

*The Sensitivity of Alaskan & Yukon Rivers, Fish, & Communities to Climate
Arctic Rivers Project*

Knowledge Co-production Protocols

Authors: Alestine Andre, Victoria Buschman, Evelyn Combs, Karen Cozzetto, Serena Fitka, Aine Lawlor, Nicole Herman-Mercer, Emily Murray, Keith Musselman, Willard Neakok, Charles Prince, Patricia Salmon, Jenessa Tlen, and Michael Williams

The *Sensitivity of Alaskan and Yukon Rivers, Fish, and Communities to Climate (Arctic Rivers) Project* is guided by an Indigenous Advisory Council. The adopted Council charter describes the Council’s role in developing project protocols for Knowledge Co-production:

Section 2. Purpose and tasks of the Indigenous Advisory Council Charter states:
“The Council is an advisory body helping project investigators make decisions about research design, analysis, and deliverables with an eye to ensuring that Indigenous Knowledge and perspectives are included, valued, and protected and that the project benefits the Indigenous peoples it is intended to serve.”

With a specific task including:

2.1 Ethical and equitable co-production of knowledge

“Provide guidance to ensure that Indigenous knowledge and perspectives are respected, valued, and acknowledged on an equal basis with western science and are included throughout the entire project; assist with the development of associated project protocols.”

This document represents the Knowledge Co-production protocols for *Arctic Rivers Project* that the project and research team will be bound by. This is a living document that is subject to change as applicable to specific project components and approved by the Indigenous Advisory Council. Recommendations for specific tasks to be taken by the project team will be completed depending on time, funds, and applicability to the project. This document is based on a review of several Indigenous and Arctic-focused sources included in the References section of this document.

Arctic Rivers Project definition of knowledge co-production

This project recognizes the rights of Indigenous communities to shape the research that occurs in our homelands, to assert our knowledge as a valid way of knowing. Co-production of knowledge involves the contribution and equal distribution of power between Indigenous stakeholders, researchers, and project members, in a manner that integrates the various knowledge systems present and informs the guidelines, goals, and expectations of the project.

The Arctic Rivers Project team will strive to embody the following qualities in completing project components¹ and in their interactions with each other and all project participants.

QUALITY	MEANING/ SIGNIFICANCE
Trust	Trust Indigenous voices and knowledge. Believe Indigenous experiences. Make the process iterative.

¹ Project components refers to the various pieces of the project as well as project deliverables. Deliverables include digitized bundle of deliverables, final reports, photographs, etc. to be archived for our future generations to learn from – they will learn about us, the IAC, our work and that our efforts in 2020-2025 are for them.

Respectful	In all actions and interactions, exercise thoughtfulness and recognize the value of all people, land, animals, cultures, and environment.
Warmth	Operate in a way that leads to friendship and mutual understanding. Humor is essential in creating a warm, relaxed environment where everyone is comfortable.
QUALITY	MEANING/SIGNIFICANCE
Gratitude	Be thankful and express appreciation for the time, efforts, and energy of all participants.
Holistic	Nothing can be singled out. The world operates as a whole with many different components and Indigenous knowledge is guided by this holistic approach. Interdisciplinary.
Accountable	Be consistent and dependable. Meet expectations.
Open-minded	Decenter western notions and thoughts and be willing to engage other perspectives. Actively listen.
Adaptive	Flexibility and innovation. Cooperation. Patience.
Inclusive	Work to include everyone and be aware of how actions and behavior can be exclusive.
Honest & transparent	Actively communicate - use language and forms that are understandable. Never deceive or omit information.
Humility	Be humble and work to equalize recognition and importance.
Avoid being individualistic or hierarchical	Shift away from western ideas of individualism and acknowledge Indigenous values of community prioritization and unity. Reject societal hierarchies and do not reproduce common power dynamics. Avoid paternalism and attitudes that depreciate Indigenous Knowledge and practices.
Fair & just	Strive for equity and work to reproduce fairness and justice.

