## **Surface Temperature Protocol**

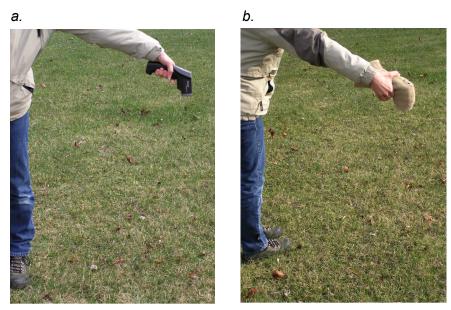
## Field Guide

	e <b>sk</b> easure surface temperature.	
W	hat You Need	
	Surface Temperature Data Sheet	Pencil or pen
	Hand-held Infrared Thermometer (IRT)	☐ GLOBE Cloud Chart
	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.)	☐ Accurate watch
	Ruler or Meter Stick, (if snow cover is present)	

## In The Field

- 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 60 minutes prior to data collection. For more details, refer to the *Thermal Glove -or- Place IRT Outdoors For At Least 60 Minutes* section of this protocol.
- 2. Complete the top section of your *Surface Temperature Data Sheet* (fill out the *Supplemental Site De inition 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

