



IDAHO WATER SUPPLY OUTLOOK REPORT

Natural Resources Conservation Service Snow Survey

Complete snow survey information is available on line at: www.nrcs.usda.gov/wps/portal/nrcs/main/id/snow/

Warm temperatures and rain continue to take their toll on Idaho’s snowpack. Unfortunately, the high pressure that has dominated the weather and prevented the building of mountain snowpack over most of Oregon and Washington moved east over Idaho during February.



Snowpacks stretching from Lake Tahoe in the California and Nevada area to Mount Baker in Washington’s northern Cascades are only 10-40% of median, probably one of the few winters that Idaho has a greater snowpack than Oregon and Washington due to the unique jet stream pattern storm track that taken abundant moisture along with arctic cold temperature to the central and eastern US.

A “Snow Drought” is the best term to explain this year’s unique pattern which has seen a larger percent of the moisture falling as rain rather than snow.

With the majority of Idaho’s basins in the 70-100% of median range, most of Idaho, with the exception of the Owyhee basin, Panhandle Region, and a few southern and central basins, needs one or two “snow” storms to keep us in the ballgame or add a little more moisture to the water supply picture.

Snowpacks across southern Idaho increase from west to east ranging from only 22% of median in the Owyhee basin to 115% in several Snake River headwater drainages in Wyoming. They also increase going north to 91% of median in the Salmon basin but drop to half of normal in the

Idaho’s snowpack situation is vividly illustrated in this photo taken March 18 by the NRCS Snow Survey at the Graham Guard station SNOTEL, elev. 5,690 in the upper North Fork Boise River. Phil Morrissey, NRCS Snow Data Collection Officer, says the site on 3/18/15 had 4.2 inches snow water content - 9 inches snow depth -- the third lowest for that date in the 35 years the site has been working.

The 1981–2010 normal for this date is 13.1 inches of snow water, so this year it is at 32 %. Sometimes some people are also interested in how it compares to the previous 30-year average (1971 – 2000), which in this case was 15.8 inches water content on March 18. So if we had this same amount 4 years ago before we implemented the current normal it would have been reported as 27%. (Photo Courtesy NRCS)

Panhandle Region. Record low March 1 snow water content amounts can be found scattered around northern and western Idaho.

Across Idaho, 80% of reservoirs are at or above average storage for this time of year. The Southside Snake River Basins are the lone spot where reservoirs are consistently below normal storage. Reservoirs that are only 15-26% of total capacity and can store more water are (from low to high) Salmon Falls, Wild Horse, Owyhee, and Oakley. Because of the low reservoir storage, these are the basins where irrigation shortages are likely this summer. In the Upper Snake, combined Palisades Reservoir and Jackson Lake are in good storage shape at 135% of average, 81% of capacity. American Falls Reservoir is on schedule to fill around April 1.

All remaining reservoirs in the Upper Snake are at or near normal levels, and with a good snowpack in the mountains, adequate irrigation water should be available.



On the ground at the SNOTEL site at the Graham Guard Station in the upper North Fork Boise River. There was only 9 inches of snow on the ground when the picture was taken March 18th. The snow water content -at 4.2 inches- was the third lowest for the date in the 35 years the SNOTEL site has operated. The same date on other low water content years include:

- 1992 2.5 inches of water content
- 2013 3.2 inches of water content
- 2015 4.2 inches of water content**
- 2005 4.4 inches of water content
- 1981 5.8 inches of water content
- 2001 6.2 inches of water content

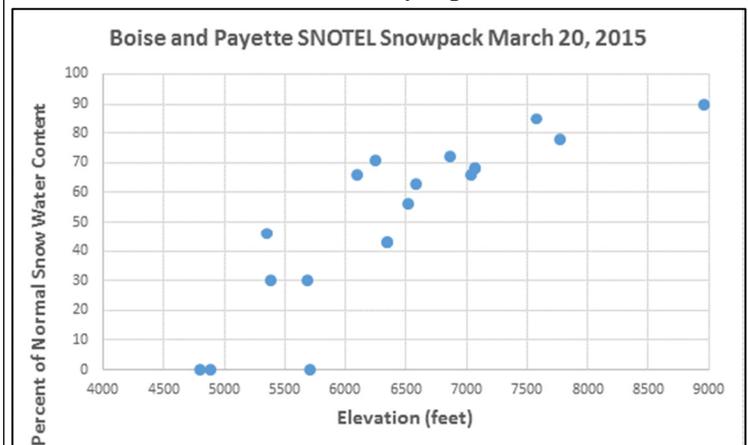
Photo and data courtesy of NRCS Snow Survey