The rest of this document describes specific practices the project team will follow in co-producing knowledge with Indigenous participants throughout the project. How each practice may be implemented and specific tasks the research team may take are outlined.

Practice: Establish Effective Communication

Meaning/Significance: Ensure that engagement is rooted in relationships and understanding. “Introduce yourself as a person” first and operate as such, scientific credentials/professional job title follows. Actively listen. Create protocols for Indigenous peoples to voice concerns, complaints, and other thoughts throughout. Be consistent and reliable. Ensure that information accessibility is always prioritized. Consider verbal language, body language, and expression barriers.

IMPLEMENTATION	SPECIFIC TASKS
Use a variety of methods of communication (radio stations, tribal newsletters, social media etc.)	Continue to build the communication contact list to include information for each community in the project region
	Research regional and community radio stations, newspapers, and tribal newsletters. Create a project list for outreach.
	Establish a project newsletter.
	Continue to provide written project updates via the listserv and Facebook that could be distributed to Tribal newsletters for inclusion if the Tribes wish.
	Write and develop radio stories based on the project updates that could be distributed to Tribal radio stations
Write an introduction letter to fax or email Villages and/or Tribes introducing the project.	When hosting a community meeting communicate the intent of the meeting using Facebook.
	Ensure the letter is addressed to the appropriate recipient. Describe the project and nature of research, and any assistance from the community with specific details. If requesting interviews, provide a draft copy of informed consent for review
Being able to trust your team – allow communication to be open/accepting	
Set up a meeting and invite people to participate	Host periodic webinars open to all who wish to attend Host the Arctic Rivers Summit and invite people to participate
Make sure everyone at the table is on the same page	
Keep communication open throughout the project	Send periodic project updates through the established email listserv.
	Host periodic webinars open to all who wish to attend Attend conferences/meetings that Indigenous stakeholders will be attending
Communicate at conferences people are already attending (e.g., BIA providers conference, Alaska Forum on the Environment, etc.).	Research conferences and create a list where we can have project team members attend.
Communicate simply – avoid science jargon.	Review project communications to ensure that they avoid or explain science jargon

PRACTICE: Meaningfully involve Indigenous participants throughout the entire process

Meaning/Significance: Continual and meaningful consultation at each step (initiation, design, implementation, analysis, dissemination) - not just advisory. Collaboration, Indigenous facilitation and meeting planning. Give veto power/ability to say yes, no, yes with conditions. Develop findings relevant for Indigenous-defined concerns and interests. Report how outcomes were used by and benefited Indigenous people. Give credit to Indigenous participants in work, presentations, and citations. Provide space for all topics that come up in discussions and pay attention to Indigenous Knowledge and incorporate Indigenous Knowledge into planning. Don't use Indigenous Knowledge in piecemeal ways - should be equitably included and given real trust and respect.

IMPLEMENTATION	SPECIFIC TASKS
Involve community members in the data collection process	For example, environmental monitoring and conducting interviews to understand climate change impacts.
Teaching youth how to do research	Look for funding to bring more youth into the project. Training youth to develop interview guides and conduct interviews.
Research is work, if a researcher is being paid to do the job, the people you ask from communities to help should also be paid.	Compensate community members for their time involved in the project. Compensate Indigenous Advisory Council members for their time as part of the Council.
Ask community questions about research that has already been done around the area - Communities don't necessarily want to see the same research being done repeatedly.	Get Indigenous Advisory Council input on project design, analysis, and deliverables including but not limited to climate, river ice, and fish modeling, water quality monitoring, climate impacts on communities. Investigate the possibility of creating a publicly accessible database of previous research. Conduct a review of previous and planned research carried out in the study area to avoid duplication.
Involve community in decision making	Involve the Indigenous Advisory Council in making project decisions. Seek broad community input on fish species and river ice corridors of interest for modeling.
Everyone in the community knows who the harvesters, fisher people are – go through that channel of community knowing their own people and maybe suggesting or selecting Indigenous people to talk with in the community and for those people to suggest other people to talk with – need to be engaged.	Seek help from the Indigenous Advisory Council, local Tribal Councils, and others about who should be involved in different project components.

