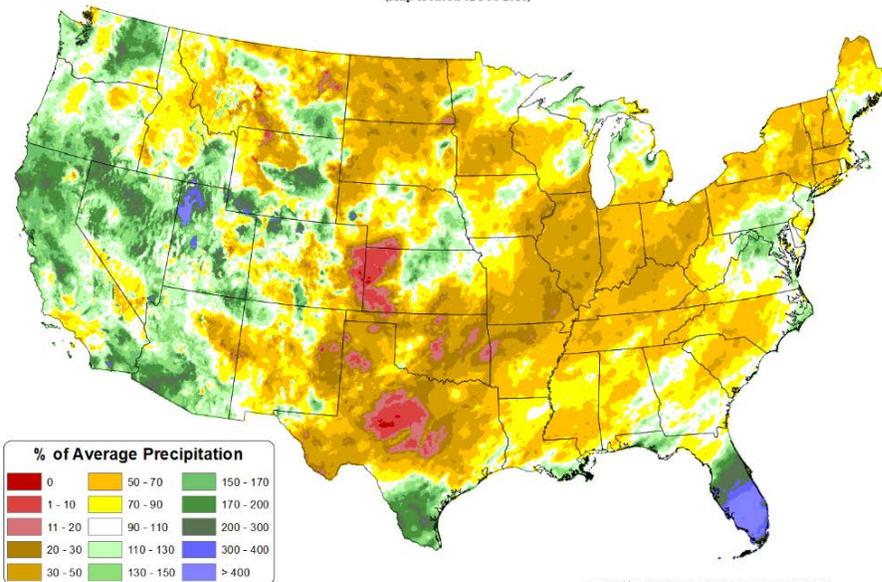
Generated 2/4/2016 at HPRCC using provisional data.

Regional Climate Centers

Previous Month, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

Total Precipitation Anomaly: January 2016
Period ending 31 Jan 2016
Base period: 1981-2010
(Map created 02 Feb 2016)

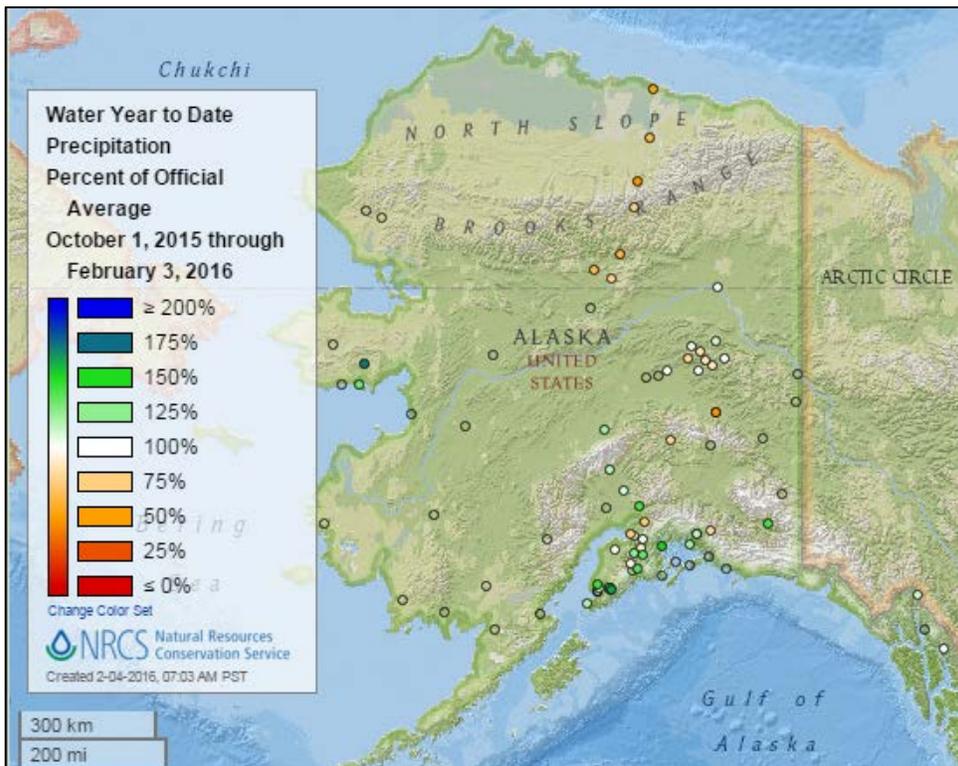
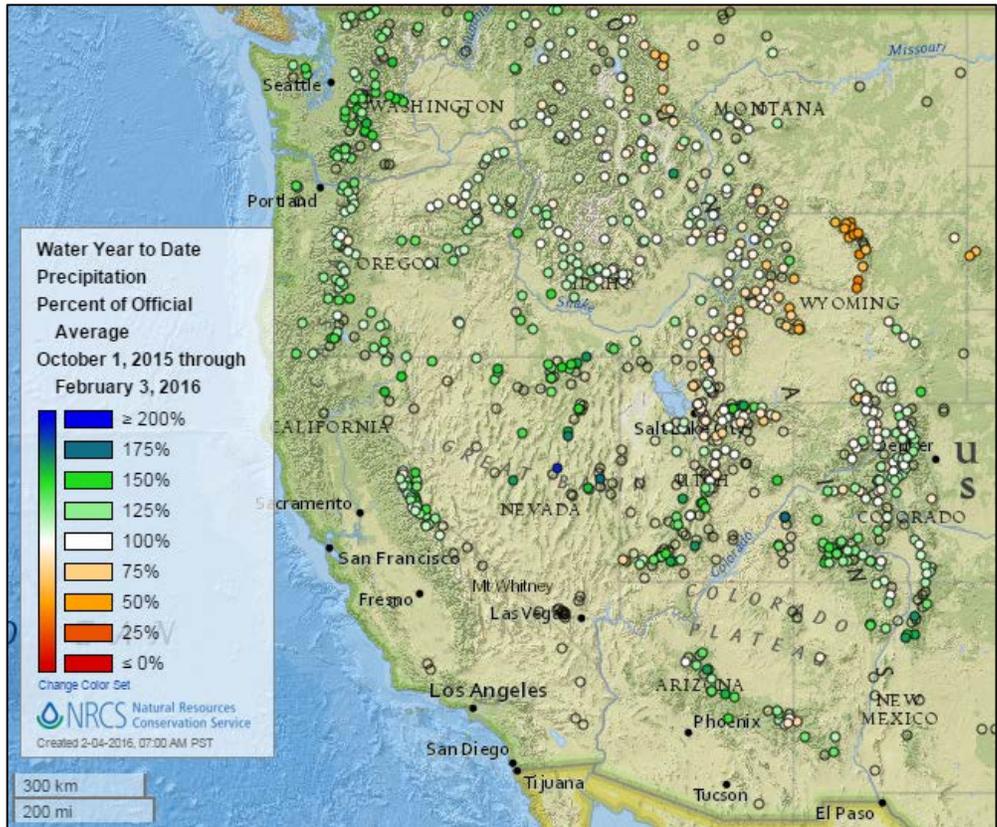


