

# Improve Weather Forecasts with a Simple, Plastic Tube

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Have you ever been frustrated about an awful weather forecast? Meteorologists share that frustration too. Their counterargument - how can we expect a computer model to make weather forecasts even a few days into the future if we do not have a good understanding of the current weather conditions? This is one of the biggest critiques of weather model predictions, their lack of observations. While the National Weather Service (NWS) does have an extensive number of sources to grab current records from, like daily weather balloons or airport observations, one area that needs drastic improvement is the quality and quantity of precipitation records. This improvement is coming from a vast network of volunteers with simple, plastic tubes who record their daily precipitation totals through the Community Collaborative Rain, Hail, and Snow Network or CoCoRaHS. As a scientist studying extreme precipitation, I know firsthand how myself and other scientists rely on these observations to improve weather modeling and forecasts. Others rely on this data too, from farmers trying to understand how much to water their crops to insurance adjusters trying to maximize your property loss payout.

Precipitation is one of the most localized weather features people experience on a daily basis. With every storm, precipitation totals can vary greatly across a small region due to small-scale processes happening inside clouds that scientists do not fully understand. CoCoRaHS is helping to solve this issue by allowing people like you to install a simple, plastic rain gauge in your backyard. Each day, you can report your 24 hour rainfall total to a user-friendly website. Even records of no precipitation are useful in understanding daily weather and long term climate patterns. Once you submit your rainfall total, anyone can look at the [CoCoRaHS map](#) to see today's observations. Scientists can then compare your precipitation totals with other airport measurements as well as radar and satellite data to better understand what impacted rainfall totals in each storm.

CoCoRaHS is easy to join and provides free training along with the contact information to regional volunteer coordinators who can answer questions you may have about participating and how to get started. There is a small upfront cost of about \$35 to pay for the rain gauge and shipping. However, that is the only fee you'll pay to participate in this program for life. Breaking the cost down, participating for a year costs less than a penny a day! It is imperative that you order their rain gauge and follow their procedures, like reporting your rainfall total around the same time each day. This increases the quality of the data because it is being collected uniformly across the country, which reassures scientists that there are no biases, or distortion, in the data.

Installing your own CoCoRaHS rain gauge is as simple as [clicking here](#) and filling out their form. You'll shortly be in contact with a local volunteer who will give you next steps about online or in-person training. As someone who has participated in CoCoRaHS before, it is

rewarding and fun to be a part of the scientific community. Getting to track my own house's trends in precipitation has helped me learn more about my local weather patterns. Bottom line, if you want to improve weather forecasts, join CoCoRaHS and order your plastic tube today.