ICRS 2022- Abstract -

Title: A global review of coral bleaching field surveys methods

Authors: Rivera-Sosa, Fox, Bonelli, Muñiz-Castillo, Charo, Darling, Roelfsema, Donner, Asner.

Massive coral bleaching events are becoming more severe and frequent due to extreme marine heat waves caused by climate change. A united global response from marine scientists, practitioners, and policymakers is urgently needed. Numerous studies have highlighted the lack of comparability and the need for global integration of coral monitoring strategies. In this study, we helped address this gap by comprehensively reviewing coral bleaching field survey methods as a first step for global ground-truthing of the Allen Coral Atlas (the Atlas) satellite-based bleaching monitoring tool. To do this, we implemented both qualitative and quantitative approaches to assess the most commonly applied survey methods in published literature as well as those used by key monitoring programs and organizations at the global scale. First, we qualitatively surveyed (300+) coral reef scientists and managers across the world to capture practical experience and field survey methods used. We then performed a quantitative analysis using a recently published global coral-bleaching database (van Woesik and Kratochwill, 2022) to identify the spatial and temporal distribution of survey methods used. Our analysis identifies strengths, limitations, intended audiences, and scale of application, among other indicators. Special attention was paid to survey methods that are most useful for coral bleaching sensitivity analysis and those most appropriate for validating satellite-based products. Initial results show photo quadrats as one of the common methods, in addition to belt and line transects. Our work provides a thorough synthesis, typology, and classification scheme for coral bleaching field methods used at the global scale that could be used for the validation of the Atlas coral bleaching detection tools.

Planning to submit to session

15F - How has mass coral bleaching changed through time and how is it expected to progress into the future: Tools, products, and analyses. William Skirving 1, Mark Eakin2, Ove Hoegh-Guldberg3, Simon Donner4, Neal Cantin5

Content and format Do not use the title or the name(s) of the author(s) in the text body of the abstract. Maximum length of title: 150 characters (including spaces).

Please phrase clearly and concisely the questions, the methods used, the results and the conclusion of each abstract.

Avoid using non-standard abbreviations. Maximum length of content: 2500 characters (including spaces).