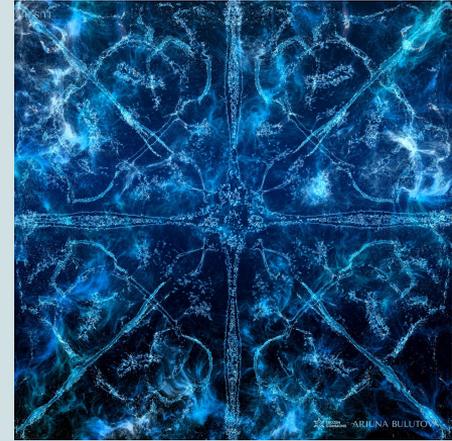


Art and Science: Working Together



*Vladimir Alexeev
Kaja Brix
Diego Noreña
Adelaide Johnson
Vera Kuklina
Nicholas Parlato*





Climate Soundscapes: Science inspired concerts in Juneau and Fairbanks, Alaska

Kaja Brix, Vladimir Alexeev, University of Alaska Fairbanks



Our **WHY**:

To connect: scientists, composers, musicians, artists, communities, and place.

Bringing climate science to a wider audience through a medium that resonates.

<https://www.youtube.com/watch?v=qcvra7t1uQk>



Diego Noreña • Science Communicator
Alaska Climate Adaptation Science Center
University of Alaska Fairbanks
diegonorena.biz
dnorena@alaska.edu



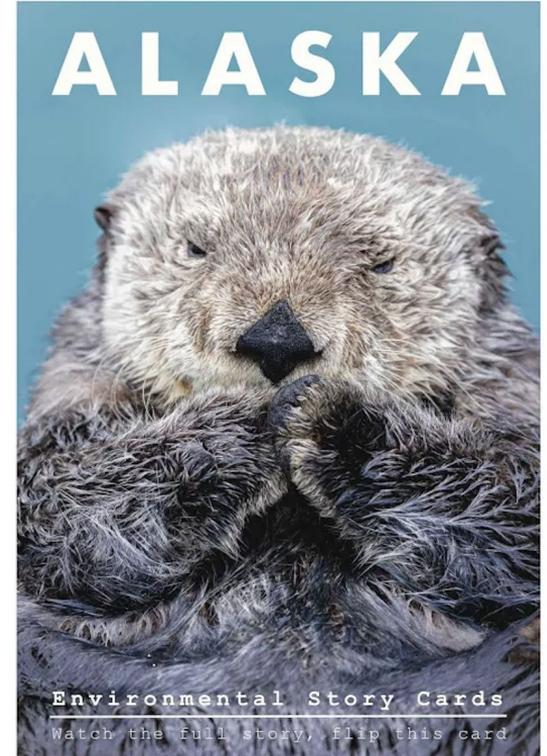
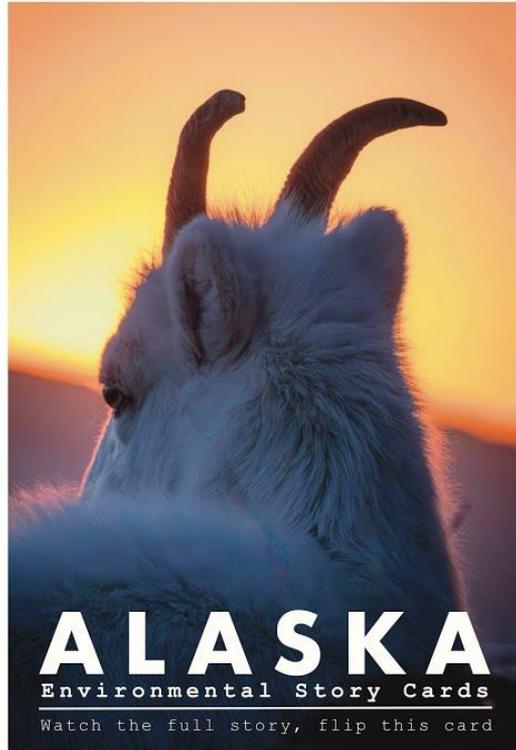
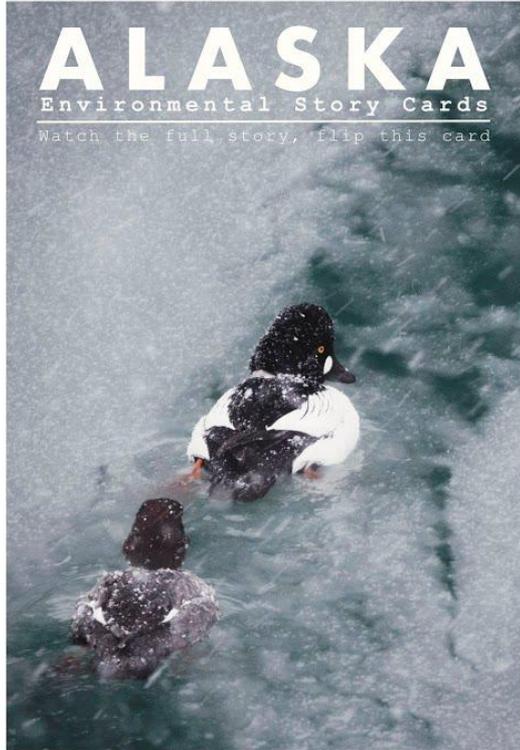
Why?







