



GLOBE

Soil Moisture — Depth Profile Method Data Sheets

Print the Soil Moisture Data Sheet:

- [Soil Moisture Depth Profile Data Sheet](#)

Or select an alternative data sheet option below:

- [Soil Moisture Depth Profile: New Site](#)
 - Use this the first time you visit a sampling site to record site definition data.
- [Soil Moisture Depth Profile with field guide](#) (3 pages)
 - This data sheet has the field guide incorporated.
- [Soil Moisture Depth Profile: Simplified](#) (2 pages)
 - Use this data sheet when working with those new to GLOBE and collecting data.

GLOBE Soil Moisture Depth Profile Data Sheet

Name: _____ Site Name: _____

Date: _____ Time (local): _____

Soil State: Measurable Frozen Ground Snow on Ground
 Frozen water on ground Hail on ground Graupel (snow pellets) on ground

If anything except Measurable is selected, stop here!

Drying Method: 95–105°C oven 75–95°C oven Other: _____

Average drying time: _____ hours _____ minutes

Soil Moisture Measurements

Record mass to the nearest 0.1 g!

		A	B	C	(A-B)/(B-C)
Soil Depth (cm)	Container ID#	Wet mass: mass of wet soil and container (g)	Dry mass: mass of dry soil and container (g)	Mass of empty container (g)	Soil water content (g/g)
0-5					
10					
30					
60					
90					

Comments:

GLOBE Soil Moisture Depth Profile Data Sheet: New Site

Name: _____ Site Name: _____

Date: _____ Time (local): _____

New Site Definition

Latitude: _____ Longitude: _____

Elevation: _____ m

Surface State: Natural Plowed Graded Backfill Compacted Other

Surface Cover: Bare Ground Short Grass (under 10 cm) Long Grass (over 10 cm)

Canopy Cover: Open Some Trees (within 20 m) Canopy Overhead

Soil State: Measurable Frozen Ground Snow on Ground

Frozen water on ground Hail on ground Graupel (snow pellets) on ground

If anything except Measurable is selected, stop here!

Drying Method: 95–105°C oven 75–95°C oven Other: _____

Average drying time: _____ hours _____ minutes

Record mass to the nearest 0.1 g!

Soil Moisture Measurements

		A	B	C	(A-B)/(B-C)
Soil Depth (cm)	Container ID#	Wet mass: mass of wet soil and container (g)	Dry mass: mass of dry soil and container (g)	Mass of empty container (g)	Soil water content (g/g)
0-5					
10					
30					
60					
90					

*** Record any site or measurement comments on the back of this page.**

GLOBE Soil Moisture Depth Profile Data Sheet and Field Guide (page 1)

Name: _____ Site Name: _____

Date: _____ Time (local): _____

Soil State: Measurable Frozen Ground Snow on Ground
 Frozen water on ground Hail on ground Graupel (snow pellets) on ground

If anything except Measurable is selected, stop here!

Soil Moisture: In the Field

1. Locate your sampling point and cut and pull away any grass or groundcover.
2. With the trowel, dig a hole 10–15 cm in diameter down to 5 cm. Leave this soil loose in the hole.
3. Remove from the loose soil any rocks larger than a pea (about 5 mm), large roots, worms, and other animals.
4. Use your trowel to fill your soil container with at least 100 g of the loose soil.
5. Immediately seal the container to hold in the moisture.
6. Record the container ID number on the data table on page 3 next to Sample Depth 0–5 cm.
7. Use the auger or trowel to remove all of the soil from the hole down to a depth of 8 cm.
8. In a new container, collect a soil sample that contains the soil between 8 and 12 cm deep. Remove rocks, large roots and animals. Seal the container.
9. Record the container number on the data table next to Sample Depth 10 cm.
10. Continue to auger down to obtain samples centered at 30, 60, and 90 cm. Record the container numbers on the data table.
11. You should have 5 containers of soil taken from 1 hole. Return the remaining soil to the hole; last soil out, first in.
12. Take your samples back to the lab and follow the In the Lab Field Guide (page 2).

GLOBE Soil Moisture Depth Profile Data Sheet and Field Guide (page 2)

Drying Method: 95–105°C oven 75–95°C oven Other: _____

Average drying time: _____ hours _____ minutes

Soil Moisture: In the Lab

1. Calibrate the balance according to the manufacturer's instructions.
2. Place the sample in the container on the balance. If using a bag, shake it to move the soil to one end of the bag. Fold the bag so the soil occupies as little space as possible and can be placed entirely on the scale.
3. Weigh and record the mass to the nearest 0.1 g as the “Wet mass” next to the appropriate container ID# in the data table (page 3).
4. Repeat this step for all sample containers.
5. Open the containers and dry using one of the following options:
 - A 250-watt heating lamp (Dries in about 2–3 days)
 - A drying oven (Use cans only! Dries overnight)
 - Air drying (Dries in 2–5 days)
6. Determine when the sample is dry by weighing it, drying for a few more hours or another day, and then weighing it again. When the mass of the sample does not change, it can be considered dry.
7. Determine the mass of each dry sample to the nearest 0.1 g and record it as the “Dry mass” next to the appropriate container ID# in the data table.
8. Determine the mass of the empty containers if you have not yet done so. Record the mass in the data table.
9. Dried soil can be returned to fill in the sample holes on site.

GLOBE Soil Moisture Depth Profile Data Sheet and Field Guide (page 3)

Name: _____ Site Name: _____

Date: _____ Time (local): _____

		A	B	C	(A-B)/(B-C)
Soil Depth (cm)	Container ID#	Wet mass: mass of wet soil and container (g)	Dry mass: mass of dry soil and container (g)	Mass of empty container (g)	Soil water content (g/g)
0-5					
10					
30					
60					
90					

Comments: _____

Record mass to the nearest 0.1 gram!

GLOBE Soil Moisture Depth Profile Data Sheet: Simplified (page 1)

Name: _____

Site Name: _____

Date: _____ Time (local): _____

What is the soil like?:

- I can collect soil samples (**Measurable**)
 Frozen Ground
 Snow on Ground
 Frozen water on ground
 Hail on ground
 Graupel (snow pellets) on ground

If anything except **Measurable is selected, stop here!**

In the field

In the lab

Record mass to the nearest 0.1 g!

		A	B	C	(A-B)/(B-C)
Soil Depth (cm)	Container ID#	Wet mass: mass of wet soil and container (g)	Dry mass: mass of dry soil and container (g)	Mass of empty container (g)	Soil water content (g/g)
0-5					
10					
30					
60					
90					

GLOBE Soil Moisture Depth Profile Data Sheet: Simplified (page 2)

After you collect your samples and bring them to the lab, fill in this section:

Soil Drying Method:

95–105°C oven 75–95°C oven Other: _____

Average drying time:

_____ hours _____ minutes

Record notes here: