

I. INTRODUCTION

The Arctic Research Consortium of the US (ARCUS) is a US 501(c)(3) not-for-profit organization that serves the Arctic research community. ARCUS envisions strong and productive connections among US and international Arctic researchers, educators, Indigenous and Traditional Knowledge holders, Arctic residents and local experts, and other stakeholders to improve understanding of the changing Arctic. Membership is open to all organizations and individuals engaged in Arctic research or stakeholders to it, including academic, research, government, Indigenous, and corporations.

The ARCUS membership community is currently made up of 27 institutions and 105 individual members who have each made a commitment to building and sustaining the extended network of collaborative relationships that enable Arctic research. As hosts for Arctic research conferences and events, information sharing platforms, education and outreach programming, and other key networking and coordination activities, ARCUS works to enhance the visibility of both our members and the broader Arctic research community, increasing their proximity to critical information, people, and resources.

ARCUS has held an Annual Meeting nearly every year since its inception in 1988. This open meeting serves as an

important opportunity for the ARCUS Board of Directors and staff to connect with ARCUS members, partners, and others from the wider Arctic research community around key Arctic research and education issues and collaboration opportunities.

The 2021 ARCUS Annual Meeting was held virtually on Thursday, 4 November 2021. The meeting brought together more than 128 individuals from the Arctic research community, including 50 attendees from ARCUS member institutions and 15 ARCUS individual members. 85% of ARCUS' 27 Member Institutions participated in the event—either through meeting attendance or through the premeeting submission of Institutional Member reports.

The goals of the 2021 ARCUS Annual Meeting were to:

- 1. CONNECT: Bring members of the Arctic research and education community together to meet, talk, and connect.
- 2. SHARE: Explore what individuals and organizations are doing to address key challenges and opportunities.
- 3. ADVANCE: Identify actionable ways to work together and support each other.

II. ARCUS & INSTITUTIONAL MEMBER UPDATES

The 2021 <u>agenda</u> structure emphasized small group discussions to encourage discussion and exchange between participants. A <u>brief overview presentation</u> introducing ARCUS was shared by ARCUS Board President, David Cairns (Texas A&M University), and ARCUS Executive Director, Helen Wiggins.

Additionally, representatives from ARCUS member institutions were invited to submit updates on the Arctic research activities within their organizations as well as any potential opportunities for collaboration with other ARCUS community members. These updates were posted online and also summarized in a *Witness Community Highlights* article. Additional information about ARCUS financials, programs, and activities over the past year were also made available via the <u>ARCUS 2021 Annual Report</u>.



III. BREAKOUT THEMES & DISCUSSION REPORTS

This section summarizes the main themes of the meeting's breakout group conversations and outlines some of the current challenges facing the Arctic research community within each theme. Ideas and recommendations discussed during the breakouts to address these issues are then shared in Section IV of the meeting report.

The four discussion themes were:

- Collaborative/Transdisciplinary Research:
 Opportunities and ideas for working across disciplines and knowledge systems.
- 2. Community and Citizen Science in the Far North:
 Sharing aspects of conducting community and citizen science research in the Arctic.
- 3. Navigating Post-COVID Arctic Research & Education: How to develop local research capacity or discussion of other long-term opportunities and impacts.
- **4. Networking & Coordination Needs and Solutions:** How to improve coordination and networking between groups/efforts working on similar topics.



Fig. 1: Word Cloud developed from ARCUS 2021 Annual Meeting small group discussion notes. Larger words indicate higher frequency of occurrence.

1. Collaborative/Transdisciplinary Research

Collaborative research (working across disciplines and knowledge systems) is of fundamental interest to the ARCUS community and remains a topic of widespread focus by a growing number of organizations and institutions involved in Arctic research community-building, project facilitation, and professional networking. Universal challenges persist, however, around projects that aim to bring diverse Arctic researchers and Arctic community collaborators together in effective and respectful research partnerships. Communication across knowledge systems and between disciplines (e.g natural/physical and social scientists) is notoriously difficult. And, even amidst widespread discussions that emphasize the need for research co-

produced with Indigenous communities, barriers of trust, systemic inequity, and other biases often stand in the way of true partnerships or community needs being met. Long-term relationships that are often at the heart of collaborative research also face regular disruptions by shorter-term project and funding timelines, as well as staff turnovers in participating organizations. Additionally, as the number of organizations and individuals involved in Arctic research grows, being able to identify suitable long-term partners has become increasingly complex—no less so as many networking fora have moved to virtual formats in response to the global COVID-19 pandemic.

