



GLOBE

Solid Precipitation

Data Sheets

Print the Solid Precipitation Data Sheet :

- [Solid Precipitation Data Sheet](#)

Or select an alternative option below:

- [Solid Precipitation: New Site](#) (2 pages)
 - Use this the first time you visit a sampling site to record site definition data.
- Solid Precipitation: Multi-Day
 - [New Snow Multi-Day data sheet](#)
 - [Total Snowpack Multi-Day data sheet](#)
- [Solid Precipitation with field guide incorporated](#) (3 pages)
 - [pH measurement lab guide with pH paper](#)
 - [pH measurement lab guide with pH meter](#)
- Simplified Solid Precipitation
 - [New Snow simplified data sheet](#)
 - [Total Snowpack simplified data sheet](#)

GLOBE Solid Precipitation Data Sheet

Record comments on the back!

Name: _____ Site Name: _____

Date: _____ Time (local): _____

Solid Precipitation Measurement: New Snow

If no new snow has fallen, record 0.0 mm.

Days accumulated: _____

Sample 1	Sample 2	Sample 3
<input type="checkbox"/> Measurable <input type="checkbox"/> Trace <input type="checkbox"/> Missing	<input type="checkbox"/> Measurable <input type="checkbox"/> Trace <input type="checkbox"/> Missing	<input type="checkbox"/> Measurable <input type="checkbox"/> Trace <input type="checkbox"/> Missing
If measurable: _____ mm	If measurable: _____ mm	If measurable: _____ mm

Rain Equivalent of New Snow

Measurable Trace Missing

If measurable: _____ . _____ mm

pH of New Snow

Measure pH when there is > 3.5 mm liquid.

Measured with: pH paper pH meter

pH: _____

Solid Precipitation Measurement: Total Snowpack

Sample 1	Sample 2	Sample 3
<input type="checkbox"/> Measurable <input type="checkbox"/> Trace <input type="checkbox"/> Missing	<input type="checkbox"/> Measurable <input type="checkbox"/> Trace <input type="checkbox"/> Missing	<input type="checkbox"/> Measurable <input type="checkbox"/> Trace <input type="checkbox"/> Missing
If measurable: _____ mm	If measurable: _____ mm	If measurable: _____ mm

Rain Equivalent of Total Snowpack

Measurable Trace Missing

If measurable: _____ . _____ mm

pH of Total Snowpack

Measure pH when there is > 3.5 mm liquid.

Measured with: pH paper pH meter

pH: _____

GLOBE Solid Precipitation Data Sheet: New Site (page 1)

Name: _____ Site Name: _____

Date: _____ Time (local): _____

New Site Definition

Latitude: _____ Longitude: _____

Elevation: _____ m

Solid Precipitation Measurement: New Snow

If no new snow has fallen, record 0.0 mm.

Days accumulated: _____

Sample 1	Sample 2	Sample 3
<input type="checkbox"/> Measurable <input type="checkbox"/> Trace <input type="checkbox"/> Missing	<input type="checkbox"/> Measurable <input type="checkbox"/> Trace <input type="checkbox"/> Missing	<input type="checkbox"/> Measurable <input type="checkbox"/> Trace <input type="checkbox"/> Missing
If measurable: _____ mm	If measurable: _____ mm	If measurable: _____ mm

Rain Equivalent of New Snow

Measurable Trace Missing

If measurable : _____ . _____ mm

pH of New Snow

Measure pH when there is > 3.5 mm liquid.

Measured with: pH paper pH meter

pH : _____

Comments :

GLOBE Solid Precipitation Data Sheet: New Site (page 2)

Solid Precipitation Measurement: Total Snowpack

Sample 1	Sample 2	Sample 3
<input type="checkbox"/> Measurable <input type="checkbox"/> Trace <input type="checkbox"/> Missing	<input type="checkbox"/> Measurable <input type="checkbox"/> Trace <input type="checkbox"/> Missing	<input type="checkbox"/> Measurable <input type="checkbox"/> Trace <input type="checkbox"/> Missing
If measurable: _____mm	If measurable: _____mm	If measurable: _____mm

Rain Equivalent of Total Snowpack

Measurable Trace Missing

If measurable : _____ . _____ mm

pH of Total Snowpack

Measure pH when there is > 3.5 mm liquid.

