

Dax Soule, Geophysicist

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Updated 02/29/2024

Education

- **University of Washington**, Seattle, WA
 Ph. D., Oceanography, Grad: August 2016
 Dissertation Title: Multi-disciplinary Applications of Oceanographic Geophysical Data Collection
- **Texas A&M University**, College Station, TX
 Bachelor of Science, Geophysics, Grad: May 2008

Appointments

- 6/2019 – Doctoral Faculty, Earth and Environmental Sciences, Graduate Center, CUNY
- 8/2018 – Assistant Professor, CUNY – Queens College
- 8/2016 – 8/2018 Lecturer, CUNY Queens College
- 3/2016 – 6/2016 - Adjunct Faculty, Green River College

Current and Pending Awards

Awarded Grants: \$714,935	
Project title	Ocean Observatories Facilities Board
Source of Support	National Science Foundation
Role:	Chairperson
Project Location	University of Rhode Island
Total Award	QC award = \$20365
Project Period	08/15/2023 – 08/14/2024
Person Months/Year	1.0
Project title	Collaborative Research: Strengthening the OOI Data Labs Community of Practice (CoP) to enhance undergraduate data literacy
Source of Support	National Science Foundation
Role:	Lead PI, J. McDonnel (Rutgers); Co-PIs, D. Soule (QC), A. Pfeiffer-Herbert (Stockton College), D. Bristol (HCCFL), S. Lichtenwalner (Rutgers), K. O'Connell (SERC), E. Iverson (SERC)
Project Location	Queens College - CUNY
Total Award	QC award = \$35,000
Project Period	08/15/2023 – 08/14/2025
Person Months/Year	0.75/0.75
Project title	Collaborative Research: From Magma to Vents: Monitoring Hydrothermal Fluid Temperature and Upflow-zone Permeability in Relation to Magma Movement at Axial Seamount
Source of Support	National Science Foundation
Role:	Lead PI, G, Xu (The University of Washington APL); Co-PIs, D. Soule (QC) & K. Bemis (Rutgers)
Project Location	Queens College
Total Award	Total award = \$981,640; QC award = \$272,505
Project Period	08/01/2022 – 07/31/2027
Person Months/Year	0.5/0.5/0.5/0.5/0.5

Pending Proposals: None.

Completed Projects

Project title	Collaborative Research: Environmental Data-Driven Inquiry and Exploration (EDDIE); Using large datasets to build Quantitative literacy
Source of Support	National Science Foundation; Division of Undergraduate Education: IUSE, NSF 17-590
Role:	Lead PI, O'Reilly (Illinois State University); Co-PIs, D. Soule, C. H. Orr (Carleton College), and T. Meixner (The University of Arizona)
Project Location	Queens College CUNY
Total Award	Total award= \$1,999,552; QC award = \$227,956
Project Period	10/01/2018-09/30/2023
Person Months/Year	1.5/1.5/1.5/1.0/0.5
Accomplishments	Over the course of the project, 28 new modules that utilize large, authentic data sets were developed for the classroom through a cycle of innovation that included formative feedback from the community and summative assessment in the form of peer review and testing in the class. Additionally, seven statistical vignettes that help instructors teach key statistical techniques add to this cannon of materials. Through their development we were able to create a rubric that codifies the key pedagogical components we believe are necessary when building an activity using a large dataset. To date, Project EDDIE has engaged over 500 people in at least one synchronous professional development event and over 700 people who have requested information of some sort using the SERC web page. Our assessment team has gathered data showing that Project EDDIE motivated instructors to use data in hundreds of classrooms reaching thousands of students.

Project title	Collaborative Research: The Tectonic and Magmatic Structure and Dynamics of Back-arc Rifting in Bransfield Strait - An International Seismic Experiment
Source of Support	National Science Foundation; Office of Polar Programs: Antarctic Earth Sciences, NSF 17-543
Role:	Lead PI, W. Wilcock (The University of Washington); Co-PIs, D. Soule & R. Dziak (NOAA)
Project Location	Queens College - CUNY
Total Award	Total award = \$1,001,594; QC award = \$74,675
Project Period	09/01/2018 -08/31/2021
Person Months/Year	1.0/1.0/1.0
Accomplishments	Our work at Orca shows areas of high-amplitude, phase-reversed impedance contrasts extending ~3 km at depths of ~600-2000 m beneath the caldera on multiple seismic lines over the caldera. Complete Bouguer (CB) reduced-to-pole (RTP) anomalies beneath the volcano are consistent with a shallow magma accumulation zone (MAZ). Our models potential field gradient maps show the lateral extents of the MAZ and mafic material at shallow crustal depths. In total, seven QC undergraduates and one MS student participated in the data collection and analysis.

Project title	Collaborative Research: AI for Earth: Using the Azure Cloud to Serve and Analyze Data from the World's Most Extensive Deep-Sea Fiber-Optic Cabled Observatory
Source of Support	Microsoft AI for Earth
Role:	Lead PIs D. Soule, T. J. Crone
Project Location	Queens College CUNY
Total Award	Total award= \$390,000 (\$90K in cash, \$300K in kind support)
Project Period	10/01/2018-09/30/2023
Person Months/Year	NA
Accomplishment	Built OOI Cloud , a Jupyter Hub that made OOI Data publicly available in the cloud and accessible through a Pangeo interface. This project provided these data to the scientific community using a cloud-performant object storage model, and to provide large-scale remote compute capabilities for research investigations.
Project title	Collaborative Research: Engaging Faculty and Students in Learning with OOI Data Explorations
Source of Support	National Science Foundation
Role:	Lead PI, J. McDonnel; subcontractor, D. Soule
Project Location	Rutgers University
Total Award	Total award = \$981,640; QC award = \$29,434
Project Period	08/03/2018-07/30/2019
Person Months/Year	0.5/0.5
Accomplishments	<i>The OOI Data Labs project catalyzed a Community of Practice (CoP) designed to collaboratively develop new ways of using real-world data in undergraduate teaching through the creation of on-line teaching resources and activities that use data from the Ocean Observing Initiative (OOI). Engaged more than 200 faculty members in professional development workshops and experiences, both in-person and virtually</i>

Scientific Contributions

Works in Progress:

D. C. Soule , J. L. Granja-Bruña, K. Tinto, J. Almendros, L. Vizcaino and W. S. D. Wilcock (2024). Geophysical Detection of a shallow Magma Accumulation Zone under Orca submarine volcano (Bransfield Strait, Antarctica) – To be submitted to <i>Geochemistry, Geophysics, and Geosystems</i> , Spring 2024
Rahman, M., D. Soule , R. L. Darner, M. Kelly, E. Farrell (2024). Impact of Vignettes on Statistical Literacy and Persistence of Non-Scientific Ideas in Undergraduate STEM – To be submitted to <i>International Journal of Science Education</i> Spring 2024
Singer, J., D. Soule , B. Dziak, J. Almendros and W. S. D. Wilcock (2024). Hydroacoustic Study of Seismic Activity in the Bransfield Strait, Antarctica – To be submitted Spring 2024

Published Peer – Reviewed Articles (Google Scholar: ~264 citations, h-index =7)

Meixner, T., Ciancarelli, B., Farrell, E. P., García, D. S., Josek, T., Kelly, M. M., D. Soule & Darner, R. (2023). Asynchronous student engagement in analysis of climate data achieves learning objectives related to climate change understanding, statistical competence, and climate anxiety. <i>Journal of Geoscience Education</i> , 1-11. My roles are funding (30%), conceptual design (20%), data collection (20%), analysis (20%) and writing (20%).
Bemis, K., D. Soule, M. Zhao and J. Sacker (2022). Systematic Shift in Plume Bending Direction at Grotto Vent, Main Endeavour Field, Juan de Fuca Implies Change in Venting Output along the Endeavour Segment. <i>Frontiers in Marine Science</i>
Rudzin, J. E., Soule, D. , Whitaker, J., Berger, H., Clayton, S., & Fogaren, K. (2022). Catalyzing remote collaboration during the COVID-19 pandemic and beyond: early career

