GLOBE Frost Tube Data Sheets

Print the Frost Tube Data Sheet:

- Frost Tube Data Sheet
  - Data table has space for 10 days of measurements.

Or select an alternative option below:

- Frost Tube: New Site (2 pages)
  - Use this the first time you visit a sampling site to record site definition data.
- Frost Tube with field guide (2 pages)
  - This data sheet has the field guide incorporated.
- Frost Tube: One Day
  - Use this data sheet to record data for one day. This can be useful when working with young researchers.

GLOBE Frost Tube Data Sheet

Name: _____ Site Name: _____

Frost Tube Measurements

Optional

Date	Time (local)	Depth of Freezing (cm)	Air Temp. (°C)	Surface Temp. (°C)	Snowpack Depth (cm)		
					1	2	3

Comments:

GLOBE Frost Tube Data Sheet: New Site (page 1)

Name: _____ Site Name: _____

Date: _____ Time (local): _____

New Site Definition

Latitude: _____ Longitude: _____

Elevation: _____ m

Date frost tube installed: _____ Height above ground: _____ cm

Depth below ground: _____ cm Total length: _____ cm

Frost Tube Measurements

Optional

Date	Time (local)	Depth of Freezing (cm)	Air Temp. (°C)	Surface Temp. (°C)	Snowpack Depth (cm)		
					1	2	3

GLOBE Frost Tube Data Sheet: New Site (page 2)

Optional Site Definition Information:

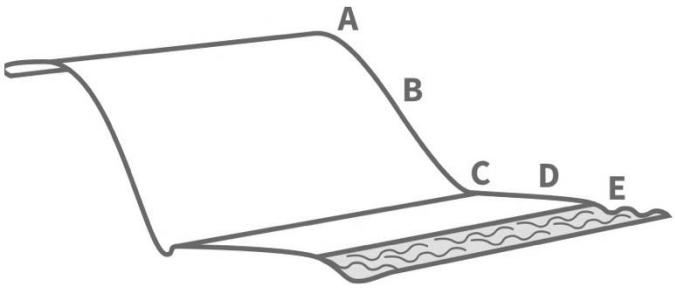
Water body within 100 m of site: ☐ No ☐ Yes

Water body Type : ☐ Unknown ☐ Saltwater ☐ Freshwater ☐ Brackish

Direction to closest point of water: ☐ N ☐ NE ☐ E ☐ SE ☐ S ☐ SW ☐ W ☐ NW

Landscape Position: ☐ Summit (A) ☐ Slope (B) ☐ Depression (C)

☐ Large Flat Area (D) ☐ Stream Bank (E)



Surface Cover Description:

☐ Short grass (< 10 cm) ☐ Tall grass (> 10 cm) ☐ Barren Land ☐ Sand

☐ Closed Forest (tree interlocking) ☐ Woodland (not interlocking)

☐ Shrubs ☐ Dwarf Shrubs ☐ Flowering Plants ☐ Bare Rock

☐ Cultivated Agriculture ☐ Cultivated Recreational ☐ Wetland

☐ Urban Residential ☐ Urban Commercial ☐ Open Water

Comments:

GLOBE Frost Tube Data Sheet and Field Guide (page 1)

Name: _____ Site Name: _____

Frost Tube Measurements

1. Record the date: _____ and local time: _____.
2. Record the current temperature using your GLOBE Atmosphere site or another reliable source.

   Temperature: _____°C

3. Walk to your frost tube using the same path to reduce impact on snow conditions.
4. Working quickly, remove the PVC cap and pull the inner tube out just far enough to note the depth of freezing or thawing. Be sure to hold the outer PVC pipe to prevent it from lifting out of the hole as well.
5. Determine the depth of freezing:
    1. Hold the meter stick by the inner tube and locate the surface mark (0 cm).
    2. Find the boundary between the ice at the top of the clear tubing (clear) and the water below it (colored). Note: when freezing occurs quickly, the ice may be mottled with some color, but there should still be a distinct boundary between the partially colored ice and the clear unfrozen water.
    3. Read the depth of the boundary to the nearest centimeter.

   Depth of Freezing: _____cm

7. If possible, record the air temperature, surface temperature, and depth of snowpack (if present) on the data table on page 2.
8. If the temperature is **warmer than -20°C**, quickly return the clear tube to the structure and replace the PVC cap.
9. If the temperature is **colder than -20°C**, remove the clear tubing from the frost tube and carry it inside to completely thaw it out for at least 24 hours. (Don't forget to replace the PVC cap!)
    7. After 24 hours replace the clear tubing in the frost tube, coiling and placing it under your coat before you go outside to reduce the influence of cold air.
    8. Note the date the frost tube was removed and the date it was replaced in the comments section.

GLOBE Frost Tube Data Sheet and Field Guide (page 2)

Frost Tube Data Table

Optional

Date	Time (local)	Depth of Freezing (cm)	Air Temp. (°C)	Surface Temp. (°C)	Snowpack Depth (cm)		
					1	2	3

Comments:

GLOBE Frost Tube Data Sheet: One Day

Name: _____

Site Name: _____

Date: _____ Time (local): _____

Frost Tube Measurements

Depth of Freezing: _____ cm

Optional Measurements

Air Temperature: _____ °C

Surface Temperature: _____ °C

Snowpack Depth:

Sample 1: _____cm

Sample 2: _____cm

Sample 3: _____cm

Notes: