Project Highlights

- Novel, real-time shore-based and air-deployed wave and water level observations to better understand air-sea interactions and verify predictive hydrodynamic models.
- The three community models performed well in predicting waves, water levels, breaching, erosion, and damages for the hurricanes studied.
- New capabilities for rapid satellite-based flood mapping and damage assessment.
- Extensive post storm damage assessments combined with AI to advance damage prediction models.
- Project data is publicly available in the NSF DesignSafe hazards archive.
- More than 10 scientific articles published and 50 conference presentations by NHCI authors.

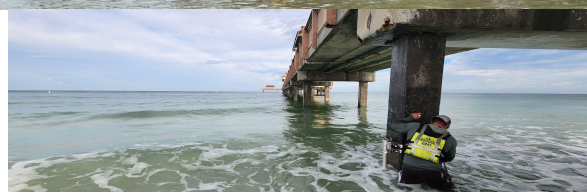
Primary funding support for this project was provided by ONR and included leveraged support from USGS and NOAA.

Learn more about NHCI at www.nopp.org

Images in this handout are courtesy of Adog/Wikimedia Commons, U.S. Navy, USGS, U Florida, and Sofar Ocean: https://nopphurricane.sofarocean.com/

2025 Excellence in Partnering Award Winner

NOPP Hurricane Coastal Impacts (NHCI)



NOPP

The National Oceanographic Partnership Program (NOPP) facilitates partnerships between federal agencies, academia, and industry to advance ocean science research and education. Through this collaboration, federal agencies can leverage resources to invest in joint priorities and partner with industry and academia to improve results.

NOPP Excellence in Partnering Award

The NOPP Excellence in Partnering Award is given annually to recognize superior collaborative efforts among partners in coordinating an exemplary NOPP project.

In 2025, the NOPP Hurricane Coastal Impacts (NHCI) project was bestowed with this honor due to its effective use of partnerships and considerable contribution to ocean science.

Project Information

The project sought to improve coastal storm impact prediction, focusing on complex effects like breaching, erosion, and property damage, beyond standard inundation.
The modeling and data collection teams shared data to predict impacts from six hurricanes for 4 years (June 2021 - June 2025) and made the data available to the public for future research.

For further information on the NHCI project and team members scan here

The NHCI Team

NHCI has 9 teams, each with a lead principal investigator, consisting of 13 academic institutions, 13 government agencies or divisions, and 6 industry / non-profit performers:

Academic
IHE Delft
Louisiana State U
NC State U
Oregon State U
Scripps Inst Ocean
U Colorado Boulder
U Florida
U Georgia
UMass Amherst
U Miami / CSTARS
UNC Chapel Hill
U Rhode Island
U Washington APL

Industry / Non-profit
Airbus D&S
Capella Space
Deltares USA
Fathom Science
Sofar Ocean
The Water Institute of the Gulf

US Government
NWS
NOAA (AOML, PSL)
USGS (EROS, NGP, PCMSC, SPCMSC, WARC, WGSC, WHCMSC, WMA)
US NRL (MRY, SSC)