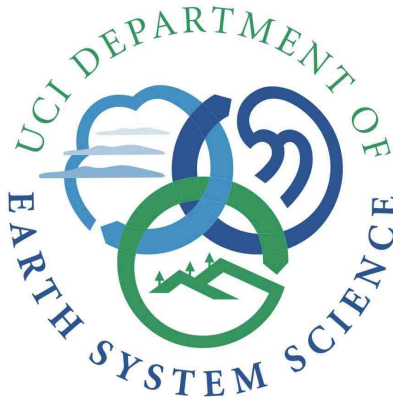


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URGE Policies for Working with Communities of Color for UCI/ESS

This is what was found by UCI ESS Pod at University of California Irvine Department of Earth System Science on Policies for Working with Communities of Color as well as plans for improved processes and/or needed resources.

Audit of previous interactions with communities of color at our organization:

- We will be conducting an informal audit of interactions through discussion with faculty, students, and postdocs over the coming months. We will aim to have an updated document by Fall 2021. What is described below is based primarily on the experience of members of our pod.
- Many of our interactions with communities of color have been recruitment and outreach focused activities, rather than research. Some key examples are listed below.
 - CLEAN (Climate, Literacy, Empowerment And iNquiry) is a graduate student led non-profit organization focused on bringing climate education to underrepresented grade school students. CLEAN visits MacArthur Middle School in Santa Ana to deliver hands-on, grade-appropriate lessons on topics such as water, the carbon cycle, and greenhouse gases. (2008-present)
<https://sites.uci.edu/clean/>
 - AISIESS (American Indian Summer Institute in Earth System Science), led by Kathleen Johnson, is a two-week, NSF-funded residential program for Native high school students. During the AISIESS program, students spend one week camping on the La Jolla Band of Luiseño Indians reservation and one week on the UC Irvine campus. During both weeks, students learn about Earth System Science through interactive discussions and hands-on laboratory and field exercises. Each week also incorporates Native studies courses, visits from



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Native STEM professionals, evening talking circles, and other cultural activities. (2012-2017)

- NASA Direct STEM is a NASA funded training program that has the overarching goal of recruiting highly competitive, historically under-represented students, giving them direct NASA research experience in advanced scientific computing and data analysis, via training and JPL internships, and inspiring them to become future leaders in STEM-related professions. The program was based out of Cal State - Los Angeles with close UCI co-I partners from multiple departments (ESS partnership led by Mike Pritchard). UCI hosted annual weeklong summer training workshops for the visiting cohorts of CSU-LA MS students and Pritchard and Johnson made regular visits to CSU-LA to give seminars and interact with the cohort in their annual research symposia (2016-2020)
(https://www.calstatela.edu/centers/NASA_DIRECT_STEM)
- Many faculty are collaborating on or leading field research projects around the world, including in or near communities of color. While a more complete audit will be conducted in the coming months, here are relevant projects we are aware of.
 - Arctic research
 - Claudia Czimczik (Alaska, Greenland)
 - Isabella Velicogna (Greenland)
 - Eric Rignot (Greenland)
 - Eric Saltzman and Murat Aydin (Greenland, Alaska?)
 - Gudrun Magnusdottir?
 - Paleoclimate, ecosystem, and biogeochemistry research elsewhere
 - Kathleen Johnson (Laos, Vietnam, China, Mexico)
 - Patrick Rafter (Mexico)
 - Kate Mackey (Salton Sea)
 - Paulo Brando (Brazil)
 - Climate impacts/Ecosystem services
 - Benis Egoh
 - Steve Davis
 - CECS. The Center for Ecosystem Climate Solutions (CECS) research project, led by Mike Goulden, has project staff at other campuses dedicated to stakeholder outreach and engagement. While the majority of engagement has been with state and federal agencies, they have leveraged a few existing connections that PIs have with Tribes in California and have received survey responses from Indigenous stakeholders which help guide the development of a decision support tool that is in progress. The goal is to create management suggestions that are useful for different groups, and to make sure that the final



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tool matches their needs. <https://california-ecosystem-climate.solutions/>. The project also hosts undergraduate interns focused on science communication to local communities.

What did not work well, what did work well, and how can this be better addressed in future plans?

