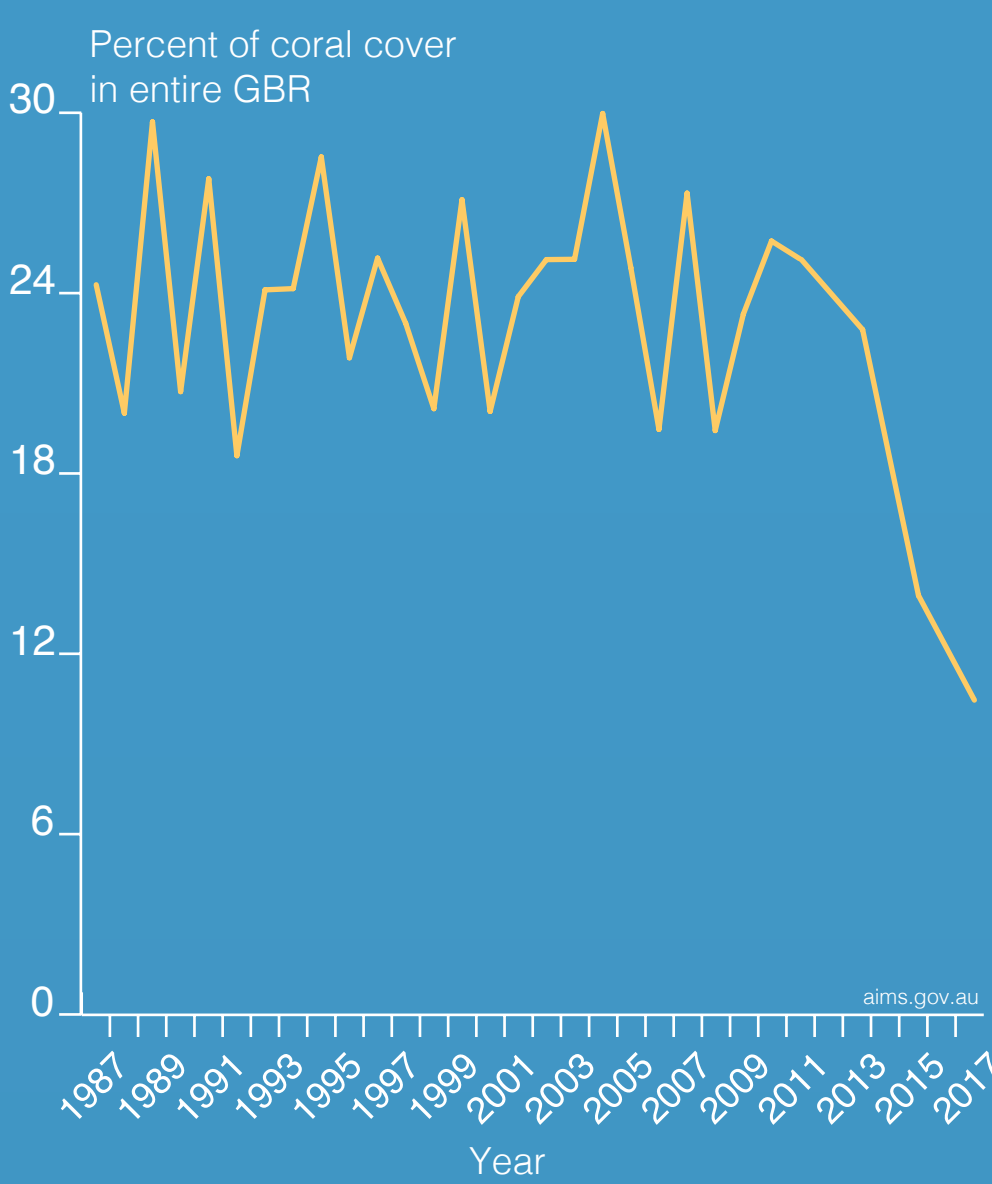


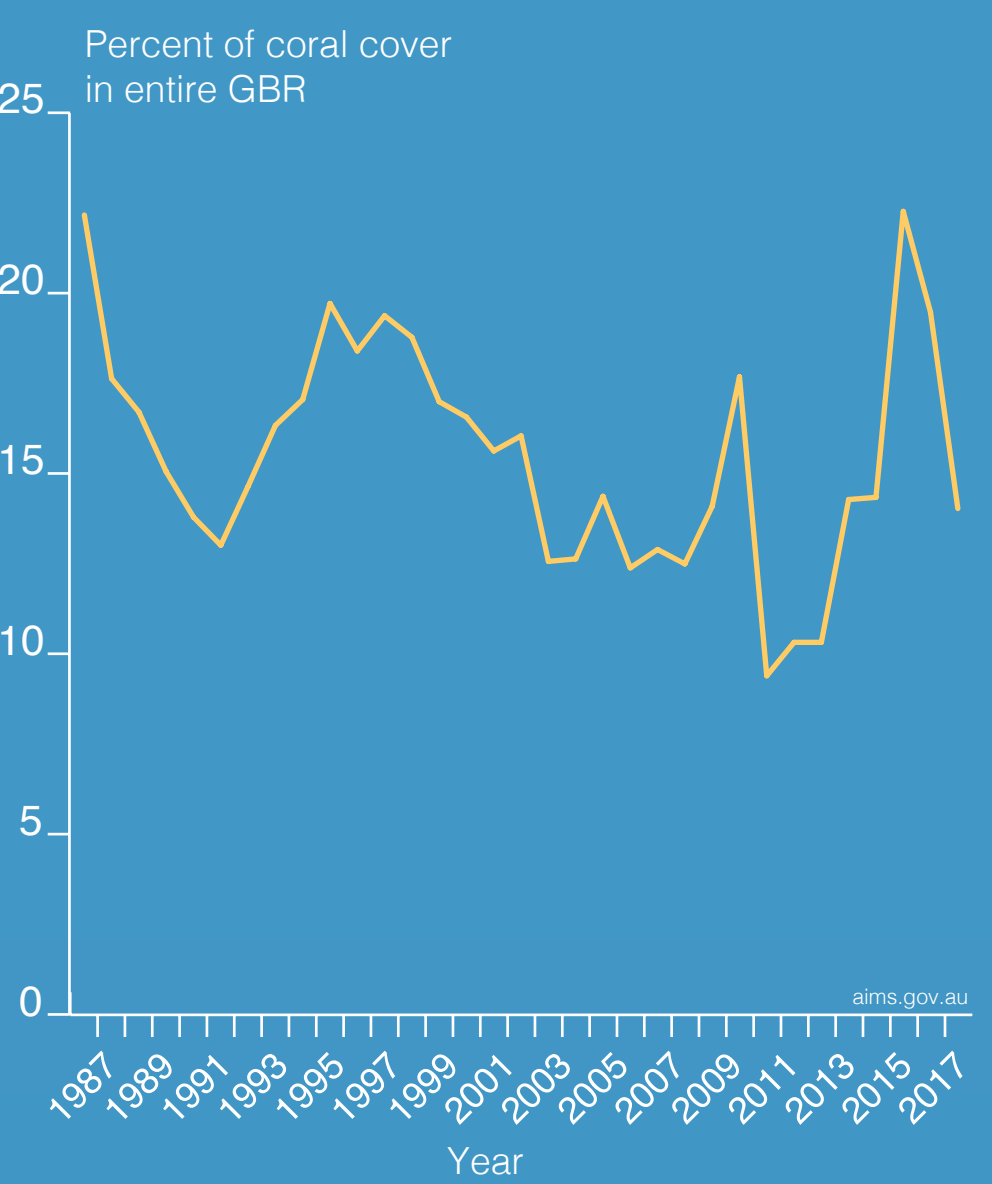
WHAT HAPPENED TO THE GREAT BARRIER REEF?

The Great Barrier Reef located in the northeast corner of Australia is the world's largest coral reef. It is over 2,300km, made of over 2,900 individual reefs and home to thousands of animals. However, thanks to both human and environmental factors, the Great Barrier Reef is slowly shrinking in size. This shrink in size is mainly due to the coral dying off from the stress of these factors. Corals are generally quite sensitive to a verity of environmental changes and because they typically grow quite slowly, it usually take