
URGE Policies for Working with Communities of Color for IRIS/UNAVCO+ Pod

This is what was found by IRIS/UNAVCO+ Pod on Policies for Working with Communities of Color as well as plans for improved processes and/or needed resources.

Pods may have members from a range of career stages and involvement in the development and execution of research projects, and pod members may have different experiences or different perspectives when responding to these questions. Consider this in the summary document and focus on capturing responses that are representative of the range in your pod.

UNAVCO

- **Audit of previous interactions with communities of color at our organization:**
 - RESESS Program (Research Experience in Solid Earth Sciences for Students - this undergraduate internship project is specifically designed to serve students from groups underrepresented in science. It has been run by UNAVCO for ~15 years and has served [85 students](#) as of 2020. In addition to science research, RESESS particularly emphasizes supporting skills such as science writing, resume writing, verbal communication, and career planning.
 - Field projects including
 - i. GNSS station networks in Mexico, Caribbean, and Alaska (also some station sites in western lower-48 possibly) - more than 1200 sites total but many fewer in communities of color
 - ii. Domestic and international research project in support of NSF Principal Investigators - scores of projects over decades
 - EarthConnection Project - a project led by the Science Education Resource Cent on which UNAVCO was a collaborating institution. Pilot project that did not receive further funding. Overall worked with three communities of color with UNAVCO primary partners being black educators in Atlanta.

- **What worked well in these interactions?**
 - RESESS - a high percentage of students have gone on in the earth sciences to be successful through graduate school and now in tenure track positions. Some have gone into related fields such as environmental law. Participant satisfaction is high. The program was designed based on best known practices for supporting students from underrepresented groups. It has seriously considered intern feedback and made adjustments.
 - Field projects



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- i. GNSS Stations - the interactions have varied tremendously in how appropriate, conscientious, and collaborative the local interactions have gone. This has varied from highly collaborative networks design and building (ex. Mexico) to contentious and inconsiderate interactions that have taken years to begin to repair (ex. Caribbean). One action that was hopefully at least somewhat successful through the Caribbean project (COCONET) was [funding of graduate fellowships](#), over half of which went to students from the Caribbean (including now Dr. Vashan Wright).
 - ii. Field Projects - UNAVCO has considerably less control over how these are conducted as the projects are led by university PIs. Some more successful examples are educational short courses for local scientists and students (ex. Venezuela and Africa) and ongoing collaborations with local scientists (ex. Nepal).
 - o EarthConnections - at two of the three collaboration sites, reasonably collaborations were established and the teaching resources were produced as intended.
- **What did not work well, and how can this be better addressed in future plans?**
 - o RESESS - seems to already be on a good track with robust design and internal review and improvement processes
 - o Field Projects
 - i. It seems that better communication about best practices for working with and collaborating in a mutually beneficial way communities of color both domestically and internationally would be of value for both UNAVCO staff and community members. We could draw from the readings and recommendations from this session
 - ii. We should consider what professional development opportunities UNAVCO and/or IRIS might be able to arrange.
 - iii. Would be good to consider whether project reporting on community-related successes and challenges would be a good practice to put into place.
 - iv. The UNAVCO IDEA committee has already included a recommendation that the above practices we incorporate into organizational practice and/or policy.
- **Are there ways to improve the outcome of projects already undertaken?**
 - o RESESS already has a good model in place and strives for continuous improvement.



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- Field Projects
 - i. The newer project manager for the COCONET component of the Network of the Americas (NOTA) has been working in the last two years to repair and rebuild relationships that were damaged by previous negative interactions.
 - ii. Her experiences can serve as an example for others if they need to undertake this type of action or avoid these mistakes in the first place.
- **Are there specific resources or guidelines that are needed to improve the process for planning ahead and working with communities of color?**
 - Many of the resources from URGE can serve as a starting point for this
 - The UNAVCO IDEA committee has included improvement on this in their Action Plan recommendations for the organization
 - UNAVCO and IRIS are already planning to include sessions related to international capacity building and networking for Africa/Asia and Central/South America in the 2021 GAGE/SAGE Community Science Workshop. We will make sure that principles outlined in the URGE session are reviewed and incorporated by the planning committee. We will aim to invite people to the panels who have a track record of genuine balanced international collaborations with representation from both US and non-US scientists.

IRIS

Audit of previous interactions with communities of color at IRIS:

The IRIS GSN program has permitted, deployed and maintained at least 94 permanent seismic stations in or near communities of color. There is currently no known GSN knowledge base for interacting with these communities.

The IRIS PASSCAL program scheduled at least 18 PI experiments in 2019 that likely involved either field work in or near communities of color, or collaboration with agencies or institutions representing communities of color. PASSCAL debriefs PIs about field campaigns afterwards, but does not currently solicit feedback on working in communities of color. PASSCAL leadership affirms the value of adding debriefing questions that would prompt this kind of feedback in the future.

In conjunction with NSF and UNAVCO, IRIS Education and Public Outreach (EPO) sponsors a Minority Lecture Series where early-career alumni of the IRIS Research Experiences for



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Undergraduates (REU) Program or the UNAVCO Internship Program give presentations to students from Historically Black Colleges and Universities (HBCUs) or other Minority-Serving Institutions about their career paths.

IRIS EPO has collaborated with two HBCUs to create permanent geoscience presences. As part of an 8-year Africa Array project led by Andy Nyblade, IRIS led multi-day teacher workshops at North Carolina A&T. IRIS EPO is also collaborating with Aditya Kar at Fort Valley State University as part of their NSF GeoPaths award.

In addition, IRIS EPO participated in a multi-year professional development project with science teachers of the Yuma-Union School District in Yuma, AZ, a district that serves a large Latinx population.

As part of the NSF INCLUDES project led by the Science Education Resource Center (SERC), IRIS EPO works with Native American communities in Oklahoma to help engage more Native students in STEM, using induced seismicity as a potential topic.

The Transportable Array (TA) was a network of 400 high-quality broadband seismographs and atmospheric sensors that have been operated at temporary sites across the conterminous United States from west to east in a regular grid pattern. After a residence time of two years, each instrument was picked up and moved to the next location. In August 2007, the first footprint was established from north to south along the westernmost quarter of the United States. The TA finished its eastward migration in fall 2013, and is currently being deployed in Alaska.

From the beginning, the TA linked station siting and outreach. There were contacts to Native communities from the first deployments in Oregon. Outreach was described as an important part of the project, although not explicit to Native communities, rather all communities. How this outreach looked varied from region to region. Siting and outreach in Native communities continued throughout the lower 48, including a workshop organized for Native American teachers. When the TA reached Alaska, there was extensive outreach to Alaska's Native communities as the TA worked through the final deployment.

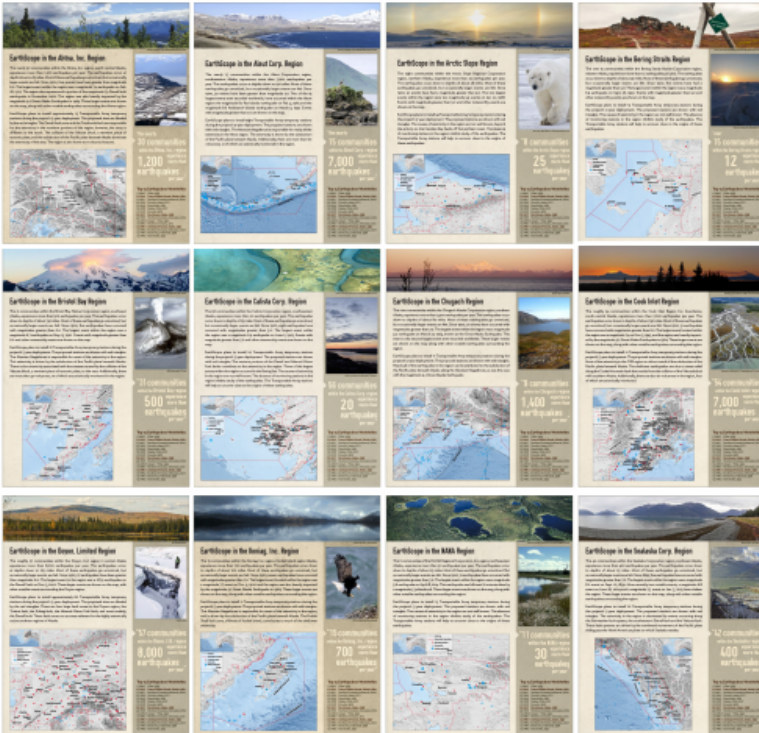
IRIS issued subawards to Universities to do the regional siting. In this way the TA both defined outreach expectations up front, but also partnered with contacts familiar with local communities.

It was this local knowledge that guided the outreach. In Alaska for example, the outreach materials defined the state by Native boundaries. Twelve regional handouts focused on the 12

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Alaska Native regional corporations with regionalized content were developed for place-based understanding.



Through the length of the deployment, the subaward covered sustained and targeted outreach. This included yearly visits to high schools in Alaska Native communities over four consecutive years.

What worked well in these interactions?

- **Items specific to TA in preparing to work with Native communities**

The TA acknowledged that they needed a different approach. The permitting and outreach process began ahead of installation. This helped prepare and educate people of what to expect so they looked forward to it. The materials were structured specific to the regions, including focus on Native boundaries instead of state boundaries. While the Native boundaries are still a political boundary, the Native and Village corporation boundaries meant more than state borough and city boundaries. The TA attended



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annual conferences with the express goal of sharing - no permitting conversations were had, just information.

- **Items from other IRIS interactions**

Technical documentation that includes lots of graphics or photos are often more valuable than straight text in non-English speaking communities, even if materials are translated into the local language.

What did not work well for other IRIS programs, and how can this be better addressed in future plans?

- **Items from TA outreach**

On occasion, when permitting might be an issue or too time consuming (or some other reason), Native communities were avoided. This resulted in missed opportunities, and more of an effort could have been made to still provide the outreach.

- **Items from other IRIS interactions**

Unfortunately, the fledgling geoscience program at North Carolina A&T State University (part of the Africa Array Project) failed to become part of the long-term strategic plan at NCA&T and once Africa Array funding ended, the program ended too (Solomon Billilign (2019): Programs to build capacity in geosciences at HBCUs and MSIs: Examples from North Carolina A&T State University, Journal of Geoscience Education, DOI: 10.1080/10899995.2019.1636337).

In communities that prefer interactive discussions, email is less effective than in-person meetings or zoom sessions.

In collaborative projects between countries at war or that have other restrictions, participants from each country may not be able to be on the same call and multiple conference calls may need to be set up for participants of each country.

Are there ways to improve the outcome of projects already undertaken?

Beyond the alternatives mentioned above, we have not yet collected feedback on this topic.

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



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- **Items specific to TA outreach to Native communities (regardless of location)**

Get to know the people. Build a relationship regardless of your need for their land. TA staff learned some fascinating things through conversations with Elders about their experiences that helped frame how Alaska's seismic history is still viewed.

- **Items from other IRIS interactions**

Be aware that your color and/or physical stature can cause you to stand out in some communities, which can be a drawback if keeping a low profile is important. Training for situational awareness is important - it can also inform your choice of who can carry out various tasks most effectively.