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A Brief History and Tribute to the Arctic Research Consortium of the United States (ARCUS): Honoring Nearly Four Decades of Connection and Collaboration in Arctic Research

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INTRODUCTION

FOR NEARLY FOUR DECADES, the Arctic Research Consortium of the United States (ARCUS) was a cornerstone of the Arctic science community, connecting scientists, educators, Indigenous scholars and organizations, policymakers, and the public. After all funding options were exhausted, the ARCUS board made the difficult decision to sunset the organization. ARCUS officially ended on 30 September 2025. At its final online meeting in September 2025 (ARCUS 2025a), chaired by interim Executive Director Audrey Taylor, it was resolved that as part of the celebration of the ARCUS history and accomplishments, a tribute to ARCUS would be held at the annual meeting of the American Geophysical Union (AGU) in New Orleans, December 2025.

To facilitate the tribute, ARCUS provided modest financial support to the AGU Cryosphere Section, and the University of Alaska supported an informal reception. To help preserve the institutional memory of ARCUS, the following document presents a brief history of ARCUS and a summary of the AGU tribute. *Sierra Magazine* also published an excellent historical summary of ARCUS (Rose, 2025) and a more detailed document is available (Myers, 2026).

ARCUS has preserved its full website and that of the Polar Media Archive as static images via the Internet Archive (ARCUS, 2025b). Relevant historical ARCUS or Arctic research community documents previously accessible via the ARCUS website will remain publicly available at ARCUS's Zenodo archive at the following: <https://zenodo.org/communities/arcticresearch>

CHRONOLOGY OF MAJOR ACTIVITIES AND ACCOMPLISHMENTS

Over the years, ARCUS received essentially all of its financial support from the U.S. National Science Foundation (NSF). Table 1 lists a series of cooperative agreements with the NSF.

The following are highlights of selective activities and accomplishments of ARCUS and are based on a detailed chronology developed by Myers (2026; also see ARCUS n.d.a.). These activities are summarized, starting in 1994, based on the major cooperative funding cycles.

1958–87 Pre-ARCUS Background

Attendees at a meeting at Dartmouth College on the Organization of Polar Research proposed forming a university consortium. This led the National Academy of Sciences Committee on Polar Research (now the Polar Research Board) to create the university Committee on Polar Research. In 1984, the *Arctic Research and Policy Act* of 1984 established the Arctic Research Commission and the Interagency Arctic Research Policy Committee (IARPC). The first issue of the journal *Arctic Research of the United States* was published in 1987. The need for greater coordination, ideally led by universities rather than federal agencies, was recognized, supported by the Polar Research Board (PRB) and the NSF, and a draft prospectus was developed. In 1987 two workshops on Arctic interactions were convened at the National Center for Atmospheric Research in Boulder, Colorado, and provided the venue for the formation of ARCUS (McCauley, 1991).

Startup Period (1988–93)

1988: ARCUS was formally established at a meeting in Boulder on 18–19 January 1988, with participation from about a dozen institutions. The first membership meeting was held in October in Fairbanks, Alaska, and a part-time executive director was hired.

1989: ARCUS published its first Program Plan and received its initial NSF funding. NSF requested ARCUS to develop a new program on Arctic interactions, leading to the creation of the Arctic System Science (ARCSS) Program (ARCUS, 2004–13). ARCUS co-hosted a workshop on technology for Arctic development.

TABLE 1. Summary of contracts between the U.S. National Foundation and ARCUS.

Dates	Contracts	Organizational developments
1994–98	1st Coop	Toolik Station review; Arctic researchers directory; HARC prospectus
1998–2001	2nd Coop	Arctic Forum; social and marine sciences strategy; TEA support
2001–08	3rd Coop	Education program; SEARCH office; HARC workshop
2008–14	4th Coop	Polar TREC; Arctic Observing Network; State of Arctic conference
2014–19	5th Coop	IARPC secretariat; PolarTREC and SEARCH support
2019–25	6th (final)	Navigating the Arctic; Indigenous Scholars; IARPC support

1990: ARCUS organized an NSF-funded workshop in Boulder, Colorado, on Arctic System Science (McCauley and Meier, 1991). The ARCUS headquarters moved from Boulder to Fairbanks, Alaska. ARCUS organized several workshops, publications, and interagency briefings related to ARCSS, and co-sponsored the International Conference on the Role of the Polar Regions in Global Change. NSF encouraged ARCUS to submit a proposal for core funding.

