



## Reef health

**Updated: 29 June 2017**

Global coral bleaching over the last two years has led to widespread coral decline and habitat loss on the Great Barrier Reef.

Since December 2015, the Great Barrier Reef has been exposed to above average sea surface temperatures, due to the combined effects of climate change and a strong El Niño.

These conditions triggered mass coral bleaching in late summer 2016 and led to an estimated 29 per cent loss of shallow water coral Reef-wide, according to findings by the Great Barrier Reef Marine Park Authority.

Winter sea surface temperatures in 2016 remained above average and, by the beginning of the 2016-17 summer, the accumulated heat stress on the Reef resulted in a second wave of mass bleaching.

Staff from the Marine Park Authority took part in aerial surveys conducted by the ARC Centre of Excellence for Coral Reef Studies, and the results confirmed the extent and severity of the 2017 bleaching event.

As seen last year, bleaching and mortality can be highly variable across the 344,400 square kilometre Marine Park — an area bigger than Italy. The Centre of Excellence's maps below show the 2017 bleaching footprint differs from 2016 in that it extends further south in the Marine Park.

In-water surveys and other reports from the community and our science and tourism partners have also been used to determine the health of the Reef following these events.

In addition to severe bleaching affecting over half the Reef since 2016, large portions of the Reef have also been subjected to other simultaneous impacts during the 2016-17 summer.

Severe tropical cyclone Debbie crossed the coast at Airlie Beach on 28 March 2017.

It is estimated approximately 28 per cent of the total reef area in the Marine Park was within the 'catastrophic damage zone' of the cyclone's path.

Surveys conducted by the Great Barrier Reef Marine Park Authority and Queensland Parks and Wildlife Service have revealed that some sites have suffered significant damage (up to 97 percent coral loss) and are down to very low coral cover, while others received less damage and still have moderate coral cover.

Studies following previous extreme weather events revealed that even within severely damaged reefs, there were often areas that were relatively undamaged. These areas are critical for providing the next generation of corals and assisting with reef recovery.

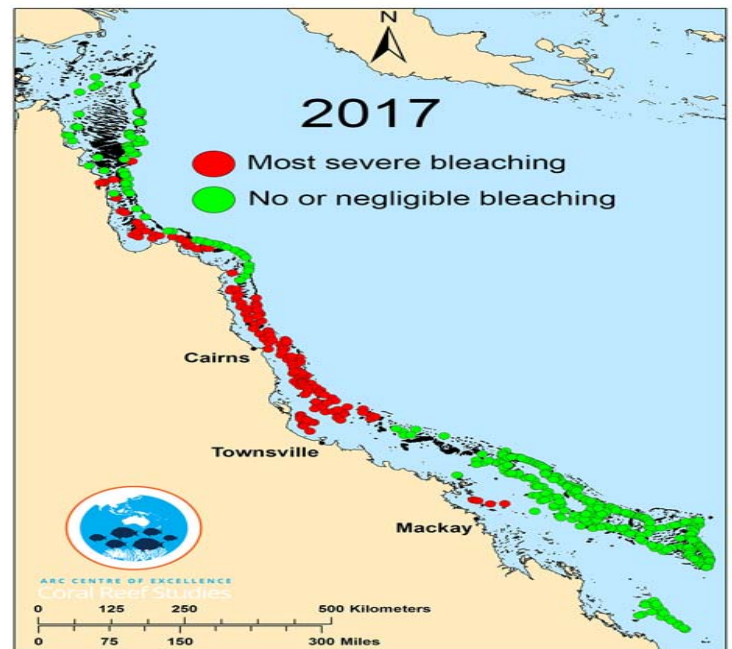
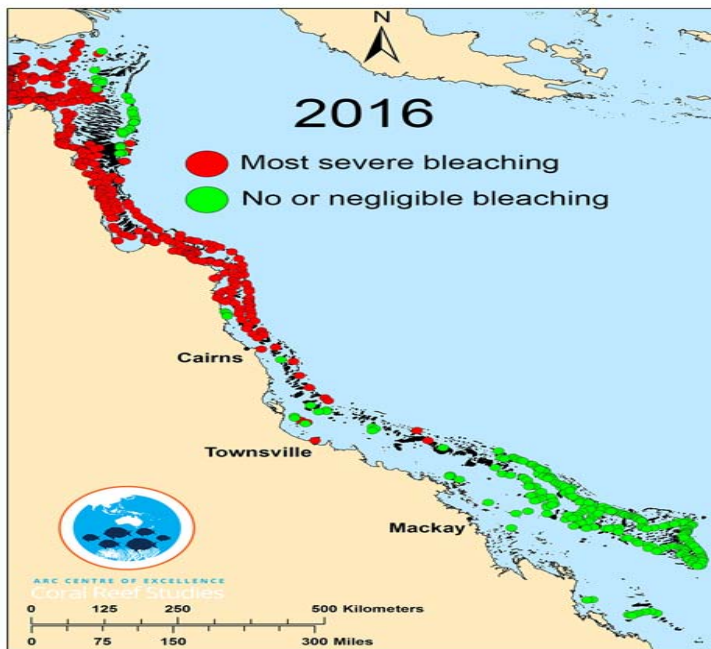
On becoming an ex-tropical cyclone, the system brought torrential rain to parts of the central and southern Great Barrier Reef catchment, which caused flooding of the Burdekin and Fitzroy Rivers, and resultant flood plumes.

