

Protocol 9: Snowpack Depth and New Snowfall Depth

Materials:

- Field book or field sheets and pencil or waterproof pen
- Meter stick
- Snowboard (A 24"x16" piece of ½ or ¾" plywood painted white)
- Tall stake or driveway reflector stake

Method (Modified from the GLOBE precipitation protocol):

Note: If you will be recording new snowfall depth you will need to place your snowboard at the field site prior to the first snowfall, and mark its location with a tall stake or driveway reflector stake.

Snowpack Depth:

1. Slide the measuring stick vertically into the snow until it rests on the ground. Be careful not to mistake an ice layer or crusted snow for the ground. Read and record the depth of the snowpack.
2. Measure at eye level, as an angle will give you an inaccurate measurement.
3. Record the number to the nearest line of measurement (don't guess. If you are using a meter stick and it is marked with mm then your measurement should be in mm, but not fractions of mm).
4. Snow depth is not uniform so repeat the measurement in at least two more places where the snow is least affected by drifting.
5. Report all numbers as the total snowfall. If the snowpack is so small that a depth cannot be read, record the letter "T" (for trace) for total snowpack.

New Snowfall Depth:

1. Locate your snowboard
2. Gently slide the measuring stick vertically into the snow until it touches the snowboard. Read and record the depth of new snow. If no new snow has fallen, record 0.0 as the depth of new snow.
3. If there is new snow, take at least two more measurements at different spots on the snowboard.
4. Report these numbers as the depth of new snow. If the snowfall is so small that a depth cannot be read, record the letter "T" (for trace) for new snow. If the snow on the snowboard has been disturbed before you can take an accurate measurement, report "M" for missing.

If you are not collecting a sample for Snow Water Equivalent then:

5. After you have measured the snow on your board, clean it off and replace it on top of the newly fallen snow. If you move the snowboard very far from the marking stake of driveway reflector then move that also!

If you are collecting a sample for Snow Water Equivalent then use Protocol 10 before proceeding to Step 5.