1991: ARCUS testified before a Senate subcommittee on Arctic research needs, which contributed to a \$6.3M increase in the NSF Polar Programs budget. ARCUS advocated for the creation of an Arctic Section within the Division of Polar Programs and received NSF task funding to further develop ARCSS. ARCUS transitioned to a full-time executive director, leased office space in Fairbanks, and began developing an Arctic educational initiative.

1992: ARCUS, PRB, and the US Arctic Research Commission (US ARC) hosted the Assembly on the Arctic to highlight research needs to policy makers. NSF allocated \$800,000 USD to upgrade the Toolik Field Station, with ARCUS facilitating its planning. The ARCUS Data and Information Resources Working Group published *Arctic Information and Data: A Guide to Selected Resources*. ARCUS was awarded a fixed-price contract from NSF that stabilized operations (NSF, n.d.a).

1993: ARCUS compiled the ARCSS-LAII site survey, hosted an international northern studies meeting, and co-sponsored a discussion on the U.S. role in the Circumpolar North. The first edition of the newsletter *Witness the Arctic* was released. The *Arctic System Science* report was published (ARCUS, 1993).

Periods of Cooperative Agreements

1994–98: ARCUS was awarded its first NSF Cooperative Agreement in 1994 (NSF, n.d.b.). The Arctic Forum, an annual scientific symposium, was held in Washington, DC, in conjunction with the ARCUS annual meeting. In 1996 ARCUS produced the first hard-copy *Directory of Arctic Researchers* and published the report *Toolik Field Station: The Second Twenty Years, Recommendations on the Science Mission and the Development of Toolik Field Station*. ARCUS published the report *People and the Arctic, a Prospectus for Research on the Human Dimensions of the Arctic System (HARC)*

(ARCUS, 1997), organized an education workshop, and initiated a paper competition to award undergraduate and graduate students who demonstrated exemplary work in Arctic research. The proceedings of the Arctic Forum Science Symposium were published. The second NSF Cooperative Agreement was funded (ARCUS, 1998a). The Building Partnerships in Polar Research and Education workshop report was published (ARCUS, 1998b). ARCUS began providing coordination and assistance to the NSF Teachers Experiencing Antarctica and the Arctic Program.

1999–2001: In 1999 ARCUS published the report *Arctic Social Sciences: Opportunities in Arctic Research* for the NSF's Arctic Social Sciences Program, as well as the report *Marine Science in the Arctic: A Strategy* (Aagaard, et al., 1999), as a follow-up activity to a 1997 NSF planning group. ARCUS convened an Arctic Science Education Working Group 2000 to develop recommendations to NSF for the implementation of Arctic science education programs to engage teachers, students, and Arctic residents in scientific research. An Arctic Visiting Speakers' Program was initiated to foster international scientific exchange, as well as science education at the local level. ARCUS (in 1997) organized the Human Dimensions of the Arctic System (HARC) workshop and launched the Arctic Alive education program (NSF, 2001). ARCUS also convened a community workshop to assess current capabilities and identify infrastructure and information needs for the use of geographic information systems in Arctic research. This workshop resulted in the release of the report *Recommendations for a Geographic Information Infrastructure to Support Arctic Research: Outcomes of the Arctic GIS Workshop*. (Sorensen et al., 2001).

2002–07: In 2002 ARCUS published the report *Arctic Science Education: Recommendations from the Working Group on Arctic Science Education*. In the same year the Study of Environmental Arctic Change (SEARCH) program office was moved to ARCUS and received NSF support. ARCUS released the report *Arctic Research Support and Logistics: Strategies and Recommendations for System-scale Studies in a Changing Environment* in 2003. In 2004 ARCUS received funding to launch the Polar Teachers and Researchers Exploring and Collaborating (PolarTREC) program, which subsequently hosted 193 expeditions and houses over 2000 resources for educational use. ARCUS revised its organizational bylaws in 2005.

Senator Lisa Murkowski's office and ARCUS hosted a Congressional Science Briefing on Arctic Environmental Change, where researchers presented findings on Arctic climate trends (ARCUS, 2006). ARCUS supported activities of the International Polar Year.

