The Hurricane Lab: Using Web-Based Multi-Media Simulations to Study Mitigation Decision Making

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A major dilemma facing both insurance companies and policy makers is how to encourage homeowners to invest in mitigation to reduce the damaging impact of severe flood and wind events. What suppresses such investments is that mitigation typically involves large-up front expenditures in improvements to protect against hazards that may occur only in the distant future, and whose damaging impacts may be highly uncertain. Given this uncertainty, decisions to invest become driven by a set of heuristics that may have limited normative basis, such the actions of friends and neighbors, the recency of experienced events, and the degree of press coverage given to storms in other areas.

In 2008-09 the Florida Catastrophic Storm Risk Management Center is funding the development of a general web-based simulation platform named *Insight* that allows researchers and policy analysts to study how residents make decisions to invest in protective actions in realistic environments, where participants have the ability to interact with simulated neighbors, watch television broadcasts, and learn about potential new financial incentives for mitigation. *Insight* is designed to be a "policy laboratory" that will allow users to both gain an understanding of the key information "triggers" that induce residents to invest in mitigation as well as test likely consumer responses to policy incentives and communication appeals designed to encourage mitigation.

In addition to studying mitigation decisions, in the summer of 2009 *Insight* will be used to investigate how residents make short-term decisions to prepare for hurricane threats based on different media such as the web, radio, and word-of-mouth. A particular goal is to establish boundary conditions under which "false-alarm effects" arise given repeated exposure to storms that threaten but do not actually make impact.