HANNAH SIRIANNI, Ph.D.
Greenville, NC 27858, USA
E-Mail: siriannih21@ecu.edu
Website: hannahsirianni.com

EDUCATION

Ph.D. 2018, Geosciences, Florida Atlantic University, Boca Raton, FL
M.A. 2013, Geography, University of Hawai`i at Mānoa, Honolulu, HI
B.A. 2011, Highest Honors in Geography, University of Hawai`i at Mānoa, Honolulu, HI

PROFESSIONAL EXPERIENCE

08/2018 to Present	**Assistant Professor**, Dept. of Geography, Planning, & Environment, East Carolina University
08/2013 to 05/2018	**Research Assistant**, Dept. of Geosciences, Florida Atlantic University
08/2015 to 12/2017	**Instructor**, Dept. of Geosciences, Florida Atlantic University
12/2015 to 03/2016	**Sea-level Rise Geospatial Consultant**, City Mayor, Coral Gables, Florida
10/2013 to 01/2014	**Sea-level Rise Consultant**, Climate Leadership Engagement Opportunities (CLEO), Pinecrest, Florida
08/2013 to 08/2015	**Teaching Assistant**, Dept. of Geosciences, Florida Atlantic University
05/2013 to 08/2013	**Instructor**, Dept. of Geography, University of Hawai`i at Mānoa
08/2012 to 05/2013	**Teaching Assistant**, Dept. of Geography, University of Hawai'i at Mānoa
08/2010 to 08/2012	**Research Assistant**, Dept. of Geology & Geophysics, Hawai`i Coastal Geology Group, University of Hawai'i at Mānoa

PUBLICATION RECORD

Peer-Reviewed Publications

16) Heffentrager, M., Wasklewicz, T., **Sirianni, H.**, Gares, P., Richter, J. (2023) Reproducibility in Coastal Physical Laboratory Experiments: Washover Deposits and Channel Morphology. *Journal of Coastal Research*, https://doi.org/10.2112/JCOASTRES-D-22-00092.1 (***Journal Article***).
15) **Sirianni, H.**, Sirianni, M.J., Mallinson, D.J., Lindquist, N.L., Valdes-Weaver, L.M., **Moody, M., Henry, B., Coli, C., Rubino, B., Peñalver, M.M., Henne, C. (2022) Quantifying recent storm-induced change on a small fetch-limited barrier island along North Carolina's Crystal Coast using aerial imagery and LiDAR. *Coasts*, 2, 302-322. https://doi.org/10.3390/coasts2040015 (***Journal Article***).
14) Guan, S., Huang, Y., **Sirianni, H.**, Wang, G., Zhu, Z. (2022) An Error Prediction Model for Construction Bulk Measurements Using a Customized Low-Cost UAS-LIDAR System. *Drones*. 9(7), 178, https://doi.org/10.3390/drones6070178 **(*Journal Article: IF: 5.532*)**.
13) Guan, S., **Sirianni, H.**, Wang, W., Zhu, Z. (2022) sUAS monitoring of Coastal Environments: A Review of Best Practices from Field to Lab. *Drones.* 6(6), 142, https://doi.org/10.3390/drones6060142 **(*Journal Article: IF: 5.532*).**
12) *__Cooper, H.__, Wasklewicz, T., Zhu, Z., Lewis, W., LeCompte, K., Heffentrager, M., Smaby, R**, Brady, J, Howard, R (2021) Evaluating the ability of multi-sensor techniques to capture topographic complexity. *Sensors.* 21(6), https://doi.org/10.3390/s21062105 **(*Journal Article: IF 3.847*).**
11) *__Cooper, H.__ and Zhang, C. Vulnerability Analysis of Coastal Everglades to Sea Level Rise using SLAMM. In: Multi-sensor System Applications in the Everglades Ecosystem. Qihao Weng, editor. CRC Press Taylor & Francis Group, 2020. p. 259-272. ***(Book Chapter).***
10) *__Cooper, H.__ and Zhang, C. Enhancing LiDAR Data Integrity in the Coastal Everglades. In: Multi-sensor System Applications in the Everglades Ecosystem. Qihao Weng, editor. CRC Press Taylor & Francis Group, 2020. Pp. 273-288. ***(Book Chapter).***

