ARCUS

ARCTIC RESEARCH CONSORTIUM OF THE UNITED STATES

ANNUAL REPORT



ARCUS

Dear ARCUS Community,



This year has been one of meaningful transitions underwritten by continued dedication to our mission. We bid farewell to Helen Wiggins, whose leadership as Executive Director shaped ARCUS for many years, and welcomed Dr. Audrey Taylor as our Interim Executive Director. Dr. Taylor brings a fresh perspective to guide our work moving forward. We also thank outgoing ARCUS Board President Dr. David Cairns for his service and are pleased to welcome Dr. Victoria Herrmann as our new Board President.

2024 has also seen the birth of exciting innovations and collaborations within the ARCUS community. And while we witnessed both significant progress and unique challenges over the last year, ARCUS has remained steadfast in its mission to connect and support the many voices contributing to Arctic research and education.

As in past years, the initiatives featured in this Annual Report reflect the shared efforts of our consortium. Programs such as the Bridging Arctic Gateways workshop and the Sea Ice for Walrus Outlook demonstrate ARCUS's dedication to fostering connections and integrating diverse perspectives. Our support for early-career researchers has provided a mechanism for engaging new voices in the Arctic research community to help address the region's social, economic, and environmental challenges.

While we celebrate these accomplishments, we also acknowledge facing a number of hurdles this year, including federal funding uncertainties and organizational transitions. These experiences have underscored the need for continued focus and collaboration as we navigate the road ahead for ARCUS, our consortium, and our central mission of supporting the Arctic research community.

Looking to the future, we remain focused on core initiatives such as enhanced networking opportunities for ARCUS members and continued engagement with Indigenous communities. These efforts will help to further ARCUS's impact and contribute to a vibrant, inclusive, and collaborative Arctic research enterprise.

On behalf of the ARCUS Board of Directors and staff, we extend our heartfelt gratitude to our members, partners, and funders for their unwavering support. Your contributions enable us to facilitate greater global understanding and support for the Arctic's unique environment and communities.

Thank you for being a part of this journey.

Sand M. Cum

David M. Cairns Board President, ARCUS

Audrey R. Taylor, Interim Executive Director, ARCUS

Report Content:

Pg 2: Strategic Goals & Objectives (2020-2025) Pg 3-4: Staff & Board of Directors Pg 5-6: Member Institutions Pg 7: Partner Organizations Pg 8: Volunteer Contributors & Individual Members Pg 9: Cooperative Agreement Overview Pg 10: Award Recipients Pg 11: Witness the Arctic & Webinar Contributors Pg 12-13: Communication Highlights Pg 14-15: Sea Ice for Walrus Outlook Program Pg 16-18: Community Engagement Highlights Pg 19-22: ARCUS Annual Meeting Pg 26: Financial Report

STRATEGIC GOALS & OBJECTIVES (2020–2025)

Goal 1: Facilitate & Support Arctic Research Collaboration

- Objective 1.1: Provide Resources and Promote Innovative Practices for Collaborative and
 Interdisciplinary Research
- Objective 1.2: Connect and Support the Arctic Research Community Around Shared
 Topics of Interest
- **Objective 1.3:** Partner with Other Arctic Organizations to Catalyze and Broaden Networking Opportunities
- **Objective 1.4:** Promote Exchange, Collaboration, and Co-Production Between the ARCUS Community and US-Based Arctic Indigenous Community Members

Goal 2: Enhance the Effectiveness of Arctic Research Communication

- Objective 2.1: Increase Information Exchange and Knowledge Sharing Within the ARCUS Community
- Objective 2.2: Amplify and Share Arctic-Related Research, Knowledge, and Issues with Diverse Audiences
- Objective 2.3: Work with ARCUS Members to Prioritize and Address the Critical Needs of the ARCUS Community
- Objective 2.4: Build Awareness of and Cultivate Group Identity Between ARCUS, our Members, and our Partners

Goal 3: Educate K-16 Students & Formal and Informal Educators about the Arctic, & Engage them in Arctic Research