Environmental Story Postcards



What?

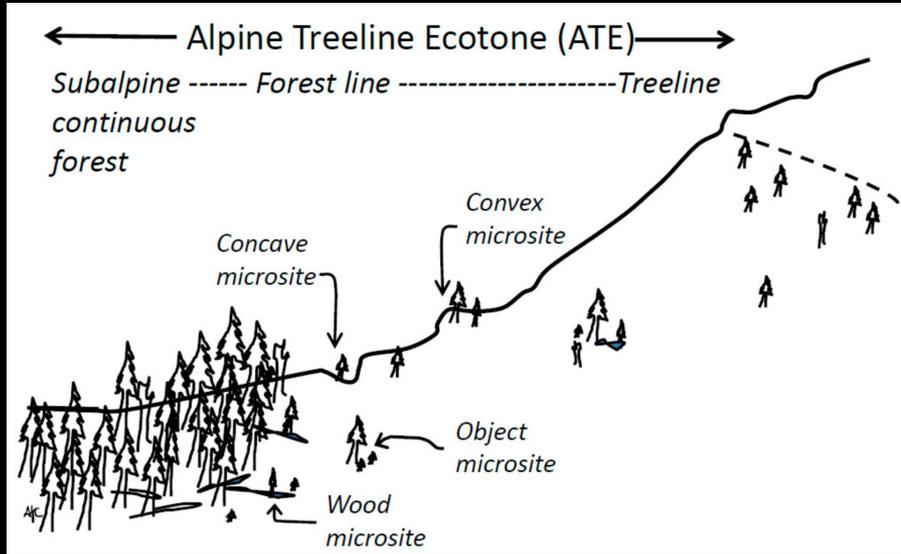
Juneauflood.com





So what?

Adelaide (Di) Johnson
Hydrologist
Community Collaborators
johnson.adelaide@gmail.com



Why?

“What is the Forest Service doing to sustain trees for cultural use seven generations into the future?”



Jibba, Wayne Price's "healing" dugout canoe,
Photo: Kevin Jones



Wayne Price, Master Carver,
assisting me with my first mask.



Totem Park in Klawock, Alaska,
Photo: Bethany Goodrich

What?

*The Forest Service has an *aim* to support culture; a *mandate* to meet timber needs.*

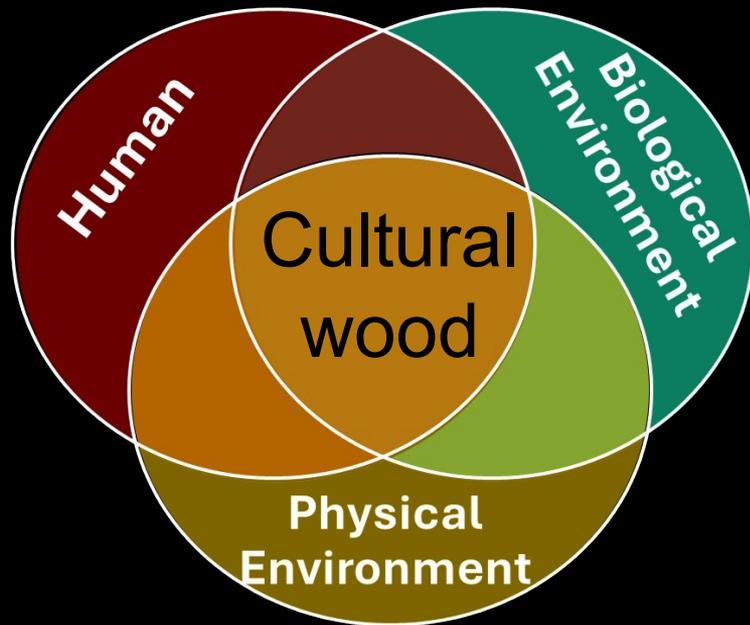
Outcome: Summarized 58 discussions led by high school students in 11 communities highlighted social, economic, tourism, health, and cultural values associated with wood cultural products. Community members suggested management strategies.



