United States Department of Agriculture

Western Snowpack and Water Supply Conditions

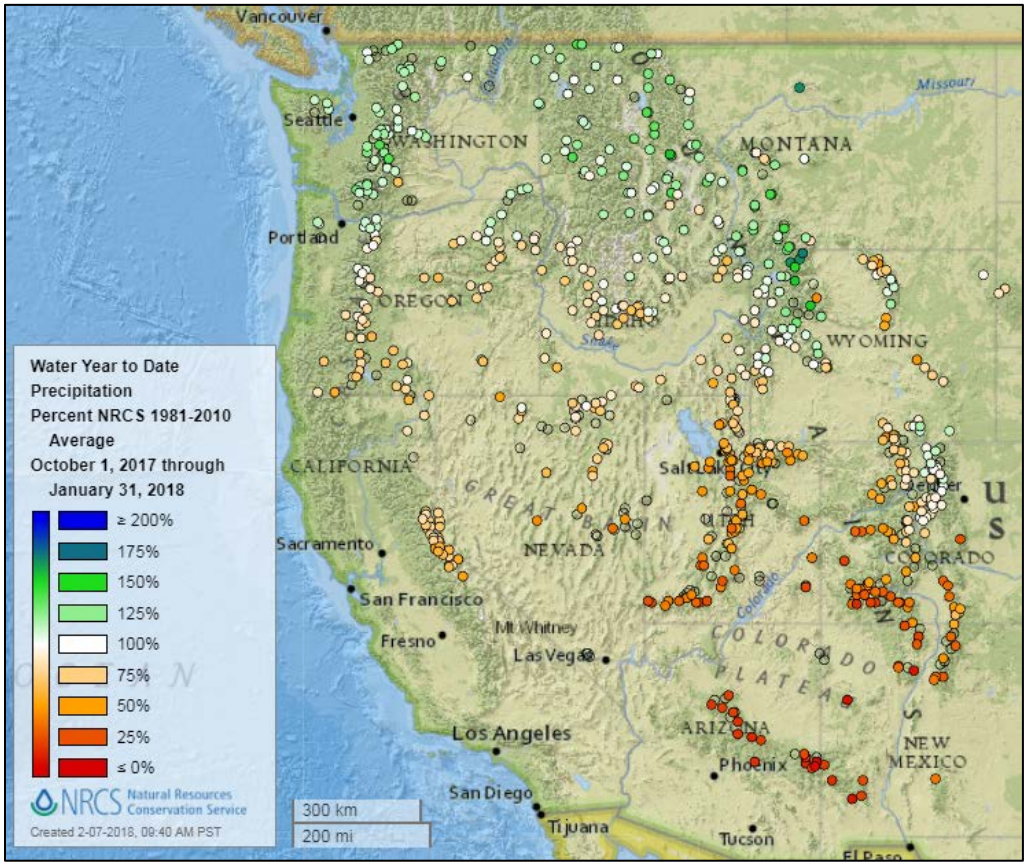
February 2018

Overview

This report summarizes Snow Telemetry (SNOTEL) and snow course network data, streamflow forecasts, and reservoir storage data collected and analyzed by the USDA Natural Resources Conservation Service National Water and Climate Center.

