

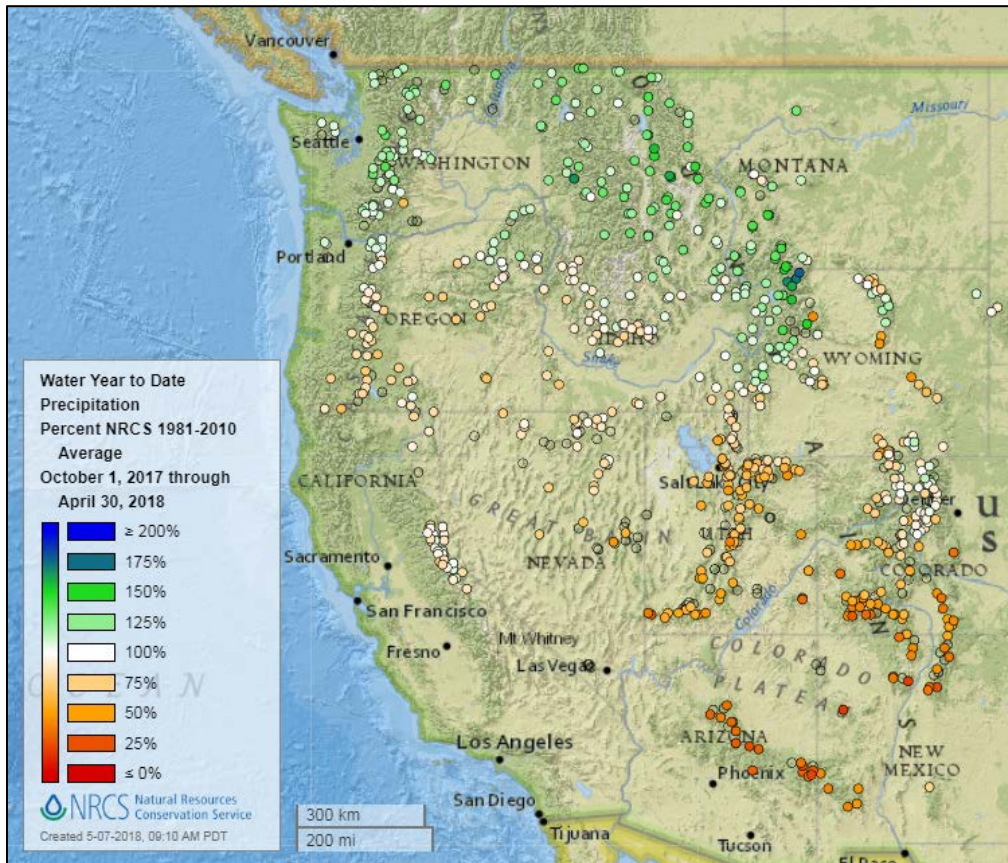
## Western Snowpack and Water Supply Conditions May 2018