So what?



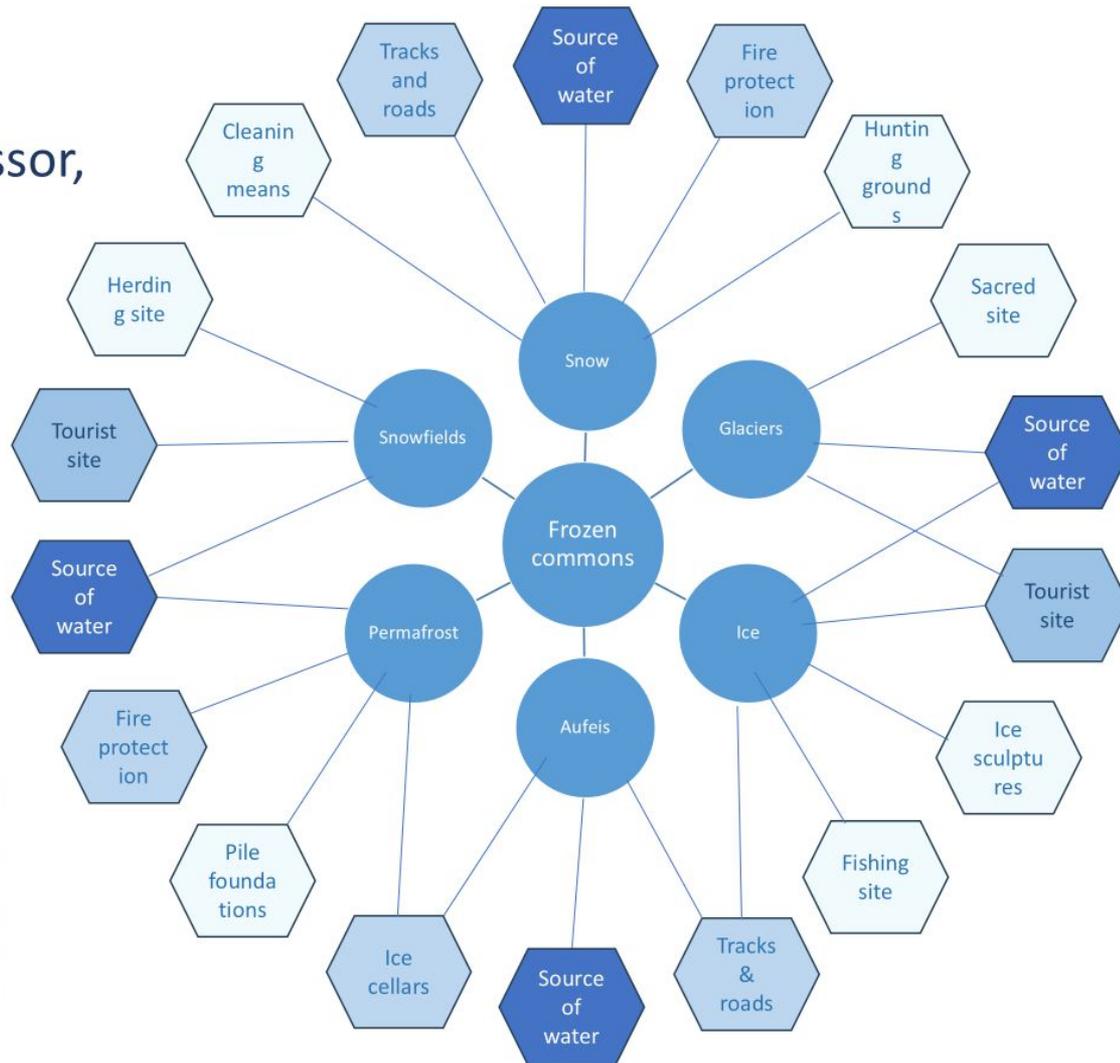
Johnson, A., Clavijo, A.E., Hamar, G., Head, D.A., Thoms, A., Price, W., Lapke, A., Crotteau, J., Cerveny, L.K., Wilmer, H. and Petershoare, L., 2021. Wood products for cultural uses: Sustaining native resilience and vital lifeways in southeast Alaska, USA. *Forests*, 12(1), p.90.



