

Global disparity in the resilience of coral reefs

George Roff and Peter J. Mumby

Marine Spatial Ecology Lab and Australian Research Council Centre of Excellence for Coral Reef Studies, School of Biological Sciences, University of Queensland, St Lucia, QLD 4072, Australia

The great sensitivity of coral reefs to climate change has raised concern over their resilience. An emerging body of resilience theory stems largely from research carried out in a single biogeographic region; the Caribbean. Such geographic bias raises the question of transferability of concepts among regions. In this article, we identify factors that might predispose the Caribbean to its low resilience, including faster rates of macroalgal growth, higher rates of algal recruitment, basin-wide iron-enrichment of algal growth from aeolian dust, a lack of acroporid corals, lower herbivore biomass and missing groups of herbivores. Although mechanisms of resilience are likely to be ubiquitous, our analysis suggests that Indo-Pacific reefs would have to be heavily degraded to exhibit bistability or undergo coral–macroalgal phase shifts.

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