United States Department of Agriculture

Western Snowpack and Water Supply Conditions

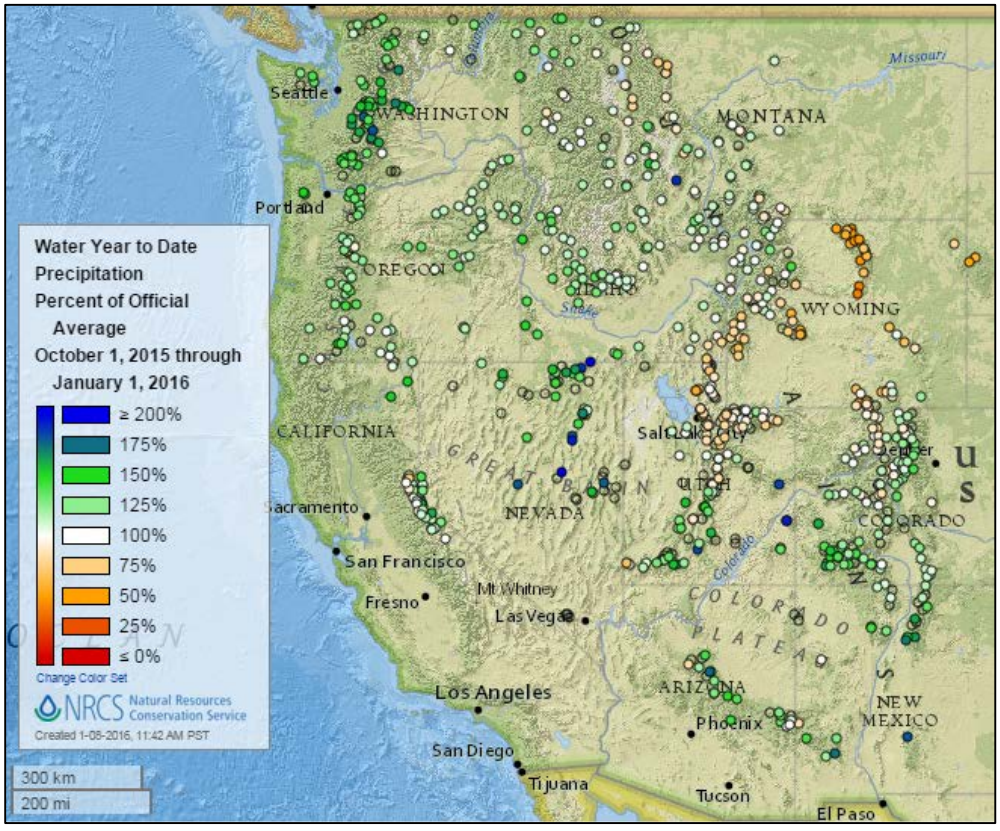
January 2016

Overview

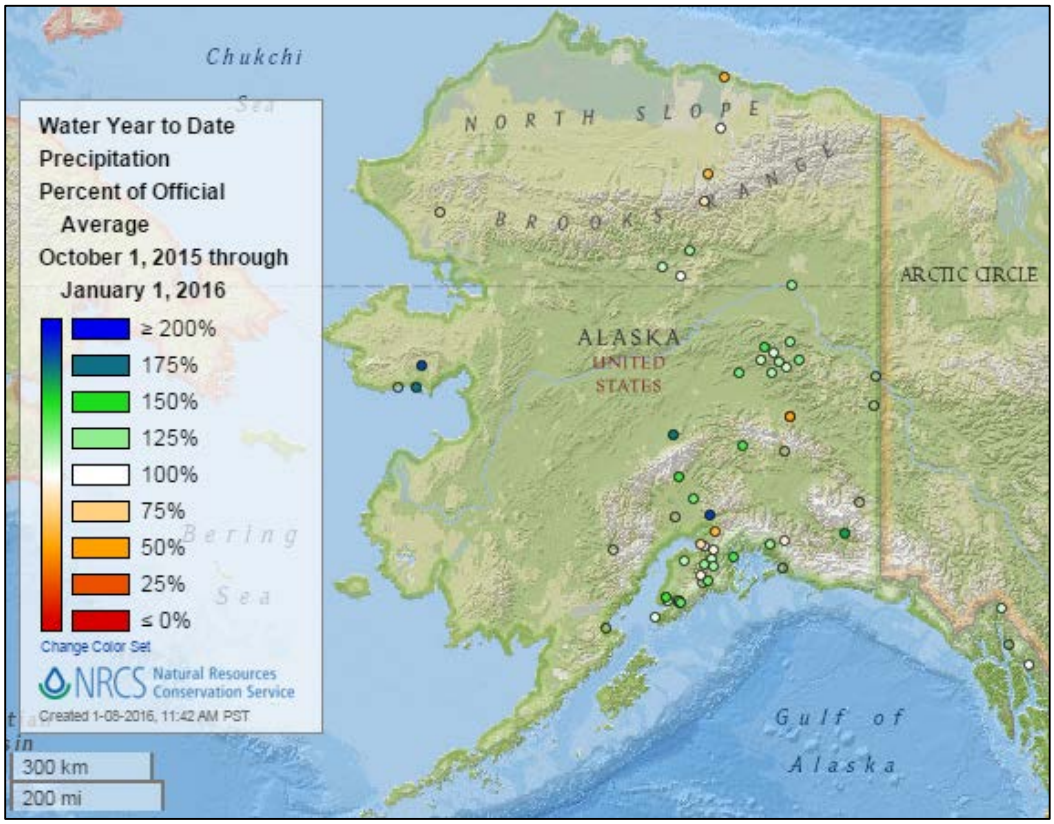
This report summarizes Snow Telemetry (SNOTEL) and snowcourse network data, streamflow forecasts, and reservoir storage data collected and analyzed by the National Water and Climate Center.