<https://uaf.edu/onehealth>

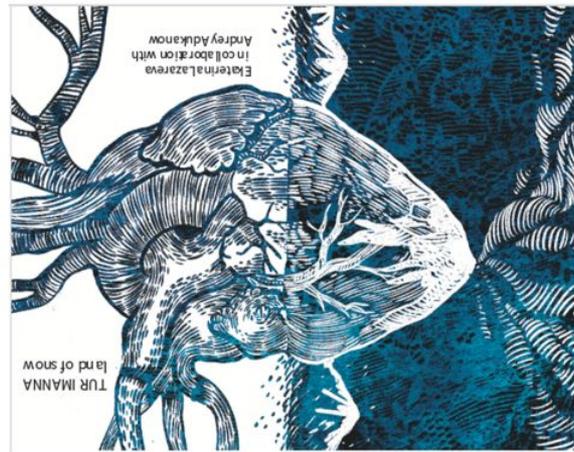
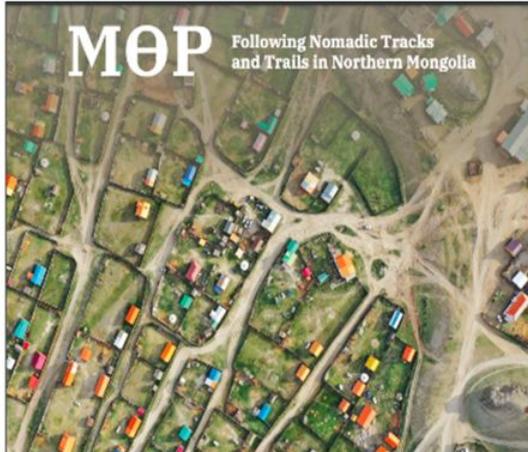
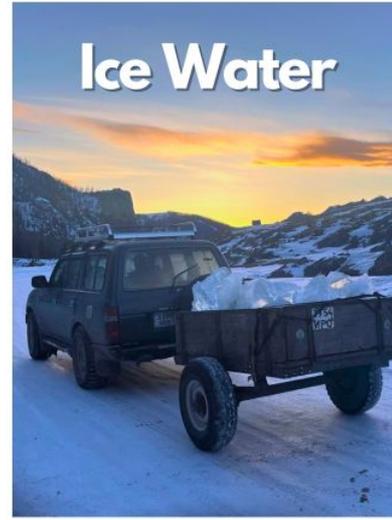
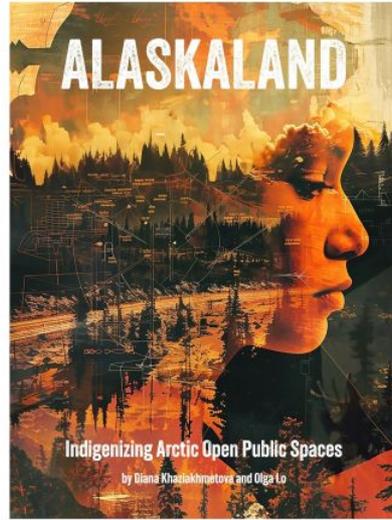


Vera Kuklina,
 Research Professor,
 The George
 Washington
 University



What? Album & zines

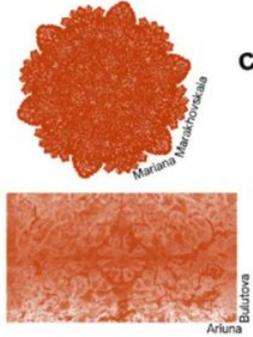
Short and easy-to-read stories and images to capture first impressions and share with communities for feedback



