

Crucial action needed for coral reefs

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Partial bleaching (white area) of *Pocillopora* sp. reef at Fakarava Atoll (Tuamotu Islands, French Polynesia). Credit: Thomas VIGNAUD/CNRS Photothèque

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An international group of scientific experts co-directed by CNRS oceanographer Jean-Pierre Gattuso has stated the requirements for coral reef survival in an article published in *Biological Conservation*. Over 500 million people rely on coral reefs for the protection they confer against submersion, the fishing resources they offer, and the tourism they help attract. Yet these ecosystems are among the most threatened by global warming: since the 1980s, there has been a rise in the number of bleaching episodes, during which corals expel the microscopic algae that keep them alive. While these events are reversible if the temperature change is only brief, prolonged bleaching can kill corals and the ecosystems associated with them.

The team of scientists, which comprises members of the Pew Marine Fellows Program and of the Ocean Solutions Initiative, modeled future reef changes for two CO₂ emission scenarios: the worst case and a scenario acceptable under the Paris Agreement. The former would lead to near extinction of reefs in 30 to 50 years, while the latter would give some corals time to adapt. Of the 16 possible actions for limiting the decline of [coral reefs](#) presented in the [scientific literature](#), a massive energy transition is the most effective and the only plausible one on the global scale.

Actions that may be taken on regional and local levels—e.g. designation of marine protected areas or selection of species best suited to new environmental conditions—may increase the adaptation potential of corals. The group asserts that saving reefs accordingly requires international political support, comparable to that rallied for campaigns against certain diseases.

More information: Joan Kleypas et al. Designing a blueprint for coral reef survival, *Biological Conservation* (2021). [DOI: 10.1016/j.biocon.2021.109107](https://doi.org/10.1016/j.biocon.2021.109107)

Provided by CNRS

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