Types of soil in Poland

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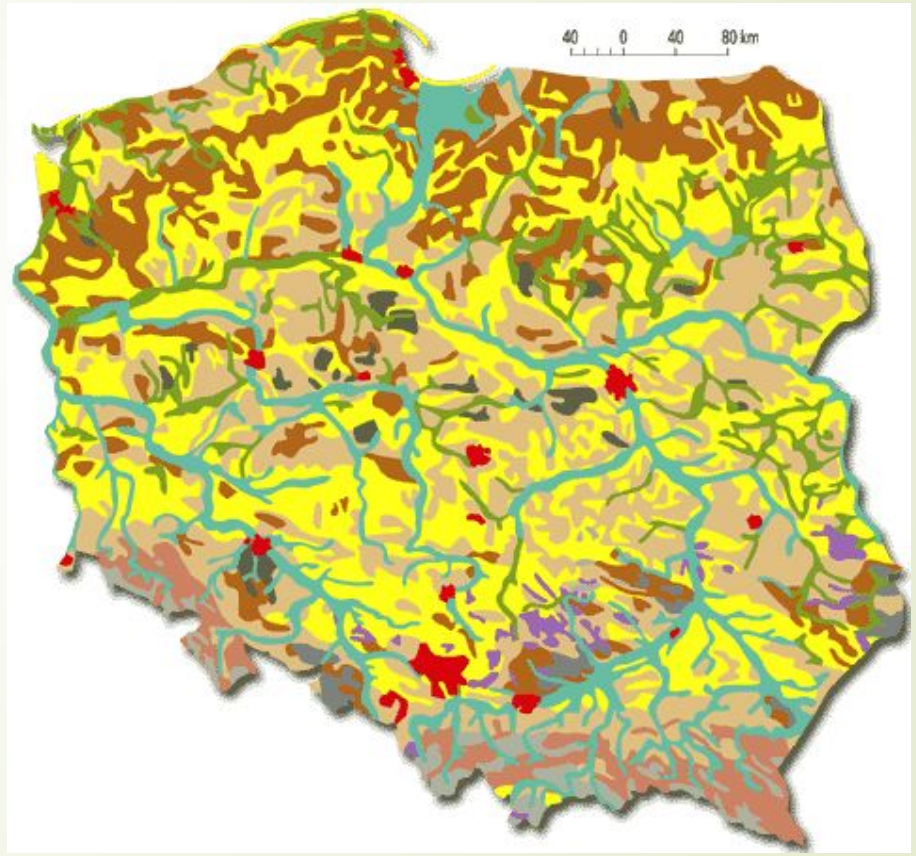
Distribution

1. **Zonal soils**
   - Brown earths
   - Podzols
   - Luvisols
   - Chernozems
2. **Azonal soils:**
   - Alluvial soils
   - Redzina
   - Bog soils
   - Mountain soils