24-28
MARCH
2025

ARCTIC SCIENCE SUMMIT WEEK, BOULDER, CO

ART OF / SCIENCE OF INDIGENOUS / INDIGENOUS SCIENCE ART



Curators: **Tatiana Degal** **Vera Kuklina**



Indigenous science has been practiced daily by Indigenous Peoples of the Arctic for centuries. Being informed by the teachings of the land, sky, and waters either frozen or not, Indigenous science continues providing a knowledge platform for multiple generations of Indigenous practitioners offering learning opportunities across generations, diverse knowledge systems, human and non-human beings. This form of science is area specific. It is acquired through trial and error, active doing, and living on the land.

Indigenous science is transferred via diverse mediums including storytelling, daily practice of subsistence activities, creative work, and ceremony. These Indigenous ways of sharing combine knowledge gathering, analysis, mobilization and dissemination practices. Therefore, art and science neatly weave together a braid of knowledge to secure comfortable living in the Arctic and inform daily decision making.

Co-organizers:

Diana Khudaeva **Aleksandr Pechen** **Victoria Sharakhmatova** **Timur Zolotoev**

ARTISTS AND ARTISANS:

Sardaana Barabanova	Luidmila Gilyova	Vasily Gumenuyk	Galina Koriakina	Elena Rybina	Enkh-Amgalan Sandag
Aryuna Bulutova	Diana Khudaeva	Varvara Rybina	Marlia Kuklina	Marianna Marakhovskaia	
Victor Gumenuyk	Svetlana Gutorova	Olga Shmagina	Aleksandra Rybina	Ekaterina Osipova-Mandukhaeva	Amber Webb

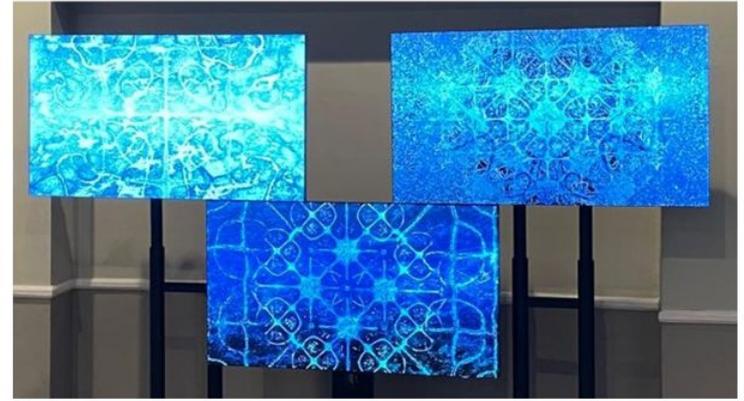
This exhibit is based on collaboration between NNA-CC, Frozen Commons, AIVAN and other Indigenous artists bringing their perspectives and aspirations that can inform and guide future Arctic research.

The NSF-funded interdisciplinary collaborative project "Frozen Commons: Change, Resilience, and Sustainability in the Arctic" (2021-2026) investigates the sustainability of frozen commons amid shifting environmental conditions, aiming to evaluate Arctic community resilience.

Arctic Indigenous Virtual Artists Network (AIVAN) is an internet platform that unites digital artists and artists throughout the Arctic and beyond to share Indigenous visions of sustainability and observations of life in the Arctic through creative arts. AIVAN strives to advance understanding of the value and meaning of artistic expressions to the well-being and wellness of Indigenous communities and disseminate best practices.

Web and design: Denis Dabov, Lisa Miller, Colin Sean Mahoney, Stanislav Podchukov