Precipitation thus far in the water year (beginning October 1, 2015) has been near or above normal in most of the West except for Wyoming and northeastern Utah. **Snowpack** reflects this same pattern. **Streamflow forecasts** at this early point in the season are near to above normal except for eastern Montana, northcentral Wyoming, and northeast Utah, where the outlook is below normal. **Reservoir storage** is currently above normal in Colorado, Montana, and Wyoming and below normal elsewhere.

Water Year-To-Date Precipitation



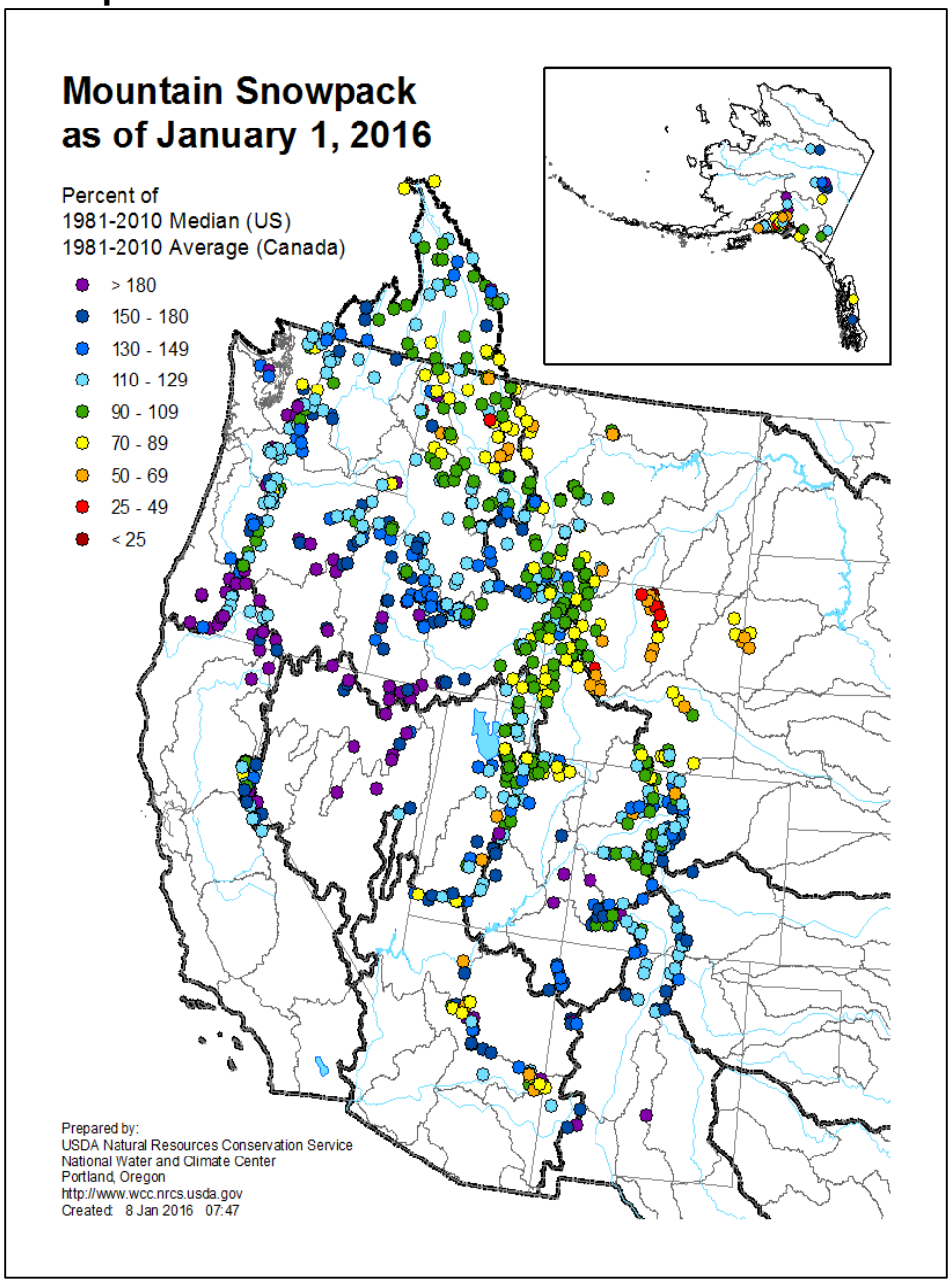
Precipitation for the 2016 water year-to-date has been near to above average over most of the West. The only exception to this pattern is northcentral and southwest Wyoming plus northeast Utah, where precipitation has been significantly below average.



