



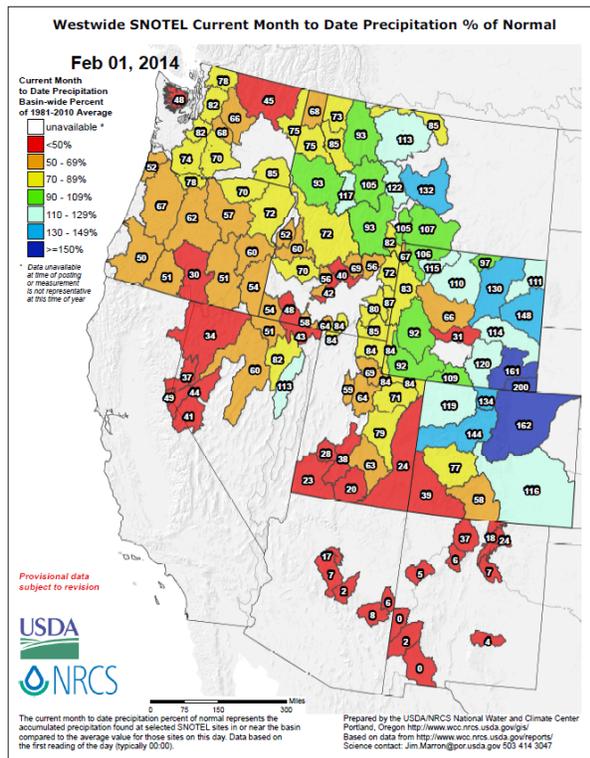
Natural Resources Conservation Service
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Western Snowpack and Water Supply Conditions February 2014

Overview

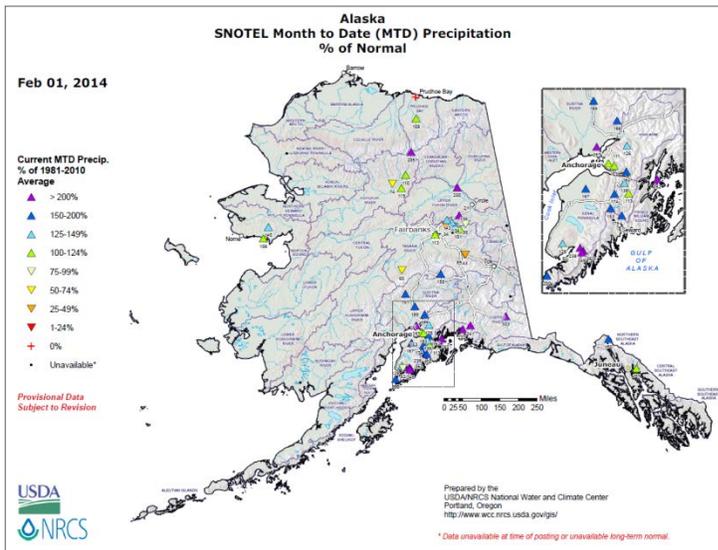
January's precipitation pattern across the western states and Alaska resembles the pattern that has persisted since the start of the 2014 water year in October 2013. Dry conditions are occurring over most areas west of the Continental Divide, whereas generally wetter than normal conditions are occurring east of the Divide. Alaska has experienced above normal precipitation over the Panhandle and Interior and below normal conditions over the South-Central Coastal region. These precipitation patterns are reflected in the snowpack and streamflow forecasts. Meanwhile, temperatures over the lower-48 western states have been within $\pm 5^{\circ}\text{F}$ of the long-term average during the 2014 water year, with the warmer departures occurring over California, central Washington, and south-central Idaho and the cooler departures occurring over eastern Montana, much of Utah, and north-central Wyoming.

January Precipitation



January precipitation was generally well below normal over the Cascades and Coastal Mountains of Washington and Oregon, the Sierra Nevada, the Great Basin, and across much of the desert Southwest. Near normal amounts were recorded generally along the Continental Divide and eastward into the western High Plains. A few river basins in central Montana, eastern Wyoming, and much of Colorado had well above normal precipitation.

