

The Catch

PRIME TIME FOR COCORAHS—HEAVY RAIN, BIG HAIL, DROUGHT

FORT COLLINS, CO — Monday, June 26, 2006

CoCoRaHS volunteers

I have not had time to write recently -- sorry about that. But there is much to write about. Floods, drought, hail (fortunately, no snow—at least not this week) are affecting parts of our CoCoRaHS states. If you were not aware, please look at the maps or reports from Maryland, PA and VA this morning. Situations have been extreme and potentially life threatening. Your participation in CoCoRaHS and also in the National Weather Service storm spotter network is of great value at a time like this.

A major storm complex has taken aim on Washington, DC (unfortunately, we still get no rain reports from within the District although a few people have signed up). Rainfall totals as great as 10" have been reported from the past 24 hours, with several inches more preceding that. Farther west, some drought relief—at least temporary -- has come to parts of western Kansas and eastern Colorado over the past week. Closer to home (my home, that is) we continue to be skirted by the storms. All I have to show for the last week is a miserly 0.05" although thunder boomed on several occasions. That brings my monthly total to 0.24" at my house—and 1.55" since March 21. The 118 year weather station on the CSU campus is only up to 1.26"—lousy dry and the driest spring on record. But down the road in Boulder, they just had one of their worst hail storms in decades and picked up their average precipitation for the month of June in just over 30 minutes. Some of our observers sent me some very detailed personal accounts of their Saturday evening storm—Wow! When you can't hear nearby thunder, then you know the hail is really coming down. New Mexico has gotten in on the action, as well, with recent nocturnal (i.e. in the middle of the night) hail and some much appreciated early monsoon rains down around Deming and Alamogordo.

Your data are important, you are important

Your reports are making a difference and helping scientists and other officials more than you might realize. We know that several hundred of you are no longer actively reporting—and that's OK. The discipline of daily reporting is great fun for some of us and a pain for others.

But if you have a CoCoRaHS 4"-diameter high capacity rain gauge and you are NOT using it, then please find a neighbor who would and help them sign up and get their gauge mounted. And if you are using your gauge but just not reporting your data, then please start again. It's really fast and easy. We need as many participants in as many locations as possible and your help is greatly appreciated. You never know until it happens when your report will be the most important one of all. Also, if you are in CO, NM, KS, WY or MO, make sure you have some hail pads—and have ONE OUTSIDE!! You can report hail very effectively without hail pads if you are home to see the storm (and we appreciate this information too, but for us to be able to determine the actual quantity of hail, the hail pads are essential. We've made thousands of hail pads this year at our infamous "hail pad parties", so please make the effort to keep a small supply on hand and a hail pad out in your yard. If your county hail pad distribution center and your county coordinator is out of hail pads, please contact me immediately. (By the way, if you have a hail pad outside for at least 6 months and no hail has fallen, it may be time to replace it with a new one. They get pretty beat up looking after a few months outside.)

What does CoCoRaHS tell me? Well, for nearly 30 years I have been responsible for monitoring climate and precipitation in Colorado and have been pleased to have access to 1 to 5 reporting stations per county. For years I have plotted the data on maps, analyzed patterns and thought I knew what was going on. But now that I have CoCoRaHS data—with as many as 100 data reports coming in from some counties (here in Colorado, at least) I now know that I never really knew the precipitation patterns. For example, look at Boulder County, Colorado for June 25. I used to have just 3 data points for that county. I would never have known the localized nature of the recent storms with only 3 data points.

CoCoRaHS data show me, day in and day out, that with just 1-5 weather stations per county, you can only make a first approximation of how much precipitation really fell and just a stab in the dark at hail patterns. This is the time of year when precipitation is most variable. This is when CoCoRaHS is MOST important. Our goal of one station per square mile seems extreme at times, but this is when it would really pay off.

So please help us continue to spread the word and add more volunteers. We continue to get a handful of new recruits every day, but this country of ours is very large -- how about a few hundred new applications per day :-)

And if you are signed up for CoCoRaHS but have never sent in a precipitation report (there are well over 1000 of you in this category and we're not sure why), then please get started. If you lost your username and password, we can resend it. Just get started, please. It could really make a difference. We're coming up on the 9th anniversary of the Fort Collins flash flood of July 1997 when 14" of rain fell and NO ONE reported it to authorities. I just don't want that to happen again.

Accurate rain measurements with hail

The Boulder hail storm Saturday evening pointed out something we already knew but often don't think about. Hail can bounce out of our rain gauges—especially when the hail is hard, the wind is blowing, and the intensity of the hail is profound. Having a second gauge out with just the outer cylinder (available for purchase for about half of the cost of the whole rain gauge) allows for a more accurate measure of the precipitation. This is asking a lot, I know, but for those of you who are so inclined, and who live in our hail-prone areas, this could really help our data quality. The alternative is to go outside before the storm hits (if you think hail is possible) and remove the funnel and inner tube of your gauge and let the precipitation accumulate in the outer cylinder. Then, when the storm is over and the hail has melted, pour the contents into the inner cylinder for measurement —being careful not to spill, of course. We are estimating that Boulder observers in the direct path of their storm may have missed as much as 50% of the precipitation that actually fell.

By the way, the Boulder storm left about 2" of hail totally covering the ground as the temperature dropped from 77 deg before the storm to 39 deg—Yikes! But we have heard stories of as much as 12" of hail accumulating on the level. If you ever experience such a storm, please take pictures and also try to get an accurate measurement of the water content. Storms like this occur, but over very tiny areas and are almost never measured.

More later

Again, thanks for your efforts and contribution of time. Together we are accomplishing something of great value and importance to our communities. Keep up the good work.

Nolan