Madeline Berger

maddiemt8@gmail.com | (650) 521-7729 | GitHub | LinkedIn | Santa Barbara, CA

EDUCATION

Master of Environmental Science and Management (June 2020)
Conservation Planning Specialization / Environmental Data Science Focus
Bren School of Environmental Science & Management – University of California, Santa Barbara (UCSB)
Master's Group Project: Examining the impacts of circular supply chain through the lens of food waste

Bachelor of Arts in Economics | Minor in Environmental Systems and Society (June 2016)
University of California, Los Angeles (UCLA) Los Angeles, CA
Honors/Awards: Honors College, Cum Laude Latin Honors, 3.7 GPA
Leadership: **Student Leader – UCLA Green Council** (7/15–6/16): Co-instructed 80-student sustainable living lecture series course; scheduled 10 speakers and created assignments; **Team Leader – UCLA Sustainable Action Research Team (SAR)** (1/15–6/16): Analyzed environmental impact of UCLA Recreation Center, set sustainability goals and developed action plan to reduce building energy use. Won an $80,000 grant to begin solar panel implementation.

PROFESSIONAL EXPERIENCE

Hawai'i Islands Monitoring and Reporting Collaborative (HIMARC), Honolulu, HI
Senior Research Specialist (10/22 - Present)
- Lead the design and implementation of spatial analyses using ESRI, R and QGIS to support marine management initiatives in the main Hawaiian Islands
- Curate and manage authoritative HIMARC database of mapped human impacts, modeled ecological indicators, and other key layers for cartography and data visualization
- Collaborate with government, NGO and private stakeholder partners on custom analyses and data product creation to inform management and policy design

National Center for Ecological Analysis and Synthesis, Santa Barbara, CA
Marine Spatial Planning (MSP) Project Analyst – McClintock Lab (9/20 – 10/22)
- **Spatial Analysis and Research:** Worked closely with multi-organizational working groups under tight deadlines to facilitate data and knowledge sharing across researchers, project and site managers, and policy makers for 6 active MSP project sites (Bermuda, Maldives, Azores, Fiji and Samoa); analyzed spatial and nonspatial data collected on SeaSketch platform, summarized findings using maps and data visualizations and compiled lessons learned for internal and public-facing reports; synthesized data layers generated by researchers and project partners into planning projects for visualization and analysis using ESRI, QGIS, MapBox and R spatial analysis tools
- **Collaborative Planning and Design:** Built tailored participatory mapping surveys and collaborated on survey deployment strategy with in-country working group; led meetings to design geospatial analytics to report on progress towards project objectives; supported continuous platform improvement and development of new tools by communicating site specific feedback from in-country practitioners to software developers; wrote project and budget funding proposals for SeaSketch collaborations
- **Training and Stakeholder Engagement:** Designed and delivered 3-week capacity building course on Marine Spatial Planning for Maldivian students through Scripps Institute of Oceanography; designed and implemented trainings for in-country facilitators and practitioners on how to collect data, design MPA networks and interpret analytics generated on SeaSketch; presented SeaSketch tools, custom-designed surveys and survey results to in-country government officials and academics

Spatial Analyst and Modeler (9/20 – 9/21)
- Designed and executed watershed-level analysis to model diffusion of N pollution runoff to the Mesoamerican Reef from agricultural production and wastewater using geospatial and statistical analysis in R, Python and shell scripts
- Served as lead author of manuscript summarizing findings and discussing management implications for publication (2022); responsible for literature review, writing, figure creation, and formatting

Ocean Health Index Fellow (4/20 – 9/20)
- Computed the Ocean Health Index Score for Tetiaroa Atoll using a data-intensive marine science framework in R; wrangled 50+ spatial and non-spatial datasets; quantify ocean-derived human benefits from 7 metrics
- Hosted meetings with regional stakeholders to tailor Ocean Health Index framework by prioritizing goals and assessing site specific needs and data availability
- Created a collaborative GitHub repository to publish methods and results, ensuring accessibility and reproducibility

Conservation International, Washington, DC
Evaluation Intern, Galapagos Island Resilience pilot project (1/20 – 5/20)
- Collaborated with 4-person team in Ecuador to obtain data and conduct initial life cycle assessment to quantify environmental benefits of pilot project recycling fishery waste into fertilizer

Indigenous Peoples and Local Communities Intern, Moore Center for Science (6/19 – 9/19)
- Developed novel research methodology and technical guide to identify and visualize land rights
- Collected legal and spatial data on 30+ indigenous and communal land and sea rights; operationalized findings into global database and analyzed data in the Amazon region using ArcGIS
- Presented findings to 20+ CI team members; work accepted to the 2020 World Bank Land and Poverty conference

University of California, Santa Barbara, Santa Barbara, CA
Teaching Assistant (10/18 – 6/20)
- Led section instruction of undergraduate courses in Economics, Statistics and Advanced Research Methods; taught data wrangling and analysis using R and Excel to beginner-level students

Research Assistant, Dr. Kelsey Jack (11/19 – 6/20)
- Designed analysis to evaluate accuracy of remote sensing method to detect agricultural burning; created 3000+ spatial polygons out of GPS field data from large-scale behavioral economics experiment in Punjab State, India

Natural Capital Project, Stanford, CA
Research Intern (4/18 – 9/18)
- Identified, reviewed and summarized frameworks proposed by various NGOs and academics on sustainability and resilience metrics assessing the global food system to identify opportunities for synthesis

Symposium Coordinator (11/17 – 3/18)
- Reviewed and led discussion on 50 abstract submissions for session talks and posters; organized international travel and accommodation for keynote speakers; drafted $20,000 scholarship budget, reviewed 80 applications, and managed communication with recipients

Ex-Consultants Agency, Associate, Los Angeles, CA (6/16 – 9/17)
- Developed candidate search project strategy and communicated with high-level clients and candidates, prepared 1-2 kick-off documents and 2-3 client presentations per week, and managed team of 2-3 lead generators

PUBLICATIONS

Berger, M.; Canty, S.; Tuhloske, C.; Halpern, B. (2022). Sources and discharge of nitrogen pollution from agriculture and wastewater in the Mesoamerican Reef region. *Ocean and Coastal Management*

Berger, M.; Burt, C.; McClintock, W; Welch, T. (2022). Chapter 12: SeaSketch. In Editor C. Burnett (Ed.), *Evaluating Participatory Mapping Software*. Springer

LANGUAGE & SKILLS

Language: Fluent in Spanish, English
Computer: R/RStudio, ArcGIS, QGIS, Shell Scripting, Github, Beginner Python/Jupyter Notebooks, Microsoft Office Suite (Word, PowerPoint and Excel), Google Suite, Adobe Creative Suite
Communication: Publication and Report-Writing (50+ pages), Science Presentations (Audiences of 20-50)
Certifications: PADI Advanced Open Water Diver, working towards AAUS Scientific Diver Certification (2023)