Measure Tree Height on a Slope: Stand by Tree Technique

Field Guide

Task

Measure heights of shrubs and/or trees to help determine the MUC class of your Land Cover Sample Sites.

What You Need

❏ 50 m measuring tape

❏ Flexible measuring tape

❏ Small bean bag

❏ *Measure Tree Height: Stand by Tree Technique Data Sheet*

❏ Pen or pencil

❏ Permanent tree markers (optional)

❏ Clinometer

❏ Species ID keys and/or other local species guides

❏ Blindfold

In the Field

1. Work in a team of three. One person stays by the tree. You and another partner move away from the base of the tree until you can see the top of the tree through the drinking straw of the clinometer. **Note:** For the best results, adjust your distance so that the clinometer is as close to 30 degrees as possible and you are further from the tree than it is tall.

2. Site the top of the tree using the clinometer. Have your partner read and record the clinometer angle.

3. Using the *Table of Tangents*, record the TAN of the angle on the *Measure Tree Height: Stand by Tree Technique Data Sheet*.

4. Keeping the clinometer at 0 degrees, look through the straw and have your partner by the tree locate the position on the tree that you see.

5. Measure the height from the base of the tree to the position on the tree that you see when the clinometer reads 0 degrees.

6. Measure the distance between you and the tree. Have your partner help you using the 50 m tape. Record this in the *Measure Tree Height: Stand by Tree Technique Data Sheet.*

7. Calculate the tree height using the following formula:

   [TAN (Angle of the Clinometer) x (Distance to Tree)] + (Height to 0 Degrees on Tree)
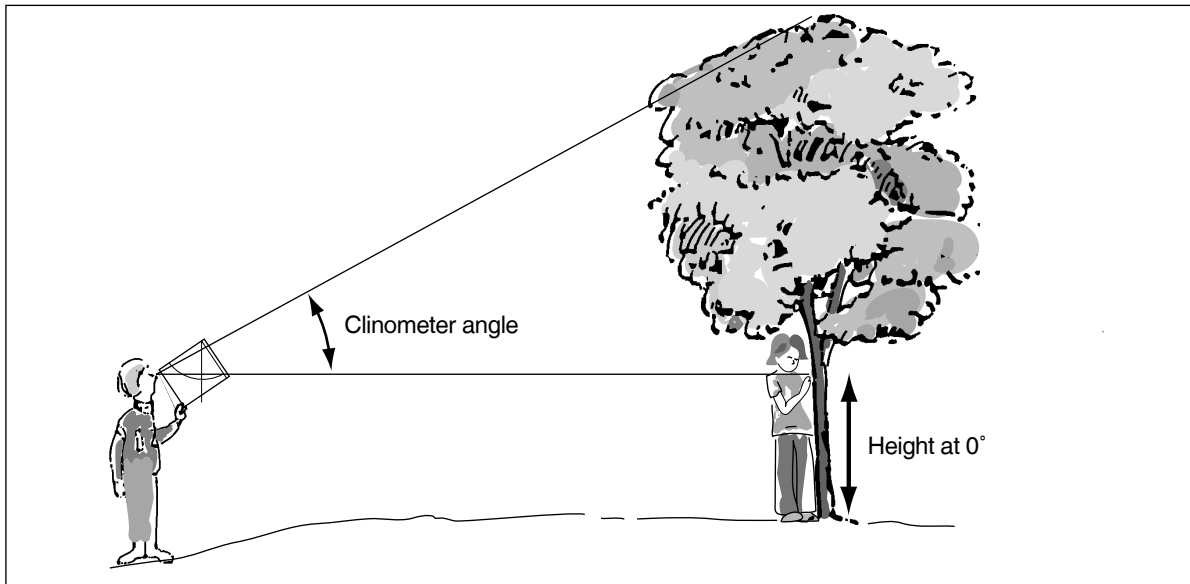
8. Record the tree height in the *Measure Tree Height: Stand by Tree Technique Data Sheet.*

9. Repeat steps 1-8 two more times for each tree and report the average value