

Western Snowpack and Water Supply Conditions

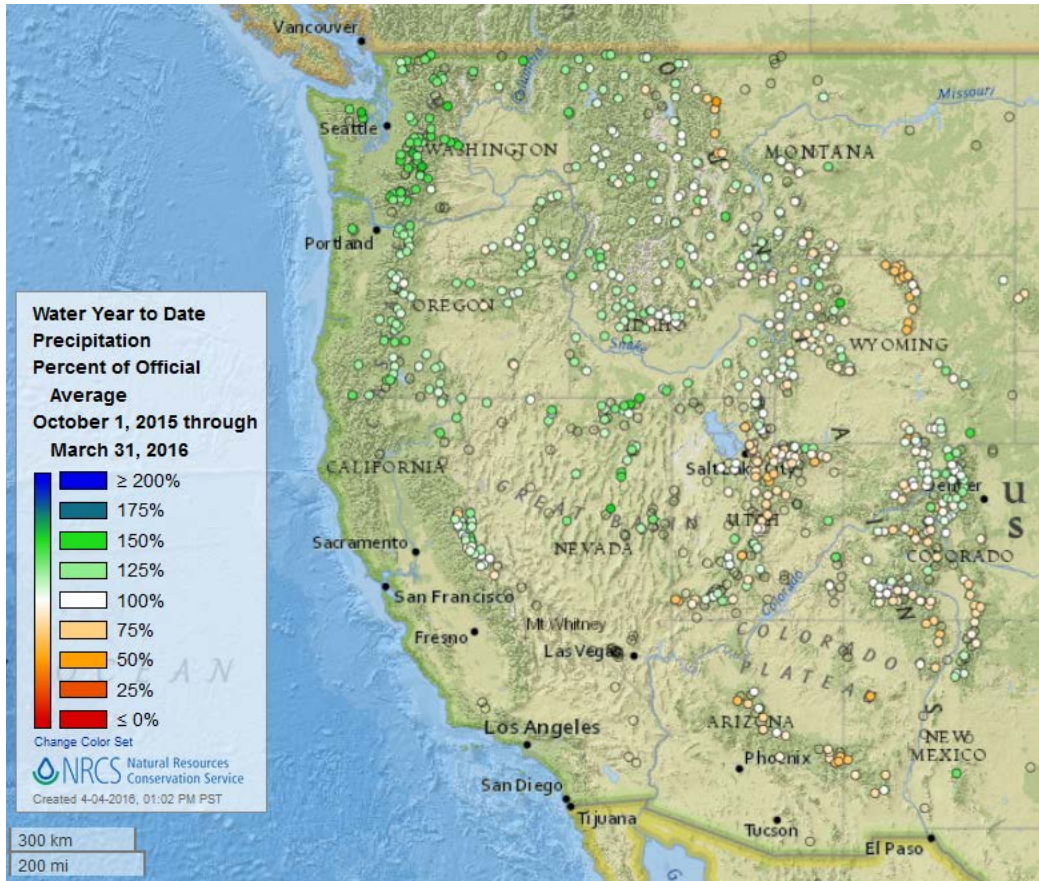
April 2016

Overview

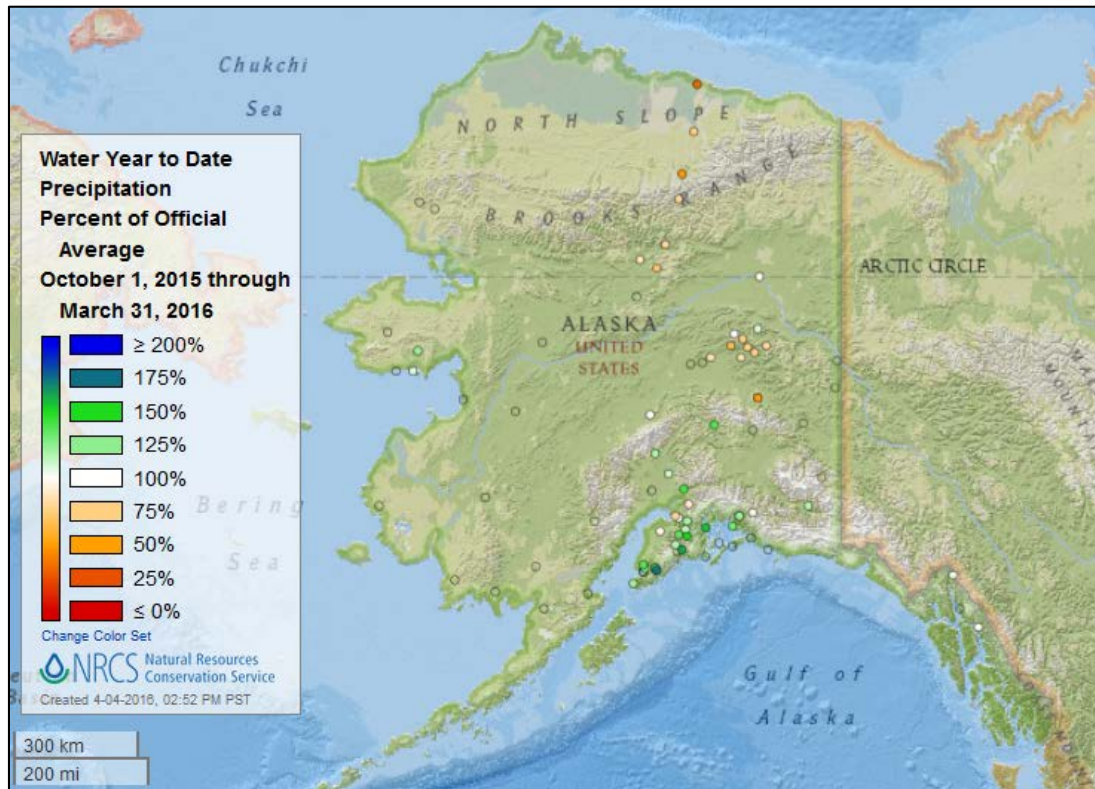
This report summarizes Snow Telemetry (SNOTEL) and snow course network data, streamflow forecasts, and reservoir storage data collected and analyzed by the [National Water and Climate Center](#).

Precipitation thus far in the water year (beginning October 1, 2015) has been near or above normal in much of the West except for parts of Wyoming, northeastern Utah, a small area in northwestern Montana, and in the Southwest. **Snowpack** has increased somewhat in terms of percent of normal since March 1 in the central and northwestern parts of the region, while the snow is essentially gone in the Southwest. **Streamflow forecasts** show a majority of the region expecting near or only somewhat below normal streamflows, with well below normal streamflows expected in the Southwest and a few localized areas in Wyoming, Montana, and Utah. **Reservoir storage** is well below average in Arizona, Nevada, and New Mexico and near average elsewhere.

Water Year-To-Date Precipitation



[Precipitation for the 2016 water year-to-date](#) remains near to above average over much of the West. The main exceptions to this pattern, with below average precipitation, continue to be areas in northcentral Wyoming, northcentral Utah, and a small area in northwestern Montana. This month, the Southwest is added to this list, as the month of March was very dry in that region.



[Precipitation in Alaska for the 2016 water year-to-date](#) has been near to above average in the southcentral and coastal areas and below average in the Interior.

Note: Current versions of these interactive maps are available at the links in the figures and captions above. In addition, basin-filled maps containing monthly and daily updates of SNOTEL precipitation are available at: <http://www.wcc.nrcs.usda.gov/gis/precip.html>

