

Development of Snow Wetness *in situ* Data Distribution Survey

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ABSTRACT

Snow wetness is the amount of liquid water present in a snowpack and is an important physical parameter of snow. Snowmelt timing is vital for water storage and resource management, and possible environmental hazards such as flooding. However, snowmelt timing is ephemeral, spatially variable, and difficult to estimate because of the inaccessibility and lack of field observations in many regions. *In situ* measurements of snow wetness are critical for documenting snow hydrology, including seasonal snow changes that affect runoff timing and discharge. Understanding these changes has important implications in regional climate variability and vehicle mobility. Therefore, ground-based observations are essential for researchers and scientists to develop improved remote sensing and modeling approaches to snowmelt processes in remote and vast areas. We are developing a community survey to collect information about existing ground-based snow wetness data. The survey will serve to organize information about the data, like measurement type, technology and tools used, date and location, altitude, elevation, frequency, data accessibility, and references. We will organize the information by region, communicate additional needs from individuals, and make the collection available to others. Once collected, the compiled responses will be shared with the snow community. We hope for broad community engagement and a range of dataset date, location, and scope. This work will address the need for collecting and sharing existing ground-based data on snow wetness and assess data gaps. Since existing data sets include variable intervals with different collection methods and locations, this survey will benefit the community to have a searchable list of existing datasets and sampling approaches. Contributors will retain their own datasets. The development of this resource provides a collective space for community knowledge of existing *in situ* observations and their application in snow science.

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