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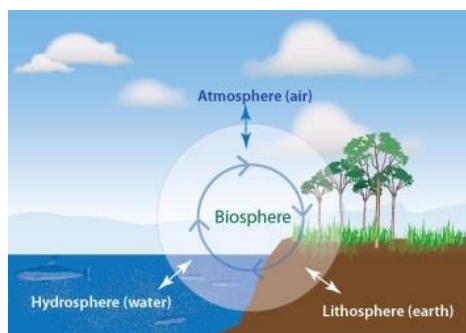
## 1. Environment and Ecology

### 1.1 Environment

- Environment is the natural component in which biotic (living) and abiotic (non-living) factors interact among themselves and with each other.
- These interactions shape the **habitat** and **eco-system** of an organism.
- In biological sense, environment constitutes the physical (nutrients, water, air) and biological factors (biomolecules, organisms) along with their chemical interactions (chemical cycles – carbon cycle, nitrogen cycle etc.) that affect an organism or a group of organisms.
- All organisms are dependent on the environment to carry out their natural life processes and to meet their physical requirements (food, energy, water, oxygen, shelter etc.).

### Biosphere

- The biosphere is the **biological component (supporting life)** of earth which includes the **lithosphere, hydrosphere** and **atmosphere**.
- The biosphere includes all living organisms on earth, **together with the dead organic matter** produced by them.

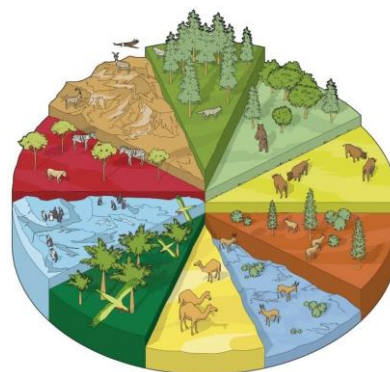


### Biosphere ([Source](#))

- Biosphere is **absent at extremes** of the North and South poles, the highest mountains and the deepest oceans, since existing hostile conditions there do not support life (**life is the characteristic feature of biosphere**).
- Occasionally spores of fungi and bacteria do occur at great height beyond 8,000 metres, but they are metabolically inactive, and hence represent only dormant life.

### Habitat

- **Habitat is the physical environment in which an organism lives (address of an organism).**
- **Many habitats make up the environment.**
- A single habitat may be common for more than one organism which have similar requirements.
- For example, a single aquatic habitat may support a fish, frog, crab, phytoplankton and many others.
- The various species sharing a habitat thus have the same 'address'. E.g. Forest, river etc.



### Difference between Habitat and Environment