

URGE Policies for Working with Communities of Color for Humboldt State University

This is what was found by Humboldt Geoscientists at Humboldt State University on Policies for Working with Communities of Color as well as plans for improved processes and/or needed resources. We have decided to largely narrate individual experiences of Pod members and projects in the main body (under several different main areas), and summarize a few overarching themes at the end. Experiences mainly focus on interactions of Pod members through two local higher education institutions - Humboldt State University (HSU - 4-year college) and College of the Redwoods (CR - Community College), although work done through other institutions is also included.

Educational Partnerships with Tribal Students

- **College Level:** The College of the Redwoods Klamath-Trinity Site is a partnership between CR and the Hoopa Valley Tribe. The instructional site is located on the Hoopa Indian Reservation and serves approximately 100 students. Science instruction at this site provides an opportunity for outreach as well as recruitment of native students into the Earth and Environmental Sciences.
 - Earth and Environmental Science offerings at the K-T site
 - One section of GEOL 1 Physical Geology (equivalent to GEOL 109 General Geology at HSU) was offered in 2010 on Saturday mornings. This is the only Earth Science class that has been offered at K-T since 2006 (earliest data reviewed).
 - The only science lab options (other than the one section listed above) have been biology classes
 - The physical science class with the most sections offered and highest fill rate, is ENVSC 12 Earth's Changing Climate
 - Challenges
 - The small number of students at this site makes offering a variety of science courses challenging. Section reports from the last decade suggest that the fill rate in science classes has usually been less than 50%. Sections are also frequently cancelled.
 - The commute for faculty is usually long and it is not feasible to offer science faculty enough courses to make relocation a viable option.
 - Some K-T based students take online classes, however internet connectivity is not available everywhere in Hoopa.
 - Opportunities



- **The ENVSC 12 class might be a good avenue for outreach and recruitment of Earth Science majors. Maybe partnerships between CR and HSU could be explored.**
- As internet coverage expands, there may be more possibilities for creative solutions to some of the challenges listed above involving some form of hybrid online/in-person model. The post-Covid era is likely to see lots of innovation in hybrid education.
- **High School Students:** We leveraged additional funds from a state group/funding agency to include an extra education effort on a funded proposal. We invited two local high school science classes to attend a field trip on the research vessel and then visit the Marine Lab for a follow up session. One of those classes was a Hoopa High science class, in which we had an existing relationship with the teacher (former student of one of my co-PIs). The other was from a predominantly white local school. In retrospect, we did not do a good job of addressing the needs/interests of the different communities of students we worked with. We just planned an educational outing, and ran a similar program with both groups of students. There was not any meaningful follow up to assess the impacts of the experience on the students. This was definitely a missed opportunity for building a more meaningful relationship with the school and its students.

Educational/Cultural Partnerships for HSU Students

- **First Year Student Learning Communities:**
 - For our first-year marine science student learning community, we engaged early with members from several local tribal entities, including the Wiyot Tribe and the Trinidad Racheria. We felt this was critical to helping the students develop an understanding and sense of place locally. These collaborators were brought in fairly early on during the planning phases of our summer immersion experience, where we have the students first interact with the tribal communities. Our collaborators developed content that was most meaningful and reflective of their communities, and we adapted the schedule or structure of these sessions based on feedback by our tribal partners. Some examples: For the first activity in our program, students are welcomed by the Chairman of the Wiyot Tribe, they watch videos about the history Native Americans, and have a discussion led by Native American faculty. All maps and activities list place names according to local Indigenous languages. In another activity, Tribal youth present to the first-year students and we prioritize giving the two groups the opportunity to interact and exchange ideas.

- We also sought ways for continued engagement with the tribal communities through events, guest lectures, and giving back to the communities (participating in cleanup days or other service actions). Additionally, to directly compensate our collaborators for their time and knowledge, Tribal collaborators are presented with an honorarium for their work, or invoice the University for their time and materials. The invoice affords the activity leaders flexibility to include honoraria for the youth presenters. In the transition to virtual activities, we had to have a conversation at the start to evaluate capacity and funding to develop new materials to share with students. Additionally, when we transitioned to virtual activities we needed to adjust for supporting the intellectual property of our Indigenous partners. When possible we ran sessions as live-stream with no recordings. To share a video developed by Tribal collaborators, we signed a Memorandum of Understanding to outline the appropriate use of the material.
- **Culture Camps:**
 - We work with tribal elders from two different nations to provide culture camps to our STEM students. Culture camps are a small part of the process of braiding indigenous science with academic science and the individual self to produce a stronger scientist able to assist with community issues when asked. Much of the knowledge exchange is based around how food is hunted, gathered, and maintained. Traditional ways of catching fish, cultivating oak trees and preparing acorns are shared by elders, as are strides tribal nations are making in the reintroduction of salmon and condor to the area. Culture camps are transgenerational. This is the desire of the elders, and also the cultural norm of the tribes. Tribal youth are a part of the culture camp. Elders share their knowledge. College students get to know and talk to youth. Youth fully participate, as do college students, in chores that need to be done and also teach college students how to clean, portion, salt, and smoke fish; pound and leach tannins from acorns, etc. Everybody teaches, everybody learns.
 - One of my staff members is well-known to tribes, and he acts as the liaison. Tribal partners are brought in near the beginning of the process. For the culture camps we are able to deal with two individuals who are well-connected with their community. We have done these camps before, so a trust relationship has been built. We do work diligently to ensure that tribal concerns and wishes are taken into account throughout the process of planning and execution (and clean-up!), and that students are respectful. We have not published about the culture camps, but we ask for permission before using group photos and acknowledge the tribe and their contribution to the event, should we talk about our culture camps. Elders and other speakers are paid an honorarium for their time. We provide the food, students to prepare meals and clean up. If we can, we pay a rental fee for the grounds, which are restored to emulate a traditional village.

