

UPSC Civil Services Examination

UPSC Notes [GS-I]

Topic: Biogeochemical Cycles (Geography Notes for UPSC)

Biogeochemical Cycles Notes

Biogeochemical Cycles

- *Biological Chemical + Geological Process = Biogeochemical*
- Energy flows through an ecosystem and is released as heat, but chemical elements are recycled.
- The ways in which an element or compound moves between its several biotic and abiotic forms and locations in the biosphere is called a biogeochemical cycle.
- It is a movement of nutrients and other elements between living and non-living beings.
- The sun is the basic source of energy on which all life depends.
- Life on earth comprises a great variety of living organisms.
- These living organisms exist and survive in a diversity of associations. Such survival encompasses the presence of systemic flows such as flows of energy, water, and nutrients.
- The balance of the chemical elements is maintained by a cyclic movement through the tissues of plants and animals.
- The cycle starts by absorbing the chemical elements by the organism and is returned to the air, water, and soil through decomposition.
- These cycles are largely energized by solar insolation.
- There are two types of biogeochemical cycles:
 - The gaseous cycle
 - In the gaseous cycle, the main reservoir of nutrients is the atmosphere and the ocean.
 - The sedimentary cycle
 - In the sedimentary cycle, the main reservoir is the soil and the sedimentary and other rocks of the earth's crust.

Types of Biogeochemical Cycles

Important Biogeochemical Cycles

The important biogeochemical cycles are:

- The Carbon Cycle
- The Nitrogen Cycle
- The Oxygen Cycle
- The Phosphorus Cycle
- The Sulphur Cycle

- [The Water Cycle/ Hydrological Cycle](#)
- The Rock Cycle

