Wildfire Resilience: Conveying Models to Communities through Scientific Communication

Bren Environmental Leadership Program Summer Fellowship

Project Background
California wildfires have surged in frequency and severity in the 21st century, driven by various factors such as land use changes, evolving fire management practices, and climate change. Our research at The Bren School uses the RHESSys model (Regional Ecohydrologic Simulation System) to study fire behavior in the Santa Barbara Front Range and Santa Ynez Valley. RHESSys modeling allows us to study the interplay between climate, hydrology, vegetation, and wildfire. Our goal is to understand how climate change and climatology influence fire likelihood, severity, and behavior. This project aims to delve deeper into our understanding of wildfire behavior by developing tools to communicate the RHESSys model results to a wider audience of community members and other stakeholders.

This summer fellowship is a great opportunity for an undergraduate student passionate about promoting wildfire resilience in California and building their technical and scientific communication skills. The selected student will work alongside a Bren PhD student mentor to communicate the insights derived from our ecohydrological models regarding fire frequency, severity, and impacts on water flow and groundwater recharge in the Santa Barbara region. The student will build an RShiny app (or equivalent tool) that transforms model outputs into an accessible and interactive format designed for diverse stakeholders. Tasks will include coding the RShiny app, studying RHESSys model results, learning about community wildfire resilience, and designing an intuitive user interface. Additionally, the student will collaborate with the PhD mentor to refine the app based on stakeholder feedback. The position provides hands-on programming experience and contributes to the broader goal of fostering effective communication between scientists, policymakers, and communities.

Qualifications
- Interest and enthusiasm about the project and wildfire resilience in California
- Ability to work independently and drive project progress
- Strong written communication and visual design skills
- A background in statistics is preferred, but not required
- Experience with R and Excel is helpful but not required (training will be provided)—however, interest in developing technical programming skills is necessary!

Details
The position is 10 weeks, 35 hours/week, with exact dates negotiable from mid-June to mid-September. Most work can be conducted remotely, with opportunities for in-person meetings depending on student location and availability. Payment is $18.57/hour. 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 2024. Applicants must be full-time UCSB continuing undergraduate students (not graduating within the 2024 calendar year).
How to Apply
Please submit applications to this form by March 24 at 11:59pm. Applications should include:

- A brief cover letter (2-3 paragraphs) 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. Please include 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).