



## The University of North Carolina at Chapel Hill

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[www.coastalhazardscenter.org](http://www.coastalhazardscenter.org)

## Research and Education Areas

- Coastal Infrastructure Resilience
- Building Resilient Communities
- Disaster Dynamics

**Mission:** *To enhance the nation's ability to safeguard people, infrastructure, and economies from coastal natural hazards such as floods and hurricanes. CRC will also consider the impact of future climate trends on coastal resilience.*

## Quick Facts

- Awarded in April 2015, this Center will build on the successes of the Coastal Hazards COE. These successes include:
  - Informing the U.S. Coast Guard on operational decisions in advance of and during natural disasters by developing a hurricane storm surge and flood inundation model and applying the results in real-time situations.
  - Providing tools and analysis for Federal Emergency Management Agency (FEMA) hazard mitigation planning and flood mapping.
  - Analyzing the quality of emergency management plans and translating that information to practitioners and policymakers, resulting in new and modified national standards of practice.
  - Educating the next generation of hazard scholars and practitioners through the delivery of more than 230 hazards and disaster-related university courses with a total enrollment of 5,200. Approximately 85 percent of the courses and 60 percent of the enrollments were at Minority Serving Institutions (MSIs).

## Partners

- Led by the University of North Carolina (UNC) at Chapel Hill in partnership with Jackson State University in Jackson, MS.
- Directly partners with 23 academic research institutions and federal agencies.

## Research and Education Focus

- Conducting research that directly addresses key challenges associated with growing coastal vulnerability:
  - Developing more refined storm surge models and delivering accurate, timely predictions of storm surge prior to land-falling storms.
  - Assisting FEMA, states, and local governments in developing better predictions of coastal hazards and pre-disaster plans that help reduce vulnerability and improve the speed and quality of recovery and reconstruction after a disaster occurs.
  - Improving our understanding of why individuals choose to implement risk-reduction measures at the household level.
  - Improving our ability to communicate risk to multiple audiences and take action based on that understanding.
  - Educating the next generation of students who will become hazards researchers, educators and practitioners, emphasizing the development of certificate and degree programs at MSIs.

## Research and Education Partners

Colorado State University  
East Carolina University  
Jackson State University \*  
Johnson C. Smith University \*  
Louisiana State University  
North Carolina State University  
Old Dominion University  
Oregon State University  
Rensselaer Polytechnic Institute  
Texas A&M University  
Tougaloo College \*  
University of Central Florida  
University of Delaware  
University of Maryland  
University of Puerto Rico-Mayaguez \*  
University of Rhode Island  
University of Texas at Austin

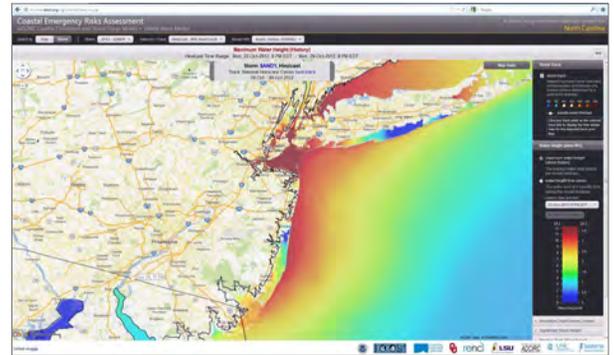
\* Denotes a Minority Serving Institution

## CRC Highlights

### Getting Ahead of The Storm - Predicting Hazard Dynamics

Improving coastal resilience depends critically on accurate predictions of coastal hazards to enable planning and risk reduction measures prior to events and support effective response activities during

events. Building on the successes of the Advanced Circulation Storm Surge Model (ADCIRC), CRC is expanding its coastal hazards modeling capabilities by including more complete tropical cyclone meteorological models, precipitation driven flooding and an expansion of the areas where high resolution hazard predictions are available. Further research will be conducted to improve the accuracy, efficiency and accessibility of CRC coastal hazard models and thus their usefulness for decision makers and actions that affect coastal resilience.



### Measuring Recovery Through Healthy Community Indicators

Disaster recovery is a key capability for federal, state, and local governments. To promote the collection and sharing of data as a means to improve future disaster recovery efforts, practitioners require useful, validated methods of measuring changes in relevant community characteristics over time. To facilitate community evaluations of recovery outcomes, the [Disaster Recovery Tracking Tool](#) provides 79 metrics, organized within ten focus areas, for tracking progress towards recovery. By using this tool, communities can assess pre- and post-disaster conditions, using baseline and current data, to prioritize recovery goals and activities. Continuing under CRC, researchers will refine the tool's metrics and pilot the tool in several communities.

### Education and Workforce Development

CRC education and workforce development will focus on developing and delivering resilience-related courses, concentrations, and minors within existing undergraduate and graduate degree programs in disciplines ranging from engineering to social sciences. CRC also will develop and deliver certificate programs in Natural Hazards Resilience, Resiliency of Coastal Infrastructure, Community Resilience, Disaster Science and Management, and Project Management for Emergency Managers.