Measured with: pH paper pH meter

pH : _____

Comments :

GLOBE Solid Precipitation Data Sheet and Field Guide (page 1)

Name: _____ Site Name: _____

Date: _____ Time (local): _____

Solid Precipitation New Snow: In the field

1. After new snow has fallen, gently insert 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.
 - If the snowfall is so small that a depth cannot be read, record “T” for Trace. If the snow on the snowboard has been disturbed before you can take an accurate measurement, report “M” for missing.

Sample 1. Measurable : _____ mm Trace Missing

2. Take at least two more measurements at different spots on the snowboard.

Sample 2. Measurable : _____ mm Trace Missing

Sample 3. Measurable : _____ mm Trace Missing

3. Record the number of days since the last reading of snow on the snowboard.

Days of Accumulation : _____

4. Hold a straight-sided container straight up and down over the snowboard and push it down until it almost touches the board’s surface.
5. Slide something flat and clean under the container just above the board and turn the container right side up. Cover the container and label it “new snow pH.”
6. Hold the overflow tube from your rain gauge straight up and down over the snowboard. Push the tube down until it touches the board’s surface. Slip something flat under the tube and turn it right side up. Cover it and label it “new snow rain equivalent.”
7. Once you have taken your samples, place the snowboard on top of existing undisturbed snow. Push the snowboard gently into the snow so that its surface is even with the surface of the snow. Place a flag or other marker nearby to help you locate the snowboard after the next snowfall.
8. Take your labeled samples inside to melt and measure.

GLOBE Solid Precipitation Data Sheet and Field Guide (page 2)

Name: _____ Site Name: _____

Date: _____ Time (local): _____

Solid Precipitation Total Snowpack: In the field

1. Insert 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.

➤ If the snowpack is so small that a depth cannot be read, record “T” for Trace.

Sample 1. Measurable : _____ mm Trace

2. Repeat the measurement in at least two more places where the snow is least affected by drifting.

Sample 2. Measurable : _____ mm Trace

Sample 3. Measurable : _____ mm Trace

3. Take a straight-sided container and hold it straight up and down over the snowpack, well away from the snowboard. Choose a place where the snow has not been disturbed. Push the container down until it almost touches the ground.
 4. Slide something flat and clean under the container just above the ground and turn the container right side up. Cover the container and label it “total snowpack pH.”
 5. Take the overflow tube from the rain gauge and hold it straight up and down over the snow. Choose a place where the snow has not been disturbed. Push the tube down until it touches the ground.
 6. Slide something flat and clean under the container just above the ground and turn the container right side up. Cover the container and label it “total snowpack rain equivalent.”
 7. Take your labeled samples inside to melt and measure.
-

Comments :

GLOBE Solid Precipitation Data Sheet and Field Guide (page 3)

Solid Precipitation: In the Lab

1. Once your snow samples are indoors, allow them to melt. Be sure they are covered to prevent evaporation.
2. Pour the melt water from the “new snow” sample into the measuring tube of the rain gauge (you may want to use the rain gauge funnel to help).
3. Read and record the rain equivalent in millimeters to the nearest tenth of a millimeter.
 - If there is more water than can fit into the measuring tube, empty the tube and repeat steps 2 and 3 and add the amounts.

Rain Equivalent New Snow. Measurable : _____ . _____ mm Trace Missing

4. Pour melted snow water back into the sample jar.
5. Perform the appropriate Precipitation pH Lab Guide on the pH sample.

New Snow pH: _____

6. Repeat steps 2-5 for the “snowpack” sample.

Rain Equivalent Total Snow. Measurable : _____ . _____ mm Trace Missing

Total Snowpack pH: _____

Comments :

GLOBE Solid Precipitation Data Sheet and Field Guide: pH paper (*optional measurement*)

Solid Precipitation pH Measurement: with pH paper

1. Put on protective gloves.
2. Pour 50 mL of water from your sample jar into a clean beaker.
3. Sprinkle salt onto the appropriate circle on the salt card below.
 - If your sample is 40–50 mL, fill the large 5 mm circle with a single layer of salt.
 - If your sample is 30–40 mL, fill the small 4 mm circle with a single layer of salt.
4. Pour the salt covering the circle on your salt card into the beaker.
5. Stir the beaker's contents thoroughly until the salt is dissolved.
6. Follow the instructions that came with the pH paper to measure the pH of the sample.
Record the pH value.

