

Ongoing and Completed Social Science Research For Weather Hazards

Storm Surge Marketing Plan

NOAA funded contract to Eastern Research Group, Inc. (ERG) to build on storm surge roadmap (HFIP)

Goal: Help National Weather Service (NWS) Weather Forecast Offices (WFOs) and their key intermediaries (emergency managers and broadcast meteorologists) integrate new NWS/National Hurricane Center (NHC) storm surge products (inundation maps, storm surge watch and warning) into their suite of current products and communications to better convey surge risks to their communities during a hurricane.

Outputs

- Audience analysis of broadcast meteorologists, emergency managers, and other emergency personnel in 4 pilot geographies (Tampa Bay, FL; New Orleans, LA; Morehead City, NC, and Gray, ME) is complete
- Notes from engagement with audience to test the level of understanding of storm surge, the utility of the new inundation maps, and the storm surge watch/warning product
- Results in document titled “Storm_Surge_Marketing_Audience_Analysis.doc” including a flow of information diagram
- Further testing of the new products (inundation maps) and communications mechanisms will occur after a storm. Final marketing plan will be available next year

Hurricane Local Statement Improvement Project

This project is focused on testing and making improvements to the Hurricane Local Statement (HLS) which is the source of textual information for diverse user groups including the media, emergency officials, and the public. Members of these groups in multiple geographies (Boston, MA; Charleston, SC; New Orleans, LA; Brownsville, TX; and Miami, FL) are being interviewed. Results will be used to make recommendations for changing to the HLS product. Follow up interviews will be conducted with a subset of the audience to fine tune the product. Coastal Services Center staff members are leading this project which will be completed by Eastern Research Group.

Watch Warning Advisory (Hazard Simplification) Improvement Project

Past research has indicated there continues to be confusion about the differences between a watch, a warning, and an advisory which is National Weather Service (NWS) nomenclature used leading up to and during extreme weather events. The NWS has conducted survey work to identify improvements that can be made to better communicate and clear up this confusion and to allow for more informed decision making. The target audience is the general public however much of this information is often received through intermediaries such as emergency officials and the media

This project will focus on winter weather initially but a process (including social science research) will be identified that can be applied to other weather hazards. Eastern Research Group, Inc. will analyze the results of past survey work, develop new prototypes for the graphics and text products, and test these prototypes via interviews and an online survey. Results will be applied to winter weather events and ultimately additional weather hazards to help citizens identify what impacts are expected and what actions to take to protect life and property based on the level of threat.

Hurricane Inundation Graphics

This is an add-on to the Hurricane Forecast Improvement Program (HFIP) NOAA funded contract to Eastern Research Group, Inc. (ERG). The purpose is to test prototypes and develop updated products to better convey the expected impacts from a land-falling tropical cyclone or hurricane. ERG will soon conduct focus groups in three locations (Tampa, New York/New Jersey, and New Orleans) to get feedback on various elements of the tropic cyclone impact graphics including color scheme, thresholds, labeling, impact statements, and threat messaging. Each region will have one focus group with the public and one with the National Weather Service's core partners (federal, state, and local emergency managers and the media). These impacts graphics are the companion to the all text Hurricane Local Statement (HLS) product being testing through another project.

Flood Forecast and Warning Tools of the NWS

In partnership with Nurture Nature Center individuals living in flood-affected communities in the four-state Delaware River Basin were asked how they use NWS flood forecast and warning tools and how these tools can be improved. Focus group work is ongoing in 2013. Graphical mock-ups of proposed revisions to flood forecast and warning tools will be submitted along with a narrative report that describes the feedback from the focus group sessions. For more information on what products are being tested and some early focus group results, see the [project website](#)
A bibliography of social science research can be found [here](#)

Impact Based Warnings

NWS: Mike Hudson, NWS Central Region; Chris Ellis, NOAA Coastal Services Center
Social Science Research: Kenneth Galluppi, Arizona State University, Jessica Losego, University of North Carolina, Burrell Montz, East Carolina

A new communication tool, Impact Based Warnings (IBW), began in 2012 by the National Weather Service (NWS) to improve public response to extreme weather (convective storm) events through enhanced decision support to key partners. By simultaneously evaluating the use of IBW by three distinct user communities (NWS forecasters, emergency management, media), a more comprehensive understanding of hazard communication emerges.

- Piloted in 5 NWS Weather Forecast Offices (WFOs) in 2012, and 38 WFOs in 2013
- Evaluate IBW effectiveness using the Risk Paradigm (NRC, 2009)
- Three audiences: weather forecasters, emergency managers, and broadcast meteorologists - targeted to evaluate IBW's impact on decision-making
- Methods include interviews, focus groups, and surveys
- Identifies the factors that lead a forecaster to use IBW and the consistency of use across a large geographic region
- Reveals how IBW influences the efficacy of forecaster communication of the weather event from the emergency manager and broadcast meteorologist perspective
- Use of social media by all three groups plays an important role in the dissemination of IBW to the general public
- Efforts are being made to evaluate the effectiveness and expand IBW services across the country