JAKE EISAGUIRRE

jake@eisaguirre.com | (805) 679-3956 | Santa Barbara, CA | GitHub | Website |NCEAS

SUMMARY OF QUALIFICATIONS

- Graduate degree in Environmental Data Science (June 2022); Bachelor of Science in Environmental Studies with an emphasis in Ecology, Evolution, and Marine Biology
- Development of PostgreSQL relational database with 28 years of amphibian data collect across the western hemisphere containing over 8,000 unique survey sites
- Instruct and educate colleagues and researchers with the proper tools and protocols to query data of interest
- Experience using R, Python, SQL, and Git with to create reproducible scripts in a variety of data analysis and management scenarios to facilitate rapid data integration

EDUCATION

Master of Environmental Data Science (June 2022)
Bren School of Environmental Science & Management – University of California, Santa Barbara (UCSB)

Highlighted Coursework: Modeling Environmental Systems; Machine Learning; Spatial Analysis; Remote Sensing; Environmental Statistics; Meta Data Standards and Data Semantics; Data Visualization and Communication; Analytical Workflows and Scientific Reproducibility, Team Science (GitHub)
Teaching Experience: Coral Reefs; Department of Ecology, Evolution, and Marine Biology (9/21-12/21)
Principles of Evolution; Department of Ecology, Evolution, and Marine Biology (1/22-3/22)

Bachelor of Science in Environmental Studies (June 2019)
University of California, Santa Barbara (UCSB)

Emphasis: Ecology, Evolution, and Marine Biology
Highlighted Coursework: Industrial Ecology; Biometry; Ecology, Evolution, and Marine Biology; Aquatic Communities; Fish Biology; Applied Marine Ecology; Ecosystem Processes; Coral Reefs
Honors/Awards: UCSB Library Research Award (1st place, awarded $750) (June 2019), UCSB Transfer Student Research Award (1st place, awarded $40) (May 2018)

MASTER'S CAPSTONE PROJECT

Web-Based Application for Visualizing Anthropogenic Stressors on Coral Reefs in Moorea, French Polynesia
Client: Moorea Long Term Ecological Research, Marine Science Institute (LTER) (1/22-5/22)

- Developed an interactive web-based application in RStudio with Shiny App and Leaflet packages for visualization of spatial and temporal patterns of anthropogenic stressors on Moorea coral reefs
- Facilitating bottom up policy making in Moorea by providing public access to a web based app for explicit temporal and spatial visualizations of the publics local marine resources
- Assisting researchers with rapid and precise data visualizations of historical Moorea LTER data sets

DATA SCIENCE AND ENVIRONMENTAL RESEARCH EXPERIENCE

Resilience Institute Bridging Biological Training and Research – Santa Barbara
Data Manager (current)

- Standardize and clean 28 years of amphibian, environmental, and spatial data sets collected from 8113 unique sites across the western hemisphere and develop data pipeline for new data collection.
- Design and build a PostgreSQL relational database for all legacy and novel data sets.
- Aid researchers in Fulcrum App development for automated data collection through offline tablets/phones
- Develop front end web application to quickly tabulate and download data of interest from the database. And for efficient data visualizations of temporal, tabular, and spatial data in the database.
- Deploy database and web application on AWS EC2 instance. Manage and allocate database, web application, and EC2 instance user credentials.
- Provide workshops and tutorials on proper protocol for data structure, database interaction, git/github, and collaboration across reproducible Quarto documents.
- Analyze database with hierarchical models and to guide survey protocols and develop manuscripts.

