



The USGS Woods Hole Pod identified the following materials and resources regarding our bureau's policies for Working with Communities of Color. In our discussions, we also developed several ideas for enhancing the Survey's capacity to operate within the diverse local settings that make up our Nation, drawing from experiences of what has worked or could have been improved in our direct interactions with local stakeholders. The information below is publicly available from the links provided. Recommendations regarding efforts to equitably and effectively engage with local stakeholders will be presented to USGS leadership for consideration.

USGS Science – whom does it serve?

The [USGS Mission Statement](#) includes that we are “to monitor, analyze, and predict current and evolving dynamics of complex human and natural Earth-system interactions and to deliver actionable intelligence at scales and timeframes relevant to decision makers.” This mission statement not only underscores how the USGS pursues science for the people, our stakeholders, but also how the science of land and ocean dynamics interacts with and affects the communities who live there. Thus, the human dimension of our research encompasses both how we meet the science needs of the nation and how we engage and interact with communities through our research.

This Session's readings and discussion highlighted certain challenges in effectively connecting science with stakeholders that have been echoed by USGS researchers in their publications. Although local knowledge provides clear advantages over purely statistical approaches¹, and local knowledge has been incorporated into certain USGS “[Citizen Science](#)” projects, key questions remain regarding what (or from whom) information is considered “valid.” This issue has been discussed for [USGS earthquake studies](#), but there is not yet consensus in the scientific community about how to appropriately incorporate information from multiple disciplines² or (more generally) multiple systems of knowledge. On the policy side, it is clear that demographics play an important role in how data are used³, and going forward it will be important to establish how best to serve all our stakeholders, regardless of demographic and economic status, and political representation.

This deliverable presents examples of USGS engagement at the local level, addressing what has worked (and not worked) in indigenous, minority, and underserved communities, what can



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be improved, and recommendations for effectively structuring and resourcing USGS engagement with local communities.

How USGS interacts with communities of color through research

The USGS and U.S. Department of the Interior are tasked with upholding the government-to-government relationship between the federal government and the federally recognized American Indian and Alaska Native tribes. As such, interactions with indigenous groups are coordinated through the [USGS Office of Tribal Relations](#) involving a Tribal Liaison for each region and a Tribal Advisor in each mission area. In order for research to occur on tribal lands, USGS scientists must approach the tribal government through the Tribal Liaison and obtain all permits that the Tribe deems necessary. USGS scientists are expected to adhere carefully to all conditions of the research permits. The USGS currently provides an online tribal relations training course called "[Consulting with Tribal Nations](#)", and there is a Survey Manual Chapter that "describes U.S. Geological Survey (USGS) requirements and responsibilities regarding compliance with applicable statutes, regulations, Executive and Secretarial Orders and Memoranda, and Department of the Interior (DOI) policies relevant to the relationships between the USGS and American Indian tribes, Alaska Native tribes, and Alaska Native Corporations" ([SM 500.6](#)). In addition, the [USGS Technical training in Support of Native American Relations \(TESNAR\)](#) makes funds available to support USGS employees to design and conduct technical training for staff of tribal governments or organizations. The purpose of the program is to strengthen the technical capacity of tribes for managing tribal natural resources and build on networks between the USGS and tribal governments. And, recently, a new internal product called "USGS Tribal Land Locator Toolkit" has been developed.

The USGS also often has interactions with indigenous communities and Tribes that are not federally recognized (i.e., those that are not officially considered sovereign nations), as well as non-Tribal communities of color, both domestically and abroad. These interactions are not tracked or catalogued. As such, we lack information on the frequency and number of these types of interactions.

From the [readings and interviews for this URGE session](#), as well as the examples shared during pod discussions from of USGS experiences, a number of best practices for interacting with communities (Tribal, or more generally, any BIPOC community) have been identified. These best practices are generally operationalized at the level of individual scientists, but individual scientists may not have the background or resources to know of or effectively carry out the recommendations. In the sections below, we first discuss how USGS scientists can be better



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prepared and educated for meaningful and positive interactions with BIPOC communities, and then provide some specific recommendations for USGS leadership and best practices.

