

The Catch

COCORAHS—DOING OUR BEST IN THE SUMMERTIME

FORT COLLINS, CO — Friday, May 4, 2007

Springtime greetings.

Our lilacs are in full bloom now, and cool moist air is still in place. But the heat of summer will be here very soon -- like it or not. I can hardly believe it, but this will be the 10th summer since CoCoRaHS first started here in northern Colorado. With warm, bright mornings, more relaxed schedules and wildly interesting storm events, summer has always been the season with maximum CoCoRaHS participation. Rainfall from summer thunderstorms varies so much – sometimes varying detectably from house to house and block to block. Every measurement is important. **YOUR MEASUREMENTS ARE IMPORTANT!!** One part of town can get an inch or two of rain (or more) while the other side of town is dry.

Tips for accurate rainfall measurements

Measuring rain is not difficult, but there are some challenges.

-- Now that the leaves are coming out on the trees, take a look at your rain gauge to make sure it's mounted in a good place. Check to see if the gauge is too close to the leaf canopy of trees. Leaves can block incoming precipitation but can also increase the amount reaching the ground around the perimeter of some trees. Sometimes the best place for a rain gauge in the summer is different than the best place for winter measurements. If necessary, relocate your gauge. Our CoCoRaHS coordinator in the Chicago area has designed a mounting bracket for rain gauges that makes it easy to move the gauge when necessary.

-- The most intense rains (greatest rainfall rates) of the year usually occur during the summer months.. During heavy downpours with large rain drops, rain can splash off sidewalks, railings and roofs sending a spray of extra moisture towards your gauge. Make sure your gauge is far enough from roofs, railings and hard surfaces so that “splash in” is not a problem.

-- Also be alert for “splash out”. We may think highly of our rain gauges and believe them to be totally accurate, but during heavy rain and high winds

associated with summer thunderstorms and squall lines, it is possible that some of the rain may splash out of the gauge or be deflected resulting in “undercatch”.

-- Bounce out! Yes, hard hail stones can bounce right out of your gauge and not get measured. Hail, like snow, is frozen precipitation and we want to measure the water content of all that lands in our gauge. However, if it bounces out, our measurements are no longer accurate.

**** ** *** Splash and Bounce testers needed! **** ** *** Some of you have more than one of the 4” diameter gauges. If that happens to be you, then perhaps you would be interested in helping with a special study of rainfall “splash out” and hail stone “bounce out”

this summer. To assess the losses due to splash and bounce we could set two gauges side by side -- one with the funnel and inner tube in place, and the other with just the outer cylinder to catch the rain and hail.

Make sure both gauges are perfectly level since that also affects our readings. For this comparison to make sense, it is important to check, measure and empty the gauge with just the outer cylinder soon after each rain event ends so that there is little time for water to evaporate from the open cylinder. Then for each storm, compare the readings from the two gauges and keep separate records for as much of the summer as you can. If several of us do this in different parts of the country, we could have a very good data set by the end of the summer and could compile some very useful results.

If you are interested and have the equipment you need, just go ahead and get started.

-- Speaking of evaporation -- that's something we need to keep an eye on, too. With hot temperatures and intense sunlight, this is the time of year when water evaporates most quickly. To minimize evaporation, make sure you keep your funnel in your gauge (it does a great job of retarding evaporation) or be sure to read and empty your gauge immediately after each rain ends rather than waiting until 7 AM the next day. (But still send your 24-hour report in at 7 AM)

-- Rain gauges and insects seem to have an attraction. Bugs and spider webs don't do much to help your observations. Keep your gauge clean. Empty the rainfall regularly and you may have fewer insects. A few of us have found honey bees in our gauges. Bees seem to be having enough trouble already without getting trapped in rain gauges. Screens are generally not recommended, but if that's what it takes to keep the bees out, I guess it's OK. You'll lose a little in the screen, but maybe we can estimate how much and correct for it.

Gauge cleaning: Soft cloth and gentle dishwashing soap is all you need to keep your gauge clean. Dirt can collect in the bottom of the inner tube and can be a

pain to clean out. Some of our volunteers have suggested rolling up a few sheets of newspaper and rotating the paper inside the tube. I've tried it and IT WORKS - a clean gauge.!

-- Finally, look for leaks. We sometimes absentmindedly may leave some water in our gauges during the winter. Water expands as it freezes and can crack the inner cylinder and, on a few occasions, even the outer cylinder. Keep a close eye on your gauge and make sure there are no leaks. There is nothing quite so useless as a leaky rain gauge.