9) *__Cooper, H.__, Zhang, C., Davis, S., Troxler, T. (2019) Object-based Correction of LiDAR DEMs Using RTK-GPS Data and Machine Learning Modeling in the Coastal Everglades. *Environmental Modeling & Software*, 112, p. 179-191. ***(Journal Article: IF 5.699).***
8) Zhang, C., Denka, S., *__Cooper, H.__, Mishra, D. (2018) Multiscale Quantification of Sawgrass Marsh Aboveground Biomass in the Coastal Everglades Using Object-based Ensemble Analysis and Landsat Data. *Remote Sensing of the Environment*, p. 366-379. ***(Journal Article: IF 13.85).***
7) Zhang, C., Selch, D., and **Cooper, H.** (2015) A Framework to Combine Three Remotely Sensed Data Sources for Vegetation Mapping in Central Florida Everglades. *Wetlands*. 36, p. 201-213. **(*Journal Article: IF 2.5*).**
6) *__Cooper, H.__, Zhang, C., and Selch, D. (2015). Incorporating Uncertainty of Groundwater Modeling in Sea-Level Rise Assessment: A Case Study in South Florida. *Climatic Change*, 129(1-2), p. 281-294. **(*Journal Article: IF 5.174*).**
5) Zhang, C., *__Cooper, H.__, Selch, D., et al. (2014). Mapping Urban Land Covers Using Object-based Multiple Endmember Spectral Mixture Analysis. *Remote Sensing Letters*, 5(6), p. 521-529. **(*Journal Article: IF: 2.369*).**
4) *__Cooper, H.__ and Chen, Q. (2013). Incorporating Uncertainty of Future Sea-Level Rise Estimates into Vulnerability Assessment: A Case Study in Kahului, Maui. *Climatic Change*, 121(4), p. 635-647. **(*Journal Article: IF 5.174*).** Awarded Graduate Student Publication Award, Department of Geography, University of Hawai`i at Mānoa.
3) Zhang, C., Selch, D., Roberts, C., Xie, X., *__Cooper, H.__, and Chen, G. (2013). Object-based Benthic Habitat Mapping in the Florida Keys from Hyperspectral Imagery. *Estuarine, Coastal, and Shelf Science*, 134, p. 88-97. **(*Journal Article: IF 2.929*).**
2) *__Cooper, H.__, Fletcher, C.H., Chen, Q., and Barbee, M.M. (2013). Sea-Level Rise Vulnerability Mapping for Adaptation Decisions using LiDAR DEMs. *Progress in Physical Geography*, 37(6), p. 743-764. **(*Journal Article: IF 4.283*).**
1) *__Cooper, H.__, Chen, Q., Fletcher, C.H., and Barbee, M.M. (2012). Vulnerability Assessment due to Sea-Level Rise in Maui, Hawai`i using LiDAR Remote Sensing and GIS. *Climatic Change*, 116 (3-4), p. 547-563. **(*Journal Article: IF 5.174*).**

Submitted

1) **Sirianni, H.** and Montz, B. Experiences and Perceptions of Bluff Erosion in North Carolina: Implications for Coastal Management. *Anthropocene Coasts* (***Journal Article submitted 07/2023***).

Publications (Non-Refereed)

