

Understanding human nature when mother nature wreaks havoc

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StormView is a software program that gauges how residents of hurricane-prone regions might react in the event of an imminent storm. It was developed by University of Miami professor Kenny Broad and a number of collaborators, and supported with funding from the National Science Foundation (NSF) and the National Oceanic and Atmospheric Administration (NOAA).

The program is designed to be as realistic as possible in order to accurately assess how people would prepare for storms and respond to warnings. It includes TV meteorologist broadcasts, newspaper stories, web stories, bulletins from NOAA and even interactions with neighbors.

One of Broad's collaborators, Bob Meyer, a marketing professor at the University of Pennsylvania, describes how the idea developed in 2007. "I suggested doing a simulator for hurricanes like those used in the private sector to predict responses to new-to-the-world products (called "information acceleration"), where you watch hypothetical TV ads, talk to neighbors..." recalls Meyer, who specializes in risk management and decision making at the Wharton School of Business.

"One natural point of skepticism is the worry that the way people behave in the lab may not be how they react during real storms, so we started conducting real-time surveys of people as hurricanes were approaching the coast, and found that behavior in StormView really does mirror real world behavior, meaning heavy reliance on TV, surprisingly limited use of friends as a source of storm advice..." explains Meyer.

Meyer and Broad developed the program with the help of a third [collaborator](#), Ben Orlove, an [anthropologist](#) in Columbia University's Center for Research in Environmental Decisions, where Meyer and Broad are also affiliated.

"It is well-known that Americans are saturated with [visual information](#) in the media," notes Orlove. "Since [media images](#) are everywhere, it is hard to sort out their impact on warnings for potentially [deadly storms](#), such as hurricanes."

"For example, if one image is shown for one storm and a different image is shown for another storm, you can't tell whether responses vary because of the images, the storm, or something else going on at the time. But, with our simulator, we can randomly assign people to one image or another, and we can then assess the true impact of each image. In fact, we were surprised by what we found, and were able to make better recommendations for images that would truly resonate with people and get their attention," explains Orlove.

"Despite the good intentions of meteorologists, many citizens misunderstand warning messages," says Robert O'Connor, program director for decision, risk and management sciences within the NSF's Directorate for Social, Behavioral and Economic Sciences. "The StormView simulation provides a way for social scientists to collaborate with meteorologists to tailor more effective messages. When citizens understand the threat, they are more likely to take steps to reduce risks to themselves, their families and their communities."

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