

The Catch

COCORAHS—WILL WINTER END?

FORT COLLINS, CO — Friday, February 22, 2008

Dear CoCoRaHS volunteers and such:

Greetings!! For the many new weather volunteers who have signed up since the last time I sent out a letter, thanks for signing up to help. These periodic letters are a way we all try to stay in touch. Please take the time to read—now or sometime when you have more time. If you find these weather letters to be an intrusion, just hit "delete" or let me know and we can remove your name from our CoCoRaHS e-mail list.

Will winter lose its' grip?

For some of us (parts of Iowa, Wisconsin and northern Illinois as well as the mountains and valleys of Colorado and Wyoming), winter is wearing out its welcome. The Midwest and Great Lakes areas have been frigid again, and as I write this message a storm is headed up the Ohio River while snow and ice are aimed at the Mid-Atlantic states and southern New England (CoCoRaHS begins in Rhode Island in just a few weeks—our first New England state). Snow is also headed towards the Sierras and the Central Rockies this evening.

Here just east of the mountains, it hasn't been too bad lately. It has been colder than average much of the winter, but the last 3 weeks has been near average with an occasional mild day (almost 50F today). Our snow is finally gone. But up in our mountain valleys, the cold has been relentless. A few big snows buried the Gunnison Valley back in December and January, and they've been in the freezer ever since with three feet of snow on the level. Gunnison, Colorado has experienced more than 50 days below zero and nearly 20 of those dipped below -20F. Our daughter has a friend going to college there at Western State and she JUST LOVES IT! Two mornings the temperature was close to -40F—darn cold by any definition! It hasn't been quite that cold in Wisconsin, but the area from central Iowa across to Madison and Milwaukee, WI has seen one storm after another all winter. Seasonal snowfall totals are approaching or exceeding new records. Furthermore, mother nature has tossed in a few layers of rain and freezing rain for good measure making for one icy, crusty massive mess.

But back to the question. YES, winter WILL lose its' grip. Just look at the calendar. By the time Feb 21 comes around, the coldest temperatures are almost always behind us—and the mud season lies just ahead. The incoming solar energy is increasing daily. The day length is already noticeably longer, and the sun climbs visibly higher in the sky each day. Just look at the shadows—if you're fortunate enough to have some sunshine. Here in Fort Collins, Colorado (Latitude, 40.5 deg N) on Dec 21 at noon (winter solstice) the sun was only 26 degrees above the south horizon. Already it's up to 40 degrees and by the spring equinox, the noon sun will be 50 degrees above the southern horizon at noon in route to its' Summer Solstice position 73 degrees (almost overhead) above the noon horizon. With increasing day length and higher sun angle, it WILL get warmer and snow will melt. Those of you in the South will see your first tastes of hot weather sooner than you might like, while us northerners will frolic a bit in some spring warmth.

By the way, if you would like to learn about a neat tool for tracking sun angles, positions and day length, do a search on "Sun Path Diagrams." These are great for visualizing the position of the sun at different times of day and year. Have fun!

As the Days grow longer - - -

With longer days and warmer temperatures comes another aspect of springier weather—big storms. Folk lore provides this piece of wisdom. "*As the days grow longer, the storms grow stronger*". There is some truth to this adage, so be prepared.

Notes Appreciated

Speaking of strong storms, we have already had horrendous storms and severe tornadoes in recent weeks in parts of the country. Now that we have so many CoCoRaHS volunteers across the country, the chances are that one of us will be very near to many future storms. As you enter your precipitation reports each day, keep in mind that you are encouraged to write notes on the interesting or damaging weather that you experienced. Several of you were very close to some of the recent tornadoes in Tennessee and Alabama, and some provided excellent accounts of what you observed. This type of information is valuable in its own right and makes CoCoRaHS reports even more important.

Thanks for your special reports of heavy rain, snow and hail

As we move towards spring, the intensity of precipitation (i.e. the amount of precipitation that falls in a certain amount of time) often increases. There are

reasons for this that I wish I had time to go into—more water in the atmosphere, thicker clouds, greater instability, more rapid updrafts in clouds, etc.

The harder it rains, snows, or hails, the more trouble that may cause. If you happen to experience high intensity precipitation, we appreciate hearing about it. We have special data entry forms on the CoCoRaHS website for you to enter your reports of heavy precipitation. There is no universal definition of what constitutes “intense” rain. In the humid Southeast, folks don’t get excited until it has rained two inches or more in the past hour. But in drier parts of the country, we look at it quite differently. Technically, any rain accumulating at a rate of at least 0.30” per hour is considered heavy rain, and let me tell you why. If it kept raining at that rate for 24 hours, that would be 7.20”, enough for a flood almost anywhere in the country.

