Measuring public responses to a surge of information: How individuals understand, react, and respond to storm surge media messages

Lead University: Cornell University

To better understand how coastal residents perceive hurricane and storm surge-related risk, researchers will work with tri-state broadcasters, the National Hurricane Center and local weather service offices to develop hurricane forecasts that use a new storm surge inundation map. A televised version of the experimental forecast will be tested in focus groups from tri-state coastal communities to help practitioners design the best methods for conveying storm-related risk visually.

They Had the Facts, Why Didn't They Act?: Understanding and Improving Public Response to National Weather Service Coastal Flooding Forecasts

Lead University/Institution: Nurture/Nature Center

This research team will create briefing documents which combine both graphical information and narrative explanations about storm risk that will improve understanding by coastal residents and emergency management officials of the intensity and possible outcomes of an impending coastal storm, increasing the likelihood of people evacuating or taking other appropriate warning response actions.

Understanding Responses to Storm Warnings: Learning from Those Who "Rode Out" Hurricane Sandy

Lead University: SUNY College of Environmental Science and Forestry

By working with key stakeholders including those with disabilities, this research team will conduct focus groups and surveys to document the perceptions of those who could not or would not evacuate during Hurricane Sandy. The resultant data will help build several training modules tailored for CT, NY and NJ residents to be pilot tested by coastal managers.

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COASTAL STORM AWARENESS PROGRAM

A Joint Program of

New York, New Jersey and

Connecticut Sea Grant

Programs funded by NOAA

www.nyseagrant.org/CSAP

The Coastal Storm Awareness Program

The Sea Grant programs of New York, New Jersey and Connecticut have awarded funds totaling $1.4 million to support ten social science research projects to improve community understanding and response to coastal storm hazard information as part of the National Oceanic and Atmospheric Administration (NOAA) Sea Grant "Coastal Storm Awareness Program" (CSAP).

Despite the accuracy of the forecast for Sandy, too many coastal residents either failed to fully understand the severity of the storm and the dangerous conditions it would produce, or chose not to evacuate in spite of the serious risks of staying in their homes.

These ten projects will study community response to disasters by closely examining the coastal storm warning systems, the information conveyed (what to expect, when to expect it, and what to do) and the factors that affect whether recipients of this information decide to act on it.

Research funded through CSAP will be guided by a Program Steering Committee drawn from the ranks of the coastal emergency management response and communication communities. Their involvement will help ensure that the prgoram produces results of direct use in preparing for future hazardous coastal storms.

NOAA image of Hurricane Sandy

Projects Funded by the NOAA/ Sea Grant Coastal Storm Awareness Program:

Adolescent and Family Decision Making In Time of Disaster

Lead University: Columbia University

The major goal of this study is to create educational programs that help adults and adolescents understand the importance of family dynamics in decision making and use it to address factors that may hinder efforts to save lives in time of disaster.

An Audience Segmentation Analysis of Connecticut Coastal Residents to Support Storm Preparedness

Lead University: Yale University

Responses to a survey of over 1,000 Connecticut coastal residents assessing their coastal storm risk perception, experience, understanding and behavior will be correlated to population demographics to support the development of targeted storm-related messages and shared with local emergency managers and responders.

Assessment of Social Media Usage During Severe Weather Events and the Development of a Twitter-based Model for Improved Communication of Storm-related Information

Lead University: Mississippi State University

Building on techniques developed in Mississippi to establish better storm event communication between the National Weather Service and emergency managers with coastal residents, researchers will develop a model based on Twitter, using analysis of geo-referenced messages sent in the tri-state region before, during and after Hurricane Sandy and other extreme weather events. Researchers will evaluate the effects of specific types of messages on human perceptions and behavior.

Behaviorally Realistic Communications to Improve the Public's Response to and Preparedness for High Impact Storm Events

Lead University: Carnegie Mellon University

This study will use surveys and interviews with New York- New Jersey coastal residents about their beliefs and behavior regarding high-impact storm events to develop a personalized online decision-making tool. Climate Central's Surging Seas model will be adapted to include strategies that can be used to improve citizen understanding, preparedness and response to extreme weather.

Best Practices in Coastal Storm Risk Communication

Lead University: Rutgers, The State University of New Jersey

To assist emergency managers and other communicators deliver the most effective messages possible, this study will survey coastal residents to empirically test the effectiveness of a range of message variables including personalization, storm probability formats and social media messaging. This information will be the basis for a best practices guide that will serve as an important tool for emergency managers.

Evaluating evacuation decision-making processes among residents of Long Beach, NY before Superstorm Sandy: Lessons for the role of authority and language in storm Warnings

Lead University: Hofstra University

This research team will analyze interviews with residents of ethnically diverse Long Beach, NY, many of whom ignored evacuation warnings about Hurricane Sandy, looking at both language barriers and cultural attitudes in affecting understanding and acceptance of risk information. The goal is to create improved guidelines for the specific language used by government officials and weather authorities to relay coastal storm information, risk assessment, and evacuation recommendations.

Forecasting evacuation behaviors of coastal communities in response to storm hazard Information

Lead University: Cornell University

Researchers will use focus groups and interviews to conduct time-dependent discrete choice experiments, where subjects will self-report the likelihood of evacuation for each of a series of hypothetical storms. The team will explore the use of smartphone apps to collect data about stated evacuation preferences and evaluate the attitudes and response to new sources of information (Twitter and other social media) using integrated sociological theories.