2008–13: ARCUS received funding for the fourth NSF Cooperative Agreement. Experts hosted a Congressional Briefing on Socioeconomic Tipping Points to address Arctic climate change impacts on infrastructure, security, and communities (ARCUS, 2008.). ARCUS organized the Arctic Observing Network meeting. ARCUS hosted the State of the Arctic Conference and received new NSF funding for PolarTREC (ARCUS, 2010). ARCUS organized the U.S. Arctic Observing Network Coordination Workshop and published the final report in 2012. It also supported the launch of the Sea Ice Prediction Network (SIPN, n.d.) and received NSF funding in 2013 to aid in the development of the Networks Sea Ice Forecast reports (NSF, n.d.d.).

2014–18: In 2014 ARCUS received additional NSF support for PolarTREC and SEARCH. The organization became the grant administrator for IARPC's secretariat under its fifth NSF cooperative agreement (NSF, n.d.e.). ARCUS organized the 2015 Arctic Observing Open Science Meeting (Lee et al., 2015). In 2016 ARCUS co-hosted the Arctic Science Ministerial Side Event in Washington, DC, alongside national and international partners. ARCUS received renewed NSF support for SIPN and PolarTREC (NSF, n.d.f.).

2019–25: ARCUS (n.d.a.) hosted the Arctic Futures 2050 Conference, concluded its role as the SEARCH program office, and received NSF awards for PolarTREC (NSF, n.d.g.) and its sixth cooperative agreement (NSF, n.d.h.). The Polar Technology Conference and the inaugural principal investigator meeting for NSF's Navigating the New Arctic program were organized in 2020 (Ruck et al., 2020). The first Community & Citizen Science in the Far North Conference was launched in 2021. The Beringia Days Conference and the first Bridging Arctic Gateways Workshop were convened in 2023 (Myers, et al., 2024). In 2024, ARCUS hosted the second Community & Citizen Science in the Far North Conference and the second Bridging Arctic Gateways Workshop (Myers, et al., 2025). ARCUS held its final community meeting on 30 September 2025 and approved the convening of a final workshop at the American Geophysical Union Annual Meeting in New Orleans as a tribute to the organization (Rennermalm, et al., 2025).

The following individuals served as executive directors:

1988: Chris Shepherd, part time
 1988–92: Laura Lee McCauley
 1992–09: Wendy Warnick
 2010–15: Susan Fox
 2015–19: Robert H. Rich
 2019–24: Helen Wiggins
 2024–25: Audrey Taylor

TABLE 2. Organizations attending the 2025 ARCUS Tribute.

Alfred Wegener Institute (2*)
Applied Research in Environmental Sciences Nonprofit, Inc.
Arctic Foundations, Inc.
Arizona State University
Brown University
Columbia University
Dartmouth College (2*)
George Washington University (2*)
International Permafrost Association (informal remote attendee)
Michigan State University
NASA Goddard Space Flight Center (2*)
National Science Foundation
New Mexico Institute of Mining and Technology
Oak Ridge National Laboratory
Polar Field
Texas A&M University
University of Alaska Fairbanks (5*)
University of Eastern Finland
University of Lapland
University of Maryland
University of Miami
University of New Hampshire
University of Northern Iowa
University of Virginia (3*)
US Arctic Research Commission

* Parentheses indicate multiple attendees.

Results of the AGU 2025 ARCUS Tribute

At the 2024 AGU Annual Meeting, 39 representatives from 27 organizations joined the informal, drop-in networking gathering to remember, reconnect, and celebrate the legacy of ARCUS in advancing Arctic science and collaboration (Table 2). One person joined online via laptop. Of the 40 participants, 31 U.S. attendees represented individuals from 12 universities, six agencies, and three private organizations; four were unaffiliated; and five individuals were from German and Finnish organizations. The hour-long session was co-organized by the AGU Cryosphere Section and Friends of ARCUS, and co-chaired by Åsa Rennermalm and Larry Hinzman. It took place in Conference Hall B1 (Jambalaya and Louis Armstrong Lounges, New Orleans Convention Center). Prior to the tribute at the AGU meeting, four additional individuals provided written comments on the significance and impacts of ARCUS.

