

Renee O. Setter

rsetter@hawaii.edu

EDUCATION

University of Hawai'i at Mānoa Honolulu, Hawai'i, USA
Ph.D. - Geography and Environment (in progress)
Dissertation: *The Underestimation of Projected Effects of Climate Change on Coral Reefs*
M.A. - Geography and Environment December 2019
Thesis: *Coral Restoration Under Climate Change and Other Human Impacts*
Cornell University, College of Agriculture and Life Sciences Ithaca, New York, USA
B.S. - International Development, Communications, and Business May 2013

RESEARCH SKILLS AND INTERESTS

statistical analysis (R, Python) | geospatial analysis (ArcGIS, ENVI) | HPC | data collection & management | climate change | climate projections (CMIP6) | conservation | biogeography | remote sensing

RESEARCH EXPERIENCE

University of Hawai'i at Mānoa Honolulu, Hawai'i, USA
Ph.D. Dissertation January 2020 - current
Committee: Camilo Mora, Erik C. Franklin, Qi Chen, Brian Szuster, Michael Kantar
• Dissertation: *The Underestimation of Projected Effects of Climate Change on Coral Reefs*
Research on the projected effects of co-occurring anthropogenic stressors on global reefs, on individual coral species, and the opposing directions of environmental stressors on coral reefs.
• Coursework in biogeography, climatology, geospatial technology (ArcGIS), remote sensing, Python, machine learning.
University of Hawai'i at Mānoa Honolulu, Hawai'i, USA
Graduate Research Assistant at Institute for Sustainability & Resilience August 2022 - current
• Research on costs and tradeoffs of managed retreat strategies to projected sea level rise in Hawai'i.
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
• Thesis: *Coral Restoration Under Projected Climate Change and Other Human Impacts*
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
• Led data collection and survey of visitors and beach users at Kailua Beach.
• Mentored a junior research assistant who assisted with administering the survey.

TEACHING EXPERIENCE

University of Hawai'i at Mānoa Honolulu, Hawai'i, USA
Graduate Teaching Assistant - Field Problems in Marine Biology July - August 2023, 2022
• Oversaw geospatial portion of field summer course. (online) July - August 2021, 2020
• Guided students through remote sensing analysis using satellite imagery.
• Coached students through troubleshooting issues in ArcGIS Pro software.

University of Hawai'i at Mānoa

Honolulu, Hawai'i, USA

Graduate Teaching Assistant - The Natural Environment

August 2018 - May 2019

- Led and facilitated review sessions to clarify course content prior to each exam.
- Lectured and presented course material for one chapter of course content.
- Assisted in creation of exam questions. Collected and compiled course grades for all students.

PROFESSIONAL EXPERIENCE

Graduate Women in Science - Hawai'i

Honolulu, Hawai'i, USA

Secretary

August 2023 - current

- Assemble monthly newsletters, take minutes at meetings, maintain membership records.

University of Hawai'i at Mānoa

Honolulu, Hawai'i, USA

Student-Faculty Liaison

December 2018 - August 2022

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

Bay Islands Reef Restoration

Roatán, Honduras

Science Coordinator

January - June 2018

- Analyzed coral growth rates of *Acropora cervicornis* and *Acropora palmata* in the nursery.
- Created a map of coral outplanting sites for future monitoring purposes.
- Organized coral outplantings and led coral nursery dive-tours with customers.

Sea Save Foundation

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

Director of Communications

April 2017 - April 2018

- Created new content for posts on social media platforms, increasing reach of weekly posts by 30%.
- Managed all 6 platforms of communication from social media to web presence of a small nonprofit.

PUBLICATIONS

Published:

RO Setter et al. Managing retreat for sandy beach areas under sea level rise. *Scientific Reports* (2023).

KM Carlson, C Mora, J Xu, **RO Setter**, et al. Global rainbow distribution under current and future climates. *Global Environmental Change* (2022).

RO Setter, E. C. Franklin, C. Mora. Co-occurring anthropogenic stressors reduce the timeframe of environmental viability for the world's coral reefs. *PLOS Biology*. **20**, e3001821 (2022).

C Mora, ... **RO Setter**, et al. Over half of known human pathogenic diseases can be aggravated by climate change. *Nat. Clim. Chang.* **12**, 869–875 (2022).

H von Hammerstein, **RO Setter**, M van Aswegen, JJ Currie, SH Stack. High-Resolution Projections of Global Sea Surface Temperatures Reveal Critical Warming in Humpback Whale Breeding Grounds. *Front. Mar. Sci.* **9**, 837772 (2022).

In Preparation:

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

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

PRESENTATIONS

- 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, R 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.

SKILLS AND INTERESTS

Computer: R, ArcGIS Pro, Python, ENVI, JMP, HPC, Agisoft Metashape

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

AWARDS AND HONORS

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