2. Community and Citizen Science in the Far North

The number of projects looking to partner with northern community members or to leverage the contributions of citizen scientists in Arctic research is growing. Although communities of practice and online resources do exist to help encourage and inform these efforts, many fewer networks, materials, or models specifically speak to or support research being done in the circumpolar Arctic. Many Arctic researchers often feel at a loss when it comes to establishing new ties with potential community partners—particularly within Indigenous communities—and are uncertain where they can go or who they can turn to for introductions, advice, or networking assistance. In turn, northern community members continue to face outreach pressure from projects that fail to consider their needs, involve them equitably in project development, or meaningfully recognize them for their contributions. Cultural misunderstandings, value differences, and colonial perspectives further challenge the development of long-term relationships built on reciprocity and trust. However, there are also individuals and projects who have invested considerable time and effort working to overcome these obstacles. Their success stories can and should help pave the way for others looking to connect.



3. Navigating Post-COVID Arctic Research & Education

Over the past two years, COVID-19 has forced many geographically-distributed Arctic research teams and organizations to rethink their approaches to research planning meetings, community consultations, in-person conference activities, field work, data collection, teaching, and more. Many different risk management strategies have been employed by different countries, states, local communities, funding institutions, and individual employers, further exacerbating the ability to plan and adapt. Rules continue to change and societal factors continue to polarize and politicize mitigation strategies (such as the choice to be vaccinated)—a reality that, in turn, adds extra complication to administrators and managers of research projects and programs. Not all borders are closed, but travel is still challenging. Quarantine mandates for Arctic field research stations have made it more difficult for both teachers and their students to visit. The slow process of developing relationships and building trust within local communities has also been delayed.



4. Networking & Coordination

With ongoing proliferation of Arctic research organizations, groups, and projects it is increasingly difficult to maintain broad awareness of what is happening within the Arctic research community. Many silos also exist within individual institutions, and Arctic researchers housed within the same university or agency may not be aware of one another or the activities of their colleagues. COVID-19 restrictions on in-person gatherings further exacerbates the inability of individuals to stay in touch, with significantly reduced opportunities for in-person networking at conferences and events.

Virtual collaboration skills are growing and the persistent movement of conferences and events to online platforms is both reducing the travel cost burden of networking and promoting greater access and participation for some. However, access to the internet is not equally shared by all and, in remote areas where infrastructure is lacking, internet service costs can be very high while connection quality and speeds are very low. The accelerated expansion of available virtual collaboration tools can also be overwhelming and the learning curve and costs associated with discovery, implementation, and user training can make new tools inaccessible or slow for user groups to adopt. Planning for and working to overcome the unique challenges of virtual meetings can also place more preparation time demands on facilitators and presenters. Maintaining connections and momentum between larger events (both in-person and virtually) also remains a challenge.

IV. IDEAS FOR ARCUS COMMUNITY EFFORTS TO HELP OVERCOME THESE CHALLENGES

Many ideas were identified during the break-out sessions to support the ARCUS community in its ongoing efforts to work together to address the issues and challenges outlined above. Because some ideas were often repeated across multiple group discussions, recommendations were synthesized and organized below under different types of cross-cutting solutions. Recommendations included:

Working with Arctic Indigenous Communities

- Identify ways to support Indigenous leadership of research projects and proposals.
- Encourage researchers/research projects to commit to being present in Indigenous communities for longer time frames.
- Get to know how the priorities of your project or organization compare with those of the organizations or communities you are working with.
- Emphasize the need to identify research audiences at the very beginning to ensure community engagement is embedded or "baked in" to project activities.
- When involved in the development of a collaborative project, help participating researchers remain open and flexible to what the end-project will look like until after they visit with community members.
- Look for ways to connect with established Indigenous networks (e.g. Alaska Federation of Natives or the Elders and Youth Conference) as an entrypoint for community connections.
- Develop a deeper respect for the idea that "stories are libraries" and help build stronger links between storytelling and other parts of the research process.
- Help draw researcher and research funder attention to the Inuit Circumpolar Council's Equitable and Ethical Engagement synthesis report and Circumpolar Inuit Protocols for the Ethical and Equitable Engagement of Inuit Communities and Indigenous Knowledge being developed.
- Encourage broader awareness of the research fatigue felt by Indigenous communities overwhelmed with invitations, and help persuade people looking to make new connections to focus first on establishing the relationship and building trust before inviting project participation.

<u>Training</u>

• Promote greater awareness and use of co-production and more inclusive collaborative research techniques.

- Support progressive long-term training and guidance for students around community engagement.
- Develop skills and best practices around virtual collaboration.
- Help team managers understand and address the challenges of collaborative research.
- Provide more training and incentive to support the discovery and use of existing data sets (particularly through key Arctic data repositories), including training to help researchers communicate their data to communities at the resolutions they need.
- Provide training on how northern community members asked to collaborate on research projects can also access and use relevant data discovery tools.
- Look for ways to connect students with existing projects and established researchers as a way to learn more about the relationships between local northern communities and researchers.
- Be flexible with students, understanding they are also suffering the effects of COVID, facing personal challenges, and may feel burdened by losses they are facing (including lost opportunities).