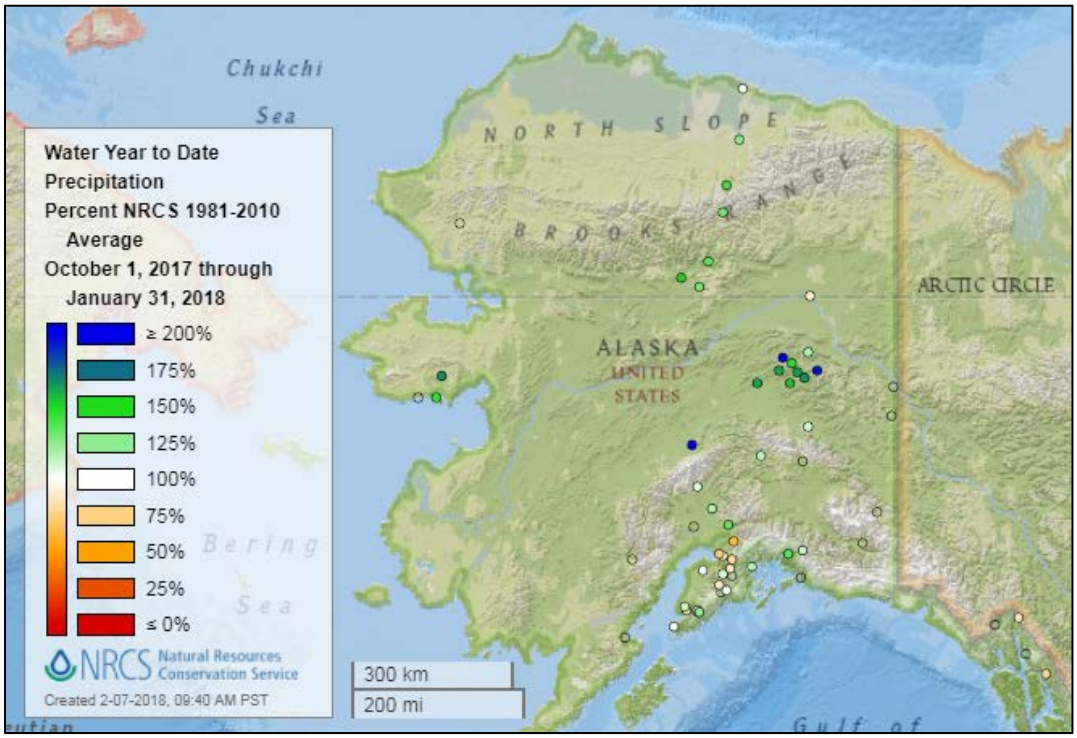
Weather patterns during the month of January have largely continued those of previous months, therefore snowpack and water supply conditions remain much the same as reported last month. **Precipitation** thus far in the water year (beginning October 2017) has been below normal in much of the West except for northern areas in Washington, Idaho, Montana, and Wyoming as well as Interior Alaska, where it has been near to well above normal. **Snowpack** shows an extreme contrast between these wet northern areas, with near to well above normal snowpack, and the very low snowpack in the southerly areas. **Streamflow forecasts** reflect the snowpack distribution, with a majority of the West expecting well below average streamflow but some northern areas expecting near to above average streamflow. **Reservoir storage** is currently above average in most western states, with only Arizona, New Mexico, and Washington being below average.

Water Year-To-Date Precipitation



Precipitation for the 2018 water year-to-date has maintained a pattern of wet in the north and dry in the south for the entire four-month period (Oct. - Jan.) thus far.

