



## SCORE-REEF

Spatio-temporal variability of coral reefs at the global scale: causalities, idiosyncrasies and implications for ecological indicators

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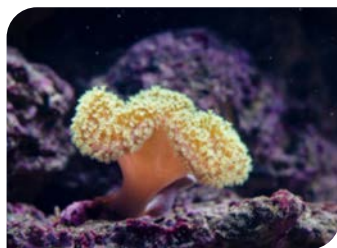
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Coral reefs host the highest biodiversity in the marine realm, and provide crucial services (e.g. edible biomass) that sustain 500 million people worldwide<sup>1</sup>. However, reefs are rapidly degrading due to climate-induced disturbance events and a backdrop of chronic stress (e.g. overfishing, increased nutrient loads). **This would require a set of complementary indicators evaluating the multi-faceted status of reefs in both terms of taxonomic and functional diversity.** Such indicators should be built using large-scale and long-term datasets to capture a wide range of environmental, biogeographical and anthropogenic conditions.

In SCORE-REEF, we will aim for this, by merging global-scale spatial databases on coral reef benthic and fish assemblages and long-term datasets derived from monitoring programs running in the French Territories and other regions. We will:

- evaluate the quality, relevance and the consistency of available datasets and systematically evaluate existing indicators;
- assess the temporal dynamics of coral reef benthic and fish assemblages using taxonomic, functional and phylogenetic approaches to define ecoregions;
- develop region-specific indicators of coral reef health and resilience accounting for both taxonomic, functional and phylogenetic facets of biodiversity with regard to human impacts and to environmental variability;
- test for the relevance and temporal stability of indicators used within the context of the European Water Framework Directive, GCRMN and MPA monitoring.

SCORE-REEF plan to directly meet managers and stakeholders (representing MPAs, IFRECOR and WFD) during the project to jointly evaluate environmental policies and propose co-defined indicators and metrics.

**CESAB**

*CESAB (Centre for the Synthesis and Analysis of Biodiversity) is FRB's flagship program and an internationally renowned research center whose objective is to implement innovative work to synthesize and analyze existing data sets in biodiversity research.*