Collaborative Research Capacity Building

- Develop collaboration plans at the beginning of projects.
- Fund identified points of local northern community contact or subject matter experts so that they can more easily set aside time to be available to research collaboration inquiries (particularly from early-career individuals).
- Fund roles that are specifically dedicated to research coordination within communities.
- Include funding for facilitators to support meetings and workshops in project proposals.
- Help add grant writing and grants management capacity to potential research collaboration partners working outside institutions with dedicated staff to support these activities.

Communicating & Sharing Information

- Highlight inclusive research techniques.
- Articulate and clearly communicate how current or planned research may impact local Northern communities.
- Provide more exposure and access to examples of nonwestern research.
- Help local northern community preferences for communication and engagement reach the wider Arctic research community.
- Support prioritization of focus areas within interdisciplinary research.
- Help address language barriers and other cultural and technical communication barriers.
- Develop programs, tools, and techniques to help interdisciplinary collaborators communicate with each other more effectively during the different phases of research (e.g. project design, data analysis, etc.).
- Find ways to make it easier for researchers to discover past research or other current research that is taking place in a specific region or community, and emphasize the importance of this awareness prior to community engagement.
- Maintain and promote awareness of maps identifying the researchers and projects that are being undertaken in specific regions.
- Use two-way communications and communication channels that are meaningful, accessible, and useful for diverse project partners.
- Create an informal forum or app where people (both researchers and community members) can post their projects, ideas, interests for collaboration, and contact information.
- Help identify and strengthen beneficial connections between Arctic and non-Arctic latitudes and aid the cross-over of relevant research efforts.
- Help centralize access to data (such as for remote sensing) and make it more accessible to diverse practitioners.



Collaborating in Virtual Environments

- Consider how to make research/data discovery tools accessible to those with low bandwidth connections to allow for data access and knowledge sharing.
- Provide training and support to help facilitators learn about and utilize the different virtual meeting and collaboration platforms available.
- Provide examples of practices that support inclusion in online and hybrid networking events.
- Be flexible and adaptable with the use of virtual tools and platforms and be prepared to adapt tool selections to better meet the preferences and/or comfort levels of your collaboration partners.
- Always include a phone-in option for virtual meetings to make them more accessible to individuals living in areas with poor internet connectivity.
- Be prepared with backup plans related to lost or poor internet connectivity (example: mailing hard copies of meeting documents and slide-decks to participants in advance, recognizing the long time-frame this may require if sending materials to remote locations).
- If possible, take the time to learn about and understand the connection capabilities of your audience or meeting participants and adapt accordingly.
- Provide stipends and equipment to help rural community partners cover high internet access costs.
- Continue to explore different ways to make virtual gatherings more personable, balance them appropriately with in-person gatherings, and to develop better blended practices for hybrid events.
- Respect the limitations of virtual engagement and be sensitive to time zones.

Promoting Diversity, Equity, Inclusion, & Belonging

- Acknowledge past transgressions and the historical exclusivity of scientific spaces.
- Help share collaboration opportunities more widely with members of underrepresented groups.
- Expand the cultural competency of researchers so they better understand and can work more meaningfully with Indigenous communities and other Arctic residents.
- Consider, and help others understand and be sensitive to, the cultural differences in communication that may be present in a research collaboration.
- Incentivize building cultural competency within Arctic research organizations by making trainings mandatory prerequisites to research plan approvals.

- Help scale participation in the cultural competency trainings offered by organizations like Kawerak, perhaps by integrating them into larger academic institutions.
- Advocate for others, working with community partners as co-investigators, co-presenters, or as the co-authorship of community partners in academic publications, regardless of the community partner's academic or professional experience.

Strengthening Arctic Research Community Connections

- Build multiple ties between groups and organizations so connections are not dependent on single points of contact and are less easily disrupted by staff turnover.
- Develop or support for that allow interdisciplinary researchers and their local northern community collaborators to interact regularly.
- Help people find common ground around research themes that support work across different scales (e.g., local observation to remote sensing).
- Support sustained team building and collaboration beyond grant-funded project cycles.
- Help projects build from and learn from one another so collaborations are not always being established from the ground up.
- Establish tools to aid researchers in making new connections with potential project partners. For example, develop a list or web hub of individuals or support institutions (e.g., groups like ARCUS or Tribal Offices) that are willing to help facilitate connections both within communities and across research disciplines, and are capable of doing so ethically and respectfully.

- Develop, host, or facilitate introductory meetings to help potential collaborators co-produce project ideas together.
- Leverage partnerships to secure shared funding to promote collaborations.
- Help eliminate the silos between natural/physical and social scientists.

