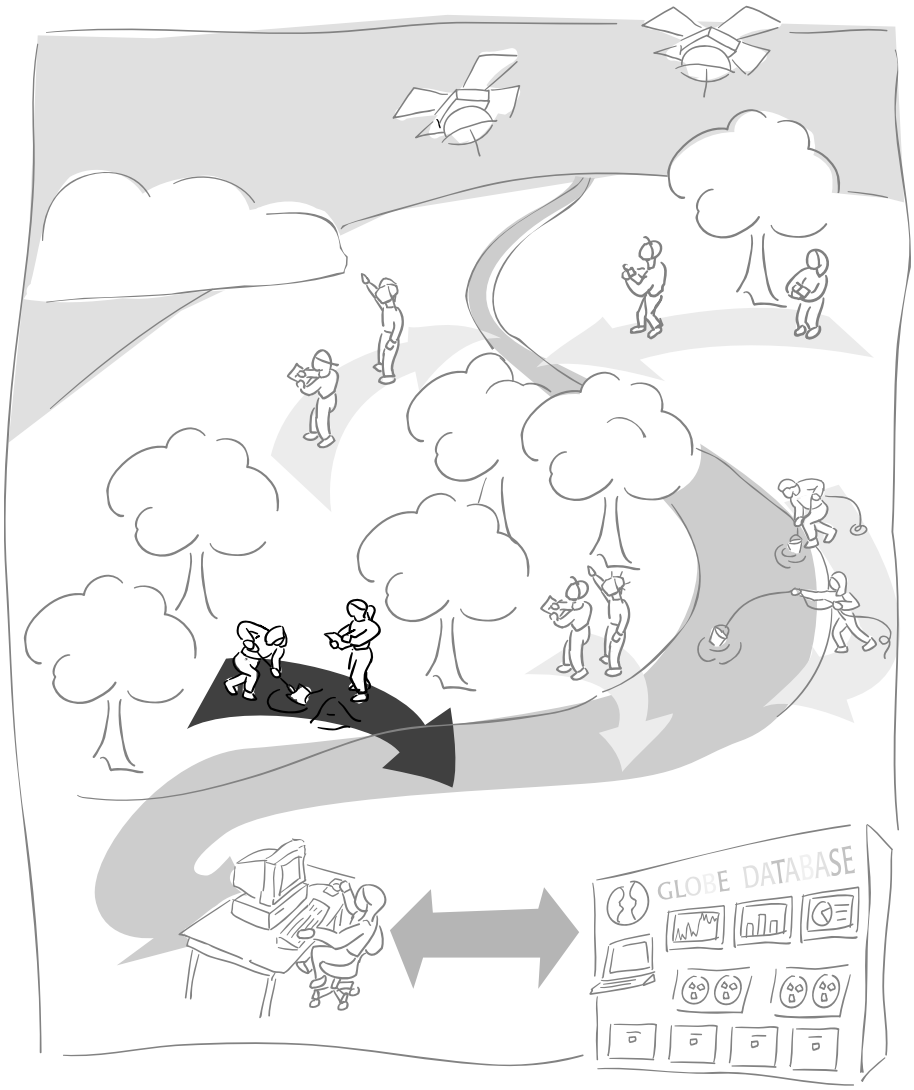
Soil (Pedosphere) Investigation



A GLOBE® Learning Investigation

Soil (Pedosphere) Investigation at a Glance

Protocols

Measurements taken at Soil Characterization Sites:

- top and bottom depths for each horizon in the soil profile
- structure, color, consistence, texture, and amounts of rocks, roots, and carbonates
- bulk density, particle density, particle size distribution, pH, and fertility (N, P, K) of samples taken from each horizon

Measurements taken at Soil Moisture or Atmosphere Sites:

- soil moisture monitored during annual campaigns, 12 times per year, or during SMAP satellite overpass
- soil temperature, daily or weekly, with diurnal variation 2 days every 3 months or monitored every 15 minutes

Suggested Sequence of Activities

Read the *Introduction*.
Read the *Protocols* to learn precisely what is to be measured and how.
Choose any *Learning Activities* that might support the *Protocols*.
Make copies of the *Data Sheets* in the *Appendix*.
Perform the *Soil Characterization Protocols*.
Perform the *Soil Temperature Protocol*.
Perform the *Gravimetric and Volumetric Soil Moisture Protocol.*
Perform the *Bulk Density, Soil Particle Density, Particle Size Distribution, Soil pH, and Soil Fertility Protocols*.
Visit the GLOBE website with your students and review the data submission pages for Soils.
Submit your data to the GLOBE Student Data Archive using the Internet or email.

Special Notes

If you choose to dig a soil pit, you may require help with digging. It is also important to obtain permission from your local utility company to make sure that there is not a pipe or wire buried at that location.

Table of Contents

Appendix