

6. Slovakia – Soil patterns

- influenced by different natural and human factors
- distribution of soil types in our country depends on:
 - a) vertical zoning (altitude)
 - b) geological and hydrological features

Write 3 factors influencing the existence of various soil types:

The lowland soil types

Topography (foothill zoning) predetermined the following soil types:

Black earth – the driest and warmest climate

Occurrence: Podunajská Lowland, Chvojnická Uplands, Východoslovenská Lowland, Košická Hollow Basin

Brown earth – closer to the mountains, more precipitation, lower temperatures, it originated in loess layers

Occurrence:

Luvisol – lowland margins, basins, damper and colder climate, on the loess clays

Occurrence: Juhoslovenská basin and other ones (Examples:

Fluvisol – influenced by groundwater and flooding water, it is developed near rivers

Occurrence: Podunajská, Východoslovenská and Záhorská Lowlands, basins and wider valleys

Mollic Fluvisol – along rivers in the Slovak lowlands, created by the humus accumulation

Occurrence along:

Solonchak – in the warmest areas with more minerals and salts from evaporating underground water, salty soils in the Podunajská and Východoslovenská plains

Gleys – it is viscous, it occurs within permanently waterlogged territories, in the areas flooded by rivers often (Východoslovenská plain, in the proximity of the Ipeľ river, etc.)

Peaty Soils – in the soaked/waterlogged areas with peat (Orava, Záhorie, Podunajská lowland)

Homework (1 pt.): Find out the 2 most valuable peat moors in our country. Locate them on the map.

The mountainous soil types

Why are these soils so stony?

- more rainfall, lower temperature
- vegetation is changing due to the various soil types altering with altitude

Cambisol (brown forest soils) – in deciduous forests, up to 1000-2000 m asl., the most common soil type in Slovakia => *Why do you think cambisols are the most widespread in our country?*

Podzols – located in higher ground, up to 1800 m asl., more rainfall, evergreen forests and scrubs

Alpine Soils – the highest mountainous parts, over 1800 m asl., infertile, stony, alpine meadows and dwarf pines

Rendzinas – it includes CaCO₃ => calcareous soil which occurs on the carbon rocks, primarily on limestones and dolomites, stony, covered by mixed forests (Slovenský kras, Slovenký raj, Muránska planina)

Are there any rendzinas in the ZA/PB/PU/MT district? Give 3 examples of cliffs formed by limestone and dolomite here.

Soil classes

Sandy soils – on the sandstones and quartzite (lowlands, Podtatranská basin), it originated by weathering of crystalline rocks

Clay soils – loess sediments, uplands and the Juhoslovenská Basin, andesites in volcanic mountains
Give 4 examples of volcanic mountains in Slovakia.

Loamy soils – on clay rocks, it originated by sedimentation of mud in the pre-historical seas and lakes

Granularity of soils influences their fertility. (*How?*)

Sandy soils – less fertile (potatoes, rye)

Clay soils – the most fertile soils in the Slovakia (sugar beet, wheat, barley)

Loamy soils – reduced fertility but suitable for growing many crops

Why do you think we, the people, should protect the soil cover?

Which human activities devalue the soil fertility? Give 3 suggestions how to protect soils.

Keywords

soil type, soil class, factor, altitude, hollow basin, relation, mountains, vegetation cover, soil fertility, map, karst, peat, spatial distribution, occurrence,