oceanographers adopt hybrid open science framework. <i>Frontiers in Marine Science</i> , 410.
Almendros, J., Wilcock, W., Soule, D. , Teixidó, T., Vizcaíno, L., Ardanaz, O., ... & Schmahl, L. † (2020). BRAVOSEIS: Geophysical investigation of rifting and volcanism in the Bransfield strait, Antarctica. <i>Journal of South American Earth Sciences</i> , 104, 102834.
Levine, R. M., Fogaren, K. E., Rudzin, J. E., Russoniello, C. J., Soule, D. C. , & Whitaker, J. M. (2020). Open Data, Collaborative Working Platforms, and Interdisciplinary Collaboration: Building an Early Career Scientist Community of Practice to Leverage Ocean Observatories Initiative Data to Address Critical Questions in Marine Science. <i>Frontiers in Marine Science</i> , 7, 1011.
Greengrove, C., Lichtenwalner, C.S., Palevsky, H.I., Pfeiffer-Herbert, A., Severmann, S., Soule, D. , Murphy, S., Smith, L.M. and Yarincik, K., 2020. Using Authentic Data From NSF's Ocean Observatories Initiative In Undergraduate Teaching. <i>Oceanography</i> , 33(1), pp.62-73.
Soule, D. , Darner Gougis, R., O'Reilly, C. M., Bader, N. E., Meixner, T., Gibson, C. A., McDuff, R. E. (2018), EDDIE modules are effective learning tools for developing quantitative literacy and seismological understanding, <i>J. Geo. Ed.</i> , 1-12.
O'Reilly, C.M., R. Darner Gougis, J.L. Klug, C.C. Carey, D.C. Richardson, N.E. Bader, D. Soule, D. Castendyk, T. Meixner, J.F. Stomberg, K.C. Weathers, and W. Hunter (2017), Using large datasets for open-ended inquiry in undergraduate classrooms. <i>Bioscience</i> , 12 (2017): 1052-1061.
Soule, D. , W. S. D. Wilcock, D. R. Toomey, E. E. E. Hooft, and R. T. Weekly (2016), Near-axis crustal structure and thickness of the Endeavour Segment, Juan de Fuca Ridge, <i>Geophys. Res. Lett.</i> , 43, doi:10.1002/2016GL068182
Bader, N. E., Soule, D. , Castendyk, D., Meixner, T., O'Reilly, C., & Gougis, R. D. (2016). Students, meet data. <i>Eos</i> , 97(8), 14-19.
Soule, D. C. and W. S. D. Wilcock (2013), "Fin whale tracks recorded by a seismic network on the Juan de Fuca Ridge, Northeast Pacific Ocean", <i>J. Acoust. Soc. Am.</i> , doi:10.1121/1.4774275
Weirathmueller, M. J., W. S. D. Wilcock and D. C. Soule (2012), "Source levels of fin whale 20 Hz pulses measured in the Northeast Pacific Ocean", <i>J. Acoust. Soc. Am.</i> , doi:10.1121/1.4773277

Columns & Reports

Daly, K, L. Atkinson, T. J. Crone, E. Dever, S. Gille, B. Glazer, R. He, D. S. Kelley, D. Soule and J. Wilkin (2020). Ocean Observatories Initiative (OOI) Science Plan: Exciting Opportunities using OOI Data. https://ooifb.org/reports/ooi-science-plan
Daly, K., A. DeSilva, C. Edwards, M. Kelly, C. Lunch, F. Muller-Karger, J. O'Donnell (Chair), J. Rosser, and D. Soule (2020). Mid-Term Review of the Ocean Observatories Initiative. Unpublished report submitted to the National Science Foundation.
Soule, D. 2020. Project EDDIE: Using real data in science classrooms. <i>Oceanography</i> 33(2), https://doi.org/10.5670/oceanog.2020.201
DDCI (Data Delivery and Cyberinfrastructure) Committee of the Ocean Observatories Initiative Facility Board. 2019. <i>Improving the Ocean Observatories Initiative Data Delivery Systems and Procedures</i> . Unpublished report submitted to the National Science Foundation.

Selected Oral Presentations

2024
Soule, D (03/2024). OOI Jupyter Hub Town Hall (Virtual), Ocean Observatories Initiative, Woods Hole Oceanographic Institute.
Sandke †, J., D. Seskar †, H. Oshiro †, K. Bemis, and D. Soule (2024). Building Training Datasets through the Documentation of Species Diversity and Abundance at ASHES vent field, Axial Seamount, for Future Machine Learning Applications. Abstract D031A-03 Ocean Sciences Meeting, New Orleans LA.

McDonnell, C. S. Lichtenwalner, E. Iverson, E. Altermatt, A. Pfeiffer-Herbert, D. Bristol, and **D. Soule** (2024). Reflections from the OOI Data Labs Community of Practice. Abstract ED51A-01, Ocean Sciences Meeting, New Orleans LA.

H. Morin, **D. Soule**, G. Voulgaris, J. B. Edson, A. J. Pueddemann and K. Daly (2024). Ocean Observatories Initiative Facility Board (OOIFB) Townhall. Abstract TH23L, Ocean Sciences Meeting, New Orleans LA.

2023

Soule, D., J. L. Granja-Bruña, K. Tinto, J. Almendros, L. Vizcaino and W. S. D. Wilcock (4/2022). Detection of Magma Chamber at Orca Volcano in Bransfield Strait, Antarctica. BRAVOSEIS Virtual Workshop, University of Granada 4/2022

2022

Soule, D (03/2022). OOI Data in the Classroom- Project EDDIE, Ocean Sciences Meeting 2022 OOI Virtual Booth

Soule, D., J. L. Granja-Bruña, K. Tinto, J. Almendros, L. Vizcaino and W. S. D. Wilcock (4/2022). Detection of Magma Chamber at Orca Volcano in Bransfield Strait, Antarctica. BRAVOSEIS Virtual Workshop, University of Granada 4/2022

2021

Soule, D. 01/2021. Focus on the Middle Third; Developing STEM courses and Engaging Diverse Undergraduate Scientists, WHOI Marine Geology and Geophysics Seminar Series.

