



COLLECTING PRECIPITATION DATA PROVIDES INFORMATION FOR PUBLIC GOOD

Local reports feed network used by forecasters, emergency managers, farmers and ranchers, teachers – and you

Windy Kelley

Do you check the weather daily or even weekly? Maybe you're someone who jokes at times about the accuracy of the weather forecast?

Either way, there's a great opportunity to get involved with weather and contribute to improved weather forecasts, which can help you make more informed decisions, such as when to plant a garden.

The Community Collaborative Rain, Hail, and Snow (CoCoRaHS – pronounced KO-ko-rozz) Network was founded in Colorado in 1998 (the year following the Fort Collins, Colorado, flood) as a volunteer program for community members to report daily precipitation. The hope was to create a large number of network observers to collect information at a scale that would show the high variation of precipitation over short distances. Since then, the scope of the network expanded and now includes thousands of volunteers nationwide and internationally.

Who Uses the Data?

Many organizations and individuals use the data for many reasons.

- Meteorologists (such as at the National Weather Service) use the data to better forecast precipitation.

- Emergency managers use the data to predict river levels and potential flooding.
- Insurance adjusters use it when considering claims for hail damage or crop insurance.
- City utilities and engineers use it for purposes such as deterring how to best manage storm water.
- Farmers use the data to assess crop development.
- Teachers have incorporated monitoring and reporting data into lesson plans. They also use the free curriculum available on the CoCoRaHS website, which meets the National Science Education Standards.

You most likely already use CoCoRaHS data indirectly. That's because the data are fed into an even larger system known as the PRISM Climate Group and used by many others.

WHO CAN VOLUNTEER?

- Gardeners
- Small-acreage/rural landowners
- Teachers with their class
- Youth groups: 4-H, after-school programs, etc.
- Anyone!

DID YOU KNOW?

- CoCoRaHS is pronounced KO-ko-rozz.
- CoCoRaHS is the largest provider of daily precipitation observations in the United States.

One of the greatest benefits of being a CoCoRaHS volunteer is to give back to your community and enable others to make more informed decisions. The data collected can also be for your own use – such as comparing this year's precipitation to prior years, and considering how your garden performed or could be improved.

How does CoCoRaHS Work?

Ideally, a volunteer finds a place at their home or where they work (with permission) where precipitation falls without interference (few to no obstacles such as trees or buildings that influence how or where precipitation will fall (see photos page 24). Volunteers install a standard 4-inch CoCoRaHS rain gauge and sign-up with CoCoRaHS to establish an official monitoring location. To register a monitoring location, visit the CoCoRaHS website and click on Join CoCoRaHS. Once the rain gauge is

Open areas without obstructions are excellent for placing weather monitoring equipment, in contrast to installing a rain gauge under a tree, right.



installed and the monitoring site is registered, the volunteer is ready to collect and report data.

Data need collected at the same time each day and reported as soon as conveniently possible to be the most useful; however, citizen scientists are busy people, so this might not always be feasible. Think about your standard day to find a time to make collection consistent. When is the best time to collect and report data? For some, that might be after they wake up and start their coffee. They can walk to their rain gauge, determine how much, if any, precipitation fell within the past 24 hours, and record the data directly on their smartphone, tablet, or computer.

Others might prefer to read and report the data when they open their offices. The point is to find a few minutes in a day when to consistently read and report the data – recognizing there will be days when there are changes to your routine.

Can you still go on vacation and not worry about reporting precipitation? You can. That's the great part about being a citizen scientist. You

can file multi-day reports to cover the time on vacation or, if the gauge is at work, you can report weekend precipitation events, or lack of, on Monday.

CoCoRaHS in Wyoming

Wyoming became the second state to join the CoCoRaHS network in 2003. There are 435 Wyomingites who are active volunteers. This is an outstanding number; however, the map on page 28 shows there are many gaps throughout Wyoming without volunteers. This is in part due to a low population and a lot of wide-open spaces in Wyoming; however, recognizing and understanding the variability of precipitation means data from multiple neighbors can be used to better forecast future precipitation events.

