Advancing Accessible Climate Science for California
Bren Environmental Leadership Program Summer Fellowship

Project Background

This mentorship-driven research project, supported by the Bren Environmental Leadership (BEL) Program, aims to advance climate data science by creating educational tools and resources that enable consistent comparison of Couple Model Intercomparison Projects-6 climate model outputs using data from Cal-Adapt. The project builds on the Climate DataLab, founded by Dr. Samantha Stevenson, to simplify complex climate data workflows, standardize Bren's climate research, and foster collaboration among researchers globally. This project is ideal for an undergraduate who is eager to contribute to innovative climate science research while gaining valuable experience in open data practices and interdisciplinary collaboration.

The primary goal of this project is to develop educational tools and tutorials that standardize workflows for analyzing California-specific climate data from Cal-Adapt, enabling consistent comparison of CMIP-6 climate model outputs. These resources will be showcased on the Climate DataLab website, enhancing its value as a community resource. The undergraduate student will collaborate closely with an interdisciplinary team to develop Python workflows using Jupyter Notebooks for analyzing California-specific climate data from Cal-Adapt, integrate CMIP-6 regional data to ensure consistent model comparisons, and document resources on GitHub to support reproducibility and open data science practices. They will actively collaborate with members of the Climate DataLab team to learn best practices in climate data science and open data workflows, while also creating educational materials and video walkthroughs to support interdisciplinary climate research and contribute to theMantell Symposium in Environmental Science and Conservation Innovation. This position provides hands-on experience in climate data science, Python programming, and open data practices, while helping develop educational resources that promote DEI and interdisciplinary collaboration. Additionally, the student will enhance their leadership and communication skills through close collaboration with graduate students and climate scientists at UCSB.

Qualifications:

- Completion of at least one year of computer science coursework or equivalent Python experience beyond introductory levels.
- Ideally, 2-3 courses taught in Python to ensure familiarity with advanced workflows and data analysis techniques.
- Strong interest in working with California-specific climate data from Cal-Adapt.
- Passion for climate data science, open data practices, and interdisciplinary research.
- Ability to work independently and collaboratively within an interdisciplinary research team.
- Strong organizational skills and attention to detail.
- Excellent written communication skills for documenting workflows and developing educational content.
- A proactive approach to learning and problem-solving, with a willingness to collaborate with team members to enhance technical skills and research capabilities.

Details
The position is 10 weeks, requiring 35 hours per week, offering a hybrid in-person and remote schedule between mid-June and mid-September. The student will receive a $6500 stipend.

This position is part of the Bren Environmental Leadership Program – the student will participate in professional development training during the summer and a poster session at the Mantell Symposium on Environmental Justice and Conservation Innovation in Fall 2025. Applicants must be full-time UCSB continuing undergraduate students (not graduating within the 2025 calendar year).

How to Apply:
Please submit applications here by April 2. Applications should include:

- A brief statement (2-3 paragraphs) or cover letter describing why you are interested in this project and how your experience and qualifications make you a good fit for the position. We are committed to fostering an inclusive environment and supporting diverse students in Environmental Science, including those from underrepresented, low-income, and first-generation college backgrounds, and those active in DEI, environmental justice, or social justice. We welcome insights into how your experiences or perspective might shape your contribution to the BEL community.
- A resume or CV, including any relevant coursework and previous experience

Interview and Selection Process: Approximately two weeks after the submission deadline, applicants selected for interviews will be notified by email. Though only some students will be selected for interviews, all applicants will be notified of the status of their application when the interview/selection process is complete (approximately 3-4 weeks after application deadline).