2019

Tesin, E. †, D. Soule, and Tim Crone. 2019, Using computer vision to quantify bacterial conglomerate concentration in the water column within a hydrothermal vent field, Abstract = 2019NE-328682, Spring Meeting GSA Northeast Section, Portland ME, 17th – 19th March; 10.1130/abs/2019NE-328682.

2018

Pesar, E. †, Emilio Tesin †, Dax Christian Soule, Timothy J Crone and **Friedrich Knuth**. 2018, Exploring Diffuse Temperature Flow, Seismicity, and Tidal Pressure Controls on Flocculation Events at Axial Seamount, Abstract V52B-04, 2018 Fall Meeting AGU, Washington D. C., 10th – 14th December

2017

***Meethila Rahman †**, Timothy J Crone, **Friedrich Knuth, Charles Garcia, Dax Christian Soule** and Rob Fatland. 2017, Examining the Effect of Temperature, Pressure, Seismicity and Diffuse Fluid Flow on Floc Events at Axial Seamount, Abstract T33G-04, 2017 Fall Meeting AGU, New Orleans LA, 11th – 15th December

Workshops

2024

McDonnell, J., B. Love, S. Lichtenwalner, A. Pfeiffer-Herbert, and **D. Soule** (2/2024). OOI Ocean Data Labs Workshop: Engaging students in oceanography with authentic data sets. Ocean Sciences Meeting, New Orleans LA

2023

Berg, C and **D. Soule** (07/2023) Teaching Quantitative Reasoning with Real Data – The EDDIE Way. NAGT Earth Educators Rendezvous, Pasadena CA.

Soule, D (03/2022). OOI Data in the Classroom- Project EDDIE, Ocean Sciences Meeting 2022 OOI Virtual Booth

2022

Soule, D, D. Garcia Silva, M. Bruckner, C. H. Orr (12/2022). Teaching Quantitative Reasoning Using Data: Project EDDIE. AGU Fall Meeting Online.

Darner, R., C. H. Orr, C. Manduca, T. Meixner, **D. Soule** (9/2022). Project EDDIE Leadership Development Workshop. SERC at Carleton College, Northfield MN

Daly, K., D. Soule, E. Dever, D. Kelley (6/2022). Northeast Pacific OOI Community Workshop, Portland OR.

Soule, D (03/2022). OOI Data in the Classroom- Project EDDIE, Ocean Sciences Meeting 2022 OOI Virtual Booth

C. O'Reilly, **D. Soule**, T. Meixner, C. H. Orr, S. Fortner, M. Bruckner and A. Haveles (1/2022, 2/2022). Project EDDIE Module Development Workshop (Virtual)

2019

C. O'Reilly, **D. Soule**, C. H. Orr, E. Iverson, and A. Haveles (10/2019). Project EDDIE Module Development Workshop. SERC – Carleton College, Northfield, MN

McDonnel, J., B. Love, S. Lichtenwalner, and **D. Soule** (8/2019). OOI Ocean Data Labs Development Workshop, Western Washington University, Bellingham WA

McDonnel, J., C. Bean, S. Lichtenwalner, A. Pfeiffer-Herbert, and **D. Soule** (7/2019). OOI Ocean Data Labs Development Workshop, Asilomar Conference Grounds, Pacific Grove CA

C. O'Reilly, **D. Soule**, T. Meixner, C. H. Orr, E. Iverson, and A. Haveles (6/2019). Project EDDIE Workshop: Teaching Quantitative Reasoning with Data. SERC – Carleton College, Northfield, MN

McDonnel, J., B. Love, S. Lichtenwalner, A. Pfeiffer-Herbert, and **D. Soule** (6/2019). OOI Ocean Data Labs Development Workshop, Rutgers University Inn, New Brunswick, NJ

McDonnel, J., C. Bean, C. Halversen, K. Hunter-Thompson, S. Lichtenwalner, A. Pfeiffer-Herbert, and **D. Soule** (3/2019). OOI Ocean Data Labs Development Workshop, Chauncey Conference Center, Princeton, NJ

Selected Poster Presentations**2024**

Mills, C., M. Celik, K. Bemis, and D. Soule (2024). Correlation of Diffuse Venting with Geophysical Time Series at Axial Seamount. Abstract ED34B-0145, Ocean Sciences Meeting, New Orleans LA.

