

# New study predicts where corals can thrive

April 16 2008

---

The Wildlife Conservation Society (WCS) and the International Institute for Geo-Information Science and Earth have developed a new scientific model that accurately maps where coral reefs are in the most trouble and identifies regions where reefs can be protected best. The model, which is being applied in areas throughout the Indian Ocean, is described in a recent issue of the UK-based journal *Ecological Modelling*.

The model synthesizes several ocean conditions, such as seawater temperatures, photosynthetic and ultraviolet light, winds and currents, and the concentration of microscopic plankton on the ocean's surface. These data were factored into previous reports of coral stress or bleaching and were then used to map the distribution of these inhospitable conditions.

The researchers found that much of the northern Indian Ocean contains very stressful environments for corals and that half of its marine parks with the strictest regulations are found within these harsh areas. Areas of the Maldives and the Seychelles fall in the middle of the most severe conditions; these include some of the best coral reef parks and diving spots. In an area east and just north of Madagascar lie the least-stressed reefs, which include those off the islands of Mauritius, Rodrigues, and Reunion. These are now among the reefs the model identifies as the highest priority for conservation.

Corals have been devastated in large areas across the world. Disappearing at rates up to 5.4 percent per year over the past 30 years, they are among the earliest victims of climate change. Bleaching, which

climate change exacerbates, occurs when corals become so stressed that they eject the beneficial algae that give them their color. This eventually causes large sections of the reefs to lose much of their biodiversity.

“Despite the large areas in high and severe stress, the model suggests that there are some reefs with less stressful conditions and more reasons for hope,” said WCS researcher Dr. Timothy McClanahan, one of the study’s authors.

Source: Wildlife Conservation Society

Citation: New study predicts where corals can thrive (2008, April 16) retrieved 14 May 2024 from <https://phys.org/news/2008-04-corals.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.