



Natural Resources Conservation Service
P.O. Box 2890
Washington, D.C. 20013

Western Snowpack and Water Supply Conditions March 2014

Overview

February continued to exhibit the extremes and variability that have been the hallmark weather pattern across the West this winter. Precipitation for the month in the northern half of the West has been significantly above normal, which is quite different from previous months in this water year. The southern half of the West has remained dry.

Snowpack retains the sharp contrast between northern and eastern parts versus southern and western parts of the West, with the former being well above normal and the latter being well below normal. Reservoir storage for all states except Montana is below normal for this time of year.

Click any image to enlarge

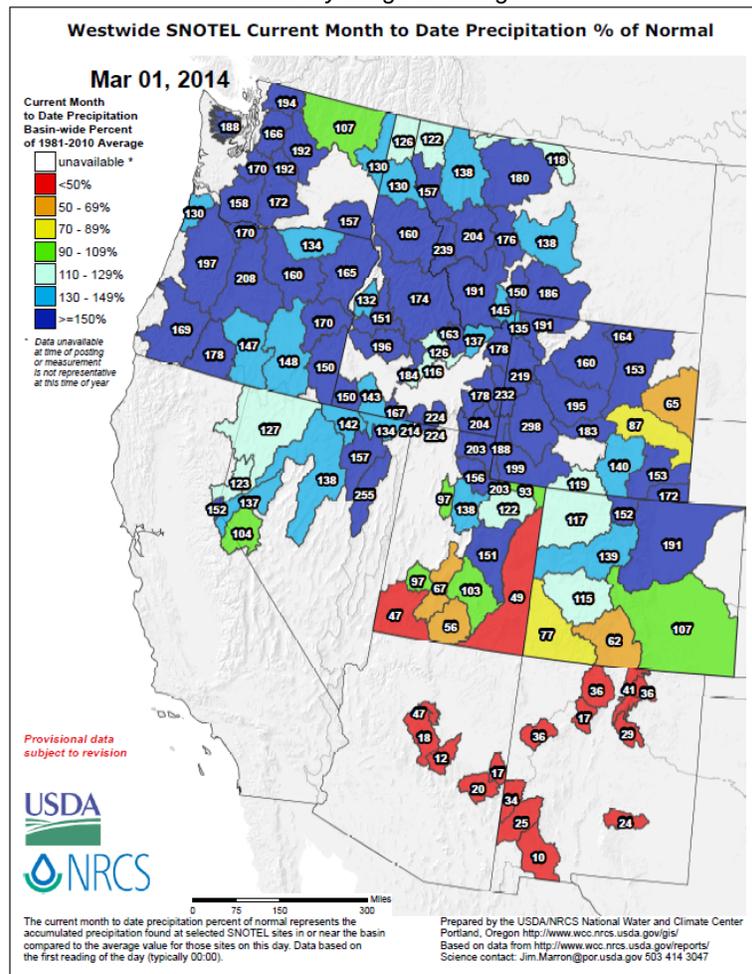
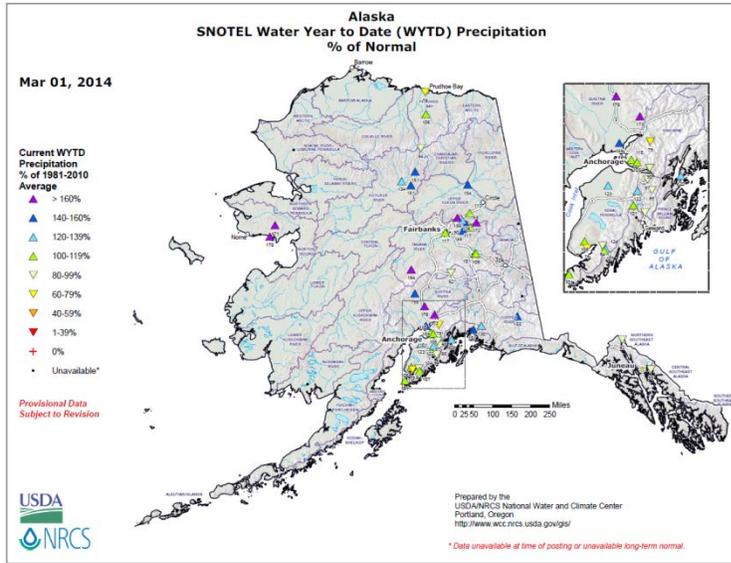