Bear Lake is 44% of capacity, which is just under average for this time of year, and will provide adequate irrigation supplies to its users even with a streamflow forecast less than half of average.

Reservoirs in the Little Wood and Big Lost basins are right on target with the Little Wood Reservoir at 57% full, 98% of average and Mackay Reservoir at 72% full, 108% of average.

The Boise and Payette reservoir systems are at 141% and 117% of average respectively, and should fill on schedule and provide adequate irrigation supplies.

To help explain the snowpack situation, Phil Morrissey, an NRCS NRCS Snow Data Collection Officer, provided a graph of March 18 data for the Boise-Payette SNOTEL sites showing the distinct elevational gradient of the snow distribution. It is explained by the persistent mild winter where more rain than snow occurred which primarily affects the low and mid elevation areas. That plus some actual premature melting in the low-mid elevations that normally doesn't start until late March and early April.



North Side Canal Company Hydropower Project Set To Go On Line in April

A 1.28 megawatt in-canal hydropower production project of the Jerome-based canal company, titled the U Hydroelectric Plant, is scheduled to go on line in April following two years of planning and construction. The hydro plant is located northeast of Jerome on the North Side Canal Company's main canal, according to NSCC manager Alan Hansten. The project was initiated in the spring of 2013 and took just two years from concept to power production.



The downstream face of the project (left above) clearly shows the outlet of the eight siphon-type Kaplan turbines supplied by Mavel of the Czech Republic. The inlets of the turbines are shown in the upstream view, above right. (NSCC Photos)

The plant will utilize 1,200 cfs of water and has about 20 feet of head to develop the 1.28 Mw of energy. Installation of hydroelectric equipment and downstream channel rock excavation has been underway this past winter and the plant is scheduled to be online in April.

“The project is also the first project in Idaho to be eligible for a Seasonal Hydro energy sales agreement with Idaho Power since it will generate over 55 percent of its energy annually during the months of June, July, and August,” Hansten noted. In 2013 legislation was passed by congress and signed by the President that allowed in-conduit hydro exceptions from the federal power act if the project was less than 5 Mw. Basically, it allowed NSCC to clear FERC in about 60 days, Hansten added.

The project combined several goals in the NSCC water management plant. The concept was to replace a 100 year old irrigation structure that regulated water level on the main canal so as to divert water into two laterals while the rest of the flow continued down the main canal. As part of this project NSCC was also able to eliminate a siphon that previously conveyed water in another canal under the main canal by raising the water elevation 5 feet and eliminate more than a mile of ditch.

The project engineering was overseen by Dan Murrer and Eric Schulz of CH2M Hill of Boise and the main structure was constructed by McAlvain Construction of Boise in the winter of 2013/2014 and the upstream embankments in the summer of 2014 by Jack's Excavating of Jerome.

Several NSCC employees under the direction of Shawn Sauer have been involved with this project and have worked very hard to make the project a success. NSCC crews performed all demolition and subgrade preparation for the structure, AquaSystem 2000 control gate installation, downstream channel rock blasting and removal, and International Water Screen debris screen installation.

Mark Your Calendar

- June 22-23 - IWUA Summer Water Law & Resource Issues Seminar – Sun Valley**
- August 4-6 - NWRA Western Water Seminar – Hyatt Regency Monterey – Monterey, CA**
- November 4-6 - NWRA Annual Convention – Westin Denver Downtown, Denver, CO**
- November 19-20 - IWUA 32nd Annual Water Law Seminar – The Riverside Hotel – Boise**