This informal gathering was designed to recognize the role of ARCUS in fostering Arctic science and engineering. The meeting also recognized the organization's role in enabling collaborative research within the community it supported over the many years. Participants further took the opportunity to discuss possible future approaches the U.S. Arctic research community may promote to fill the gaps left by the loss of ARCUS. The sunset of ARCUS

means that the U.S. is among one of the few nations of the eight-member Arctic Council without a national networking capacity for Arctic research. This loss comes at a particularly important time, as preparations are underway for the Fifth International Polar Year (2032–33). At a time when federal support for scientific coordination, networking, and collaborative programs has been substantially reduced, the U.S. Arctic research community must identify new mechanisms and forums to share information, build partnerships, and sustain collaboration. Our greatest accomplishments are achieved when we work together to build programs and collaborate to address complex challenges. Expanding our scientific support networks is now such a challenge.

Group discussions during the tribute focused on ideas for how to move forward in reestablishing the support once provided by the departure of ARCUS, and how the Arctic research community may respond to the unfortunate loss of the services and cohesion that ARCUS provided for the past four decades.

Summary of ARCUS Tribute Discussion and Participation

The goal for the group discussion at the ARCUS tribute was to brainstorm ideas for how the U.S. Arctic research community could continue to sustain coordination, connectivity, and collaboration after the dissolution of ARCUS. Attendees were divided into small groups (~10 participants) and asked to comment on two questions: What did ARCUS provide that mattered to you? (see Table 3) And how can the community fill gaps left by ARCUS? (see Table 4). The collection of responses to the two questions serves, in part, as a legacy of ARCUS.

An informal reception followed the AGU tribute at Lucy's Retired Surfers Bar and Restaurant, near the conference venue. It was hosted by the University of Alaska and chaired by Larry Hinzman to further acknowledge the important contributions of ARCUS. The reception provided additional time to acknowledge ARCUS's contributions and consider how the Arctic research community may respond to the loss of the services and coordination ARCUS provided.

TABLE 3. Responses from group discussions to the question: What did ARCUS provide that mattered to you?

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- Provided community coordination, information, connections
 - Arranged meeting rooms and facilities at AGU annual meetings
 - Provided lists of Arctic presentations at AGU
 - Facilitated centralization of information
 - Provided a calendar of Arctic-relevant events
 - Opportunities to meet people at networking events, including online
 - Support enabling PhD students to attend Arctic forums
 - Access to webinars and online symposia
 - Provided funding for research technicians and for attendance at meetings
 - Office in Washington, DC, for engaging agencies' program managers, thus giving academics access, a platform, and representation
 - In the early days, hosting annual workshops in Washington, DC, enabling agency personnel who had limited travel funds to interact with researchers and students
 - Provided listserv of experiences and opportunities for undergraduates
 - Highlighted polar (Arctic/Antarctic) connections
 - Multilateral management role for projects
 - Support of early-career fellows
 - Developed the PolarTREC program
 - Bottom-up community approach
 - Created opportunities for Arctic education and exchanges
 - Innovated culturally responsible ways to conduct research in Arctic communities
 - Provided social connections
 - Developed storytelling
 - Modeled how to engage the Alaskan Arctic people in leadership and practical Arctic work
 - Website host, meeting host, coordination, and report publishing for Sea Ice Outlook
 - Convener and meeting facilitator
 - Access to logistical support
 - Overall support for Arctic science
 - Website for job listings
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TABLE 4. Responses from group discussion to the question: How can the community fill gaps left by ARCUS?

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- Both the IARPC and the ARC can fill some of these gaps
 - A website portal could facilitate some informational activities
 - The International Arctic Science Committee may take on some former tasks of ARCUS
 - Develop outreach with comparable organizations to ARCUS (i.e., The Arctic Institute, Washington, DC, and the University of the Arctic)
 - The University of the Arctic could play a role as a clearinghouse for information
 - Facilitate the development of a US Arctic research hub to include an online database of researchers, groups, and current news, including NSF-funded research
 - Enhance Arctic program activities related to the organization of the Fifth International Polar Year (2032–33)
 - Although permanent physical space is not a priority, the organization of meeting space at events like AGU is useful, including virtual space
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Written contributions on the importance of ARCUS were submitted by four past members representing the Alfred Wegener Institute, Woods Hole Oceanographic Institution, Royal Roads University, Canada, and the University of Lapland.

CONCLUSION

For nearly four decades, ARCUS provided an essential foundation for collaboration within the U.S. Arctic research community. The AGU tribute celebrated these accomplishments while highlighting how the need for coordination, communication, and community collaboration remains unchanged. As the Arctic continues to experience rapid environmental and societal change, maintaining strong, diverse, and inclusive scientific networks will be as important in the future as they were throughout the history of ARCUS.

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