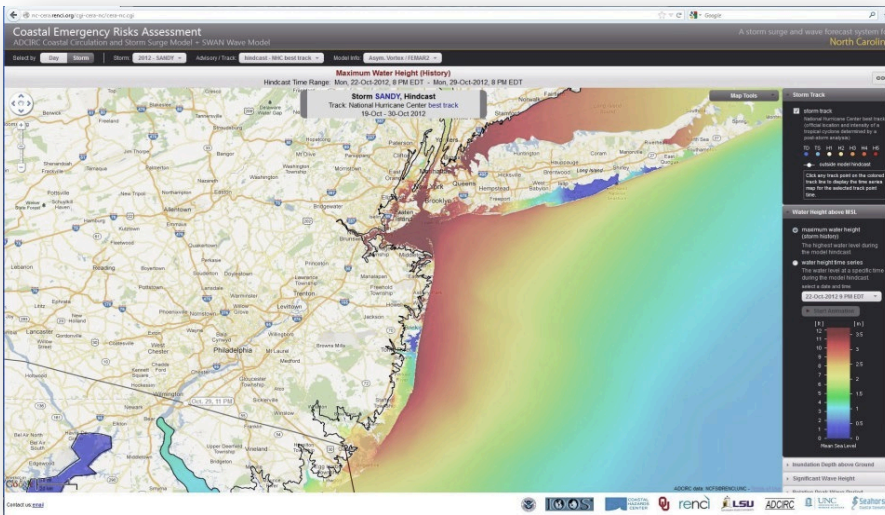


# ADCIRC Model: getting ahead of the storm surge



## Sees the Storm Surge Before It Happens

A Department of Homeland Security (DHS) Science and Technology Coastal Hazards Center of Excellence model is helping the U.S. Coast Guard and FEMA get people and property out of the way of life-threatening storm surges with highly accurate predictions of the risk and impacts of severe coastal storms.

## Predicts Flooding

The ADCIRC storm surge model combines meteorological forecasts with predictions of the coastal ocean response to provide greater accuracy than other available models. This enables decision makers to identify which locations to evacuate as a storm approaches and to plan for mitigation and response before severe storms occur. ADCIRC was the winner of DHS Science and Technology Impact Awards in 2010 and 2012.

## ADCIRC Is Used To

- Predict hurricane storm surge and flooding
- Model tides and wind driven water circulation
- Inform near shore marine operations
- Model the impact of combined sea level rise and severe storms on coastal communities

## Principal Investigator

- Rick Luettich, University of North Carolina at Chapel Hill

## Partners

- U.S. Department of Homeland Security Science and Technology Directorate
- Renaissance Computing Institute at University of North Carolina
- Louisiana State University
- University of Notre Dame

## Real Users, Real Results

- FEMA is using the ADCIRC model to update the National Flood Insurance Program coastal inundation maps
- U.S. Army Corps of Engineers is using ADCIRC model for hurricane protection system design
- Nuclear Regulatory Commission has specified use of ADCIRC to evaluate storm surge risk to coastal nuclear power plants
- National Weather Service forecast offices, National Hurricane Center, NOAA, the U.S. Coast Guard, and the N.C. Division of Emergency Management use ADCIRC results to help guide storm response

## ADCIRC Helps the U.S. Coast Guard

The U.S. Coast Guard used ADCIRC model results during Hurricanes Irene, Isaac and Sandy.

*"Your academic research and development of a user-friendly storm surge model has been invaluable to the Coast Guard...The fidelity of your model gives the Coast Guard a defensible method of determining high risk areas during major weather events."*

**-Vice Admiral Parker**  
U.S. Coast Guard

For more information, visit:  
[coastalhazardscenter.org](http://coastalhazardscenter.org)