

The Catch



NOLAN DOESKEN'S MONTHLY COCORAHHS E-MAIL MESSAGE

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Dear CoCoRaHS rain gauge readers,

Thanks to so many of you who have written to us with concerns about our safety. We are all OK, and thank you for your kind words and prayers.

As many of you have seen on national news, the Front Range of Colorado has experienced an amazing amount of rainfall in the last four days. Here at CoCoRaHS Headquarters (CO-LR-284) we have received 4.69 inches of precipitation, but areas to our south, southwest, west and northwest have received much more -- 6" to as much as locally 18" in four days. Since our annual average precipitation is only in the 14-20" range in these parts of Colorado, a storm like this is a big deal. Our nearby rivers are raging as they drain out of the mountains. Some of the heaviest rains of all have occurred over the city limits of Boulder and parts of the Denver metropolitan area.

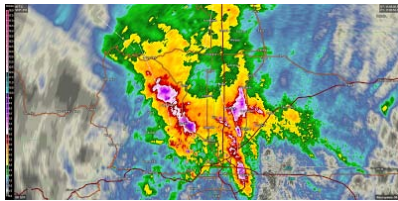
[This Could Happen Anywhere](#)

This storm, in many ways, is similar to the storm that started CoCoRaHS in the first place. As the reports have come in, it has been a good reminder why volunteer rainfall measurements are so valuable and important. This week it's Colorado and New Mexico, but we never know when your area will be the next area of major flood (or drought). Your rain gauge reports are more valuable than you might ever realize.

How do engineers, architects, and builders know how to construct dams, reservoirs, highways, bridges, pipelines, powerlines, water and sewage treatment plants, etc, so they can withstand heavy rains, high winds and floods and still be affordable? The answer is climate data. Historic measurements of rainfall and river levels and water velocities, including the careful documentation of extreme events, (like the storm we are dealing with today) are used every day by engineers across the country designing, building and maintaining our transportation, energy, water and communications infrastructure.

Very recently, NOAA released a new set of ["precipitation frequency" analyses to help engineers and hydrologists](#). CoCoRaHS data will be contributing greatly to future updates.

[The CoCoRaHS Blog](#)
















The CoCoRaHS Blog today: "[Front Range Flooding: CoCoRaHS Deja Vu!](#)", has some excellent information on the storm as well as some great photos and a video.

[Animation on Measuring Heavy Rain](#)



Our animations on our YouTube channel have been quite popular, and our newest one was 'almost' just in time! Check out "[Measuring Extreme Rainfall](#)" and remember to be safe!

[CoCoRaHS for Schools - Rain Gauge Week](#)

CoCoRaHS              For +Schools. By pure coincidence, this happened to be our annual fall "Rain Gauge Week" for participating schools and teachers. Unfortunately, with all this rain and flooding, quite a

few schools in our state ended up cancelling classes. However, one teacher at Centennial Middle School in Boulder (CO-BO-337) made his way to his closed school yesterday to check the gauge and report their data. He took a photo and titled it: "This is what 8.43 inches of precip looks like!". Thanks to Bill Schmoker for the photo and fantastic report! What a dedicated teacher!



We can see from recent sign-ups that some of you have already encouraged some teachers to join CoCoRaHS. Thanks so much for helping in this way. If you happen to know teachers in your local schools that you think might or should be interested, please have them send their contact information to: education@cocorahs.org.

[Significant Weather Reports](#)

We mention this a lot, but if you are ever experiencing what you feel is an unusual amount or intensity of precipitation, please do your best to fill out a 'Significant Weather Report' which is found on your data entry page in the left hand column. This is a 'real-time' report that goes immediately to your nearest National Weather Service office, and these reports are of incredible importance. Just yesterday, a critical flash flood warning was motivated, in part, by a timely volunteer report from a remote area.

Thanks to those of you who have been submitting these reports, and not just Colorado and New Mexico but from all the states. By the way, New England has been getting hammered recently too, and did you see those downpours up in Washington and Oregon just last week?

[In-Depth Storm Analysis -- More Data Would be Helpful](#)

As our storm winds down (the sun is peaking out now and helicopters are taking flight to some of the hardest-hit and isolated areas), we will be cranking up an intensive effort to document this storm -- its area, intensity and duration. In a few days or weeks we'll be better able to say if this was a 50-year storm, 100-year, 200-year, or the like. In reality, it will be all of these depending on what exact location, area, intensity or duration we

happen to be looking at -- but that's a story for another day.

In order to fully document storms, it is important to define the rainfall pattern as accurately as possible. Our recent storm conveniently fell where we already have hundreds of CoCoRaHS volunteers and a few hundred electronic rain gauges, too. This could be one of the best documented flood producing storms in history -- at least for this part of the country. We have so much more data to look at than when CoCoRaHS began 15 years ago. But there are still many areas where we don't know how much rain accumulated or how intensely it fell.

We have many areas in Colorado including the plains, foothills and higher mountains, where we have few or no rain gauges. We also have the need to document hour by hour intensities in addition to just daily totals. If you know of anyone who lives in data sparse areas or areas that you believe may have received particularly localized (larger or smaller) precipitation amounts, please help us document this information.

We have set up a special gmail account to receive supplemental information. In the next few days and weeks we will be assembling information and completing a report on this Colorado storm. Please send any additional rain gauge observations to:

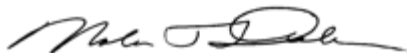
coflood2013@gmail.com

This can include rainfall totals from buckets, tanks and other containers provided that the specific dimensions of these collection devices are documented and provided. For example, 8" of water in a 5-gal bucket does not equate to exactly 8" of rain, but we can determine the amount if we know the depth of water in the container, the total volume of water in the container and the area of the top opening of that container.

Also if you have information that you feel will be useful to our analysis and report, such as personal anecdotes, photos, or anything that will help us understand the rainfall patterns and subsequent flooding please send it to this address. We will be very busy and may not have time to reply directly, but your information will be greatly appreciated.

Thank you very much for being a part of CoCoRaHS. We appreciate your participation and your support.

Sincerely,



Nolan Doesken
Colorado State University

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