- Paleoclimate Research (K. Johnson):
 - In Laos, we originally started our project in collaboration with the [Middle Mekong Archaeology Project](#), which is an amazing project that is co-directed by Dr. Joyce White (Penn Museum) and Bounheuang Bouasisngpaseuth, an official at the Lao Department of Museums and Archaeology. This project focused major efforts on capacity building and knowledge co-production, Thirteen Lao culture heritage managers from government branches in three provinces participated in this program, and several of them provided critical assistance with the paleoclimate research. We have acknowledged these collaborators in publications, and are planning to include them as co-authors on future publications. We have built and maintained close relationships with two of these Lao colleagues, who have continued to support our fieldwork and research. As we've tried to expand our research to other regions of Laos, it has been challenging to build relationships with community members, government officials, and researchers, though we are slowly making progress. One area that needs work is with building contacts with the National University of Laos (NUOL), which has not proven successful yet. In the future, we need to budget more funds for networking and relationship building focused trips, funds for NUOL faculty and students to participate in research, and potentially funds to bring NUOL researchers to the US for visits.
 - In Vietnam, we have established strong collaborations with Vietnamese scientists from several research institutes and universities, and park managers at Phong Nha Ke Bang National Park. We are currently developing an MOU to sign between PNKB and UCI. We are providing payment to PNKB to support their help with fieldwork logistics, precipitation sampling, and cave monitoring. We have included park managers and other stakeholders in workshops that took place in 2019 and 2020, and are planning to organize a workshop at PNKB in 2022. Communication is always a challenge, however, so it is important to frequently check in via WhatsApp or Social Media, which has proven more effective than e-mail in most situations.
 - In our Mexico project, Climate Investigations with Mexican Archives (CIMA), we have a close collaboration with Dr. Laura Beramendi-Orosco, a faculty member at



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UNAM in Mexico City. We also have built relationships with local cavers in San Luis Potosi and Tamaulipas, who have proven essential for our safe access to cave sites. We are also paying two local people to assist with rainfall collection near our study sites. We have created a website in [English](#) and [Spanish](#), have included local contacts as co-authors on publications, and hope to develop educational materials for and generate publicity for the El Cielo Biosphere Reserve in order to help the local economy.

- CECS: Covid has made engagement more difficult. We suggest engaging very early in the process, and figuring out how to make collaboration mutually beneficial. PIs have expressed that they lack knowledge of how to reach out and would benefit from a set of guidelines. In general, collaboration is difficult; in many cases scientists and government have corroded their reputation with Indigenous groups through non-mutually beneficial relationships.
- CSU-LA DIRECT-STEM education center, things that worked well (M. Pritchard)
 - Making research traineeship lucrative, by paying really good salaries for NASA internships and defraying costs of MS tuition. Messaging the immediate earning potential as central to the whole initiative.
 - Having partner STEM educators sacrifice the 9-5 convenience they are accustomed to, by holding advanced skill training seminars on weekends instead of weekdays, to accommodate the demanding schedules and work/family commitments of marginalized students.
 - Having a concrete quantitative goal (# of students actually placed in R1 PhD programs annually) that is monitored regularly and prioritized by leadership, and tactics such as putting consistent positive social pressure on University co-PIs involved in the center to actually admit students matriculating from the program (mixed success but this worked in some departments).
 - Maintaining sustained consistent interaction over a long period of time to allow new relationships to solidify over multiple years.

Are there specific resources or guidelines that are needed to improve the process for planning ahead and working with communities of color?

Recommendations of best practices

- We recommend providing Land Acknowledgements in talks and papers. For example, "We acknowledge our presence on the ancestral and unceded territory of

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- the Acjachemen and Tongva peoples, who still hold strong cultural, spiritual, and physical ties to this region”
- UCI should hire a tribal liaison or form a Native American Advisory Committee (like San Diego State University, UC Berkeley, UC Riverside, etc.), or some point of contact for interfacing with communities so as not to overwhelm with individual requests from researchers and collaborators, and to ensure PIs are engaging appropriately.
 - Collaborations with Black, Indigenous, and Latinx communities should be established EARLY in the research formulation process, and should be true collaborations that are mutually beneficial, driven by the needs and input of those communities.
 - Engagement should not begin after proposals are mostly complete.
 - The process should be interactive, with groups developing shared rules, norms and structures ([Kezar 2005](#))
 - In general, major research projects should include both internal and external collaborators, as defined in Kezar 2005: “Internal collaboration includes areas such as cross-functional teams, interdisciplinary teaching/research, and student and academic affairs collaboration. External collaboration includes steering committees, K-16 partnerships, community partnerships, and business and industry collaboratives.”
 - ESS should host a seminar on interacting with communities of color (suggested speakers: Dominique M. David-Chavez or Kendall Moore)
 - Draft formal MOUs with local collaborators before starting the project
 - Pay local guides/collaborators for their contributions
 - Include local collaborators as authors on papers, presentations, etc...
 - It is helpful to leverage existing relationships rather than cold emailing Indigenous folks.

Recommended readings

- [David-Chavez & Gavin 2018](#) “A global assessment of Indigenous community engagement in climate research”
- [Kezar 2005](#) “Redesigning for Collaboration within Higher Education Institutions: An Exploration into the Developmental Process”
- [Cochran et al 2013](#) “Indigenous frameworks for observing and responding to climate change in Alaska”
- [Gewin 2021](#) “How to include Indigenous researchers and their knowledge”
- [Bullard 1993](#) *Confronting Environmental Racism*

Other resources:



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- California Native American Heritage Commission <http://nahc.ca.gov/> has a formalized process and training for connecting with tribes.
- Example of a Tribal Liaison at SDSU
<https://sacd.sdsu.edu/diversity-initiatives/tribal-liaison>