some time to recover from any significant change that affects them. Because of the many stress-induced bleaching events that have occurred starting since around 1980, the Great Barrier Reef has not had the time to recover and has only been growing smaller since. There have been many efforts made by both the Australian Government and people to help protect and recover the Great Barrier Reef. Although the Great Barrier Reef is still on the decline, human intervention has helped it from becoming completely desolate.

Northern Region (1986–2017)



Central Region (1986–2018)

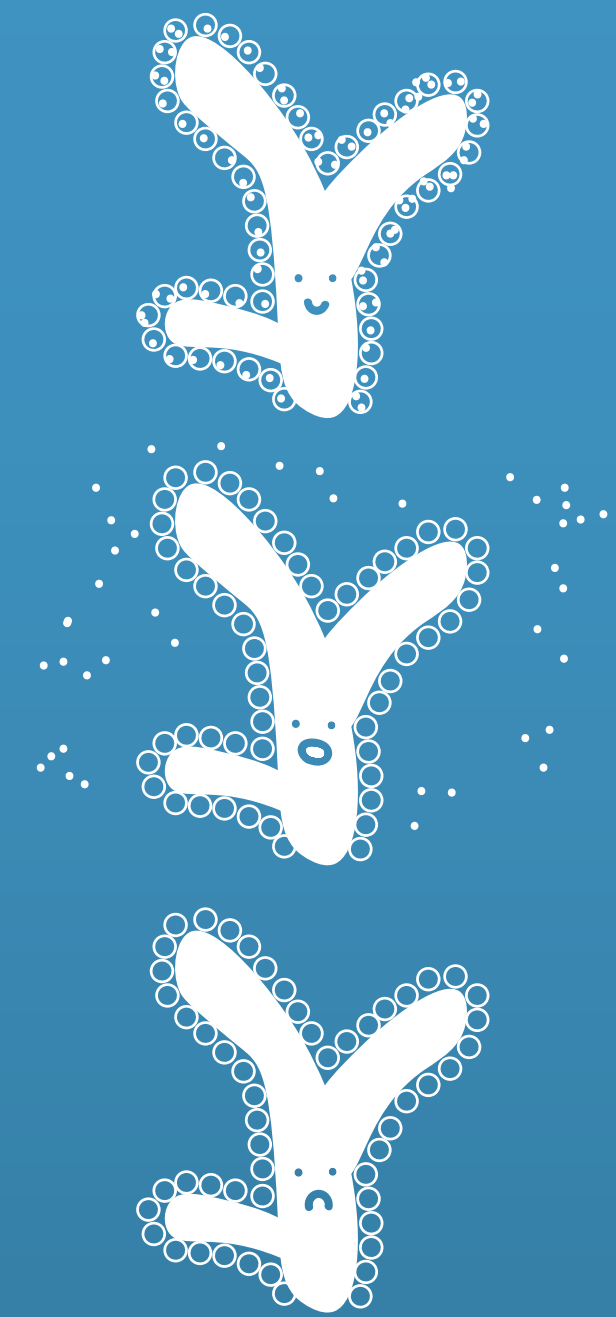


Southern Region (1986–2018)