Singer, J., H. Seivane, R. P. Dziak, J. Alemendros, L. Roche, W. S. D. Wilcock and D. Soule (2024). Hydroacoustic Study of the Soundscape in the Bransfield Strait, Antarctica. Abstract OT24G-1571, Ocean Sciences Meeting, New Orleans LA.

2023	
Soule, D., M. Rahman, T. Josek, S. Juliano, M. Weirathmueller, R. Darner 2023, Students' understanding of statistical concepts improved by integrating Statistical Vignettes into database activities (Project EDDIE) ESA, Portland	
Iverson, E., M. Brckner, R. Darner, T. Meixner, K. O'Connell, C. O'Reilly, C. Huyck Orr, D. Soule 2023, Engaging Students in Quantitative Reasoning through the Use of Large, Publicly Available Data Sets: Project EDDIE Modules. Earth Educators Rendezvous, Pasadena CA. July	
2022	
Meixner, T., Ciancarelli, B., Garcia Silva, D., Josek, T., Kelly, M., Meister, P., ... & Farrell, E. (2022, December). Students Confront the Reality of Climate Change by Wrestling with Data. In <i>AGU Fall Meeting Abstracts</i> (Vol. 2022, pp. ED15C-0377).	
Huber J., D. Soule , D. Kelley, T. J. Crone (2022). Integrating subseafloor microbial, hydrological, geochemical, and geophysical processes in zero-age, hydrothermally active oceanic crust at Axial Seamount, Juan de Fuca Ridge. Poster, NE Pacific OOI Community Workshop, Portland OR.	
Bemis K., G. Xu, D. Jackson, A. Ivakin, D. Soule , and M. Zhao†, Using acoustic imaging to monitor focused and diffuse hydrothermal venting (2022). Poster, NE Pacific OOI Community Workshop, Portland OR	
Seivane, H., Martín, R., Almendros, J., Wilcock, W., and Soule, D. : Application of Template Matching to OBS array observation in Orca Volcano (Bransfield Strait, Antarctica), EGU General Assembly 2022, Vienna, Austria, 23–27 May 2022, EGU22-276, https://doi.org/10.5194/egusphere-egu22-276 , 2022.	
Schmahl, L. †, M. Castillio, J. Singer†, R. Dziak , J. Alemendros, W. S. D. Wilcock, and D. Soule (2022). Initial Earthquake Location Information Derived from Hydrophones Located in the Bransfield Strait, Antarctica. Ocean Sciences Meeting, Virtual	
2021	
Bemis, K., M. Zhao and D. Soule (2021). Systematic Shift in Plume Bending Direction at Grotto Vent, Main Endeavour Field, Juan de Fuca Implies Systematic Change in Venting Output along the Endeavour Segment, Submitted Abstract, 2021 Fall Meeting AGU, New Orleans, LA., 13 th – 17 th December	
Seivane, H., R. Martín-León, J. Almendros, W. S. D. Wilcock, and D. C. Soule (2021). Microseismicity around Orca Submarine volcano, Bransfield Strait, Atarctica, during 2019-2020 from Ocean Bottom Seismometer Data, Submitted Abstract, 2021 Fall Meeting AGU, New Orleans, LA., 13 th – 17 th December	
Kidiwela, M., W. S. D. Wilcock, D. C. Soule , J. Alemendros, L. Vizcaino, and O. Ardanaz (2021). Modeling results for magma accumulation zone beneath Orca Volcano in the Bransfield Strait, Antarctica using Bathymetry, MCS and Potential Field Data, Submitted Abstract , 2021 Fall Meeting AGU, New Orleans, LA., 13 th – 17 th December	
Soule, D. C. , L. Vizcaino, J. L. Granja-Bruña, J. Almendros and Wilcock, W. S. D. (2021). Modeling results for magma accumulation zone beneath Orca Volcano in the Bransfield Strait, Antarctica using Bathymetry, MCS and Potential Field Data, Submitted Abstract, 2021 Fall Meeting AGU, New Orleans, LA., 13 th – 17 th December	
Meixner, T., Ciancarelli, B., Farrell, E., Garcia, D. S. †, Josek, T., Meister, P., ... & Darner, R. (2021, December). Teaching data literacy online using Project EDDIE's climate change module. In <i>AGU Fall Meeting 2021</i> . AGU. , New Orleans, LA., 13 th – 17 th December	
2020	
* Dax Christian Soule , Javier Almendros, William S. D. Wilcock, Teresa Teixido, Luis Vizcaino and Diego Martin-Jimenez. SCAR2020, Hobart, Tasmania, Australia -CANCELED, COVID-19	
Schmahl, L., D. Soule , E. Tesin, W. S. D. Wilcock, Jose-Louis Granja-Bruña, J. Almendros, and D. Martín Jiménez. 2020, Geomorphological comparison of the seafloor volcanism in the	