Outbreaks of coral disease and crown-of-thorns starfish have also been ongoing.

The cumulative impact of these disturbances are affecting most of the Great Barrier Reef Marine Park (see graphic), and it is likely the resilience of the majority of reefs north of Mackay has been severely diminished.

Although some disturbances are considered natural processes that have shaped coral reef communities over time, impacts such as climate change are leading to more widespread and frequent disturbances.

Subscribe to our e-newsletter for further updates on Reef health and management.



## Timeline and actions

Key timeline and activities for understanding how coral bleaching and severe tropical cyclone Debbie impacted on the Reef.

## Final report: 2016 coral bleaching

Final report by the Great Barrier Reef Marine Park Authority on the 2016 coral bleaching event.

## Coral bleaching news releases

News releases by the Great Barrier Reef Marine Park Authority on coral bleaching.

## Current conditions on the Reef

Summary and detailed information on sea surface temperature, tropical cyclones, rainfall levels and flood plumes to date.

## 2016 coral bleaching event

Mass coral bleaching on the Great Barrier Reef in 2016 was triggered by record-breaking sea surface temperatures.

## Frequently asked questions

Find answers to your questions about bleaching on the Reef.

## Coral bleaching resources

Coral bleaching resources: Image gallery, bleaching infographic, informative video and map of observed bleaching.

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## Responsible reef practices – Spearfishing

Fishers and spearfishers should consider leaving plant-eating fish to help control seaweed and enable coral larvae to settle and create new colonies.

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## Student and teacher resources

Educational materials, including teaching units and a poster series, for primary and secondary school students.

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## Eye on the Reef program

Eye on the Reef is a monitoring program that enables anyone who visits the Reef to contribute to its long-term protection.

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## Report your sightings

Download the free Eye on the Reef smart phone app from iTunes/Google play app store or you can use the desktop app to report your Reef sightings.

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## Coral Bleaching Response Plan

The Coral Bleaching Response Plan was developed to meet the challenge of responding to coral bleaching events.

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## Sea surface temperatures

Australia's Bureau of Meteorology provides information on sea surface temperatures for monitoring coral bleaching.

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## ReefTemp

ReefTemp Next Generation is a set of high resolution mapping products that provide information on coral bleaching risk for the Great Barrier Reef region.

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Sea Country Partnerships

Reef Guardians

Eye on the Reef

## CLIMATE CHANGE

- How it's impacting the Reef
- Supporting communities and industries
- Climate Change Action Plan
- Great Barrier Reef Outlook Report

## OUT ON THE WATER

- Legislation, regulations and policies
- Zoning
- Plans of management
- Site specific management
- Caring for the Reef
- Field Management Partners

## NEWS AND RESOURCES

- Latest news
- Reef in Brief e-newsletter
- Marine Park reference map
- eLibrary Publications
- Spatial Data Information Services
- Library Services



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