Precipitation in Alaska for the 2016 water year-to-date has been near to above normal in most areas of the state.

Basin-filled maps containing monthly and daily updates of SNOTEL precipitation are available at: http://www.wcc.nrcs.usda.gov/gis/precip.html

Snowpack



Snowpack at SNOTEL sites and snow courses as of January 1 in the western U.S. and the Columbia Basin in Canada is near to well above normal in much of the region.

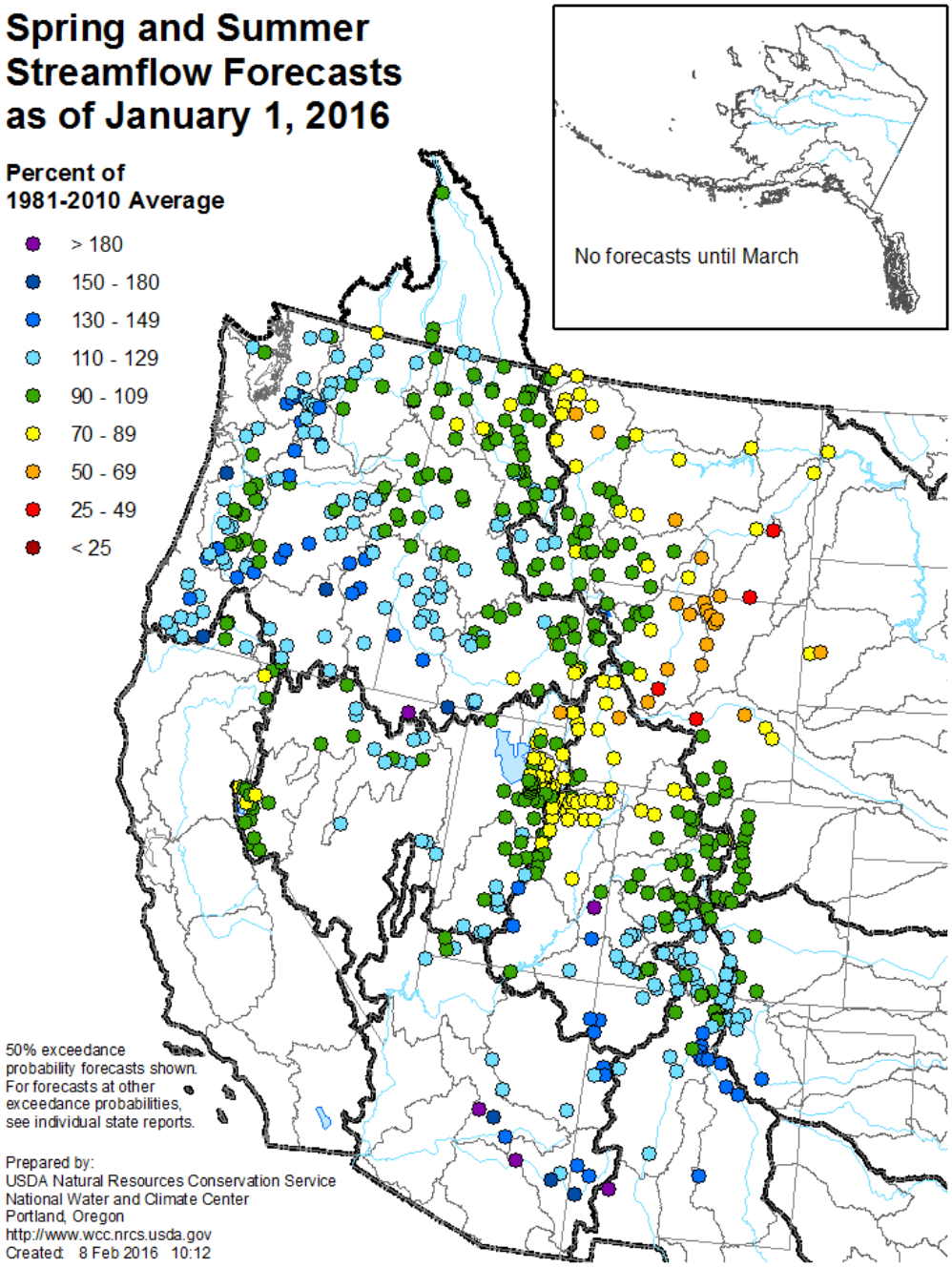
The striking exception to this picture is in northcentral Wyoming, where snowpacks are well below normal. In addition, somewhat below normal snowpacks are seen in the northern Rockies of Montana and Idaho as well as a few scattered areas in northeast Utah and in Arizona.

