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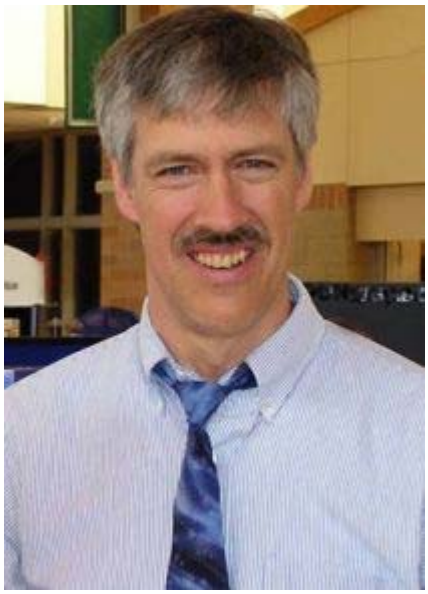
CoCoRaHS in atmospheric science expands nationally with NOAA grant

Colorado State University's popular precipitation monitoring program, CoCoRaHS (the Community Collaborative Rain, Hail and Snow Network), is making its first formal push to expand nationally thanks to a recent educational grant from the National Oceanic and Atmospheric Administration.



Nolan Doesken, state climatologist and senior research associate at Colorado State University.

Through CoCoRaHS, thousands of volunteers, young and old, document the size, intensity, duration and patterns of rain, hail and snow by taking simple measurements in their own backyards.

Volunteers gather important data

The process takes only five minutes a day, but the impact to the community is tenfold: Data gathered by volunteers provides important daily decision-making information on drought and water supply for agricultural and insurance industries, utility providers, resource managers, teachers, scientists and homeowners.

"With all the advances we've had in the science of weather observation systems over the past several decades, there still is nothing that can compare to the human observer, who can report things that an automated system just can't," said Bruce Sullivan, the CoCoRaHS coordinator in Maryland and a NOAA scientist. "Where I work at the Hydrometeorological Prediction Center in Camp Springs, we have come to rely on CoCoRaHS data for our National Storm Summaries that highlight where significant amounts of snow or rain have occurred with a particular storm. While most of these reports have traditionally come from the National Weather Service Cooperative or Skywarn-trained observers, we are finding more and more of our extreme precipitation reports coming from CoCoRaHS observers."

Number of volunteers will grow over next three years

CoCoRaHS has more than 2,000 volunteers in 14 states including Colorado, Wyoming, New Mexico, Nebraska, Kansas, Oklahoma, Texas, Missouri, Illinois, Indiana, Pennsylvania, Montana, Maryland and Virginia.

The list will grow over the next three years with NOAA's recent funding, said Henry Reges, national coordinator for CoCoRaHS.

"There are even a few volunteers in the District of Columbia," Reges said. "Montana is the most recent state to join our network."

In Indiana, timely reports of hail from CoCoRaHS observers regularly assist forecasters in issuing and verifying warnings for severe thunderstorms, said Logan Johnson, CoCoRaHS coordinator in Indiana.

"Its greatest benefit is how the large group of new observers really enhances the existing networks and programs already in place," said Johnson, who works for the National Weather Service. "It has also helped our agency as a whole with the idea of fostering community education in science and has allowed us to become better in touch with the communities that make up the Indianapolis Forecast Area."

CoCoRaHS started in 1997 by Doesken

Nolan Doesken, state climatologist and senior research associate at Colorado State University, started

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CoCoRaHS as a small local project in Fort Collins soon after an extreme localized storm in 1997. The storm was not well detected by traditional weather observing networks and caused devastating flooding. Since then, volunteer participation has increased with several new states coming on board every year.

The NOAA grant provides the program with resources to expand and develop local leadership teams in several new states each year for the next three years, Doesken said.

"Weather matters to everybody - meteorologists, car and crop insurance companies, outdoor enthusiasts and homeowners," Doesken said. "Precipitation is perhaps the most important, but also the most highly variable element of our climate.

"Rainfall amounts vary from one street to the next. It is wonderful having large numbers of enthusiastic volunteers and literally thousands of rain gauges to help track storms. We learn something new every day, and every volunteer makes a significant scientific contribution."

Cooperative Extension is a partner

With the NOAA grant, CoCoRaHS will work closely with the Colorado State University Cooperative Extension program.

"Cooperative Extension has very successful national 4-H and Master Gardener programs. We will be working with them to develop and share important local weather and climate information," Doesken added.

NOAA's National Weather Service is also helping with this effort, as well as Conservation Districts, the U.S. Department of Agriculture and other state and federal natural resources organizations.

"Variations in rain and snow really make a big difference for agriculture, wildlife and water supplies," Reges said. "Getting involved as a volunteer CoCoRaHS observer is a great way to give something back to your community by helping it monitor its natural resources. It's a lot of fun as well."

Volunteers often have a special interest in precipitation

Andy Pineda, who works for the Northern Colorado Water Conservancy District, has been a CoCoRaHS volunteer since the program began in 1998. The district serves the Front Range counties of Boulder, Larimer, Weld, Morgan, Phillips and Sedgwick.

"It has always been a longtime interest of mine," Pineda said. "I occasionally use the information in some studies here at the district, particularly from observers in the mountains and on the Western Slope. That's where our water supply comes from, so I'm always interested in knowing what other parts of the state are receiving moisture."

To volunteer as a CoCoRaHS volunteer observer or for more information, go to http://www.cocorahs.org or contact Henry Reges at hreges@atmos.colostate.edu.

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