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Near Miss by Hurricane Can Bring a Big Chill to Overheated Coral Reefs

By HENRY FOUNTAIN
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Hurricanes are bad, right?

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Chris Gash

Well yes, they are. Very bad. But as Derek P. Manzello, a [University of Miami](#) researcher, and colleagues report, in one way at least they can be a force for good. They can benefit bleached coral reefs.

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[Hurricanes Benefit Bleached Corals](#) (PNAS)

Bleaching, the loss of symbiotic algae from the coral animals, occurs when a reef is stressed, most commonly by warmer-than-normal water. Because algae provide most of the corals' food, bleaching can lead to the death of a reef, unless the water temperature returns to normal and algae can repopulate the coral.

That's where [hurricanes](#) come in. Their intense winds act as egg beaters in the ocean, bringing colder water up from the deep with the result that surface waters get cooler.

Of course, a direct hit by a hurricane wouldn't be good for a reef. But Mr. Manzello, a doctoral student at the university's Rosenstiel School of Marine and Atmospheric Science, wondered whether a reef that was close, but not too close, to a storm might be helped by this cooling effect.

He and his colleagues used data from a long-term monitoring project at reefs off the Florida Keys. They found that all hurricanes and tropical storms that passed within about 450 miles of the reefs caused surface-water cooling, with the greatest effect — a drop in average temperatures of as much as 5.5 degrees Fahrenheit — from storms that passed within 250

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miles.

The cooling effect lasted up to 40 days, depending on distance from the storm's center track. The [findings](#) are published in The Proceedings of the National Academy of Sciences.

The Florida reefs were hit hard by bleaching in 2005, as were reefs off the United States Virgin Islands. But that fall, Hurricanes Rita and Wilma passed near the Florida reefs.

The researchers found that these reefs recovered almost completely, while the Virgin Islands reefs, which were much farther away, did not.

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