Bransfield Basin volcanoes in other Back-Arc Basin settings. SCAR2020, Hobart, Tasmania, Australia – CANCELED, COVID-19
2019
*Tessin, E†., *L. Schmahl†, *J. Natalie†, and D. Soule . 2019, <i>Comparing the Geomorphology of Bar-Arc Volcanoes to Orca Volcano</i> , VolcaNYC, LDEO, New York
* Dax Christian Soule , Javier Almendros, William S. D. Wilcock, Teresa Teixido, Luis Vizcaino and Diego Martin-Jimenez. 2019, Preliminary Results from a Marine Geophysics Survey of Orca Volcano in the Bransfield Strait, Antarctica. Abstract T33F-0422, 2019 Fall Meeting AGU, San Francisco, CA., 10 th – 14 th December
*Joshua Sacker†, Karen G. Bemis, Dax Soule and Jordan Diaz†. 2019, Correlation between weather events and bending and rise heights of hydrothermal plumes from COVIS data collected at Grotto Vent MEF, Endeavour and Inferno Vent, ASHES, Axial Volcano. Abstract OS51B-1494, 2019 Fall Meeting AGU, San Francisco, CA., 10 th – 14 th December
*Timothy J. Crone, Dax Soule . 2019, OOI Cloud: Building a Pangeo System for the OOI CamHD Video Data Using the Azure Cloud. Abstract IN11D-0689, 2019 Fall Meeting AGU, San Francisco, CA., 10 th – 14 th December
*Cailin Huyck Orr, Catherine O'Reilly, Ellen Iverson, Dax Soule , Andrew Haveles. 2019, Promoting Teaching of Quantitative Reasoning Using Environmental Data: Project EDDIE. Abstract ED13D-0908, 2019 Fall Meeting AGU, San Francisco, CA., 10 th – 14 th December
*Luis Vizcaino, D. Martin-Jimenez, J. Almendros, D. Soule , W. S. D. Wilcock, O. Ardanaz, T. Teixido, I. Serrano, N. Sanchez, A. Ontiveros, E. Tesin, R. Sondershaus ⁶ , L. Schmahl†, J. Natalie†. 2019, Preliminary Results from a Marine Geophysics Survey over Submarine Volcanoes in the Bransfield Strait, Antarctica. Abstract IUGG19-2754, International Union of Geodesy and Geophysics, Montreal CA, July 8-18
*J. Almendros, R. Abella, E. Carmona, F. Agui, F. Carrion, X. Yuan, W. S. D Wilcock, R. Wade, D. Soule , M. Schmidt-Aursch, R. Dziak, L. Roche, T. Kane, A. Gardner, D. Garcia-Quiroga, B. Heit, R. Sondershaus, E. Tesin†, L. Schmahl†, J. Natalie†. Deployment of an Amphibious Seismic Network in the Bransfield Strait Antarctica, Abstract IUGG19-4324, International Union of Geodesy and Geophysics, Montreal CA, July 8-18
2018
* <i>Jazlyn Natalie</i> , Dax Christian Soule , Timothy J Crone, William W. Chadwick Jr and William S D Wilcock. 2018, The relationship between post- 2015 eruption deformation and seismicity rates since the 2015 eruption at Axial Seamount using OOI data, Abstract V43G-0211, 2018 Fall Meeting AGU, Washington D. C., 10 th – 14 th December
* <i>Shaneeza Aziz</i> , Elizabeth Pesar, Emilio Tesin, <i>Lauren Schmahl</i> , Adam Kaiser, Dax Christian Soule and Eva Fernandez. 2018, HSI-STEM Bridges Across Eastern Queens: A Step to Diversify the Geoscience Major at Queens College at the City University of New York, CUNY Queens College, Flushing, NY, United States, Abstract ED13C-0767, 2018 Fall Meeting AGU, Washington D. C., 10 th – 14 th December
*Catherine O'Reilly, Cayelan Carey, Rebekka Gougis, Dax Christian Soule , Tom Meixner, Kaitlin Farrell, Jennifer Klug, David Richardson, Nick Bader, Devin Castendyk, William J Hunter , Kathleen C Weathers, and <i>Cailin Huyck Orr</i> . 2018, Environmental Data-Driven Inquiry and Exploration (Project EDDIE): Using Large Datasets to Build Quantitative Literacy, Abstract ED53C-05, 2018 Fall Meeting AGU, Washington D. C., 10 th – 14 th December
* Dax Christian Soule , Timothy J Crone, Catherine O'Reilly, Cailin Huyck Orr and Friedrich Knuth. 2018, Environmental Data-Driven Inquiry and Exploration (Project EDDIE): Successes and challenges using large online datasets to build quantitative reasoning, Abstract ED51C-0684, 2018 Fall Meeting AGU, Washington D. C., 10 th – 14 th December
2007-2016
* <i>D. C. Soule</i> . 2016, EDDIE Seismology: Introductory spectral analysis for undergraduates, Abstract ED21A-0766, 2016 Fall Meeting, San Francisco CA
* <i>D. C. Soule</i> . 2015, Project EDDIE: Improving Big Data skills in the classroom using large, high-frequency and sensor-based data, Abstract ED22D-3713, 2016 Fall Meeting, San Francisco CA