PRACTICE: Include and protect Indigenous knowledge throughout the project

Meaning/Significance: Free, prior, and informed consent. Cause no harm. Knowledge holders have the right to withdraw participation at any time

IMPLEMENTATION	SPECIFIC TASKS
Develop protocols about what Indigenous Knowledge can be shared and what cannot be shared	<p>The Project Team will develop protocols, including informed consent forms, to protect Indigenous Knowledge throughout the project.</p> <p>The Project Team will develop data sharing agreements with Indigenous Knowledge holders that define what information is being collected, by whom, for what purpose, and what will happen to the data after the project is complete.</p>
Consider collecting stories and giving them over to a community archive	Will develop data sharing agreements that include potential to archive interviews as the participants and communities wish.
Develop Indigenous indicators of ecosystem health and include those variables as well – such as fish texture/taste	If the Indigenous Advisory Council agrees, the Project Team could host a session at the Arctic Rivers Summit to discuss what key Indigenous indicators of ecosystem health might be

PRACTICE: Practice cultural awareness & education

MEANING/SIGNIFICANCE: The policies, guidelines, expectations, practices, and goals of the project must all reflect Indigenous ways of life and values. Some of these include holistic approaches - all things are interrelated, and it is necessary to focus on the interrelated parts of an ecosystem and cumulative impacts. Elders go first. Land owns you - you don't own the land. All researchers should have cultural training and awareness - work on not translating all ideas, thoughts, and knowledge into white, westernized, colonized concepts and recognize diversity within Indigenous peoples. It is not the responsibility of Indigenous people to educate the researchers.

IMPLEMENTATION	SPECIFIC TASKS
Require project teams have cultural awareness training	Provide cultural competency training to all project team members. Include presentations from Indigenous Alaskan and First Nation representatives.
Alaska, Yukon Territory & British Columbia have many cultural regions, and all differ in terms of cultural respect and acknowledgements, find out what works in each community you work with.	Research the different cultures and traditions of the people that live in the project study area.
Schedule meetings appropriately so that communities don't have to miss community events	Research community event calendars and create a project calendar around those events.
Interact with the community in everyone's off time, get to know the community	Communicate to the research team what is important to the Council when interacting with Indigenous community members
Socialize	
Be friendly	
Act through curiosity, understanding, and acceptance, not judgment	
Educate yourself	
Ask questions	
Sit down for tea	
Take the opportunities to be educated if offered.	

PRACTICE: Alter the decision-making process

Meaning/Significance: “Discussion and consensus.” Less hierarchical decision-making. In meetings and conversation, focus on dialogue, deep discussion and listening. Provide multiple pathways and opportunities to discuss, engage, share, and critique. Allow enough time for consideration and evaluation.

IMPLEMENTATION	SPECIFIC TASKS
Adhere to community protocols even if not required by law – such as paying any community members at the rate set by the village councils.	Research specific scientific research protocols that each region, community, and/or Tribe & First Nation in the project study area may have.
Include a results interpretation component of the analysis so that community members can also make meaning of the information to ensure that it is feeding into good science and recommendations.	Provide interim and final reports to communities that participate in specific project components on the results and interpretation. Provide a process for feedback and input on the results and interpretation before publishing results.
Let community members decide if the science is accurate – ask community members to validate the scientific findings.	
Indigenous Advisory Council makes decisions based on discussion and consensus as described in the charter.	

PRACTICE: Equalize power dynamics/Empowerment

Meaning/Significance: Ensure that Indigenous peoples are equals in the design, conduct, analysis, implementation, and publication of the research. Create an equitable intellectual and political space. Fund Indigenous-led research and Tribal partner participation in projects.

