Homeland Security
Science and Technology

Coastal Resilience Center (CRC)

A DHS **Center of Excellence**

The CRC conducts research and education to enhance the resilience of people, infrastructure, economies, and the natural environment to the impacts of coastal hazards such as floods and hurricanes.

LAUNCH ▸	2015
PARTNERS ▸	More than 30 university, industry, and government partners
EXPERTISE ▸	Disaster recovery and mitigation planning, coastal hazards/ storm surge modeling, risk communication, decision support modeling, infrastructure assessment, and engineering
DHS ALIGNMENT ▸	Federal Emergency Management Agency, U.S. Coast Guard, Cybersecurity and Infrastructure Security Agency

Feedback from Our Partners

*"**I won't show up to hurricane season without [ADCIRC],**"* said ***Rear Admiral Peter J. Brown,*** *Commander, 7th Coast Guard District, in 2017 about his experience using the Advanced Circulation (ADCIRC) Prediction System to inform decisions during hurricanes Irma and Maria.*

*"The Resilience Scorecard [developed by CRC researchers] **is an effective tool allowing us to evaluate our existing plans and policies** against the backdrop of resilience… [W]e plan to revisit our scores and use the Resilience Scorecard as we begin developing our updated comprehensive plan so **we can maximize our opportunities to transform Norfolk into the resilient coastal community of the future.**"*

George Homewood, Director of Planning & Community Development
City of Norfolk, VA, 2018

Research and Education Capabilities

- High resolution coastal flood, storm surge and wind forecasting
- Hazard mitigation and recovery planning
- Education and training for the current and future homeland security workforce

COASTAL RESILIENCE CENTER
A U.S. Department of Homeland Security Center of Excellence

A nationwide consortium led by:

University of North Carolina at Chapel Hill
100 Europa Drive, Suite 540
Chapel Hill, NC 27517

In partnership with:

Jackson State University
in Jackson, Mississippi

Coastalresiliencecenter@unc.edu
Coastalresiliencecenter.unc.edu
(919) 962-0344

University Partners

Colorado State University, CO
Cornell University, NY
East Carolina University, NC
Florida State University, FL
Jackson State University, MS*
Johnson C. Smith University, NC*
Louisiana State University, LA
North Carolina State University, NC
Old Dominion University, VA
Oregon State University, OR
Rensselaer Polytechnic University, NY
Texas A&M University, TX
Tougaloo College, MS*
University of Central Florida, FL
University of Maryland, MD
University of North Florida, FL
University of Puerto Rico
Mayaguez, PR*
University of Rhode Island, RI
University of Texas – Austin, TX

**Minority Serving Institution (MSI)*

Enterprise Partners

ARCADIS
Seahorse Coastal Consulting
NASA Jet Propulsion Laboratory
AECOM
WaterWonks, LLC
American Planning Association
American Red Cross
Association of State
Floodplain Managers
International Association of
Emergency Managers
National Association of
Emergency Managers
Salvation Army
American Shore & Beach
Preservation Association

For a complete list of partners and more information, please visit **Coastalresiliencecenter.unc.edu**

For more information on DHS Centers of Excellence, please visit **www.dhs.gov/science-and-technology/centers-excellence**

Impacts

Protecting flood-prone communities

CRC uses the ADCIRC Prediction System (APS) to predict location and severity of coastal flooding. APS was used at the North Carolina Emergency Operations Center during hurricanes Matthew (2016) and Florence (2018); at the Texas State Operations Center during Hurricane Harvey (2017) to execute search-and-clear operations, position resources in advance of the storm, aid evacuation, and make preliminary damage assessments; and during hurricanes Irma and Maria (2017) for the U.S. Coast Guard to position people and assets.

Guiding resilient planning and rebuilding

CRC developed the Plan Integration for Resilience Scorecard to assess community plans for their ability to work collectively to reduce future flooding and storm risks. The Resilience Scorecard has been used in Norfolk, Va., and League City, Tx., and is being used in Nashua, N.H., and to assess communities near Houston, Tx., following Hurricane Harvey. In the wake of Hurricane Matthew, CRC worked with several communities to develop community rebuilding plans.

Improving risk communication

Using tailored personal communications delivered by text messages, CRC relays disaster risk information to motivate individual actions to become more prepared.

Educating the next generation of hazards professionals

Through education programs, CRC educates future hazard researchers, educators and practitioners, emphasizing the development of courses, minors, and certificate programs at MSIs. Since 2016, instructors have taught more than 30 courses to more than 500 students across seven university campuses.