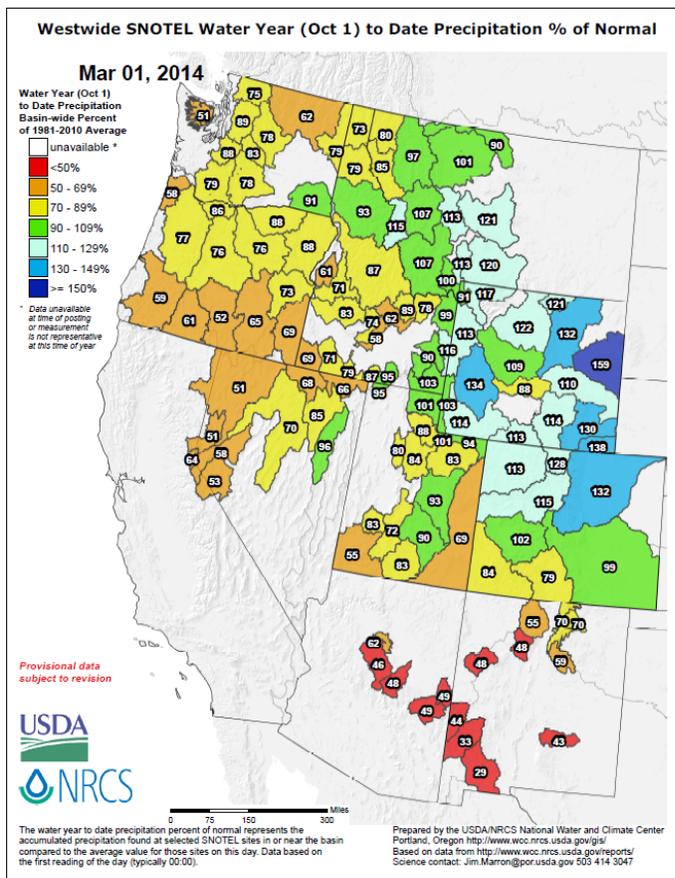
Figure 1: For February, precipitation was generally well above normal over the entire northern tier of the western states. Below normal amounts occurred over northeastern Wyoming, eastern and southern Utah, southwestern Colorado, Arizona, and New Mexico. An intense low pressure system moved over California during the final days of the month, helping to bolster snowpack in the Sierra Nevada.



[February](#) was generally wetter than normal over much of Alaska. Parts of the Kenai Peninsula experienced slightly below normal amounts.

Figure 2: February precipitation percent of normal for Alaska

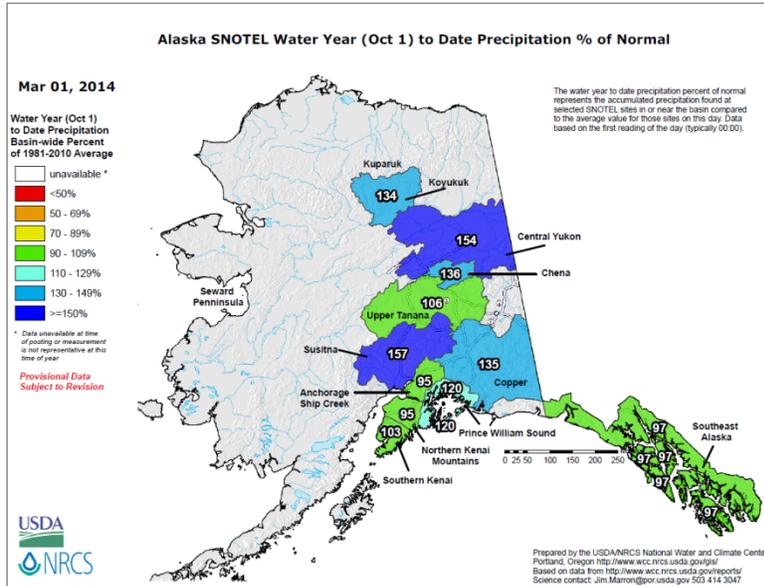
Water Year-To-Date Precipitation



With few exceptions, the precipitation percent of normal for the [2014 water year to date](#) reflects a very different pattern of wet and dry regions.

The eastern portions of Montana, most of Wyoming, and the northern half of Colorado have received above normal precipitation for the first five months of the 2014 water year. The remainder of the western U.S. has received below normal precipitation, with Arizona and New Mexico having the greatest deficits.

Figure 3: Water year-to-date precipitation percent of normal



Precipitation percent of normal for Alaska for the [2014 water year to date](#) reflects average to above average conditions across the state.

