

Coral bleaching

March 29, 2020

Why in news?

- Gulf of Mannar has been experiencing an alarming pattern of coral bleaching.

What are Coral reefs?

- Coral reefs are **large underwater structures composed of the skeletons of colonial marine invertebrates** called coral.
- The coral species that build reefs are known as **hermatypic or “hard” corals** because they extract calcium carbonate from seawater to create a hard, durable exoskeleton that protects their soft, sac-like bodies.
- Other species of corals that are not involved in reef building are known as **“soft” corals**.
- These types of corals are flexible organisms often resembling plants and trees and include species such as sea fans and sea whips.
- **Each individual coral is referred to as a polyp.**
- Coral polyps live on the calcium carbonate exoskeletons of their ancestors, adding their own exoskeleton to the existing coral structure.
- Corals are **found all over the world’s oceans**.
- The best suited environment for coral reefs is **clear, shallow waters of the tropics and subtropics**.

Coral bleaching:

- Warmer water temperatures can result in coral bleaching. When water is too warm, corals will expel the **algae (zooxanthellae)** living in their tissues causing the **coral to turn completely white** because the loss of algae reveals the white color of the calcium carbonate structure underlying the polyps. This is called **coral**

bleaching.

- The **2014-2017 global-scale coral bleaching** event killed several reefs, including large tracts of Australia's Great Barrier Reef.
- Severe or prolonged bleaching can kill coral colonies or leave them more vulnerable to other threats such as infectious disease.
- **When a coral bleaches, it is not dead.** Corals can survive a bleaching event, but they are under more stress and are subject to mortality.
- Not all bleaching events are due to warm water. In January 2010, **cold water temperatures in Florida, USA caused a coral bleaching event** that resulted in some coral death.
- Other climate impacts such as sea level rise, increased frequency and intensity of tropical storms and altered ocean circulation patterns can also affect coral reefs.