Improving USGS interactions with Tribal Nations

In order to strengthen relationships with Tribal nations, at the Center level, communications staff and/or diversity advisory committee staff could develop relationships with the Regional Tribal Liaisons to develop a list of best practices to serve as a center resource. In addition, it is important for scientists to be aware of their Tribal Liaison as a resource, even if they do not currently do any work on Tribal lands. Annual meetings with tribal liaisons could help identify and share emergent and ongoing USGS and tribal interactions with the USGS scientific community. There are also regional meetings of tribal organizations that our Tribal Liaisons attend, and these may also be appropriate forums for interaction at the individual scientist level. When working on Tribal lands, it is critically important for USGS scientists to communicate clearly and regularly with the local community, and to follow all conditions of Tribal research permits carefully.

Currently, it is possible for USGS to award contracts and grants to Tribes through the Indian Self-Determination and Education Assistance Act (Public Law 93-638). The USGS Office of Acquisitions and Grants could have targeted training for how to set up these types of awards. Currently, when Tribes receive funding from USGS, it is often set up via a contract. However, contracts are competitively bid to the public and potential contractors cannot be in a conflict of interest prior to the Request for Proposal. This sometimes inhibits the ability of USGS scientists to co-develop projects in partnership with Tribes before the contracting stage. Utilizing agreements through the PL 93-638 Act would position Tribes as equal partners from the beginning stages of research projects.

Another way USGS employees can improve the connection to Tribal Nations and American Indian communities by acknowledging now-occupied Tribal lands used for research, lab/office locations, and conference/seminar presentations. USGS researchers could be encouraged to use resources such as Native-Land.ca to understand and acknowledge the colonial history of these lands and how this history has contributed to the unequal power dynamics and environmental racism of today.

Improving USGS interactions with BIPOC communities

The USGS has official channels for working with Tribal Nations but does not necessarily have the same administrative protocol and support for working with other BIPOC communities.



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Nevertheless, some of the established protocols for government-to-government Tribal interactions could serve as a model for these more informal interactions. It is important to identify and seek out connections to these groups, either through community organizations, local agencies, or direct public outreach. To achieve this, USGS researchers will need the proper training and education to respectfully engage, communicate, and understand the community's needs. In addition, this outreach could be led or facilitated by science communications personnel at the Center level. Science communicators can be highly effective liaisons between scientists and communities, not only by providing targeted, clear communication, but also setting up community connections so that scientists are not "starting from scratch" with each new project. USGS scientists and representatives could also be encouraged to attend targeted meetings, such as AISES (American Indian Science and Engineering Society), SACNAS (Society for the Advancement of Native Americans in Science), NABG (National Association of Black Geologists) where, in addition to science, there are discussions of community-specific issues.

Some of our science is driven from the bottom up: scientists recognize research that needs to be done and get support of center directors, program council, program manager, etc. to pursue projects to address these needs. At that level, coordination and interaction with BIPOC communities can be driven by individual scientists and research groups. However, some research priorities are also sometimes handed down via initiatives from Congress that then get brought to us from the Executive Leadership Team and program managers. These initiatives can be large and serve many constituencies. In these situations, it is important for leadership (regional directors) and program managers to also be aware of, engaged with, and at the forefront of community outreach and collaboration, so that they can understand and respond to the needs of these constituents. This proactive approach will not only better support USGS science but will also increase opportunities for USGS to be an active participant in government initiatives aimed at serving BIPOC communities. For example, there may be potential for the USGS to partner more closely with the Bureau of Indian Affairs, similar to our partnerships with National Park Service and U.S. Fish and Wildlife Service. This broadening of USGS partnerships and the leveraging of our science to serve more stakeholders supports the USGS mission and will help scientists and individual research groups to partner with and serve the needs of BIPOC communities.

Another aspect to community outreach and engagement that is alluded to in the USGS Mission Statement is the investigation of complex interactions between humans and the natural environment. This entails recognizing that science cannot be wholly separated from either the people performing the research or the people who inhabit the environment being studied. However, including human subjects in any research should adhere to the basic ethics standards



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already utilized by federal, academic, and private research entities. The Federal Policy for the Protection of Human Subjects ('[Common Rule](#)') outlines the basic ethical principles in research involving human subjects. Currently, the USGS is not a signatory, though over 20 different Departments and Agencies have signed, including Department of Energy, the Department of Commerce, the National Aeronautics and Space Administration, the Environmental Protection Agency, and the National Science Foundation. To foster research that acknowledges and explores the interactions between communities and their physical environment, the Department of Interior could join as a signatory to the [Common Rule](#), require research ethics training for scientists working with and in areas that impact human subjects, and create an Institutional Review Board (IRB) so that USGS science and social science can be fostered and better integrated.

