

The soil of Europe

The major soil types of Europe

ACRISOLS

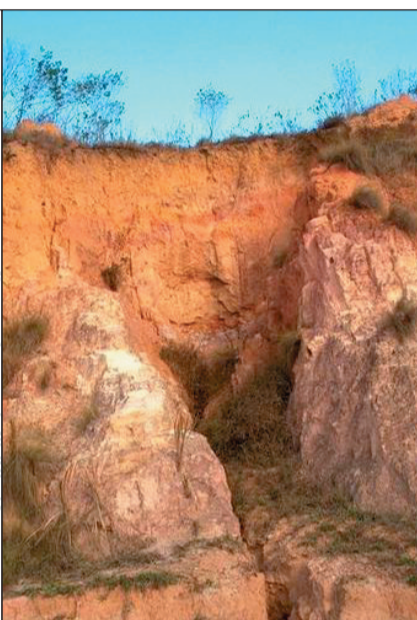
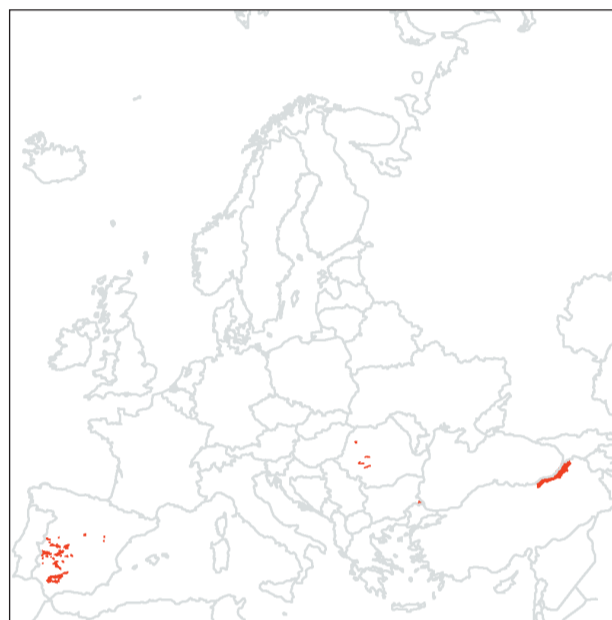
Soil with subsurface accumulation of low activity clay minerals and low base saturation (from the Latin, *acris*, meaning very acid).

An Acrisol is a highly weathered soil occurring in warm temperate regions and the wetter parts of the tropics and subtropics. Acrisols have poor chemical properties, low levels of plant nutrients, high levels of aluminium and high susceptibility to erosion. These conditions are strong limitations for agricultural use. Acrisols are similar to the Red-Yellow Podzolic soil of Indonesia, Red and Yellow Earths and are related to several subgroups of Alfisols and Ultisols (Soil Taxonomy).



*Left: Sheet and rill erosion on Acrisols;
Below: a natural Acrisol profile exposed by deep gully erosion;
The map shows the location of areas in Europe where Acrisols are the dominant soil type.*

Cover less than 1 % of Europe.



ALBELUVISOLS

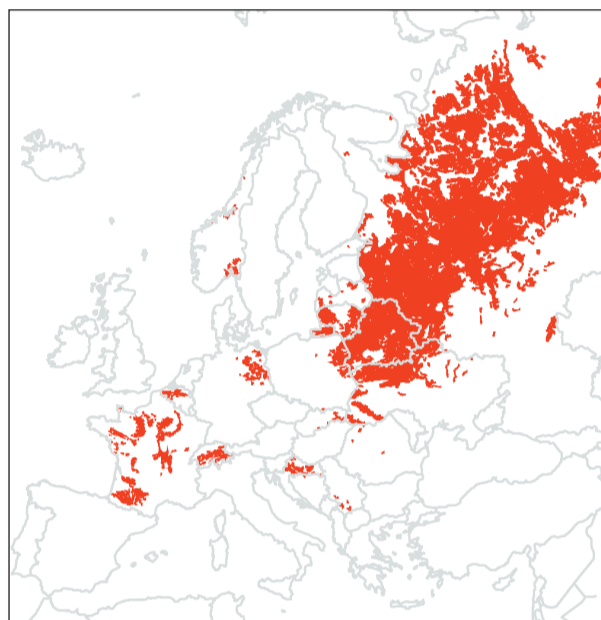
Acid soil with a bleached horizon penetrating a clay accumulation horizon (from the Latin, *albus*, meaning white and *eluere*, meaning to wash out).

