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Responsibility

# Experts: World's coral reefs could vanish by 2050 without climate action

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By Responsible Seafood Advocate

## Up to 90 percent of coral reefs worldwide could become 'functionally degraded' if Paris Agreement goals aren't met

Coral reefs are a vital source of food, livelihood and cultural heritage for half a billion people on the planet and are significant for the survival of marine species. But forecasts by an international team of environmental scientists indicate that the world's coral reef ecosystems are likely to become "functionally degraded" by 2050 if the Paris Agreement goals are not met.

"Coral reefs are the 'canaries in the coal mine' when it comes to sensing ecosystems under stress from ocean warming due to climate change," said Jens Zinke, co-author of the report and professor of palaeobiology at the University of Leicester. "Corals can sense when ocean temperatures exceed a dangerous threshold and warn us when we need to take measures."

Even with aggressive emission reductions to ensure global warming is kept within 1.5°C above pre-industrial levels, the team warns that up to 90 percent of corals could still vanish in the next three decades, leaving behind a reef structure that will lose many of its functions.

The **Vibrant Oceans Initiative** (<https://www.bloomberg.org/environment/protecting-the-oceans/vibrant-oceans/coral-conservation/>), presented its **white paper** ([https://c532f75abb9c1c021b8c-e46e473f8aad72cf2a8ea564b4e6a76.ssl.cf5.rackcdn.com/2022/04/11/2ei8gai5sx\\_Final\\_50\\_Reefs\\_Science\\_Whitepaper.pdf](https://c532f75abb9c1c021b8c-e46e473f8aad72cf2a8ea564b4e6a76.ssl.cf5.rackcdn.com/2022/04/11/2ei8gai5sx_Final_50_Reefs_Science_Whitepaper.pdf)) on the future of the delicate and crucial habitats at the 2022 Our Oceans Conference held in Palau. Drawing on expertise from universities and wildlife conservation groups worldwide, the paper outlines six key recommendations intended to promote the "persistence and survival" of coral reefs:



(<https://www.o3illc.com/seafood>).



The bleaching of branching coral (*Acropora* sp.) is hastened by rising ocean temperatures. An international team of environmental scientists warn that the world's coral reefs are likely to disappear by 2050 without climate action. Photo by J. Roff, via Wikimedia Commons.

- Continuation of the 50 Reefs approach as “climate change avoidance sanctuaries” as a priority for investment in coral reef conservation.
- Expansion of the 50 Reefs conservation portfolio for climate change to include coral resistance and recovery sanctuaries.
- Increase in support for regional evaluations of the health of the 50 Reefs portfolio, and sustainable financing initiatives to support the implementation of regional portfolios.
- Catalyzing large-scale, data-driven coral reef monitoring efforts to test and develop new models and predictions of climate sanctuaries.
- Use of the latest climate coral reef science to guide investments, especially as the impacts of climate change accelerate and produce novel environmental stresses and responses among reefs.
- Embracing a far-reaching approach to the management of 50 Reefs sites, including connections to broader seascapes, fisheries and water quality management, mitigation of other pressures (for example, industrial development), so that effective and equitable management has measurable benefits for coral reefs and coastal communities.

In 2018, the Vibrant Oceans group **identified 50 reefs** (<https://www.50reefs.org/map>) that are most likely to resist and survive climate change. The habitats are located largely in the Pacific and Indian oceans, with further reefs in the Caribbean and east of Africa. Previously the 50 reefs were mainly chosen at sites that escaped climate change. Now, the scientists call for a wider portfolio of reefs that should include resistant and fast-recovering reefs.

“Our research has shown that coral reefs have been severely impacted by ocean warming in the past three to four decades, yet some reef locations show lower rates of warming or benefit from mitigating circumstances due to local oceanography,” said Zinke. “Some reefs have the ability to resist or recover from thermal stress faster than others, and these reefs may serve as sanctuaries under future warming. This is a major new research direction – to find those locations and protect them before they are gone.”

Part of Bloomberg Philanthropies, the Vibrant Oceans Initiative works to “protect and restore the world’s ocean” by promoting ocean conservation, protecting resilient coral reef habitats and reducing the practice of harmful and illegal overfishing.

**[Read the full white paper here](https://c532f75abb9c1c021b8c-e46e473f8aadb72cf2a8ea564b4e6a76.ssl.cf5.rackcdn.com/2022/04/11/2ei8gai5sx_Final_50_Reefs_Science_Whitepaper.pdf)** ([https://c532f75abb9c1c021b8c-e46e473f8aadb72cf2a8ea564b4e6a76.ssl.cf5.rackcdn.com/2022/04/11/2ei8gai5sx\\_Final\\_50\\_Reefs\\_Science\\_Whitepaper.pdf](https://c532f75abb9c1c021b8c-e46e473f8aadb72cf2a8ea564b4e6a76.ssl.cf5.rackcdn.com/2022/04/11/2ei8gai5sx_Final_50_Reefs_Science_Whitepaper.pdf)).

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