Figure 1: January Precipitation Percent of Normal

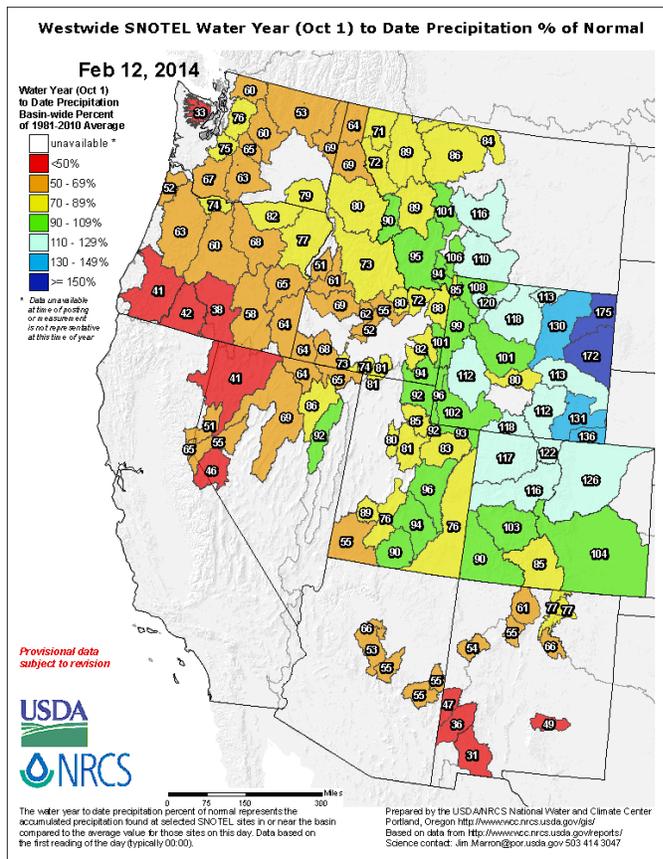


January was generally wetter than average over the south-central coast of Alaska, in stark contrast to a rather dry December. Above normal precipitation occurred generally across the remainder of the state.

However, a considerable amount of precipitation fell as rain (quite unusual for January) over the southern regions of the state as a persistent strong high pressure center advected warm moist air from the Gulf of Alaska.

Figure 2: January Precipitation Percent of Normal for Alaska

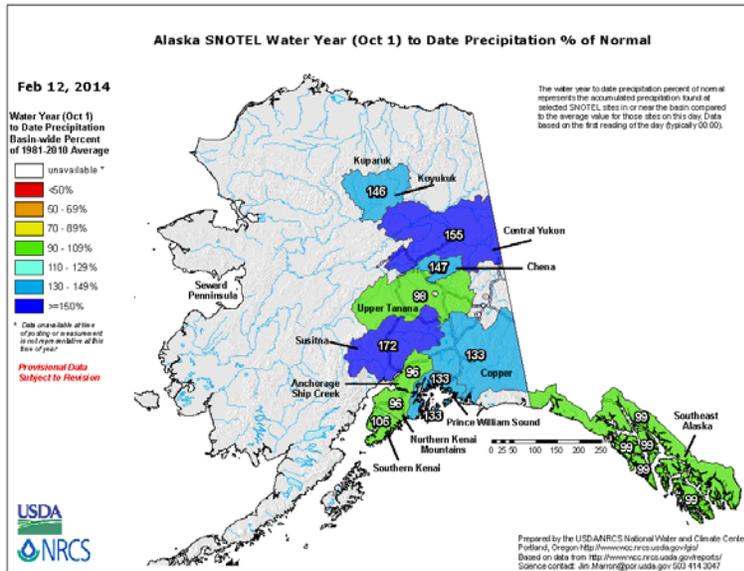
Water Year-To-Date Precipitation



Precipitation percent of normal for the [2014 water year to date](#) reflects a very similar pattern of wet and dry regions that was observed last month.

Most of Wyoming and the northern half of Colorado have received above normal precipitation for the first four months of the 2014 water year. The remainder of the western US has received below normal precipitation, with southwest New Mexico, northwestern Nevada, southwestern Idaho, southern Oregon, and westernmost Washington receiving much below normal precipitation.

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 February 1 (Figure 5) in the western US and the Columbia Basin in Canada has maintained and even intensified the stark west-to-east contrast as was observed in January. To the south and west of the Rocky Mountains, snowpack is well below normal. This affects most of Washington and Oregon, southwestern Idaho, all of California, Nevada, Arizona, and New Mexico, plus southern Colorado. Along and east of the Rocky Mountains, snowpack is near to well above normal. Most of Idaho and Utah has near normal snowpack, while near to above normal snowpack covers most of Montana, Wyoming, and Colorado. Alaska also has a strong contrast across the state, but here it is south-to-north. Southern Alaska has well below normal snowpack, while the Interior to the north is well above normal.

With half of the snow accumulation season completed, river basins that have below normal snow water equivalent (SWE) will have difficulty recovering to near normal values by early to mid April when peak SWE is often attained. Those areas with above normal SWE should be able to hold on to these amounts if colder than average temperatures persist through early spring.