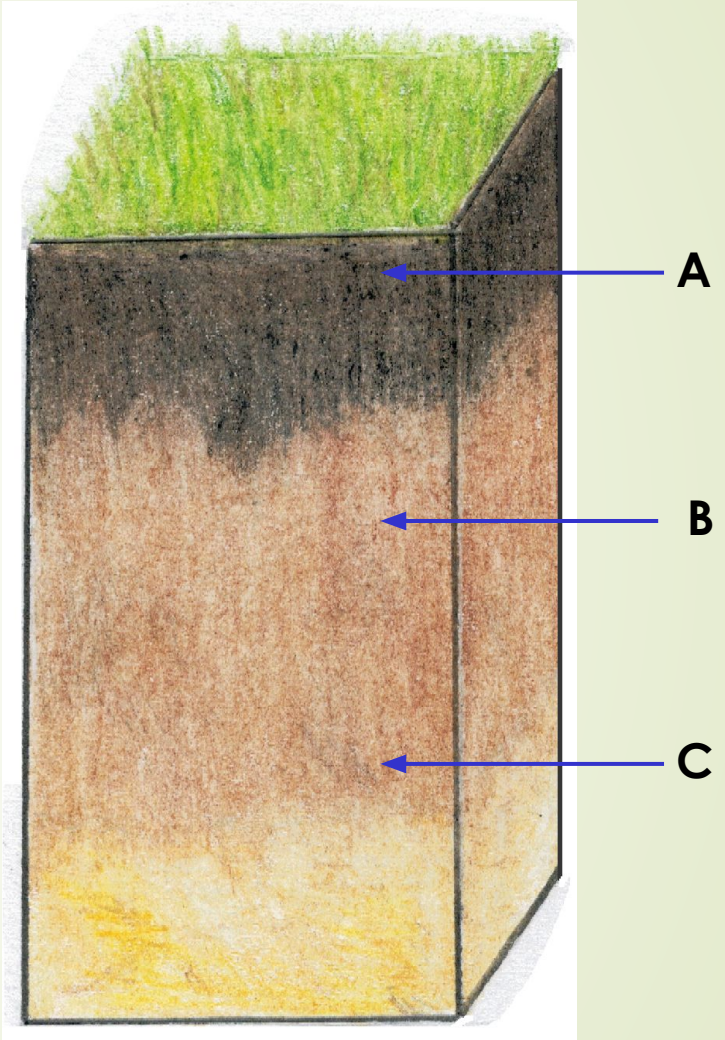


http://www.wiking.edu.pl/article.php?id=46

Brown soils

Characteristics

- Brown soils are mostly located between 35° and 55° north of the Equator. The largest expanses cover western and central Europe
- Brown soils have a brown or yellow-brown subsoil (B) below a dark grey-brown topsoil(A). The brown colour is caused by thin coatings of iron oxides weathered from the parent material.
- They are well-drained fertile soils with a pH of between 5.0 and 6.5.
- Parent material (C)- glacial till deposited during the last ice age.



Vegetation

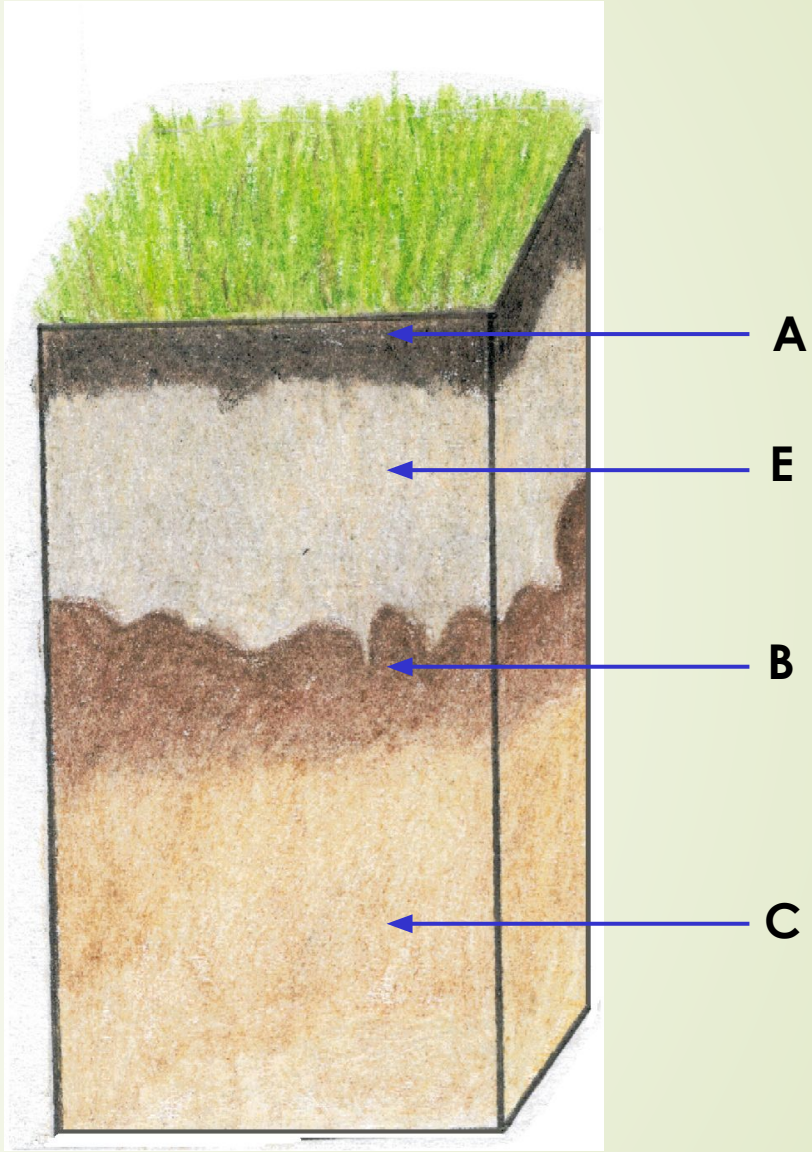
- The most common vegetation type is **deciduous woodland,** where you can find trees such as:
  - Beech,
  - Oak,
  - Hornbeam,
  - Lime tree,
  - Ash.
- Due to the reasonable natural fertility of brown soils, large areas of deciduous woodland have been cut down and the land is now used for farming.

