

FOR IMMEDIATE RELEASE

September 6, 2005

Linkage Between Hurricanes and Global Warming Tenuous

The extensive damage in the United States caused by recent hurricanes once again raises the question of whether these storms are caused by changes in climate, specifically the heating of seawater due to global warming. The clear answer is no.

The devastation wrought by storms like Hurricane Katrina need to be addressed in their own right and not exploited by those with a political agenda relating to global warming.

There are well-understood and scientifically proven explanations for the frequency and violence of recent hurricanes, as follows:

1) Hurricane frequency rises and falls in cycles; we are currently in a ‘high’ cycle.

“We haven’t really seen a long-term increase in hurricane frequency over the 20th century. Instead, we see periods of high hurricane activity that last for several decades followed by periods of low hurricane activity. Unfortunately, during the mid-1990s it looks like we reentered an active phase that will persist for some time.”

‘Hurricanes and Global Warming,’ *Pew Center, Global Climate Change*
<http://www.pewclimate.org/hurricanes.cfm>

“Instead, the severity of hurricane seasons changes with cycles of temperatures of several decades in the Atlantic Ocean. [...] The recent onslaught “is very much natural,” said William M. Gray. From 1970 to 1994, the Atlantic was relatively quiet, with 38 major hurricanes, but no more than 3 major hurricanes in any year and none in 3 of those years. Cooler water in the North Atlantic strengthened wind shear, which tends to tear storms apart before they turn into hurricanes. In 1995, hurricane patterns reverted to the active mode of the 1950s and 1960s. From 1995 to 2003, 32 major hurricanes, with sustained winds of 111 mph or greater, stormed across the Atlantic. It was chance, Gray said, that only three struck the United States at full strength. Historically, the rate has been one in three. “We were very lucky in that eight-year period, and the luck just ran out,” Gray said. “We always thought it would run out.”

“Recent onslaught of storms is ‘natural’”
Kenneth Chang, *New York Times*, August 30, 2005

“The agency [NOAA] believes that the [recent] increase in hurricanes is most likely the result of a natural confluence of cyclical ocean and atmospheric conditions that tend to produce

heightened tropical storms every 20 to 30 years. If global warming is playing any role in the hurricanes, it is a minor one, the federal agency maintains.”

‘Bigger storms: A result of global warming or natural cycles?’
Miguel Bustillo, *Los Angeles Times*, August 30, 2005

2) Science does not suggest a role for global warming in the current hurricanes.

“There has been an upswing in the Atlantic since 1995, and this year's bumper crop of storms has struck Florida in numbers and intensities seldom occurring before. A sign of things to come? According to Bill Gray, "Various groups and individuals have suggested that the recent large upswing in Atlantic hurricane activity (since 1995) may be in some way related to the effects of increased man-made greenhouse gases such as carbon dioxide (CO₂). There is no reasonable scientific way that such an interpretation of this recent upward shift in Atlantic hurricane activity can be made.”

‘Hurricanes and Global Warming: Is There a Link?’
George Taylor, *TechCentralStation.com*, August 2005

There are no known scientific studies that show a conclusive physical link between global warming and observed hurricane frequency and intensity. Whatever suggested changes in hurricane activity that might result from global warming in the future are quite small in comparison to the large natural variability of hurricanes, typhoons and tropical cyclones. For example, the latest GFDL global warming study suggested about a 5% increase in the winds of hurricanes 80 years in the future. This contrasts with the more than doubling that occur now in numbers of major hurricanes between active and quiet decades in the Atlantic basin.

If global warming is influencing hurricane activity, then we should be seeing a global change in the number and strength of these storms. Yet there is no evidence of a global increase in the strength and frequency of hurricanes, typhoons, and tropical cyclones over the past several years.

‘Hurricanes and Global Warming,’ Chris Landsea, Posted January 19, 2005
(http://sciencepolicy.colorado.edu/prometheus/archives/climate_change/000322landsea_on_hurricane.html)

Kevin Trenberth, National Center for Atmospheric Research (NCAR), says (1) “there is no sound theoretical basis for drawing any conclusions about how anthropogenic climate change affects hurricane numbers or tracks, and thus how many hit land”; (2) “it is not yet possible to say how El Nino and other factors affecting hurricane formation may change as the world warms”; and (3) “our physical understanding suggests that the intensity of rainfall from hurricanes are probably increasing even if this increase cannot yet be proven”.

“Uncertainty in Hurricanes and Global Warming,” *Science*, June 17, 2005

Hurricane historian Jay Barnes of Pine Knoll Shores, North Carolina says that ocean heat is the key ingredient for hurricane formation. More heat could "generate more storms and more intense hurricanes." Numerous studies in recent years have found no evidence that the number of hurricanes and their northwest Pacific Ocean cousins, typhoons, is increasing because of the rise in global temperatures.”

‘Is Global Warming Making Hurricanes Worse?’
John Roach, *National Geographic News* August 4, 2005

"There is absolutely no empirical evidence. The people who have a bias in favor of the argument that humans are making the globe warmer will push any data that suggests that humans are making hurricanes worse, but it just isn't so," said William Gray. "A lot of my colleagues who have been around a long time are very skeptical of this idea that global warming is leading to more frequent or intense storms," Gray said. "These are natural cycles, not related to changes in global temperature. I can't say there is no human signal there, but it's minute."

'Bigger storms: A result of global warming or natural cycles?'
Miguel Bustillo, *Los Angeles Times*, August 30, 2005

Conclusion

"Raghavan and Rajesh (2003) recently stated in *Bulletin of the American Meteorological Society*: "Contrary to the common perception that tropical cyclones are on the increase, due perhaps to global warming, studies all over the world show that, although there are decadal variations, there is no definite long-term trend in the frequency or intensity of tropical cyclones over the period of about a century for which data are available."

Randall S. Cerveny, 'Severe Weather, Natural Disasters and Global Change' in *Shattered Consensus* (ed. Patrick Michaels), (in press) p. 113

"When an extreme weather event occurs, it is not unusual for people to ask if it is the result of global warming. [...] Our ability to predict the potential response of hurricanes to global warming is very limited, so there is little that can be said with confidence at the moment."

'Hurricanes and Global Warming,' *Pew Center, Global Climate Change*
<http://www.pewclimate.org/hurricanes.cfm>

"There is no need to invoke global warming to understand both the 10 years of active hurricane seasons and the destruction that occurred both in Florida and in Haiti this season. The former is due to natural cycles driven by the Atlantic Ocean and the latter is due to societal changes, not due to global warming."

'Hurricanes and Global Warming,' Chris Landsea, Posted January 19, 2005.
(http://sciencepolicy.colorado.edu/prometheus/archives/climate_change/000322landsea_on_hurricane.html)

The George C. Marshall Institute, a non-profit research group founded in 1984, is dedicated to fostering and preserving the integrity of science in the policy process. The Institute conducts technical assessments of scientific developments with a major impact on public policy and communicates the results of its analyses to the press, Congress and the public (www.marshall.org).

*The George C. Marshall Institute
1625 K Street, NW Suite 1050
Washington, D.C. 20006
www.marshall.org
(202) 296-9655*