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

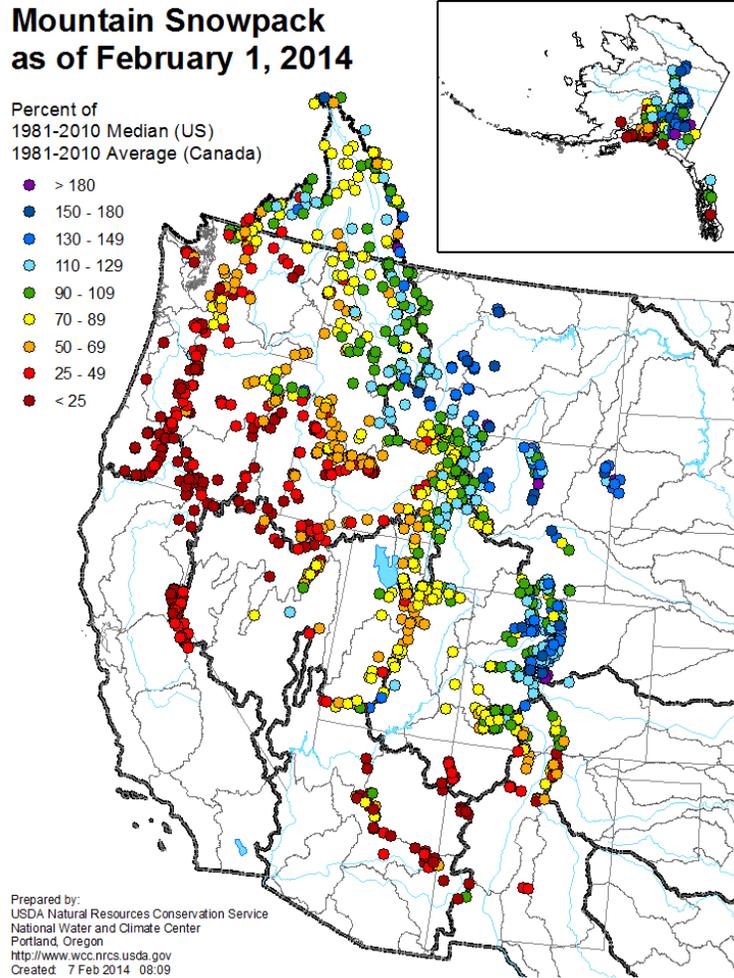


Figure 5: Snow water equivalent at SNOTEL and snowcourse sites

Streamflow Forecasts

Streamflow forecasts (Figure 6) reflect essentially the same spatial pattern as snowpack, with a sharp contrast between south and west versus north and east of the Rocky Mountain range. Below to well below normal streamflow forecasts have been issued for most basins in Washington, Oregon, southwestern Idaho, California, Nevada, Arizona, and New Mexico. In contrast, near to above normal streamflow forecasts have been issued for basins in northern Idaho, Montana, Wyoming, Colorado, and the Columbia River basin in British Columbia. For Alaska, forecasts are not issued until March.

[Medium- and long-term weather outlooks](#) from NOAA's Climate Prediction Center call for a milder and drier than normal late winter and early spring for much of the southern half of the West. However, [analog maps](#) (weather patterns similar to past years - see example for the next [8 to 14 days](#)) indicate a period with near normal precipitation, except for somewhat wetter conditions over the Cascades and drier conditions for the Sierra Nevada. Neutral El Niño Southern Oscillation (ENSO) conditions have persisted since April 2012. What usually results with neutral ENSO is that weather variability is heightened.

Spring and Summer Streamflow Forecasts as of February 1, 2014

Percent of 1981-2010 Average

- > 180
- 150 - 180
- 130 - 149
- 110 - 129
- 90 - 109
- 70 - 89
- 50 - 69
- 25 - 49
- < 25