Designed by Bearfotos

Podzols

Characteristics

- Podzols are mostly located in cold temperate climate
- There are two characteristic horizons:
  - Zone of Eluviation (E) the layer that has been significantly leached of its mineral and/or organic content, leaving a pale layer largely composed of silicates
  - Zone of Illuviation (B) where clay, humus and iron are deposited and accumulated. Giving the red tint to the horizon.
- Most Podzols are poor soils for agriculture due to the acidic pH (< 7) and sandy portion, resulting in a low level of moisture and nutrients
- Parent material (C)- Glacial sediments: mostly sand and gravel



Vegetation

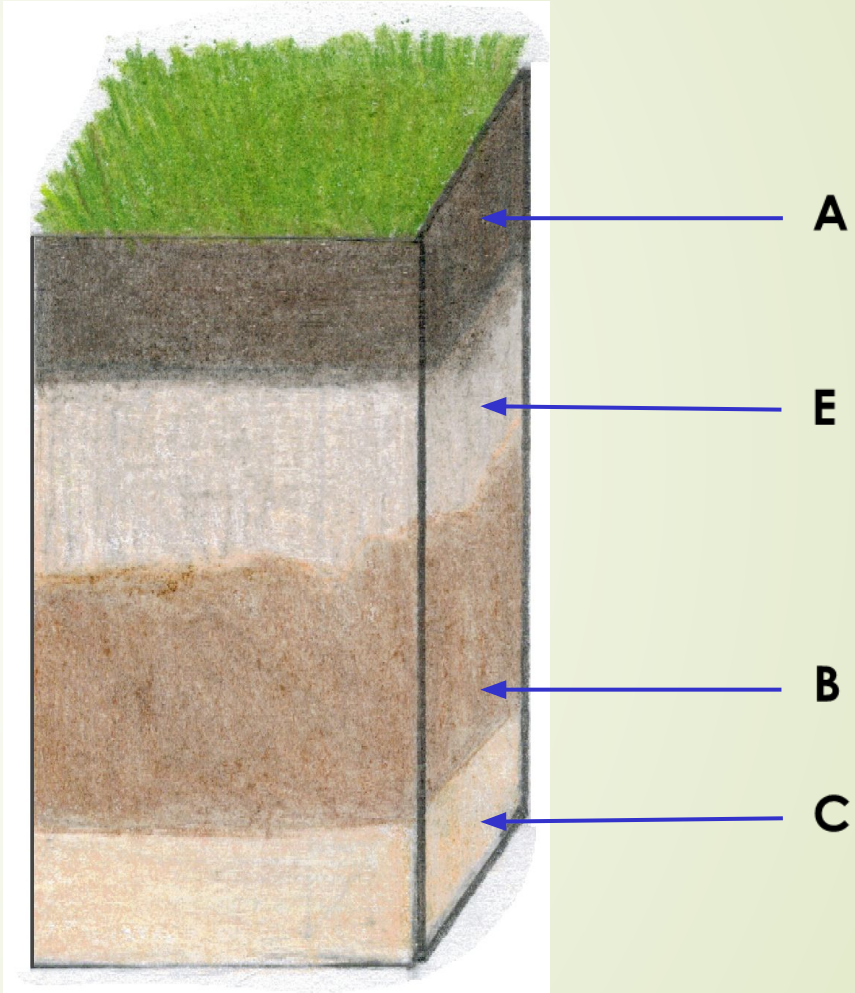
- Typical vegetation of that soil is **coniferous forest** with trees like:
  - Pine,
  - Spruce,
  - Fir,
  - Larch.

https://pl.freepik.com/darmowe-zdjecie/drzewa-i-paprocie-rosnące-w-lesie_2601890.html

Luvisols

- **Characteristics**

- The luvisoilic soils are widespread, especially in temperate climates.
- The diagnostic feature of luvisolic soils is a textural contrast between the E and the B horizon. The A horizon has less silt than the B horizon.
- They are generally fertile and slightly acidic with a pH of between 4-6. luvisols are widely used for agriculture.
- Bedrock (C): Glacial sediments: mostly sand and gravel. Also loess.