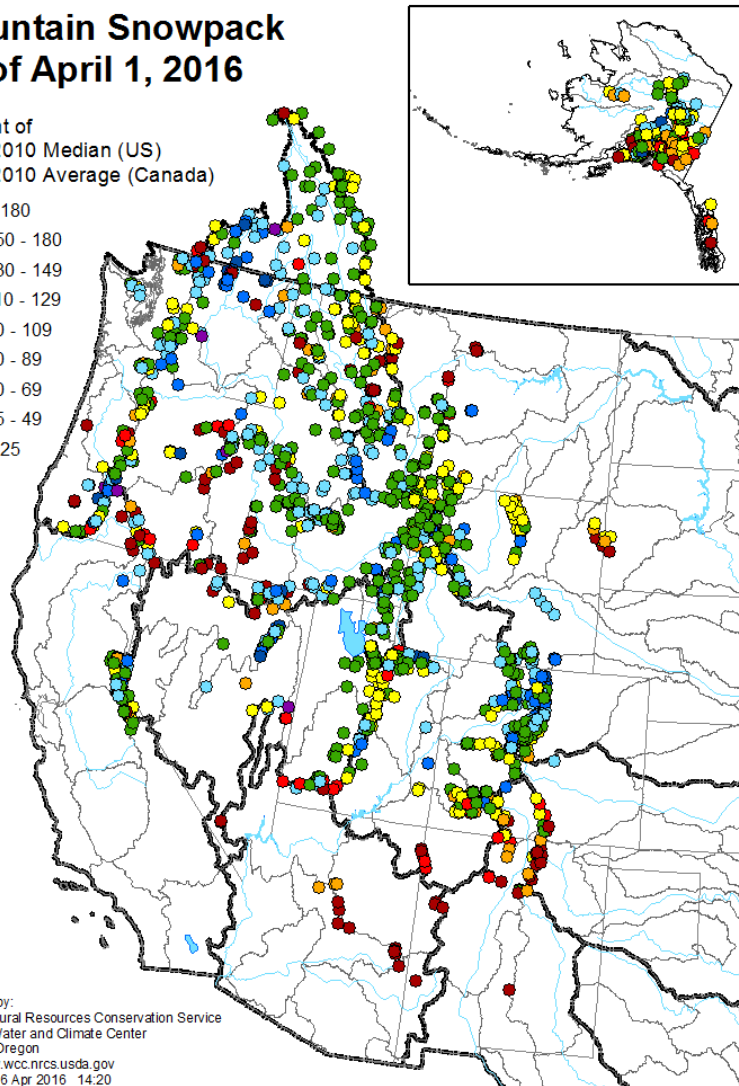
Snowpack

Mountain Snowpack as of April 1, 2016

Percent of
1981-2010 Median (US)
1981-2010 Average (Canada)

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

Prepared by:
USDA Natural Resources Conservation Service
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[Snowpack at SNOTEL sites and snow courses as of April 1](#) throughout the western U.S. and the Columbia Basin in Canada retains its general patterns from March, with a few changes in certain areas.

There was a moderate increase in snowpack percents since a month ago from northern Colorado on toward the Northwest due to a wet March. The Southwest, in contrast, had a dry March and hence the snowpack continued its decline. Interspersed in this picture, one can see the emergence of lower elevation sites that are nearing meltout, especially in northern Nevada, southwestern Idaho, and eastern Oregon.

Snowpack percents are mixed throughout Alaska, but they tend to be predominantly below normal toward the south and near normal toward the north.

Note: Current snowpack values are available via the map links above. Additional 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](#) show a majority of the region expecting near or only somewhat below normal streamflows. Below normal forecasts remain in localized regions of northcentral Wyoming, northwest Montana, and central Utah. In addition, the entire Southwest has already lost its snowpack, hence its streamflow forecasts are much below normal. Alaska's outlook is predominantly near or slightly below normal.