4) *__Cooper, H.__ (2016, November 18). 5 Ways to Keep Manatees Safe in South Florida this Manatee Season. The Palm Beacher. Available at: https://www.palmbeachermagazine.com/noteworthy/5-ways-keep-manatees-safe-south-florida-manatee-season ***(Magazine Article)***
3) *__Cooper, H.__ Sea-Level Rise Vulnerability Mapping of South Florida. In: Esri Map Book Volume 31. ESRI Press, 2016. pp 68-69. ***(Cartographic Products)***
2) Selch, D., Zhang, C., Oleinik, A., and *__Cooper, H.__ Hyperspectral Signatures of Sand Samples. In: The ArcGIS Imagery Book: New View. New Vision. Brown C and Harder C, editors. Esri Press, 2016. pp 67. ***(Cartographic Products)***
1) Markwith, S., *__Cooper, H.__, Kamerosky, A., Kunwar, R., Thibaut, C., Mulcan, M., and So, Y. (2014). Pre-restoration Assessment of Fish and Invertebrate Communities at the Grassy Flats Restoration Area, Lake Worth Lagoon, Florida. Submitted to the Department of Environmental Resources Management, Palm Beach County, FL. ***(Report)***

**née Cooper*

*** Student of Hannah Sirianni*

RESEARCH GRANTS AWARDED ($981,000)

8) Co-developing a community and data-driven framework for coastal protection decision-making, Submitted to NCSU – North Carolina State University (NCSU), National Sea Grant, and the U.S. Coastal Research Program. PI: Rachel Gittman, co-PI's: Hannah Sirianni, Nadine Heck, Siddharth Narayan, Scott Leahy, Frank Lopez, Sarah Spiegler. $460,000, 08/2023 – 08/2026.
7) Evaluating ecosystem benefits and tradeoffs of living shoreline materials, NC Sea Grant, PI: Rachel Gittman, co-PI's: Hannah Sirianni, April Blakeslee, and Mary-Margaret McKinny, $60,000, 02/2022 – 02/2023.

6) Using Machine Learning Ensemble Analysis with Imagery and LiDAR Remote Sensing to Improve Estuarine Shoreline Mapping in the Neuse River Estuary, NC, NC Sea Grant/NC Space Grant, PI: **Jessica Richter, co-PI: Hannah Sirianni., $10,000, 05/2021 – 05/2022.
5) Estuarine bluff shorelines: Inter-relation between erosion processes and development vulnerability, U.S. Coastal Research Program, PI: Hannah Sirianni, co-PI's: Thad Wasklewicz, Burrell Montz, Paul Gares, Scott Curtis, and Chad Strawn, $250,000, 10/2019 – 09/2023.
4) CESU- Shoreline Change Analysis for Habitat, Recreation, and Infrastructure Resilience at Cape Hatteras National Seashore, National Park Service CESU, PI: Hannah Sirianni, co-PI's: Tom Allen and Thad Wasklewicz, $128,000, 09/2019 – 09/2023.
3) RAPID: Acquisition of Critical Data for the Validation of Watershed Response Models in Eastern North Carolina, National Science Foundation, PI: Stephen Moysey, co-PI's: Hannah Sirianni and Mike Driscoll, $49,900, 09/2018 – 09/2019.
2) Assessing Coastal Peat Marsh Vulnerability to Increased Water Depths due to Sea-Level Rise using GIS, Remote Sensing, and Geostatistical Modeling, Everglades Foundation, PI: Hannah Sirianni, $20,000, 09/2017 – 06/2018.
1) Assessment of Sea-Level Rise using LiDAR Data in Waikiki, Honolulu. Undergraduate Summer Research Grant, University Research Council, University of Hawai`i at Mānoa, PI: Hannah Sirianni, $3,000, 08/2010 – 04/2011.

** *Student of Hannah Sirianni*

TEACHING GRANTS AWARDED ($10,000)

1) Fall 2021 Online Course Design Grant, ECU, PI: Hannah Sirianni, $10,000, 08/2021 – 01/2022.

