The Catch

CLEAN THE DUST OUT OF YOUR RAIN GAUGE

FORT COLLINS, CO — Friday, July 15, 2005

CoCo Folks

Another rumbling storm toyed with us yesterday, but when all was said and done, a trace was all we had to show for it. But if you checked the maps this AM, you may have seen that parts of Laramie, WY got pounded as did areas west of Fort Collins up in the mountains. A couple of days ago Buena Vista, CO got more than an inch of rain from a localized storm. Some of our new Texas volunteers have also finally had some rain to report. It's been good to see daily rainfall reports coming in from Cloudcroft, New Mexico (in the mountains NE of Alamogordo). They average close to 10" of rain for the combined July-Aug time period, and had received almost nothing until this week. So maybe the moist phase of the monsoonal wind circulation over the Southwest is getting started. The path of the next hurricane (Emily) is also of interest. We don't tend to think "hurricanes" in our area, but they definitely can contribute precipitation to the southern plains, southern Rockies, and desert Southwest, during late summer and fall. So be watchful.

Based on our CoCoRaHS precipitation reports, about 10% of our reporting stations have had measurable precipitation each day for the last week -- consistent with the National Weather Service's forecast of 10% chance of thunderstorms. The percentage of stations getting measurable precipitation climbed to 20% from this morning's reports, and I can see towering cumulus clouds rising again up over the mountains this morning. That's exactly what is supposed to happen this time of year. Maybe this hot weather over the Rockies (not so bad out in Kansas, all things considered) will ease up again, too. Have you seen how stinking hot it has been in northern Wyoming -- awful hot!

So with precipitation probabilities INCREASING, clean the dust out of your gauge (a soft bottle brush with warm water and a gently detergent will help) and get ready for rain. Also, check that your hail pad is in good shape, firmly mounted, and ready for action. If you are out of hail pads, contact your coordinator or swing by the nearest "hail pad distribution center" listed on our website.

Slow Movers!

Winds up in the troposphere (the atmosphere up over our heads where most weather takes place) are at their weakest (slowest) in late July and early August, as the temperature differences between the equator and the north pole that helps power the "jet stream" are at a minimum at this time (i.e. it's pretty warm up north right now and it's always warm in the tropics).. The atmosphere is also at it's warmest, which means the largest quantities of water vapor can be available in the atmosphere to fuel thunderstorm formation. What this means is that the thunderstorms that do form this time of year may not move very fast.
Where they do form, they can produce a lot of rain in localized areas.

We are now within only 2 weeks of some of our most memorable flash floods for our part of the country -- The Big Thompson Flood of July 31, 1976, the Cheyenne, WY flash flood of Aug 1, 1985 and the Fort Collins flash flood of July 28, 1997 followed the next day by a huge storm that caused major flooding in Atwood and Sterling, CO.

So this is prime time for flash flooding and we all need to be ready. If you happen to get under one of these slow movers, you can be in for some trouble. And remember, your heavy rain report that you can send any time of the day or night might just be a life saver for someone.

To report intense rain, go to "My Data" on the CoCoRaHS website and then select "Intense Precipitation" from the menu on the upper left-hand side of the webpage and fill out whatever information you can and submit it. The National Weather Service will get that report immediately! If you are a trained National Weather Service severe weather spotter, report directly to NWS first and then submit your CoCoRaHS report.

How accurate are our precipitation reports?

We know our data are not always perfect. Hail and large raindrops can splash or bounce out of our gauge in the summer and some moisture can evaporate from our gauges during hot or windy weather before we have a chance to take our daily readings. Windblown precipitation is always a challenge to measure accurately. Some of us live in areas where it is tough to find an ideal place to mount our rain gauges. But all things considered, our measurements are good and I will vouch for them. I get to compare CoCoRaHS with data from official National Weather Service weather stations on a regular basis, and our data compare very favorably. In many cases, our manual measurements of precipitation are more reliable than the output of automated rain gauges.

But we are human and we do make mistakes now and then. The new website data entry forms catch many errors that we used to make -- like errors in station

names and numbers, or reports of 0.00 for precipitation when measurable snow has fallen. But we can still get dates confused or misplace decimal points. The computer won't figure that out. Also, we sometimes enter accumulated precipitation totals over several days but mistakenly enter them as a one-day report.

