

How Does the Soil Change Vertically?

The soil is made of a series of layers or horizons that together form a **soil profile**. The most common horizons are named by the letters O, A, B, C, and R. They differ in color, texture, thickness, and structure.

O horizon (organic) is a thin dark layer of **organic material** (decomposing bodies and waste of organisms) and **humus** (well-decomposed matter). This horizon is present in undisturbed habitats (wetlands, forest, prairies).

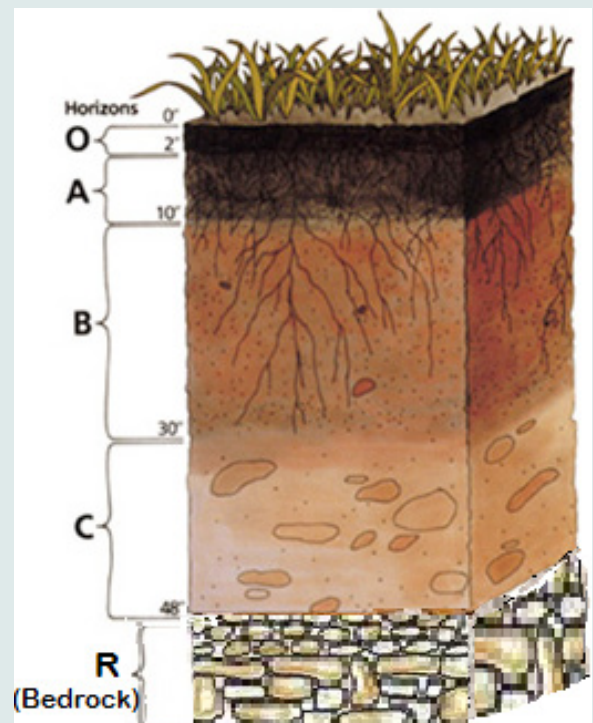
A horizon (topsoil) is rich in nutrients (minerals) where most of the biological activity occurs. Here is where seeds germinate and roots grow, and animals, fungi, and bacteria are mainly concentrated. This activity makes to loosen and aerate the soil.

B horizon (subsoil) is mostly clay particles with high mineral contents that leached from horizons above, and some organic matter.

C horizon (parent material) is made of large rocks or broken bedrock from which the soil develops and without any organic matter.

R horizon (bedrock) is a mass of rock that forms the parent material.

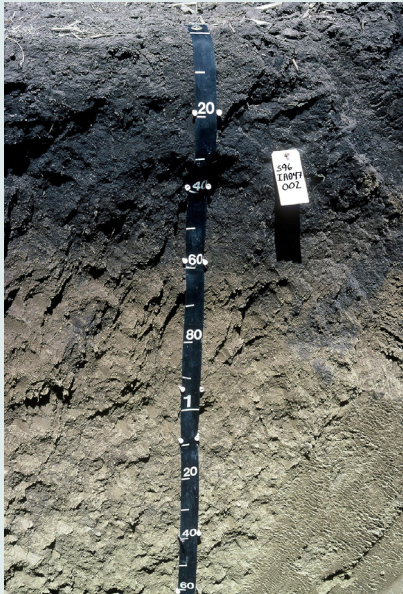
Depending on location, land management, and age of the soil these layers will vary in their thickness and occurrence. For example, agricultural and eroded soils are highly disturbed and may have lost the top layers, or young soils may have fewer layers.



Card: Soil Profile

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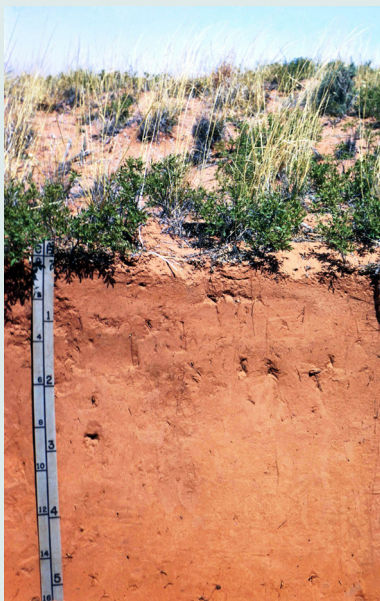
Look at Different Soil Profiles from United States



Soil with rich organic surface with high content of clay from hills and terraces covered with loess along the Missouri river.



Vertisole from Alabama with a high concentration of clay.



Soil Profile in wind-blown sands in New Mexico. See that there is little soil profile developed.



Soil from the Great Plains (Kansas and Nebraska) rich in organic matter and clayey subsoil.