Albeluvisols have an accumulation of clay in the subsoil with an irregular or broken upper boundary and deep penetrations or 'tonguing' of bleached soil material into the illuvial horizon. The typical "albeluvisol tongues" are generally the result of freeze-thaw processes in periglacial conditions and often show a polygonal network in horizontal cuts. Albeluvisols occur mainly in the moist and cool temperate regions. Also known as Podzoluvisols (FAO), Orthopodzolic soil (Russia) and several suborders of the Alfisols (Soil Taxonomy).



*Left: Albeluvisols develop mostly under forest vegetation;
Below: Albeluvisol tongues are clearly visible penetrating the bleached illuvial horizon;
The map shows the location of areas in Europe where Albeluvisols are the dominant soil type.*

Cover 15 % of Europe, the most common soil.



ANDOSOLS

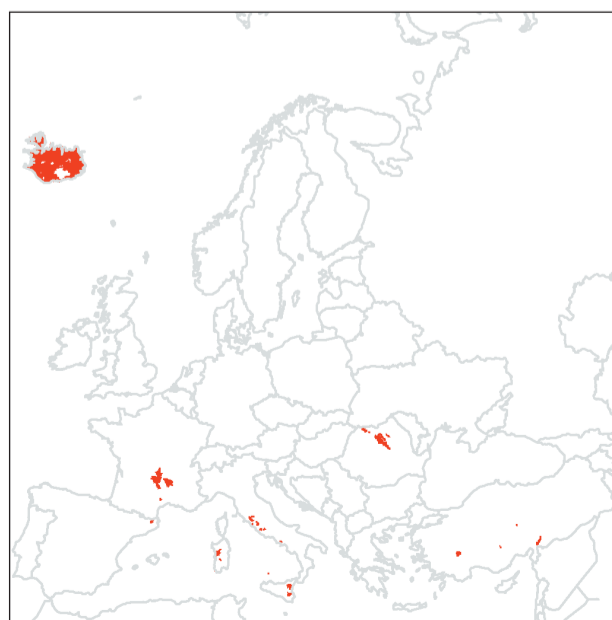
Young soil developed from highly weatherable volcanic deposits (from the Japanese, *an*, meaning black, and *do*, meaning soil).

Most Andosols are formed from volcanic ejecta (ash, pumice, cinder) and related parent materials. The rapid chemical weathering of porous, permeable, fine-grained mineral material, in the presence of organic matter, generally results in the rapid development of soil profiles. The dark topsoil is generally different in colour from subsoil. Andosols occur throughout the world where volcanic activity is common. Other international names are Andisols (Soil Taxonomy), Vitrisols (France) and volcanic ash soil.



*Left: Fertile pasture land developed on old volcanic ash deposits – note the cinder cones in the distance;
Below: An Andosol develops in unconsolidated volcanic deposits – note the contrast in colour of the horizon;
The map shows the location of areas in Europe where Andosols are the dominant soil type.*

Cover around 1 % of Europe.



ANTHROSOLS

Soil formed or modified by human activity that caused profound changes in soil properties (from the Greek, *anthropos*, meaning man).

An Anthrosol is a soil that was formed or significantly modified through human activities ranging from long-term deep cultivation (e.g. terraces), substantial additions of mineral and organic fertilizers, continuous application of earth (e.g. sods, shells), irrigation and substantial additions of sediment to wet cultivation involving *puddling* of the surface soil. The morphological and chemical characteristics of this soil vary depending on the specific human activity. Anthrosols are also known as Plaggen soil, Paddy soil, Oasis soil and Terra Preta do Indio.



*Left: "Plaggen" fertilization over time has resulted in a raised land surface. Farm houses often lie deeper than their surroundings. (RL); Below: Thick, black Anthrosol in Belgium, overlying remnants of a Podzol developed by long-term fertilization of sods or "Plaggen" mixed with animal manure. Spade marks are clearly visible at the boundary between the Anthrosol and the buried Podzol;
The map shows the location of areas in Europe where Anthrosols are the dominant soil type.*

On a continental scale, it is the dominant soil in less than 0.1 % of Europe but locally can be very important.