Copyright (c) 2016, PRISM Climate Group, Oregon State University

The national [precipitation percent of average](#) map for January 2016 shows much of the country had below normal precipitation for the month. The highest percent of average precipitation fell in Florida, southern Texas, and in parts of the West. Significant parts of California, Arizona, Nevada, Oregon, Washington, and Utah were above normal.

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 most of the West. Montana and Wyoming had average to below average conditions. While conditions are very similar to last week, there are a few improvements in Utah and Colorado.



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.

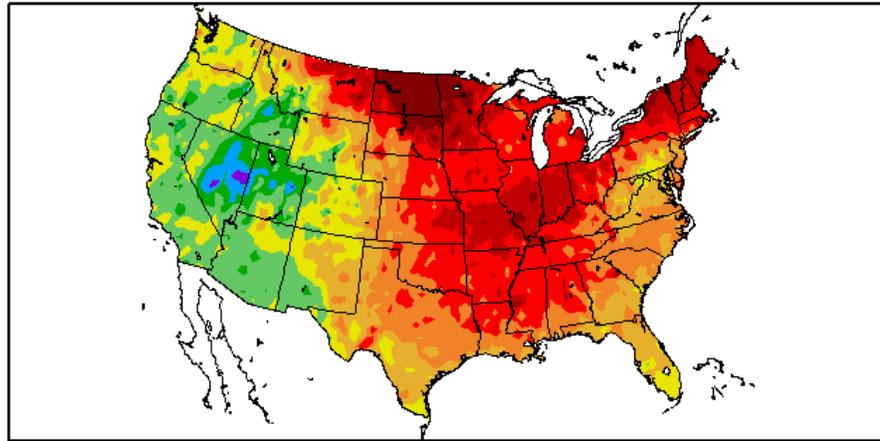
Temperature

Last 7 Days, National Weather Service (NWS) Networks

Source: Regional Climate Centers

The [7-day temperature anomalies](#) map shows warmer than normal temperatures east of the Rockies, including temperatures greater than 9°F above normal in the northern Plains, across much of the Midwest, the Great Lakes, and New England. This is in contrast to a week ago, where much of the eastern U.S. was below normal. Cooler than normal temperatures were centered on an area in eastern Nevada.

Departure from Normal Temperature (F)
1/28/2016 – 2/3/2016



Generated 2/4/2016 at HPRCC using provisional data.

