

Maxwell Pepperdine

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EDUCATION

Master of Environmental Science and Management, GPA 4.0 (June 2025)

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

Specialization: Conservation Planning | Emphasis: Geographic Information Systems (GIS) & Geospatial Analysis

Honors/Awards: 2023 Environmental Engineering and Science Foundation (EESF) Scholarship Recipient

Highlighted Coursework: Geospatial Analysis and Remote Sensing, Conservation Planning Practicum, Data Analysis, Advanced Data Analysis, Data and Database Management, GIS, Environmental Modeling, Big Data for Climate Modeling, Environmental Data Visualization, Applied Population Ecology, Environmental Law and Policy

Bachelor of Science in Environmental Management and Protection, GPA 3.91 (June 2023)

California Polytechnic State University (Cal Poly), San Luis Obispo

Minor: Biology & Sustainable Environments

Honors/Awards: Presidents Honor List (2020, 2021, 2022, 2023)

Highlighted Coursework: Applied GIS, Environmental Impact Analysis, Spatial Ecology, Aerial Photogrammetry, Natural Resource and Habitat Ecology, Principles of Conservation Biology, Watershed Processes and Management

MASTER'S GROUP PROJECT

Integrating Climate Adaptation Strategies into Collaborative Forest Management in Colorado (4/24–5/25)

Client: The Nature Conservancy (TNC) | Role: Data Manager

- Developed a menu of climate adaptation strategies to facilitate the implementation of climate adaptation strategies and collaborative forest management with TNC and the Upper South Platte Partnership (USPP).
- Conducted interviews with 14 USPP stakeholders to assess barriers and potential solutions to barriers surrounding effective climate adaptation strategies.
- Performed qualitative analyses using NVivo software to synthesize interview and literature review results in a process-based workflow to facilitate decision-making for USPP Partners.

CONSERVATION PLANNING & GEOSPATIAL ANALYSIS EXPERIENCE

Staff Research Assistant II – University of California, Santa Barbara (UCSB), San Diego, CA (9/25–Present)

- Leading a collaborative research project to evaluate strategic agricultural land retirement in the CA Central Valley, assessing environmental, economic, and ecological outcomes of retirement with the *prioritizR* package in R.
- Collecting geospatial metadata from online repositories and peer-reviewed publications, and organizing data based on spatial/temporal resolution, data coverage, and description.
- Conducting geospatial and statistical analyses under the direct supervision of the Principal Investigator (PI).

Geographic Information Systems (GIS) Volunteer – Felidae Conservation Fund, San Diego, CA (8/25–Present)

- Producing professional maps to support grant applications, research projects, and community outreach.
- Acquiring and processing spatial datasets to assist various statistical and geospatial analyses.

Arnhold Environmental Graduate Fellow – Environmental Markets Lab (emLab), Santa Barbara, CA (6/24–9/25)

- Assisted collaborative research projects under the "Spatial Planning for Climate Change: Land Use for Conservation, Agriculture, and Energy (SPARCLE)" umbrella with the emLab and Conservation International (CI).
- Acquired, managed, and processed spatial data related to land use/land cover, climate, and biodiversity.
- Developed and executed reproducible code to generate 4 maximum entropy (MaxEnt) models to predict the probability of present and future human-elephant conflict (HEC) in the northern Namibian landscape.
- Served as second author on a manuscript for the HEC study (mentioned above) in preparation for submission to a peer-reviewed scientific journal.

Remote Sensing Research Assistant – Edge Hill University, Ormskirk, UK (6/24–9/24)

- Conducted independent research on the impacts of Hurricane Dorian upon bathymetry in the Bahamian Islands, including induced changes and recovery, while working closely under the guidance of a research advisor.
- Collected and pre-processed 100+ tracks of ICESat-2 data and 10 Sentinel-2 images with various data analyses, machine learning, and remote sensing applications in Python.
- Generated 7 oceanic depth models to analyze bathymetric changes following Hurricane Dorian in the study area.

Spatial Conservation Planning Intern – California Central Coast Joint Venture (C3JV), Santa Cruz, CA (11/23–4/24)

- Conducted research with the C3JV to continue previous research and identify areas of suitable nesting habitat for marbled murrelets, an endangered seabird that flies inland to nest.
- Built 2 spatial models using geospatial analysis and ModelBuilder in ArcGIS Pro to isolate patches of old-growth forest in the Santa Cruz Mountains that will be used to further conservation efforts for this declining species.
- Developed a 5-page written synopsis of research methodology and all GIS work conducted to aid in future grant applications and land acquisition efforts.

Frost Summer Undergraduate Research Program – Cal Poly, San Luis Obispo, Santa Cruz, CA (5/22–9/22)

- Directed research informing spatial conservation planning for an endangered marbled murrelet population in the Santa Cruz Mountains to inform future land protection and conservation efforts.
- Developed 5 models using spatial analysis in ArcGIS Pro to produce a map and shapefile portraying unprotected, suitable nesting habitat within our study area.
- Presented project findings in a 15-minute talk to 60 peer researchers and faculty at a research symposium.

ADDITIONAL EXPERIENCE

Graduate Teaching Assistant – University of California, Santa Barbara (UCSB), Santa Barbara, CA (1/24–6/25)

Supported undergraduate instruction for 5 courses at UCSB: *Form, Process, and Human Use of Rivers* (Winter 2024, Spring 2025); *GIS for Environmental Applications* (Winter 2025); *Introduction to Environmental Studies* (Fall 2024); *Ethology & Behavioral Ecology* (Spring 2024). Led lab or discussion sections (1-3 per course), each with 20-40 students, adapting teaching methods to suit varied subject matter. Provided technical and conceptual guidance to students during weekly office hours and graded and gave feedback on 25-90+ assignments per week, depending on course enrollment.

Busser/Food Runner – Novo Restaurant & Lounge, San Luis Obispo, CA (4/22–6/23)

Adapted to a wide range of tasks to enhance guests' experiences in a fast-paced environment.

Veterinary Assistant – Pacific and Santa Cruz Veterinary Specialists, Santa Cruz, CA (6/21–8/21)

Provided attentive and compassionate care to 15-20 patients daily. Assisted doctors and technicians with the administration of medication, patient restraint, and any other duties as requested.

SKILLS

Data Science and Management: R/RStudio, Python, GitHub, SQL, DuckDB, Google Drive

GIS and Geospatial Analysis: R/RStudio, ArcGIS Pro, Python, ArcPy, Field Maps, Google Earth Engine

Other Technical: Microsoft Office Suite (Word, Excel, PowerPoint), NVivo, OpenLCA

Writing: Technical writing of scientific research manuscripts, policy memos, and CEQA and NEPA reports/assessments

Stream Measurement: Water quality, streamflow discharge, bankfull cross-section, channel dimensions (width to depth ratio, floodprone width, entrenchment, slope, channel), canopy cover, riparian conditions by RipRAM, % pool/riffle habitat