

ERIKA E. LENTZ

U.S. Geological Survey Coastal and Marine Science Center
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EDUCATION

- 2011 Ph.D. in Geosciences, University of Rhode Island
Dissertation Title: *A Spatial and Temporal Assessment of Dune-Beach Change: Fire Island, New York*
- 2003 B.A. in Geology and Sociology, George Mason University

PROFESSIONAL EXPERIENCE

- Mendenhall Postdoctoral Researcher** 2012 - present
U.S. Geological Survey Woods Hole Coastal and Marine Science Center
- Postdoctoral Research Geologist (contractor)** 2011 - 2012
U.S. Geological Survey Woods Hole Coastal and Marine Science Center
- National Park Service (NPS) Intern** Fall 2010
Office of Science Advisor to Director, NPS Headquarters, Washington D.C.
- Graduate Research Assistant** 2008 – 2010
Department of Geosciences, University of Rhode Island
- Graduate Teaching Assistant** 2007
Department of Geosciences, University of Rhode Island
- Coastal Institute IGERT Project Fellow** 2005 –2007
University of Rhode Island
- National Park Service Intern** 2007
Office of Coastal Management Specialist, Boston, MA
- Contract Geologist** 2003-2005
Eastern Energy Resources Team, U.S. Geological Survey, Reston, VA
- Geology and Honors Geology Lab Instructor** 2004-2005
George Mason University, Fairfax, VA
- Teaching Assistant** 2004
System-Wide Geology Field Course, University of North Carolina

GRANTS, FELLOWSHIPS, AWARDS, AND HONORS

- Co-PI, Forecasting Morphologic Evolution of the Coastal System at Fire Island National Seashore, New York, USGS National Resource Preservation Program (2016, \$320,000)
- Co-PI, Pilot Study to Evaluate Coastal Change using Unmanned Aerial Systems (UAS), DOI Northeast Climate Science Center (2015, \$15,900)
- Co-PI, Investigating Morphologic Change in Response to Environmental Forcings and Anthropogenic Modifications on Fire Island Beaches, USGS Eastern Region National Park Research, (2010, \$375,000)
- Coastal Institute IGERT Fellowship, NSF/URI: A competitive two-year graduate fellowship program exploring the junction of science and policy through multidisciplinary course work, field work, and non-academic experience through the composition of a white paper and a six-month internship with non-academic partners. White paper composed on climate change impacts on the Great Lakes region; internship with NPS Coastal Management Specialist in Boston, MA (2005-2007, full-tuition and stipend)
- Outstanding Senior in Earth System Sciences Award, George Mason University and Sigma Gamma Epsilon (Honor Society of the Earth Sciences) (2003)

PUBLICATIONS

Refereed Journals

- Lentz, E.E.**, Thieler, E.R., Plant, N.P., Stippa, S.R., Horton, R., and Gesch, D.B. (2016). Evaluation of dynamic coastal response to sea-level rise modifies inundation likelihood. *Nature Climate Change*, doi:10.1038/nclimate2957
- Wilson, K.E., Adams, P.N., Hapke, C.J., **Lentz, E.E.**, and Brenner, O. (2015). Application of Bayesian Networks to hindcast barrier island morphodynamics. *Coastal Engineering*, 102, p. 30-43.
- Lentz, E.E.**, Hapke, C.J., Stockdon, H.S., and Hehre, R.E. (2013). Improving understanding of near-term barrier island evolution through multi-decadal assessment of morphologic change. *Marine Geology*, 337, p. 125-139.
- Schwab, W.C., Baldwin, W.E., Hapke, C.J., **Lentz, E.E.**, Gayes, P.T., Denny, J.F., List, J.H., and Warner, J.C. (2013). Geologic evidence for onshore sediment transport from the inner-continental shelf: Fire Island, New York. *Journal of Coastal Research*, 29(3), p. 536-544.
- Lentz, E.E.**, and Hapke, C.J. (2011). Geologic framework influences on the geomorphology of an anthropogenically modified barrier island: Assessment of dune/beach changes at Fire Island, New York. *Geomorphology*, 126, p. 82-96.
- Hapke, C.J., **Lentz, E.E.**, Gayes, P.T., McCoy, C.A., Hehre, R., Schwab, W.C., and Williams, S.J. (2010). A review of sediment budget imbalances along Fire Island, New York: can nearshore geologic framework and patterns of shoreline change explain the deficit? *Journal of Coastal Research*, 26(3), p. 510-522.