Vegetation

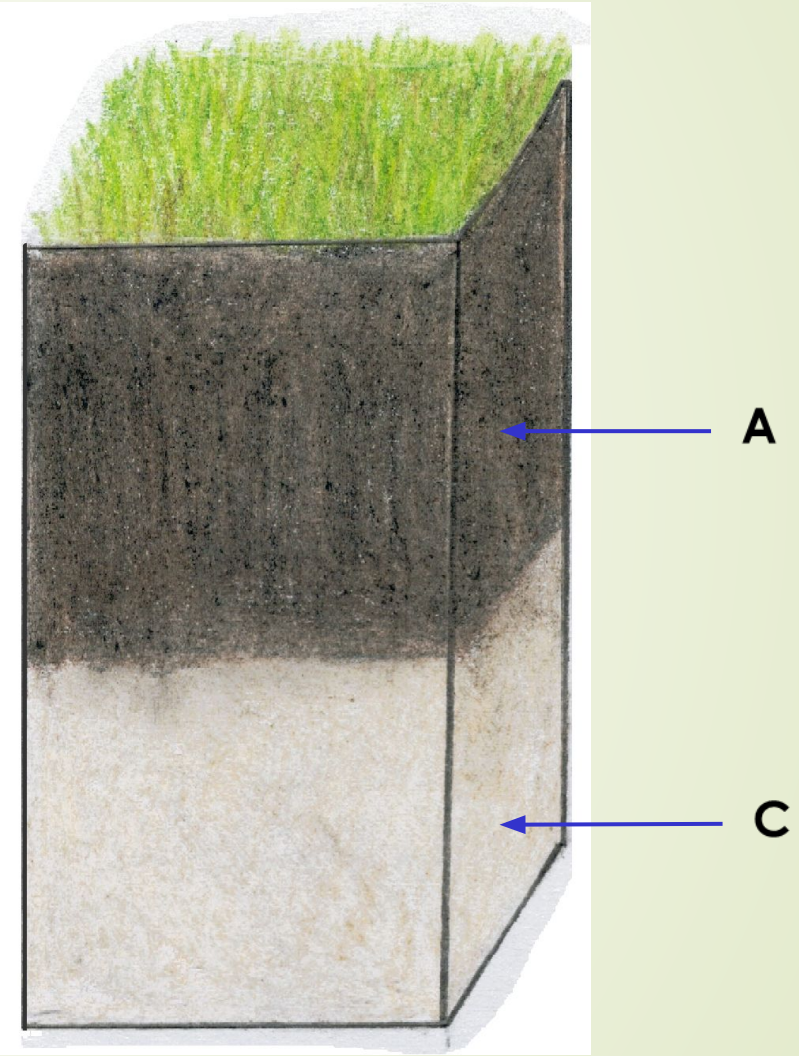
- Typical vegetation of luvisolic soils are **deciduous and mixed forest** with plants like:
  - Beech,
  - Lime tree,
  - Pine tree,
  - Filbert,
  - Moss.

https://pixabay.com/pl/i-czw-jesie%C5%84-autumn-odchodzi-li%C5%9Bci-2789326/

Chernozem (Black Earth)

- **Characteristics**

- Charnozem is mostly located in continental temperate climate.
- Chernozem is a black-colored soil containing a high percentage of humus (4% to 16%), and high percentages of phosphoric acids, phosphorus and ammonia.
- Chernozem is the most fertile soil in the world and can produce high agricultural yields with its high moisture storage capacity. The surface horizon is neutral in reaction (pH 6.5-7.5)
- Parent material (C)- Loess