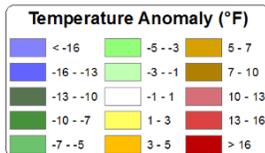
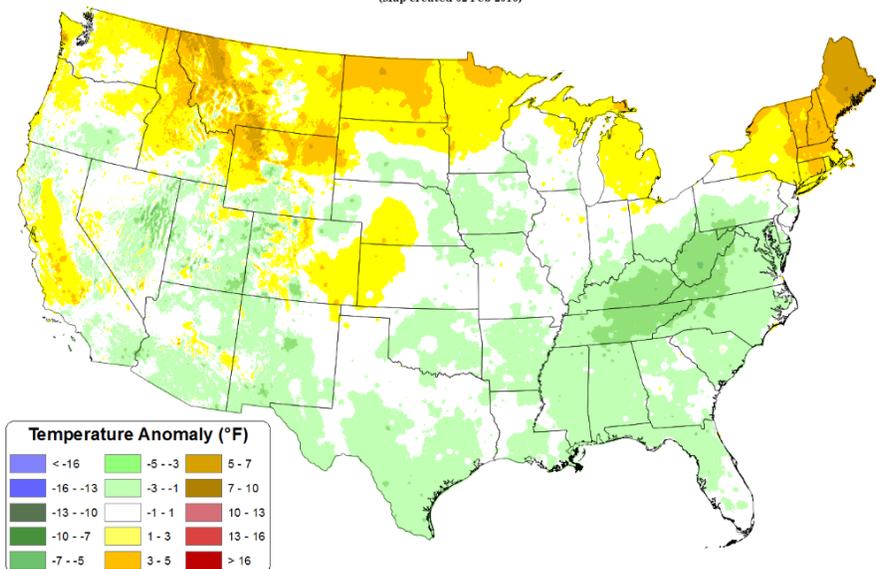
Regional Climate Centers

Previous Month, All Available Data Including SNOTEL and NWS Networks

Source: PRISM

The January 2016 [daily mean temperature anomaly](#) map for the continental U.S. shows cooler than normal temperatures over much of the country. Warmer than normal temperatures were found in only a few scattered areas, primarily in the northern Rocky Mountains in Montana, Idaho, Wyoming, and in the Northeast.

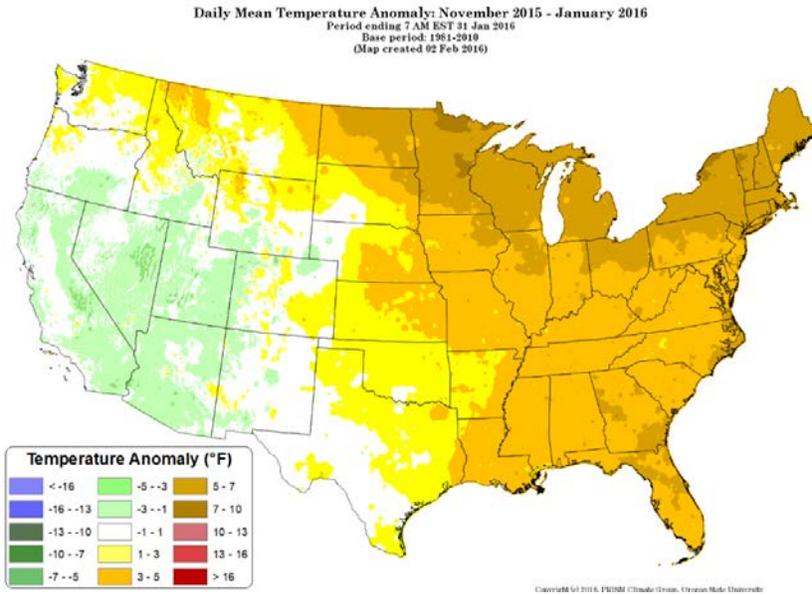
Daily Mean Temperature Anomaly: January 2016
Period ending 7 AM EST 31 Jan 2016
Base period: 1981-2010
(Map created 02 Feb 2016)