Snowpack in Alaska is above normal in the central and northern regions and below normal in southcentral areas.

Maps with daily updates of the snowpack (SNOTEL data only) for the entire West, as well as for individual states, are available at: http://www.wcc.nrcs.usda.gov/gis/snow.html

Streamflow Forecasts

Streamflow forecasts are near to above normal over much of the West. The water year has gotten off to a particularly wet start in the Pacific Northwest and in the Southwest. In stark contrast, streamflow expectations are well below normal in northcentral Wyoming and somewhat below normal along the eastern slope of the Rockies in Montana as well as in northeastern Utah.



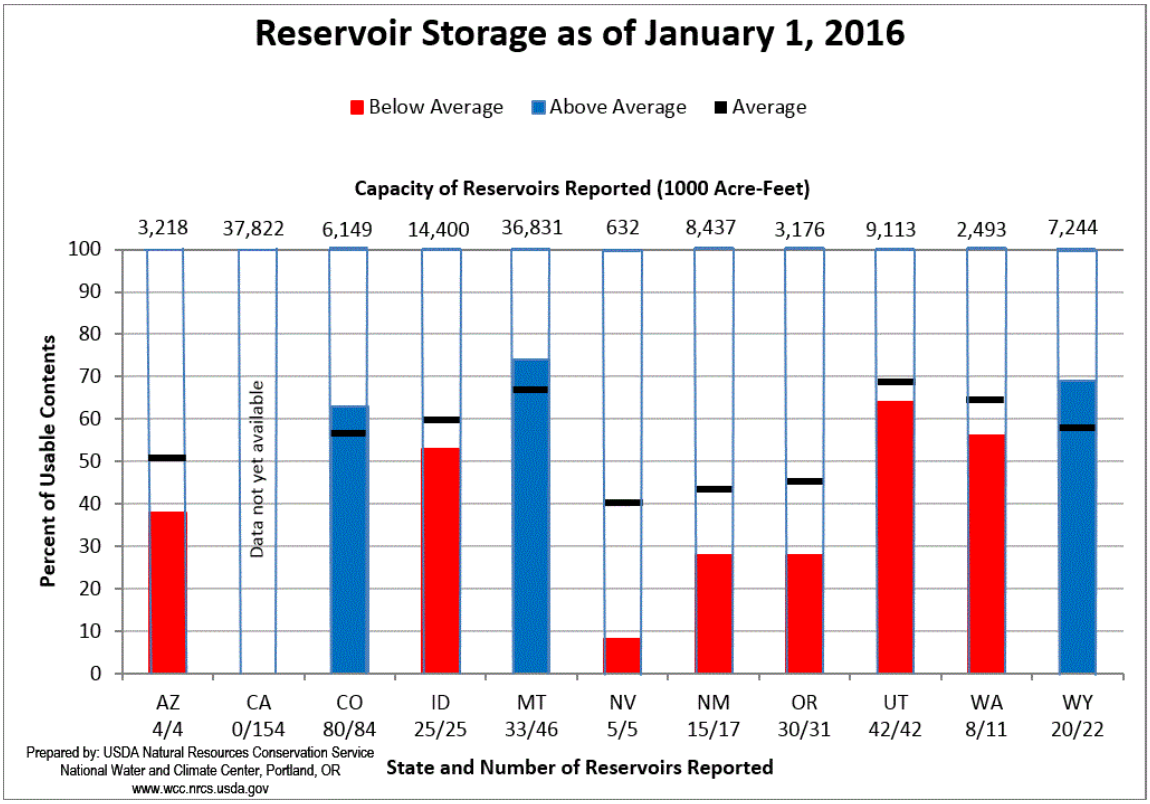
Trends in streamflow forecasts in basins for which daily water supply forecast models are available can be followed at: http://www.wcc.nrcs.usda.gov/wsf/daily_forecasts.html

Reservoir Storage

Reservoir levels are above average in Colorado, Montana, and Wyoming and below average elsewhere.

