

Clue: A major city



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Human activity blamed for decline of coral reefs

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The Guardian, Wednesday January 9 2008

Caribbean coral reefs have suffered significant damage from over-fishing and run-off from agricultural land, according to a study of 322 sites across 13 countries. The study provides compelling evidence that proximity to a large human population spells bad news for the survival of reefs.

"It is well acknowledged that coral reefs are declining worldwide but the driving forces remain hotly debated," said author Camilo Mora at Dalhousie University, Halifax, Canada. "In the Caribbean alone, these losses are endangering a large number of species, from corals to sharks."

He estimates that the reefs provide \$4bn in so-called ecosystem services - quantifiable benefits in terms of fishing, tourism and protecting the coast from storms.

Numerous threats to coral reef ecosystems have been identified previously including over-fishing, rising sea temperatures due to climate change, and pollution, but his team aimed to go beyond local effects and identify significant factors at a regional level. The study used data on the health of corals, fish and large algae such as seaweed from 322 sites between 1999 and 2001.

The team then matched this with data on nearby coastal development, agricultural land use, environmental disasters such as hurricanes, and sea temperature. The results indicated that the number of people in close proximity to the reefs was the main factor governing declines in coral reefs.

Coral death was further accelerated by warmer waters, the team reports in Proceedings of the Royal Society of London B. Temperature increases lead to coral bleaching in which the corals lose the symbiotic algae they need to survive.

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