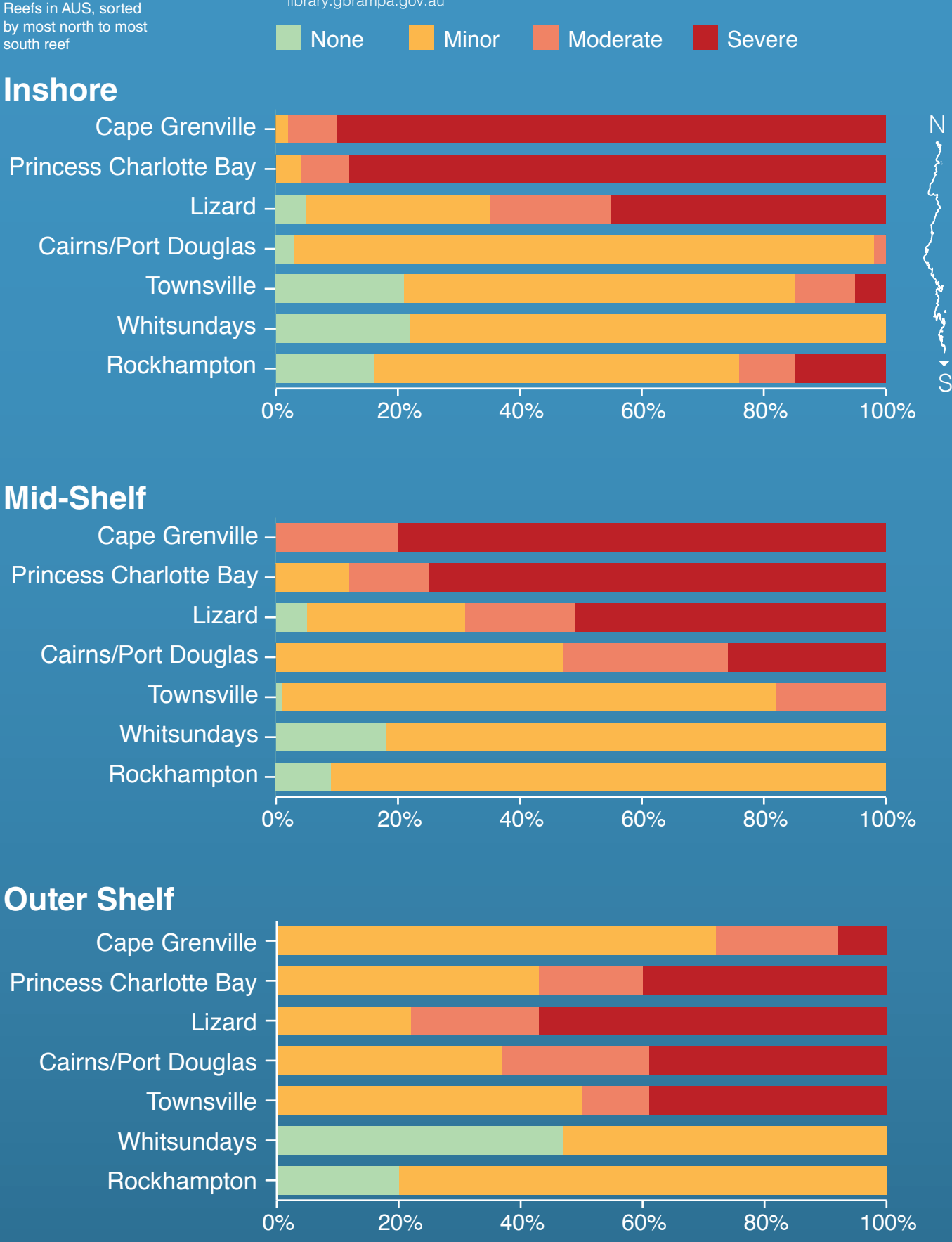
Bleaching

The 2016 Coral Bleaching Effects

