KATE A. BECKER

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EDUCATION

Master of Environmental Data Science (June 2024)
Bren School of Environmental Science & Management – University of California, Santa Barbara (UCSB**)**
Highlighted Coursework: Machine Learning, Data Visualization, Geospatial Analysis and Remote Sensing, Scientific Programming, Analytical Workflows, and Scientific Reproducibility, Statistical Modelling, Sentiment Analysis, Environmental Policy Evaluation

Bachelor of Science in Environmental Studies (June 2023)
University of California, Santa Barbara (UCSB)
Concentrations: Environmental Policy, Sustainability, Climate Change, and Conservation
International Academic Field Studies Program: Wildlands Studies Hawaii, Big Island, Hawaii (3/21–5/21); Focus on marine and terrestrial field research as well as indigenous marine management and food systems

MASTER'S CAPSTONE PROJECT

Improving Access to Consumption Advisories and Maintaining Confidence in California's Seafood Products (1/24–6/24)
Role: Product Leader | **Clients**: Scripps Institute of Oceanography, California Cooperative Oceanic Fisheries Investigations (CalCOFI) | **Deliverables**: Interactive Web Application, Shiny Dashboard Github Repository, User Manual, and Technical Guide | **Repository** | **Blog**

- Executed the development and deployment of SaferSeafood, an interactive, data-driven, public-facing web application that estimates DDT levels in seafood catches and provides consumption advisories based on species and location of capture
- Developed a spatiotemporal statistical model to predict DDT concentrations in fishes across Southern California
- Invited to attend the Southern California Oceanic Observing Systems Conference (SCOOS) in San Diego

RESEARCH EXPERIENCE

Senior Research Assistant
Centre for Biodiversity and Conservation Science, University of Queensland, Brisbane, Australia (1/13–Present)

- Designing a global endangered species database using policy evaluation**,** R**,** SQL, and web scraping for both academic and non-academic applications
- Implementing advanced statistical modeling**,** data cleaning**,** machine learning**,** version control**,** and data visualization to analyze fisheries bycatch patterns in large-scale global datasets for the Ocean Conservation Team
- Collaborating with industry partners to interpret results and identify strategies for promoting environmentally efficient fishing practices unique to each fishery
- Co-authoring research publications and resolving computer science challenges alongside a multidisciplinary team
- Presenting on current research and future development plans at the International Congress for Conservation Biology
- Securing a small grant to host a workshop, bringing together intergovernmental, governmental, academic, and non-academic research stakeholders to improve database accessibility, usability, and data validation

Undergraduate Researcher
Eliason Lab – UCSB, Santa Barbara**,** CA (3/22–6/23)

- Investigated thermal tolerance of fishes under fluctuating temperatures and varying diet quality using cardiovascular performance as a metric
- Performed fish husbandry for approximately 130 *Fundulus parvipinnis and Girella nigricans* in a wet lab over six months
- Aided in data collection for copper toxicity tolerance research in *Mytilus galloprovincialis*

Summer Intern
Eliason Lab - UCSB, Santa Barbara, CA (5/22–8/22)

- Designed the investigation of parasite load, *Euhaplorchis californiensis*, in the brain regions of California killifish, *Fundulus parvipinnis*, as it pertains to thermal tolerance
- Awarded UCSB Coastal Fund ($5,000)

ADDITIONAL EXPERIENCE

Fine Dining Waitress, The Kitchen American Bistro, Boulder, CO (7/24–11/24)

- Upheld the restaurant's mission, established by Kimbal Musk, to provide an exceptional and personalized dining experience
- Served elevated international dishes and cocktails with knowledge of menu items, flavor profiles, pairing options, and allergens
- Provided attentive service across brunch, lunch, and dinner shifts while taking on additional responsibilities such as food running, restocking, bussing, hostessing, and ensuring sanitation standards

Fine Dining Waitress, The Ritz-Carlton Bacara, Santa Barbara, CA (6/21–1/22)
- Served food and beverages to a variety of high-profile guests for an average of 40 hours a week while receiving bachelor's degree
- Memorized hotel guest profiles, daily specials, seasonal cocktail list, and regular menu, including possible allergens
- Performed extra work as needed such as food running, barista, restocking, cleaning, and private event staff

Boutique Sales Associate, Stella E Luna Boutique, Point Pleasant, NJ (5/19–10/19)
Strengthened upscale boutique by managing and processing sales, social media marketing, and customer satisfaction

Food Service, Shore Fresh Seafood Restaurant & Market, Point Pleasant, NJ (6/18–10/18)
Provided food and beverage service to an average of seven tables at once while coordinating seafood market

SKILLS, CERTIFICATION, & ADDITIONAL EDUCATION

Technical: Spatial Mapping in ArcGIS, Statistical Analysis and Data Visualization in R Studio, UX Design, Python, Machine Learning, Google Workspace, Scientific Writing, R, Python, SQL, Git, (Basic) Command Line, Microsoft Office (Word, Excel, PowerPoint), Java, HTML, and CSS

Research Qualifications: IACUC Training (Fish), CITI Wildlife Research, CITI Working with Fish in Research Settings

Certification: PADI Open Water Diver

Additional Education: University of Queensland, Australia UCEAP Study Abroad Program (Winter 2021 and Spring 2021); Accepted twice into competitive academic program but canceled due to COVID-19; Marine Biology and Terrestrial Ecology courses while working in conjunction with the Heron Island Research Station

Writing, Research, and Presentation: Report writing, literature review, policy memos, and public presentations

PROJECTS

Phenology Investigation

Master's Geospatial Analysis and Remote Sensing Course Project
Employed Landsat satellite imagery to analyze vegetation indices
Created a custom NDVI (Normalized Difference Vegetation Index) function
Manipulated raster data to ensure spatial alignment and consistency
Link to repository: https://github.com/kateebeckerr/Phenology_Investigation.git

Remote Sensing Land Cover

Master's Geospatial Analysis and Remote Sensing Course Project
Converted Landsat values to reflectance values
Utilized the terra package in R for spatial data processing and wrangling
Implemented true color imagery
Developed and applied a decision tree classifier
Link to repository: https://github.com/kateebeckerr/RemoteSensing_Landcover.git

Redlining Injustices

Master's Geospatial Analysis and Remote Sensing Course Project
Employed EJSCREEN data to assess environmental justice indicators
Mapped and visualized spatial data using geospatial tools
Wrangled geometries and integrated EPA data with Landsat 8 satellite imagery
Link to repository: https://github.com/kateebeckerr/Redlining_Injustices.git

Santa Barbara Thomas Fire

Master's Geospatial Working with Environmental Datasets Course Project
Processed raster datasets for analysis and classification
Utilized NumPy in Python for data manipulation and numerical operations
Constructed true and false color imagery
Link to repository: https://github.com/kateebeckerr/ThomasFire_Analysis

Flexible, depending on role