

Coral bleaching impacts 98% of Great Barrier Reef: study

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The frequency, intensity and scale of climate-fuelled marine heatwaves that cause coral bleaching are increasing, researchers say.

Coral bleaching has affected 98 percent of Australia's Great Barrier Reef since 1998, leaving just a fraction of the world's largest reef system

untouched, according to a study published Friday.

The paper in the peer-reviewed journal *Current Biology* found that just two percent of the vast underwater ecosystem had escaped impacts since the first mass coral bleaching event in 1998—then the world's hottest year ever, a record that has repeatedly been broken as [climate change](#) accelerates.

Lead author Terry Hughes, from the ARC Centre of Excellence for Coral Reef Studies at James Cook University, said the frequency, intensity and scale of climate-fuelled marine heatwaves that cause [coral bleaching](#) are increasing.

"Five bouts of mass bleaching since 1998 have turned the Great Barrier Reef into a checkerboard of reefs with very different recent histories, ranging from two percent of reefs that have escaped bleaching altogether, to 80 percent that have now bleached severely at least once since 2016," he said.

Bleaching occurs when healthy corals become stressed by spikes in ocean temperatures, causing them to expel algae living in their tissues which drains them of their vibrant colours.

The Great Barrier Reef has suffered three mass bleaching events during heatwaves in 2016, 2017 and 2020, leaving many affected corals struggling to survive.



Bleaching occurs when healthy corals become stressed by spikes in ocean temperatures.

Government scientists said in July that corals have shown some signs of recovery since the last bleaching but admit the long-term outlook for the 2,300-kilometre-long (1,400-mile-long) ecosystem is "very poor".

The [reef](#) is also susceptible to harm from cyclones and outbreaks of crown-of-thorns starfish, which eat the [coral](#), with both factors becoming more damaging due to climate change.

The research found corals that had previously been exposed to heatwaves were less susceptible to heat stress, but co-author Sean Connolly, from the Smithsonian Tropical Research Institute, warned more frequent and

severe bleaching would reduce the reef's resilience.

"Corals still need time to recover before another round of heat stress so they can make babies that will disperse, settle and recover the depleted parts of the reef," he said.

"Action to curb climate change is crucial."

The findings come during a landmark United Nations climate summit in Glasgow, Scotland, where Australia committed to reaching net zero carbon emissions by 2050 but failed to announce a more ambitious 2030 target.

One of the world's biggest exporters of coal and gas, Australia's economy is heavily reliant on fossil fuels and its conservative government has been reluctant to kick the country's addiction.

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