

## Community Environment Monitoring

# A Simple Clinometer

**Our judgement of the angle of hillsides tends to be poor. A 30 degree hillside appears to us to be about 45 degrees, a 45 degree slope looks so steep as to be almost impossible to climb.**

**Yet we need to measure slopes to provide one indication of the likelihood of landslips, and of erosion in heavy rainstorms.**

**Codes of Forest Practice, where they exist, will often lay down the conditions for logging on steep slopes with soils of varying erodibility.**

**The angle of the slope and the nature of the soil must be known to make use of these prescriptions.**

**Commercial manufacturers of clinometers, such as Silva (Sweden) and Suunto (Finland) offer beautiful and accurate instruments but at a cost of the order of \$?? or more.**

**For our purposes, judging the angle of hillsides, a much cheaper and simpler clinometer can be quickly made.**

**Look for a cheap plastic 180 degree protractor. (A\$2 or a little more)**

**If possible find one with a hole already drilled at the centre of the angles.**

**If the graduations are moulded into the plastic (rather than just printed on the surface) it will remain readable for**

longer.

**Find a short length of fine fishing line, 10 cm longer than the radius of the protractor.**

**At one end make a large knot, or knot it around a small object such as a very small washer. Pass the line through the hole at the 'centre' of the protractor and fasten a small lead fisherman's sinker or a steel nut at the other end.**

**The sinker or nut should be heavy enough to pull the fishing line straight.**

**The line and weight form a pendulum to provide a vertical reference.**

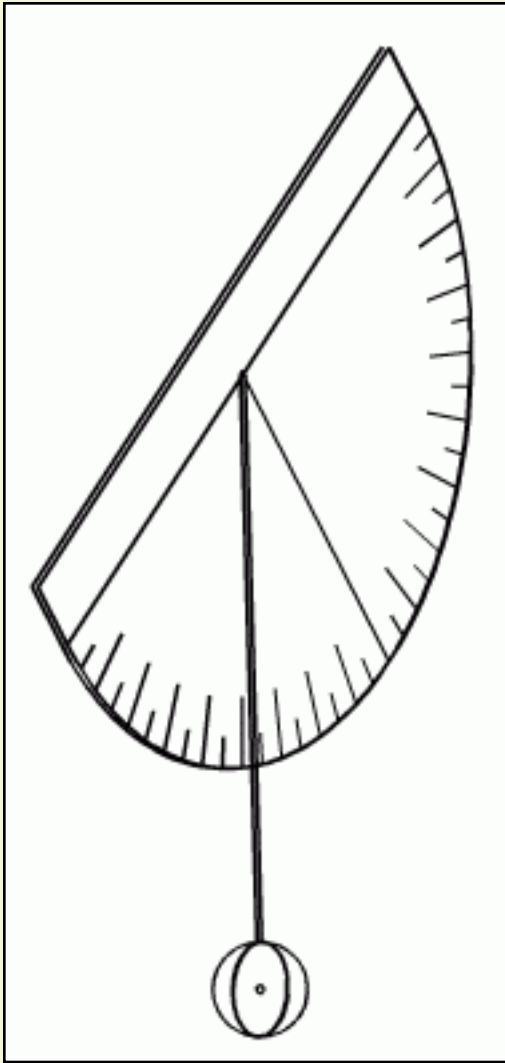


Diagram 1 - Clinometer

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**Sight along the straight side of the protractor, at an object up or down the 'fall line' of the slope which is at about the same height above ground as your eye.**

**Allow the pendulum to swing freely below the protractor's curved edge.**

**When it has stopped swinging press the fishing line against the protractor scale and read the angle.**

**Depending upon the ways the protractor is graduated you may have to subtract the angle from 90 degrees to give the angle of slope.**

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## Links

To be added.

[To return to Index please click here](#)

**Last updated, JP, Design Productivity, 4/6/2001**