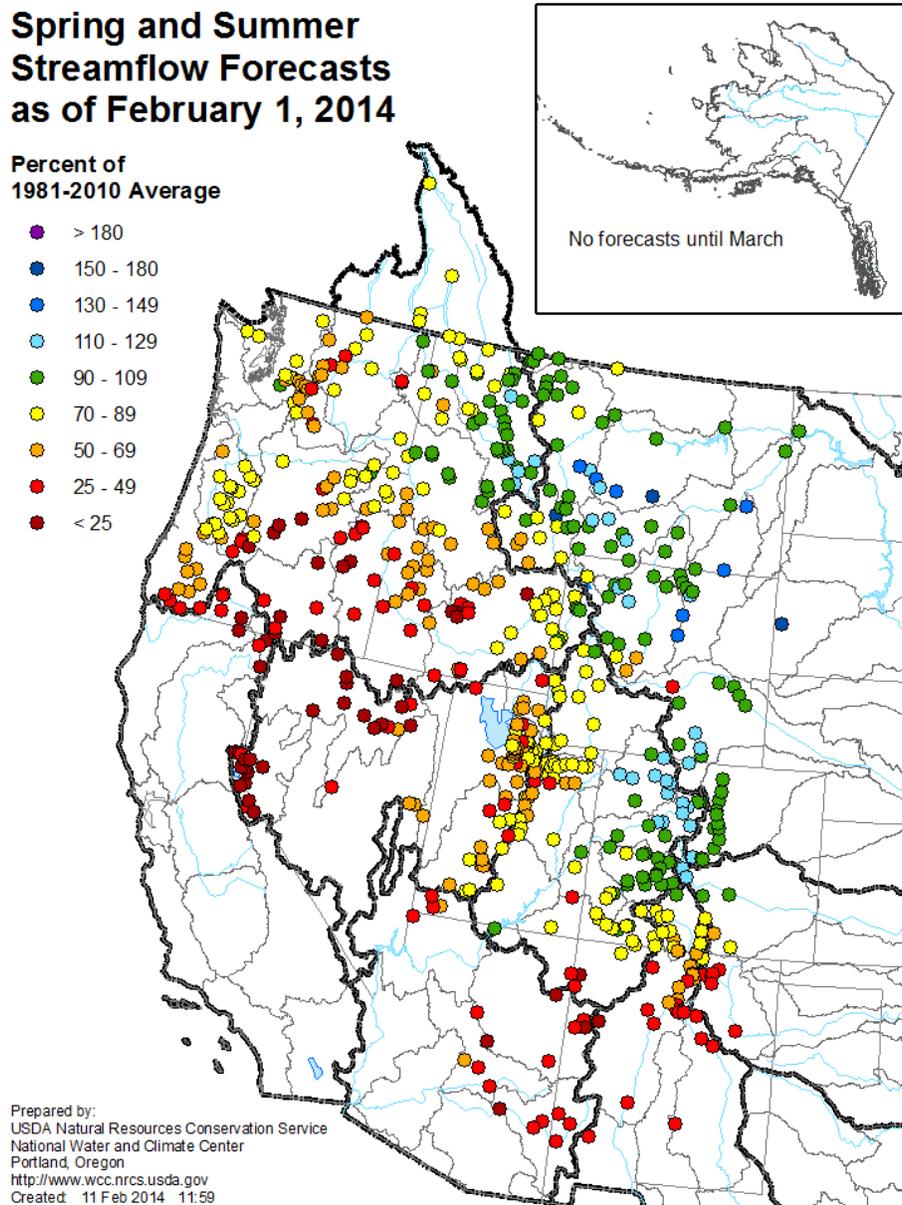


Figure 6: Streamflow forecasts as of February 1, 2014

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

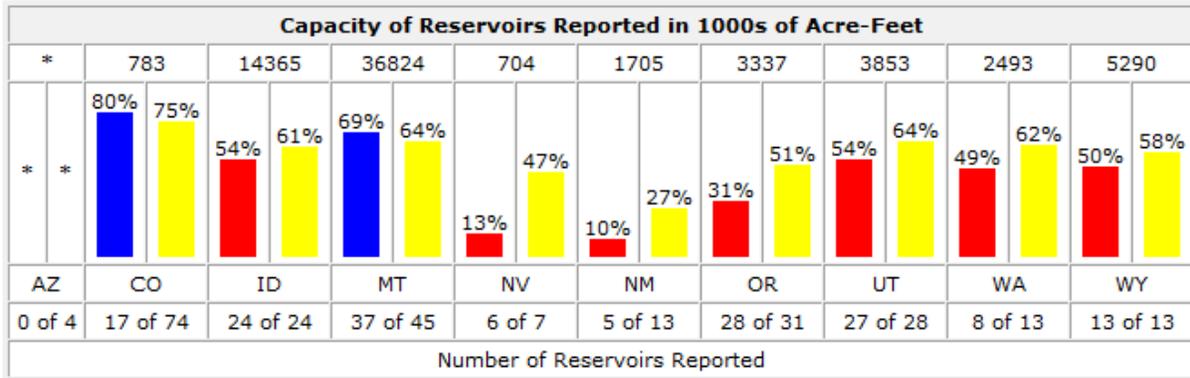
For more detailed information, see the individual state Water Supply Outlook Reports, which can be accessed at: http://www.wcc.nrcs.usda.gov/BOR/state_outlook_reports.htm.

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 % of capacity), with the exception of Montana and Colorado (Figure 7). Data for California are available [here](#).

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

(Data are provisional and subject to change)



[Select here for the Reservoir Dataset for this Period](#)

- 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 February 1, 2014.

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>.