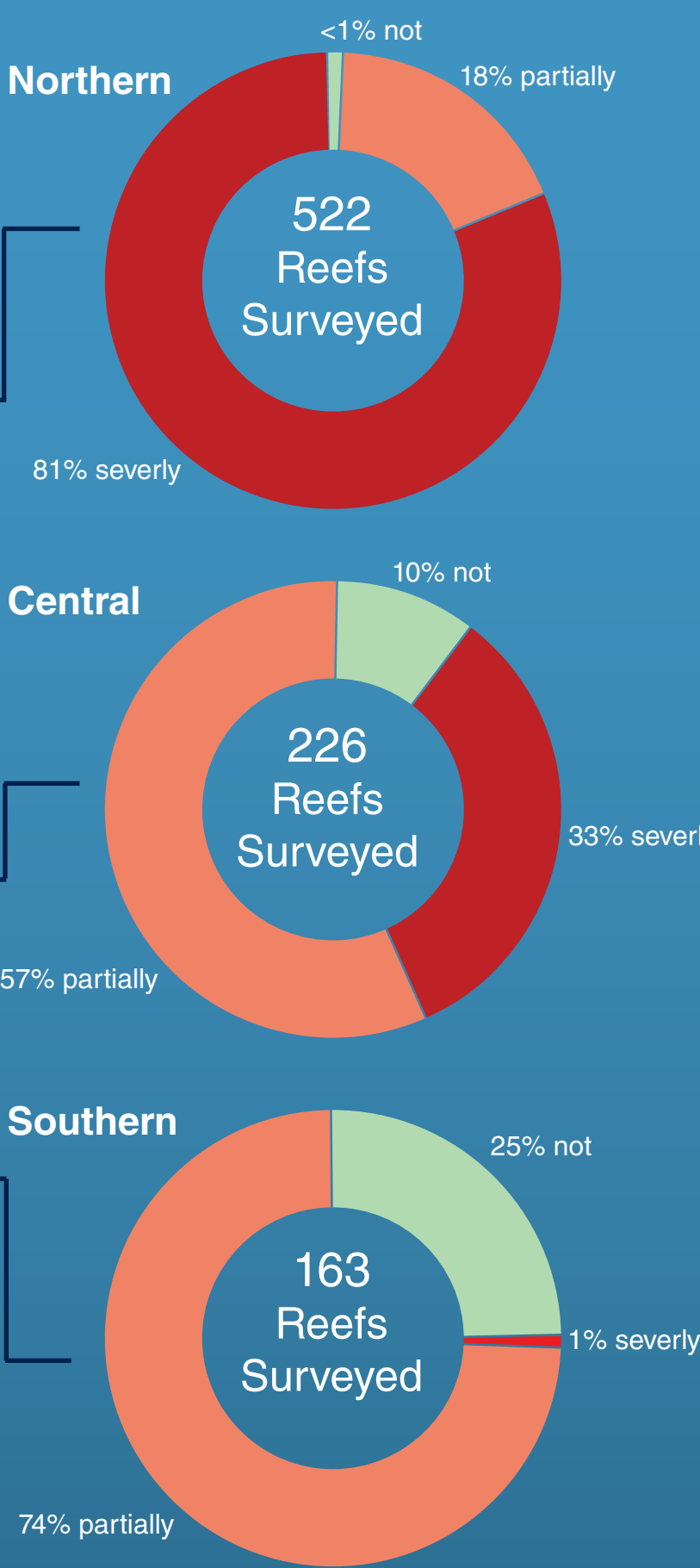
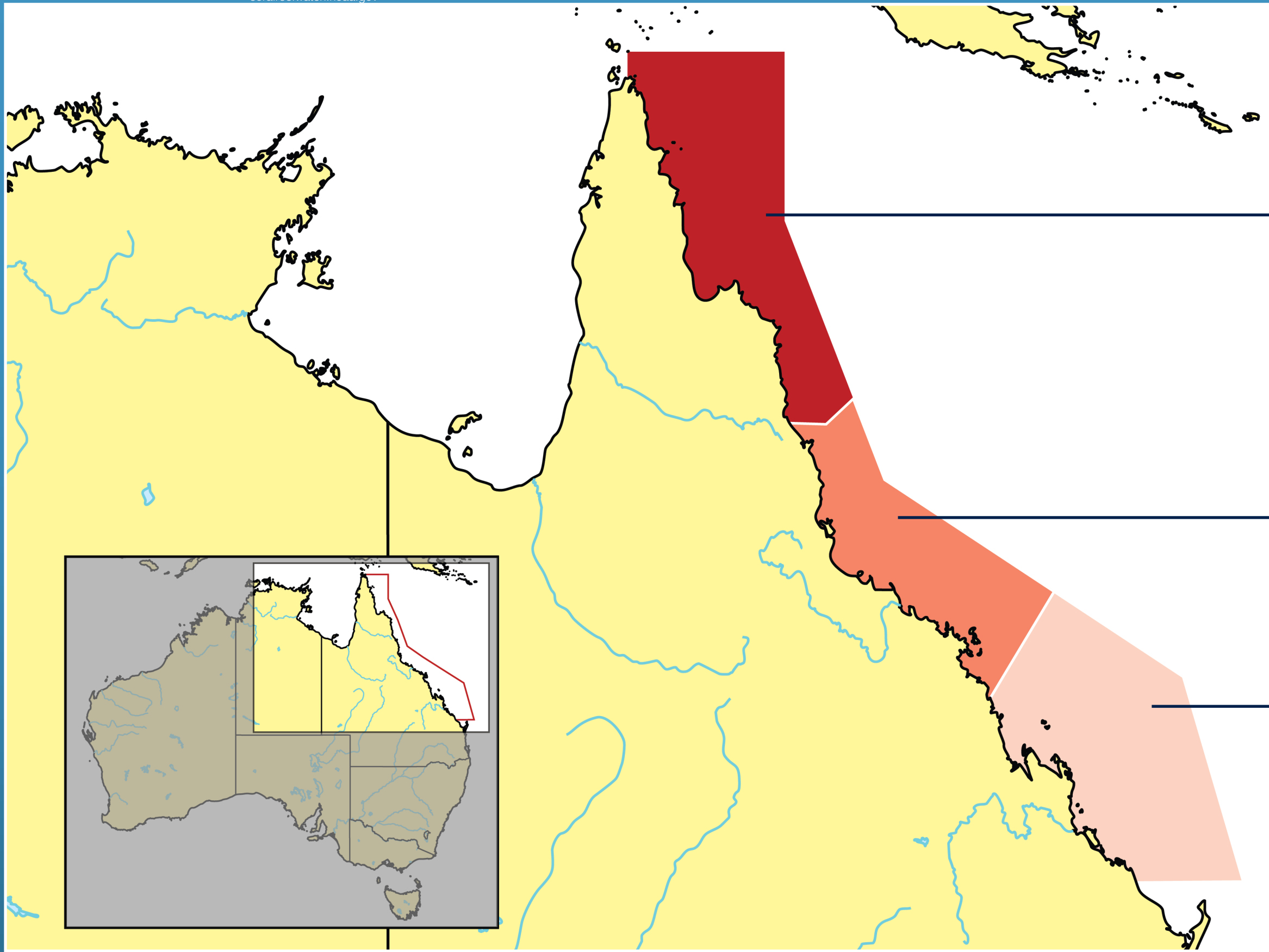


