See this page in the course material.

Less dramatic types of downslope movement move earth materials slowly down a hillside. **Slump** moves materials as a large block along a curved surface (figure 1). Slumps often happen when a slope is undercut, with no support for the overlying materials, or when too much weight is added to an unstable slope.

Figure 1. Slump material moves as a whole unit, leaving behind a crescent shaped scar.

Figure 2. Trees with curved trunks are often signs that the hillside is slowly creeping downhill.

Creep is the imperceptibly slow, steady, downward movement of slope-forming soil or rock. Movement is caused by shear stress sufficient to produce permanent deformation, but too small to produce shear failure. There are generally three types of creep:

1. Seasonal, where movement is within the depth of soil affected by seasonal changes in soil moisture and soil temperature
2. Continuous, where shear stress continuously exceeds the strength of the material
3. Progressive, where slopes are reaching the point of failure as other types of mass movements. Creep is indicated by curved tree trunks, bent fences or retaining walls, tilted poles or fences, and small soil ripples or ridges

Curves in tree trunks indicate creep because the base of the tree is moving downslope while the top is trying to grow straight up (figure 2). Tilted telephone or power company poles are also signs of creep.

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