USGS Publications

- Lentz, E.E.**, Stippa, S.R., Thieler, E.R., Plant, N.G., Gesch, D.B., and Horton, R.M. (2015). Evaluating coastal landscape response to sea-level rise in the northeastern United States—Approach and methods: U.S. Geological Survey Open-File Report 2014-1252, <http://dx.doi.org/10.3133/ofr20141252>.
- Lentz, E.E.**, Stippa, S.R., Thieler, E.R., Plant, N.G., Gesch, D.B., and Horton, R.M. (2015). Coastal landscape response to sea-level rise assessment for the northeastern United States: U.S. Geological Survey data release, <http://dx.doi.org/10.5066/F73J3B0B>.
- Ryder, R.T., Crangle, R.D., Trippi, M.H., Swezey, C.S., **Lentz, E.E.**, Rowan, E.L., and Hope, R.S. (2009). Geologic cross section D-D' through the Appalachian basin from the Findlay arch, Sandusky County, Ohio, to the Valley and Ridge province, Hardy County, West Virginia: U.S. Geological Survey Scientific Investigations Map 3067, 2 sheets, 52-p. pamphlet.
- Crangle, R.D., Ryder, R.T., Trippi, M.H., Swezey, C.S., **Lentz, E.E.**, Rowan, E.L., and Hope, R.S. (2005). Geologic Cross Section through the Appalachian Basin from Sandusky County, Ohio, to Hardy County, West Virginia: U.S. Geological Survey Scientific Investigations Map 3067, 2 sheets, 52-p. pamphlet.
- Ryder, R.T., Repetski, J.E., and Harris, A.G., Revised and digitized by **Lentz, E.E.** (2004). Stratigraphic Framework of Cambrian and Ordovician Rocks in the Central Appalachian Basin from Campbell County, Kentucky, to Tazewell County, Virginia: U.S. Geological Survey Miscellaneous Investigation Series Map 1-2530.

Conference Proceedings and Technical Reports

- Lentz, E.E.**, and Hapke, C.J., (2011). The development of a probabilistic approach to forecast coastal change. Proceedings of the Coastal Sediments 2011 Conference, May 2-6, Miami, Florida.
- Hapke, C.J., Schwab, W.C., Gayes, P.T., McCoy, C., Viso, R., **Lentz, E.E.**, and List, J. (2011). Inner shelf morphologic controls on the morphodynamics of the beach and bar system, Fire Island, New York: Proceedings of Coastal Sediments 2011, Conference, May 2-6, Miami, Florida.
- Lentz, E.E.**, Hapke, C.J., and Schwab, W.C. (2008). A review of sediment budget estimations at Fire Island National Seashore, New York. Technical Report NPS/NER/NRTR-2008/114, 40 p.

Articles (non-refereed)

- Thieler, E.R. and **Lentz, E.E.** (2015). Sea level to rise about three feet by 2100. Cape Cod Times Op-Ed, October 25.
- Lentz, E.** (Spring 2009). Studying changes to the dune-beach system, Fire Island, New York. The Tidal Page: News of the Rhode Island Salt Ponds, Publication of the RI Salt Ponds Coalition, p. 11.

Abstracts and Presentations (last five years)