What you may not realize is that we try to check over the data each day by hand to catch and correct as many of these errors as we can. We have volunteers helping CoCoRaHS (and several more who will be starting soon) who manually check over reports each day to spot data that look suspicious. Sometimes the errors and the appropriate corrections are obvious, but most times they aren't. For example, every time I see a report of 1.00" or 2.00" or anything __.00" I get suspicious and think the observer may have put the decimal point in the wrong place and really meant 0.10" or 0.01" -- a BIG difference.

When we do find suspicious looking data, it is our policy to check with the observer to verify what you reported and then compare that to what you observed and meant to report.

Most of our data quality correspondence is by e-mail -- the quickest and easiest and least obtrusive thing for our volunteers. But we are finding in the last year or so that many of you do not reply to our questions and messages. Many of you have SPAM traps on your e-mail that are intercepting and rejecting messages from us, or else you may not open messages from people you do not know.

To help our project and get the best data we can, would you PLEASE reply whenever you get a message from:

CoCoRaHS QC <cocorahsqc@msn.com>

This will help us a lot and save our primary data quality volunteer a whole lot of time. THANK YOU in advance.

Recruiting contest

Since we started the recruiting contest last week, we've had about a dozen new volunteers signed up. I think New Mexico is leading the charge so far, but we've had new recruits from all of our states. Unfortunately, only a few of the new applications contain the name of the person who told them about CoCoRaHS -- so we're not getting many "points" yet towards our amazing prizes.

By the way, more prizes have been donated including a great climate book and, if you happen to live on the Front Range of the Rockies between Castle Rock and Fort Collins, an Ice Cream Sundae party has been donated for up to about

two dozen family and guests, for whoever recruits the most volunteers in this area.

Remember, new volunteers must be in Kansas, WY, CO, NM or TX and the application must indicate that they found out about CoCoRaHS from you so we can give you the credit. Some of you have recruited new folks from other states, but unfortunately CoCoRaHS is not yet a national program, so we can't sign everyone up.

We find that people often say "Sure, we'll get on the website and sign up, but many never get around to it, so if you want to make sure you can submit the application for them by clicking "Join CoCoRaHS" on the website menu. But please put in THEIR e-mail address, not yours.

Folks without internet are certainly welcome, too. But you must figure out a way to get their data into the computer. While we continue to think about a 1-800 number, we will need a sponsor to cover the costs, and there are quite a few logistics that are not yet figured out.

T-shirts available

We have printed up a variety of sizes and colors of t-shirts. This is both advertising for the project and a way to collect a few donated dollars to cover other expenses. If you are interested, click on "CoCoRaHS Store", or come by our office during business hours (make an appt, please by contacting

Henry Reges <hreges@atmos.colostate.edu>

We will also be bringing t-shirts to all future functions -- training sessions, picnics, etc. We printed up several hundred, so . . .

Possible Field Trip for CoCoRaHS volunteers

We collaborate regularly with a special research facility near Greeley known as the Colorado State University CHILL Radar Laboratory just north of the Greeley airport. Every two or so years we arrange field trips there to see this weather research facility where microwaves are reflected off precipitation particles to track the movement, nature and severity of storms.

Would you be interested in a field trip to see this facility and meet with project scientists to learn how weather radar works and what types of research are currently under way. We are tentatively reserving Monday morning, Aug 15 approximately 10 AM to noon, for our 2005 field trip.

Seating is limited, so it is very important that you RSVP to let us know that you plan to come. We will then send out a reminder a week or two in advance with specific driving instructions and schedule. If you would like to attend, please contact: Henry Reges (hreges@atmos.colostate.edu) and specify how many people will be in your group. If your plans change, please let us know so we can make room for others.

A few storms

Since I started typing, two hail reports have come in -- 1" hail has hit near Estes Park this afternoon, and some little soft hail has fallen up near Gunnison. It's great to get this data, and we all appreciate you efforts as weather and climate volunteers.

Have a good summer.

Nolan