

Renee O. Setter

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EDUCATION

University of Hawai'i at Mānoa , College of Social Sciences	Honolulu, Hawai'i, USA
Ph.D. - Geography and Environment	2020 - 2025
M.A. - Geography and Environment	2018 - 2019
Cornell University , College of Agriculture and Life Sciences	Ithaca, New York, USA
B.S. - Interdisciplinary Studies	2009 - 2013

RESEARCH EXPERIENCE

University of Hawai'i at Mānoa - Institute for Sustainability and Resilience	Honolulu, Hawai'i, USA
Sustainability Researcher	May 2025 - current
Graduate Research Assistant	August 2022 - May 2025
<ul style="list-style-type: none">• Research costs of managed retreat strategies and beach loss under projected sea level rise in Hawai'i.• Conducted a case study on retreat strategies as applied to a neighborhood on the north shore of O'ahu; expanded methodology in application to Waikiki area and residential beaches on Kauai.	
University of Hawai'i at Mānoa	Honolulu, Hawai'i, USA
Ph.D. Dissertation	January 2020 - May 2025
Committee: Camilo Mora, Erik C. Franklin, Qi Chen, Brian Szuster, Michael Kantar	
<ul style="list-style-type: none">• Dissertation: <i>The Underestimation of Projected Effects of Climate Change on Coral Reefs</i> Research on the projected effects of co-occurring anthropogenic stressors on global reefs, opposing directions of suitable climates and implications for coral reefs.• Coursework in biogeography, climatology, geospatial tech, remote sensing, Python, machine learning.	
University of Hawai'i at Mānoa	Honolulu, Hawai'i, USA
Master's Thesis	August 2018 - December 2019
Committee: Camilo Mora, Erik C. Franklin, Yi Qiang	
<ul style="list-style-type: none">• Thesis: <i>Coral Restoration Under Projected Climate Change and Other Human Impacts</i> Utilized R and geospatial software ArcGIS with data from CMIP5 global climate projections, human population projections, and land use projections to assess impact on future coral reefs.• Coursework in statistics, geospatial technology, and coding in R.	
University of Hawai'i at Mānoa	Honolulu, Hawai'i, USA
Senior Research Assistant	June - August 2019
<ul style="list-style-type: none">• Led data collection and survey of visitors and beach users at Kailua Beach.• Mentored a junior research assistant who assisted with administering the survey.	

PUBLICATIONS

6. P Pearce-Kelly, ... **RO Setter**, et al. Considerations for determining warm-water coral reef tipping points. *Earth System Dynamics* 16, 275-292 (2025).
5. **RO Setter**, ... M Coffman. Managing retreat for sandy beach areas under sea level rise. *Scientific Reports* 13, 11920 (2023).
4. KM Carlson, C Mora, J Xu, **RO Setter**, et al. Global rainbow distribution under current and future climates. *Global Environmental Change* 77, 102604 (2022).
3. **RO Setter**, EC Franklin, C Mora. Co-occurring anthropogenic stressors reduce the timeframe of environmental viability for the world's coral reefs. *PLOS Biology*. 20, e3001821 (2022).

2. C Mora, ... **RO Setter**, et al. Over half of known human pathogenic diseases can be aggravated by climate change. *Nature Climate Change* 12, 869–875 (2022).
1. H von Hammerstein, **RO Setter**, et al. High-Resolution Projections of Global Sea Surface Temperatures Reveal Critical Warming in Humpback Whale Breeding Grounds. *Frontiers in Marine Science* 9, 837772 (2022).

In preparation:

KD Tavares, **RO Setter**, et al. Exploring managed retreat approaches for the protection of sandy beach habitats under sea level rise on Kauaʻi. *Climate Risk Management* (**In Development**).

RO Setter, EC Franklin, C Mora. Opposing directions in the movement of suitable climates for coral reefs. *Global Change Biology* (**In Development**).

RO Setter, KM Webster, D Liu, DW Beilman. Climate trajectory of tropical freshwater peatland: carbon hotspots. *Geophysical Research Letters* (**In Development**).

DW Beilman, C Massa, D Liu, **RO Setter**, KM Webster. Carbon hotspots in montane wetlands in the Hawaiian Islands. *Ecosystems* (**In Development**).

AWARDS AND HONORS

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| 2025 | University of Hawaiʻi: Geography Research and Travel Award. \$1000 |
| 2024 | Research Corporation of the University of Hawaii Graduate Fellowship Fund. \$2500 |
| 2023-2025 | National Science Foundation: STEM STRIDE Fellowship. \$9000 |
| 2023 | University of Hawaiʻi: Geography Research and Travel Award. \$1000 |
| 2022-2023 | University of Hawaiʻi: Geography Department Merit Scholarship Award. \$1300 |
| 2022 | United States Geospatial Intelligence Foundation (USGIF): Doctoral Scholarship. \$3000 |
| 2019-2024 | National Science Foundation: Graduate Research Fellowship (NSF GRF) #1842402. \$138,000 |
| 2022 | University of Hawaiʻi: College of Social Sciences Travel Funds. \$2000 |
| 2022 | University of Hawaiʻi: Geography Outstanding Publication by Graduate Student Award. \$250 |
| 2022 | University of Hawaiʻi: Geography Research and Travel Award. \$1000 |
| 2021 | University of Hawaiʻi: Geography Department Merit Scholarship Award. \$1500 |
| 2020 | University of Hawaiʻi: Geography Research and Travel Award. \$800 |
| 2019 | Women Divers Hall of Fame: Graduate Marine Conservation Scholarship. \$2000 |
| 2019 | University of Hawaiʻi: Geography Research and Travel Award. \$1000 |
| 2019 | University of Hawaiʻi: Orchestra Merit Scholarship Award. \$300 |

