



Understanding Coastal Hazards: Past, Present and Future

with *Dr. Joseph Long*

UNCW Department of Earth and Ocean Sciences

Feb. 9, 2021
6:00 PM

VIRTUAL SEMINAR

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The highly-populated coastal environment is a vital social, economic, environmental, and recreational resource with a dynamic past and an uncertain future. The health of our coastlines and the sustainability of infrastructure and ecosystems that rely on it are directly impacted by a wide range of coastal hazards.



Understanding and planning for these hazards is complicated because they change through time and vary significantly by geographic region. What is consistent, however, is the need for science-based information to make critical decisions about how we interact with the coast. This presentation will discuss a range of data used by UNCW researchers and students to monitor our changing coastlines and the development of regional and national models to better predict coastal hazards ranging from storm impacts to long-term coastal change.



Dr. Joseph Long has been an Assistant Professor in the UNCW Department of Earth and Ocean Sciences since 2018. He received an undergraduate degree in Civil/Environmental Engineering from Clarkson University in 2000 and worked in industry for two years before going on to complete his Masters in Ocean Engineering and PhD in Civil/Coastal Engineering from Oregon State University in 2009. He was awarded a Mendenhall Postdoctoral Fellowship with the U.S. Geological Survey (USGS) and then served as a Research Civil Engineer/Oceanographer with the USGS in St. Petersburg, FL from 2011 to 2018. While at the USGS, he served as the project chief for the National Assessment of Coastal Change Hazards project and worked to develop models and tools to address regional needs.

Broadly, his research on the role that winds, waves, and currents have on transforming beaches and barrier islands on time scales ranging from extreme events (e.g., hurricanes) to decades. He combines both observations and numerical models to better understand physical coastal processes, inform coastal management decisions, and determine the vulnerability of communities and ecosystems.

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