– Continued –

DATA SCIENCE AND ENVIRONMENTAL RESEARCH EXPERIENCE (Continued)

Caselle Lab/PISCO – Marine Science Institute, UCSB, Santa Barbara
Research Technician (3/20-7/21) **| Research Diver** (6/17-12/19) **| Volunteer** (6/16-6/17)

- Analyzed the effects of sea star wasting disease on urchin populations to better understand how trophic redundancy can increase kelp forest resilience at the N. Channel.
- Led and conducted subtidal and intertidal temperate rocky reef surveys to better understand how our local marine populations change spatially and temporally between marine protected and fished areas.
- Deployed baited remote underwater video (BRUV) cameras to meso-photic reefs to gain population estimates between marine protected and fished reefs.
- Collected and identified rockfish and kelp bass recruits from Standard Monitoring Units for the Recruitment of Fishes (SMURF) to assist in determining larval recruitment processes of fished species.

Pelagic Fisheries and Ecosystem Project, **California Department of Fish and Wildlife**, Santa Barbara, CA
Scientific Aid (12/19–5/20)

- Collected samples of commercially caught squid and bycatch species landed at Santa Barbara, Port Hueneme, and Ventura port complexes to gather squid and bycatch population estimates.
- Analyzed tissues samples, statoliths, reproductive capacity, and sex ratios of collected samples in order to gain better insight to our local squid populations resilience.
- Entered sample data and wrote daily reports on commercial squid and bycatch landings for statewide department analysis of squid population sustainability.

Kenneth Norris Rancho Marino Reserve, UC Natural Reserve System, Cambria, CA
UC Reserve Steward (12/19–5/20)

- Conducted central coast pine tree surveys to analyze rapidly spreading fungal infections to assist in understanding extent of fungal infection on the reserve.
- Maintained reserve research station and grounds to guarantee safe access to all parts of the reserve for researchers and wildlife.

ADDITIONAL EXPERIENCE

Nature Track, Los Olivos, CA
Nature Track Guide (6/13–Present)
Educate K-12 students from LA to Santa Maria about ecosystem and community dynamics through outdoor field trips. Showed the beauty of nature to underrepresented groups who have little experience with nature.

Aggressor Live Aboard Dive Fleet, Belize, Caymans, Palau, and Raja Ampat
Aggressor Dive Fleet Intern (1-2 weeks/year from 2012-2015)
Assisted with boat operations alongside company owner to gain better understanding of commercial dive boat operations. Received Dive Master Certification to assist in safely leading guests on dives.

PEER-REVIEWED PUBLICATION & CONFERENCE PRESENTATION

Eisaguirre, J.H., J.M. Eisaguirre, K. Davis, P.M. Carlson, S.D. Gaines, J.E. Caselle. 2019. Trophic redundancy and predator size class structure drive differences in kelp forest ecosystem dynamics.
Ecology.101(5):e02993. 10.1002/ecy.2993

– Continued –

PEER-REVIEWED PUBLICATION & CONFERENCE PRESENTATION (Continued)

Honeyman, C., Carlson, P., Jainese, C., Parsons-Field, A., **Eisaguirre, J.,** Davis, K., Giraldo-Ospina, A., Spiecker, B., & Caselle, J. E. (2023). Correspondence among multiple methods provides confidence when measuring marine protected area effects for species and assemblages. *Journal of Applied Ecology*, 00, 1–14. **https://doi.org/10.1111/1365-2664.14515**

Eisaguirre, J.H., J.M. Eisaguirre, K. Davis, P.M. Carlson, S.D. Gaines, J.E. Caselle. October 2019. 100th Western Society of Naturalists, Ensenada, Baja, Mexico. Trophic redundancy and predator size class structure drive differences in kelp forest ecosystem dynamics. (Talk)

SKILLS, CERTIFICATIONS, & TRAININGS

Programming Languages: R, SQL, Python, Bash, Cypher
Computer Software: RStudio (RMarkdown/Quarto), DBeaver, Jupiter Notebooks, GitHub, Neo4j, OSX, Ubuntu, AWS, JMP, Event Measure, Microsoft Office
Diving & Boating Certifications: UCSB R/V Captain, SSI Dive Master (~1000 dives), AAUS Scientific Diver, Dry Suit Diver, SSI Rescue Diver, California Boating License, 16 Years Boating Experience
Trainings: CPR, First Aid, Oxygen Administration, Black Belt in Puma Karate