- Building on the culture camp experience, we have written several grants to acquire funds to hold additional camps, working with one of the tribal elders. We have not been funded yet.

Interactions During Scientific/Field Research

- **Marine Protected Area (MPA) Baseline Monitoring Program (Northern California):**
 - In the baseline monitoring of marine protected areas (MPAs) in the 'North Coast' region of northern California, Tribal Nations were among the PIs supported by state funds to document conditions of marine ecosystems near the time of MPA implementation. Many researchers at HSU were also involved in baseline monitoring in this region and worked with Tribal scientists on several of the funded projects. Most notable, Indigenous researchers were also funded in a study to represent the traditional ecological knowledge of the region by interviewing elders. As collaborators in MPA baseline monitoring projects, Indigenous researchers were involved from the beginning in the development of the research plan and were authors on the final reports prepared for this work. In the specific project led by Tribal researchers, the project proposal, research methodology, and reports were developed by Tribal scientists.
 - In baseline monitoring of MPAs, a data use and management plan had to be developed before the research was completed. The project that was funded supported gathering traditional ecological knowledge about five keystone species in the area. The Tribes that collected these data maintained ownership of this intellectual property. As it was a state-funded project with standardized data repositories and reporting protocols, a specialized document and agreement had to be made with respect to these data. For these projects, the development of a data use and management plan took a lot of time but was crucial to complete before data was collected. The grant had to be extended to complete the research. Afterward, time had to be allowed for review of the final reports by Tribal Council.
- **Field work in Greenland:** Although I didn't work in areas of Greenland where people live, I've gone to larger towns nearby and given talks on my science. These talks are in English, but most people who live in the towns are tri-lingual (Greenlandic, Danish and English). Written summaries of my research have been translated into Danish. If I continue my research in Greenland, I will definitely look into translating my outputs into Greenlandic as well. I also use local Greenlandic place names (if they exist) in publications/talks/posters.
- **Field work in Washington and Alaska:**
 - As an entry/early-level researcher, I have requested land access and scientific collection permits from First Nation Tribes in northwest Washington. When



asking for permission, it is important to recognize tribal data sovereignty. As with any relationship, one can start to build trust by being fully transparent with goals, objects, and plans well in advance. It is equally important to offer multiple avenues for collaboration, participation, and community engagement. For example, I invited all interested parties to join our data observation and collection efforts. Additionally, I offered to give public/school talks about research objectives and findings. During our data collection, several tribal members visited with us, shared their local knowledge, and gave additional access permissions.

- I have also been fortunate to have had the opportunity to work with a team of more senior-level researchers who work in the Alaska-Aleutian Islands and have long-standing collaborative relationships (listed co-authorship) with several First Nation Tribes. During the 2016 fieldwork efforts, we obtained equipment, lodging, transportation, and other services from the local tribal members. Tribal members shared local knowledge and described how to access certain areas. These experiences and interactions highlight the importance of professionalism and transparency when conducting research on Tribal lands.

Summary

Things that have worked well during past/current interactions:

- Engaging with tribal partners/communities early in the process, and working together to make an action/research plan or schedule
- Being conscientious of intellectual property and communicating openly about needs and an appropriate plan. These discussions need to be initiated early, and academic partners may need to be flexible in timelines for research completion.
- Ensuring a method for compensation of partners or communities who give time/knowledge
- Building ongoing partnerships where tribal partners/community members are consistently engaged and included in relevant meetings, activities, etc.

Opportunities for Improvement:

- Explore ways to better engage with local high school and college tribal members to support their science education and open STEM as a potential career path
 - This may include giving talks or lectures in these communities, or exploring more effective educational partnerships.
- There are lots of potential opportunities for research collaborations which have not been actively explored. This includes building in thoughtful and collaborative “broader impacts” activities, which could also assist in better engaging tribal youth in STEM.
 - Also, engaging with local communities to better understand how we might pivot/focus our research in geosciences to better support their needs