It should also be acknowledged that the lack of diversity and representation within the USGS ranks (explored in the previous URGE deliverable) is not only detrimental to our science but is also an obstacle to effectively engaging with traditionally marginalized and disenfranchised communities. Mentoring, such as internships, may be a way to involve BIPOC communities in research on issues that are important to them. For example, USGS can partner with Minority Serving Institutions to create internship programs, and research projects could purposefully integrate science relevant to their communities. Example cooperatives that are currently established: <https://www.usgs.gov/science-support/osqi/youth-education-science/pipeline-programs-msi-partnerships>. These internships can benefit the USGS not only by diversifying our talent pool, but also by providing better connections to the communities we serve. However, in order for these internship programs to be effective, the work of outreach and community interaction should extend beyond student interns and their mentors and be a collective effort by research groups and Principal Investigators. The bureau, Mission Areas, Regions, and Centers could work to prioritize such activities and ensure that they have a dedicated funding stream. Lastly, internships should provide a clear pathway into the USGS workforce to have lasting impacts on trust building and to solidify communication pathways.

Best Practices for Scientist Interactions with BIPOC Communities:

When engaging with BIPOC communities, it is important to develop an awareness of cultural best practices. This can be implemented as a to-do item when preparing to work at field sites and should include:

1. Seek out local connections before research begins.
2. Share stories about who you are as a person and where you are from, more than just your role as a scientist.
3. Be curious and listen. Find out what local needs are and how you can help. Do not assume you are the first to be noticing the issues or asking the scientific questions.



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4. Follow the host's lead during discussions in terms of topics and style of discussion.
5. Learn about local customs, dress, and social expectations. Show respect by adhering to these customs.
6. Expect and plan for sharing and/or gift exchange, which is an established form of relationship building in most communities. For example, bringing food or other personal items to share (within USGS ethics guidelines).
7. Be cognizant of your mindset; your engagement should feel like a mutual exchange of knowledge.

USGS Leadership Recommendations:

1. Clear messaging from USGS Leadership that meaningful interactions with and outreach to the communities affected by our science (results and field work) is considered an integral part of the USGS science mission.
2. Improved training on how to utilize the Tribal Consultation Office and Tribal Liaisons.
3. Guidelines and training on best practices for interactions and engagements with tribes and communities that are not covered by government-to-government agreements and policies.
4. Training on best practices and outreach strategies for engaging with local communities (both domestic and foreign) as part of research and field efforts.
5. Create an official channel for providing direct payment to tribes and other communities who contribute to our research.
6. Department of Interior could join as a signatory to the [Common Rule](#), require research ethics training for scientists working with human subjects, and create an Institutional Review Board (IRB) so that USGS science and social science can be fostered and better integrated.
7. Funding for innovative internship opportunities that would engage communities where USGS research has a high potential for human impact
8. Funding and prioritization of public engagement with and communication of USGS science at the Center level

¹Spielman, S.E., Tuccillo, J., Folch, D.C. et al. Evaluating social vulnerability indicators: criteria and their application to the Social Vulnerability Index. *Nat Hazards* 100, 417–436 (2020).
<https://doi.org/10.1007/s11069-019-03820-z>

²Clark, S.G., Rutherford, M.B., Auer, M.R. et al. College and University Environmental Programs as a Policy Problem (Part 2): Strategies for Improvement. *Environmental Management* 47, 716–726 (2011).
<https://doi.org/10.1007/s00267-011-9635-2>

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³Villamagna, A. M., B. Mogollón and P. L. Angermeier 2017. Inequity in ecosystem service delivery: socioeconomic gaps in the public- private conservation network. *Ecology and Society* 22(1):36.
<https://doi.org/10.5751/ES-09021-220136>