Copyright (c) 2016, PRISM Climate Group, Oregon State University

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

Source: PRISM

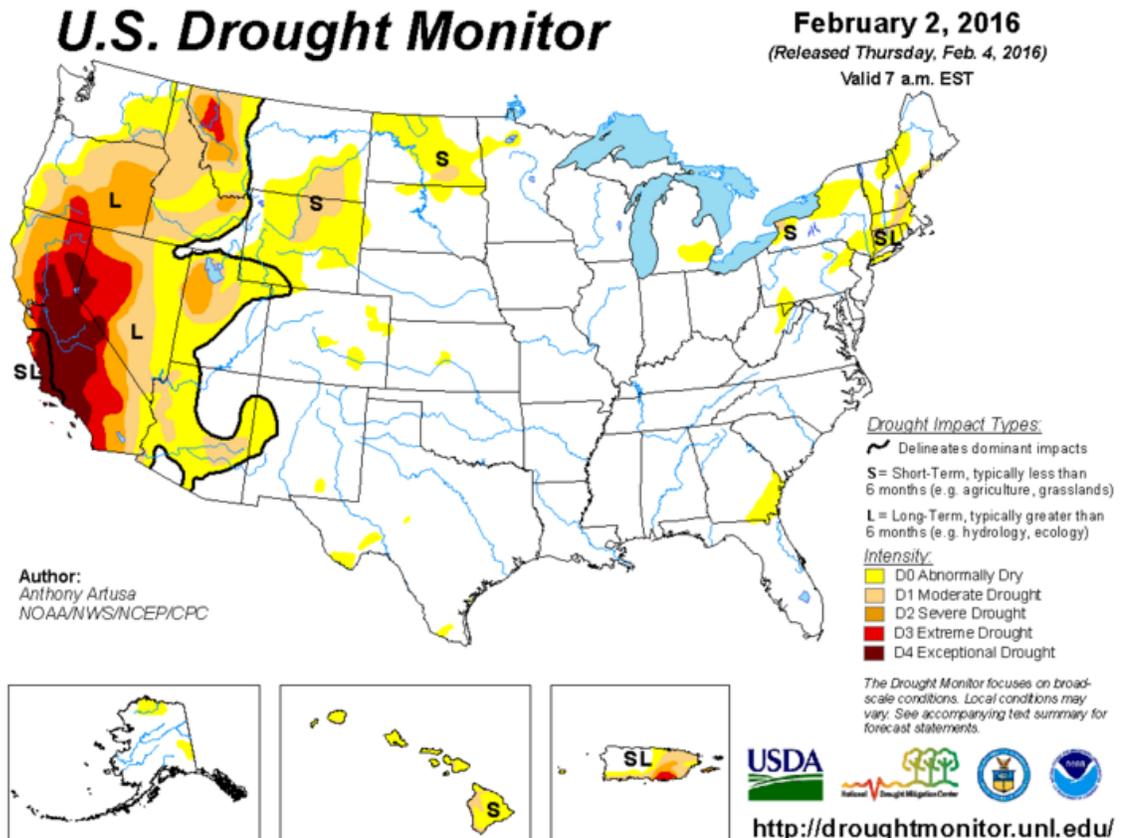


The November through January national [daily mean temperature anomaly](#) map shows most of the country was warmer than normal. The warmest areas were across the northern tier states from North Dakota to New England. The West was near normal to slightly cooler than normal. The coolest anomalies occurred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

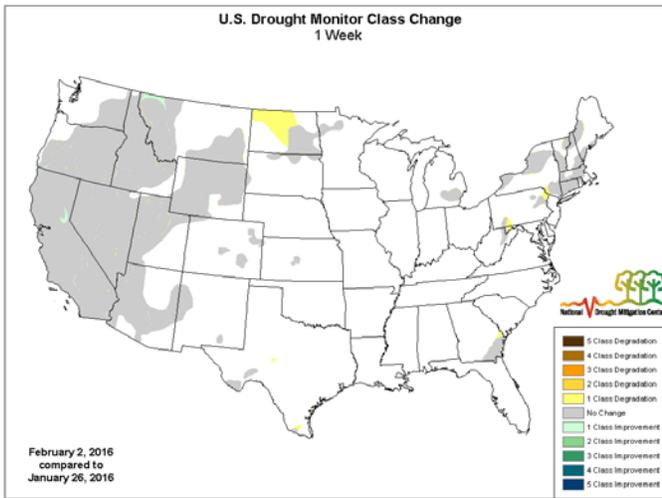
Drought

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

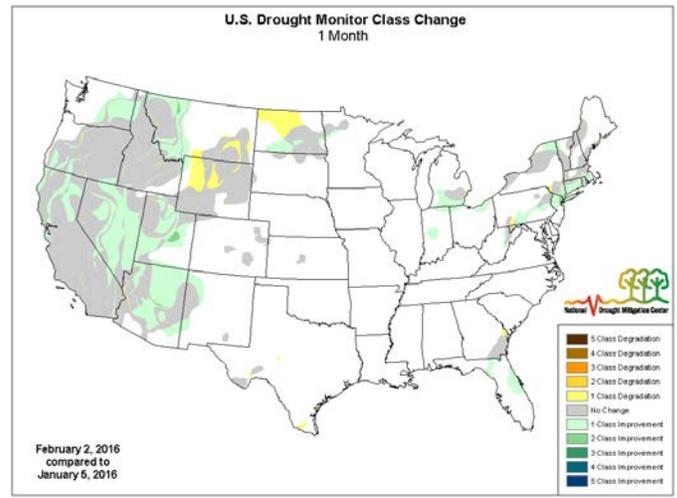
[U.S. Drought Monitor](#) See map below. Drought conditions continue in the western states, including the exceptional drought in California and Nevada.



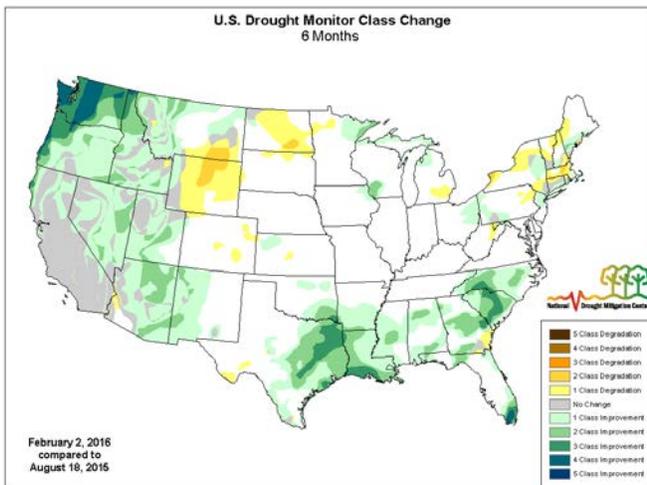
Changes in Drought Monitor Categories over Time



