



Snow Accumulation Procedures

Purpose: To measure the rate at which snow is accumulating and to measure the total accumulation of snow during the snowstorm. These procedures should be completed at least every two hours during a snow event to provide a complete "picture" of the entire snow event. If snow is falling very heavily, you may need to measure snow accumulation more often.

Estimated Time: 15 minutes for each observation

Materials:

Weather Watch Field Data sheet

Snow Accumulation Field Data sheet

Metric ruler

Snowboard (flat board approximately 8 inches by 2 feet) – The Snowboard should be brought to outside temperature in a sheltered location.

Snow Measurement Rod (A meter stick will work well for snow depths less than 1 meter. For greater depths a stiff metal or wooden rod 2 to 3 meters in length is better. A metric tape measure will reduce measurement error.)

Procedure:

1. As soon as it begins to snow, start taking snow accumulation data.
2. Measure and record basic weather data on the Weather Watch Field Data sheet. If you cannot measure these directly, you may use a weather site on the Internet. (For example, use Unisys Internet Weather Data <http://weather.unisys.com/index.html> and enter your zip code in the search box on the left of the Unisys Home Page and click GO. Bookmark the page for your city. Be careful. Look at the actual location of the Unisys Weather Station – it may be some distance from your location and it may be across large bodies of water or hills.)
3. Find a location where the snow is undisturbed and appears to be of average depth. Look for a flat, open area away from buildings and trees. Some trees in the distance may be helpful in breaking the wind and preventing drifting.
4. Measure the total depth of the snow in centimeters at several locations. Push the Snow Measurement Rod firmly into the snow until you hit ground. It may take some practice to get the feel. You don't want to go into the ground, and you also don't want to be deceived by an ice layer part way to the ground.
5. Average the several measurements and record on the Snow Accumulation Field Data sheet.
6. Lay the Snowboard flat on top of the old snow and push it gently into the snow so

that the top of the board is level with the old snow or just above.

7. Record the starting time on the Snow Accumulation Field Data sheet.
8. Leave the Snowboard undisturbed for about an hour and then record the time and measure the accumulation of snow carefully to the nearest 0.1 cm, and record on the Snow Accumulation Field Data sheet. (You may need to make measurements more or less frequently depending on how light or heavy the snowfall is.)
9. Clean off the Snowboard and repeat in a new location that is nearby.
10. Continue until the end of the snowstorm, if possible. If you cannot make measurements throughout the storm, measure the total snow depth (see Step 4) as soon after the storm as possible. During a heavy snowfall, some of the actual total may be lost due to compaction by the weight of the snow.

(Note: A clean sidewalk or open cement area where there is some protection from drifting is a good alternative to the Snowboard. You still must clean an area off before you start your measurements and between measurements.)