

# Charles Hendrickson

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## EDUCATION

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**Master of Environmental Data Science**, 3.84 GPA (June 2022)

**Bren School of Environmental Science & Management – University of California, Santa Barbara**

Highlighted Coursework:

Scientific Programming Essentials

Analytical Workflows and Scientific Reproducibility

Metadata Standards, Data Modeling and Data Semantics

Team Science, Collaborative Analysis and Project Management

Meta-analysis and Systematic Reviews

**Bachelor of Science in Marine Biology**, 3.78 GPA & Graduated with Honors (June 2021)

**University of California, Santa Cruz**

Honors: Dean's Honors for 2017 (Fall), 2018 (Fall & Winter), 2019 (Fall), 2020 (Spring), 2021 (Winter)

Awards: Future Leaders in Coastal Science Award (2019 - 2020)

Leadership/Involvement: Competitive Surfing Sports Club (Treasurer), Marine Science Club

## MASTER'S CAPSTONE DATA SCIENCE PROJECT

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**A web-based application for visualizing spatial and temporal patterns of anthropogenic stressors on coral reefs in the lagoons of Moorea, French Polynesia** (1/22 - 6/22)

Role: Product Leader | Client: Moorea Coral Reef Long Term Ecological Research project (MCR LTER)

Deliverables: R Shiny app, GitHub Repository, Design and Implementation Plan, Technical Documentation, Final Project Presentation

- Developed an interactive web-based application from R using R Shiny for visualizing temporal data on nutrients and coral bleaching, as well as used the Leaflet package to create interactive heat maps of spatially explicit data
- Deployed a final product that will be used by MCR LTER researchers, UC Santa Barbara undergraduate courses, and the community of Moorea as a tool to visualize spatial data that can inform local management decisions
- Led team in meeting all deadlines, project goals, and determining the best plan of action when debugging R Shiny app
- Collaborated with client and faculty advisors to ensure that the final product meets project goals

## DATA SCIENCE SKILLS

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**Programming Languages:** Proficient at coding in R (RStudio), Python (Jupyter), and SQL

**Version Control and Project Management/Collaboration:** Experienced in using GitHub and GitHub Issues

**Citation Management:** Trained in organizing, citing, and sharing scientific literature using Zotero

## DATA SCIENCE & MARINE SCIENCE EXPERIENCE

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**Stanford University Data Science Fellow** (6/22 - 8/22)

**Stanford University Data Science for Social Good Fellowship Program**, Remote

- Conducted research full-time on determinants of COVID-19 mortality at the U.S. county-level
- Gathered, structured, and cleaned publicly sourced data
- Built, compared, and utilized statistical models including machine learning algorithms
- Gained technical mentorship from Stanford Department of Statistics faculty and advanced graduate students, meeting and presenting project progress during weekly meetings
- Presented research to 30+ Stanford faculty and non-faculty audience members
- Submitted final project writeup, GitHub repository, and documented code

**Scripps Institution of Oceanography Research Fellow (6/20 - 8/20)**

**Scripps Institution of Oceanography Undergraduate Research Fellowship, UC San Diego, CA**

- Extracted demographic data from stereo video footage of Nassau grouper spawning aggregations
- Collaborated with Scripps faculty advisors on data management plan, data structure and documentation
- Conducted a statistical analysis and developed data visualizations using RStudio
- Presented research to 40+ Scripps faculty members and non-faculty audience

**Salmonid Life History Lab Member (1/20 - 3/20)**

**Palkovacs Lab, Dept. of Ecology and Evolutionary Biology, UC Santa Cruz, CA**

- Managed data quality control for 1200+ steelhead trout samples (2hr/week)
- Documented field data and quality control notes on a cloud-based datasheet
- Collaborated with research team to develop an improved data processing workflow

**National Oceanic and Atmospheric Administration (NOAA) Fisheries Intern (1/20 - 3/20)**

**NOAA Fisheries Ecology Division, Southwest Fisheries Science Center, Santa Cruz, CA**

- Managed data collection for coho salmon and steelhead trout DNA, scale samples, and field data (12hr/week) at the Scott Creek fish weir
- Tagged 20+ salmonids with passive integrated transponder tags and FLOY tags
- Used excellent teamwork, problem solving, and time management skills to successfully complete project goals each day

**ADDITIONAL MARINE SCIENCE EXPERIENCE**

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**National Science Foundation (NSF) - STEMSEAS - Student Crew Member (8/19 - 9/19)**

As a STEMSEAS crew member aboard the R/V *Sikuliaq*, I completed a research cruise from Kodiak, Alaska to Newport, Oregon. I collected data on the pH, alkalinity, salinity, CO<sub>2</sub>, and O<sub>2</sub> concentration of seawater samples, analyzed seafloor sediment core samples, and presented an NSF post cruise project. I also documented metadata on remotely operated and autonomous vehicle operations for 20+ hours in the control room.

**Coral Research Diver - Global Visions International, Fiji Marine Conservation Expedition (6/19 - 7/19)**

As a PADI certified advanced open water diver and coral reef research diver, I conducted SCUBA surveys to collect long-term data on Fijian marine invertebrates. I then informed community leaders in Uluibau, Fiji with my data and supported them in developing a sustainable resource management strategy.

**Brown University Environmental Leadership Lab, Alaska (7/16 - 8/16)**

I studied Alaska Native history and cultural preservation surrounding food sources such as salmon, whales, and seals. I engaged in discussions with stakeholders over the impacts of oil and gas extraction on Alaska Native culture, economics, and the environment.

**Tijuana River National Estuarine Research Reserve Stewardship (1/15 - 12/15)**

As a long-term steward, I was responsible for estuary clean-up efforts, trail maintenance, invasive plant species removal, native plant propagation, field observations, and data collection on restoration projects.

**MARINE SCIENCE SKILLS**

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- Writing research reports and posters
- Collecting data by SCUBA transect (PADI Advanced Open Water Diver and Coral Reef Research Diver)
- Operating small craft
- Handling, measuring, and collecting data on marine, intertidal, and estuarine species