- Plant, N.P., **Lentz, E.E.**, Thieler, E.R., Gutierrez, B.T., and Passeri, D.L. (2016). Using unknown knowns to predict coastal response to future climate. Poster presented at American Geophysical Union Ocean Sciences Meeting, New Orleans, LA, Feb. 22-26.
- List, J., Safak, I., Warner, J., Schwab, W., Hapke, C., and **Lentz, E.** (2016). Understanding long-term, large-scale shoreline change and the sediment budget on Fire Island, NY using a 3D hydrodynamics-based model. Paper presented at American Geophysical Union Ocean Sciences Meeting, New Orleans, LA, Feb. 22-26.
- Wilson, K.E., Safak, I., Brenner, O., **Lentz, E.**, and Hapke, C. (2016). Development of probabilistic decision-support model to forecast coastal resilience. Poster presented at American Geophysical Union Ocean Sciences Meeting, New Orleans, LA, Feb. 22-26.
- Lentz, E.E.**, Thieler, E.R., Plant, N., Stippa, S., Horton, R., and Gesch, D. (2015). Assessment of coastal landscape adaptability to sea level rise through a decision support lens. Paper presented at the Geological Society of America Meeting, Baltimore, MD. Geological Society of America *Abstracts with Programs*. Vol. 47, No. 7, p. 627.
- Brenner, O., **Lentz, E.E.**, and Hapke, C.J. (2015). Using a beach change envelope (BCE) to assess post-storm recovery and long-term resiliency. Poster presented at the Geological Society of America Meeting, Baltimore, MD. Geological Society of America *Abstracts with Programs*. Vol. 47, No. 7, p. 360.
- Lentz, E.E.** (2015). A Research and Decision Support Framework to Evaluate Sea-Level Rise Impacts in the Northeastern U.S. Webinar presented to FEMA Coastal Partners Outreach Group, Nov. 19.
- Thieler, E.R., and **Lentz, E.E.** (2015). Assessing United States Coastal Vulnerability. Presentation given to State Department professional delegations of the International Visitors Leadership Program, Woods Hole Coastal and Marine Science Center, June 11.
- Lentz, E.E.**, and Stippa, S.R. (2015). Coastal Response Utility Demonstration (2015). Webinar presented to North Atlantic Landscape Conservation Cooperative Coastal and Marine Technical Team and Science Delivery Partners, April 16.
- Lentz, E.E.**, Thieler, E.R., Plant, N., Stippa, S., Horton, R., and Gesch, D. (2014). Assessment of the coastal landscape response to sea-level rise using a decision-support framework. Poster presented at the American Geophysical Union Meeting, San Francisco, CA, Dec. 14-18.
- Lentz, E.E.**, (2014). A Research and Decision Support Framework to Evaluate Sea-Level Rise Impacts in the Northeastern U.S. Presentation at North Atlantic Landscape Conservation Cooperative Marsh Resiliency Workshop, Dec. 8.
- Lentz, E.E.**, Plant, N., Thieler, R., and Turecek, A., (2013). Research and Decision Support Framework to Evaluate Sea-level Rise impacts for the U.S. Atlantic Coast. Structured Decision-Making Workshop Participant Briefing through the North Atlantic Landscape Conservation Cooperative, Feb. 28.
- Lentz, E.E.**, and Hapke, C.J. (2012). Exploring statistical characterizations of morphologic change and variability: Fire Island, New York. Abstract EP33B-0852 presented at 2012 Fall Meeting, AGU, San Francisco, CA, 3-7 Dec.
- Lentz, E. E.** and Hapke, C.J. (2012). Linking the wave climate with multi-decadal assessment of morphologic change. Paper presented at the Geological Society of America Meeting, Raleigh, NC. Geological Society of America *Abstracts with Programs*. Vol. 44, No. 7, p. 44.
- Lentz E.E.**, Hapke, C.J, Hehre, R.E., and Stockdon, H., (2012). Fire Island dune-beach evolution since

1969: Understanding controls and measuring changes to the system. 8th Biennial Fire Island National Seashore Planning, Science, and Research Conference, April 27-28.

Lentz, E.E., and Hapke, C.J., (2011). The development of a probabilistic approach to forecast coastal change. Paper presented at Coastal Sediments '11 Conference, May 2-6, Miami, Florida.

PROFESSIONAL DEVELOPMENT AND COMMUNITY OUTREACH

- Reviewer for *Computers and Geosciences*, *Geomorphology*, and *Journal of Coastal Research*
- Session Co-Chair 2015 Marine Coastal Science Session, Geological Society of America Meeting
- Member Geological Society of America (since 2003) and American Geophysical Union (since 2006)
- Guest lecturer, graduate-level coastal ecosystems management class, Univ. of Rhode Island (2011)
- NSF and William Mitchell College of Law Expert Witness Training, Minneapolis, MN (2010)
- Elementary School Guest Speaker, Fire Island NY and Plymouth MA
- High School Science Fair Judge (Falmouth High School), Falmouth, MA (2011)
- Vice Chair, Town of Plymouth Tidal Beaches Advisory Committee, Plymouth MA (2011-2014)
- Public conference planner/organizer, Climate Change and Rhode Island's Coast: Where Will Tomorrow's Shoreline Be? Narragansett, Rhode Island (2008)
- Cohort Student Representative, Coastal Institute IGERT Program, University of Rhode Island (2006)
- Session co-chair 2004 Paleoclimatology/Paleoceanography, NE Geological Society of America Meeting

MEDIA CITATIONS: New York Times, National Geographic News, Greenwire, Climate Central, Discovery Channel News, Daily Press, Bay Journal