



## Coral Bleaching in Australian Coral Reefs

[Source: TH](#)

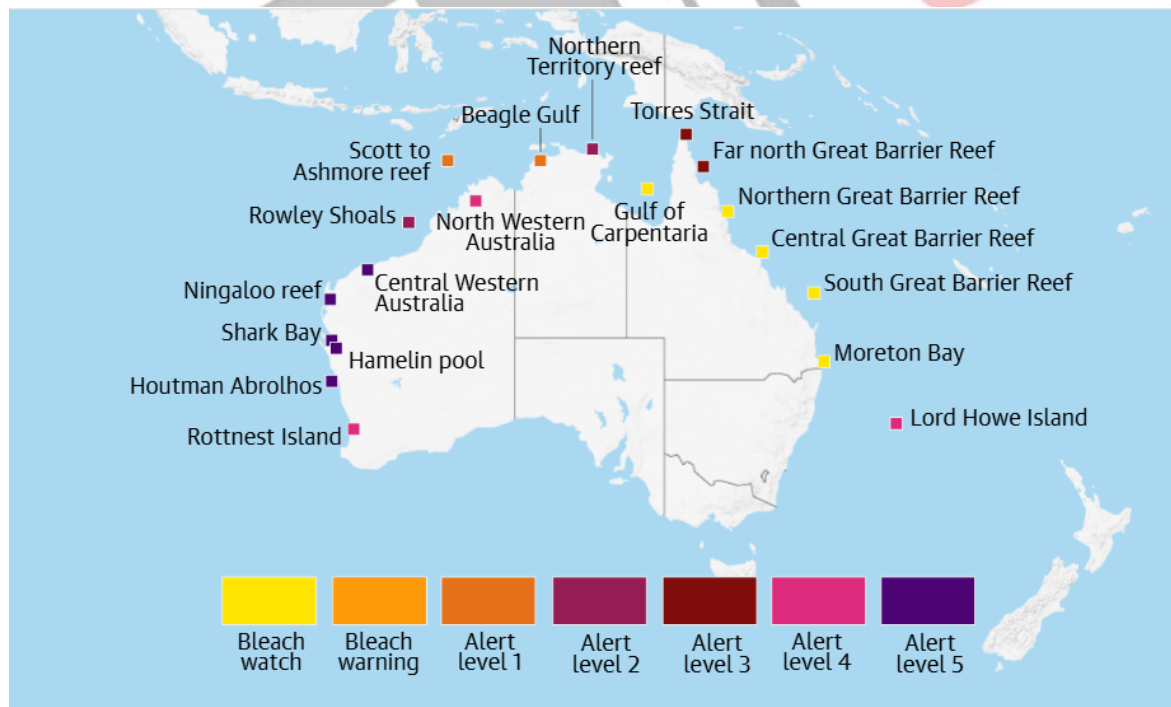
Australia's **Ningaloo Reef** and [Great Barrier Reef](#) are experiencing its worst **mass-coral bleaching** due to **prolonged marine heat waves** due to [climate change](#).

### Coral Bleaching

- It is the **loss of coral color (turning white)** due to environmental stress, mainly **rising sea temperatures**, causing corals to expel [symbiotic algae \(zooxanthellae\)](#) that provide nutrients and color.
  - **Bleaching-level heat stress** affected **83.6% of global reefs** since 2023, with coral bleaching reported in **81 countries**.

### Great Barrier Reef:

- It is the **world's largest coral reef system**, spanning **2,300 km off Queensland, Australia**.
  - A [UNESCO World Heritage site](#) since **1981**, it is home to endangered species like the [dugong](#) and **green turtle**.



### Ningaloo Reef:

- **Ningaloo Reef** (a **UNESCO World Heritage Site** since **2011**) is a **300-km fringing reef** along **Australia's west coast**.

- **Fringing reefs** are coral reefs that form **along coastlines** or islands, with little to no separation from the shore.
- **Ningaloo Coast** harbors **rich biodiversity, deep-sea habitats, karst caves, and Cape Range landscapes**.
  - It hosts **300-500 whale sharks annually** and unique **endemic species** like the **Exmouth Spiny-tailed Gecko, Western Netted Dragon, and West Coast Banded Snake**.



# 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<sub>3</sub>** - **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](#)

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