

The Catch

COCORAHS—FIREWORKS FOR THE 4TH??

FORT COLLINS, CO — Thursday, July 3, 2008

4th of July Independence Day greetings to all CoCoRaHS weather watchers, friends and family:

The 0.28" rain yesterday at our house was much appreciated, and the cool weather today (70s) has been pleasant and much enjoyed by our garden. It hailed at my office yesterday, but we missed it at home so all is well. Angel (the Great Pyrenees that has joined our family) hasn't quite figured out what to do with rain. Mostly she just stands out in it and barks -- not quite sure what she has in mind, as there is a nice covered porch nearby for dry shelter. She got her mouth around one of geese again, but we rescued the goose just in time. Tomorrow we're back to hot summer -- up in the 90s here and over much of our part of the country. Temperatures look pretty decent for this time of year east of here, with only 70s and 80s in the Midwest. Enjoy this special summer holiday and take proper precautions if thunderstorms are nearby.

Are you new to CoCoRaHS?

Do you need help getting started? Please contact your local or regional CoCoRaHS volunteer coordinator listed on the website under the heading "Volunteer Coordinators" If you need training for setting up your gauge, reading or reporting, please see the training links listed under "Resources" on the left menu. If it seems a little hard, it really isn't -- and your rainfall reports will be very valuable. So don't give up.

Preparing for Tropical Storms

Speaking of storms, the hurricane season is here. Based on past experience (climatology), June and July are slow for hurricane activity affecting the U.S. The pace quickens later in the summer, peaks in September and then slows down in October and fades out in November. I must admit that I know very little about hurricanes and tropical storms. They are a very important part of life for large areas of the country. They can lead to a huge "ratings spike" for the Weather Channel and they are responsible for motivating many young men and women to pursue careers in atmospheric science and oceanography. But where I grew up in the Midwest and now 30+ years here in Colorado, hurricanes have

never been a part of my weather reality. My only brush with a hurricane was Hugo back in the Carolinas when I had a business trip to the National Climatic Data Center in Asheville, NC and happened to fly in through Charlotte a few hours before that storm came blasting inland.

There are some great websites where any of us can learn more about tropical storms. I just visited the NOAA National Hurricane Center Website:

<http://www.nhc.noaa.gov/>

I clicked my favorite topic "Climatology" from their menu on the left and was able to see maps for when and where hurricanes and tropical storms are most likely. It really made me think. Last year, we had a few volunteers in tropical storm-prone areas. But since this time last year nearly all states along the Gulf of Mexico and the Atlantic Coast have joined CoCoRaHS. As we move into the 2008 Hurricane Season we now have over 2,000 CoCoRaHS volunteers in areas that could be affected. This is both a problem and an opportunity. There is always the need for accurate rainfall reports from the paths and perimeters of tropical storms. Our rainfall reports will be extremely valuable to supplement the official networks if and when any storms hit. But there are some important problems to consider.

Problem 1. Our gauges only hold about 11.30" of rain and tropical storms could dump more than that.

Problem 2. The funnels on our gauges have been known to blow off, and that could mess up our readings

Problem 3. Wind-blown rain does not always collect accurately in rain gauges.

Problem 4. Volunteers may be tempted to stay home to watch your gauge when you really should be evacuating. Whatever you do, please don't stay home to watch your gauge when you should be headed to higher, drier, calmer ground. Just leave your gauge and report a "Multi-day Accumulation" when you get back -- assuming your gauge is still intact.

As for problem 4, I'm trusting you to do the right thing. But for problems 1-3 there are some things you can do now to increase the chances for getting some good measurements.

If you are one of our 2,000 or more volunteers in hurricane country, please read

and heed. Make sure your gauge is mounted level and secure so that it is tight and can't blow off. It's not the worst thing in the world if it does blow off, since rain will still collect in the outer cylinder. But it does introduce some extra uncertainty. To the extent possible, make sure there are no nearby obstacles that would block precipitation, or splash extra rain into your gauge. Because wind-driven rain behaves badly (i.e. does not land uniformly on the ground or in gauges) you may want to think ahead and maybe even have multiple gauges so you can compare measurements and compute averages. While we know that electronic tipping bucket gauges often report less rain than actually fell, they are very useful and will not spill over. If you have a tipping bucket gauge, make sure it is set up so you don't lose data if your power goes off.

Some of you who have measured hurricane rains in the past have come up with some ingenious ideas to secure your gauges very tightly while also expanding their capacity. Instead of mounting the funnel on the cylinder of the gauge, you could mount it to a receptacle with a larger water holding capacity -- 24" or more if possible. Then, all you need to do is pour it back into the inner tube to get your final measure. A gallon jug may hold more than our outer cylinder -- but I better check on that to make sure. If you are at home and the gauge is filling up, go ahead and take intermediate measurements when there is a lull in the storm so you can empty the gauge and make room for more rain. Send in as many supplementary "intense precipitation reports" as you feel are appropriate so that our forecasters and emergency managers know how much rain you're getting. Hourly reports may be extremely useful so that the National Weather Service River Forecast Centers can adjust their radar estimates. But if you do send in frequent reports, you still need to do your daily summary report with the 24 -hour total around 7 AM. We are working on a cell phone text messaging system for reporting rain so that you don't need the Internet if it is unavailable and your power is off. I hope we have it ready in time. That's not a sure thing either, but at least it will provide more options.

Perfect measurements of wind-driven intense rains are not going to be possible, but if we do our best and plan ahead, our data will still be very helpful. If you do use multiple gauges, please write down the comparative amounts in your comments so we can all see how much variation there was in your measurements.

Other News . . .

Michigan gets a wet welcome to CoCoRaHS

CoCoRaHS is just getting started in Michigan and over 100 volunteers have already signed up. I have a special fondness for Michigan having attended

college there in the early 1970s and having spent many happy days in the Upper Peninsula on family vacations. So I am really cheering for you in Michigan to find a few hundred weather enthusiasts from coast to coast and top to bottom to track the summer storms and the winter snows.

Today, out of 44 reports received, most had over an inch of rain, and 4 had to deal with 4" or more in their gauge. One station in Kent County (Grand Rapids), measured a whopping 5.18" to claim the "wettest CoCoRaHS station in the country" for today. Keep this up and maybe you can get the water levels in Lake Michigan and Huron to keep rising

Thunder in Seattle

The many new CoCoRaHS volunteers in Washington State (over 100 reports per day now and climbing steadily) were greeted by lively lightning and thunder and locally heavy rains. Thunder is only an occasional visitor there so it was great to see dozens of comments on the daily reports this morning describing the storms. <http://www.cocorahs.org/ViewData/ListDailyComments.aspx>. We always appreciate your comments, so thanks very much.

Winter is approaching

I just thought I'd throw that in to see if you are still paying attention. We are two weeks past the summer solstice now, so it's all down hill from here :-). Actually, for most and maybe all of the country there is a time lag between when day length reaches it's maximum and when temperatures peak for the summer. Mid July to early August is the thermal peak for most areas before the gradual temperature decline begins. So enjoy the warmth while you have it -- and head for the beach, the lake or the mountains if you can't stand it.

Best wishes and thanks for being a part of CoCoRaHS.

Nolan Doesken
Colorado State University

P.S. -- Our \$10 million "endowment" gift has not showed up yet to fund CoCoRaHS for the next 50 years -- but who knows, someday it might :-)