# Offset GPS Protocol

Field Guide

### *Task*

Measure the latitude and longitude of your school or a GLOBE study site when a GPS receiver is unable to make an accurate measurement.

### *What You Need*

- ❑ GPS receiver
- ❑ Magnetic compass
- ❑ Tape measure
- ❑ Watch
- ❑ Pencil or pen
- ❑ Offset GPS Measurements Data Sheet

### *In the Field*

1. Determine the direction of true North at your location using Figure GPS-P-4.
2. Go to your desired site and mark it with a flag or other obvious marker.
3. Follow the *GPS Field Guide* to confirm that good GPS reception is not possible.
4. Use the compass to determine true North.
5. Move either North or South to reach the nearest open area in which you can successfully follow the *GPS Field Guide*. This is your offset location.
6. Follow the *GPS Field Guide* and record your latitude and longitude. Mark this as the offset location.
7. Record whether the offset location is North or South of your site.
8. Measure the distance between the offset location and your site in meters and record it on the *Offset GPS Data Work Sheet*.
9. Divide this distance by 110,000 meters per degree to determine the latitude difference (in ten thousandths of a degree) between the offset location and your site.
10. Depending on the direction of your offset location:
    - If you moved to the north of your site, subtract this value from the latitude of the offset location to determine the latitude of your site.
    - If moved to the south of your site, add this value to the latitude of the offset location to determine the latitude of your site.
11. The longitude of your site is the same as that of the offset location.
12. Determine the elevation of your site by using a topographic map.