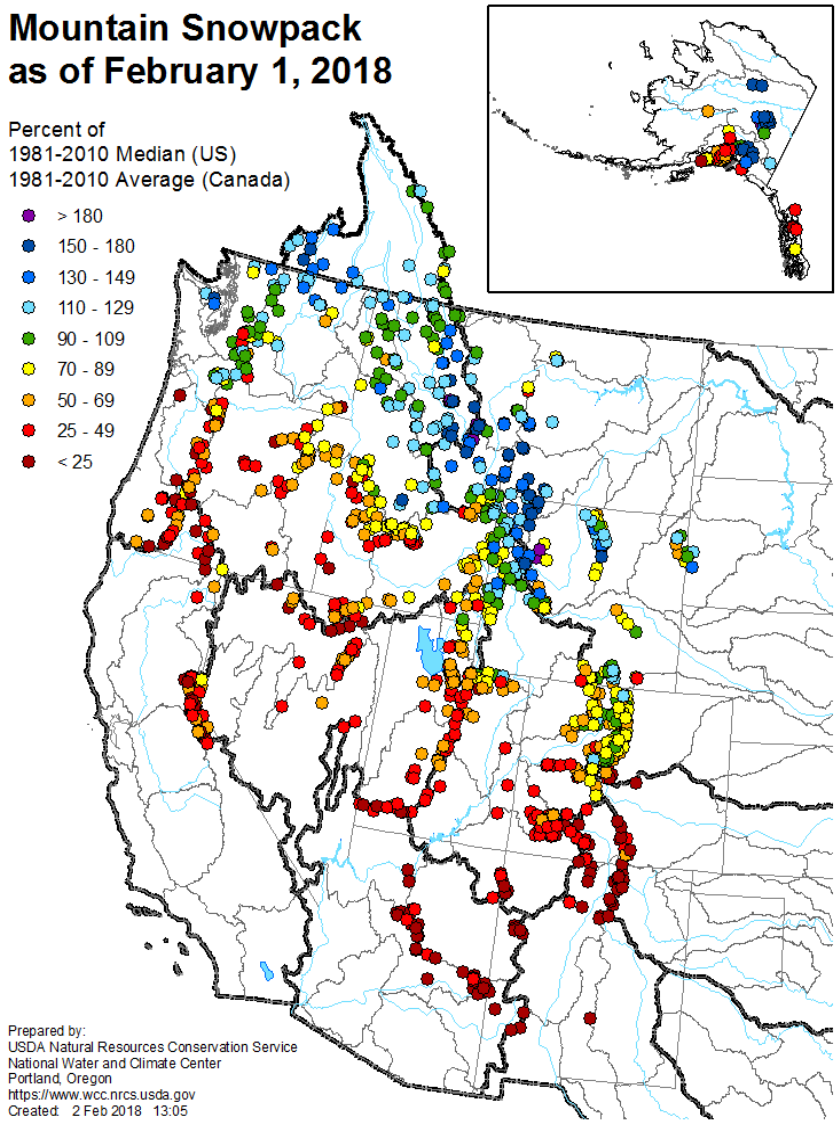
Drier than average precipitation begins in Oregon and southern Idaho and continues southward and eastward, with the four-state area of Utah, Colorado, Arizona, and New Mexico being extremely dry.



Precipitation in Alaska for the 2018 water year-to-date has been somewhat below average in some south coastal areas and near or well above average toward the north and into the Interior.

Basin-filled maps containing monthly and daily updates of SNOTEL precipitation are available at: https://www.wcc.nrcs.usda.gov/gis/precip.html. Updates can also be obtained via the Interactive Map, available at: https://www.wcc.nrcs.usda.gov/snow/snow_map.html.

Snowpack



Snowpack at SNOTEL sites and snow courses as of February 1 in the western U.S. and the Columbia Basin in Canada shows the same stark contrast as last month between the northern and southern parts of the region.

Near to well above median snow water equivalent lies in a northwest to southeast ranging zone, from Washington and British Columbia down into northern Idaho, western Montana, and northwestern Wyoming.