Supporting Broader Systems Change

- Work on the big systemic issues that continue to make it difficult to leverage local labor and resources to complete Arctic field research.
- Encourage the prioritization of interdisciplinary research within academic institutions.
- Help address funding barriers to international collaboration and coordination.
- Encourage connections between and among funders to help minimize duplicative projects and maximize the potential to address rural issues.
- Help more people understand how structural inequities (e.g., wage/pay disparities or the lack of administrative capacity within tribal communities) are serving as barriers to research collaboration and be flexible, creative, and persistent about finding ways to overcome those challenges.
- Give everyone a break, recognize we are all human, build each other up, and take care of one another.

V. NEXT STEPS

The ideas and suggestions generated during ARCUS Annual Meetings are used to inform ongoing planning discussions between ARCUS staff, board members, and our funders. Suggestions from the 2021 meeting will help us improve existing ARCUS programs and activities in the coming year, while also shaping future directions. ARCUS will establish committees and working groups in 2022 to help take action on some of the ideas summarized in this report. Calls for participation in these groups will be announced through the <u>ArcticInfo email list</u> and <u>ARCUS Monthly Report</u> newsletter.

Overcoming the challenges discussed in this meeting report—as well as taking advantage of the potential opportunities—are things that the ARCUS Board and staff look forward to working on together with our members and partners in the broader Arctic research community. We hope other individuals and organizations will find inspiration in these recommendations and join us in the design and implementation of strategies and projects to address the needs of the Arctic research community.



VI. MEETING ORGANIZERS, DISCUSSION FACILITATORS, & PARTICIPANTS

ARCUS would like to thank our planning committee and breakout discussion facilitators for loaning their time and talents to the 2021 ARCUS Annual Meeting.

Thank you all very much for your help making this year's event meaningful and productive!

Annual Meeting Planning Committee

David Cairns (Texas A&M University & ARCUS Board President)

James Hemsath (University of Alaska Anchorage & ARCUS Membership Committee)

Sasha Leidman (Rutgers University & ARCUS Membership Committee)

Katherine Schexneider (Retired US Navy & ARCUS Membership Committee)

Audrey Taylor (University of Alaska Anchorage & ARCUS Board Member)

Helen Wiggins (ARCUS Executive Director)

Brit Myers (ARCUS Project Manager)

Kuba Grzeda (ARCUS Project Coordinator)

Breakout Discussion Facilitators

David Cairns (Texas A&M University & ARCUS Board President)

Kaare Sikuaq Erickson (Ikaagun Engagement)

Judy Fahnestock (ARCUS)

Adrian Gall (ABR, Inc.)

James Hemsath (University of Alaska Anchorage & ARCUS Membership Committee)

Diane Hirshberg (University of Alaska Anchorage & ARCUS Board Member)

Sasha Leidman (Rutgers University & ARCUS Membership Committee)

Vanessa Raymond (ARCUS & ICC Alaska)

Julie Raymond-Yakoubian (Kawerak, Inc. & ARCUS Board Member)

Katherine Schexneider (Retired US Navy & ARCUS

Membership Committee)

Lisa Sheffield Guy (ARCUS)

Stacey Stoudt (ARCUS)

Audrey Taylor (University of Alaska Anchorage & ARCUS

Board Member)

Betsy Turner-Bogren (ARCUS)

Pips Veazey (University of Maine & ARCUS Board Member)

Peter Webley (University of Alaska Fairbanks & ARCUS

Board Member)

Janet Warburton (ARCUS)

Helen Wiggins (ARCUS)

Lisa Sheffield Guy (ARCUS)

Stacey Stoudt (ARCUS)

Betsy Turner-Bogren (ARCUS)

Janet Warburton (ARCUS)

Helen Wiggins (ARCUS)

Individual Participants

To view a list of all 2021 ARCUS Annual Meeting participants, please visit:

https://www.arcus.org/files/meeting/attendees/arcus2021annualmeeting_participants.pdf

Participating ARCUS Member Institutions

ABR, Inc.

Alaska Ocean Observing System

Cold Climate Housing Research Center

Consortium for Ocean Leadership

Dartmouth College

Kawerak, Inc.

Russian State Hydrometeorological Institution

Rutgers University

Sandia National Laboratories

Texas A&M University

The George Washington University

UArctic

UIC Science

University of Alaska Anchorage

University of Alaska Fairbanks

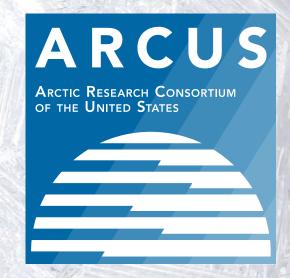
University of Lapland

University of Northern British Columbia

University of Virginia

University of Washington

US Arctic Research Commission



3535 College Road - Suite 101

Fairbanks, Alaska 99709

Phone: 907-474-1600

Fax: 907-474-1604

info@arcus.org