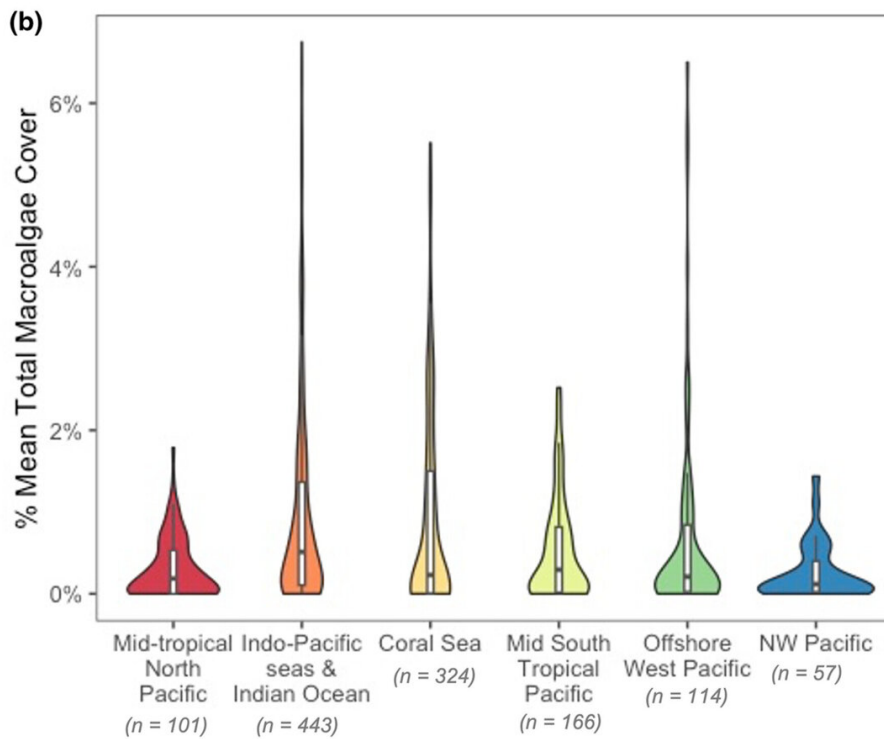
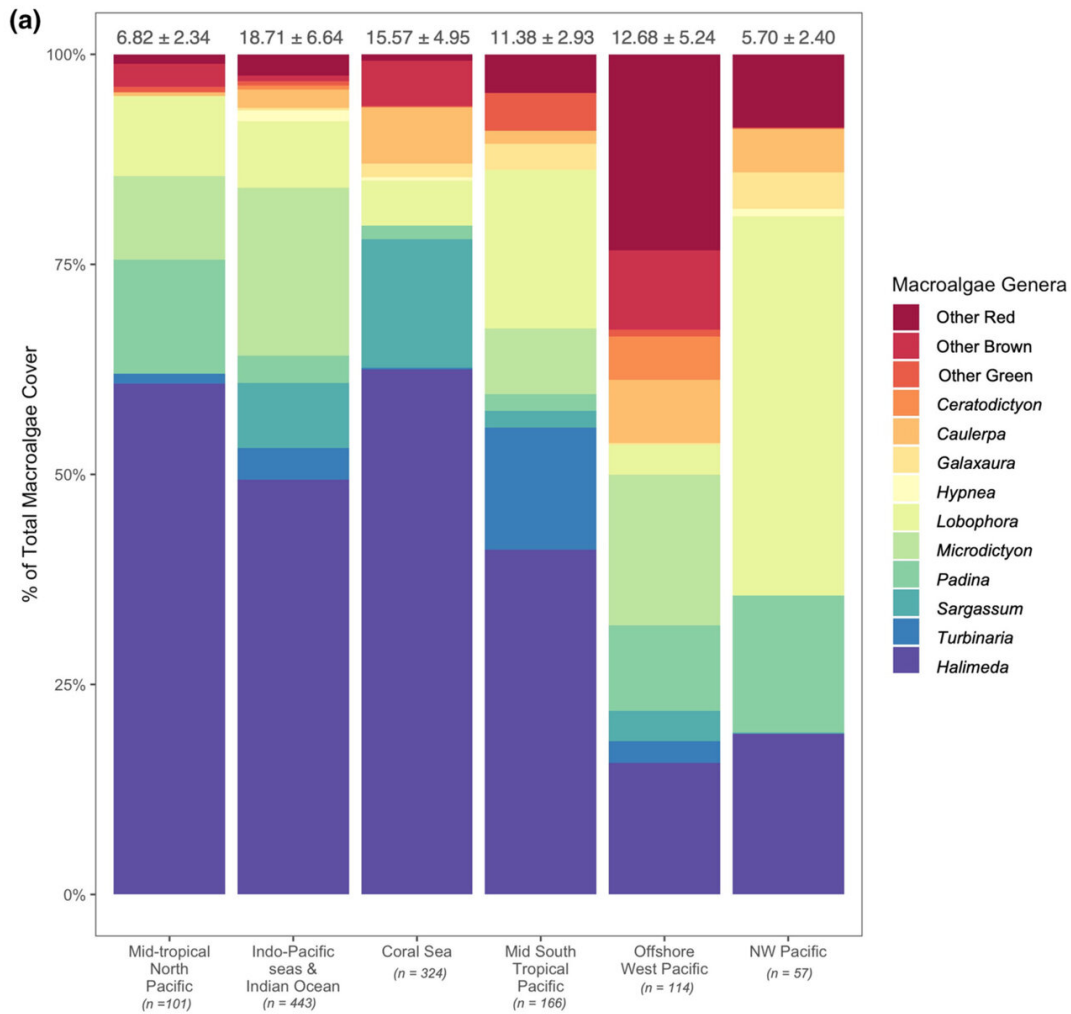


