

Global Warming and Hurricanes

Science-based analyses of America's key environmental issues

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Claims: *Global warming will lead to either more frequent or more intense Atlantic basin hurricanes. Global warming caused hurricane Katrina.*

Comments: *Claims of scientific consensus about catastrophic man-made global warming issued by professional alarmists, media, activist politicians and the UN IPCC appear insincere and agenda driven. If there is any area of climate science consensus, it is the absurdity in claims that global warming causes hurricane disasters like Katrina. Yet, this consensus is completely ignored in favor of willful fabrications. Alarmists continue to operate completely outside the scientific mainstream, but find favor in Congressional hearings.*

Update: **Christopher Landsea, a leading expert in the field has withdrawn from participation in the IPCC 4th Assessment Report (due out in late 2007), citing concerns the process has become too politicized and "motivated by pre-conceived agendas."**

Author of over 40 refereed scientific publications on the subject, and contributing editor in the last two IPCC Assessments, Landsea stated: "It is beyond me why my colleagues would utilize the media to push an **unsupported agenda** that recent hurricane activity has been due to global warming...making pronouncements far outside the current scientific understandings that...will *harm the credibility of climate change science* and...diminish our role in public policy."

Also, a paper just accepted for publication by **Roger Pielke Jr.** reiterates that the link between global warming and hurricanes is very weak, at best, and will likely remain so into the future: "Looking to the future, until scientists conclude (a) that there will be changes to storms that are significantly larger than observed in the past, (b) that such changes are correlated to measures of societal impact, and (c) that the effects of such changes are significant in the context of inexorable growth in population and property at risk, then **it is reasonable to conclude that the significance of any connection of human-caused climate change to hurricane impacts necessarily has been and will continue to be exceedingly small.**"

Kerry Emanuel of MIT answered these questions: **Q:** Is global warming *causing* more hurricanes? **A:** *No.* The global, annual frequency of tropical cyclones (the generic, meteorological term for the storm that is called a tropical storm or hurricane in the Atlantic region) is about 90, plus or minus 10. There is *no indication whatsoever* of a long-term trend in this number. **Q:** Does this mean that we are seeing *more hurricane-caused damage* in the U.S. and elsewhere? **A:** There is a huge upward trend in hurricane damage in the U.S., but *all or almost all of this is due to increasing coastal population and building in hurricane-prone areas.* **Q:** I gather from this last discussion that *it would be absurd to attribute the Katrina disaster to global warming?* **A:** *Yes, it would be absurd.*

The intensity of Hurricanes over the Atlantic basin **did not increase** over time (from 1950 to 2002) when atmospheric carbon dioxide was rapidly increasing. **In fact, there is a slight decrease in the intensity** of the intense-hurricanes, thus dispelling the claim that with carbon dioxide global warming the coast of Florida will be increasingly damaged by more and more intense hurricanes.

In a November 2002 publication by Andrew Solow and Moore, it was concluded, "The detection of a trend in hurricane activity in the North Atlantic basin has been restricted by the incompleteness of record prior to 1946. In an earlier paper, the complete record of U.S. land falling hurricanes was used to extend the period of analysis back to 1930. In this paper, a further extension is made back to 1900. ... The results show **no significant trend** [emphasis added] in the basin wide hurricane activity over the period 1900-98." This historical extension further confirmed the fact that no extraordinary or unusual hurricane activities can be tied to the consequence of increasing atmospheric carbon dioxide.

Further, even in light of the global warming of the last hundred years, Easterling et al. (2000) report that “the number of intense and land falling Atlantic hurricanes has declined.” This is also the conclusion of Parisi and Lund (2000), relative to the time period 1935-1998. And in a detailed study of the period 1944-1996, Landsea et al. (1999) found **decreasing trends** for (1) the total number of hurricanes, (2) the number of intense hurricanes, (3) the annual number of hurricane days, (4) the maximum attained wind speed of all hurricanes averaged over the course of a year, and (5) the highest wind speed associated with the strongest hurricane recorded in each year. In addition, they determined that the total number of Atlantic hurricanes making landfall in the United States **decreased** over the extended period of time from 1899 to 1996, and that normalized trends of United States hurricane damage between 1925 and 1996 reveal such damage to be decreasing at a rate of 728 million dollars per decade.

Clearly, there appears to be little question but what **global warming in the past has tended to reduce both the frequency and intensity of Atlantic basin hurricanes**, as these many real-world studies spanning decades to millennia demonstrate.

In their review of Atlantic hurricane history, the Landsea research team, which includes some of the world’s top hurricane researchers, asked and then answered a series of questions pertaining to whether climate change policy would be an appropriate method for controlling future hurricanes(Landsea et al., 1999), one of which is:

Q: *Is there reason to believe that policymakers should expect the policy actions now being contemplated will reduce the number of and intensity of future hurricanes that will impact society?* **A:** There is **no evidence** to suggest that society can intentionally modulate tropical cyclone frequencies and magnitudes through energy policies. Therefore, policy responses to hurricanes ought to focus on the reduction of society’s vulnerability to hurricanes, rather than on prevention of the storms themselves. For instance, in the context of insurance, Henderson-Sellers et al. (1998) recommend a focus on “appropriate reserves and restrictive underwriting” rather than on accurate predictions, or by extension, on controlling future hurricane incidences.

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