Further data and charts are available at: http://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: In general, above normal precipitation has made for an above normal snowpack across Alaska. Regional exceptions exist, in particular, north of the Brooks Range, where sites are drier than normal, as well as at low elevations in southcentral and western Alaska, where recent above normal temperatures have contributed to a below normal snowpack. The first full report for Alaska will be available in February.

Arizona: The winter has started out with a series of storms, and wet conditions are expected to continue for the winter. As a result, the first forecasts for the season call for well above normal streamflow in the spring.

California: Several storms during November and December have added much-needed moisture to soils and started to develop a snowpack throughout the Sierra.

Colorado: Snowpack statewide is at 119% of normal. The San Juan Mountains have seen the most handsome accumulations, where snowpack is currently above 120% of normal. The rest of the state enjoys above normal snowpack in all major basins. Only a handful of smaller watersheds are slightly below normal.

Idaho: The highest snowpacks are across Idaho's southern border at 160-190% of median and the West Central Mountains at 135% of median. The lowest snowpacks are just below normal in the Panhandle Region, Clearwater, Upper Snake and Bear River Basins. This snow accumulation pattern is the opposite from the past two years, which saw higher snowfall in the basins along the Continental Divide.

Montana: Snow accumulation in the mountains of Montana began during the last week of October and first week of November. Storm tracks have favored the southern basins, where moist southwest flow has resulted in near normal to slightly above normal snowpack and water year-to-date precipitation. The basins in the northern half of the state are below normal for January 1 with regard to snowpack but above average for water year-to-date precipitation. The effects of El Niño are not yet known, as typically Montana has accumulated only 35 to 40% of its seasonal snowpack at this point. The coming months should tell an interesting story.

Nevada: The early winter outlook for Nevada is hopeful. January 1 snowpack percentages range from 113%-203% of median. Continued precipitation throughout January could unlock the path to an above average winter, something not seen since 2011. It will, however, take multiple wet years to recover completely from four years of drought.

New Mexico: New Mexico is currently reflecting double the snowpack depths statewide as compared to last year. More importantly, the streamflow forecast for each point in the Rio Grande currently exceeds 100% of average. Additionally, weather forecast models continue to reflect a strong El Niño signature in the months to come.

Oregon: Cold mountain temperatures and copious amounts of precipitation joined forces in December to bring a much anticipated return of winter to Oregon. Following a year punctuated by record-low snowpack, water shortages, fires, and widespread drought across the Pacific Northwest, it is refreshing to start 2016 with an above normal snowpack throughout Oregon's mountains. As of January 1, the state-wide snowpack is 139% of normal compared to last year at this time when it was 51% of normal. Given the abundant snowpack in the mountains, streamflow forecasts currently predict near normal to well above normal flows for the 2016 summer. However, it is still very early in the snowpack accumulation season. NOAA's Climate Prediction Center (CPC) is calling for above normal temperatures in Oregon for the next 3 months, which will impact whether the winter precipitation continues to fall as snow in the mountains. For now, snowpack levels have already surpassed the peak levels of last year's snow season.

Utah: Snowpacks in southern Utah are well above normal (150% -200% of median) and near normal in northern Utah. However, with 75% of the snow accumulation season remaining, any outcome is possible. With the expected influence of a strong El Niño, southern Utah should continue to build a much above normal snowpack and with it, have an above average runoff season.

Washington: Following the snow drought and record heat wave of 2015, people were apprehensive about the prospect of expected warm and dry El Niño conditions heading into winter 2016. However, January 1 statewide snowpack readings were 128% of normal. Streamflow forecasts range from 90% of normal in the Upper Columbia to 152% in the Lower Yakima.

Wyoming: January 1 snow water equivalent across Wyoming is below median, at 81%. The year-to-date precipitation for all Wyoming basins is also at 81% of average, varying from 52-111%. Forecast runoff varies from 39-100% of average across the Wyoming basins for a statewide average of 86%. Reservoir levels vary from 80-190% of average for an overall average of 119%.

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