# How seaweed has been misleading scientists about reef health

May 4 2023, by Erik Rolfsen

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(a) Top 10 most common macroalgae taxa by biogeographic realm, with mean and standard deviation at the top of each bar. (b) Mean total macroalgae cover by site, grouped by biogeographic realms. Credit: *Global Change Biology* (2023). DOI: 10.1111/gcb.16694

For decades, scientists have looked to seaweed as an indicator of the health of coral reefs lying underneath.

But what if the seaweed was misleading them?

New UBC research reveals it was, and scientists need new ways to determine whether [human activity](#) is harming a particular reef.

"This is especially critical today, given that reefs globally are threatened by climate-driven stressors," said Dr. Sara Cannon, a postdoctoral fellow at the UBC Institute for the Oceans and Fisheries and the study's lead author.

## Local species behave differently

Seaweed belongs to a group of organisms called macroalgae. Macroalgae at the ocean's surface has long served as a proxy for reef health, because it is relatively quick and easy to measure. Since the 1970s, scientists have assumed that local human impacts increase macroalgae while simultaneously damaging underlying reefs.

However, the study just published in *Global Change Biology* looked at data from over 1,200 sites in the Indian and Pacific Oceans over a 16-year period and revealed that this approach is misleading and may

even have hidden signs of reef stress.

For example, macroalgae coverage depends heavily on the species growing in a particular area. Sargassum is less likely to grow in water contaminated by [agricultural runoff](#), but Halimeda will thrive. In both cases, a reef will suffer.

The global research team concluded that using macroalgae coverage as an indicator of local human impacts can actually obscure how much our actions are harming reefs, and cause scientists to misidentify the reefs most in need of intervention.

**More information:** Sara E. Cannon et al, Macroalgae exhibit diverse responses to human disturbances on coral reefs, *Global Change Biology* (2023). [DOI: 10.1111/gcb.16694](https://doi.org/10.1111/gcb.16694)

Provided by University of British Columbia

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