

Coral bleaching talking points

What is happening on the Great Barrier Reef?

Visitors to Cairns & Great Barrier Reef continue to see colourful corals and varied marine life on the Reef. The Great Barrier Reef is the world's largest and healthiest reef, but there are threats to it, as demonstrated by the back-to-back coral bleaching episodes in different sections of the 1,600-mile long Reef in 2016 and 2017.

In 2016, the GBR experienced a significant bleaching event to the north of Port Douglas after a period of warmer temperatures. It coincided with very calm weather and the breakdown of normal water currents. On a local scale, these factors allowed hot water to sit on some areas of the Reef, also forcing the natural phytoplankton to go deeper into the cooler water. This made the water even clearer in the hot, still conditions and allowed light to penetrate deeper to the coral. Together these conditions left the coral vulnerable to bleaching.

Some coral did die in the northern-most section of the Reef, but the resilience of the Great Barrier Reef was demonstrated with more than 70% of the Reef in the affected area escaping mortality. Scientists have yet to ascertain the effect of the 2017 bleaching episode.

The Reef is showing positive signs of regeneration with two successful coral spawns.

What does coral bleaching mean for the Great Barrier Reef?

Bleaching may cause the Reef to lose some species of corals, while others that can adapt to warm water may grow in their place. The bleaching is patchy and the sheer size of the Reef, which is about the size of Japan or Italy, and the fact that it is a mosaic of more than 2900 reefs spread over 2300 kilometres is its greatest protection. The consensus is that we may lose biodiversity, but we won't lose the whole Reef.

The Great Barrier Reef is a resilient ecosystem because it has some 600 types of hard and soft coral. Reefs in other parts of the world such as the Caribbean have just 30 coral species.

Healthy coral has symbiotic algae called zooxanthellae living in its tissue. The algae are photosynthetic and provide the host coral with food in return for protection. They give the coral a distinctive brown hue, while the coral produces the fluorescent pigments that add the vibrant colours.

What is coral bleaching?

One of the first phases of bleaching is when the coral goes fluorescent as it expels the symbiotic algae and turns a very vivid colour, often pink or purple. The coral is stressed but can recover from this stage. If the coral continues to be stressed, all the algae will be expelled, and the coral will no longer gain energy from photosynthesis. All that is left is transparent coral tissue over white calcium carbonate skeleton. Coral can recover from bleaching events. However, if the bleaching persists for an extended period the coral starves and dies.

Can we help the Great Barrier Reef?

The Great Barrier Reef is the best managed reef system in the world through the Great Barrier Reef Marine Park Authority's Reef 2050 plan.

It has the world's best-practice tourism operators showcasing the Reef and protecting this World Heritage area.

There are things that can be done to help the Reef. High value Reef areas can be made into refuges where all pests are eliminated, existing coral species are bred and other species that need to be saved are introduced.

Scientists are also looking at ways of reducing the water temperature and creating movement in the water to keep these high value areas safe. The Reef and Rainforest Research Centre's Reef Havens project at Moore Reef is slated to use large underwater fans to draw cooler water up to the surface and distribute it over a section of reef.

The tourism industry and science are working together on projects such as controlling the crown of thorns starfish. Last year 400,000 starfish were killed on the Great Barrier Reef through a program operated by the Association of Marine Park Tourism Operators.

Rising sea temperatures are caused by climate change. Reducing greenhouse gas emissions is the key to lowering global average temperatures.

Climate change is a global issue and we need the whole world engaged to address it.

The tourism industry is supporting Citizens of the Great Barrier Reef, a hub for people who care about the Great Barrier Reef and a repository for ideas, knowledge and actions to nurture the Reef.

What is Citizens of the Great Barrier Reef?



CITIZENS OF THE GREAT BARRIER REEF

Citizens of the Great Barrier Reef will connect people from all walks of life and all corners of the globe with the Reef to enable them to play a role in the future health of this World Heritage area.

It will encourage people to take actions to help the future of the Reef. These may be reducing the use of disposable plastic water bottles and drinking straws.

Practical direct interventions will also be included such as sponsoring the training of a diver to eradicate the crown-of-thorns starfish.

Citizen actions are tracked so each Citizen can see how they are making a difference individually and as a group.

Join the journey at <https://citizensgbr.org/>.