PROPOSALS (UNFUNDED)

9) Assessing sea-level rise projections and sediment characteristics of salt marshes protected by oyster breakwaters, Submitted to DOC – National Oceanic Administration (NOAA). PI: Rachel Gittman, co-PI: Hannah Sirianni. $120,000, 08/2022 – 07/2024.
8) Delineating biogeochemical regulatory mechanisms impacting the cycling and episodic release of nutrients in salt-affected coastal watersheds, Submitted to DOE - Office of Science (SC). PI: Stephen Moysey, co-PI's: Arianne Peralta, Alex Manda, Hannah Sirianni, Natasha Bell, John Hoben, Haruko Wainwright, Bhavna Aroroa, Adam Mangel, $999,300, 04/2021.
6) Response of dune landforms to individual aeolian events, Submitted to National Science Foundation, PI: Paul Gares, co-PI's: Thad Wasklewicz, Hanah Sirianni, $300,000, 04/2020.
5) Object-based machine learning modeling and mapping of estuarine shorelines using aerial imagery, LiDAR and GNSS in the Pamlico Estuary, NC, Submitted to the Ralph E. Powe Junior Faculty Enhancement Awards, Oak Ridge Associated Universities, PI: Hannah Sirianni, $10,000, 2019.
4) IUSE: GEOPATHS into Geoscience – IMPACT: There is no Bluffing your way into STEM Research: Data Uncertainty, Analysis and Inference Reveal a Clear STEM Pathway for Geoscientists, Submitted to National Science Foundation, PI: Thad Wasklewicz, co-PI'S: Hannah Sirianni, William Lewis, $280,000, 2018.
3) Developing a Coastal Marsh and Mangrove Hurricane Vulnerability Analysis (MMHVA) Tool Using Multiple Earth Observations: Modeling and Testing for Hurricane Irma in the Coastal Everglades, Submitted to NASA, PI: Caiyun Zhang, co-PI's Hannah Sirianni, David Lagomasino, $940,000, 2018.
2) Using Artificial Intelligence to Map the Effects of Sea-Level Rise on Groundwater, PI: Hannah Sirianni, $98,000, submitted to National Geographic Society Artificial Intelligence for Earth, 2018.
1) Development of a Framework for Assessing Peat Vulnerability to Sea-Level Rise to Guide Everglades Restoration, Submitted to Everglades Foundation, PI: Hannah Sirianni, $40,000, 2015.

SELECTED CONFERENCE ACTIVITY

Oral Presentations

12) Sirianni, M. **Sirianni, H.**, M.J., Mallinson, D.J., Lindquist, N.L., Valdes-Weaver, L.M., **Moody, M., Henry, B., Coli, C., Rubino, B., Peñalver, M.M., Henne, C. "Quantifying recent storm-induced change on a small fetch-limited barrier island along North Carolina's Crystal Coast using aerial imagery and LiDAR." American Association of Geographers (AAG), Denver, Colorado, 03/2023.
11) **Richter, J. and **Sirianni, H**. "Shoreline Mapping in the Neuse River Estuary, NC using Object-Based Ensemble Analysis, Aerial Imagery, and LiDAR." American Geophysical Union (AGU) Fall 2021, New Orleans.

