Mar 24th, 4:00 PM - 5:00 PM

Modeling the Morphology of Modern Barrier Islands to Reconstruct Past Coastal Change

Daniel James Ciarletta
United States Geological Survey

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The Doctoral Program in Environmental Science & Management and MSU Sustainability Seminar Series Present:

Modeling the Morphology of Modern Barrier Islands to Reconstruct Past Coastal Change

WHEN: March 31, 4:00 pm   WHERE: CELS 120 lecture hall

Dr. Daniel Ciarletta
United States Geological Survey

Daniel Ciarletta earned a B.S. in Oceanography from Florida Institute of Technology in 2008, a M.S. in Geoscience from Montclair State University in 2014, and a PhD in Environmental Science and Management from Montclair in 2019. While a doctoral student, he connected field and modeling approaches to better understand the internal dynamics of coastal systems, as well as their response to changes in environmental forcing over decadal to millennial timescales. As a Mendenhall postdoctoral fellow at the United States Geological Survey, he has focused his research on coastal sediment availability in modern barrier island systems.

Barrier islands are dynamic landforms that protect 10% of all coasts, not accounting for barriers in bays and lakes. Yet, the ability to predict their future response to changes in sediment availability, rate of sea-level rise, and storm frequency is impeded by the lack of historical records detailing their past behavior. Using models and targeted field investigations, Dr. Ciarletta will explain novel approaches to use the morphology of modern U.S. east coast barriers to reverse-engineer their past evolutions and sediment budgets.

For more information please contact Dr. Jorge Lorenzo-Trueba at lorenzotruej@montclair.edu