IMPLEMENTATION	SPECIFIC TASKS
Meet community members in their homes	Have tea with elders, etc.
Encourage communities to take ownership and feel empowered.	Facilitate the development of an action plan at the Arctic Rivers Summit.
Ensure that communities and individuals are compensated for their participation in a project	Ensure there is appropriate funding available for participants, guides, and community technicians.

PRACTICE: Give back to the community and practice reciprocity

Meaning/Significance: Be involved in youth programming and education initiatives. Do research with an education component. Give without expectation of return. Share food and celebration. Indigenous needs and questions should be prioritized over outside community/research needs.

IMPLEMENTATION	SPECIFIC TASKS
Identify and answer community driven questions	Identify community questions by working with the Indigenous Advisory Council and at the Arctic Rivers Summit.
Employ community youth to participate in the project and teach technical skills	Recruit youth to participate in project components, when appropriate.
Stay connected with youth who were a part of the project – consider a mini alumni network	
Serve a community feast in honor of the project in each community	Serve elders first.
Write reports back to the community about on goings – like a newsletter	See tasks associated with <i>Effective Communication</i>
Consider leaving research equipment in the community so that future projects can be done by the community or they can continue to collect data if they deem fit.	
Try to connect engaged Indigenous youth with other opportunities to be included in research	Research funding opportunities. Work with the council to identify engaged Indigenous youth.

PRACTICE: Be stewards of the environment and community

Meaning/Significance: Take care of the land, animals, and environment and follow Indigenous principles such as: *Do not waste, Safety is priority, Focus on caregiving, Take no more than you need.* Holistically approach health, sustainability and resilience

IMPLEMENTATION	SPECIFIC TASKS
Respect the land you work on and take part in community clean ups in the sampling areas	Includes cleaning up land in general; any garbage you find just clean it up.
Keep in touch with the community after the project is over	
Do not abandon scientific equipment in a community	Remove any equipment that the project is no longer using.
Practice using clean-green products	Make the Arctic Rivers Summit Green.

PRACTICE: Be anti-racist

MEANING/SIGNIFICANCE: Acknowledge history of injustices and colonization. Recognize, and identify systemic and institutionalized racism and discrimination. Support autonomy, self-determination, and decolonization

IMPLEMENTATION	SPECIFIC TASKS
Inclusion	Engage in unconscious bias training.
Kindness	Be an ally and treat each other as human beings
Justice	Use our platform to educate people in power about systemic injustice perpetrated on Indigenous communities
Respect Indigenous values	Assert Indigenous Knowledge as equal in value to western science.

References

Behe, Caroline, Raychelle Daniel, and Julie Raymond-Yakoubian. *Understanding the Arctic through a Co-Production of Knowledge*. 2018.

Principles of Conducting Research in the Arctic. U.S. Interagency Arctic Research Policy Committee (IARPC), 2018.

Food Sovereignty and Self-Governance: Inuit Role in Managing Arctic Marine Resources. Inuit Circumpolar Council Alaska, 2020.

Resolution 2019-2: Resolution requiring researchers and funders to engage western Alaska communities in a co-production of knowledge approach on all research activities and to directly fund knowledge holders, tribes, and native organizations for such efforts. Bering Sea Elders Group, 2019.

SciQ: Science and Inuit. Qaujimajatuqangit. Research and meaningful engagement of northern Indigenous communities. Recommendations from the Ikaarvik Youth SciQ Summit, 2018.

Climate and Traditional Knowledges Workgroup (CTKW). 2014. Guidelines for Considering Traditional Knowledges in Climate Change Initiatives. <https://climatetkw.wordpress.com>.

Dominique - David-Chavez, D. M., & Gavin, M. C. (2018). *A global assessment of Indigenous community engagement in climate research*. *Environmental Research Letters*, 13(12), 123005.