

# Redefining Thermal Regimes to Design Reserves for Coral Reefs in the Face of Climate Change

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Reef managers cannot fight global warming through mitigation at local scale, but they can use information on thermal patterns to plan for reserve networks that maximize the probability of persistence of their reef system. Here we assess previous methods for the design of reserves for climate change and present a new approach to prioritize areas for conservation that leverages the most desirable properties of previous approaches. The new method moves the science of reserve design for climate change a step forwards by: (1) recognizing the role of seasonal acclimation in increasing the limits of environmental tolerance of corals and ameliorating the bleaching response; (2) using the best proxy for acclimatization currently available; (3) including information from several bleaching events, which frequency is likely to increase in the future; (4) assessing relevant variability at country scales, where most management plans are carried out. We demonstrate the method in Honduras, where a reassessment of the marine spatial plan is in progress.

Chollett I, Enríquez S, Mumby PJ (2014) Redefining Thermal Regimes to Design Reserves for Coral Reefs in the Face of Climate Change. *PLoS ONE* 9(10):e110634. doi:10.1371/journal.pone.0110634