- **Objective 3.1:** Develop Professional Training Opportunities for Arctic Educators
- **Objective 3.2:** Champion Culturally Responsive Arctic Education and Outreach
- **Objective 3.3:** Foster Arctic Citizen Science and Community-Based Research
- **Objective 3.4:** Encourage Arctic Youth Involvement in Arctic Research Activities and Learning

Goal 4: Secure Resources to Support the ARCUS Mission

- Objective 4.1: Expand and Sustain a Diverse and Inclusive ARCUS Membership
- **Objective 4.2:** Strengthen ARCUS' Organizational Capacity
- **Objective 4.3:** Diversify ARCUS' Funding Sources
- **Objective 4.4:** Grow Reserves to Adapt and Respond to New Opportunities

ARCUS STAFF



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Janet Warburton

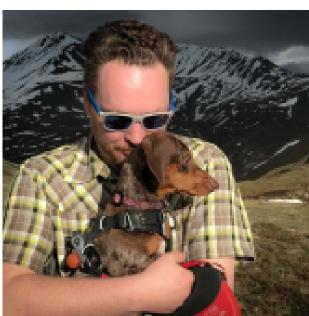


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3



Joed Polly Video Production joed@arcus.org

Learn More: https://www.arcus.org/arcus/staff

2024 BOARD OF DIRECTORS



Peter Webley (Secretary) University of Alaska Fairbanks pwwebley@alaska.edu Term End: 2026 David Cairns (President) Texas A&M University cairns@tamu.edu Term End: 2025





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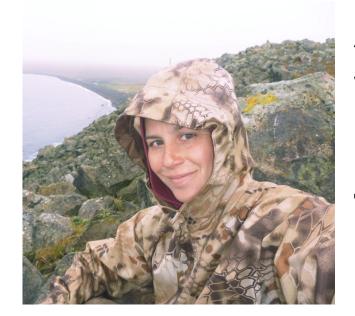
Julie Raymond-Yakoubian

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4



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Learn More: https://www.arcus.org/arcus/board-of-directors

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Represented By:



Represented By:

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5



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6

RUTGERS

Institute of Earth, Ocean, and Atmospheric Sciences

Represented By: Åsa Rennermalm, asa.rennermalm@gmail.com

Learn More: https://www.arcus.org/arcus/members



ARCUS PARTNER ORGANIZATIONS

Eskimo Walrus Commission

The Eskimo Walrus Commission partners with ARCUS to produce the Sea Ice for Walrus Outlook (SIWO).

National Weather Service - Alaska Region

The National Weather Service - Alaska Region partners with ARCUS to produce the Sea Ice for Walrus Outlook (SIWO).

SIKU

SIKU partners with ARCUS on observations tracked through the Sea Ice for Walrus Outlook (SIWO) program.

Divergent Science LLC

Divergent Science LLC works with ARCUS on evaluation and community network assessment activities.

Interagency Arctic Research Policy Committee (IARPC) ARCUS staff work with IARPC on collaborative programming and provide leadership support for the Polar Technology Collaboration Team.

Smithsonian Arctic Studies Center

The Smithsonian Arctic Studies Center provides D.C. host support for the ARCUS Indigenous Scholars Program.

International Arctic Science Committee

ARCUS staff currently serve on ICARP IV advisory committees.

National Snow & Ice Data Center

The National Snow & Ice Data Center is a project partner for the Sea Ice Prediction Network.

Université Catholique de Louvain

Universite Catholique de Louvain is a project partner for the Sea Ice Predication Network.

Western Alaska Partnership

ARCUS is an participant in the Western Alaska Partnersheip.

Alaska Natural Resource & Outdoor Education

ARCUS is working with Alaska Natural Resource & Outdoor Education (ANROE) to produce the 2025 Outdoor Education Symposium.

Potsdam Institute for Climate Impact Research

Potsdam Institute for Climate Impact Research is a project partner for the Sea Ice Prediction Network.

University of Washington

University of Washington is a project partner for the Sea Ice Prediction Network

ELOKA

ARCUS staff serve on the ELOKA Observations Working Group.





