Bleaching is when corals experience stress and react by expelling all of their photosynthetic cells. As a result, the corals will begin to starve which can lead to death. One way corals can become stressed is when the temperature it lives in changes. In 2016, El Niño had brought in a flow of warm water in the Pacific Ocean, thus creating a world-wide coral bleaching event.

Severity of Bleaching, by Shelf



Severity of Bleaching, by Region

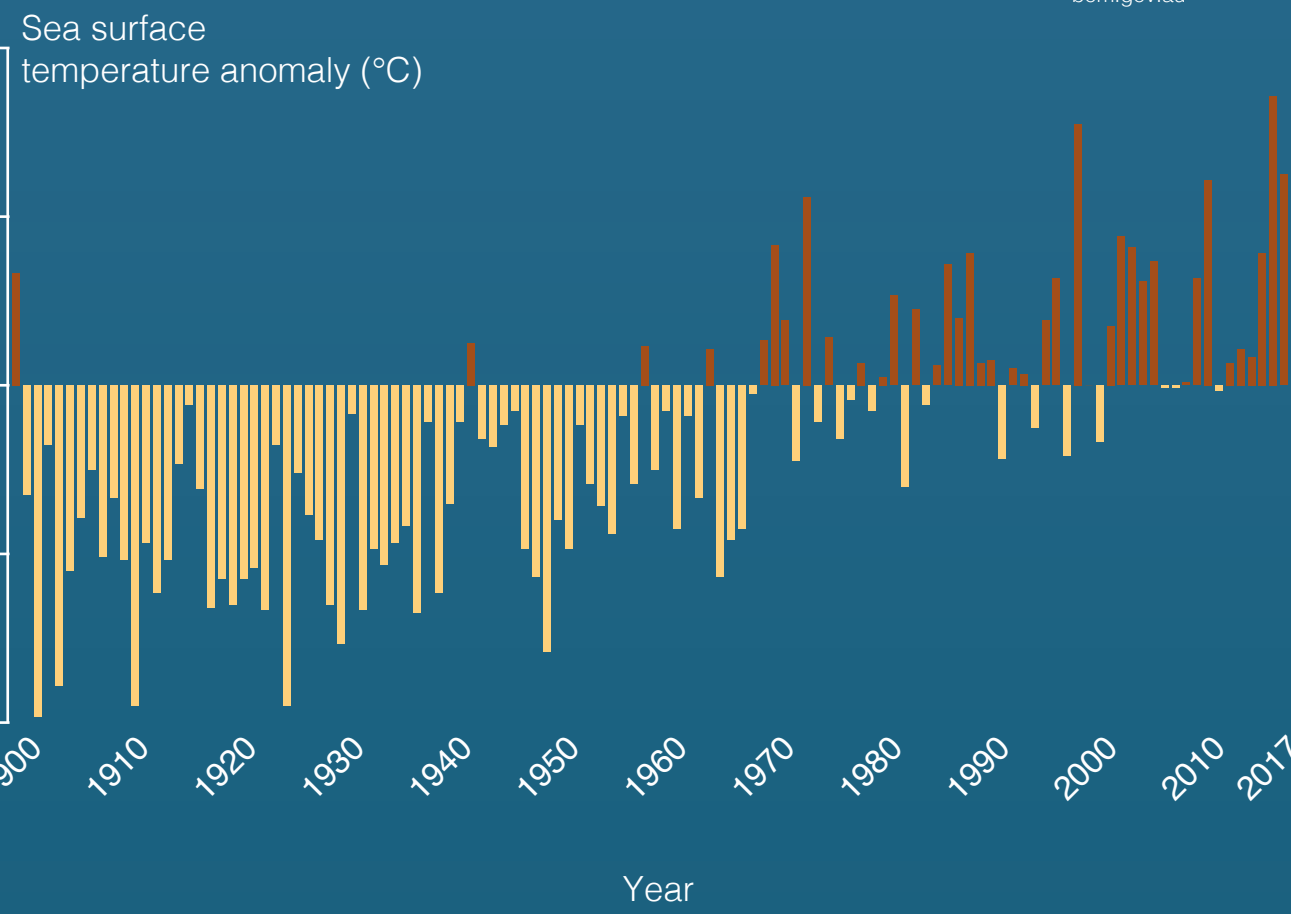


Climate Change