Sample 1 pH: _____

7. If you have at least 30 mL of rain left in your sample jar, then repeat steps 1–6 twice more. Otherwise, repeat step 6 twice more.

Sample 2 pH: _____

Sample 3 pH: _____

8. Calculate the average of the 3 pH measurements.

Average pH: _____

9. Check to make sure that each measurement is within 1.0 pH unit of the average. If they are not within 1.0 unit of the average, then repeat the measurements.
10. Discard used pH paper in a waste container and rinse the beakers and sample jar three times with distilled water.



GLOBE Solid Precipitation Data Sheet and Field Guide: pH meter (*optional measurement*)

Solid Precipitation pH Measurement: with pH meter

1. Put on protective gloves.
2. Calibrate your pH meter according to the manufacturer's instructions, using pH buffers provided.
3. Rinse the electrode with distilled water.
4. Pour 50 mL of rain from your sample jar into a clean beaker.
5. Sprinkle salt onto the appropriate circle on your salt card.
 - If your sample is 40–50 mL, fill the large 5 mm circle with a single layer of salt.
 - If your sample is 30–40 mL, fill the small 4 mm circle with a single layer of salt.
6. Pour the salt covering the circle on your salt card into the beaker.
7. Stir the beaker's contents thoroughly until the salt is dissolved.
8. Follow the instructions that came with the pH meter to measure the pH of the sample. Record the pH value.

Sample 1 pH: _____

9. If you have at least 30 mL of rain left in your sample jar, repeat steps 4–8 twice more. Otherwise, repeat step 8 twice more.

Sample 2 pH: _____

Sample 3 pH: _____

10. Calculate the average of the three pH measurements.

Average pH: _____

11. Check to make sure that each measurement is within 0.2 pH units of the average. If they are not within 0.2 units of the average, then repeat the measurements.

●	Salt Card	●
4 mm circle – use with 30–40 mL water sample	<i>Fill circle with a single layer of table salt.</i>	5 mm circle – use with 40–50 mL water sample

GLOBE Solid Precipitation Data Sheet: New Snow Simplified

Name: _____

Site Name: _____

Date: _____ Time (local): _____

New Snow Measurement

How many days since you checked your snowboard? _____ days

Definitions:

- **Measurable** = you can measure the amount of snow
- **Trace** = the depth is so small it cannot be measured
- **Missing** = the snowboard was disturbed

Record the depth to the tenth of a millimeter (for example: 21.8 mm).

If there is no new snow, record 0.0 mm!

Sample 1	Sample 2	Sample 3
<input type="checkbox"/> Measurable <input type="checkbox"/> Trace <input type="checkbox"/> Missing	<input type="checkbox"/> Measurable <input type="checkbox"/> Trace <input type="checkbox"/> Missing	<input type="checkbox"/> Measurable <input type="checkbox"/> Trace <input type="checkbox"/> Missing
If measurable: _____mm	If measurable: _____mm	If measurable: _____mm

Notes:

GLOBE Solid Precipitation Data Sheet: Total Snowpack Simplified

Name: _____

Site Name: _____

Date: _____ Time (local): _____

Total Snowpack Measurement

Definitions:

- **Measurable** = you can measure the amount of snow
- **Trace** = the depth is so small it cannot be measured

Record the depth to the tenth of a millimeter (for example: 21.8 mm).

If there is no new snow, record 0.0 mm.

Sample 1	Sample 2	Sample 3
<input type="checkbox"/> Measurable <input type="checkbox"/> Trace	<input type="checkbox"/> Measurable <input type="checkbox"/> Trace	<input type="checkbox"/> Measurable <input type="checkbox"/> Trace
If measurable: _____mm	If measurable: _____mm	If measurable: _____mm

Notes: