



## Unlearning Racism in Geoscience

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### URGE Policies for Working with Communities of Color for University/Organization

This is what was found by NAU Astronomy and Planetary Sciences at Northern Arizona University on Policies for Working with Communities of Color as well as plans for improved processes and/or needed resources.

*Our pod found that we not only interact with communities of color via traditional field work, but also with telescopes that reside on historically sacred land. We have divided this deliverable into the following sections: 1) experiences with communities of color via field work, 2) experiences with communities of color via telescope utilization, 3) Departmental and University level interactions, and 4) plans for improved processes and additional resources.*

#### **1) Experiences with communities of color via field work.**

- a) Members of our Pod and within our Department perform fieldwork on reservations in Northern Arizona and generally within the desert southwest. In these instances, most interactions include paying the Indigenous person to interact and collect field samples on their land. However, no further science communication after fieldwork is performed is usually undertaken.
- b) It is a problem in the field of geology as a whole that geologic fieldwork includes either trespassing on land or collecting data without formalized approval. This not only impacts the communities whose land we're disrespecting but also potential students of color who perform this fieldwork. If these instances result in punishment, students of color will receive harsher consequences than white peers. Our department is generally good about researching whose land and what sorts of communication needs to happen before performing fieldwork. However, we have no plan for protecting students of color while performing fieldwork.
- c) There is a lack of land acknowledgements or acknowledgement of the Indigenous person whose land fieldwork was performed on in our department's publications, presentations, or proposals.

#### **2) Experiences with communities of color via telescope utilization.**

- a) Many members of the Pod are astronomers, thus we do not do direct research with the land, rather we utilize telescopes that are situated on



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land. The following is a list of telescope observatories currently or recently used in our department: Lowell Observatory (AZ), Lowell Discovery Telescope (AZ), telescope on Mauna Kea including IRTF, Keck, Gemini North (HI), Cerro Tololo Inter American Observatory (Chile), WIYN (AZ), SOAR (Chile), Gemini South (Chile), Palomar Observatory (CA), CHARA (CA), Las Campanas Observatory (Chile), Mt. Graham International Observatory (AZ), Whipple Observatory (AZ).

- b) We found a land acknowledgement for one of the above observatories (Lowell).  
*"Lowell Observatory sits at the base of mountains sacred to tribes throughout the region. We honor their past, present, and future generations, who have lived here for millennia and will forever call this place home."*
- c) There is currently debate among astronomers and native Hawaiian people regarding the addition of a new telescope facility on Mauna Kea. Members of the Pod are extensive users of observatories currently on Mauna Kea. Ongoing/updated tribal communication has been called for in the new observation facility.
- d) One former researcher in our department has included land acknowledgements for telescope use in the 'Acknowledgements' section of their papers. *"We acknowledge that these ground-based facilities are located, or in the case of SOFIA, maintained and operated on land of Indigenous communities and First Peoples including: Hawaii: Kō Hawai'i Pae'āina; Puerto Rico: Boriken Taino; Arizona: Hohokam, Western Apache, Pueblos, Zuni, Hopi and Diné, Sobaipuri, Tohono O'odham - Papago, O'odham; California: Newe (Western Shoshone) Fernandeño Tataviam, Yuhaviatam Maarenga'yam (Serrano), Kizh; New Zealand: Ngai Tahu; Chile: Günūna Kūne. Without the land that these facilities occupy and the stewardship of these communities, we could not perform much of the science past or future. Furthermore, while these telescope assets are crucial for the advancement of our science, we recognize that their presence is not always welcomed or sanctioned by the Indigenous communities and First Peoples, particularly in Hawaii."*

### 3) Departmental and University level interactions

- a) In the Astronomy and Planetary Sciences department, we teach a course, "Indigenous Astronomy", in which students learn astronomy from a typical western perspective as well as an Indigenous perspective. The Indigenous perspective focuses primarily on Navajo, Mesoamerican, and Polynesian Astronomies.



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b) The NAU / NAU Ethnic Studies & Office of Native American Initiatives land acknowledgement.

- i) *"Northern Arizona University sits at the base of the San Francisco Peaks, on homelands sacred to Native Americans throughout the region. We honor their past, present, and future generations, who have lived here for millennia and will forever call this place home."*
- ii) From conversations with the NAUs Native American Cultural Center (NACC) the land acknowledgement is intentional about not listing specific tribes to be more inclusive. This is because the San Francisco Peaks and the area surrounding it are sacred to many different peoples, past and present and the land is actively contested by many of those groups.

### 4) Plans for improved processes and additional resources

- a) Land acknowledgement(s)
  - i) We plan to first engage in communication with the NACC.
  - ii) Through partnership, we hope to write an encompassing land acknowledgement that also includes actionable items.
  - iii) To show support, we will also explore a land acknowledgement suitable for email signatures.
- b) We would like to curate a complete list of observatories and field sites with associated information regarding native people and the land. - <https://native-land.ca/>
- c) We must develop a safety plan to support students of color, especially BIPoC, during fieldwork activities. This safety plan can provide a detailed list of actions the faculty member or PI of the project can take to prevent the harassment of students of color or putting them in dangerous situations and what to do when a student of color is being harassed or is in danger in the field.