

Exercise 1:

Objective

Assess the impact of vegetative cover on soil thermal properties.

Testable Hypothesis

Does an insulating layer influence the rate of soil temperature change in two identical sandy soils?

Methods

Have two medium sized containers filled with dry sand. In one container place a thin (1 cm thick) sheet of Styrofoam (*alternatively use a layer of moss or other type of ground cover*). Insert a thermometer to a depth of 2 cm (or more) in the center of each container and record the soil temperatures. Set an incandescent bulb 40 cm above the surface of each container. After 10 min, measure the soil temperature as before. Return the containers to the lights (switch positions to ensure there is no bias in heating). After another 20 and 30 min, measure the temperature of the soils' temperature.