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Roger Pielke: Hurricanes and Human Choice

Sandy was terrible, but we're currently in a relative hurricane 'drought.' Connecting energy policy and disasters makes little scientific sense.

By [ROGER PIELKE JR.](#)

Hurricane Sandy left in its path some impressive statistics. Its central pressure was the lowest ever recorded for a storm north of North Carolina, breaking a record set by the devastating "Long Island Express" hurricane of 1938. Along the East Coast, Sandy led to more than 50 deaths, left millions without power and caused an estimated \$20 billion or more in damage.

But to call Sandy a harbinger of a "new normal," in which unprecedented weather events cause unprecedented destruction, would be wrong. This historic storm should remind us that planet Earth is a dangerous place, where extreme events are commonplace and disasters are to be expected. In the proper context, Sandy is less an example of how bad things can get than a reminder that they could be much worse.

In studying hurricanes, we can make rough comparisons over time by adjusting past losses to account for inflation and the growth of coastal communities. If Sandy causes \$20 billion in damage (in 2012 dollars), it would rank as the 17th most damaging hurricane or tropical storm (out of 242) to hit the U.S. since 1900—a significant event, but not close to the top 10. The Great Miami Hurricane of 1926 tops the list (according to estimates by the catastrophe-insurance provider ICAT), as it would cause \$180 billion in damage if it were to strike today. Hurricane Katrina ranks fourth at \$85 billion.



EPA
A worker pushes water toward a storm drain on Wall Street as the city tries to recover from the effects of Hurricane Sandy in New York on Wednesday.

To put things into even starker perspective, consider that from August 1954 through August 1955, the East Coast saw three different storms make landfall—Carol, Hazel and Diane—that in 2012 each would have caused about twice as much damage as Sandy.

While it's hardly mentioned in the media, the U.S. is currently in an extended and intense hurricane "drought." The last Category 3 or stronger storm to make landfall was Wilma in 2005. The more than seven years since then is the longest such span in over a century.

Flood damage has decreased as a proportion of the

economy since reliable records were first kept by the National Weather Service in the 1930s, and there is no evidence of increasing extreme river floods. Historic tornado damage (adjusted for changing levels of development) has decreased since 1950, paralleling a dramatic reduction in casualties. Although the tragic impacts of tornadoes in 2011 (including 553 confirmed deaths) were comparable only to those of 1953 and 1964, such tornado impacts were far more common in the first half of the 20th century.

The United Nations Intergovernmental Panel on Climate Change reports that drought in America's central plains has decreased in recent decades. And even when extensive drought occurs, we fare better. For example, the widespread 2012 drought was about 10% as costly to the U.S. economy as the multiyear 1988-89 drought, indicating greater resiliency of American agriculture.

There is therefore reason to believe we are living in an extended period of relatively good fortune with respect to disasters. A recurrence of the 1906 San Francisco earthquake today, for example, could cause more than \$300 billion in damage and thousands of lives, according to a study I co-published in 2009.

So how can today's disasters, even if less physically powerful than previous ones, have such staggering financial costs? One reason: There are more people and more wealth in harm's way. Partly this is due to local land-use policies, partly to incentives such as government-subsidized insurance, but mostly to the simple fact that people like being on the coast and near rivers.

Even so, with respect to disasters we really do make our own luck. The relatively low number of casualties caused by Sandy is a testament to the success story that is the U.S. National Weather Service and parallel efforts of those who emphasize preparedness and emergency response in the public and private sectors. Everyone in the disaster-management community deserves thanks; the mitigation of the impacts from natural disasters has been a true national success story of the past century.

But continued success isn't guaranteed. The bungled response and tragic consequences associated with Hurricane Katrina tell us what can happen when we let our guard down.

And there are indications that we are setting the stage for making future disasters worse. For instance, a U.S. polar-satellite program crucial to weather forecasting has been described by the administrator of the federal agency that oversees it—the National Oceanic and Atmospheric Administration—as a "dysfunctional program that had become a national embarrassment due to chronic management problems." The lack of effective presidential and congressional oversight of this program over more than a decade can be blamed on both Republicans and Democrats. The program's mishandling may mean a gap in satellite coverage and a possible degradation in forecasts.

Another danger: Public discussion of disasters risks being taken over by the climate lobby and its allies, who exploit every extreme event to argue for action on energy policy. In New York this week, Gov. Andrew Cuomo declared: "I think at this point it is undeniable but that we have a higher frequency of these extreme weather situations and we're going to have to deal with it." New York Mayor Michael Bloomberg spoke similarly.

Humans do affect the climate system, and it is indeed important to take action on energy policy—but to connect energy policy and disasters makes little scientific or policy sense. There are no signs that human-caused climate change has increased the toll of recent disasters, as even the

most recent extreme-event report of the Intergovernmental Panel on Climate Change finds. And even under the assumptions of the IPCC, changes to energy policies wouldn't have a discernible impact on future disasters for the better part of a century or more.

The only strategies that will help us effectively prepare for future disasters are those that have succeeded in the past: strategic land use, structural protection, and effective forecasts, warnings and evacuations. That is the real lesson of Sandy.

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