



World's Largest Deep Sea Coral Reef

[Source: DH](#)

Why in News?

Scientists have mapped the largest known **deep-sea coral reef**, located off the **Atlantic coast** of the [United States](#).

- The reef's existence has been acknowledged by scientists since the 1960s, but only recently has the advent of **underwater mapping technology** enabled the creation of **clear 3D images** depicting its dimensions.

What are the Features of the Newly Found Reef?

- **About:**
 - The reef spans approximately **500 km** in length, stretching from **Florida to South Carolina**. At certain points, its width reaches up to 110 km.
 - The reef's area is almost three times larger than **Yellowstone National Park**.
 - Discovered at depths ranging from 200 to 1,000 meters, **the reef exists in areas beyond the reach of sunlight**.
 - Unlike the recently found coral reef which is the largest in deep water, the **Great Barrier Reef is the largest coral reef system in Shallow water**.
 - A scientist mentioned the potential discovery of larger deep-sea reefs in the future, pointing out that only approximately **25% of the world's ocean** floor has been thoroughly mapped in high resolution.

What is the Difference Between Deep and Shallow Water Coral Reef?

Specifications	Shallow Water Coral	Deep Water Coral
Appearance	Brown & Green	White
Diversity	High	Low
Food	Rely on Photosynthetic algae	Feed on small plankton or available organic material
Habitats	Provides to sponges, crabs, etc	Provides to Sharks, Swordfish, Octopus etc
Type of Structure	Rock Like	Groves in the form of feathers, trees, etc
Growth Process	Require sunlight	Don't require Sunlight
Distribution	Less coverage of ocean floor	Larger Coverage of ocean floor
Challenges	Climate Change, Disturbance from Oil and Gas Drilling	Climate Change, Disturbance from Oil and Gas Drilling

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

UPSC Civil Services Examination, Previous Year Questions (PYQ)

Prelims

Consider the following statements: (2018)

1. Most of the world's coral reefs are in tropical waters.
2. More than one-third of the world's coral reefs are located in the territories of Australia, Indonesia and Philippines.
3. Coral reefs host far more number of animal phyla than those hosted by tropical rainforests.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Ans: (d)

Mains:

Q. Assess the impact of global warming on the coral life system with examples. (2019)

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