10) *__Cooper, H.__, Wasklewicz, T., Zhu, Z., Lewis, W., Howard, R., LeCompte, K., Heffentrager, M., Brady, J., **Smaby, R., Van Wagoner, P., Horgan, J. "Evaluating the ability of several commercially available UASs to capture topographic complexity typical of estuarine bluff shorelines in North Carolina." AGU Fall 2020, Virtual.
9) *__Cooper, H.__, Zhang, C., Davis, S., Troxler, T. "Object-based Correction and Mapping of LiDAR DEMs Using RTK-GPS Data and Machine Learning Modeling in the Coastal Everglades," AGU Fall 2018, Washington, D.C.
8) *__Cooper, H.__ "Simulating water depths due to sea-level rise in the coastal Everglades using real-time stage monitoring, LiDAR data and GIS," American Shore & Beach Preservation Association (ASBPA), Ft. Lauderdale, Florida, 10/2017.
7) ***Cooper, H.** and Zhang, C. "Combining LiDAR with RTK GPS using random forest regression shows promise for DEMs of mangrove and sawgrass soil heights in Florida's Coastal Everglades," Greater Everglades Ecosystem Restoration (GEER), Coral Springs, Florida, 04/2017.
6) *__Cooper, H.__ and Zhang, C. "Uncertainty in LiDAR elevation measurements of coastal vegetation substrate for sea-level rise assessment," American Association of Geographers (AAG), San Francisco, California, 04/2016.
5) *__Cooper, H.__, Zhang, C., Selch D. "Incorporating uncertainty of groundwater modeling in sea-level rise assessment: a case study in South Florida," Greater Everglades Ecosystem Restoration (GEER), Coral Springs, Florida, 04/2015.
4) *__Cooper, H.__, "Climate change and sea-level rise," University of Hawai`i Leeward Community College, Pearl City, Hawai`i, 03/2015.
3) *__Cooper, H.__, "Mapping coastal inundation uncertainty," American Association of Geographers (AAG), Tampa, Florida, 04/2014.
2) *__Cooper, H.__, "Assessing vulnerability due to Sea-Level Rise in Maui, Hawai`i using LiDAR remote sensing and GIS," Undergraduate Research and Creative Work Spring Symposium, Honors Program and Office of Vice Chancellor of Research and Graduate Education, University of Hawai`i at Mānoa, Honolulu, Hawai`i, 04/2011. *Awarded Best Overall Oral Presentation for Honors Project*
1) *__Cooper, H.__, "Assessing vulnerability due to sea-level rise in Maui, Hawai`i using LiDAR remote rensing and GIS," Undergraduate Research and Creative Work Fall Symposium, Honors Program and Office of Vice Chancellor of Research and Graduate Education, University of Hawai`i at Mānoa, Honolulu, Hawai`i, 12/2010.

Poster Presentations

8) **Sirianni, H.** and Montz, B. "Experiences and Perceptions of Bluff Erosion in North Carolina: Implications for Coastal Management," American Geophysical Union (AGU), San Francisco, California, 12/2023.
7) **Sirianni, H.**, Wasklewicz, T., Montz, B., Gares, P., Curtis, S., "Bluff shoreline erosion processes and development vulnerability in the Neuse River Estuary, North Carolina," American Association of Geographers (AGU), Denver, Colorado, 03/2023.
6) *__Cooper, H.__, Zhang, C., Sirianni, M., "A geospatial approach for improving vertical accuracy of elevation models in Florida's coastal Everglades," American Geophysical Union (AGU), San Francisco, California, 12/2016.
5) *__Cooper, H.__, "Marine and groundwater inundation by 2100 of Florida's two most southern mainland cities," 3rd Annual Sea-Level Rise Symposium, West Palm Beach, Florida, 08/2015.
4) *__Cooper, H.__, "Sea-level rise mapping of Kahului, Maui, Hawai`i," Esri User Conference, San Diego, California, 07/2015.
3) *__Cooper, H.__, Fletcher CH, Chen Q, Barbee MM "Sea-level rise vulnerability mapping using LiDAR DEMs," Sea-Level Rise Summit, Ft. Lauderdale, Florida, 10/2013.
2) *__Cooper, H.__, "Assessing vulnerability due to sea-level rise in Maui, Hawai`i using LiDAR remote sensing and GIS," Undergraduate Research and Creative Work Spring Symposium, Honors Program and Office of Vice Chancellor of Research and Graduate Education, University of Hawai`i at Mānoa, Honolulu, Hawai`i, 04/2011.
1) *__Cooper, H.__, "Assessment of sea-level rise using LiDAR data in Waikiki, Honolulu," Undergraduate Research and Creative Work Spring Symposium, Honors Program and Office of Vice Chancellor of Research and Graduate Education, University of Hawai`i at Mānoa, Honolulu, Hawai`i, 04/2011. *Awarded 1st Place for Poster Presentation in Natural Sciences Division*

**née Cooper*
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TEACHING

University Courses Taught

East Carolina University

In person

4) GIS II (GEOG 4430), undergraduate, 30 students, offered once (Developed and delivered all course material, no TA support).
3) Advanced GIS (GEOG 6430), graduate, 15 students, offered once (Developed and delivered all course material, no TA support).
2) GIS I (GEOG 3430), undergraduate, 30 students, offered twice (Developed and delivered all course material, no TA support).
1) Intro. to the Global Positioning System (GEOG 3450), undergraduate, 15 students, offered once (Redeveloped as field-based course, no TA support).