How to get Involved

To get involved in Wyoming, contact Tony Bergantino at Antonius@uwyo.edu or go to www.cocorahs.org and use the Join CoCoRaHS link. Indicate on the sign up form you need a gauge, and you'll be mailed a complimentary 4-inch standard rain gauge.

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PROGRAM GOALS

According to the CoCoRaHS website, the goals are to:

- Provide accurate, high-quality precipitation data for the many end users on a timely basis.
- Increase the density of precipitation data available throughout the country by encouraging volunteer weather observing; encourage citizens to have fun participating in meteorological science and heightening awareness about weather.
- Provide enrichment activities in water and weather resources for teachers, educators, and the community at large.

*With the first name of Windy, why wouldn't you expect her to be involved with weather? **Windy Kelley** is the weather variability and agriculture resiliency specialist with the University of Wyoming Extension. She can be reached at (307) 766-2205 or at wkelley1@uwyo.edu.*



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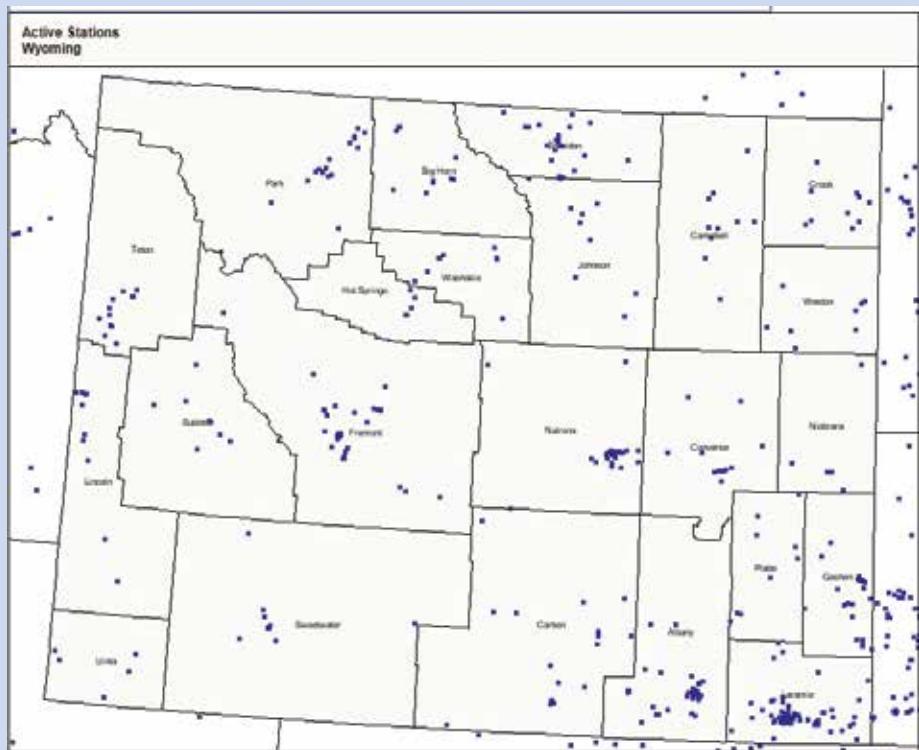
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CoCoRaHS REPORTING TIPS

- ◆ If no precipitation within a 24-hour period:
Report zero. By reporting zero, the data feeds into the system for the National Weather Service and others to know there were no new precipitation events.
- ◆ Should I report frost as precipitation?
No. Frost occurs on clear nights/mornings when there is no precipitation; however, you can make note of frost in the notes section of the report.
- ◆ How do I collect snow data?
Remove the inner tube of the rain gauge in the fall when freezing temperatures near. The snow will accumulate in the larger tube. The snow is melted and poured into the inner tube that was removed to measure the snow accumulation.



CoCoRaHS map of active volunteers in Wyoming in January 2016.