Figure 4: Water year-to-date precipitation percent of normal for Alaska

Maps containing monthly and daily updates of SNOTEL precipitation are available at: <http://www.wcc.nrcs.usda.gov/gis/precip.html>

Snowpack

Snowpack as of March 1 (Figure 5) in the western U.S. and the Columbia Basin in Canada maintains the sharp contrast between the north and east regions versus the south and west regions, as has been the case all year. It has changed somewhat, however, due to the precipitation patterns for the month of February, as noted previously.

Snowpack has increased substantially since February 1 in the Rocky Mountains and eastward into Colorado (except the southern part), Wyoming, Montana, northern Idaho, British Columbia, as well as in the Cascades of Washington. Snowpack remains very low in New Mexico, Arizona, Nevada, California, and most of Oregon. Southcentral Alaska continues with below normal snowpack, whereas the Interior of Alaska retains near normal snowpack.

Maps with daily updates of the westwide and Alaska snowpack (SNOTEL data only) are available at the following links:

http://www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/west_swepctnormal_update.pdf
http://www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/ak_swepctnormal_update.pdf

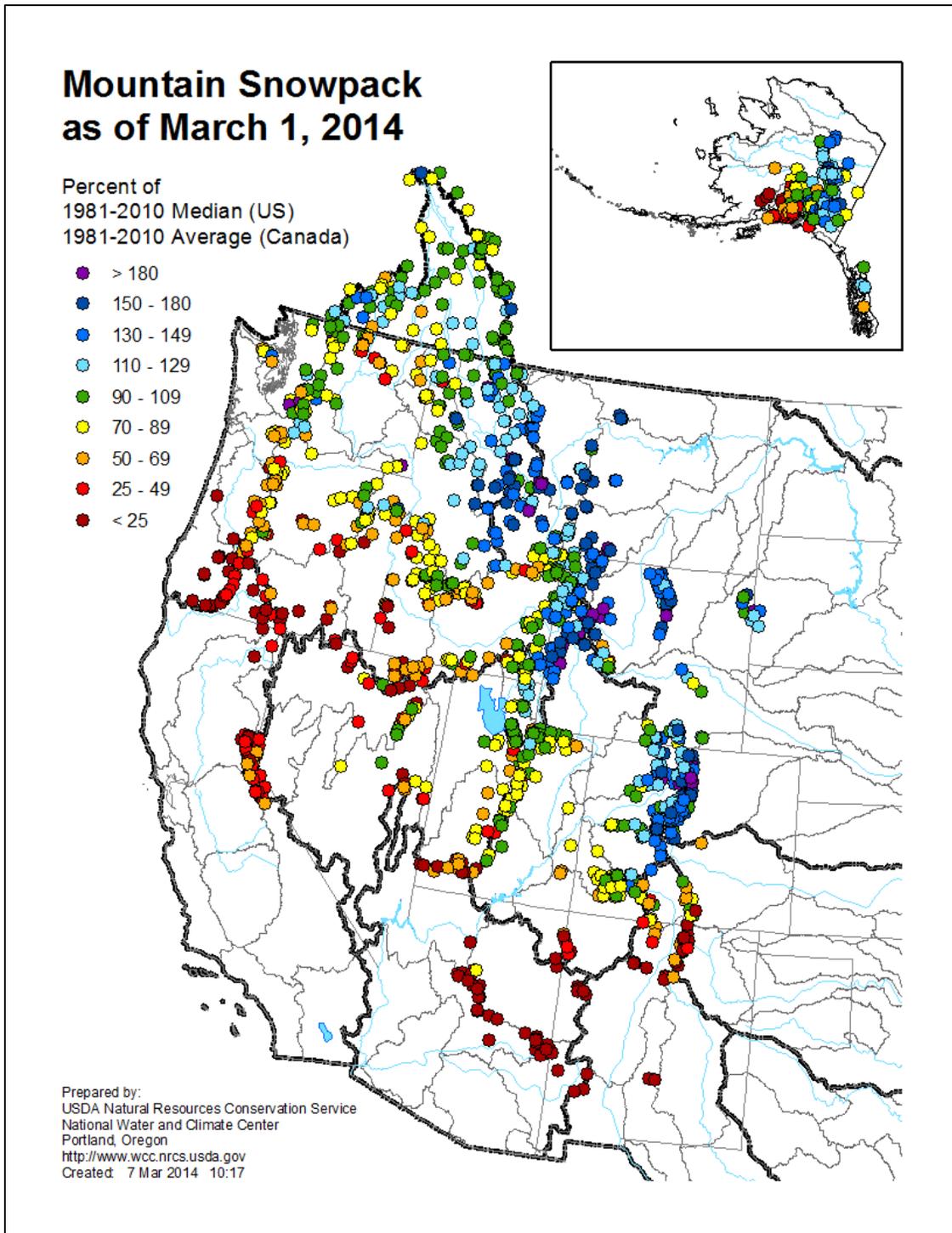


Figure 5: Snow water equivalent at SNOTEL and snow course sites

Streamflow Forecasts

Streamflow forecasts (Figure 6) reflect essentially the same spatial pattern as snowpack, with the sharp contrast between south and west versus north and east of the Rocky Mountains that has characterized this water year. Below to well below normal streamflow forecasts have been issued for most basins in Oregon, southwestern Idaho, California, Nevada, Arizona, and New Mexico. In contrast, near normal streamflow forecasts have been issued for basins in Washington, northern Idaho, and the Columbia River Basin in British Columbia, whereas above normal forecasts have been issued for most of Montana, Wyoming, and Colorado. Alaska streamflow forecasts are mostly near or above normal except for the extreme southcentral part of the state.

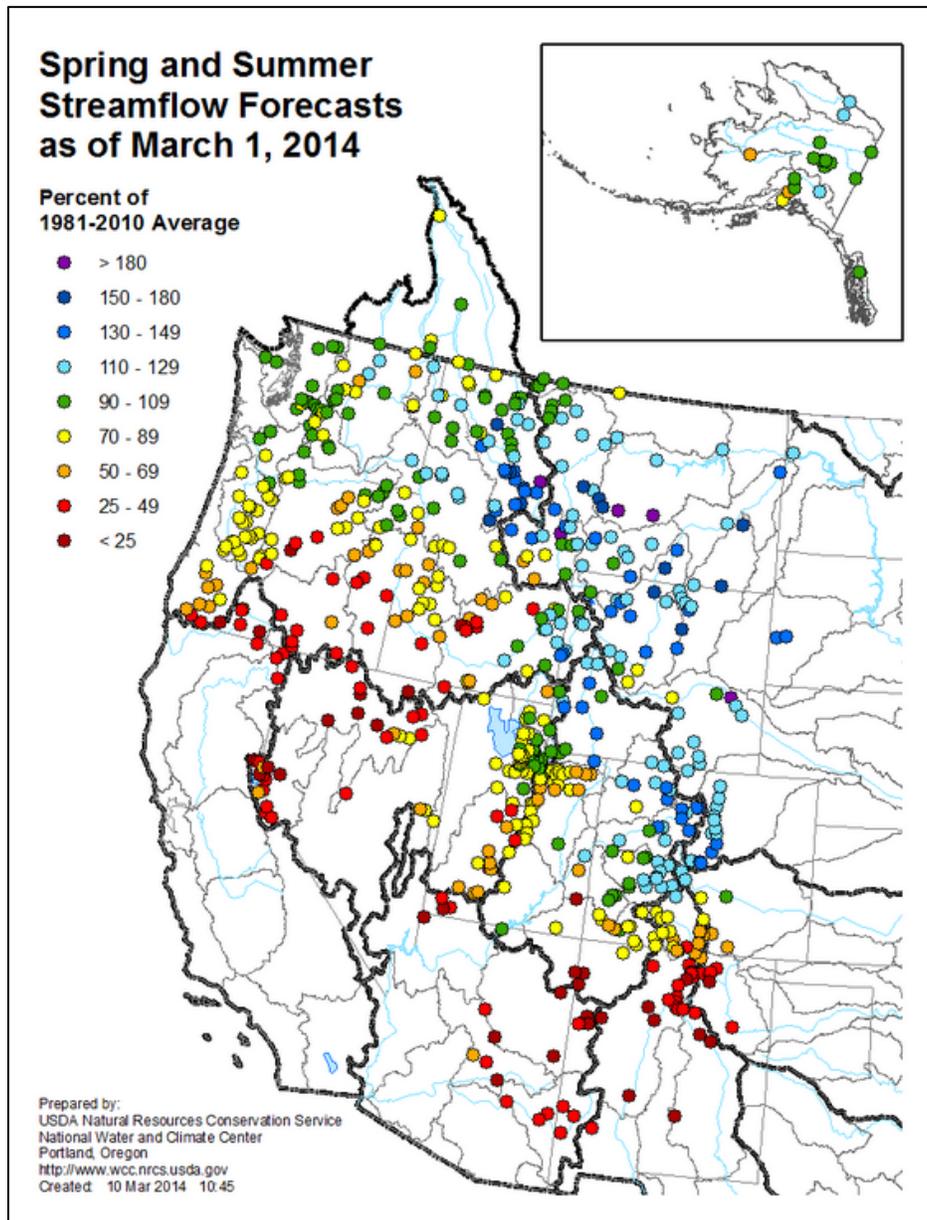


Figure 6: Streamflow forecasts as of March 1, 2014

Follow trends in streamflow forecasts in basins for which daily water supply forecast (DWSF) models are available at: http://www.wcc.nrcs.usda.gov/wsf/daily_forecasts.html