Online

4) GIS I (GEOG 3430), undergraduate, 35 students, offered twice (This course has met Quality Matters Standards for course design, no TA support).
3) GIS (GEOG 6401), graduate, 35 students, offered twice (Created and designed as a new course, no TA support).
2) Coastal Applications of GIS (GEOG 4440), undergraduate, 25 students, offered once (Developed and delivered all course material, no TA support).
1) Spatial Analysis of Coastal Environments (GEOG 6440), graduate, 15 students, offered once (Developed and delivered all course material, no TA support).

Florida Atlantic University

Online

3) Introduction to Mapping and GIS (GIS 3015C), Instructor of Record, undergraduate, 30 students, offered twice (Redeveloped some and delivered all course material).
2) Principles of GIS (GIS 3015C), Instructor of Record, undergraduate, 30 students, offered twice (Redeveloped some and delivered all course material).
1) Spatial Data Analysis (GEO 4167C), Instructor of Record, undergraduate, 25 students, offered twice (Redeveloped some and delivered all course material).

University of Hawai`i at Mānoa

In person

1) Intro. to GIS (GEOG 388), Instructor of Record, undergraduate, in-person, 25 students, offered once (Developed and delivered all course material).

Professional Teaching Interactions

Florida Atlantic University

Online

5) Introduction to Mapping and GIS (GIS 3015C), Graduate Teaching Assistant, undergraduate, 30 students, offered twice (Supervisor of online course delivery).
4) Principles of GIS (GIS 3015C), Graduate Teaching Assistant, undergraduate, 30 students, offered twice (Supervisor of online course delivery).
3) Spatial Data Analysis (GEO 4167C), Graduate Teaching Assistant, undergraduate, 25 students, offered once (Supervisor of online course delivery).
2) Programming in GIS (GIS 4102C), Graduate Teaching Assistant, undergraduate, 30 students, offered twice (Supervisor of online course delivery).
1) LiDAR Remote Sensing and Applications (GIS 6032C), Graduate Teaching Assistant, graduate, 15 students, offered once (Supervisor of online course delivery).

University of Hawai`i at Mānoa

In-person

1) The Natural Environment Lab (GEOG 101L), Graduate Teaching Assistant, undergraduate, in-person, 25 students, offered four times (Delivered all laboratory material).

