Utah Snow Training

Because every drop counts!
Volunteers report their daily observations on our interactive web site: http://www.cocorahs.org
You will need:

- 1- A CoCoRaHS “4-inch” rain gauge installed in a good location, which can be bought from: [WeatherYourWay.com](http://WeatherYourWay.com), or [AmbientWeather.com](http://AmbientWeather.com).

- 2- A login ID and password to enter data.

While on the CoCoRaHS website, click on the “Join CoCoRaHS” and complete the on-line application form. Once you sign up, you will receive a login and password.
The ability to gather accurate data and transmit it in a timely fashion is very important.
Measuring Snow With Your Rain Gauge
If snow is anticipated . . .

Remove the **funnel** AND **inner tube**. Otherwise, snow will clog the funnel.
There are two ways in which snow is measured:

1. Liquid Water Content:
   a) From Your Gauge, and
   b) From a Core Sample

2. Depth of Snow:
   a) 24 Hour Snowfall Accumulation, and
   b) Existing Snow Depths
1a) Measuring Liquid Water Content From Your Gauge
If you live in a protected area, many times you will have an accumulation of snow on the rim of your gauge.
How do I know what to measure and what not to??

Take your snow-swatter and tap gently on the rim of the gauge.
What falls in gauge we measure.

We will disregard the snow that lands outside the gauge.

Go ahead and clear away the snow from the gauge.
Melting snowfall

Add some warm water to the inner cylinder. Notice that you have two cylinders.
Carefully measure your warm tap water before adding to outer cylinder.

Be sure to measure to the nearest hundredth of an inch.
Add the warm water to the snow sample.

Pour warm water directly onto sample.

Allow sample to completely melt.
Measure the liquefied snowfall sample

Pour snow sample into smaller tube. Remember “Every drop counts!”
Carefully read to the nearest one hundredth of an inch.
Remember to subtract the amount of warm water that you’ve added to the tube.

Reading of 0.79 inches of water minus 0.50 inches of water added gives a final reading of 0.29 inches.
Your gauge may not always give an accurate measure of snow water content. Wind deflects snow around the gauge and wet snow may stick to the rim. Therefore, a “core sample” may be necessary.
1b) Measuring Liquid Water Content From a Core Sample
First, find a representative location.

“This looks like the best place!”

The location should not have drifted, melted, or blown clear snow.
Steps to cutting a sample

1) Place gauge upside down and push down into the snow

2) Clear snow from around the gauge
Capturing the Core

3) Slide snow-swatter under gauge
4) Carefully lift and get ready to flip the gauge
5) Bring the sample indoors to melt
Snow Cores in deeper snow

In wetter snow, the core will come out as one piece.
Remember, there are two ways in which snow is measured:

1. Liquid Water Content:
   a) From Your Gauge,
   b) From a Core Sample

2. Depth of Snow:
   a) 24 Hour Snowfall Accumulation,
   b) Existing Snow Depths

Now let’s look at the second way — Depth of Snow.
What is Snowfall?

Snowfall is the accumulation of new snow and sleet in the past 24 hours prior to melting or settling.
When do I measure new snowfall?

Your observation is normally around 7 a.m. Because snow melts, settles, and drifts, it is wise to measure it when the snow first stops.

The goal of reporting new snowfall is to report the maximum accumulation prior to melting and settling.
Where to measure new snowfall

Measure newly fallen snow on your snowboard* if the snow has fallen and accumulated uniformly.

* The snowboard is a piece of flat, white-colored wood of about 1 by 1.5 ft.
Snow measured under a tree

Notice that only 3.0 inches of snow has accumulated here;
Whereas, 6.5 inches has fallen in the open.
Angle of Measurement

Measure at eye level, as an angle will give you an inaccurate measurement.
After you have measured the snow on your board, clean it off and replace it on top of the newly fallen snow. Be sure to mark its location. Now you are ready for the next snowstorm.
In Windy Locations

If there have been strong winds and drifting, you may have to take several measurements and compute the average.
2b) Depth of Snow - Existing Snow Depths

Snow depth is the average depth of snow (including old snow as well as new) that remains on the ground at a particular time of year.
On some days, snow will only partially cover the ground. To record this, take an average of both covered and bare areas.
Reporting snow on the ground

If half the ground has 2.0” and half the ground is bare, report 1.0” as your total depth.

If more than half the ground is bare, report “T” (trace) and mention the range of depths in your comments box.
How do I measure Freezing Rain?

- “Freezing rain” is rain that falls in liquid form but freezes on contact with a surface.

- Do NOT report freezing rain as "Snow". Melt and measure the moisture that has accumulated inside your gauge and report that as your Daily Precipitation Amount.

- Report ZERO for your New Snow Amount (assuming that it all fell as rain, and no sleet or snow accumulated).

- Report the total depth of freezing rain remaining on the ground at time of observation and enter that in the "Total Snow on Ground" column. Make a note in your comments box so that we know it is freezing rain.
Recording Your Measurements:

Login to the CoCoRaHS Web site:

http://www.cocorahs.org

First, click to Login and enter your username and password.
Recording your Daily Precipitation

After you login, the screen will automatically take you to the Daily Precipitation Report.
Enter Your Report

Here you will enter the total precipitation measured in your gauge.

Record your measurement in hundredths (0.00).
Recording Comments

Feel free to enter comments about the day’s weather under “Observation Notes”
Submit your Report

Click “Submit”, and your data is recorded on our site.
Questions?

Contact the Utah Climate Center

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