* <i>D. C. Soule</i> , W. S. Wilcock, E. E. Hooft, D. R. Toomey, and R. T. Weekly. 2013, Off-axis Crustal Thickness Measurements from Seismic Tomography on the Endeavour Segment of the Juan de Fuca Ridge, NE Pacific Ocean, Abstract OS43A-1884, 2013 Fall Meeting, San Francisco CA
* <i>William S. D. Wilcock</i> , D. C. Soule, M. Weirathmueller, R. Thompson. 2011, Studying fin whales with seafloor seismic networks, Abstract S31D-2267, 2013 Fall Meeting, San Francisco CA
* <i>D. Soule</i> , William S. D, Wilcock, and Richard E. Thompson. 2011, Statistical analysis of fin whale vocalizations rec. by a seismic network at the Endeavour Segment of Juan de Fuca Ridge, N. E. Pacific Ocean, American Acoustical Society, Seattle WA, May 2011
* <i>D. Soule</i> , William S. D, Wilcock, and Richard E. Thompson. 2009, Distribution of fin and blue whales above hydrothermal vent fields on the Juan de Fuca Ridge, N. E. Pacific Ocean, 18 th Biennial Con. on the Biology of Marine Mam., Quebec City, Quebec CA - Fall 2009
* <i>D. Soule</i> , J. Gowan, M. E. Everett. 2007, High res seismic imaging at the Odessa (TX) meteorite impact site: The ground-impact geohazard and integration with magnetics & EM, Abstract NS31A-03, American Geophysical Union, Acapulco, Mexico - Spring 2007
* <i>M. E. Everett</i> , S. Udphuay, R. Warden. D. Soule. 2007, Cliff stability assessment using electrical resistivity tomography at the historic WWII D-Day invasion site, Pointe du Hoc, France, Abstract NS51C-03, 2007 Spring Meeting, AGU, Acapulco, Mexico - Spring 2007
Key:
<ul style="list-style-type: none"> ● * = peer reviewed presentations ● † = students ● Italics = presenting author

Invited Seminars

1. City College – Fall 2023
2. MIT/Woods Hole – Spring 2021
3. Boston College – Fall 2019
4. James Madison University – Fall 2019
5. CUNY Graduate Center – Fall 2019
6. College of Charleston- Spring 2019
7. Hudson-Mohawk Professional Geologists Association – Fall 2018

Students Mentored

Year	Student	Outcome
2024	Diana Garcia Silva (MA) Cal Mills Melissa Celik Julia Sandke Makayla Joseph Emily Albines	Completing MA Poster OSM 2024 Poster OSM 2024 Oral Presentation OSM 2024 GeoMapApp/UNIX/Python GeoMapApp/UNIX/Python
2023	Hema Muni Diana Garcia Silva (MA) Methila Rahman (MA) Jacqueline Singer (MA) Cal Mills Melissa Celik Fabio Dos Santos Julia Sandke	GeoMapApp/UNIX/Python Working on MA Thesis Completed MA Completed MA Visions23/ OSM 2024 NSF Cruise GeoMapApp/UNIX/Python Visions23
2022	Hema Muni Miguel Castillo Lauren Schmahl (MA) Diana Garcia Silva (MA) Methila Rahman (MA)	GeoMapApp/UNIX/Python Working on hydroacoustic dataset Hydroacoustic analysis of earthquakes Working on MA Thesis Introduction to EDDIE and Data Analysis