ADVISEMENT

Graduate students

17) Sarah Pettyjohn (expected Spring 2025), MS, Geography, East Carolina University. Quantifying seasonal change on a small fetch-limited barrier island along North Carolina's Crystal Coast using sUAS and RTK-GNSS (***Advisor & Mentor***)
16) Michael Moody (expected Spring 2024), MS, Geography, East Carolina University (***Advisor & Mentor***)
15) Megan Geesin (expected Spring 2025), Ph.D., Integrated Coastal Sciences, East Carolina University. Assessing the ecological and societal benefits and tradeoffs of oyster breakwaters (***Committee Member***)
14) Allyson Ropp (expected Spring 2025), Ph.D., Integrated Coastal Sciences, East Carolina University. Wooden Shipwreck Degradation: An Interdisciplinary Assessment of Wooden Shipwreck Stability in a Shallow-Water Tidal-Fresh Ecosystem (***Committee Member***)
13) Yicheng Xu (expected Spring 2025), Ph.D., Integrated Coastal Studies, East Carolina University. Risk Management Under the High Tide: Understanding the Socio-economic Impacts, Stakeholders' Vulnerability, and Potential Mitigation Alternatives to Nuisance Flooding (***Committee Member***)
12) Cody Brown (expected Spring 2024), MS, Geology, East Carolina University. Thesis title under discussion (***Committee Member***)
11) Taylor Miller (expected Spring 2023), MS, Geology, East Carolina University. Quantifying 40 years of Florida mangrove expansion trends and accommodation space via remote sensing and machine learning (***Committee Member***)
10) Jonathan Teboul (2023), MS, Geography, East Carolina University. Influence of channel bend curvature on debris-flow-driven avulsion on alluvial fans, explored through discrete simulations (***Committee Member***)
9) Nelson Adeniji (2023), MS, Geography, East Carolina University. Impact of buyout programs on land use patterns in Pitt County, North Carolina (***Committee member***)
8) Ryann Knowles (2022), MS, Geography, East Carolina University. Quantifying nearshore bathymetric change using an Unoccupied Surface Vehicle equipped with RTK-GNSS and echosounder: A case study in the Neuse River Estuary, NC *(**Advisor & Mentor**)*
7) Jessica Richter (2022), MS, Geography, East Carolina University. Estuarine Shoreline Mapping using Object-based Ensemble Analysis, Aerial Imagery, and LiDAR: A Case Study in the Neuse River Estuary, NC *(**Advisor & Mentor**)*
6) Muna Khatiwada (2021), MS, Geography, East Carolina University. Time-space characterization of precipitation in the Ganges-Brahmaputra-Meghna river basin for projecting riverbank erosion in the Bangladesh outlet (***Committee Member***)
5) Christopher Jarrett (2021), MS, Geography, East Carolina University. Springtime onset of isolated convection in the central and eastern United States (***Committee Member***)
4) Rachel Smaby (2021), MS, Geography, East Carolina University. Vegetation change analysis from 2010-2018 using aerial photography and RTK-GNSS to assist Lake Mattamuskeet Restoration Efforts in North Carolina, USA *(**Advisor & Mentor**)*
3) Madison Heffentrager (2021), MS, Geography, East Carolina University. Analysis of Overwash Sediment Transport in an Experimental Laboratory Setting: Channel Dimension Influence on Washover Deposits (***Committee Member***)
2) Karley LeCompte (2021), MS, Geography, East Carolina University. Washover fan evolution, Assateague Island National Seashore, MD (2012-2019) (***Committee Member***)
1) Michelle Schlup (2020), MS, Geography, East Carolina University. Object-based machine learning correction of LiDAR using RTK-GNSS to model the potential effects of sea-level rise in Swanquarter National Wildlife Refuge, North Carolina (***Advisor & Mentor***).

Undergraduate students

6) Brandon Lusch (expected Fall 2024), B.S. Geographic Information Science and Technology, East Carolina University. Enhancing Stakeholder Engagement: Interactive Maps for Bluff Shoreline Management in North Carolina's Inner Banks (***Advisor & Mentor***)
5) Julia Shukis (expected Spring 2024), BS Geography, East Carolina University. Hurricane Impacts on the Neuse River Estuary, North Carolina (***Advisor & Mentor***)
4) Shannon Clough (2023), BS, Community and Regional Planning, B.S. Geographic Information Science and Technology, East Carolina University. Investigating bluff erosion in the Neuse River Estuary, North Carolina (***Advisor & Mentor***)
3) Zoe Garner (2023), B.S. Geographic Information Science and Technology, East Carolina University, East Carolina University. Assessing Potential Habitat Change Due to Future Sea-level Rise in Cape Hatteras National Seashore (***Advisor & Mentor***)

2) Elizabeth-Margaret Schunk (2022), BS, Geographic Information Science and Technology, East Carolina University. Topographic mapping of nearshore environments using RTK-GNSS (***Advisor & Mentor***)
1) Robert Shinn (2022), BS, Applied Geography, East Carolina University. Bathymetric Mapping in Estuarine Environments Using Sonar (***Advisor & Mentor***)