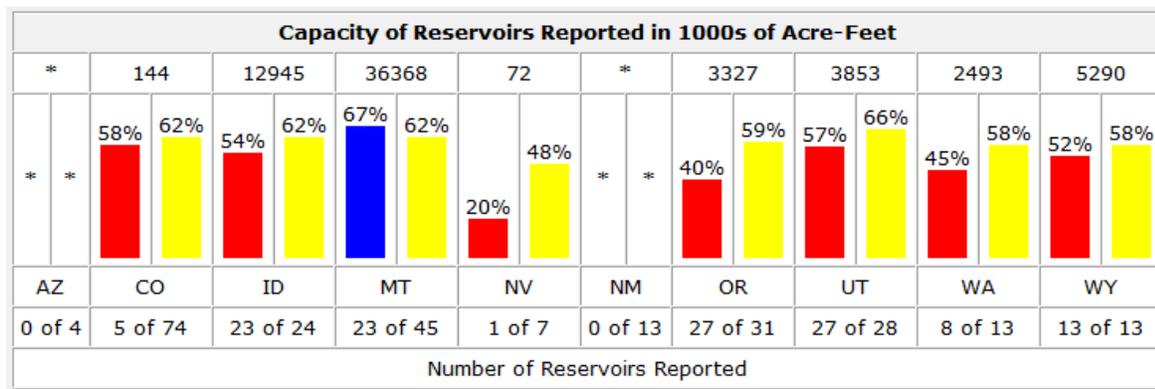
For more detailed information, refer to the individual state Water Supply Outlook Reports at: http://www.wcc.nrcs.usda.gov/BOR/state_outlook_reports.htm.

Reservoir Storage

Westwide charts, graphs, and tables (<http://www.wcc.nrcs.usda.gov/wsf/wsf-reservoir.html>) show that all statewide reservoir levels are below normal (as a percent of capacity), with the exception of Montana (Figure 7). Data for California are available [here](#).

Reservoir Storage as Percent of Capacity for March 1st, Water Year 2014

(Data are provisional and subject to change)



■ Storage is Below Average (% of Capacity)
■ Storage is At or Above Average (% of Capacity)
■ Average Storage as % of Capacity
 * = Data are not available for this state.

Figure 7: [Reservoir Storage as of March 1, 2014.](#)

State Reports

Alaska: Snowpack conditions vary across the state. The Arctic, eastern Interior, and the Copper Valley have above normal snowpacks, whereas western Alaska is much below normal with minimal to bare coverage.

Arizona: The entire month of February was dry. Despite welcome early March precipitation, the outlook is for well below normal streamflows for all major rivers for the spring runoff period.

California: Heavy rains in February did not transfer significantly to the snowpack, which remains much below normal.

Colorado: Once again, this year's "No-Niño" weather pattern has favored the northern and central mountain ranges with multiple storm systems, producing an above normal snowpack. However, the southern third of Colorado continues to be much drier with below normal snow conditions.

Idaho: February's gift: One month does make a difference. Precipitation in February was up to twice the normal amount.

Montana: “Stellar” is a perfect word to describe February’s snowpack, precipitation accumulation, and the streamflow forecasts for March 1. Statewide snowpack increased 20% according to SNOTEL and snow course observation sites.

Nevada: February brought above average precipitation. However, with warm temperatures across the Sierras, much of it fell as rain rather than snow in western Nevada. The snowpack continues to be much below normal in western Nevada, and much below to near normal in eastern Nevada.

New Mexico: DRY! A single storm system early in the month did little to alleviate the already dry conditions. Water supply forecasts continue to fall and the expected meager runoff will do little to supplement the below normal reservoir storage.

Oregon: One wet (February) month was not enough to correct the damage done by the four previous dry months. Although the precipitation boosted forecasts up by 5 to 30%, the outlook for summer streamflows remains drier than usual in many parts of the state.

Utah: Northern Utah has had an amazing snowpack recovery in February, from 75% of normal to between 100-120% of normal. Southern Utah remains exceptionally dry.

Washington: With double to triple the normal snowfall during February, forcing mountain pass closures numerous times, the overall snowpack has just reached near normal conditions.

Wyoming: Many SNOTEL sites received 250-300% of average precipitation during February. Snowpack in most of the state is much above normal although a few areas remain on the dry side.

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: <http://www.wcc.nrcs.usda.gov>