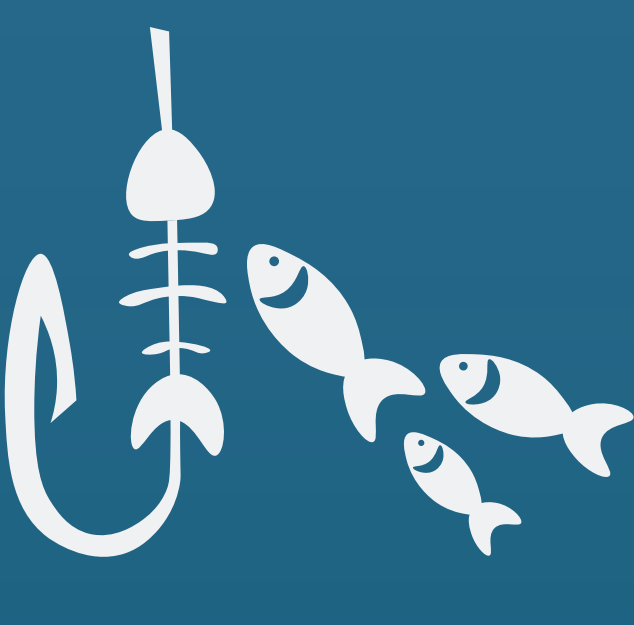


Climate change can change the temperature of ocean water. When water temperature rises, the coral ecosystem can be affected through bleaching or disease outbreaks.

Sea Surface Temp. Anomaly (1900–2017)

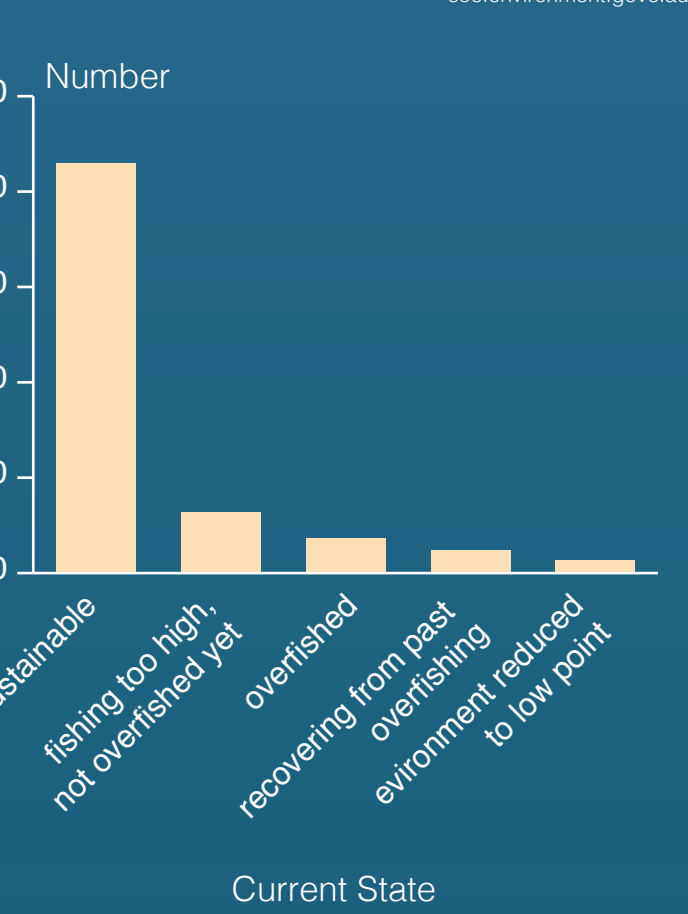


Overfishing

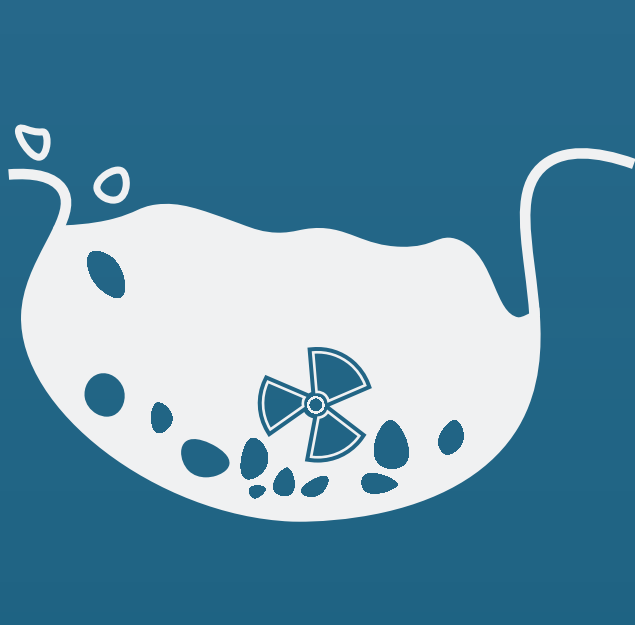


Overfishing can change the ecosystem of a reef, impacting what sea life lives and dies. Luckily, for the GBR, Australia implements many green zones where fishing is not allowed.

