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Climate Researcher Sees No End in Sight for Warmer Seas, Stronger Hurricanes

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WASHINGTON May 23 (BestWire) — Research into the link between hurricane activity and warming sea-surface temperatures suggests the theory of decades-long, alternating cycles of strong and weak storm seasons may be false, according to one prominent climatologist.

In a conference call with members of the press, Massachusetts Institute of Technology professor Kerry Emanuel said he now believes there is insufficient evidence to support the existence of "multidecadal oscillation," the cyclical model that meteorologists long have used as the basis of seasonal storm forecasts for the Atlantic hurricane season.

Rather than predictable cycles of more and less active hurricane seasons, Emanuel said his research has led him to conclude the long-term trend is heading inexorably in a single direction — toward warmer sea temperatures, and more numerous and powerful Atlantic storms.

While conceding there was a marked decrease in hurricane activity from roughly 1955 to sometime between 1985 and 1990, Emanuel attributed that effect to cooling caused by increases in both volcanic eruptions and human emissions of sulfate aerosols during the earlier time period. However, since that time, aerosol pollution has been overwhelmed by effect of increased production of greenhouse gases, Emanuel said.

Should warmer sea temperatures be driving more active hurricane seasons far into the future, the inevitable result would be catastrophes even larger than the \$55 billion in insured damage caused by the 2006 storms, said Evan Mills, a staff scientist with the U.S. Department of Energy's Lawrence Berkeley National Laboratory.

Mills, who was convening author for the Intergovernmental Panel on Climate Change's Third Assessment Report, observed there is roughly \$2 trillion in insured coastal property in New York and Florida, while Mississippi, Louisiana and Georgia combine for only a fraction of that total.

Moreover, Mills said, the threat that Gulf Coast storms present to the already vulnerable U.S. energy markets was underscored by hurricanes Katrina and Rita, which took a combined toll of 114 offshore platforms destroyed, 59 damaged, 19 set adrift and three still classified as "missing."

Emanuel's comments came during a press briefing hosted by Clear the Air, a Washington-based public education campaign that disseminates information about global warming. They also came on the heels of the National Oceanic and Atmospheric Administration's 2006 Atlantic storm forecast of 13 to 16 named storms, eight to 10 hurricanes and four to six major hurricanes of Category 3 or greater strength.

Colorado State University's Tropical Meteorology Project previously predicted 17 named tropical storms, with nine hurricanes and five intense hurricanes in 2006 (BestWire, April 4, 2006).

Both NOAA administrator Conrad C. Lautenbacher and William Gray, head of the Colorado State team, have expressed skepticism of claims by Emanuel and other researchers that global warming is exerting a detectable influence on Atlantic storm patterns. Gray has noted that tropical cyclones worldwide have decreased slightly since 1995, and that measured global warming during the 25-year period of 1970-1994 was accompanied by a downturn in Atlantic basin hurricane activity.

But according to Peter Webster of the Georgia Institute of Technology, comparing the 1995-2004 period with the last "busy" period for storms in the 1950s shows a doubling of both the number of storms and the number of Category 4 and 5 storms across all of the hurricane basins.

Webster said a paper he is publishing in a forthcoming issue of the journal Science documents that, since 1915, the length of the hurricane season has increased by about 5.5 days per decade, and that the trend has grown even more rapid over the past 30 years.

Emanuel attributed the disagreement among scientists to a "cultural difference" between climate researchers and meteorologists. To the latter, he noted, sea surface temperatures prove a relatively minor factor in making predictions when compared with wind shears or the incursion of dry air.

"What they haven't come around to realize is that, looking at the aggregate behavior over a longer period of time, those other factors tend to average out, and you see this strong, undeniable connection to sea surface temperature, and it takes a while for that to sink in," Emanuel said.

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