	Jacqueline Singer (MA)	Hydroacoustic analysis of Icequakes
2021	Melissa Crouch Hema Muni Victoria Fernandez+ Emilio Tesin Miguel Castillo Lauren Schmahl Diana Garcia Silva (MA) Methila Rahman (MA)	GeoMapApp/ UNIX GeoMapApp/UNIX/Python Introduction to IDL hydroacoustic dataset Introduction to IDL hydroacoustic dataset Working on hydroacoustic dataset Working on hydroacoustic dataset Working on MA Thesis Introduction to EDDIE and Data Analysis
2020	Miguel Castillo* Jordan Diaz##† Jazmyn Fuller* Diana Garcia Silva (MS) Aida Gonzalez Rua Hamid* Josh Sacker##† Lauren Schmahl* Jackie Saramiento*+ Elizabeth Ying+ Steven Karaduzovic* Victoria Fernandez	Scientific Computing/BRAVOSEIS 2020/ CARIS COVIS Externship Rutgers; AGU 2019/ Pythia's Oasis Cruise/ BRAVOSEIS 2020 Intro to Scientific Computing/ BRAVOSIES Intro to Scientific Computing/ Statistical Vignettes COVIS Hydrothermal Plume Visualization BRAVOSEIS COVIS Senior Thesis BRAVOSEIS BRAVOSEIS Completed Python Introduction Visions 20 Cruise/ Pythia Oasis Completed initial UNIX and Python Training
2019	Miguel Castillo Jordan Diaz*† Jazmyn Fuller Diana Garcia Silva Aida Gonzalez Rua Hamid† Josh Sacker† Steven Karaduzovic* Lauren Schmahl† Maureen Gillette Rua Hamid# Chelsea Meier* Emilio Tesin# Jazlyn Natalie#	Intro to Python, CARIS Advanced Python, AGU Presentation BRAVOSEIS preparation Introduction to EDDIE and basic statistics COVIS Data Visualizations AGU Presentation, BRAVOSEIS preparation Advanced Python, AGU Presentation Pythia's Oasis Cruise VolcaNYC Presentation, Gravity & Magnetism course work, BRAVOSEIS Preparation Intro to Pedagogy and IRB preparation NSF GeoFutures Program Visions' 19, Intro to Scientific Computing GSA Oral Presentation/ Columbia Internship/ BRAVOSEIS BRAVOSEIS
2018	Emilio Tesin† Elizabeth Pesart† Jazlyn Natalie (MS)† Lauren Schmahl† Shaneeza Azis† Josh Sacker	AGU 2018 AGU 2018 – Oral Presentation AGU 2018 AGU 2018 AGU 2018 Intro to Seafloor Geophysics

Table - * Indicates a student that went to sea, † indicates a student that presented at a science conference, # indicates a student that was accepted to a professional development workshop, an REU or paid internship under my guidance. Unique QC students mentored = 23, unique QC

students who have gone to sea on 10 NSF funded research cruises = 31¹, unique QC students who have attended workshops, internships or REUs = 10, unique QC students who have presented at science conferences = 7.

Curricular Development

Ocean Data Labs....

NSF HSI-STEM Bridges Across Eastern Queens (<https://hsistem.qc.cuny.edu>)

- Led the course redesign for Introductory Geology in order to better “land” diverse students into a geoscience major and provide an effective onramp to a career in science through the application of active learning pedagogies.

Project EDDIE

- Principle Investigator for EDDIE (<https://serc.carleton.edu/eddie/>), NSF funded effort to develop and test active learning modules focused on high frequency environmental data.

Service

Chair OOIFB – 2023- Present

Chair Elect Ocean Observatories Initiative Facilities Board 2022-2023

Ocean Observatories Initiative Facilities Board, 2020-2023

Ocean Observatories Initiative Data Delivery and Cyber Infrastructure (DDCI) Committee, 2018-2020

IEDA (Interdisciplinary Earth Data Alliance) Community Committee, 2018-2021

National Science Foundation Reviewer, Winter 2018

National Science Foundation Panelist, Fall 2017, Spring 2022

Outreach and Media

<https://oceanobservatories.org/2018/08/early-career-highlight-dax-soule-using-the-ooi-to-build-paths-for-success-in-his-students-and-his-research/>

Affiliations

- Hudson Mohawk Professional Geologist Association Board Member
- Pangeo (<https://pangeo.io>)
- OOICloud (<https://www.oocloud.org>)
- EDDIE (<https://serc.carleton.edu/eddie/>) PI (2015 - Present)
- American Geophysical Union (2006 - Present)
- Society of Exploration Geophysics (2007- Present)
- National Association of Geoscience Teachers (2013 - Present)

References

- William Wilcock, University of Washington, (206) 543-6043, wilcock@uw.edu
- Greg O’Mullan, Queens College, (718) 997-3329, Gregory.Omullan@qc.cuny.edu
- Catherine O’Reilly, Illinois State University, (352) 214-4601, cmoreil@ilstu.edu
- Deborah Kelley, University of Washington, (206) 685-9556. dskelley@uw.edu

¹ Of the 31 unique students who have gone to sea, Lauren Schmahl has participated in three separate expeditions and 5 have participated in two separate expeditions.