

- **Storms and rainfall:** Storms, rainfall and floods are all natural, regularly occurring events on the Great Barrier Reef and as such, play a role in the ecosystem. However, predictions suggest an increase in the frequency of severe weather events which could lead to more serious physical damage, with less time between events to recover. The most immediate impact is coral breakage, dislocation and degradation from wind and waves. However, the effect doesn't stop there. Heavy rainfall events lead to flood plumes stretching across the Reef, exposing inshore coral reefs to freshwater inundations. Freshwater run-off reduces salinity levels, sometimes causing bleaching, and brings increased nutrients and sediments, which can lead to disease outbreaks, algae blooms and murky water reducing light reaching corals. The vulnerability of coral reefs to these impacts is dependent on the effect of other climate change impacts. For example, reefs that are weakened by ocean acidification or stressed from high sea surface temperatures will respond poorly to a major storm or flood event.
- **Shell and coral collection:** Collection of molluscan shells for local trade and export leads to coral bleaching.
- **Scientific collections:** Overzealous and uncontrolled collection by students and scientists has caused damages to some reef areas.
- **Coral diseases:** Corals are also affected by various fungal and bacterial diseases. Silt and sedimentation cause asphyxia on polyps and corals die.

2. Correct Option: (d)

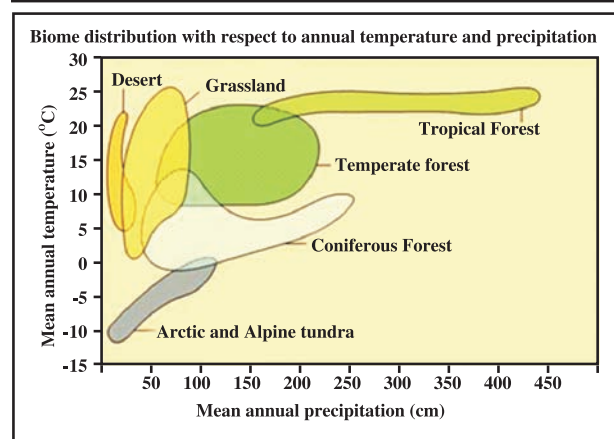
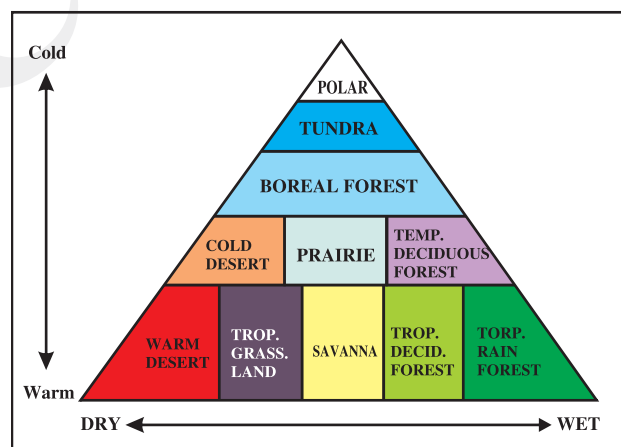
Explanation:

About Ecosystem

- **Statement 4 is correct:** An ecosystem is a self-sustaining structural and functional unit of the biosphere that facilitates survival. It is a collection of all living and non-living components in a particular area. The living components of the environment are known as biotic factors which include plants, animals, and micro-

organisms. The non-living components are termed as abiotic factors which include soil, land air, etc.

- **Statement 1 is incorrect:** Non-living components of the environment are also a part of ecosystem.
- **Statement 2 is correct:** Edaphic is a component relating to soil, especially as it affects living organisms. Edaphic characteristics include such factors as water content, acidity, aeration, and the availability of nutrients. Influenced by factors inherent in the soil rather than by climatic factors.
- **Statement 3 is correct:** The terrestrial part of the biosphere is divisible into enormous regions called biomes, which are characterized, by distinct climate [precipitation and temperature mainly], vegetation, animal life and general soil type. No two biomes are alike. The climate determines the boundaries of a biome and abundance of plants and animals found in each one of them. The most important climatic factors are temperature and precipitation.



3. Correct Explanation: (d)