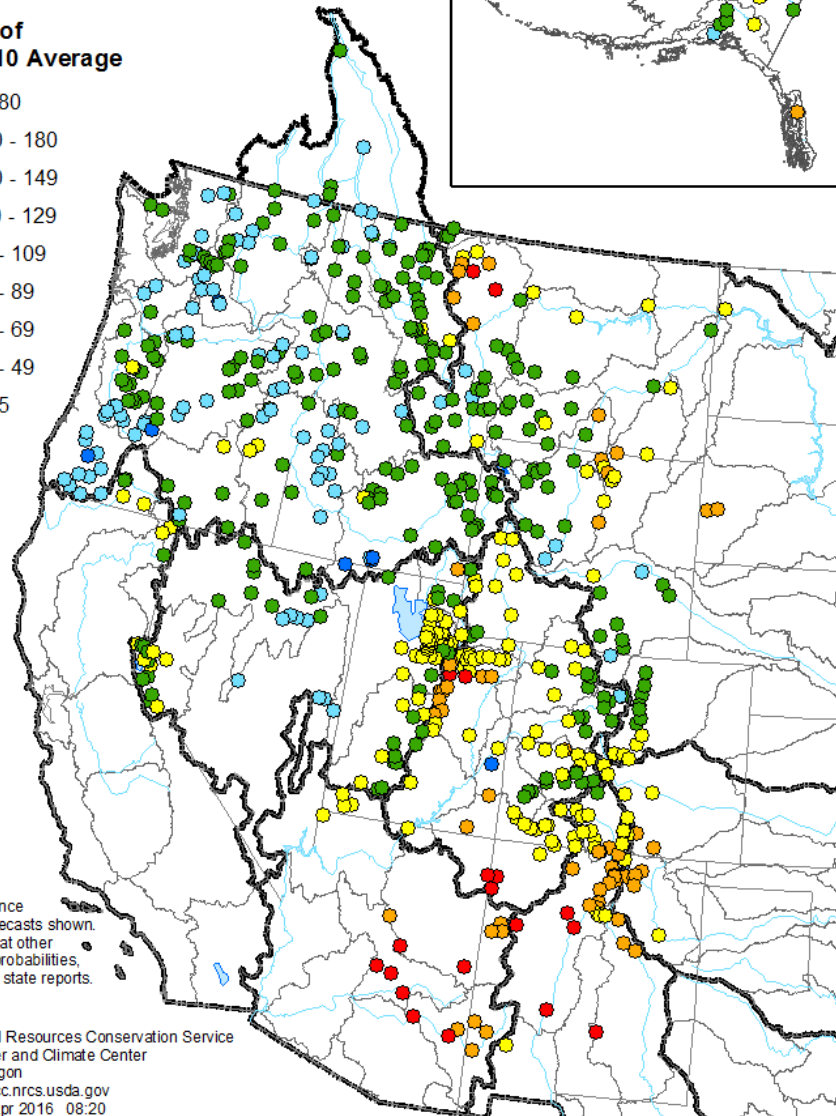
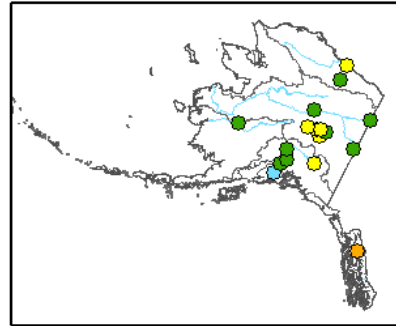
Spring and Summer Streamflow Forecasts as of April 1, 2016

Percent of 1981-2010 Average

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

50% exceedance probability forecasts shown. For forecasts at other exceedance probabilities, see individual state reports.

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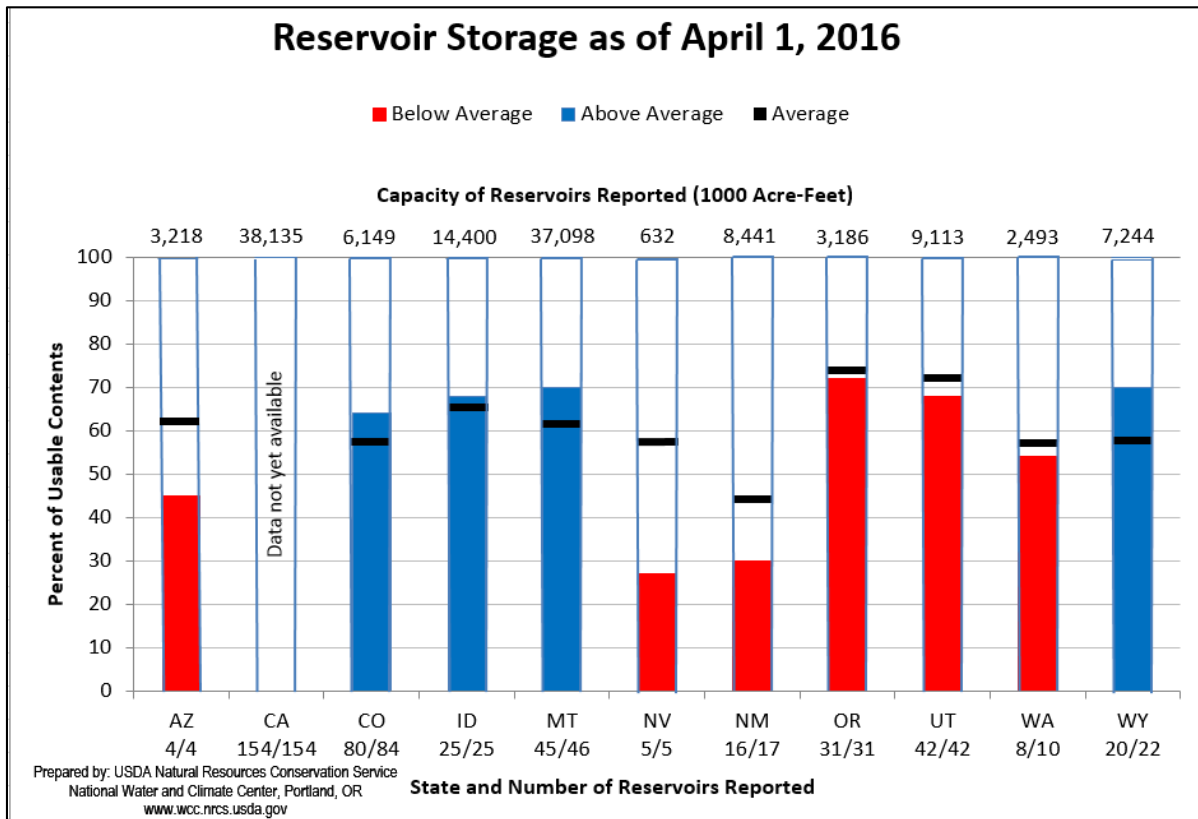
Trends in streamflow forecasts in basins for which daily water supply forecast models are available at: http://www.wcc.nrcs.usda.gov/wsf/daily_forecasts.html

