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Strong Hurricanes Getting Stronger; Warming Is Blamed

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for [National Geographic News](#)

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[Global warming](#) is causing powerful [hurricanes](#) to become even more intense, a new study says.

Warmer seawater has boosted the average wind speed of powerful hurricanes from 140 miles (225 kilometers) an hour in 1981 to 157 miles (253 kilometers) an hour in 2007, according to the study's lead author, geographer James Elsner of Florida State University.

Hurricanes—called typhoons in the northwestern Pacific Ocean and tropical cyclones in parts of the Indian ocean—derive their strength from water that has been heated to at least 80 degrees Fahrenheit (about 28 degrees Celsius).

[Global warming](#) has caused the global ocean temperatures to increase by an average of a third of a degree Celsius (about a half a degree Fahrenheit), and this change has fueled the increase in hurricane intensity, Elsner said.

Southeastern U.S., Caribbean, and Mexico Suffer

The trend toward stronger hurricanes is particularly notable in the North Atlantic Ocean—the source of hurricanes that strike the U.S. East Coast, Gulf of Mexico, and Caribbean ([regional map](#))—Elsner said.

Because it is relatively cool, the North Atlantic hasn't traditionally produced many intense hurricanes. The presence of more powerful storms in the Atlantic in recent years is a clear indication that the ocean is warmer than it was 26 years ago, Elsner said.

The new findings are based on 26 years of data from weather satellites—a fact welcomed by meteorologist Kerry Emanuel of the Massachusetts Institute of Technology.

Emanuel said the use of satellite data, which is seen as more standardized than other hurricane yardsticks, solved the problem of inconsistencies in data used in earlier studies—including his own.

However, the new study, published today in the journal *Nature*, did not factor in weather conditions that typically suppress Atlantic hurricane formation, such as El Niño events. During El Niños, flows of abnormally warm surface Pacific waters temporarily change global weather patterns.

(Related: "[Global Warming Link to Hurricane Intensity Questioned](#)" [July 28, 2006].)

Blame Global Warming?

The stormy hurricane seasons of 2004 and 2005—the year of [Hurricane Katrina](#)—intensified a continuing debate about whether global warming is affecting hurricane formation.

Some scientists say that the increasing intensity of hurricanes since 1995 is part of a natural storm cycle that waxes and wanes every 25 or 30 years.

MIT's Emanuel, who is well known for supporting the idea that warming is intensifying hurricanes, said the new report is "further evidence for the effect of global warming on hurricane intensity.

"This study offers definitive evidence that there are more of the very strongest hurricanes around the world, even though the total number of storms globally shows hardly any trend."

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