FAIR EARTH

The Great Barrier Reef (GBR) Australia

AWdF

Home of **25% Marine** species

47.8% left globally

Found in **100+ countries**

Occupy less than 0.2% seabed

The oldest reef

The biggest reef

On average reefs run along 110,000 square miles (284,300 km2)

Composed of **2,900** individual **reefs**

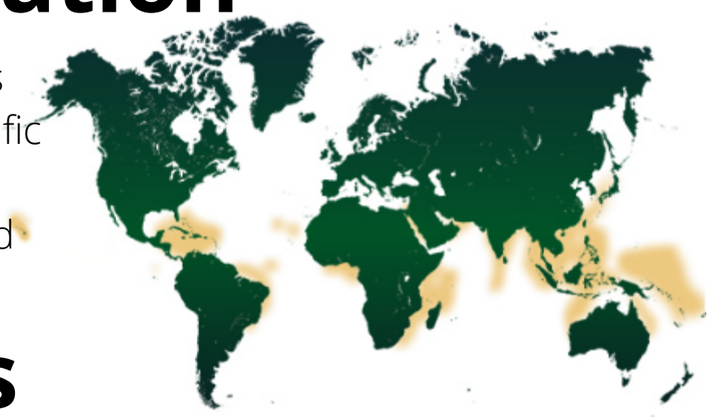
The GBR has over **900 islands**

Home of **10 %** of the **world's fish** species

50% died from bleaching

Global Distribution

Mainly located between the Tropics of Capricorn and Cancer in the Pacific Ocean, the Indian Ocean, the Caribbean Sea, the Persian Gulf and the Red Sea.



Types of Reefs

Fringe reefs form around a land area.

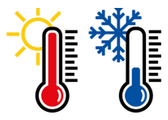
Atolls ring-shaped reef in a lagoon.

Barrier reefs separated by deeper & wider lagoons.

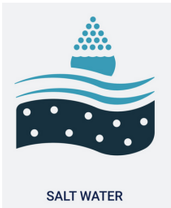
Patch reefs small & isolated grow up from the open bottom.

Biology

Corals are animals and not plants or rocks. Many corals are hermaphrodites meaning they have both male and female reproductive organs and can produce eggs and sperm. Whereas, some coral species have separate male and female polyps.



Coral reefs grow best in warm water (70–85°F or 21–29°C). However, it depends on their types.



To survive a reef needs clear, clean and salty water as well as lots of sunlights.

Depths between 18 to 91 meters (60-300 feets). Depending on the corals they grow from 0.2 inches to 8 inches.

Taxanomy of corals

Phylum Cnidaria or Anthozoa → Anthozoa are "flower animals". → Subdivided into → **Alcyonaria** / **Zoantharia** → Subdivide in other groups which turn into families, genus & species. → Breed asexually & sexually. → Some are stony and some are soft corals.

In Cnidaria members remain attached & called polyps.

Threats and Issues

Climate change. Due to high temperatures the Corals cannot survive.

Pollution & waste. Scientists affirmed that due to the pollution and plastic waste the chance for a coral to get the disease is increased from 4% to 89%.

Increasing sea surface temperatures. By 2100 the surface temperature is projected to grow between 2-4°C which can cause coral bleaching.

Coral bleaching & ocean acidification. In 2016/17, the Great Barrier Reef suffered from bleaching event which killed around 50% of its corals.

Sea-level rise & changing rainfall patterns. It is caused by global warming and by 2100 the water level will rise over 6 millimetres per year.

Oil spill & toxin leakage. The cruise ships or any other water vessels are not just contaminating the coral reefs but killing them permanently.

Damage to the economy. In 2014, the economic, cultural and social value of coral reefs was at US$1 trillion.

Projects around the world

CORAL REEF ALLIANCE

Coral Reef Alliance, NGO's with the aim to save the world coral reefs. It works at multiple scales from local to global like in Fiji, Hawai'i and Indonesia. **https://coral.org/aboutus/**

Great Barrier Reef Foundation

Great Barrier Reef Foundation's: mission is to bring it life the Australia's greatest natural wonder. It is collaborating with the Australian Government and in partnership with the Reef Trust. **https://www.barrierreef.org/what-we-do/projects**

IUCN

IUCN: mission is to conserve the natural resource and it is funded by the United States Agency for International Develop ment(USAID).**https://www.iucn.org/theme/marine-and-polar/our-work/coral-reefs/coral-reef-projects**

CORAL GUARDIAN

Coral Reef Conservation Program: goal is to redevelop the local marine biodiversity; based in indonesia. **https://www.coralguardian.org/en/coral-reef-conservation/**

Save YOUR Reef!

- Stop overfishing.
- Travel sustainably (Do no touch).
- Do not discard any waste in the water.
- Support your local beach or volunteer in an organisation.

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