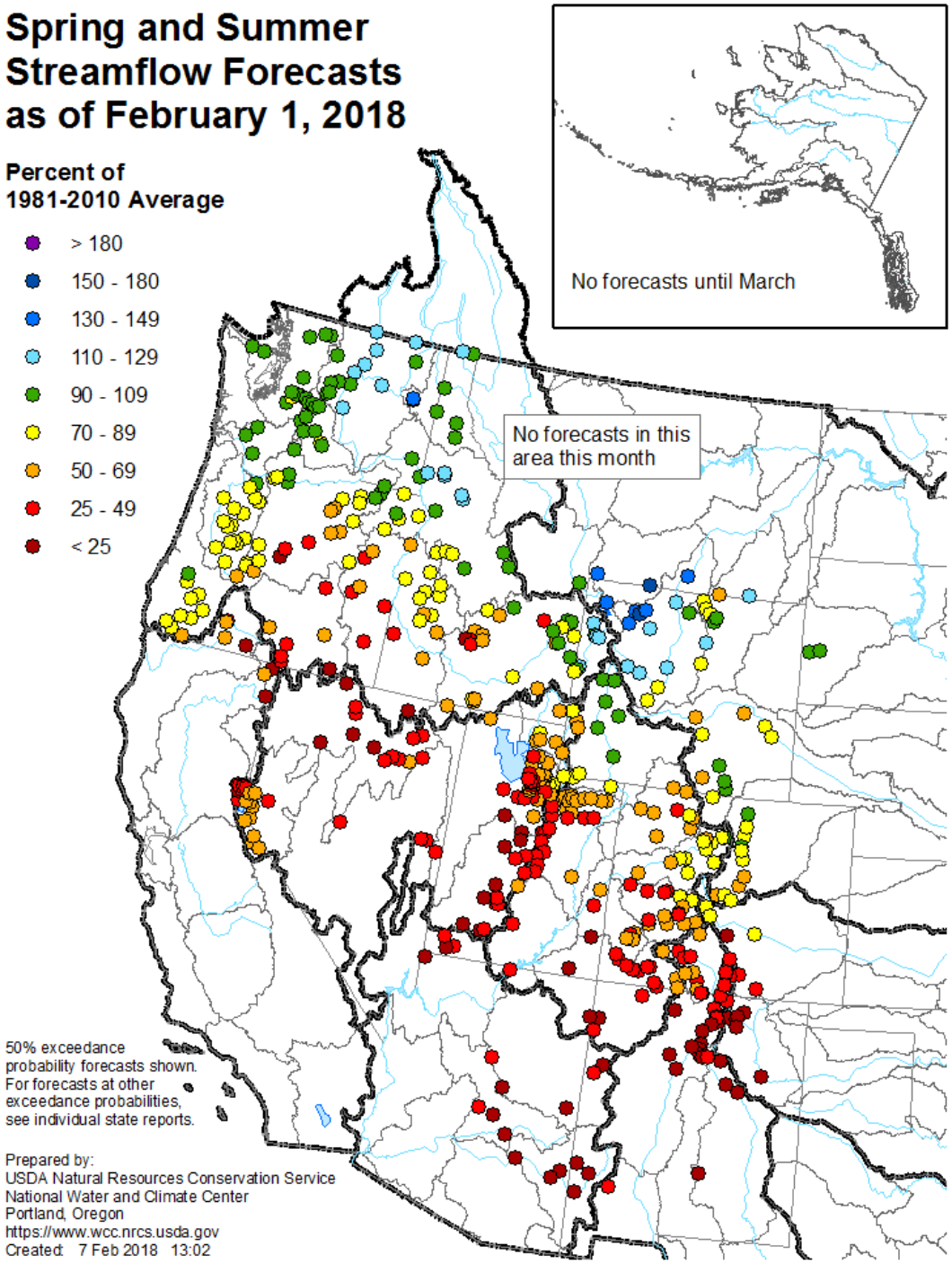
In complete contrast, all areas south and west of this demarcation have well below median snow water equivalent, with many sites registering record low snowpack.

In Alaska, snowpack remains generally below median in southern areas and above median in the Interior.

Maps with daily updates of the snowpack (SNOTEL data only) for the entire West, as well as for individual states, are available at: https://www.wcc.nrcs.usda.gov/gis/snow.html. Updates can also be obtained via the Interactive Map, available at: https://www.wcc.nrcs.usda.gov/snow/snow_map.html.

Streamflow Forecasts

Streamflow forecasts reflect the snowpack distribution, being below average over a majority of the West but near to above average in the northern parts of the region. Forecasts are exceptionally low in the Southwest and Great Basin regions. Forecast values and their spatial pattern remain essentially unchanged from last month.



