## **Surface Temperature Protocol**

## Field Guide

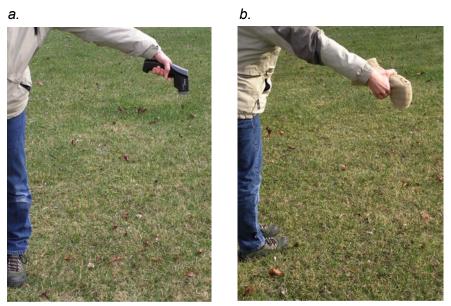
lask	
Measure surface temperature.	
What You Need	
☐ Surface Temperature Data Sheet	☐ Pencil or pen
☐ Hand-held Infrared Thermometer (IRT)	☐ GLOBE Cloud Chart☐ Accurate Watch
☐ Thermal Glove (use when the air temperature at the study site varies more than 5 degrees Celsius from the air temperature of where the IRT has been stored.)	
☐ Ruler or Meter Stick,	

## In The Field

(if snow cover is present)

- 1. When necessary, either wrap the IRT in a Thermal Glove before you go to your study site or place the IRT outdoors for at least 30 minutes prior to data collection. For more details, refer to the *Thermal Glove -or- Place IRT Outdoors For At Least 30 Minutes* section of this protocol.
- 2. Complete the top section of your *Surface Temperature Data Sheet* (fill out the *Supplemental Site Definition Data* section if you are taking Surface Temperature Measurements at a particular site for the first time, or if one of the values in that section has changed)
- 3. Take cloud observations following GLOBE Cloud Protocols.
- 4. If there is no snow on the ground anywhere in your Site, then check either "Wet" or "Dry" for the Site's Overall Surface Condition field on your Surface Temperature Data Sheet.
- 5. Check the box that corresponds to the method used to prevent the IRT from experiencing thermal shock.
- 6. Pick 9 Observation Spots that are in open areas within your site and are at least 5 meters apart. The Spots should also be away from trees and buildings that create a shadow on the land and in locations that have not been recently disturbed by people or animal traffic. (Note: It is best that you take readings at the 9 individual Observation Spots within seconds of each other.)
- 7. Go to one of the nine Observation Spots and stand so that you do not cast a shadow on the Spot.
- 8. Record the Current Time and its corresponding Universal Time (UT) on your Surface Temperature Data Sheet.

- 9. Hold the infrared thermometer (IRT) (wrapped in a Thermal Glove when necessary) with your arm extended straight out and point the instrument straight down at the ground.
- 10. Hold the IRT (wrapped in a Thermal Glove when necessary) as still as possible. Press and release the recording button. [You MUST release the recording button for the instrument to register and hold your spot's surface temperature.]
- 11. Read and record the surface temperature from the digital display screen located on the top of the IRT. (Note: Surface Temperature is recorded in Celsius to the nearest tenth degree, ie. 25.8)
- 12. Measure and record the snow depth in millimeters at the Observation Spot.
- 13. Repeat steps 7-12 at each of the remaining eight Observation Spots.
- 14. Record any other information that explains the environmental conditions of the day or site in the Comments field.



The above pictures show correct use of IRT, a) without a Thermal Glove and b) with Thermal Glove

