

32. Biosphere – main characteristics

Biosphere is a part of the Earth where all organisms (plants and animals) live. They live in thin upper part of oceans and everywhere on/within the land mass.

In higher altitude, UV radiation and low temperatures disable life to spread. In the deep ocean, life is present in the depth of up to 500 m below oceanic floor.

Biogeography is a science studying plants and animals as a part of landscape (land mass or ocean), i.e. interactions between plants and animals with their non-living environment. But the most basic science about living organisms is biology.

Biogeography is divided into 2 main parts due to totally different objects:

- Phytogeography – part of GEO studying *plants* and their importance, distribution, interactions, etc.
- Zoogeography – part of GEO studying *animals* and their importance, distribution, interactions, etc.

Individual parts of the Earth are **ecological factors** which influence organisms. There are many groups of animals and plants with different characteristics: **Name** **several**

According to temperature:

- *Thermophilic plants* – require high air temperatures
- *Psychrophilic plants* – require low air temperatures (tundra)

According to light:

- *Light-demanding plants* – require light for their growth (subtropical areas)
- *Shade-loving plants* – require shade for their growth (in rainforest)

According to air humidity (aridity):

- *Hygrophytes* – growing in waterlogged areas (swamps)
- *Xerophytes* – growing in dry areas (deserts)

Plants provide food for animals therefore animals' life is diverse as the plants' one, e.g. in tundra there are polar bears but in savannas antelopes and not vice-versa.

Phytocoenosis = plant community where plant live together in mutual bonds, e.g. meadow, forest

Zoocoenosis = animal community where animals live together in mutual bonds, e.g. forest animals

Phytocoenosis + Zoocoenosis create with anorganic elements an **Ecosystem**. Every ecosystem is created by *living organisms, their environment and mutual interactions between them.*

Keywords

biosphere, organisms, life, plants, animals, landscape, phyto-/zoogeography, ecological factors, thermophilic/psychrophilic plants, light-demanding/shade-loving plants, hygrophytes, xerophytes, phyto-/zoocoenosis, ecosystem, mutual bonds

