

# The Catch

## **COCORAHS—SOME WET, SOME REALLY WET, AND MANY OF US DRY!**

FORT COLLINS, CO — Monday, July 23, 2007

### **CoCoRaHS Update**

Welcome to all of you who are new to CoCoRaHS. We try to stay in touch with periodic e-mail updates, so please take the time now or later to read or skim through this message.

We continue to add dozens of new volunteers every month everywhere from the eastern shore of Maryland across Tennessee and the Midwest to the southern tip of Texas and the center (Fairbanks area) of Alaska. I just looked at our data reports from this time last year, and we have seen nearly a 50% increase in the number of daily rainfall reports. On August 1st, the 20th CoCoRaHS state will join -- Iowa! And in the next few months New York, North Carolina and Florida will become a part of the CoCoRaHS team. Tell your friends and family from those states!

And for those of you who have been a part of CoCoRaHS for a few months or a few years, thank you so much for your continued participation. We have a few Colorado volunteers who have participated continuously since the late 1990s. This is fantastic! With your collective help, we are learning more about precipitation patterns and storm characteristics every day. As you can see, the more of us there are to measure and report, the more we can see and learn how precipitation varies from place to place -- and from day to day. Also, with your timely reports of "Intense Precipitation" and "Hail" we are helping the National Weather Service and other weather and water forecasters do a better job of alerting people about severe weather in and near our communities.

### **Recent Storms -- Heavy Rain Somewhere**

Ever since CoCoRaHS spread from Colorado to other parts of the country, we find that precipitation falls somewhere across our territory every day. One of my favorite CoCoRaHS data reports is the "Rainy Days Report"

<http://www.cocorahs.org/ViewData/RainyDaysReport.aspx>

This report lets you see, by state, by county, or for the entire CoCoRaHS area, the average precipitation each day, the greatest amount, the number of people who reported, and how many of them had measurable precipitation. We are now getting between 2,500 and 2,750 reports every day and there is always precipitation to be found. In fact, there is almost always heavy precipitation somewhere across our network. We have to look back all the way to May 21, 2007 for the last time when the heaviest daily rainfall across our network was less than 2.00" Two-thirds of the days since late May have produced a maximum CoCoRaHS daily rainfall amount of 3.50" or more, and quite a few have been up over 5".

### **Be ready for the big one!**

This may seem impossible. For sure it is improbable. But we know that sooner or later one of us is going to be hit by "the Big One!" For me, the "Big One" was July 28, 1997 when west Fort Collins got anywhere between 8 and 14.5" of rain in about 30 hours (much of it in 5 hours). CoCoRaHS did not yet exist, but I had a good gauge . . . . . but each time I checked it, there was only 1.00" in it -- exactly. It turns out the outer cylinder was leaking.

One of our new observers from Wilson County in SE Kansas had an experience with "the Big One" in late June. Within the first week after setting up their CoCoRaHS gauge they received 4.90" of rain in one day on June 29th. That is more than some of us will ever see in a day. But the very next day they received 10.75". They received more than 16" of rain in their first week as a CoCoRaHS volunteer. Crazy! (Thanks so much for getting your reports in -- I know it was a struggle.)

I want you to think about that for a minute. That is a huge amount of rainfall, and the flooding caused by 10"+ rains is horrendous. SE Kansas along with parts of Missouri, Oklahoma and Texas are still reeling from this recent siege of heavy rain.

How much rain does a CoCoRaHS rain gauge hold? About 11 inches! Anything more than that and the extra rainfall will spill out of the gauge and be lost. It is extremely rare over most parts of the country to get more than 11" of rain in a day, but for most states it is possible and has happened before. It will happen again and it may happen to you. Here in "Dry" Colorado a storm back in 1935 dropped close to 24 inches of rainfall in a day. It occurred just a few miles from where my mother-in-law was growing up on the prairie. Other states have similar stories.

