UC Irvine CLIMATE Justice Fellows showcase community-based research

The fellows work with Orange County communities grappling with environmental problems.

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UCI CLIMATE Justice Initiative fellows Bryant Pahl (left) and Miranda Elizarraras Botello presented their teams' community-based research this week at the Interdisciplinary Science and Engineering Building.

Picture Credit:
Lucas Van Wyk Joel

The science behind many human-caused environmental problems is well-established, but what's less clear is how scientists can help develop solutions to those problems in a way that includes input from impacted communities. That's the aim of the UC Irvine CLIMATE Justice Initiative (CJI), which recruits and trains graduate student and postbaccalaureate fellows in best practices for conducting scientific research alongside community members.

On Monday, August 4, the 2024-2025 cohort of CJI fellows presented their community-based research projects.

One of the projects, co-led by Ph.D. candidate Bryant Pahl and postbaccalaureate Kevin Olivas Ordoñez of the UC Irvine Department of Earth System Sciences, involves helping the city of Santa Ana grapple with heatwaves, which are becoming increasingly common and intense as human-driven climate change continues.

"Extreme heat kills more people than all other kinds of extreme weather combined," Pahl explained during his group's presentation. Their team is building off of work co-led by a previous CJI fellow, Ph.D. student Haley Staudmeyer, also from the Department of Earth System Science.

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Together, Pahl, Staudmeyer and others are distributing surveys to Santa Ana residents to better understand how people are adapting to extreme heat events. While cooling centers in Santa Ana already exist as a solution to extreme heat events , it's unclear whether the centers are the best way for the city to serve its at-risk residents.

"The best solution for extreme heat is the one that's grounded by community perspective," the team explained as they described how promatoras – local Santa Ana community health workers – are helping them distribute heatwave surveys.

The group plans to publish results from the surveys later this year.

Another project, co-led by UCI Earth system science Ph.D. student Miranda Elizarraras Botello and postbaccalaureate Salwa Sidahmed, involves building on previous CJI fellow work aimed at helping make the nearby UC Irvine San Joaquin Marsh reserve more accessible to the Acjachemen, Gabrieleño, Kizh and Tongva

peoples, who have ancestral ties to the land.

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Botello and their team are working to assemble oral histories from indigenous peoples with ties to the marsh to understand how tribal members connect with the area. The team plans to assemble the histories into a digital book that includes recordings from interviews with indigenous tribal members.

The fellows' worked alongside local organizations, including GREEN-MPNA, the Sacred Places Institute for Indigenous Peoples and Orange County Environmental Justice. Professor Kathleen Johnson of the UCI Department of Earth System Science founded CJI alongside other collaborators after receiving a grant from the National Science Foundation. This year, NSF terminated the grant, and while a recent court order restored funding, the program will not be enrolling fellows for the 2025-2026 academic year.

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