

UPSC Civil Services Examination

UPSC Notes [GS-I]

Topic: Significance of Weathering [Geography Notes for UPSC]

Weathering

- Weathering denotes the process of wearing, breaking up, and fragmentation of the rock that creates the surface of the ground and that remains exposed to the weather.
- The process results from forces of weather like rain action, variations in temperature and frost action.

Significance of weathering to human life

- Weathering is the initial stage in the formation of soil.
- It produces other natural resources, for instance, clay which is used for making bricks.
- Another significance is weathering weakens rocks making them easier for people to exploit, for example, by mining and quarrying
- This process is accountable for the fragmentation of the rocks into smaller fragments and making the way for creation of not only soils and regolith, but also mass movements and erosion.
- Biodiversity, and Biomes are basically a result of vegetation, and forests rely upon the depth of weathering mantles.
- Erosion cannot be significant if the rocks are not weathered.
- It means weathering aids erosion, mass wasting and reduction of relief and modifications in landforms are a result of erosion.
- Weathering of rocks and deposits helps in the augmentation and concentrations of some valuable ores of manganese, aluminum, iron, and copper, etc. which have a great significance in the economy of the country.

Enrichment

- When rocks experience weathering, particular materials are removed through chemical or physical leaching by groundwater.
- Thereby the congregation of leftover valuable materials increases.
- Without weathering, the concentration of the same valuable material may not be adequate and economically feasible to exploit process and refine.
- This is as called enrichment.