

The Catch

ENTERING DATA ON THE NEW COCORAHS SYSTEM

FORT COLLINS, CO — Monday, February 7, 2005

News Update

I understand that an article about CoCoRaHS appeared today in the Rocky Mountain News. This is causing a surge in new applications today. Neat!

Winter is still here

It's a lovely Cleveland, Ohio day here with dense, dark low clouds and fog. Meanwhile, snow is spreading into the mountains again and many of you up there should have plenty to measure when you get up in the morning. I see that the deepest existing snowcover at any of our volunteer locations is still the Gothic station just north of Crested Butte with 52" on the ground this AM followed by 31" up near Smoot, WY. Most folks are now down to less than 20" even in Summit and Grand County, CO, so it's probably time for more. I still have patches of muddy ice nearly an inch thick in the shade of our evergreens that dates back to the wet snow of late November. But most of us east of the mountains just have bare ground.

Southern Colorado Storm

The wet snow that plopped down on southern Colorado Jan. 29-31st was very unusual for that time of year. One to three feet of wet snow fell with up to 3 inches of water content in parts of Fremont, Custer, extreme SW Pueblo and Huerfano Counties. These areas are normally dry and windy at this time of year. They usually only get 2-3" of total precipitation for November through February combined.. So for those who got blasted by that storm, it certainly was an unexpected water bonus.

Things we have learned or are learning about measuring precipitation

We have assembled a list of some of the things we have learned and continue to learn about precipitation. This list is based, in a large part, on some of your e-mail messages, and data that we have compiled over the past two years. This may seem humorous, but they represent the challenges that we face in attempting to track and map our weather patterns. Interestingly, official weather stations and sophisticated observing systems face many of the same challenges—and sometimes we come out ahead.

Here is the list:

Measuring rain is fairly easy—especially gentle, soft rains with little wind—the kind that don't happen that often.

Measuring hail is harder.

Measuring snow is hardest.

Measuring snow at 7 AM in the dark of December and January is a pain.

Ice is slippery, and should be avoided at 7 AM in the dark of Dec. and Jan.

It is hard just to walk through deep snow, let alone measure it.

It is much easier just to sleep in and send in a late report—based on estimating what probably fell rather than measuring what did fall.

Sometimes estimates seem as good as measurements.

It seems to require three hands to melt and measure snow. Most of us only have two.

The measurement cylinder falls over easily when melting snow.

When your two-year old helps you melt snow, usually you spill it.

It is harder to remember how much warm water we added than we thought it would be.

Cold rain gauges crack when dropped on concrete.

Ice cold rain gauges crack when boiling hot water is poured in.

Taking core samples early on frigid cold dark winter mornings is not that much fun either.

It is hard to get a good core sample of dry, powdery snow off a grassy surface. It is also hard off a rocky surface. Actually, it's pretty difficult even off a good smooth snowboard.

Snow on the Great Plains and across many areas of Wyoming usually blows, drifts, melts and settles and is generally uncooperative.

Our rain gauges are very nice, but somehow they don't seem to catch windblown snow very well.

It is hard to talk ourselves into taking core samples of fresh snow, even when we know how and know we should.

When we put our funnels back on the gauges in spring, it usually snows and spills over the top.

If we leave the funnel off, then a lot of moisture evaporates and is not measured accurately.

It always snows the day after we forget to put our gauges back outside.

We all seem to make a more mistakes reporting our data in winter than in summer. (Blessings on our data quality volunteers who check the CoCoRaHS reports each day and try to spot and correct the errors.)

It is hard to find a neighbor who will be your substitute weather observer in mid winter.

Many folks drink coffee before they do their measurement. They drink more coffee after they have finished. At least one observer poured coffee in their rain gauge by mistake.

Hard hail bounces out of the CoCoRaHS rain gauge.

Very large, hard hail removes chunks of the edge of the rain gauge funnel.

Taking core samples of hail accumulation is not easy.

Measuring hail while the hail storm is still in progress may be dangerous.

It usually hails when our hail pads are indoors.

We are usually not at home when it hails, so we don't know when it started or how long it lasted.

We are usually not home when the heaviest downpours occur that warrant sending in "Intense Rain reports"

Tornadoes can pick up and carry away CoCoRaHS rain gauges. (We actually lost three gauges in the May tornado outbreak in Nebraska last year.)

So, it's really no surprise that several hundred of us pack in our gauges for the winter and wait until April or May to get back into CoCoRaHS reporting.

Do you have any truisms to add to this list? Please send them, and add to our precipitation measurement wisdom.

One of our more unique stories from this winter was an observer in SW Denver who was carefully melting and measuring the water content of a heavy, wet snow only to discover that his gauge had a leak and the warm water he was using to melt the snow was actually leaking INTO the gauge from the outside. Darn!

BUT IT'S NOT THAT BAD

Despite these and other challenges, hundreds of us continue to send in reports every day and the data, all things considered, are very good and very helpful for tracking and mapping our storms. No, it's not always perfect, but it is pretty good for a bunch of volunteers equipped only with little rulers, a plastic rain gauge, and foil-covered squares of Styrofoam.

So HAT'S OFF to you all!!

DO YOU STILL NEED an extra Outer Tube or short snow ruler?

It is getting late in winter now, but we do have a supply of extra outer cylinders and snow rulers to make winter snow measurement easier.

New Rain Gauges cost \$25

Outer cylinders cost \$12

Short snow rulers are \$3

We also have a few extra inner tubes, mounting brackets, and funnels if yours has cracked.

Include an extra \$3 for shipping. Send checks made out to "CoCoRaHS" and mail to:

CoCoRaHS
Colorado Climate Center
Department of Atmospheric Science
Colorado State University
Fort Collins, CO 80523

This is also the address to mail donations to buy extra rain gauges for 2005.

New Website

Thanks for taking a peek at the new website and sending your comments and suggestions. There will be a new version posted late this week accommodating many of our first concerns. We also have to get rid of a few bells and whistles so that those of us with phone modem connections don't spend too much time waiting for pages to load. In a few days we also hope to have new mapping capabilities where we can zoom in on our favorite areas. Now all we need is more data so there is something to zoom in on.

Training Session

We are beginning to fill in our training schedule for this spring. We'll kick off with a session here in Fort Collins on Feb 24th here at the Dept. of Atmospheric Science, 6-8 PM with snacks provided

More sessions will follow.

Best wishes to all!!

Nolan Doesken