Vegetation

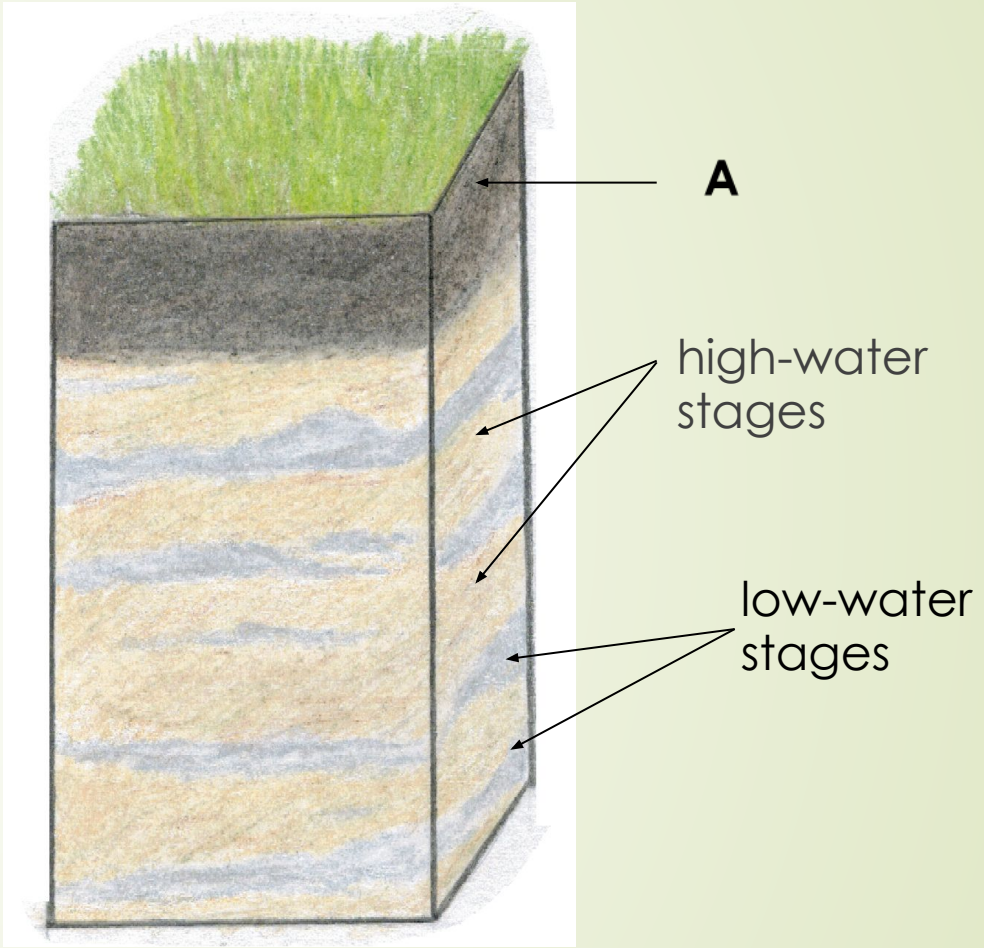
- **Tall-grass** vegetation (steppe) is typical formation of charnozems.
- The majority of those territories is being tranformed to farmlands due to its' fertility.

https://pixabay.com/pl/mongolia-step-deszcz-chmury-487112/

Alluvial soils

Characteristics

- Alluvial soils are mostly located in river valleys and deltas. They are formed by accumulation of sand, gravel and sludge during high-water stages
- Fluvisols show layering of the sediments rather than pedogenic horizons.
- Their characteristics and fertility depend on the nature and sequence of the sediments and length of periods of soil formation after or between flood events. Generally, they are mostly very fertile.



