



Fourth Global Mass Coral Bleaching Event

[Source: DTE](#)

Coral Reef Watch (CRW) of the United States and the International Coral Reef Initiative (ICRI) have confirmed the **fourth global mass coral bleaching** event in 2023-2024.

- This is the **second such event in the last 10 years** and comes at a time when global oceans have also recorded **unprecedented heat** in 2023 and 2024.
- The [El Niño conditions](#) in the equatorial Pacific Ocean **added** onto the general trend of **warming** over land and oceans.
 - During El Niño events, warm ocean currents from the central and eastern Pacific Ocean move towards the western Pacific, causing sea surface temperatures to rise in many regions.
- Among long-term patterns, ocean heating and mass [coral bleaching](#) are closely tied to the occurrence of **El Niño events**.
 - This warming effect of El Niño contributes to ocean heating, which stresses coral reefs.
- The various **factors responsible** for coral bleaching are **increasing sea surface temperatures, extensive [marine heatwaves](#), [ocean acidification](#) and pollution.**
- When sea surface temperatures and ocean heat in general rise, the **algae on the hard corals die off**. This makes the corals white.
- This process is known as [‘coral bleaching’](#). Once bleached, the corals can become vulnerable to diseases and eventually die.

//

Coral Reefs

(Rainforests of the seas)



About

- ☞ **Large underwater structures** – made of skeletons of **colonial marine invertebrates** ‘coral’ – individually called **polyp**
- ☞ **Symbiotic Relationship with algae** ‘**zooxanthellae**’ (responsible for beautiful colours of corals)
- ☞ Support over 25% of marine biodiversity

Hard Corals vs Soft Corals

- ☞ **Hard Corals** - Rigid skeleton **made of CaCO_3** - reef-building corals
- ☞ **Soft Corals** - Non reef-building

Great Barrier Reef (Australia)

- ☞ Largest Coral Reef in the World
- ☞ World Heritage Site (1981)
- ☞ Endures Mass Coral Bleaching



Corals in India

- ☞ Present in the areas of Gulf of Kutch, Gulf of Mannar, Andaman & Nicobar, Lakshadweep Islands and Malvan



Significance

- ☞ Coral reefs **protect coastlines from storms/erosion**, provide jobs, offer opportunities for recreation
- ☞ Source of **food/medicines**

Threats

- ☞ **Natural:** Temperature, Sediment Deposition, Salinity, pH, etc.
- ☞ **Anthropogenic:** Mining, Bottom Fishing, Tourism, pollution, etc.

Coral Bleaching

- ☞ Corals under stress - expel algae – thus turning white (bleached)
- ☞ Bleached corals - not dead – but, more risk of starvation/disease



Initiatives to Protect Corals

Technology

- ☞ **Cyromesh:** Storage of the coral larvae at (-196°C) - Can be later reintroduced to the wild
- ☞ **Biorock:** Creating artificial reefs on which coral can grow rapidly



Global

- ☞ International Coral Reef Initiative
- ☞ The Global Coral Reef R&D Accelerator Platform

Indian

National Coastal Mission Programme

Read more: [Coral Bleaching in Great Barrier Reef](#)

PDF Refernece URL: <https://www.drishtias.com/printpdf/fourth-global-mass-coral-bleaching-event>

