

Community scientists needed: Help improve winter weather predictions

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Community members can help improve winter weather forecasts by submitting their own real-time storm observations. Credit: DRI

Community members across Utah, the Great Basin, and around Lake Erie and Lake Ontario are invited to join people across the country in contributing winter weather observations. The data is collected by scientists for a project that seeks to improve the accuracy of winter weather predictions.

Information collected by community scientists will help researchers from Lynker, DRI, and the University of Nevada, Reno, improve the technology that drives predictions for when precipitation will fall as rain or snow. Currently, satellite technologies struggle to differentiate snow from rain near the freezing point in mountainous regions, with impacts on flood predictions, avalanche forecasting, snowpack water storage, and road safety.

The project began in the Sierra Nevada in 2019 and has since expanded to include mountain regions across the country. Last winter, more than 1,100 people in the Sierra Nevada, Pacific Northwest, Rocky Mountains, Western Montana, and the Northeast submitted over 23,000 real-time reports of rain, snow, or mixed precipitation. Expanding the project to new regions will help improve winter weather predictions that account for regional environmental influences, such as the lake-effect snow of the Great Lake region.

"With the help of community observers, we are amassing a very large database of observations of rain, snow, and mixed precipitation. These will ultimately help to 'ground-truth' and improve the predictive technologies that satellites use," says Meghan Collins, M.S., associate research scientist at DRI.

"The data the community observers have helped us collect is a big step towards being able to make those improvements. We understand the state of the problem much better now and will use the next three years to advance the solution."

Community members sign up to receive text alerts when storms with predicted temperatures near freezing are in the forecast, and submit observations of the type of precipitation they are seeing. To sign up, observers find the keyword that corresponds to their region at www.rainorsnow.org. Then, text the keyword to 855-909-0798 for guidance on how to participate. Keywords for new focal regions are included below.

- Utah: WASATCH
- Eastern Great Lakes: LakeEffect
- Great Basin: GreatBasin

Mountain Rain or Snow is a collaboration between Lynker, Desert Research Institute, and the University of Nevada-Reno. In addition to the large network of community observers, the project team includes: Keith Jennings of Lynker; Monica Arienzo, Meghan Collins, and Anne Heggli of DRI; Anne Nolin of the University of Nevada, Reno; and several student researchers. The group has expertise in hydroclimatology, hydrology, and geospatial analysis.

Provided by Desert Research Institute

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