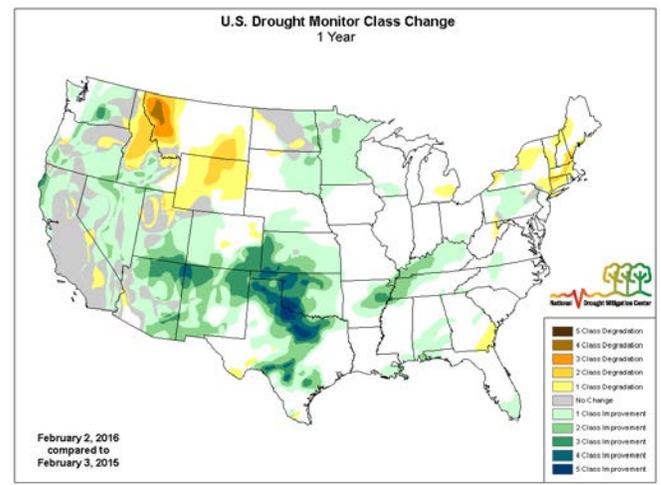
<http://droughtmonitor.unl.edu>



<http://droughtmonitor.unl.edu>



<http://droughtmonitor.unl.edu>



<http://droughtmonitor.unl.edu>

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](#), January 26, 2016

Author: Anthony Artusa, National Drought Mitigation Center

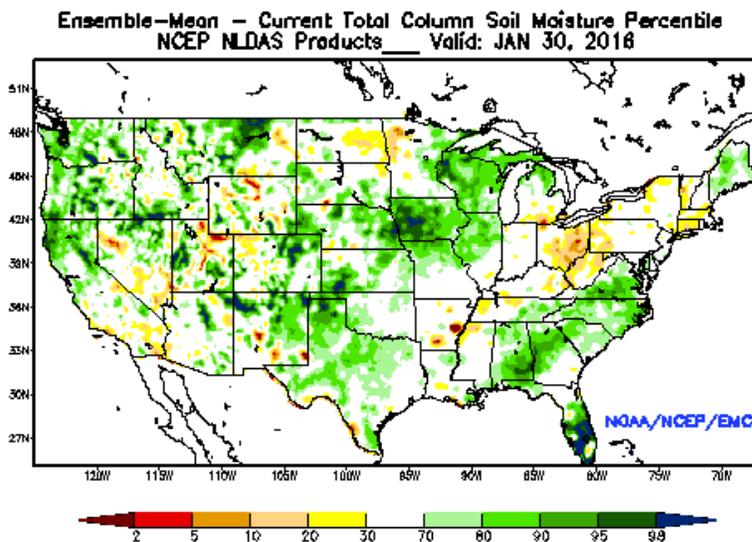
“The week following the major East Coast snowstorm/blizzard was characterized by the passage of several cold fronts across the contiguous U.S., frequently changing temperature patterns related to deamplifying flow aloft, and widespread precipitation across the Great Lakes, the Southeast and the West. By the end of the observed period (Tuesday morning, 7am Eastern time), a major storm system had developed across the Southwest and was moving across the Central states, attended by areas of heavy snow (and in some cases, blizzard conditions), heavy rain, flash flooding, and severe weather.”

