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GEORGE SAPIO

Katrina and Global Warming

A global change scientist explains the connection.

BY JASON HAMILTON

It is hard to comprehend the magnitude of the disaster called Hurricane Katrina. More than 1,000 people lost their lives, and bodies are still being found. Hundreds of bodies have yet to be identified, hundreds of thousands of people are displaced from their homes, and hundreds of thousands are jobless.

As a global change scientist, I have been asked over and over if the Katrina disaster was caused by global warming. We hear about global warming in the media, at parties. It is being discussed at congressional hearings, in scientific journals, at the United Nations. People are concerned (with good reason) that the images of Katrina might be the images of future global climate change.

As I write this I am attending the United Nations Convention on Climate Change in Montreal. Ithaca College was accepted as an observer to the convention and, thanks to a most generous show of support by many parts of the college, four faculty and staff members are accompanying 18 IC students as official delegates. As the students are learning first-hand, climate change is really not a controversial issue. Global warming is real. It is already happening. We can see its effects, and international organizations are already working to help the countries of the world adapt. As far as the vast majority of the scientific community is concerned (including every major national academy of science in the world), global warming is here, it is primarily caused by people, and the only real question left is how bad is it going to get.

Because of their destructive nature, we have devoted much research to hurricanes and know a lot about them. We know the conditions under which they form, we know how they are powered, we can even generally predict how many there will be in a given season. Because we know that hurricanes are powered by heat in ocean water and that global warming is increasing the heat content of the oceans, scientists have worried for years that global warming might increase the intensity of hurricanes. But is it the case? Are we seeing more powerful hurricanes? Yes.

Ironically, just a couple of weeks before Katrina hit, the first observational study was published showing recent increases in hurricane intensity. Just after Katrina a separate study was published showing increased destructiveness of hurricanes.

Climate change is not a controversial issue; global warming is real.

Was Katrina caused by global warming? On an emotional level, ths what we all want to know. But that question is improperly asked. Let me give you an analogy. If a loved one of yours who smoked for several years developed lung cancer, could you say, with absolute certainty, that smoking caused her cancer? No. Some people who smoke would get cancer anyway, some people who smoke will never develop cancer, and some people who have never smoked will develop cancer. At present we can't make definitive statements about any particular occurrence of cancer, but we can say, for sure, that smoking increases one's chances of getting cancer.

While we can't ask whether or not Katrina was *caused* by global warming (because global warming doesn't work like that), it is probably the case that Katrina was made worse by global warming and that we will see more such killer hurricanes in the future.

So, what is the answer to the question, Was the Katrina disaster caused by global warming?

No.

In light of what I have just told you, how can I be so definitive? It is because whatever the connection between Katrina and global warming, it was not a natural disaster. The hurricane was "natural," but the disaster was a good old manmade one. We have known for years that Katrina (or her like) was coming. New Orleans has been sinking since the 1940s. In 1965 large parts of New Orleans were flooded by Hurricane Betsy—the United States' first billion-dollar hurricane. We knew the city's levees were designed to withstand only a fast-moving category 3 hurricane, and several federal agencies were well aware that there was no adequate evacuation plan for the poor of New Orleans. Add to this the predictions of climate scientists for increased hurricane intensity and rising sea levels from global warming, and the only question about Katrina was when.

Now we know: August 30, 2005. The next question is only, how long before it happens again?

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