

Josephine M. Cardelle

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EDUCATION

Master of Environmental Data Science (expected June 2025)

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

Highlighted Coursework: Environmental Policy Evaluation, Data Visualization and Communication, Geospatial Analysis and Remote Sensing, Machine Learning in Environmental Science, Modeling Environmental Systems, Ethics and Bias in Environmental Data Science, Capstone Project in Environmental Justice

Involvement: Environmental Justice Club, Mentor for Bren-Environmental Studies Fellows Program

Bachelor of Engineering in Civil Engineering (May 2021)

McGill University, Montreal, QC

Honors/Awards: National Merit Hispanic Scholar

Involvement: Engineers Without Borders, Sustainability in Engineering at McGill, Bridge Building Team

TECHNICAL SKILLS

Programming: R, Python, SQL, Bash, Git/GitHub, ArcGIS, QGIS

Computer: AutoCAD, Microsoft Excel, Microsoft Suite, Canva

EXPERIENCE

GIS Graduate Researcher (11/24-Present)

UCSB - Larsen Lab, Santa Barbara, CA

- Georeference and digitize historical land use maps from Kern County (1950s–2000s) using GIS tools (ArcGIS Pro, R, Python), contributing to the study of land use legacies and retired agricultural lands.
- Conduct comprehensive literature reviews on land use, agriculture, and biodiversity to support spatial data analyses and ensure data-driven research
- Manage and analyze spatial datasets related to land use/land cover, climate, and agriculture to identify long-term trends in land retirement and its ecological impacts

Civil/Agricultural Engineer (GS 9) (1/22-4/24)

USDA – Natural Resources Conservation Service (NRCS), Commonwealth of the Northern Mariana Islands (CNMI)

- Coordinated the planning, design, and construction of conservation practices needing engineering assistance such as water management, animal waste management, erosion control, irrigation systems, and more
- Directed site investigations, feasibility studies, and field construction checks.
- Provided technical guidance for all engineering practices and the use of engineering equipment including leading topographic site surveys
- Lead pre-construction meetings between contractor and client to define construction schedule and ensure compliance

Engineering Undergraduate Researcher (5/19-8/19)

McGill University – Environmental Geomechanics Laboratory, Montreal, QC

- Analyzed the suitability of Lac du Bonnet Granite to serve as a deep geological repository for nuclear by product under the supervision of Dr. A.P.S. Selvadurai
- Mastered the use of an X-ray diffraction machine to determine mineralogical composition and taught the proper use of the machine to the other researchers in the laboratory
- Provided research support for the paper *Estimate for the Effective Permeability of Intact Granite Obtained from the Eastern and Western Flanks of the Canadian Shield* (Selvadurai et al., 2020)
- Presented a research poster at the Summer Undergraduate Research in Engineering (SURE) Design Day

ADDITIONAL EXPERIENCE

AmeriCorps Member – American Conservation Experience, Hurricane, UT (7/21-10/21)

Implemented conservation projects such as forest fire fuels reduction, invasive species removal, train maintenance and construction, and cattle exclusion fencing construction in public lands including Zion and Bryce Canyon National Parks.

Conservationist – Operation Groundswell, Tanzania & Rwanda (5/18-7/18)

Collaborated on conservation and community centered projects with local NGOs including The Jane Goodall Institute, Rau ECO, Rwanda Environmental Conservation Organization, and more

CERTIFICATIONS & LANGUAGES

Certifications/Trainings: NRCS Level I Certified Conservation Planner, Certified Comprehensive Nutrient Management Planner, California Polytechnic State University Designer/Manager School of Irrigation Training

Languages: Proficient Spanish