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

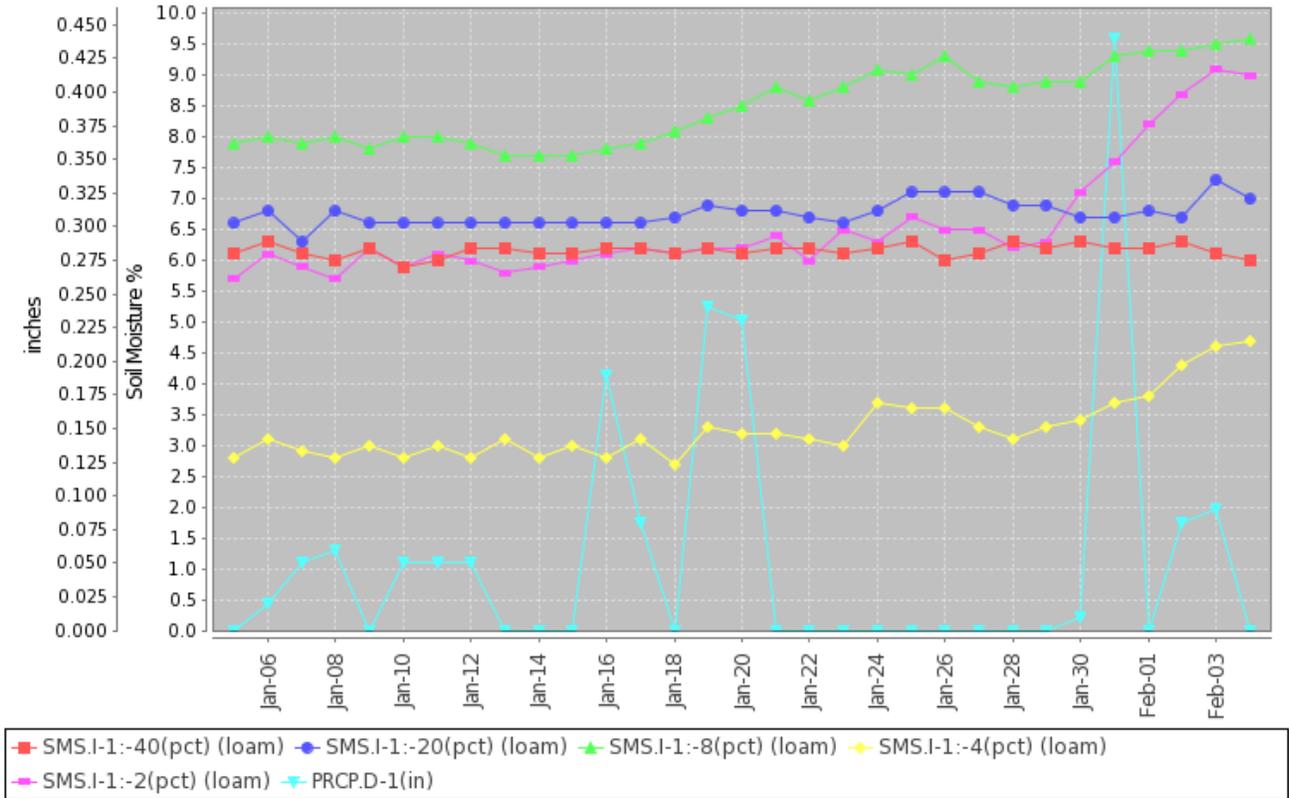


The modeled [soil moisture percentiles](#) as of January 30, 2016 show primarily above average conditions throughout the country. There are only a few scattered areas of dryness, primarily in parts of the West, the northern Great Plains, and in Ohio, Kentucky, West Virginia, and the Northeast.

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

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

Station (2170) MONTH=2016-01-05 (Daily) NRCS National Water and Climate Center - Provisional Data - subject to revision
Thu Feb 04 07:21:20 GMT-08:00 2016



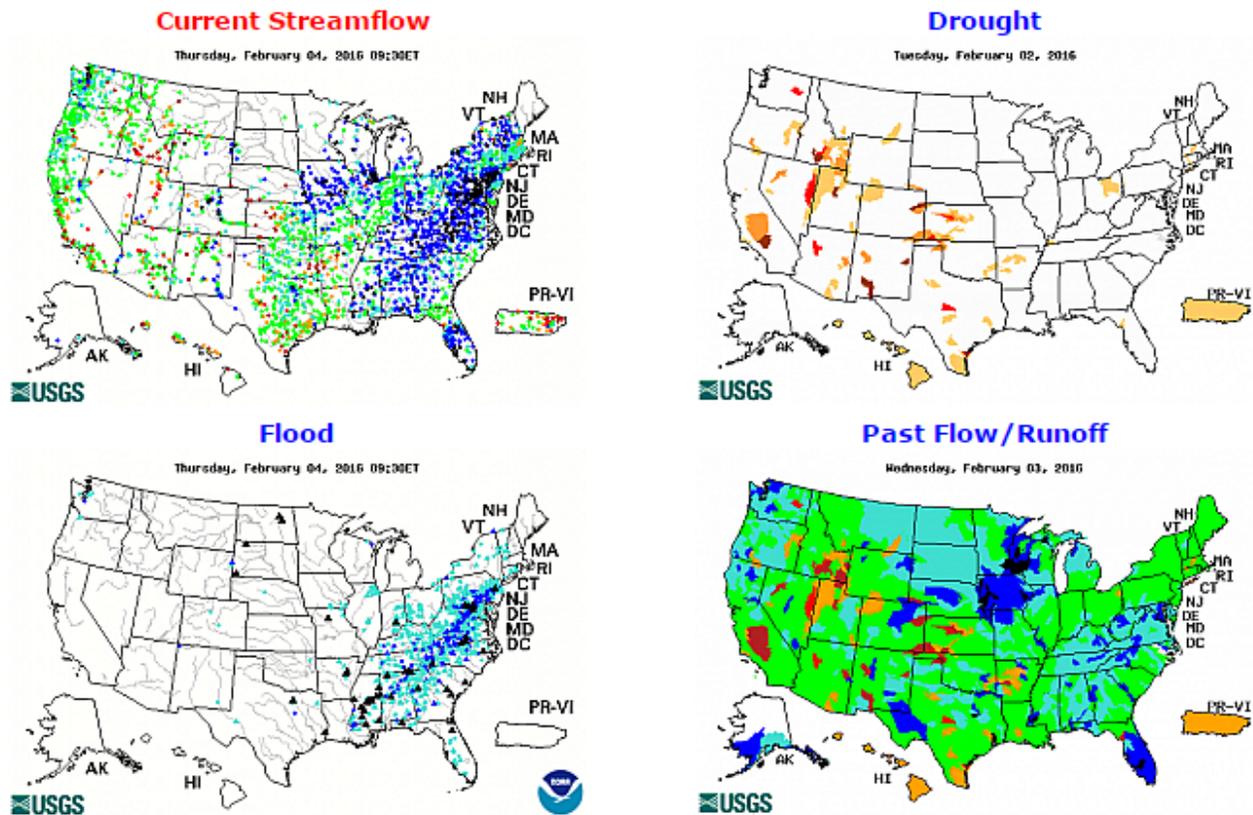
This graph shows soil moisture (at 2-, 4-, 8-, 20-, and 40-inch depths) and precipitation for the past 30 days at the [Porter Canyon SCAN site #2170](#) in Nevada. Recent precipitation was reflected in the increase in soil moisture at the shallow 2-, 4-, and 8-inch depth sensors, and the 20-inch sensor showed a slight increase. The 40-inch sensor showed little change at this time.

