Study: Warming to bring stronger hurricanes

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In this Aug. 16, 2004 file photo, an oceanfront home damaged by Hurricane Charley is seen in Oak Island, N.C. Top researchers now agree that the world is likely to get stronger, but fewer, hurricanes in the future because of global warming, seeming to settle a scientific debate on the subject. (AP Photo/Sara D. Davis, File)

(AP) -- Top researchers now agree that the world is likely to get stronger but fewer hurricanes in the future because of global warming, seeming to settle a scientific debate on the subject. But they say there's not enough evidence yet to tell whether that effect has already begun.

Since just before Hurricane Katrina hit Louisiana and Mississippi in 2005, dueling scientific papers have clashed about whether global warming is worsening hurricanes and will do so in the future. The new study seems to split the difference. A special World Meteorological Organization panel of 10 experts in both hurricanes and climate change - including leading scientists from both sides - came up with a consensus,

which is published online Sunday in the journal *Nature Geoscience*.

"We've really come a long way in the last two years about our knowledge of the hurricane and climate issue," said study co-author Chris Landsea, a National Oceanic and Atmospheric Administration top hurricane researcher. The technical term for these storms are tropical cyclones; in the Atlantic they get called hurricanes, elsewhere typhoons.

The study offers projections for tropical cyclones worldwide by the end of this century, and some experts said the bad news outweighs the good. Overall strength of storms as measured in wind speed would rise by 2 to 11 percent, but there would be between 6 and 34 percent fewer storms in number. Essentially, there would be fewer weak and moderate storms and more of the big damaging ones, which also are projected to be stronger due to warming.

An 11 percent increase in wind speed translates to roughly a 60 percent increase in damage, said study co-author Kerry Emanuel, a professor of meteorology at MIT.

The storms also would carry more rain, another indicator of damage, said lead author Tom Knutson, a research meteorologist at NOAA.

Knutson said the new study, which looks at worldwide projections, doesn't make clear whether global warming will lead to more or less hurricane damage on balance. But he pointed to a study he co-authored last month that looked at just the Atlantic hurricane basin and predicted that global warming would trigger a 28 percent increase in damage near the U.S. despite fewer storms.

That study suggests category 4 and 5 Atlantic hurricanes - those with winds more than 130 mph - would nearly double by the end of the century. On average, a category 4 or stronger hurricane hits the United

States about once every seven years, mostly in Florida or Texas. Recent category 4 or 5 storms include 2004's Charley and 1992's Andrew, but not Katrina which made landfall as a strong category 3.

Outside experts praised the work.

The study does a good job of summarizing the current understanding of storms and warming, said Chunzai Wang, a researcher with NOAA who had no role in the study.

James Lee Witt, former director of the Federal Emergency Management Agency, said the study "should be a stern and stark warning that America needs to be better prepared and protected from the devastation that these kinds of hurricanes produce."

The issue of hurricanes and global warming splashed onto front pages in the summer of 2005 when MIT's Emanuel published a paper in Nature saying hurricane destruction has increased since the mid-1970s because of global warming, adding it would only get worse.

Several weeks later Hurricane Katrina struck, killing 1,500 people and the 2005 hurricane season was the busiest on record with 28 named storms and seven major hurricanes. But then other scientists led by Landsea disputed the conclusions that storms were already increasing in number or intensity.

Now Landsea and Emanuel are co-authors on the same paper with Knutson.

In 2007, the authoritative Intergovernmental Panel on Climate Change said it was "more likely than not" that man-made greenhouse gases had already altered storm activity, but the authors of the new paper said more recent evidence muddies the issue.

"The evidence is not strong enough that we could make some kind of statement" along those lines, Knutson said. It doesn't mean the IPCC report was wrong; it was just based on science done by 2006 and recent research has changed a bit, said Knutson and the other researchers.

Lately, the IPCC series of reports on warming has been criticized for errors. Emanuel said the international climate panel gave "an accurate summary of science that existed at that point."

More information: Nature Geoscience: http://www.nature.com/ngeo