### 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](#).

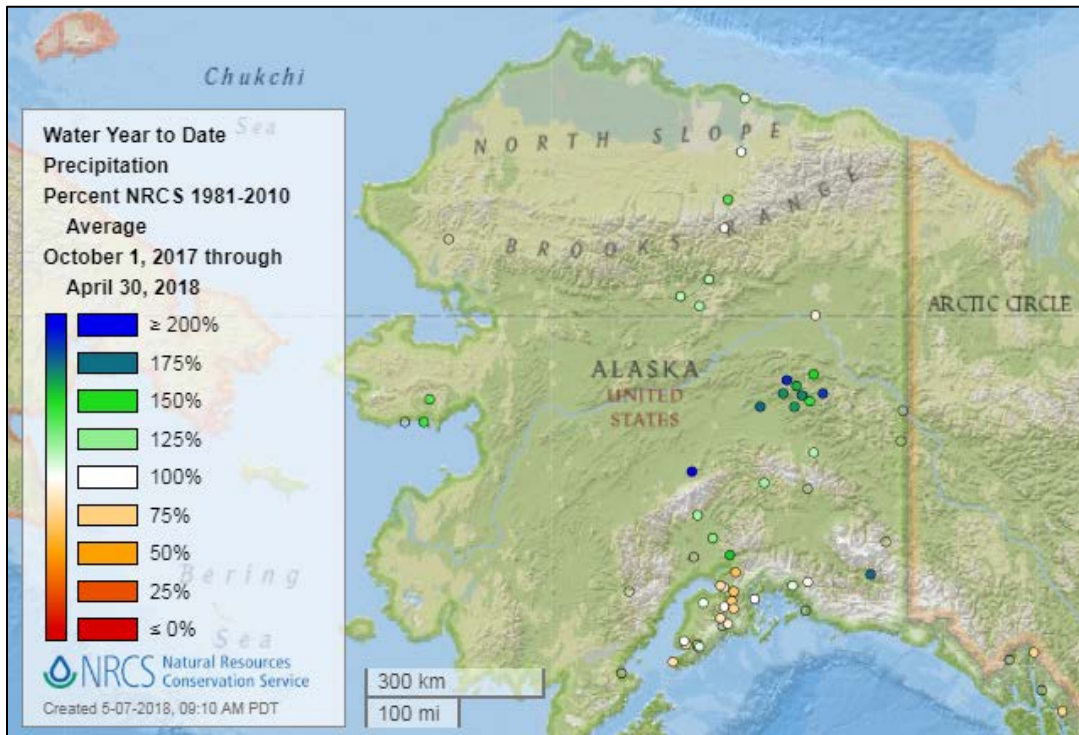
Again during April, weather patterns generally continued those of previous months -- wet in the north and dry in the south. **Precipitation** for the water year (beginning October 2017) has been well below normal in the four-state area of Colorado, Utah, Arizona, and New Mexico, whereas northern areas in Washington, Idaho, Montana, and Wyoming as well as Interior Alaska have been near to well above normal. **Snowpack** continues to show an extreme contrast between the 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 the northern areas and Interior Alaska expecting near to well above average streamflow. **Reservoir storage** remains above average in most western states.

### Water Year-To-Date Precipitation



[Precipitation for the 2018 water year-to-date](#) maintains the same pattern of wet in the north and dry in the south that it has had for the entire seven-month period (Oct. - Apr.) thus far.

The northern tier of Washington, northern Idaho, western Montana, and northwestern Wyoming continues to be well above average, whereas the four-state area of Utah, Colorado, Arizona, and New Mexico remains extremely dry. The Oregon Cascades and the Sierra continue at near to slightly below normal.



[Precipitation in Alaska for the 2018 water year-to-date](#), despite receiving below average precipitation over much of the state during the month of April, generally continues the pattern of somewhat below average in the south coastal areas and near or well above average toward the north and into the Interior.