Soil Moisture Data Portals

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

Streamflow

Source: USGS



[Streamflow](#) across the East is high to above flood stage from Texas through Vermont, with many stations above flood stage from the recent storms. A few other stations across the country are also reporting high to above flood stage.

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](#)

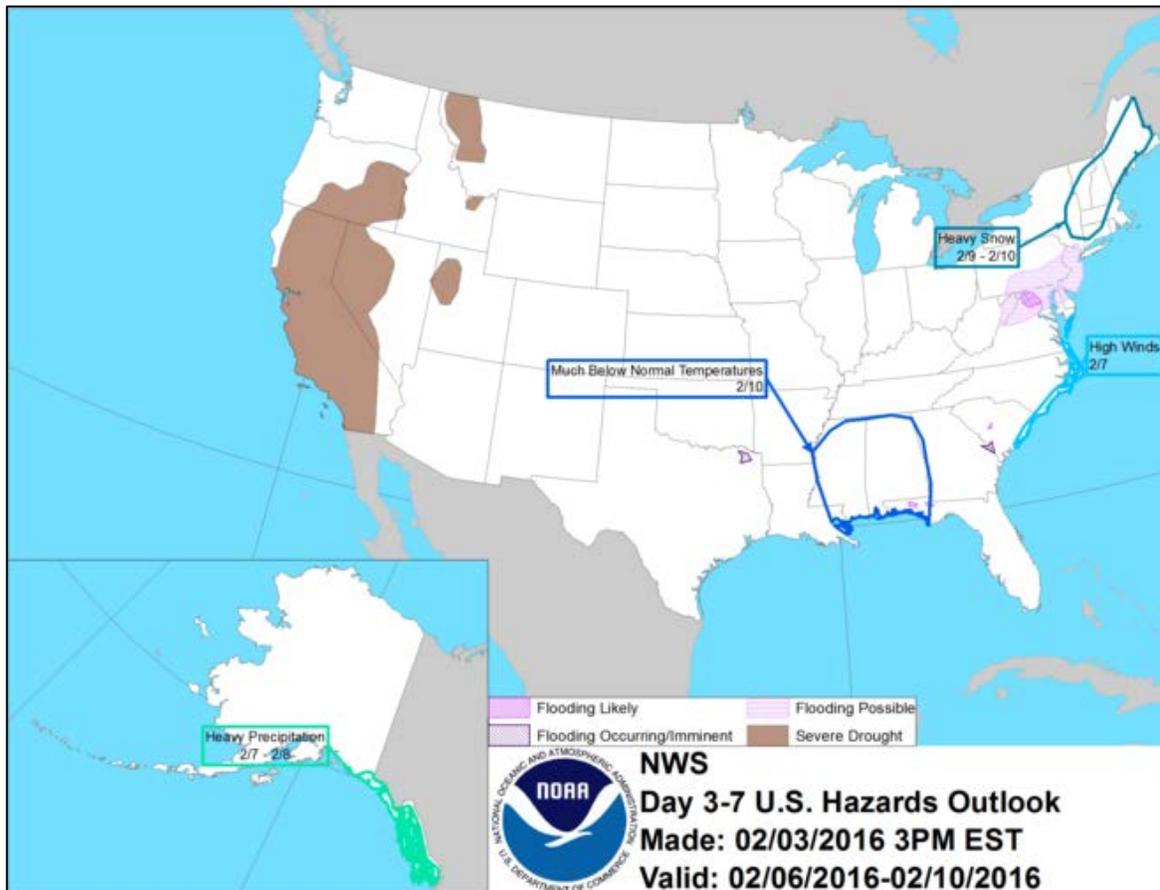
Short- and Long-Range Outlooks

Agricultural Weather Highlights

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

National Outlook, February 4, 2016: “For today and tonight, precipitation will linger in the southern Atlantic region, with an additional 1 to 2 inches possible. Rain may mix with or change to snow in some locations overnight. Some additional precipitation may fall early next week along the Atlantic Seaboard. Meanwhile, unsettled weather will persist across the Northwest into the weekend, following by a transition to mild, dry conditions. Many other areas of the U.S., from California to the middle and lower Mississippi Valley, will experience dry weather during the next 5 days. In California and the Desert Southwest, a marked warming trend will accompany the dry weather. Elsewhere, precipitation will be mostly light and confined to the nation’s northern tier, except for some heavy snow early next week in the vicinity of the Great Lakes. The NWS 6- to 10-day outlook for February 9 – 13 calls for near- to below normal temperatures across eastern half of the U.S., while warmer-than-normal weather will prevail from the Pacific Coast to the High Plains. Meanwhile, above-normal precipitation across the majority of the country will contrast with drier-than-normal conditions from southern California to the lower Mississippi Valley.”