The more of us there are spread across this country, the better the chances are that one of us will be near or under "The Big One". We've already had a handful of CoCoRaHS precipitation reports of 10" or greater since we started the

network. For example, 11.32" fell near Grand Island, Nebraska back in May 2005. We had a report of over 10" near Washington DC in June 2006 and I recall one in SE Missouri as well.

It is only a matter of time before one of us experiences more rainfall in a day than our gauge can hold. We must be ready for this and try our best to make sure the gauge does not overflow.

IF YOU HAPPEN TO EXPERIENCE ONE OF THESE TRULY MONSTROUS STORMS, MAKE SURE YOU ARE SAFE FROM FLOOD WATERS. IF YOU CAN STAY IN YOUR HOME, THEN KEEP AN EYE ON YOUR GAUGE AND IF THERE IS A BREAK IN THE STORM, GO OUT AND READ, MEASURE AND EMPTY YOUR GAUGE BEFORE IT FILLS TO THE TOP. PLEASE SEND IN "INTENSE PRECIPITATION REPORTS" IF YOU CAN SAFELY GET ON THE INTERNET, OR CALL YOUR LOCAL LAW ENFORCEMENT AGENCY. Make sure others know about it, because these really amazingly heavy rains are sometimes quite localized. Then, when the storm is over, double check your measurement and send in your report. Don't be surprised if we call or e-mail you to verify the reading as there will be a great deal of interest. We may also contact others in the area to get a better idea of where the storm was located.

### **Intense Precipitation Reports -- Help if you can**

I know I keep harping on this, but again we encourage you to submit "Intense Precipitation Reports" as soon as it is safe during or immediately after heavy rains. Your CoCoRaHS report will automatically be forwarded to your local National Weather Service Office. The information you provide may be critical information to help issue a severe thunderstorm warning or flash flood warning. In particular, if you have received at least two inches of rain, please try to send in a special report. If you have never submitted an "Intense Precipitation Report" stop right now and go to the CoCoRaHS website, click "My Data" and then look at each of the entry form options on the upper left hand menu. If you have questions about this, please consult with your local coordinator.

Also remember that you will still need to send in your regular "Daily Precipitation Report" so we can see your rainfall on the CoCoRaHS maps and reports. The "Intense" report is not a substitute for your regular morning daily report.

### **Observation Notes -- so valuable**

I also want to remind you (I know, I know, I've said this so many times before) just how helpful your notes and comments are. Only you know when and how the storm moved in and what it looked like. Feel free to jot down a few notes on

your data entry form each and every day -- but especially when you've had a storm or other interesting weather.

Here are a couple of notes from this morning's observations. They may not seem like much, but they are useful and add to the future historic value of our reports

From a station in western Colorado *"Received just enough rain to dampen the freshly mown hay."*

From another station in far western Colorado: *"Intense thunderstorm. 3/8" hail nearly covered ground. Wind gusts estimated 50 kt. Coon Creek ran higher than at spring melt runoff."*

From South Dakota: *"This is our 11th straight day of temperatures well over 100°. Since June 20th, we have had 23 days of temps over 100°. Other days were in the 90's."*

Comments take our daily numeric observation and turn them into something that brings the weather alive for those who have time to read. Just consider CoCoRaHS your chance to be a weather journalist!

## **The Birds!**

I must admit, I had no idea what a struggle some of you have keeping birds off your rain gauge. When one of you asked for help back in June, we sent out an e-mail inquiry and got many suggestions and some great photos. At last, here is the summary I promised you. I was amazed by how much effort some of you have taken to scare off birds. I was also amazed to learn about catalogues that some of you have on the subject of bird deterrents and attractors. I obviously have a lot to learn :-)) about this world. The timing of all of this has proven quite interesting. I don't know much about birds and am not a gifted "birder" since I am green/brown/red color blind and have trouble focusing binoculars. But I happened to visit the world renowned Laboratory of Ornithology at Cornell University in June and went bird watching with some of and had been among some of the world's foremost "birders". I have a little better appreciation now of our rain gauge dilemma.