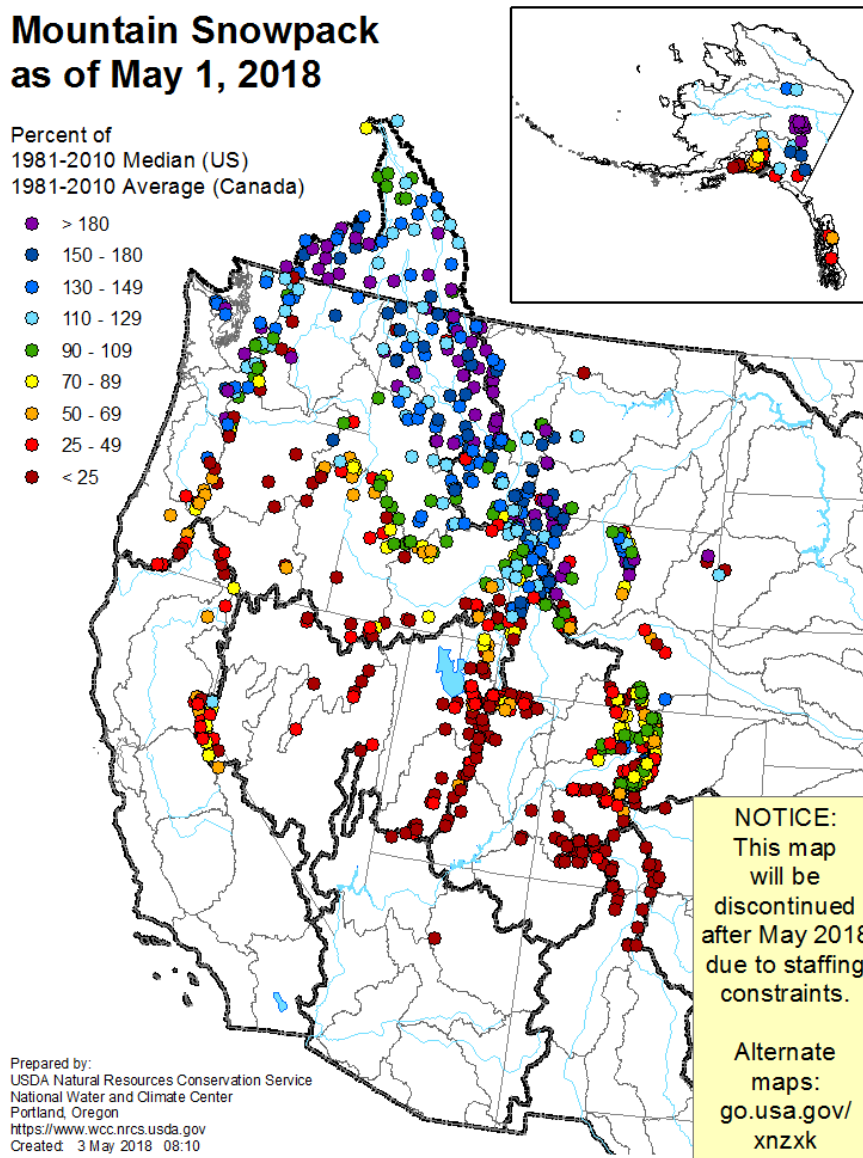
Basin-filled maps containing monthly and daily updates of SNOTEL precipitation are available at: <https://www.wcc.nrcs.usda.gov/gis/precip.html>. Updates can also be obtained via the Interactive Map, available at: [https://www.wcc.nrcs.usda.gov/snow/snow\\_map.html](https://www.wcc.nrcs.usda.gov/snow/snow_map.html).

## Snowpack

### Mountain Snowpack as of May 1, 2018

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



### [Snowpack at SNOTEL sites and snow courses as of May 1](#)

in the western U.S. and the Columbia Basin in Canada continues to maintain the stark contrast between the northern and southern parts of the region.

The snow accumulation season is now over, and snowmelt is well underway.

The large snowpacks that accumulated in British Columbia, Washington, northern Idaho, western Montana, and northwestern Wyoming are melting but are still well above normal and have much more to contribute to streamflow as the spring progresses.

In contrast, the southern areas that had very low winter snowpacks have already seen most of their snowmelt, and what snow remains is well below normal for this time of year.

In Alaska, snowpack remains generally below normal in southern areas and above normal 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](https://www.wcc.nrcs.usda.gov/snow/snow_map.html).