Reservoir Storage

[Reservoir levels](#) are significantly below average in Arizona, Nevada, and New Mexico. Elsewhere, levels are near average, with Montana and Wyoming being a bit above average.

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: Moderate precipitation during March kept much of the snowpack in Alaska below to near normal. Warm March temperatures have primed many areas for an early breakup. Localized, higher elevation areas on the Kenai and Talkeetna Mountains have much above normal snowpacks.

Arizona: The state received very little precipitation and experienced high temperatures during the past two months. As a result, the state-wide snowpack is nearly melted out, and spring runoff is forecast to be below 50% of normal in all basins.

California: Substantial rainfall was received in the north half of the state during March. As a result, the major reservoirs, such as Shasta and Oroville, have above normal storage for this time of year. Also, snowpack in the Sierra Nevada has maintained a normal to just below normal level, which will provide average runoff into the reservoirs later in the year. The south half of the state did not receive the substantial precipitation and is well below normal in rainfall totals for this time of year.

Colorado: What was a great snowpack in southern Colorado on January 1 is now a poor snowpack, going from 127% of normal to 84% of normal as of April 1. However, northern Colorado has fared better, seeing a late March turnaround to above normal conditions at 107% of normal.

Idaho:

Montana: Mountain snow and valley rain during the month of March has improved the streamflow forecasts for this spring and summer to near average in most Montana basins. The Sun-Teton-Marias basins, however, remain below average.

Nevada: Nearly all major basins across northern Nevada and the eastern Sierra reached or exceeded the median peak snow water amounts in 2016 for the first time since 2011. As snow accumulation transitions to snow melt, water users can expect 85-125% of average streamflow for the April-July period.

New Mexico: Conditions have truly unraveled over the month of March for New Mexico. Warm, dry, and windy weather has dominated most of the state, which increases concern regarding early runoff, dust, and wildfire danger. Statewide snowpack has dropped another 35% throughout March, leaving four basins in the western and southern portions of the state bare. The northern mountains continue to cling onto the remaining snow yet have been subjected to considerable melt out over the past two months. This now positions New Mexico 11% below 2015's median of 57% at the beginning of April.

Oregon: Cold and snowy weather in the first half of March bolstered Oregon's mountain snowpack and delayed melting in most areas. As a result, many monitoring sites across the state have reached or surpassed normal peak snowpack levels for this time of year — a much improved outlook compared to last year, when more than half of these sites were snow-free on April 1. In contrast, the last two weeks of March have been warm and dry throughout Oregon, which has led to the onset of spring snowmelt in most locations across the state. NRCS hydrologists are still predicting near-normal or above-normal streamflows this summer, but they caution that those predictions hinge on air temperature.

Utah: Utah has near normal snow and runoff conditions across most of the state, with a couple of watersheds (the Duchesne and Price) slightly below normal. While average may not seem like great news, after four consecutive years of drought, normal is very welcome. In context, Utah currently has between two and five times more snow as it did last year.

Washington: April showers bring spring flowers, along with above normal rain and increased mountain snow for most of Washington. The April 1 statewide SNOTEL snowpack readings were 110% of median, and water year to date precipitation was at 132% of average.

Wyoming: The snow water equivalent across Wyoming is up to median for April 1. Monthly precipitation for the basins overall was 150%. The year-to-date precipitation average for Wyoming basins is now at 90%. Basin reservoir levels for Wyoming vary from 65-187% of average for an overall average of 121%.

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>