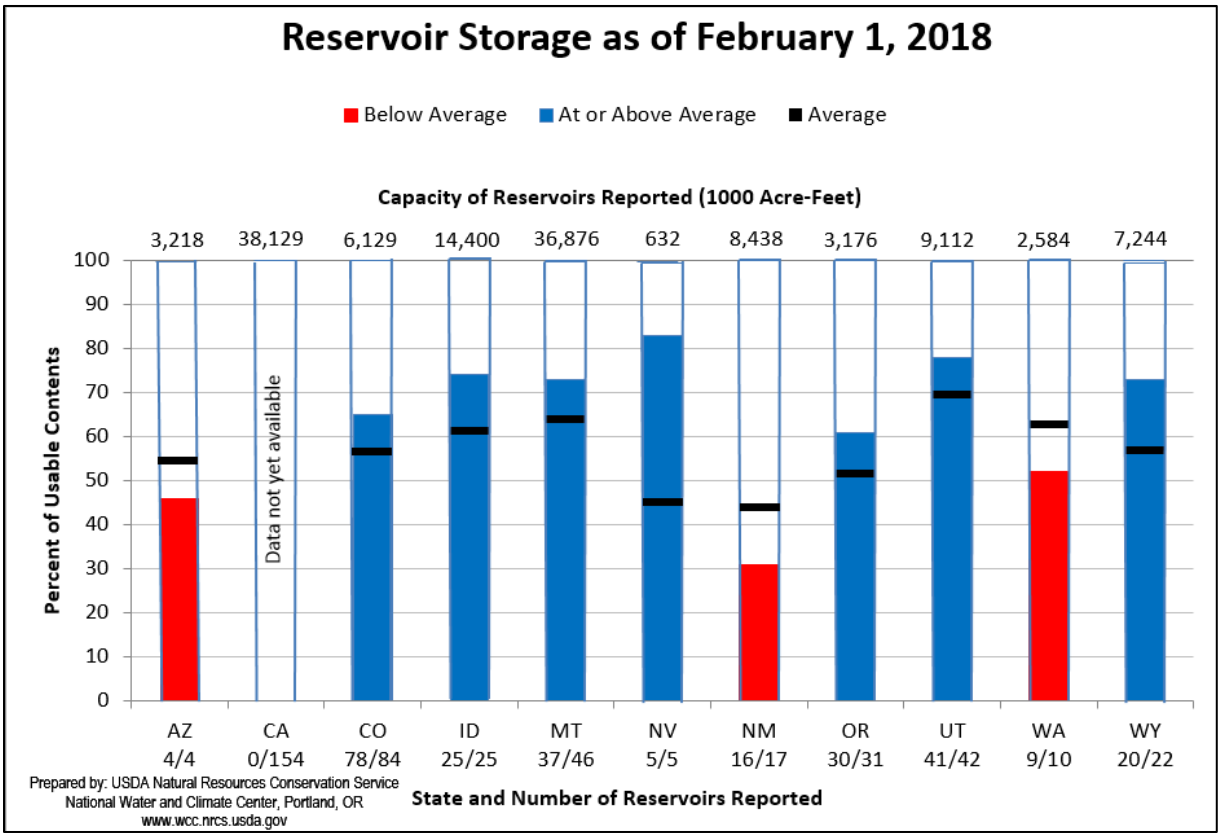
Trends in streamflow forecasts in basins for which daily water supply forecast models are available can be followed at: https://www.wcc.nrcs.usda.gov/wsf/daily_forecasts.html

Reservoir Storage

Reservoir levels are currently above average in most western states, with only Arizona, New Mexico, and Washington being below average.