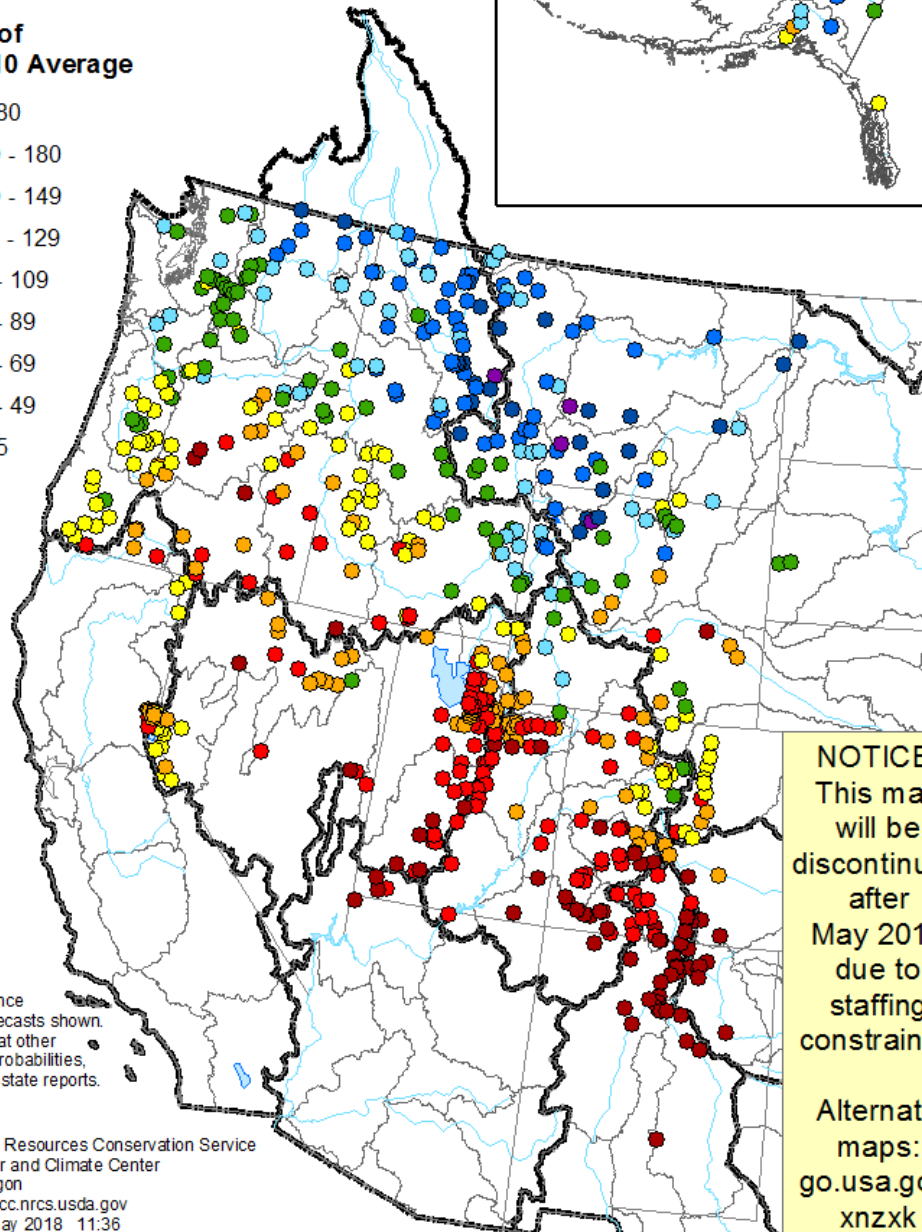
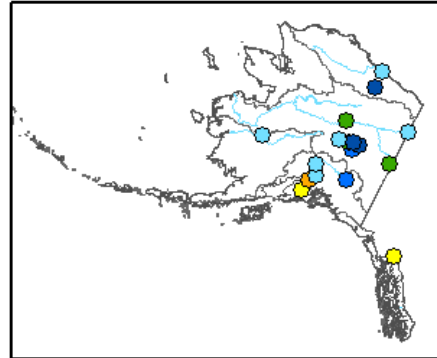
## Streamflow Forecasts

[Streamflow forecasts](#), reflecting the snowpack distribution, are below average over a majority of the West but near to well above average in the northern parts of the region and in Interior Alaska. This pattern has persisted throughout the winter. Forecasts remain exceptionally low in the Southwest and Great Basin regions and quite high in Montana and northwestern Wyoming.

### Spring and Summer Streamflow Forecasts as of May 1, 2018

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.

