

Cop27: coral conservation groups alarmed over ‘catastrophic losses’

World faces ‘stark reality that there is no safe limit of global warming for coral reefs’, says researcher

by **Oliver Milman** in Sharm el-Sheikh

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Thu 17 Nov 2022 13.00 GMT



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ou don't have to travel far from the sprawling convention center that's staging the UN climate talks in Sharm el-Sheikh, **Egypt**, to see what's at stake. This coastal resort town is fringed by an ecosystem seemingly facing worldwide cataclysm from global heating – coral reefs.

As negotiators haggle over an agreement that may or may not maintain a goal to restrain global temperature rise to 1.5C above pre-industrial levels, the nearby corals face a more brutally unyielding scenario.

Even if the 1.5C limit is kept, more than 90% of worldwide reefs will be destroyed by severe aquatic heatwaves with the more likely temperature increase of 2C, meaning all coral formations will face their doom. We face the “stark reality that there is no safe limit of global warming for coral reefs” as Adele Dixon, a researcher at University of Leeds' School of Biology, put it after unveiling this **grim research earlier this year**.

A coalition of coral conservation groups have used the **Cop27** summit in Egypt to express alarm over “catastrophic losses” in coral cover – half the world's reefs are thought to have died in the past three decades – and call for radical action in a decade they call “the last chance for a turning point in favour of coral reef survival”. Governments must speed up efforts to expand marine protected areas, cut water pollution and restore corals, the coalition has demanded.

The corals found off the coast of Sharm el-Sheikh, part of the 4,000km Red Sea network of corals that has 200 species of coral just off Egypt alone, **are considered by scientists to be more resilient to global heating** than reefs found elsewhere in the world, such as the Great Barrier Reef in Australia, which has suffered **four mass bleaching events in the past six years**. Bleaching occurs when coral becomes so heat-stressed it expels its symbiotic algae which gives it color, turning it ghostly white and putting it at risk of death.

About 2.5m years ago, sea levels fell and the Red Sea was cut off from the Indian Ocean, making it very hot and salty. Corals that have endured here were the ones able to withstand high levels of heat. The Red Sea could be the last place where significant corals are left clinging on as the world barrels towards climate breakdown.

But even here, there are signs of stress. As Simon Donner, a climate scientist and coral reef expert at the University of British Columbia, took a break from the Cop negotiations by snorkeling on the southern tip of the Sharm El-Sheikh peninsula, he spotted signs of disease and possible heat-related damage to corals that closely hug the shoreline.

“As you go in towards the shore, there’s very little living coral,” Donner said as he surveyed the shelf of dull white corals that stretched towards a beach thronged with mostly Russian and Italian tourists. “The living corals are small in size and there’s a lot of dead area on the reef.”

Large resorts dot the Sharm el-Sheikh coastline and tourists trampling on corals, along with pollution discharged directly into the water from hotels and other developments, has degraded these reefs. Donner said these localized impacts do play a role – he gets more questions about the harms of wearing sunscreen when diving near corals than anything else – but that the climate crisis is the overwhelming cause of coral decline.

“It’s a little bit of tourism, but it’s mostly climate change,” he said. “If we can reduce the direct human impacts, reefs have a better chances of surviving climate change. But if we don’t do something about greenhouse gas emissions, it’s not going to make a difference.”

Most of the universe of coral reefs, and their benefits, lies far from the curious eyes of tourists at all-inclusive resorts. More than half a billion people worldwide rely upon reefs as vital habitat for the fish they catch, with numerous coastal communities shielded from powerful coastal storms by the barrier of reef structures. Despite covering a small fraction of the ocean, about a quarter of all marine life, including the colorful fish that flit around the patchy reefs around Sharm el-Sheikh, are found around coral habitat.

Some remote, sheltered corals might remain in far reaches of the oceans if the temperature rise is constrained, but we are heading for a largely coral-less world. Donner pondered this as he emerged from the crystalline water to dry off, change and join the thousands of other delegates at the Cop27 talks. “The decisions that are being made inside that conference centre are going to determine the future of an ecosystem right off the coast here,” he said.