Further data and charts are available at: https://www.wcc.nrcs.usda.gov/wsf/wsf-reservoir.html

Data for California are summarized at: http://cdec.water.ca.gov/cgi-progs/reservoirs/STORSUM



State Reports

Click a state name to view the full report

Alaska:

Arizona: As of February 1, snowpack ranged from 10% of median in the Gila Basin to 21% in the Little Colorado River Basin. While Arizona did see a slight increase in precipitation for the month of January, the cumulative precipitation for the water year remains well below normal.

California: Warm, dry conditions across California in January continue to keep snowpack levels low. The statewide average snow water content on February 5 was 24% of normal for the date. Even as most of California's reservoirs are still brimming from last year's storms, almost half the state is experiencing abnormally dry to moderate drought conditions, and the south coast from Santa Barbara to San Bernardino counties remain gripped in a severe drought.

Colorado: Snowpack is generally poor, currently at 59% of normal statewide. Colorado has yet to see a month of above normal precipitation this water year. Snowpack is best in the northeastern mountains -- near 90% of normal in the South Platte River Basin -- and worst in the Upper Rio Grande and

southwestern corner of the state -- at or below 35% of normal. With only about one-third of the winter accumulation season remaining, streamflow prospects are as poor as snowpack would indicate.

Idaho: A winter like this one is what makes Idaho unique and interesting. The weather pattern has been pretty consistent since October, with the jet stream streaking across northern Idaho and then dipping along the Continental Divide. This brings moisture to the basins north of the Salmon river, while central and southern Idaho are drier than normal.

Montana:

Nevada: 2018's snowpack is looking a lot like other recent drought years such as 2012, 2014, and 2015. Basin snowpacks are 26-53% of median. A full snowpack recovery to normal amounts by April 1 is very unlikely. Streamflow forecasts range from 12-69% of average. The US Drought Monitor has added all of northern Nevada to abnormally dry status and increased the amount of eastern Nevada in moderate drought. Reservoir storage in northern Nevada is in great shape to make up for deficits this summer but only for those water users with stored water rights.

New Mexico: January did little to improve conditions across New Mexico. Snowpack levels have dropped across the south and have only improved marginally in the northern basins, now bringing statewide snow water equivalent totals to just 13% of median. With another well below average month behind us, New Mexico is experiencing record low levels for both precipitation and snowpack.

Oregon: This year, a cold and snowy start to winter was followed by meager snowfall and warm temperatures in December and January, stunting mountain snowpack and resulting in well below normal snowpack levels throughout the state. Out of the 137 long-term snowpack monitoring sites measured in Oregon, all recorded less than normal snowpack, and most were less than 50% of normal as of February 1. With about half of winter behind us, chances for a full snowpack recovery are low, but there is still time left for conditions to improve before the typical peak of the snowpack season in March and April. However, forecasts continue to predict well below average streamflows throughout the state based on February 1 snowpack conditions. Water managers will need to carefully evaluate water supplies this summer if the snowpack and spring rains fail to bring relief.

Utah: February 1 snowpack as measured by the NRCS SNOTEL system is below normal across the entire state, with most areas hovering around 50% of median or less. In southern Utah, the Southwestern, Escalante, Southeastern, and Beaver Basins range from 33% to 37% of median. The Sevier, Dirty Devil, San Pitch, and Price & San Rafael Basins range from 39% to 51%. North of Provo, the percents of median vary from 49% at Tooele, to 88% on the Northeastern Uinta Basin and 78% on the Bear River Basin.

Washington: With 60-70% or more of the winter gone, Washington has managed to hold on to a respectable snowpack throughout most of the state, unlike our neighbors to the south. La Niña has held strong, and though it seems like it's been extremely warm and wet, snow water continues to accumulate. Whether it be snow or rain on snow, it's all water that can be saved for later use. Some rivers have run high, but reservoirs are also filling from rain runoff.

Wyoming:

For More Information

The USDA-NRCS National Water and Climate Center website provides the latest available snowpack and water supply information. Please visit us at: https://www.wcc.nrcs.usda.gov.