Prepared by:  
USDA Natural Resources Conservation Service  
National Water and Climate Center  
Portland, Oregon  
<https://www.wcc.nrcs.usda.gov>  
Created: 4 May 2018 11:36

**NOTICE:**  
This map will be discontinued after May 2018 due to staffing constraints.  
  
Alternate maps:  
[go.usa.gov/xnzxk](https://go.usa.gov/xnzxk)

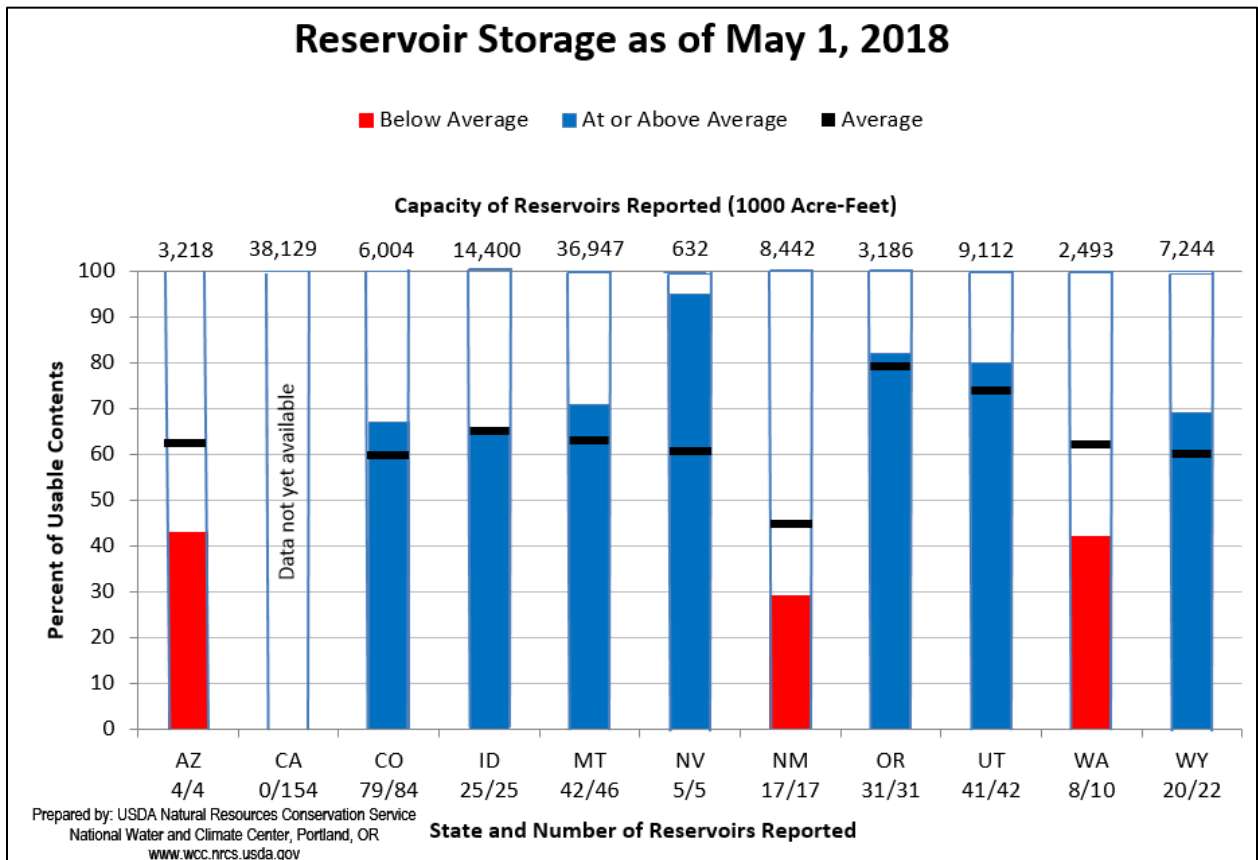
Trends in streamflow forecasts in basins for which daily water supply forecast models are available:  
[https://www.wcc.nrcs.usda.gov/wsf/daily\\_forecasts.html](https://www.wcc.nrcs.usda.gov/wsf/daily_forecasts.html)

## Reservoir Storage

[Reservoir levels](#) continue to be above average in most western states.

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:** Areas such as southeast, southwest, and much of southcentral Alaska, which began April with below normal snowpack, started meltout 1-2 weeks early this year and are still well below normal. Snowmelt also began in the Interior where many shallower, lower-lying snowpacks have melted out, but many of the mountain snowpacks have maintained or even slightly increased over the month. Snowpacks in the White Mountains, upstream from Fairbanks, are the highest they have been since 1991.

