

# The Catch



NOLAN DOESKEN'S BI-MONTHLY COCORAHHS E-MAIL MESSAGE

## CoCoRaHS -- A Super Groundhog Day

**FORT COLLINS, CO -- February 2, 2014**

Greetings CoCoRaHSians,

This year, as best I can recall, is the first time Groundhog Day coincides with the Superbowl. So, at the rate we're going, that probably means 12 more weeks of winter.

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### Happy Groundhog Day

Yes, it's amusing and non scientific. Never does wintry weather entirely come to an end by Feb 2 no matter what happens to our groundhog friend in PA. But it is a fun tradition with a long, colorful history dating back centuries to Europe. Among meteorologists it was always grounds for small celebrations and lively conversations. It provides the perfect excuse for sending greetings to fellow weather enthusiasts across the country. My mother-in-law (deceased) could always count on getting a call from her younger brother out on the farm (eastern Colorado) to check up on her and exchange important weather information and look forward to the upcoming growing season.

### Fighting with Snow and Ice

Freezing rain, sleet and snow hit the Deep South this



"In Depth" Snow Measuring

past week, and one cold wave after another has been dropping down from Canada. For the southern Great Lakes area, snow has been piling up one layer on top of another. New England has had alternating layers of snow and ice. Regardless of what the groundhog sees, another full week, at least, of very cold weather lies ahead before there's any chance of moderation.

For many of us this is feeling like one of those "good old days" winters. The only problem is the older we get the less fun and exciting winter weather becomes! We hosted a special training webinar last week focusing on some of the more challenging winter measuring techniques. [Click here to view this 'special situations' webinar on our YouTube page.](#)

Also, [click here to view our updated snow training slide show](#) at your leisure (or under duress if a snow or ice storm is headed your direction).

Snow certainly isn't as easy to measure as rain, but it's really fun to get out the ruler and see just how much new snow fell, how much is left on the ground and how much water is in that snow.

#### **SWE Monday - Some Encouragement**



Now that it's February, measurements of the water content of the snow that's on the ground become increasingly important. Snow Hydrologists call this SWE "pronounced swee" which stands for "Snow Water Equivalent". It represents the water that is in the snowpack on the ground. This may include fresh snow and snow that has accumulated from previous

snows. It could also include rain and/or freezing rain that froze on or was absorbed into the snowpack. This is the water that will be available to either soak into the ground or run off into rivers and streams (or both) when temperatures eventually warm up and the snow melts.

We realize this is a difficult measurement, especially in areas where the snow is deep and where there are ice layers in the snow. Also, as the snowpack ages, the snow gets progressively denser until eventually it contains close to one inch of water for every 3 inches of compacted or water-saturated snow.

Most of us take this measurement by taking a core sample of the snow on the ground with our 12" tall, 4-inch diameter clear outer cylinder in a representative location. We then melt that sample, pour the water into the calibrated inner tube and add up and report the total. But in areas of deep or ice-layered snow, something much stronger and taller is needed. Some of us have successfully used 4" diameter stove pipe or even a series of "#2 tin cans" clamped or metal duct taped together (they are also very close to 4" in diameter). But the most popular approach is a heavier grade PVC pipe -- with a

beveled rim (thanks to a shop sander) and perhaps even some cutting teeth filed into the rim to help twist the pipe down through hardened ice layers. Then, once a core is secured, [it is much easier to weigh the sample rather than melt it](#). Remember, for a 4" diameter opening, each 0.10" of snow water equivalent will weigh very close to 20 grams.

This is an important measurement. Check out the [NWS National Operational Hydrologic Remote Sensing Center](#) and you'll see how SWE data are analyzed and displayed. Last week more than 400 of us sent in Monday morning SWE reports. Hopefully in the weeks ahead this number will grow. The easiest way to [see who is reporting SWE is to use the "Precip Value" feature while viewing CoCoRaHS data](#).

