

UPSC Civil Services Examination

UPSC Notes [GS-I]

Topic: Biological Weathering [Geography Notes for UPSC]

Biological Weathering

- Biological weathering only refers to weathering caused by plants, animals, fungi, and microorganisms such as bacteria.
- It is contributed to or removal of ions and minerals from the weathering environment and physical variations due to movement or development of organisms.
- It is also the wearing and subsequent fragmentation of rock by plants, animals, and microbes.

Agents of Biological Weathering

In the next section, we talk about the agents of biological weathering such as microorganisms, humans, plants and animals.

Biological Weathering by Microorganisms

- Wedging and burrowing by organisms like termites, earthworms, rodents, etc. help in showing the new surfaces to chemical attack and helps in the penetration of air and moisture.
- Bacteria, mosses, algae, and lichens frequently grow on rock surfaces, particularly in humid areas.
- They form weak acids, which can convert some of the minerals to clay.
- Algae growth can deteriorate several rock types and make it more exposed to weathering.

Biological Weathering by Humans

- Humans also play an important role in biological weathering.
- Construction activities like road building, mining also causes weathering.
- Human beings by disturbing vegetation, sloughing and cultivating soils, also help in blending and producing new contacts between water, minerals, and air in the earth materials.

Biological Weathering by Plants and Animals

- Decomposition of plant and animal help in the creation of carbonic acids, hemic and other acids which boost decay and solubility of some elements.
- Roots of plants exert tremendous pressure on the earth materials mechanically breaking them apart.