

MAIN TYPES OF SOILS

Soils form the top layer of the earth's crust. They are the result of the action of climatic and biological factors on geological materials. Their nature and properties determine their agronomic and forestry capacities, with direct consequences for land use and landscape structure.

Soils: complex formations

Soils are a mixture of mineral and organic constituents, air, water and living organisms. These constituents are organised between themselves and in space, forming specific structures (porosity, aggregates, horizons, etc.) slowly developed under the influence of physical, chemical and biological processes. The nature of these constituents, their proportions and the structures they form vary according to parent materials, topography, climate, vegetation and soil age. They characterise the type of soil and its properties, which are also modified by the use of the soil (pasture, cultivation practices, soil sealing, etc.).

Map of the main soil types of Wallonia

Belgium was one of the first countries^[1] to acquire a large-scale soil map (1/20,000) covering the whole territory, using a classification based essentially on texture^[2], natural drainage, the presence of a diagnostic horizon and the nature of the stony load when present. The Walloon part of this map has been digitised^[3] as part of Digital Mapping Project for Walloon Soils (*Projet de cartographie numérique des sols de Wallonie - PCNSW*), which aims to create a geographical database of Walloon soils, which is regularly updated and enhanced by

producing maps on related topics^[4]. The map of the main types of soil in Wallonia (scale 1/750,000) is one of these^[5]. It divides the soil into 17 categories, based on texture, drainage and stony load.

A wide variety of Walloon soils

In highly simplified terms, the following can be distinguished in Wallonia: (i) in the north of the Sambre-et-Meuse line, fertile loamy and sandy-loamy soils mainly used for field crops; (ii) in the Condroz, Famenne and Calestienne plateaus, loamy-stony soils, either acidic or calcareous, thick to superficial, used for crops, pastures or afforestation depending on their size, texture, drainage and topography; (iii) in the Ardenne, acidic, relatively poor stony loamy soils to loamy-stony soils (shale, phyllites, sandstone), mainly used for pasture and afforestation; (iv) on the high plateau of Fagnes, peaty soils; (v) in Belgian Lorraine, various soils, including clayey and loamy-sandy soils, of varying capacity.

[1] 1947 - 1991 | [2] Relative proportion of sand, loam and clay | [3] 2001 - 2004 |

[4] Erosion, soil quality diagnosis, background concentrations of pollutants, e.g. | [5] Original map at 1/250,000, also at 1/750,000 with groupings of drainage categories

Map 4 Main types of soils