So if it’s raining hard, please consider quickly checking your gauge and sending in a special “Intense Precipitation Report”. Your report may help provide early warning for a developing flood. Then don’t forget to still do your regular daily precipitation report the next morning.

CoCoRaHS goes to DC

CoCoRaHS is currently funded in part by a grant from the National Oceanic and Atmospheric Administration (NOAA) Office of Education. Each year of the grant we get to visit their offices in Washington, DC (very close to the White House) and give an update on our progress. We just got back from our second annual trip there (two down, one to go). What a treat it was—heavy traffic, freezing rain (we rarely see that here in Colorado), but glimpses of the Capitol, the Monuments, and the other landmarks of the District of Columbia. I am pleased to report that our sponsors are delighted with our progress as we soon surpass 13,000 volunteers and 30 states. All of you need to be thanked for this. It is indeed a team effort.

While we were there, we took a side trip to Charlottesville, VA. Henry (our CoCoRaHS National Coordinator) and I visited the University of Virginia and then had just enough time for a quick and slippery tour of the home of Thomas Jefferson, Monticello, before it closed for the day. As you may know, Thomas Jefferson was an avid weather observer. From his mountain top perch he meticulously watched, measured, and recorded weather conditions for nearly 50 years. Some of his weather instruments have been preserved. If he was still around, he would probably sign up for CoCoRaHS.

Much to learn out doing the chores

As many of you know, my wife and I have a little farm. Real farmers would call ours a hobby farm—and they're right. But the fact is chores are still chores: hauling water to horses on cold mornings, climbing the ladder and tossing down hay bales from the old barn loft, finding the barn cats contentedly nesting in the hay waiting for a foolish mouse to venture out, gathering eggs (we got six today from our six surviving hens—a sure sign of spring). Sometimes I get home from work and I resent having to bundle up in boots and coveralls to tend to the needs of assorted farm animals. But if I didn't go out there, I would miss so much. The sounds—the smells—the mud—the amazing process whereby horse manure, spoiled hay and some bags of leaves magically turns into luscious compost. And while I'm out there I can watch the winter stars and see the morning sunrise – things I might otherwise miss. Thanks for the chores!

An easier way to measure the water content of snow—weigh it!!

Several of you have now completed experiments using kitchen scales that read to the nearest gram or the nearest 1/10th ounce. You have reported back and the verdict is in. We can use this type of kitchen scales to weigh the outer cylinder of our CoCoRaHS gauge. By weighing it empty (tare weight) and then weighing it with a specified amount of water in it, a conversion table or equation can be established. Then, all we have to do is bring the gauge inside after a snow and set it on the scale and get a direct measurement of the water content to the nearest 0.01" WITHOUT going through the arduous process of melting, pouring and sometimes spilling the water from your gauge. Apparently a suitable scales can be obtained for between \$20 and \$30. While that's too much for many of us, some of you, especially you cold weather snow lovers, may find this option very attractive. It also makes it a lot easier for taking core samples without much hassle.

We will write up some instructions and post this under “Things to Know About Snow” on our main website as soon as I can. Thanks to all of you who helped with this.

Agricultural weather—compliments of the University of Kentucky

I recently got a letter from the Director of the Agricultural Weather Center at the University of Kentucky (Tom also happens to be a part of the Kentucky CoCoRaHS leadership team). He invites all of us to try their new website for agriculture, lawn and garden applications. Give it a try. Thinking back to my youth when I craved weather information but usually had to settle for the sound of static on the radio (actually quite instructive) and the 6:15 PM weather on Channel 3, all I can say is “we've come a long way!”

<http://www.agwx.ca.uky.edu/ukawc.shtml>

CoCoRaHS – Good Medicine

Almost every week I get one or more e-mails from CoCoRaHS volunteers who are struggling with ill or failing health but who absolutely won't give up. On crutches, in wheel chairs, in pain and sometimes anguish, some of you continue to make sure that we receive your daily rainfall reports no matter what. You don't know how much your letters mean to me—and how incredibly much we appreciate what you are doing. Those of us who are younger, healthier and spry often take our days for granted and fill them with constant activity—and stress. We grumble about not having time for weather observations, reporting or even having a good meal. We may not even stop to look up at the beautiful and ever-changing clouds, or take time to notice things like a total lunar eclipse (last night). I know the feeling, because sometimes that's me. But some of us are just happy to be able to check the old rain gauge one more time, and type in that report again – one more time, and see another sunrise – and another sunset. What more can I say.

May you weather the storms!

Nolan