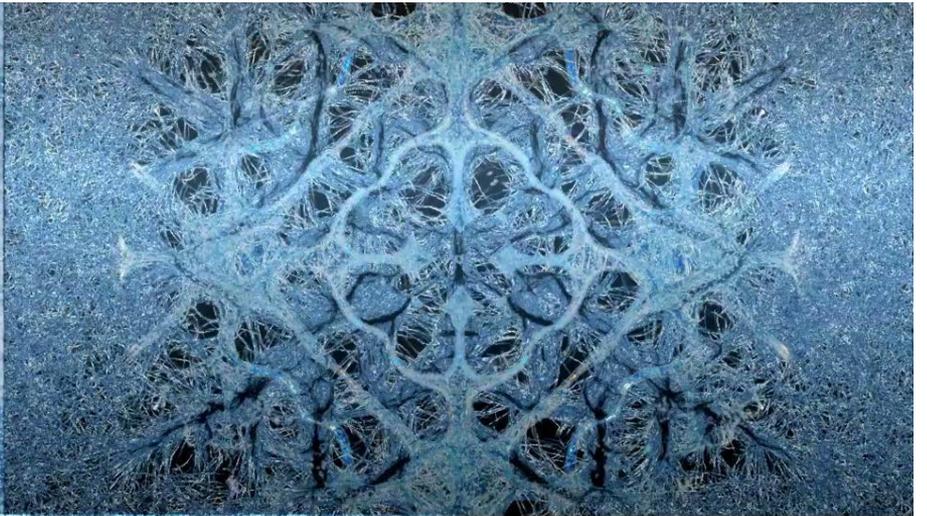
Ariuna Bulutova, **LUS**, audiovisual installation, 2025. Sound art by Bayarbaatar Bavuudorj & BUGAN. Curated by Vera Kuklina and Timur Zolotoev.



Performance on Morin khuur by Bayarbaatar Bavuudorj



Artist talk by Sardaana Barabanova and Diana Khudaeva



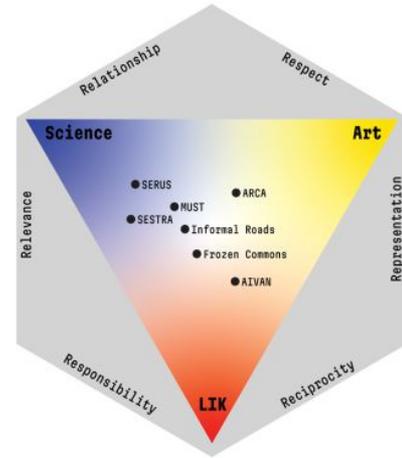
So what?

Poster
Converging
Indigenous
Knowledge,
Science, and
Arts to
Address
Climate
Change in
exhibit booth
of the United
Nations
Climate
Change
Conference
COP30 in
Belém, Brasil

Converging Indigenous Knowledge, Science, and Arts to Address Climate Change

Addressing climate change requires working together for Indigenous Peoples, nomadic communities, scientists, artists, and policymakers to combine cutting-edge research with Indigenous and traditional knowledge to document and reflect on rapidly changing landscapes, and make informed decisions that impact future generations.

ArtSLiNK (Art, Science, Local and Indigenous Knowledge) is a cross-arts and knowledge co-creation platform that engages diverse ways of knowing, including both objective and subjective, sensory and emotional dimensions, for collaboration and co-learning between Indigenous and non-Indigenous scholars, artists, and communities



● SERUS Building Socio-Ecological Resilience through Urban Green, Blue and White Spaces (NSF, award #2024360). The project aims to collect data and knowledge, gain skills and expertise, exchange this knowledge with local communities, and integrate driver indicators. The result will be an understanding of the importance of urban open spaces for people and cultures in Arctic cities, as well as what lessons can be learned from other remote areas of the world about urban open spaces.



● Frozen Commons Frozen Commons: Change, Resilience and Sustainability in the Arctic (NSF, award #2127368). The project explores the interconnected ice, snow, and permafrost landscapes, defined as "frozen commons," which are collectively used and managed by Indigenous Peoples, local communities, governments, and external stakeholders. The project aims to understand intricate relationships between humans and frozen landscapes, their meanings and values for sustaining livelihoods and cultures based on the co-creation of knowledge with community partners in Mongolia and the U.S. (Alaska) for devising mitigation solutions and adaptation strategies.



● ARCA Biocultural Heritage in Arctic Cities as a Potential Resource for Climate Adaptation (NSF, award #2026136). This international and multidisciplinary project connects scientists, activists in Fairbanks and Anchorage, Alaska, and Kirkenes and Tromsø, Norway, with artists to collectively explore the question of whether biocultural heritage situated in urban landscapes contributes to climate change adaptation and mitigation.