National Weather Hazards



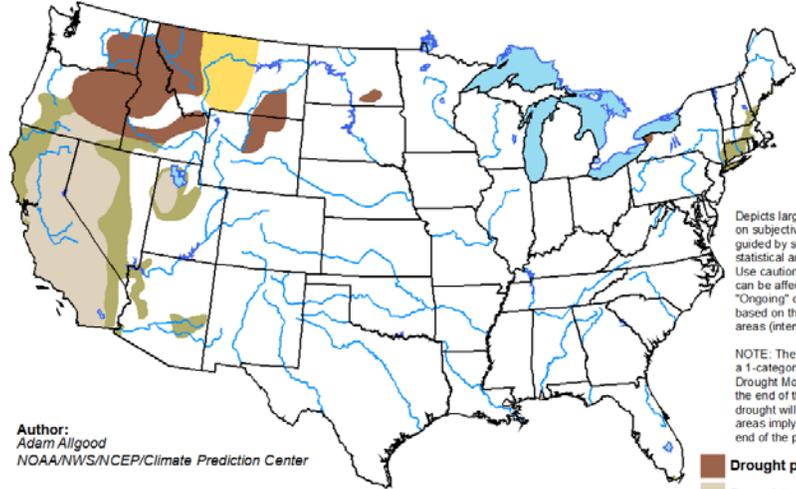
The outlook for [weather hazards](#) over the next week show cold temperatures in the Southeast and heavy snow expected in New England. In Alaska, heavy precipitation is expected in the southeast part of the state. Severe drought conditions remain across parts of the West.

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.

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

Valid for January 21 - April 30, 2016
Released January 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:
Adam Allgood
NOAA/NWS/NCEP/Climate Prediction Center

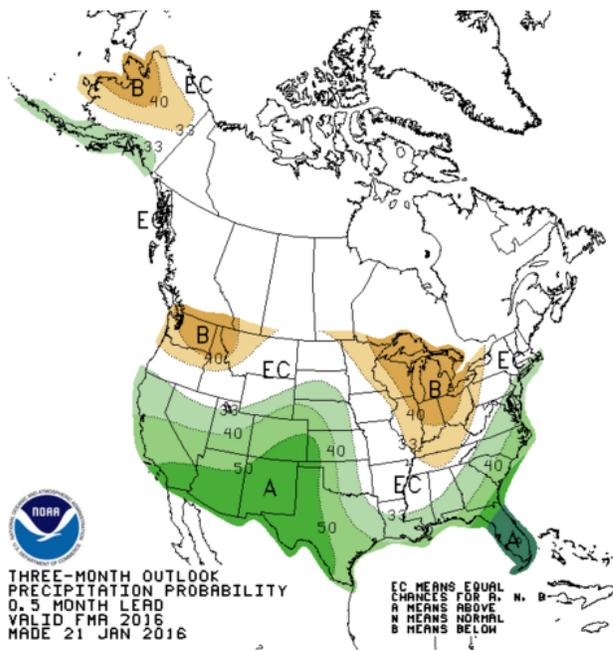
- Drought persists
- Drought remains but improves
- Drought removal likely
- Drought development likely



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

NWS Climate Prediction Center 3-Month Outlook

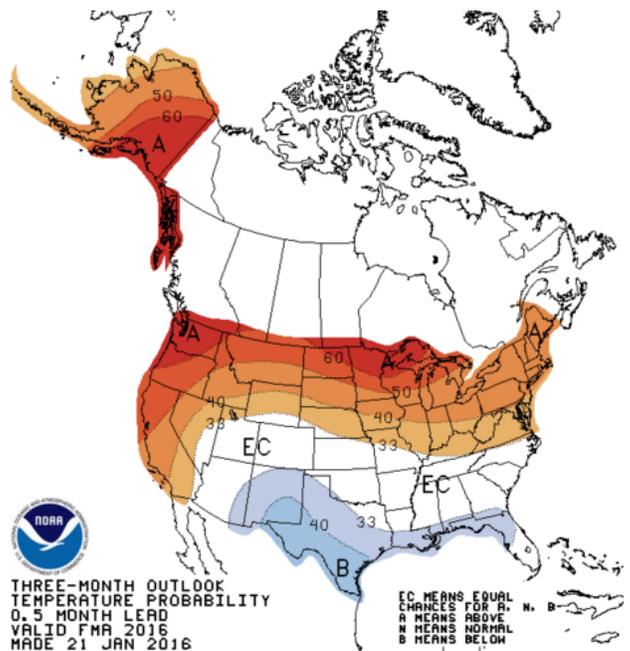
Precipitation



THREE-MONTH OUTLOOK
PRECIPITATION PROBABILITY
0.5 MONTH LEAD
VALID FMA 2016
MADE 21 JAN 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 FMA 2016
MADE 21 JAN 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 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](#).