Of all the suggestions offered, the two that were mentioned most often and most confidently were:

- 1) Use tape to attach tooth picks or thin, rigid wires to the rim of the gauge -- about every 2 inches and sticking up about 2" above the rim.

2) Place "Tanglefoot" along the rim of the gauge. This, I presume, is a name brand for a sticky substance that is a proven commercial bird deterrent. There are likely other brands as well.

Other ideas included:

3) Mount a ring of stakes with flags or streamers or shiny stuff around your gauge making sure they stick up a bit higher than the gauge.

4) Place a cone of wire mesh or a small screen over the top or inside of the funnel to keep out birdie stuff, other debris and insects. (While we understand this concept and we know that some of you have had troubles with bees, we still discourage this approach if possible since the screen will collect and then evaporate some of the rainfall without being measured. This may be a minor problem in some areas, but in dry climates it could result in quite a bit of evaporative loss.)

5) Real cats

6) Stuffed cats

7) Rubber snakes

8) Real snakes

9) Plastic owls

10) Electronic owls (Where do you find electronic owls???)

11) Guns (Yes, you probably guessed that was coming -- but I'm not giving you a replacement gauge if your aim is poor :-) ).

12) WD-40 or similar smelly solvent/lubricant applied to the outside of the funnel.

### **Who Uses CoCoRaHS information?**

This message is already too long, so the complete answer will have to wait. We are asked this question every week by volunteers hoping they aren't just wasting their time. You deserve a good answer, and you will be amazed at how often (i.e. EVERY DAY) and how widespread (i.e. every state and many other countries) are the users of our rain, hail and snow data. That was clear to me this week at the American Association of State Climatologists annual meeting where close to ten different state presentations mentioned CoCoRaHS. What we are doing is very important because precipitation is the source of our water and because it is SO VARIABLE.

## **Weatherwise Magazine and CoCoRaHS**

We are pleased to report that Weatherwise Magazine, a non-profit educational magazine from Heldref Publications in Washington D.C., just published an article about CoCoRaHS in the July-August 2007 edition. This is a high quality magazine with rich content both on current weather events as well as the history of our field of science. If you're interested in weather, you should try to get your hands on a copy. The magazine is not well known by the public and not widely advertised since it is non-commercial.

### **Subscription cost reduced for CoCoRaHS**

We recently contacted their managing editor to explore the possibility of a reduced educational subscription rate for new subscribers who participate in CoCoRaHS. Please know, this is not an inexpensive magazine -- normally \$40/year for 6 issues. But their CoCoRaHS rate of \$28/year makes it very attractive. I also think they will honor that rate for gift subscriptions as well. You won't be disappointed in the magazine. For an additional \$3 you can also get online access.

To sign up for a subscription at this reduced rate, send an e-mail to

[promotions@heldref.org](mailto:promotions@heldref.org) and let them know you are a CoCoRaHS volunteer.

You may also call 1-800.365.9753

Then check back with me in a few months and let me know what you think of it!

**How long is my commitment to CoCoRaHS??** (or in other words, "How long do you actually expect me to read this silly rain gauge??")

If you've read all the way to here, most likely you do have the time and the interest to stick with CoCoRaHS for awhile. We hope that CoCoRaHS will be around for a long, long time. But how long you participate is very much up to you. We hope you give it a try for at least a few months. By then you'll know if the discipline of data collection and climate monitoring is something you love, or something you get tired of. Just because you tire of the routine doesn't mean you still can't be a part of CoCoRaHS.

If you find your gauge filling with water, bugs and dirt and not being checked and emptied, then maybe it's time to take it down and give it to someone else who is better able to tend it. No reason to feel bad or guilty -- but do find a good home for your gauge.

Best wishes for a great summer. I will be taking a couple of weeks off in early August so you may not hear from me for awhile. But I'll still be watching the CoCoRaHS maps most days and watching for your reports!

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