Arnhold Environmental Undergraduate Fellowship:
Assessing Capacity for Climate-Driven Evolution with MPAs
Summer 2024

The University of California Santa Barbara (UCSB) and Conservation International (CI) recently launched the Arnhold UC Santa Barbara-Conservation International Climate Solutions Collaborative to unify their demonstrated expertise and networks to conduct cutting-edge applied research to yield tangible, progressive solutions, and propel the careers of emerging environmental professionals. Through this partnership, the Environmental Markets Lab (emLab) at UCSB and CI have launched several applied collaborative research projects pushing the boundaries on resilient ocean and land conservation, natural climate solutions, and the frontier of impact investing in the blue economy. The Collaborative also created the Arnhold Environmental Fellows program - a powerful opportunity for undergraduate and graduate students to engage in collaborative research projects and receive mentorship from experts in the fields of environmental and ecological science.

Marine Protected Areas (MPAs) are an important tool used for species conservation. By limiting (or removing) fishing within their boundaries, MPAs can allow species and ecosystems to recover. Due to this protection from fishing, MPAs can also impact the way species evolve within their borders. For example, evidence suggests that fish body shape, size, maturation age, and the extent to which they move can all differ for fish protected within MPAs compared to unprotected populations. At the same time, climate change is also driving the evolution of key species traits, such as thermal tolerance and species movement extents, further affecting species population recovery and persistence within MPAs and susceptibility to fishing near MPA borders. The selective pressures from protection and climate change can interact, and sometimes be contradictory. This can lead to unexpected consequences, sometimes positive or negative, for some species protected within MPAs, while other species will continue to benefit from protection as predicted. This finding underscores key open questions, including (a) which species may experience these unanticipated effects? and (b) can we design MPAs to mitigate this response? We are looking for an undergraduate student research fellow to join our team to advance this applied marine science effort in Summer Quarter 2024.

Responsibilities
During this opportunity, the Fellow will gain experience, mentorship, and training to complete the following activities:

- Reviewing literature on evolution and marine protected areas;
- Collecting and organizing a variety of data sources;
- Manipulating and cleaning datasets;
- Working in a collaborative research environment;
- Developing presentations and publications.

Desired Skills and Experience
Ideally, the selected candidates would demonstrate the following:

- Background in ocean science, marine science, marine ecology, and/or marine conservation, including coursework and/or work experience;
- Experience both leading independent research efforts and working collaboratively as a team;
- Strong organizational and communication skills;
- Detail oriented;
- Prior experience with R is a plus but not required.

Fellow Selection Criteria
Students will be selected as Arnhold Environmental Fellows based on the following criteria:

- Excellence in environmental and ecological science and research
- Interest, skills, and experience related to the project responsibilities described above
- Registered UCSB undergraduate student in good academic standing

emLab is committed to sustaining an equitable and inclusive workplace and to the goal of reflecting the rich diversity of our campus community within our staff. We encourage applications from students of all backgrounds and majors and special consideration will be given to candidates who enhance diversity in the environmental sciences.

How to Apply
To apply, please apply via Handshake (job number - 8892158; job title - “Arnhold Environmental Undergraduate Fellowship: Assessing Capacity for Climate-Driven Evolution with MPAs”) or send your resume and a short description of your interest and qualifications to Allie Caughman at acaughman@bren.ucsb.edu.

The Arnhold Environmental Undergraduate Fellow will be paid $16/hr and will work for the duration of Summer quarter (10 weeks). The successful candidates will be expected to commit 20-30hr/week, depending on the candidates’ schedules, starting on June 13th.

Application Deadline: May 1st, 2024