JAKE EISAGUIRRE

jake@eisaguirre.com | (805) 679-3956 | Honolulu, HI | GitHub | Website |Linkedin

EDUCATION

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

Highlighted Coursework: 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); Modeling Environmental Systems

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 GIS 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 RESEARCH EXPERIENCE

Hawaiian Airlines – Honolulu, HI
Senior Data Analyst - Crew Resource Planning (Current)

- Aggregate multiple crew track data sources to create silver and gold level data sources for production.
- Create automated R and Python scripts with backend Snowflake connection from bronze level data sources to aggregate and deploy silver and gold level data source in Snowflake production database.
- Develop automated Quarto reports in R and Python for dissemination of Freight Short Call Reserve Utilization, Pilot/Flight Attendant Reserve Utilization, and Reserve Pilot/Flight Attendant Degradation.
- Construct data visualizations utilizing Tableau to inform senior management of resource inefficiencies.
- Implement Tableau Prep utilizing embedded R and Python scripts for advanced data aggregation processes.
- Implement CMD prompts to automate the execution of local tableau prep flows for gold tier data dissemination for team members and dependent tableau dashboards.
- Develop targeted SQL queries to aid team members and departments with data aggregation.
- Work closely with Pilot, Flight Attendant, and Ground Operations scheduling to uncover long term inefficiency trends to aid in the better understanding to reduce operating costs.

DATA SCIENCE AND RESEARCH EXPERIENCE (Continued)

Rincon Consultants – Santa Barbara, CA
Data Manager/Data Architect (3/24-7/24) – Relocated to Hawaii
- Design SQL server databases for storage and dissemination of data across internal and external clients.
- Develop web based dashboards using Power BI and Shiny for data visualizations and summarization.
- Build AI database chatbot with LLMs to allow for natural language database queries and results.
- Implement automated scripting to produce all necessary figures for annual environmental reports.
- Provide database connection to ArcGIS for GIS team to query geodatabase and RDMS database with ease.
- Explore the scalability of Microsoft Fabric and Microsoft OneLake Data Hub to increase efficiency and production of real time interactive web based dashboards for internal and external clients.
- Develop the 'Data Solutions' branch of the Data & Technology Services team through conducting weekly internal data audits to improve efficiencies through automated scripting and database development.
- Use Machine Learning image recognition algorithms to detect invasive riparian reed through drone surveys.

Resilience Institute Bridging Biological Training and Research – Santa Barbara, CA
Data Manager (5/22-3/24)
- 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 GIS 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.

Caselle Lab/PISCO – Marine Science Institute, UCSB, Santa Barbara, CA
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.

DATA SCIENCE AND RESEARCH EXPERIENCE (Continued)

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. January 2024. National Science Foundation (NSF), Washington DC. Open Science: Catalyzing Positive Change in the Scientific Landscape. (Talk)

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. 2019. Trophic redundancy and predator size class structure drive differences in kelp forest ecosystem dynamics. Ecology.101(5):e02993. 10.1002/ecy.2993

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, Git, CMD prompts
Computer Software: RStudio, DBeaver, Tableau, Snowflake Power BI, ArcGIS, Jupiter Notebooks, Microsoft Fabric, Spark, GitHub, Neo4j, OSX, Ubuntu, Windows, AWS, Azure, JMP, Microsoft Office, Survey123, Fulcrum
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