First select the country, state and data range that you're interested in. Select "Total Snow SWE" from the "All Precip Values" menu and then select ">" (Greater than) from the "Operator" menu and type in 0 in the value box. (This is a feature that hardly any CoCoRaHS volunteers are aware of == it's not well labeled but it works great) Click "Search" and it will list out all the reports of SWE for that date or range of dates and click "View" to see each full report that you're interested in.

For all of you who take this somewhat cumbersome measurement, thank you very much. You are welcome to take it every day when there is snow on the ground, but in deep snow environments that is asking a bit too much. Once a week is great, and greatly appreciated. If no new snow is expected, it's fine to take the measurement Sunday afternoon or evening to save time and then report it Monday morning with your regular report.

### **"Significant Weather Reports" -- Greatly Appreciated**

Please remember that winter fog, high winds, freezing rain, blowing snow, heavy snow accumulations, rapid melting (when we get to that point) are all very "Significant" and are worthy of sending in a "Significant Weather Report" Many ask "but how do we know if it's significant?" Let me answer this way. If the weather is doing anything that catches your attention or disturbs normal travel and outdoor activities, it is definitely "significant" and should be reported as soon as possible. (Remember, "Significant Weather Reports" are forwarded immediately to your local National Weather Service forecast office). To submit a Significant Weather Report, look to the left hand menu from your data entry page. [Click here to search our database of past reports](#). They can be very interesting to read.

### **Slow No More!**

Some of you noticed that our website had become very slow this fall and winter. This was an internet issue that affected some of us and not others and was practically impossible for us to troubleshoot. For example, my laptop on our home internet worked fine, while on our very high-speed connection at work, the CoCoRaHS website was slow as molasses.

Even though we never figured out what was wrong, we came up with a solution. [www.cocorahs.org](http://www.cocorahs.org) should be fast and agile again.

If, by chance, you're still experiencing very slow performance of our website, try closing

your browser and then restarting it. If you go to the bottom of the CoCoRaHS website and it still says "copyright 1998-2011" then you're still running the old version. Try refreshing your browser. If you see "copyright 1998-2014" then you're back in business.

If you get an error message that says "An error has occurred..." when doing various things on the site, the fix is to go to the home page and simply hit the Refresh button on your browser, or the F5 key on the keyboard. This should refresh the site and the cookies attached to the site and get rid of the error.

### State Climatologists



My day job is "State Climatologist" for Colorado here at Colorado State University. Nearly every state has a "State Climatologist" or a "State Climate Office" and these date back many decades. While they didn't call them that until the 1950s, each state had someone responsible for collecting and compiling climate data all the way back in the late 1800s.

Later this month, Ryan Boyles, the State Climatologist for North Carolina at North Carolina State University, will be our guest on the next CoCoRaHS WeatherTalk Webinar. [Click here to get registered.](#) I do hope you can join us and learn first hand what we climatologists really do. As you'll find out, there is much more to the life of a climatologist than tracking "climate change".

### Gorgeous on the Farm

When our flock of brilliantly white geese look brown and grey, you know the ground must be covered with clean, fresh snow. That's what it's like here as we had nearly 48 hours of snow adding up to just short of 10" -- much more up in our mountains. It started as rain on Thursday and changed to heavy, wet snow as temperatures dropped. The snow stuck to everything. Three days later we're still in a magical winter wonderland with every twig and wire still snow coated.. Even our brown horses (who have their thickest winter coats in a long time) stayed out in the snow until at least an inch accumulated on their backs. Yesterday (Saturday) it snowed lacy dendritic crystals that accumulated 2" but had just 0.03" of water. Each time I stomped my foot on the ground, the snow would poof leaving a 14" wide foot print. This "fluff" also absorbed sound so we could barely hear the traffic going by on the road. The chickens took a day off from laying, and one of our cats seems to be hibernating and had doubled in weight since last summer.

### Spring is Coming

Need I say more. Again, I hope you're having a "Super" groundhog day. Thanks very much for being a part of CoCoRaHS and enjoy as best you can what's left of the winter.

Sincerely,

Nolan Doesken  
Colorado State University

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