NRCS Idaho Snow Survey

What do Idaho snow surveyors do?

United States Department of Agriculture

You wouldn't guess that the busiest time of year for many Snow Survey employees is the summer, but that's when all 129 Idaho SNOTEL (SNOpack TELemetry) sites receive their annual maintenance! Every SNOTEL station requires at least one visit to ensure it provides continuous, reliable data yearround. During the winter, Snow Survey staff quality control the incoming data, troubleshoot impaired SNOTEL sites and manually collect snowpack data at snow courses. Staff also analyze a variety of data to provide insights into water supply conditions in reports and presentations throughout the winter and spring months.

Why is collecting snowpack information valuable?

The water contained in the winter snowpack is an essential resource for all Idahoans. Whether the snowmelt becomes our drinking water, waters the crops we eat, or fills the rivers and lakes we recreate on, it's a vital resource the Idaho Snow Survey is dedicated to understanding for the benefit of all Idahoans. About 75% of the water flowing through Idaho's streams comes from snowmelt, with a large portion of that irrigating crops and helping Idaho's agricultural prosperity. In dry years, snowpack, streamflow and other data help decide drought designations on the U.S. Drought Monitor. In wet years, snowpack information is used to mitigate flood concerns.



What is snowpack information used for?

Snowpack information is used to manage water across the West. Knowing the amount of water contained in the snowpack allows water managers to use water wisely in times of drought and, in big snowpack years, to manage rivers to prevent flooding. Agricultural producers rely heavily on accurate snowpack data and streamflow forecasts to anticipate water availability during the growing season. How full the reservoirs are and how good the snowpack conditions are each winter help determine what crops should be grown that year.



Water Supply Products

- Interactive Map (iMap)
- Water Supply Outlook
 Report (WSOR)
- Streamflow forecasts
- Presentations

Snow Survey Partners - Idaho

- Idaho Power
- Bureau of Reclamation
- Army Corps of Engineers
- University of idaho
- Idaho Department of Water Resources
- Local water districts
- Canal Companies
- And so many more!

Idaho Natural Resources Conservation Service



How do hydrologists measure snow?

United States Department of

The NRCS Idaho Snow Survey team maintains a network of automated weather stations across Idaho that provide snowpack information to the public and partner agencies. These SNOTEL weather stations are part of a vast network to measure and predict water supply across the West each year. Idaho Snow Survey staff maintain and collect data at 129 SNOTEL sites. Additional manual snowpack measurements are made from January through the end of winter at 129 snow course sites. The snow course data provide insights into snowpack conditions at lower elevations in our mountains. They also extend the snowpack record back 94 years in Idaho. Long snowpack records are valuable because historic data can help water managers predict how to best use the water in the current year's snowpack. Many volunteers and partner agency employees carry out these monthly snowpack measurements across our state.

What is snow water equivalent?

An important term to describe the relationship between snowpack depth and water supply is called 'snow water equivalent' or SWE for short. Snow water equivalent describes how much water is contained within the snowpack. If you imagine filling a pot with snow from your backyard and melting it, the amount of water left in the pot is how much water (SWE) was contained in that amount of snow. Snow scientist's use snow water equivalent rather than snow depth to predict water supply because the snowpack's water content can vary drastically depending on the local climate. For example, 12 inches of very light, dry snow that's typically found in colder, interior regions like Montana. Utah and Colorado will contain less water when melted compared to the heavy, wet, dense snow often found in wetter, warmer climates like the Sierra Mountains, Western Washington and Oregon.



Idaho Natural Resources Conservation Service nrcs.usda.gov/idaho

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