Fish Stock States (2016)

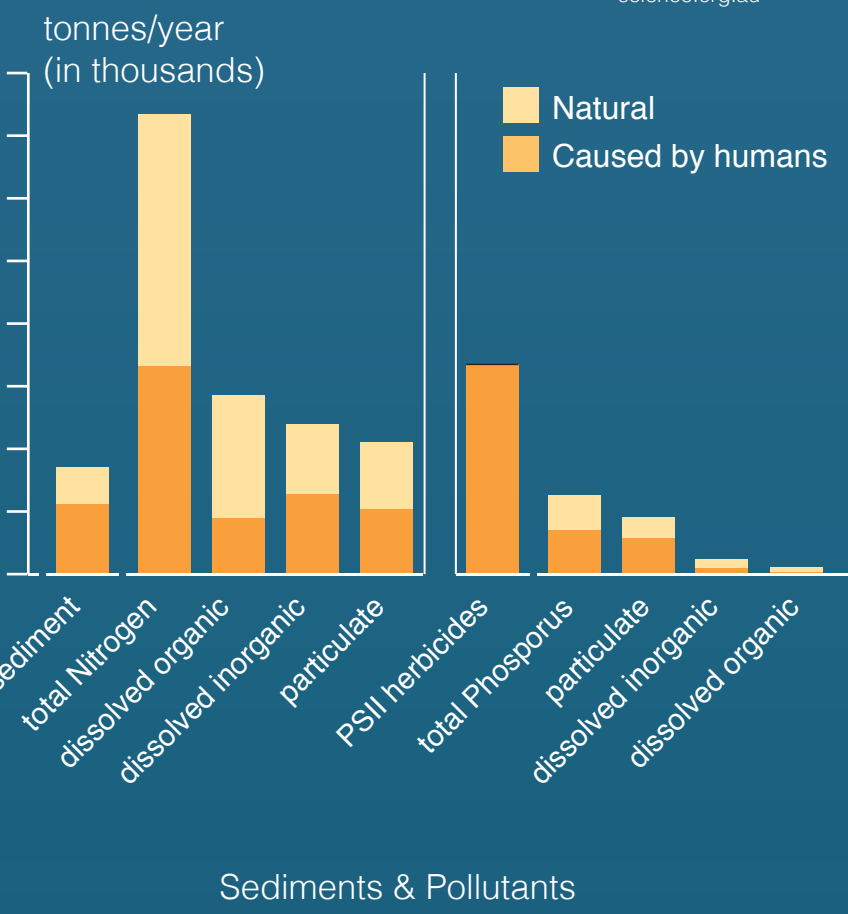


Sediments & Pollutants



Sediments can be naturally produced. But because much of the northeastern side of Australia is used for agriculture, the sediments and pollutants that are used to help plants but are harmful to sea life, leak into the reef.

Load Contributions (2013)