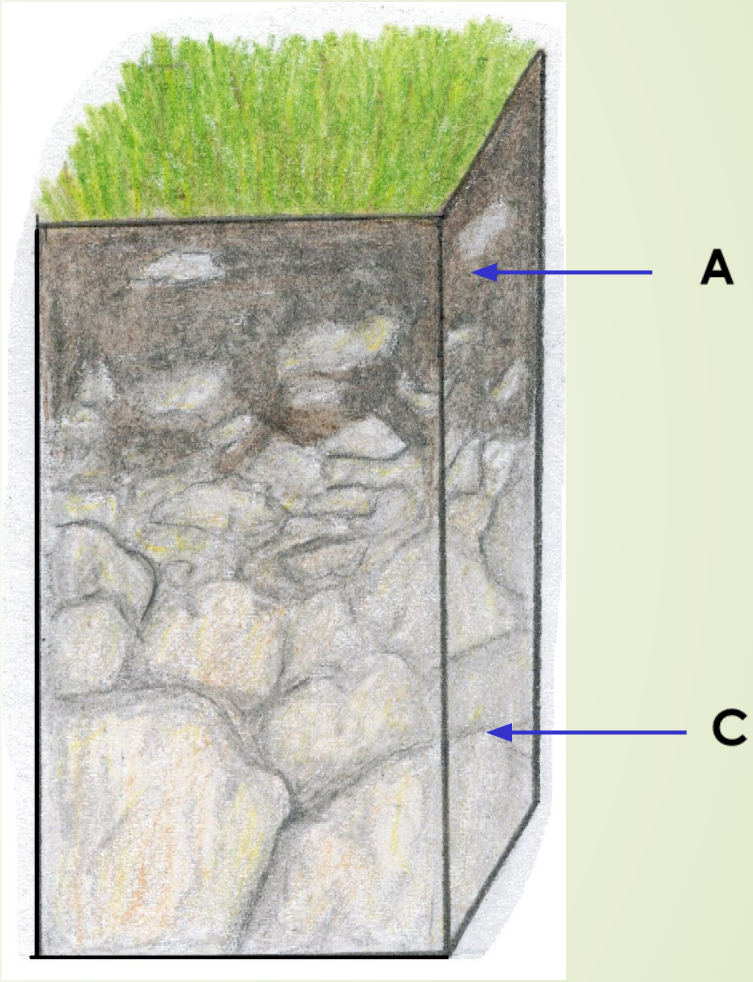
Vegetation

- The natural vegetation of alluvial soils is **riparian forest** where grow trees like:
  - Alder,
  - Ash,
  - Willow,
  - Poplar,
  - Elm.
- Due to their fertility, they have been felled to change them into fields.

Rendzina

Characteristics

- Redzina soils mostly form on limestone, but also on other bedrocks like dolomite, gypsum, marble, chalk or marlstone.
- There are two characteristic horizons:
  - Horizon-**A** (humus layer), is dark grey in colour while the lower layer,
  - horizon-**C**, (bedrock) is light grey or even white in colour. (Horizon-B is usually absent.)
- Typical pH for Rendzina soils is between 5 and 8 (alkaline)
- This soil is quite feritile, but it is hard to work this land, because it is very stony.



Vegetation

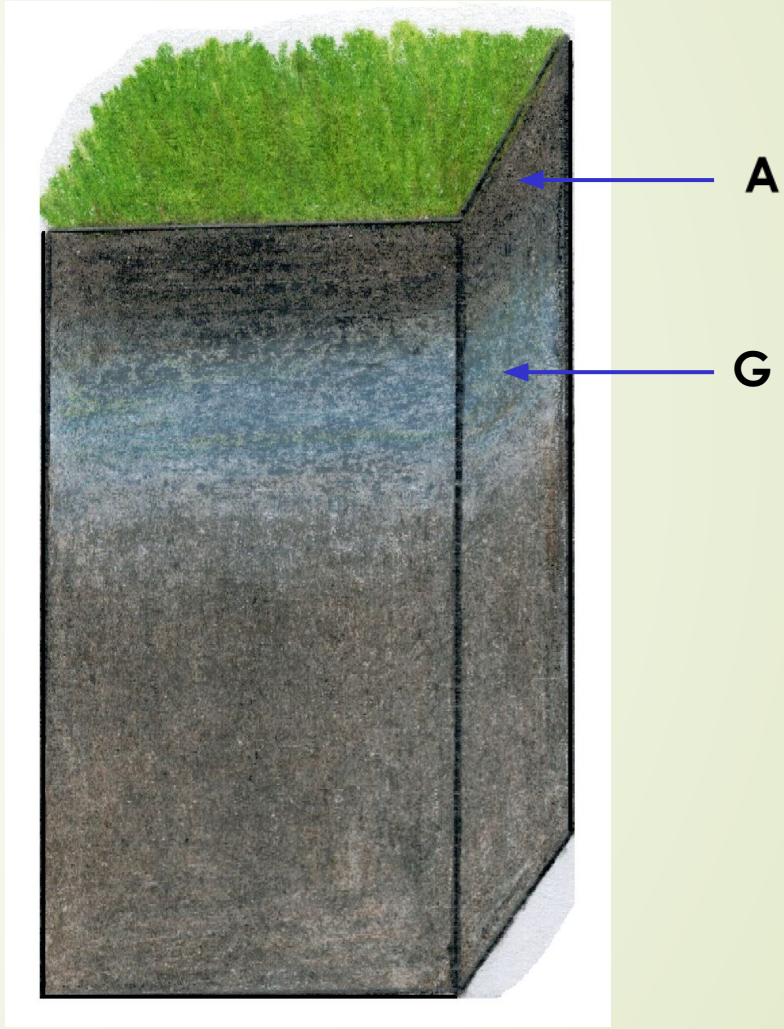
- Soils have a distinctive vegetation cover, with:
  - **herb-rich grassland**
  - **beech forests** being common.

