

Soil produced by the weathering of rocks can be transported by physical processes to other places. These soil deposits are called transported soils. In contrast some soils stay where they were formed and cover the rock surface from which they derive. These soils are referred to as residual soils. Based on the transporting agent, transported soils can be subdivided into three major categories:

1. Alluvial, or fluvial: deposited by running water
2. Glacial: deposited by glacier action
3. Aeolian: deposited by wind action

In addition to transported and residual soils, there are peats and organic soils, which derive from the decomposition of organic materials

RESIDUAL SOIL

Residual soil deposits are common in the tropics. Hawaii, and the south-eastern United States. The nature of a residual soil deposit will generally depend on the parent rock. When hard rock such as granite and gneiss undergo weathering, more of the materials are likely to remain in place. These soil deposits generally have top layer of clayey or silty clay material below which are silty and/or sandy soil layers. They are generally underlain by a partially weathered rock and then sound bedrock. The depth of the sound bedrock may vary widely, even within a distance of a few meters.

In contrast to hard rocks, some chemical rocks, such as limestone, are made up chiefly of calcite (CaCO_3) mineral. Chalk and dolomite have large concentration of dolomite minerals [$\text{CaMg}(\text{CO}_3)_2$]. These rocks have large amounts of soluble materials, some of which are removed by ground water, leaving behind the insoluble fraction of the rock. Residual soils that derive from chemical rocks ^{have} a gradual transition zone to the bedrock, as shown in figure 2.1. The residual soils derive from the weathering of limestone like rocks are mostly gray in color. Although uniform in kind, the depth of weathering may vary greatly. The residual soils immediately above the bedrock may be normally