# William S. Kearney

ASEE Postdoctoral Fellow – Sediment Dynamics Section, Code 7354 Naval Research Laboratory └ +1 (678) 447 2396 • ☑ William.Kearney.ctr@nrlssc.navy.mil Swskearney.com

# Education

**Boston University** Boston, MA Ph.D.2018 Earth Sciences, Dissertation: Signals of nonlinear, multiscale and stochastic processes in coastal landscapes

University of Pennsylvania B.A.Science, Technology & Society and Earth Science

### Academic appointments

**ASEE Postdoctoral Fellow** Naval Research Laboratory Project: Probabilistic modeling of seafloor roughness

#### **Postdoctoral Research Associate**

University of Virginia (40 hours per week) Project: High-frequency observations of the momentum budget in a tidal creek

#### Graduate research assistant

Boston University (20 hours per week) Project: Long-term monitoring of sediment fluxes in a mesotidal estuary

#### Undergraduate research assistant

University of Pennsylvania Project: Monitoring of sediment deposition after a tidal wetland restoration

## **Publications and Presentations**

Peer-reviewed articles.....

Giulio Mariotti, William S. Kearney, and Sergio Fagherazzi. Soil creep in a mesotidal salt marsh channel bank: Fast, seasonal, and water table mediated. *Geomorphology*, 334:126 - 137, 2019.

01/05/2012 - 05/25/2013(5-10 hours per week)

Philadelphia, PA

2013

09/25/2018 - 09/24/2019

08/08/2013 - 09/24/2018

01/06/2020 - present

(40 hours per week)

Sergio Fagherazzi, Giovanna Nordio, Keila Munz, Daniele Catucci, and **William S. Kearney**. Variations in persistence and regenerative zones in coastal forests triggered by sea level rise and storms. *Remote Sensing*, 11(17), 2019.

Sergio Fagherazzi, Shimon C. Anisfeld, Linda K. Blum, Emily V. Long, Rusty A. Feagin, Arnold Fernandes, **William S. Kearney**., and Kimberlyn Williams. Sea level rise and the dynamics of the marsh-upland boundary. *Frontiers in Environmental Science*, 7:25, 2019.

William S. Kearney, Arnold Fernandes, and Sergio Fagherazzi. Sea-level rise and storm surges structure coastal forests into persistence and regeneration niches. *PLOS ONE*, 14(5):1–14, 2019.

Arnold Fernandes, Christine R. Rollinson, William S. Kearney, Michael C. Dietze, and Sergio Fagherazzi. Declining radial growth response of coastal forests to hurricanes and nor'easters. *Journal of Geophysical Research: Biogeosciences*, 123(3):832–849, 2018.

William S. Kearney, Giulio Mariotti, Linda A. Deegan, and Sergio Fagherazzi. Stagedischarge relationship in tidal channels. *Limnology and Oceanography: Methods*, 15(4):394– 407, 2017.

Giulio Mariotti, **William S. Kearney**, and Sergio Fagherazzi. Soil creep in salt marshes. *Geology*, 44(6):459–462, 2016.

William S. Kearney and Sergio Fagherazzi. Salt marsh vegetation promotes efficient tidal channel networks. *Nature Communications*, 7, 2016.

Invited talks.....

William S. Kearney. Quantifying the physical connection between wetlands and coastal waters. Sediment Dynamics Division, Naval Research Laboratory, Stennis Space Center, 2019.

William S. Kearney. A brief introduction to machine learning in environmental science. Undergraduate Seminar, Department of Environmental Sciences, University of Virginia, 2019.

William S. Kearney. Sediment and energy fluxes in Plum Island salt marshes. Coastal Ocean Fluid Dynamics Laboratory, Woods Hole Oceanographic Institution, 2018.

Conference presentations.....

William S. Kearney, Carter DuVal, and Allison M. Penko. Probabilistic modeling of ripple evolution. Presented at the AGU Fall Meeting, online, 2020.

William S. Kearney, Inke Forbrich, and Sergio Fagherazzi. Tidal exchange of heat in salt marshes. Presented at the Ocean Sciences Meeting, Portland, Oregon, 2018.

William S. Kearney. Learning representations of salt marsh hydrodynamics. Presented at the AGU Fall Meeting, Washington, DC, 2018.

William S. Kearney, Arnold Fernandes, and Sergio Fagherazzi. Sea level rise and storm surge structures coastal forests into persistence and regeneration niches. Presented at the CERF Biennial Meeting, Providence, RI, 2017.

William S. Kearney, Giulio Mariotti, and Sergio Deegan, Linda A. Fagherazzi. Stagedischarge relationships in tidal channels. Presented at the AGU Fall Meeting, San Francisco, CA, 2016.

William S. Kearney and Sergio Fagherazzi. Deriving process knowledge from data in coastal ecohydrology. Presented at Data Science Workshop, University of Washington, Seattle, WA, 2015.

William S. Kearney and Sergio Fagherazzi. Salt marsh vegetation promotes efficient tidal channel networks. Presented at the AGU Fall Meeting, San Francisco, CA, 2014.

### Teaching

<b>Physical Hydrology (EVSC 3600)</b> University of Virginia, Department of Environmental Sciences	Guest lecturer
<b>Digital Image Processing (GE440/640)</b> Boston University, Department of Earth and Environment	Teaching fellow
Introduction to Unix/Bash and Introduction to Version Constraints and University, Open Science Study Group	ontrol Instructor
Estuaries and Nearshore Systems (ES543) Boston University, Marine Program	Teaching fellow
Introduction to Environmental Earth Science (ES105) Boston University, Department of Earth and Environment	Guest lecturer
Introduction to Hydrology (ES317) Boston University, Department of Earth and Environment	Teaching fellow
Mentorship	
Supervised undergraduate research	
Jacob Bushey, 2019, VCR LTER Research Experience for Undergrad with Matthew Reidenbach and Sara Hogan	uates, Co-supervised
Other mentorship experiences	
OpenMaine, 2019, Mozilla Open Leaders Cohort	
BosLab, 2017, Mozilla Open Leaders Cohort	

## Awards

Boston University Department of Earth and Environment Outstanding Teaching Fellow	2018
Funding	
American Society of Engineering Education NRL/ASEE Postdoctoral Fellowship \$83,938	2019-2020
Boston University Marine Program Warren-McLeod Summer Fellowship	Summer 2015
Service	
College of Arts and Sciences, Boston University Natural Sciences Curriculum Committee, Graduate Student Representativ	e 2017–2018
<b>College of Arts and Sciences, Boston University</b> Graduate Academic Affairs Committee, Graduate Student Representative	2016-2017
<b>College of Arts and Sciences, Boston University</b> Academic Policy Commitee, Graduate Student Representative	2015-2016
<b>Department of Earth and Environment, Boston University</b> Graduate Student Representative	2015-2017
Reviewing. Journal of Geophysical Research: Earth Surface, Journal of Open Source So Surface Dynamics, Earth Surface Processes and Landforms, Journal of	oftware, Earth f Geophysical

Research: Oceans, Water Resources Research