https://pixabay.com/pl/zielony-las-buk-drzewa-drewno-2830942/

Bog soils

Characteristics

- Those soils create when groundwater tables is close to Earth's surface. This soil contains organic matter which doesn't corrupt, because there isn't enough oxygen there.
- The typical feature of this soil is greyish/blueish gleyed horizon (G)
- Despite having quite thick humus horizon, they aren't very fertile, because they are sticky and hard to work. They are used as meadows and pastures.
- Bedrock- impervious ground



Vegetation

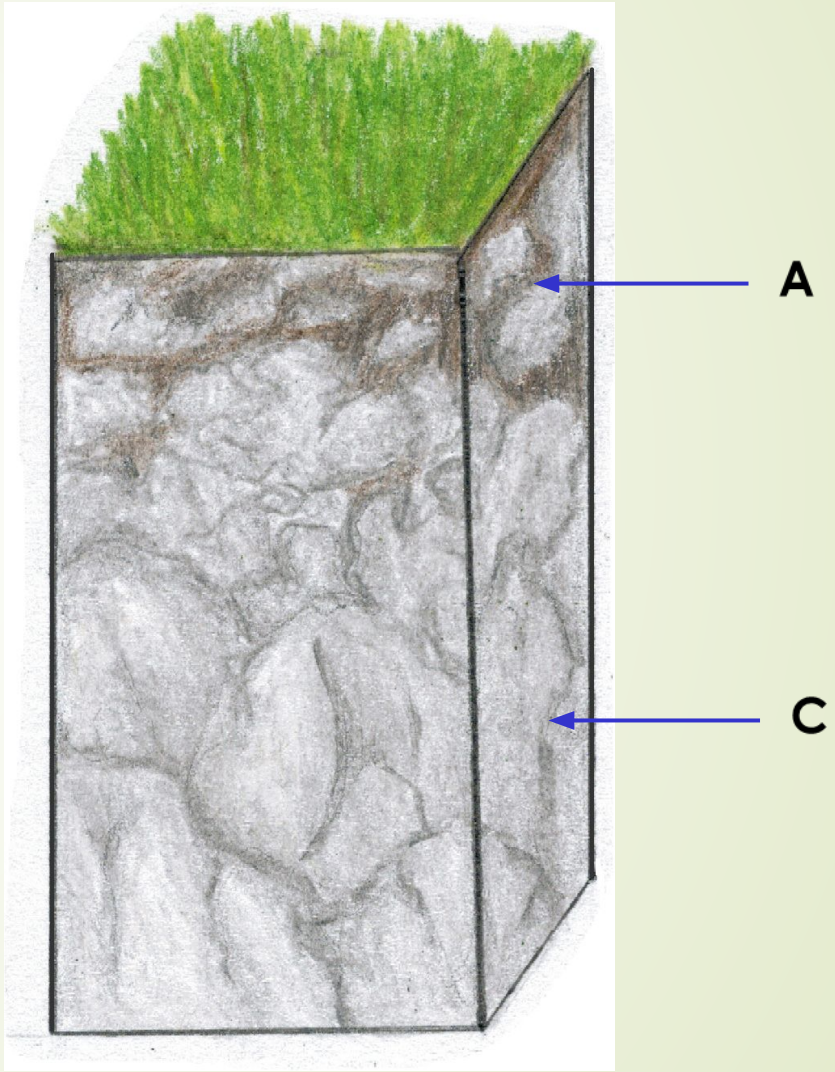
- Typical vegetation for bog soils are **moisture – loving plants**, for instance:
- Alders,
- Moor birches,
- Ashes.

https://pixabay.com/pl/venna-high-fens-belgia-krajobraz-3505845/

Mountain soils

Characteristics

- The mountain soils are located in mountainous areas all over the world.
- They are initial soils. Due to the strong erosion and unfavourable climate conditions, full development of this soil is impossible.
- The mountain soils are made of very thin humus layer and bedrock.
- These soils aren't very fertile and they are hard to work so they are used as pastures.



Vegetation

- Typical vegetation of that soil is **grasslands**, but there also grow little **chamaephyte** like **mugho pine.**

https://pixabay.com/pl/g%C3%B3ry-krajobraz-%C5%82%C4%85ki-natura-919040/