5.00" -- I doubt it! 5.02" -- then I believe it

Whenever I see a measurement of heavy rain that happens to come out to precisely a whole inch (2.00", 3.00", 4.00", 5.00", etc) I become skeptical. "Maybe the observer meant 0.05" or 0.50?" It is possible, of course, that you might get exactly 5.00". If you do, please say something in your notes to convince us that you've had an extraordinary rain that just by chance came out to an even inch.

CoCoRaHS Comments Invaluable

Your comments are valuable for other reasons, too. Some of us get more rain than others, and some get more excited about rain than others. But if you've had a big rain -- two inches or more in the past 24 hours -- please add a comment or two in the observation "Notes" to explain when and how hard that rain fell. Whenever I see a daily precipitation report like 3.67", I immediately click to read the notes to learn more about the storm. If the notes are blank, it's a great disappointment. I realize that not everyone likes to write like me, and we're not all the greatest spellers, but if you've had interesting weather, go ahead and write a few notes. This is your chance to leave a lasting mark in and upon weather history.

When to report "Intense Precipitation"

We've had many questions lately about how much rain is required before we need to submit an "intense precipitation" report. Remember, "Intense Precipitation" and "Hail" reports are automatically sent directly to your local National Weather Service forecast office and also to CoCoRaHS. For many NWS applications, at least one inch of rain in one hour is the minimum criteria for heavy rains that could produce flooding. However, here in the West, we get excited about much less. The NWS formal definition of heavy rain is 0.30" or more in an hour. Two inches or more of rain in a day is heavy rain anywhere in the country even though it is relatively common in some areas and extremely rare in others.

The bottom line is we are not going to give a specific requirement for when "Intense Precipitation" reports are needed. We'll let you decide based on what you feel is significant for your area.

By the way, there have been some EXCELLENT reports lately that have included rainfall amounts along with descriptions of rising water or streams out of their banks in the vicinity of CoCoRaHS stations. Thanks so much! Reports like that can make a huge difference. Keep 'em coming.

Who is drier – Nevada or Alaska?

I should concentrate on Colorado. That's my job. But with so much wonderful precipitation data flowing in from across the country, I can't help but peek at CoCoRaHS maps and reports from other states. We don't have many volunteers reporting from Alaska yet – and most are in the Anchorage area. But since Alaska data collection began a few weeks ago there has been almost no rain. This is normally their dry season, but it's still surprising to see weeks go by without rain, while our growing crew of volunteers from Nevada have had several showers to measure and report. Also, it's been wetter in the deserts of southern New Mexico lately than in parts of the Tennessee Valley.

Still snowing!

While many of us are now in summer mode, snows continue to fall in the neighborhoods of some of our volunteers in Montana, Wyoming and Colorado. I love it!! What a country we have!

CoCoRaHS Local Coordinators!

I really want to recognize our dozens of "volunteer coordinators" from many parts of the country who have offered to help recruit, train and help out new CoCoRaHS volunteers. As our numbers continue to grow, the importance of local leaders gets increasingly greater. Please don't hesitate to contact your local coordinator if you have questions or suggestions. If you're not sure how your "CoCoRaHS Coordinator" is, just remember the link on the homepage for "Volunteer Coordinators."

<http://www.cocorahs.org/Content.aspx?page=coord>

Would you like to help? If you have ideas for recruiting new observers or the ability to help train and motivate newcomers to the project, we could use your help. Please contact your state coordinator and offer your assistance.

Precipitation totals for January through April, 2007 for selected stations with complete records.

My house -- in NW Fort Collin, CO 2.42"
near Elizabeth, Colorado SE of Denver 8.21"
Gothic, CO, 6 miles North of Crested Butte 10.24"
Moose, Wyoming (Teton County) 3.92"
Worland, Wyoming 1.27"
6 Miles ESE of Las Cruces, NM 2.54"
5 Miles S of Carlsbad, NM 4.45"
3 Miles ESE of St. Francis, Kansas 3.74"
Pittsburg, Kansas 14.49"
Hammon, Oklahoma 10.54"
Mission Bend, Texas (near Houston) 18.89"
Columbia, Missouri 12.25"
Mound City, Missouri 7.16"
2 miles north of Homer, Illinois 11.03" (also, 8 miles south of my home town)
Oglesby, Illinois 13.70"
Huntington, Indiana 14.53"
Valparaiso, Indiana 12.29"
Pottsville, Pennsylvania 14.46"
2 miles SW of Kulpville, Pennsylvania 19.72"
Prince Frederick, Maryland 13.85"
6 miles SSE of Charlottesville, Virginia 11.57"

I guess this tells me I'm on the short end of the CoCoRaHS precipitation stick. Oh well, have a great weekend!

Nolan

P.S. Are you new to CoCoRaHS and haven't received your username and password? Please contact us ASAP!