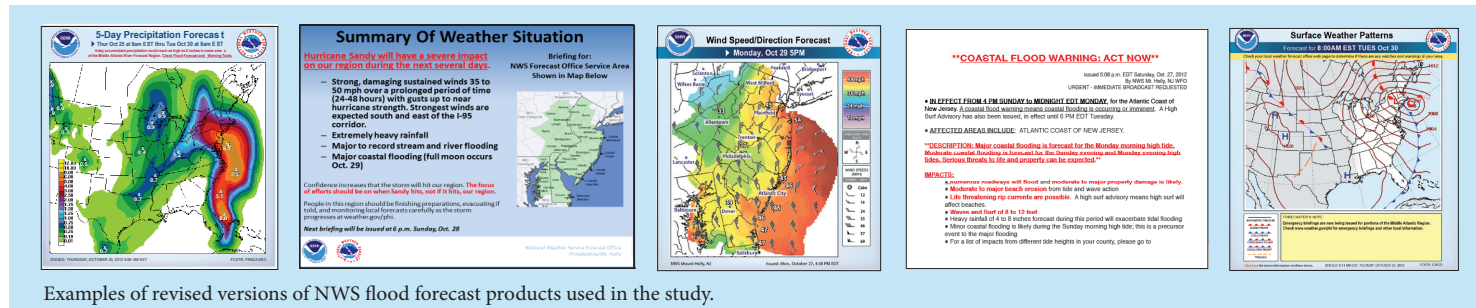
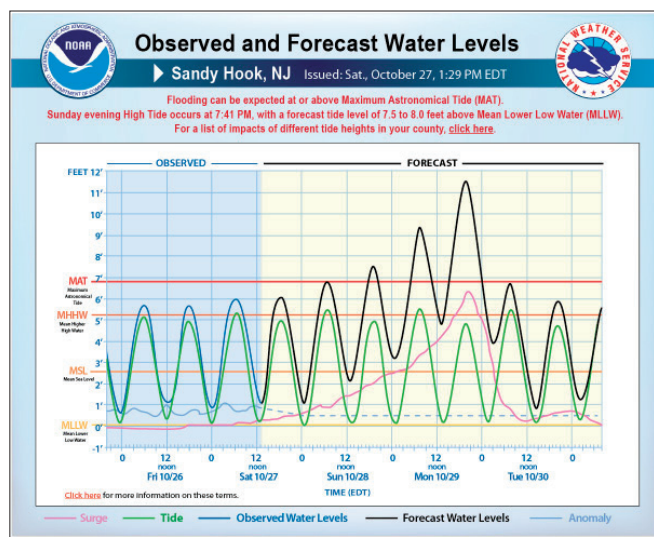


FACT SHEET: They Had The Facts, Why Didn't They Act?: Understanding and Improving Public Response to NWS Coastal Flood Forecasts

OVERVIEW

In 2014, Nurture Nature Center, together with East Carolina University, Jacques Cousteau National Estuarine Research Reserve, and RMC Research Corporation, conducted a social science research study to investigate how the public responds to and interprets the National Weather Service (NWS)'s coastal flood and storm surge forecast and warning products and tools. The study involved a series of focus groups, surveys, and interviews that drew feedback from coastal community residents (Ocean and Monmouth Counties), emergency personnel and broadcast meteorologists by leading them through a seven day Superstorm Sandy scenario illustrated with NWS products, focusing in particular on the use of emergency briefing packages. Modified versions of the products were shown in a second round of focus groups and surveys to test improvements for clarity and to examine factors in how framing and conveying extreme weather messages can facilitate public understanding and motivate action.



Examples of revised versions of NWS flood forecast products used in the study.

FINDINGS

Participants gave feedback about how the timing, the verbal and graphic clarity of the information conveyed, and the inclusion of uncertainty information affected their understanding of and response to the storm (actual or anticipated). Residents of coastal flood-prone communities in New Jersey rely on NWS forecast and warning products and tools as part of a suite of resources they use to evaluate their flood risk, including deliberations with friends, family, and neighbors, personal experience, contacts from local officials; and weather reports from mass media as well as social media.

Timing – Residents prefer NWS products and tools 5 days prior to the storm: when farther away, the threat is not viewed as imminent, and when too close to the event, preparations and evacuations are already underway (though residents do continue to seek information as a storm approaches). Emergency personnel prefer information and briefings 7 days prior to the storm (or longer if possible) in order to have adequate time to prepare and inform others.

Delivery – Residents expect and want local municipal officials and emergency managers to deliver NWS information and directions on storm details and how to prepare. Residents and emergency personnel prefer the internet as an information source, and frequently depend on smartphones when utilities are disrupted.

Geographic Specificity – Residents prefer and are more motivated to take protective action when provided with locally specific information. Seeing their specific community, not just region, called out in forecasts significantly draws attention.

Graphics – Overly technical and confusing visual products are a major barrier to understanding NWS coastal forecasts. Participants preferred a mixture of graphics and text, easy to interpret color schemes and legends, and direct statements about actions they should take; suggested product revisions address these concerns. Visual evidence of past storm impacts, and comparison to past storms, provide context for residents and motivate action.

Briefing Packages – Residents, emergency personnel, and broadcast meteorologists valued briefing packages as an important, integrated, and simplified mechanism for receiving coastal storm information. Residents stressed the need for brief information focused on local risk and actions to take, with detailed meteorological details reserved for emergency personnel. The inclusion of a personal and emotional appeal in briefings was highly effective in motivating action.

Please refer to NNC's final report at socialscience.focusonfloods.org for more detailed findings and recommendations.

The study was one of ten 14-month projects funded through NOAA's Coastal Storm Awareness Program (NOAA awards NA13OAR4830227-9) and administered by New Jersey Sea Grant Consortium to understand decision-making during extreme weather events. The statements, findings, conclusions, and recommendations are those of the author(s) and do not necessarily reflect the views of the National Sea Grant College Program, National Oceanic and Atmospheric Administration, and the U.S. Department of Commerce.

NURTURE NATURE CENTER
518 Northampton Street, Easton, PA 18042
610.253.4432
www.nurturenaturecenter.org