### Arizona:

**California:** April started off with an "atmospheric river" system that boosted precipitation totals in the Sierras. By month's end, the North and San Joaquin regions were around 80% of average for the water year-to-date. The southern (Tulare) region received some precipitation from the system but ended the month with only 66% of average for the water year-to-date. Small cold storms that swept across the state midmonth were not enough to reverse the significant springtime decline in what was already a low snowpack, which statewide stood at 32% of normal as of April 30. The California Department of Water Resources Bulletin 120 Forecast Update for April 24, 2018 posted revised April-July runoff volumes for

the major Sierra river basins, which range from 46% of average for the Tule River to 96% for the American River.

**Colorado:** Current snowpack and water supply conditions vary widely across Colorado. While much of northern Colorado obtained a near normal snowpack, the southern half of the state had well below normal precipitation and above normal temperatures throughout the winter season, leading to a snowpack that barely reached 50% of normal values. Because of this, there is potential for record low summer streamflows across many of the rivers of southern Colorado this year. While streamflow forecasts in the northern half of the state are substantially better, there are currently no rivers in Colorado forecast to have above average streamflow volumes at the 50% chance of exceedance level.

**Idaho:** Widespread mountain snowmelt is now occurring in Idaho. Good news for water users is that despite the below average snowpack and precipitation in some basins, Idaho's reservoirs are in great shape. This combination will provide most users across the state with an adequate water supply.

#### **Montana:**

**Nevada:** Streamflow forecasts for the May-July period range from 13-88% of average. May 1 snowpacks are lean (18-64% of median), and the snow that is left will not sustain current streamflow for long, so expect natural streamflow to be low in most areas once snowmelt ceases. That said, the remaining runoff is expected to be enough to fill key reservoirs in the Tahoe, Truckee, Carson, and Walker basins.

#### **New Mexico:**

**Oregon:** Oregon is bracing for a low water supply season with shortages likely, especially in parts of southern and eastern Oregon. As of May 1, Governor Kate Brown has officially declared a drought state of emergency for Klamath and Grant counties, with more counties likely to follow. Streamflow is expected to be well below average throughout most of the state due to a drier than normal winter and a well below normal seasonal snowpack. The Drought Monitor (<http://droughtmonitor.unl.edu/>) has included most of Oregon in a moderate drought status, and the long range forecast from NOAA's Climate Prediction Center (<http://www.cpc.ncep.noaa.gov/>) is calling for a warmer and drier than normal weather pattern for the next 3 months. Water users are advised to plan for lower than usual water supplies, especially those that depend on streamflow as the main source. Many reservoirs that assist irrigation are storing near average amounts of water for this time of year, which may provide a much needed buffer with those that have access to it. Northern Oregon continues to be the exception. Streamflow will be close to normal in the northernmost river reaches of the state, where near average amounts of precipitation fell this season. However, many rivers in this region may still not achieve normal streamflow levels through the summer, as northern Oregon's snowpack is mostly below normal as of May 1.

**Utah:** Over the past month, snowpacks have been melting fast, yet streamflow response has been poor. Excluding a few streamflows in the Uintas and Bear River Basin, most of the observed flow at the end of April ranged from 20% to 60% of average. Add to that the limited snowpack left in our mountains, and the likelihood for improved streamflow is pretty bleak. Relative to the maximum observed snow water equivalent (SWE) for this winter, as of May 1 the percent total snowpack that has been lost per basin is: Bear – 44%, NE Uinta – 74%, Weber & Ogden – 63%, Duchesne – 45%, and Provo & Jordan 64%. Moreover, Tooele Valley and all of the basins south of the Provo & Jordan have lost 70 to over 90% of this year's total snowpack. In the southern portion of the state, current SWE ranges from 0 to 20% of median. Given these snowpack conditions, expect low peak flows occurring early in the season and substantially low accumulated flow. Most May-July streamflows will likely be in the 30% to 50% of average range.

#### **Washington:**

#### **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>.