TEACHING EXPERIENCE

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| University of Hawaiʻi at Mānoa | Honolulu, Hawaiʻi, USA |
| Graduate Teaching Assistant - Field Problems in Marine Biology | Summer 2020 - 2024 |
| <ul style="list-style-type: none"> • Oversaw geospatial portion of field summer course with labs in ArcGIS Pro. • Guided students through remote sensing analysis using satellite imagery. • Mentored students in utilizing geospatial analysis to enhance robustness of their final projects. | |
| University of Hawaiʻi at Mānoa | Honolulu, Hawaiʻi, USA |
| Graduate Teaching Assistant - The Natural Environment | August 2018 - May 2019 |
| <ul style="list-style-type: none"> • Led and facilitated review sessions to clarify course content prior to each exam. • Lectured and presented course material for one chapter of course content. | |

PROFESSIONAL EXPERIENCE

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| Graduate Women in Science - Hawaiʻi | Honolulu, Hawaiʻi, USA |
| Secretary | August 2023 - May 2024 |
| <ul style="list-style-type: none"> • Assembled monthly newsletters, took minutes at meetings, and maintained membership records. | |
| University of Hawaiʻi at Mānoa - Department of Geography and Environment | Honolulu, Hawaiʻi, USA |
| Student-Faculty Liaison | December 2018 - August 2022 |

- Represented graduate student body at departmental faculty meetings and faculty hiring candidates.
- Wrote a handbook to assist new students in adapting to the graduate program.

Bay Islands Reef Restoration

Roatán, Honduras

Science Coordinator

January - June 2018

- Analyzed coral growth rates of *Acropora cervicornis* and *Acropora palmata* in the nursery.
- Organized coral outplanting events and created a map for future monitoring purposes.

Sea Save Foundation

Malibu, California, USA [remote from Buenos Aires, Argentina]

Director of Communications

April 2017 - April 2018

- Managed all 6 platforms of communication from social media to web presence of a small nonprofit.

PRESENTATIONS

RO Setter. Projected effects of climate change on marine & coastal environments. *BIOL 403: Field Problems in Marine Science*. July 2024, Honolulu, Hawai'i. Oral presentation.

RO Setter, KM Webster, D Liu, DW Beilman. Climate trajectory of tropical freshwater peatland: carbon hotspots. *American Association of Geographers Annual Meeting*. April 2024, Honolulu, Hawai'i. Poster.

RO Setter. Projected effects of climate change on global coral reefs. *BIOL 404: Advanced Topics in Marine Biology*. August 2023, Honolulu, Hawai'i. Oral presentation.

RO Setter. Projected effects of climate change on marine environments. *BIOL 403: Field Problems in Marine Science*. July 2023, Honolulu, Hawai'i. Oral presentation.

D Liu, RO Setter, KM Webster, DW Beilman. Hawai'i Island Montane Wetland Vegetation NDVI Response to El Niño and La Niña Conditions. *Tester Symposium*. April 2023, Honolulu, Hawai'i. Poster.

M Coffman, RX Han, RO Setter. Costs and Tradeoffs of Coastal Retreat in Response to Sea Level Rise: A Case Study of the North Shore of O'ahu, Hawai'i. *Ecological Dissertations in Aquatic Sciences Symposium*. March 2023, Honolulu, Hawai'i. Oral presentation.

RO Setter, EC Franklin, C Mora. Spatial complementarity of multiple human disturbances shortens the timeline of environmental viability for the world's coral reefs. *International Coral Reef Symposium*. July 2022, Bremen, Germany. Poster.

RO Setter. Analysis Using Big Climate Data. *University of Hawai'i GIS Day*. November 2020, Honolulu, Hawai'i. Oral presentation.

RO Setter, C Mora, EC Franklin. Impacts of Climate Change and Local Human Impact on Site Selection for Coral Restoration. *American Geophysical Union - Ocean Science Meeting*. February 2020, San Diego, California. Poster.

SELECT MEDIA COVERAGE

BBC. *Climate change threatens half of planet's coral reefs*. 10/2022.

NPR. *Why climate change may be driving more infectious diseases*. 08/2022.

National Geographic. *Humpback whales face a major setback from climate change*. 08/2022.

CBS News. *Climate change could wipe out all coral reef habitat within decades, scientists warn*. 02/2020.

NBC News. *Earth's coral reefs could be gone by 2100, research finds*. 02/2020.

SKILLS AND INTERESTS

Computer skills: R, Python, geospatial and remote sensing analysis (ArcGIS Pro, ENVI), HPC supercomputer, Agisoft Metashape, climate projections (CMIP6)

Memberships: Graduate Women in Science Hawai'i, International Coral Reef Society, AGU, AAAS

Volunteer work: tree planting, coral restoration, beach clean-up, SCUBA underwater clean-ups

Certifications: Scientific Diver Certification - AAUS, PADI Divemaster Certification, AGRRA