ACADEMIC AWARDS

9) Mel Marcus Fund for Physical Geography, American Association of Geographers, 04/2016-04/2017.
8) Presidential Fellowship, Charles E Schmidt College of Science, Florida Atlantic University, 08/2013 – 08/2014.
7) Graduate Student Publication Award, Department of Geography, University of Hawai`i at Mānoa, 04/2013.
6) H.J. Wiens Memorial Award, Department of Geography, University of Hawai`i at Mānoa, 04/2013.
5) The Hubert and Mable Frings Endowed Scholarship, Honors Program and Office of Vice Chancellor of Research and Graduate Education, University of Hawai`i at Mānoa, 01/2012.
4) Office of Students Helping Students Achievement Fellowship, University of Hawai`i at Mānoa, 08/2010 – 08/2011.
3) Best Overall Oral Presentation for Honors Project, Undergraduate Research and Creative Work Spring Symposium 2011, Honors Program and Office of Vice Chancellor of Research and Graduate Education, University of Hawai`i at Mānoa, 04/2011.
2) 1st Place for Poster Presentation in Natural Sciences Division, Undergraduate Research and Creative Work Spring Symposium 2011, Honors Program and Office of Vice Chancellor of Research and Graduate Education, University of Hawai`i at Mānoa, 04/2011.
1) Associated Students of the University of Hawai`i at Mānoa Scholarship, UHM, 08/2010.

SYNERGISTIC ACTIVITIES

University/Departmental Service

East Carolina University

9) Department of Geography, Planning and Environment – GIST Hire Committee Member, 09/2023 – present.
8) Department of Geography, Planning and Environment – Planning Hire Committee Member, 08/2021 – 02/2022
7) Coastal and Marine Interdisciplinary Studies – Advisory Committee, 09/2021 – 12/2022.
6) Department of Geography, Planning and Environment - GIST Certification Program Coordinator, 06/2021 – present.
5) Department of Geography, Planning and Environment – Graduate Admissions Committee Member, 06/2021 – present.
4) Office of the Vice Chancellor Division of Research, Economic Development & Engagement - Resiliency Task Force Member, 06/2021 – 06/2022.
3) Department of Coastal Studies, Integrated Coastal Science Ph.D. Program Admissions Committee, 06/2020 – present.
2) Department of Geography, Planning and Environment Advisory Committee, 08/2019 – 2021.
1) Department of Geography, Planning and Environment Social Committee Member, 08/2018 – present.

Florida Atlantic University

1) Arthur R. Marshall Foundation for the Everglades Internship mentor, 2014 – 2016.

University of Hawai`i at Mānoa

3) Judge, Undergraduate Research and Creative Work Spring Symposium, Honors Program and Office of Vice Chancellor of Research and Graduate Education, Oral and Poster sessions, 04/2013.
2) Graduate Representative, Department of Geography Pau Hana, 08/2012 – 04/2013.
1) Student Ambassador, Center for Career Development and Student Employment, 08/2010 –08/2011.

Community Outreach

5) Sugarloaf Island Shoreline Restoration Project – Technical Project Team member, Morehead City, NC, 02/2022 – present.
4) Kiawah Island Turtle Patrol volunteer, Town of Kiawah Island, South Carolina, 09/2021 and 05/2022.
3) Greenville NC Recreation and Parks, Adventure Park Development – Sonar mapping volunteer, 04/2021.
2) Environmental Art Instructor, Manatee Lagoon – An FPL Eco-Discovery Center, Riviera Beach, Florida, 01/2016 – 08/2018.
1) Sea Turtle Conservation League of Singer Island volunteer, Singer Island, Florida, 06/2015

Journal Referee

5) Nature Communications
4) Climatic Change
3) International Journal of Geographic Information Science
2) International Journal of Digital Earth
1) Annals of the New York Academy of Sciences

Grant Referee

1) Maryland Sea Grant Graduate Student Research Support Grants Program

RECOGNITIONS

Outstanding Faculty Recognition in 2020, East Carolina University Division of Research, Economic Development and Engagement.

INTERNATIONAL STUDY

06/2008 – 08/2008 Participant, Interculturra, Heredia, Costa Rica

CERTIFICATIONS

2019 Part 107 Remote Pilot, Federal Aviation Administration (renewed 2022)
Quality Matters (QM) Course certification for GEOG 3430 – GIS 1 (hyperlink)
First Aid / CPR / Bloodborne Pathogens Certification

PROFESSIONAL MEMBERSHIPS/AFFILIATIONS

American Association of Geographers
American Geophysical Union