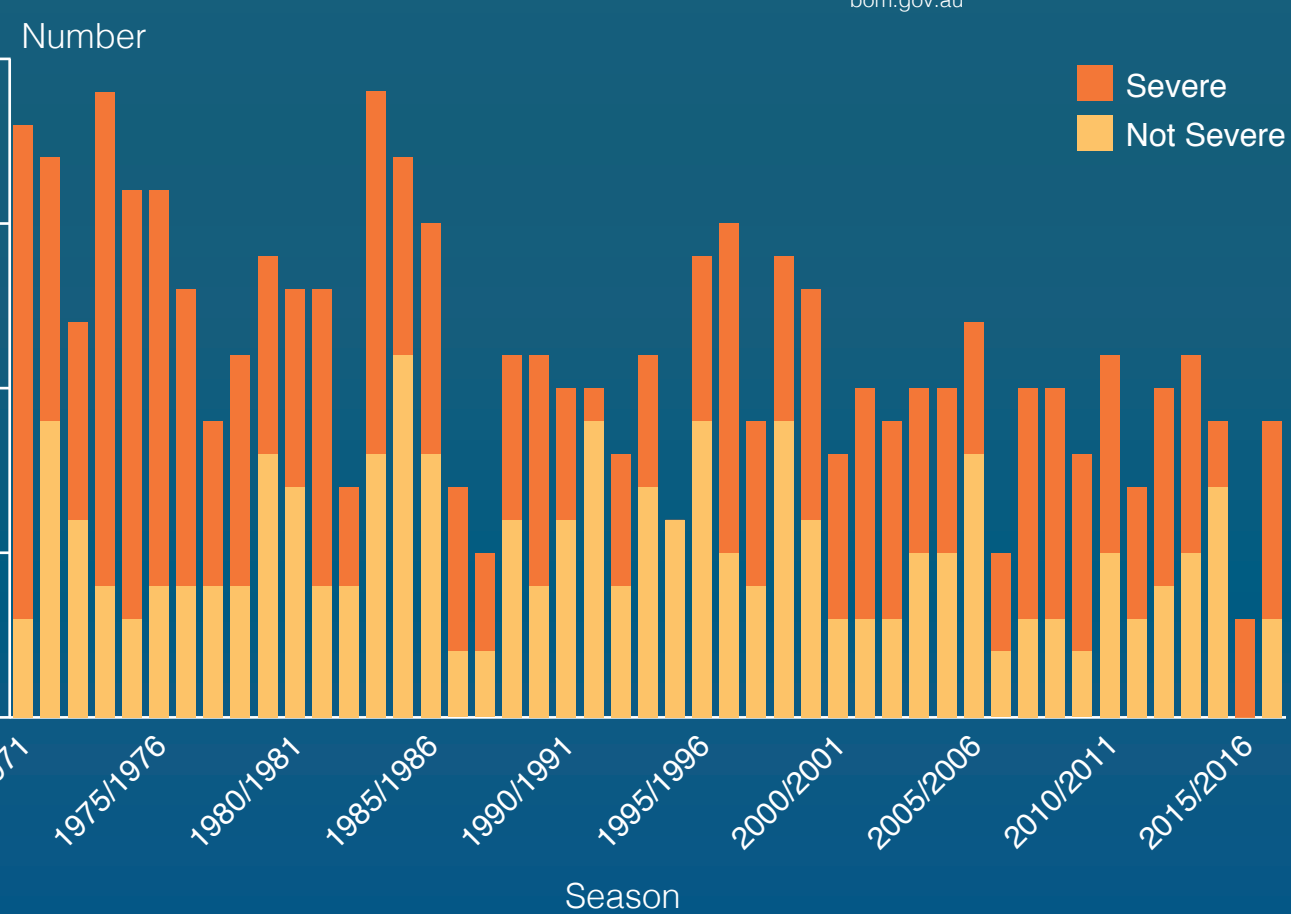


Cyclones



Cyclones are one of the most harmful things to coral reefs, as they can and will destroy anything in its way. Reefs can take a long time to recover from the damage.

Number of Cyclones (1970–2017)

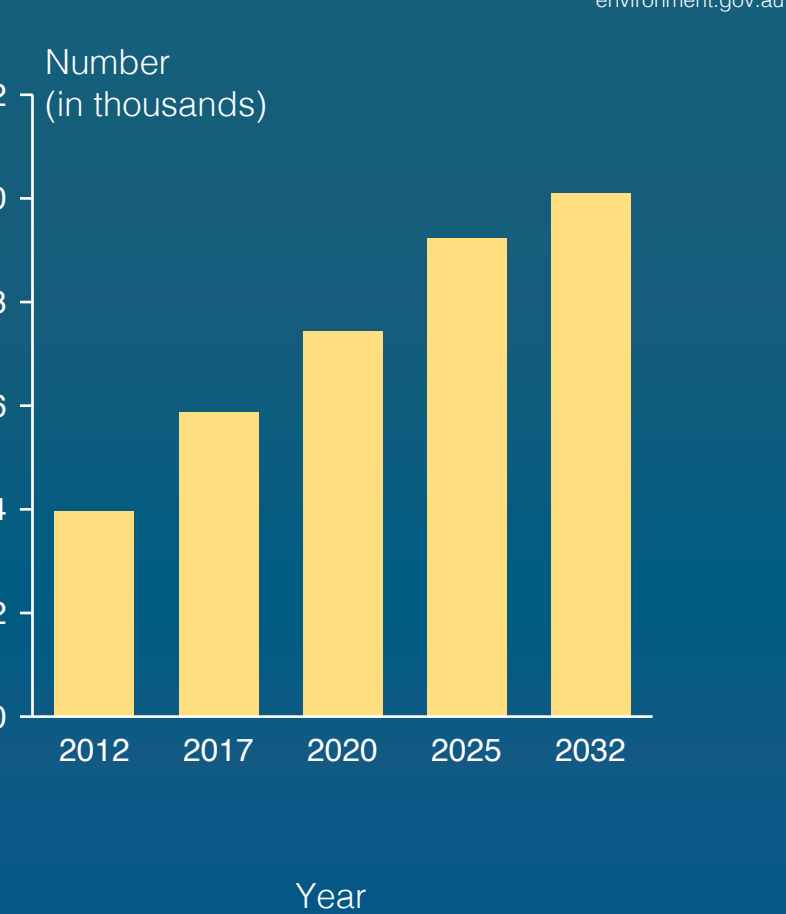


Shipping & Dredging

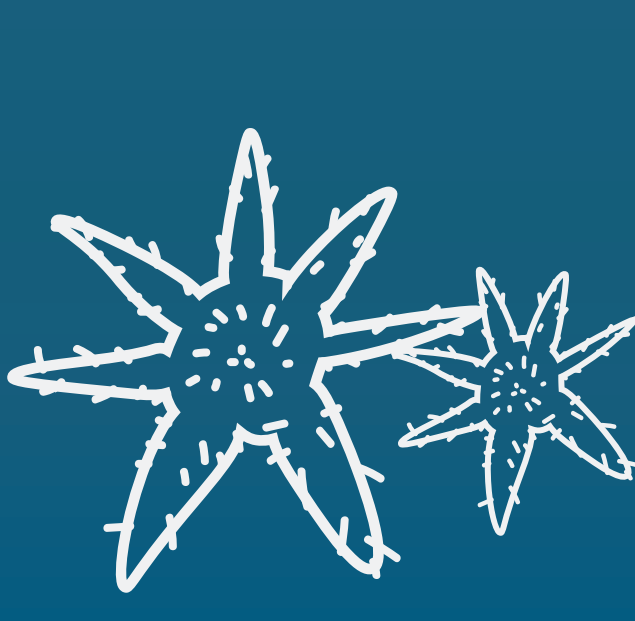


The GBR is a great area for seaports. But this also means there will be a lot of shipping and dredging occurring around these seaports. Shipping is damaging because of the pollution and chance of spills. Dredging kills coral ecosystems.

Projected Shipping Vessels



Crown-of-thorns Starfish



Crown-of-thorns Starfish are an invasive starfish species that heavily feed on coral. They thrive in areas that have high sediments and pollutants.

Outbreaks (1998–2011)

