



FOURTH CORAL BLEACHING : GEOGRAPHY

NEWS : Fourth global coral bleaching widest and fastest on record

WHAT'S IN THE NEWS ?

When corals face stress by changes in conditions such as temperature, light, or nutrients, they expel the symbiotic algae zooxanthellae living in their tissues, causing them to turn completely white. This phenomenon is called coral bleaching.

The pale white colour of bleached corals is of the translucent tissues of calcium carbonate which are visible due to the loss of pigment producing zooxanthellae.

If heat-pollutions subside in time, over a few weeks, the zooxanthellae can come back to the corals and restart the partnership but severe bleaching and prolonged stress in the external environment can lead to coral death.

Image credit: The Ocean Agency / Ocean Image Bank

NOAA and ICRI Confirm Fourth Global Coral Bleaching Event

Mass bleaching of coral reefs, since early 2023, has been confirmed in at least 53 countries, territories, and local economies.

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Coral Bleaching:

- Corals expel symbiotic algae (zooxanthellae) due to stress from temperature, light, or nutrient changes, causing them to turn white.
- The white color is from exposed calcium carbonate due to the loss of zooxanthellae pigments.
- If the stress is temporary, zooxanthellae may return, but prolonged stress can lead to coral death.

Global Coral Bleaching Event 4 (GCBE4):



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- GCBE4 saw severe bleaching in less than half the time of GCBE3, which lasted three years and affected 65.7% of coral reefs globally.
- GCBE3 was the longest and most damaging bleaching event on record.
- GCBE4 impacted coral reefs across 74 countries, with 77% of global reefs and 99.9% of Atlantic coral reefs experiencing bleaching-level heat stress.
- The full extent of GCBE4's impact is yet to be assessed.

Coral Mortality:

- Prolonged bleaching causes corals to die or their growth to slow, leading to the degradation of reef habitats.
- Corals may die within weeks of bleaching or succumb to disease over the next 1-2 years.
- Severe mortality of elkhorn and staghorn corals in the Caribbean has been reported during GCBE4.
- After the 2005 US Virgin Islands bleaching event, many corals died from diseases in the following two years.

Climate Patterns and Coral Bleaching:

- Historically, strong El Niño events were linked to bleaching.
- Severe bleaching now occurs even during La Niña periods, indicating that ocean temperatures have increased to dangerous levels across all phases of the El Niño-Southern Oscillation (ENSO).

Source : <https://www.downtoearth.org.in/climate-change/fourth-global-coral-bleaching-widest-and-fastest-on-record>