● Informal Roads The Impact of Useful Transportation Routes on Remote Arctic Communities (NSF, award #1748092). This project is aimed at a detailed interdisciplinary understanding of the phenomenon of informal roads, their variety and extent, and analysis of their overall impact on the Arctic environment and economic, social, and cultural wellbeing of local communities.



● MUST Arctic Cities: Measuring Urban Sustainability in Transition (MUST) (NSF, award #2127364). This project assesses various levers of urban sustainability and compiles a set of metrics on Arctic conditions, providing data on changes in several key areas, including the natural environment, energy, and socio-cultural aspects. With these indicators, policymakers and stakeholders can develop effective governance systems and design local interventions to meet the challenges of a shifting natural environment and economy in Arctic urban areas.



● SESTRA Socio-Ecological Systems Transformation in River basins of the sub-Arctic under climate change (SESTRA) (NSF, award #2193581). The project aims to understand the changing interactions between climate, water, and societies, and to assess their impacts on people, ecosystems, and infrastructure. With a particular focus on riverine communities in Alaska and Mongolia, the project works collaboratively with communities to develop tailored adaptation measures to lay the foundation for future international community-driven collaboration.



● AIVAN In Iñupiat language means North. It is an informal platform that unites Indigenous artists throughout the Arctic and beyond to share Indigenous wisdom through creative arts. We meet virtually to exchange knowledge, traditional crafts techniques, and facilitate discussions on the place of Indigenous arts in the 21st century.

Location	● Informal Roads	● SERUS	● MUST	● Frozen Commons	● SESTRA	● ARCA	● AIVAN
Science	External: Remote sensing, Geospatial analysis, Mapathons, Interviews, observations Regional & Local: Interviews, observations, landscape studies	External: Remote sensing, Geospatial analysis, Climate modeling, Analysis of documents, Interviews, observations Regional & Local: Geobotanical research	External: Remote sensing, Geospatial analysis, Analysis of documents, Interviews, observations Regional & Local: Governance research	External: Remote sensing, Geospatial analysis, Modeling, climate research, creation of regional integrat. of mapping system, Permafrost measurements, Interviews, observations Regional & Local: Interviews, observations, landscape studies	External: Geospatial analysis, Modeling, climate research, creation of regional decision support system, Interviews, observations Regional & Local: Interviews, observations, landscape studies	External: Remote sensing, Geospatial analysis, Modeling, climate research, Interviews, observations, workshops Regional & Local: Climate modeling	External: Workshops, knowledge sharing events Regional & Local: Storytelling, yarning
Arts	External: Photography, Artscience installations, performance Regional & Local: Album	External: Artscience installations, artwork Regional & Local: Album	External: Sound recording, sketching, cyanotype workshop Regional & Local: Clay workshop	External: Photography, Artscience installations, performance, sound recording Regional & Local: ArtSLiNK workshop, arts master classes, PhotoVoice	External: Film making Regional & Local: Public art	External: Artscience installations, performance Regional & Local: Indigenous arts and crafts	External: Supporting local artists Regional & Local: Indigenous arts and crafts
Local & Indigenous knowledge (LTK)	External: Formulation of research focus, consultations, participation in fieldwork, and producing outcomes Regional & Local: Consultations	External: Consultations Regional & Local: Consultations, workshops, participation in fieldwork	External: Indigenous epistemology Regional & Local: Consultations, workshops, participation in fieldwork	External: Indigenous epistemology Regional & Local: Participation in research, analysis of results, and producing outcomes	External: Consultations Regional & Local: Consultations, workshops, participation in fieldwork	External: Indigenous epistemology Regional & Local: Participation in research, analysis of results, and producing outcomes	External: Indigenous epistemology Regional & Local: Indigenous arts and crafts



So what?

Indigenous Pavilion, Arctic
Science Summit Week

Boulder, CO,
March 20-28, 2025





Discussion facilitated by Nicholas Parlato, University of Alaska Fairbanks

The division between art and science is often defined by three binaries:

- “Subjectivity” vs “Objectivity”
- “Expressivity” vs. “Instrumentality”
- “Emotionality” vs “Rationality”

How do less divisive framings like “knowledge co-creation” and “art and science as interfaces between inner and outer worlds” complicate what we think of as distinctly art and science and how might this improve their interaction and/or integration?

Left to right: Plant Fever (d-o-t-s or.), Forest Mind (Ursula Biemann), Soil Horizons (FutureFarmers)