Western Alaska Partnership



7

Learn More: https://www.arcus.org/arcus/partners

VOLUNTEER CONTRIBUTORS & INDIVIDUAL MEMBERS

ARCUS MEMBERSHIP COMMITTEE

Adrian Gall Stacey Fritz Brit Myers

Keith Reimink Alexis Will Sara Morris

Joshua Stein Katherine Ginsbach Victoria Herrmann

SIWO WORKSHOP PARTICIPANTS

Catherine Sopow Mary-Beth Schreck Hajo Eicken Jill Prewitt Lisa Sheffield Guy Brandon Agef Waghiyi

Gay Sheffield Stacey Lucason Robert Tokeinna, Jr. Vera Metcalf Marcus Barr Kaare Sikuag Erickson Marty Eeleengayoug Ozenna

BRIDGING ARCTIC GATEWAYS PARTICIPANTS Nima Farzadnia Anne Heberger Marino

Katrina Armstrong Matthew Balazs Sean Birkel Emmanuel Boss Helena Buurman Seth Campbell Habib Dagher Seth Danielson Ginny Eckert

Glenn Page Kristin Schild Cody Sheltra, Tommy Sheridan Peter Stein Adam St. Gelais Martin Truffer Pips Veazey

Mindy O'Neall Gayle Zydlewski Chris Barb Lee Karp-Boss Jeremy Kasper Adam Low Paul Mayewski Brit Myers Charles North Rosa Vogel

EARLY CAREER AWARD COMMITTEE

Lavanya Ashokkumar Claire Griffin Josephine-Mary Sam Onema Adojoh Stacey Stoudt Lisa Sheffield Guy

Julie Loisel

BOARD NOMINATING COMMITTEE

Audrey Taylor Brit Myers

Heather Sauyaq Jean Gordon Stacey Fritz Victoria Herrmann

2024 ARCUS INDIVIDUAL MEMBERS

Abhisek Saha Acacia Johnson Ahmed Ramadan Aimee Neeley Alyssa Burns Ana Sofia Santiago Andrew Uccello Anna Maria Medina Anna Russell Armina Soleymani Ashok Pandey Barry Volson Ben Kopec Benjamin Mäki Brittney Szabo Cana Itchuaqiyaq Carenza Williams carolina behe Chelsea Koch Christina Anaya Christina Buffington Claire Jensen Cody Johnson Danielle Verna David M. Cairns David McNally Dawn Marie Lemke Dean Wallraff Debasmita Misra Dee Barker Diane Hirshberg Elena Harner Emma Loeber

Haley Cynar Hang Kei Simon Wong Heather Jean Gordon Ho Giustino Lee-Biachler Jones Irina Panyushkina Itorobong Raphael Etuknwa Jaona Ravelonjatovo Jay Kim Jean E. Balestrery Jerry Brown John Stedman Jonathan Raberg Jonathan Shapiro Jose Solorzano Julie Raymond-Yakoubian Kaare Sikuaq Erickson Karl Fred Huemmrich Kay McMonigal Keith Alverson Kelli Park Lane Rowland Laura Zanotti Lauren Shew Lei Wang Leonid Yurganov Lisa Luken Liu Wenxuan Lorene Lynn Mangaiyarkarasi Ravirajan Marissa Record Mary Gibbons Masha Monakhova Mathea Stevens

CCS IN THE FAR NORTH CONFERENCE STEERING COMMITTEE

Audrey Taylor Svea Anderson Sophia Crump

Dennis Davis Katie Spellman Núria Castell

David Cairns Janet Warburton Lisa Sheffield Guy

Max Wolf Michael R. Lilly Michael Weintraub Mikayla Stewart Millie Lambert Ming Xiao Monika Sikand Muhammad UI Fateh Murielle Nagy Nathalie Ylenia Triches Nathan Ernster Neil Steven Gardner Nikki Becker Oluwakunle Moyofoluwa Ogunsakin Onema Adojoh Otis Crandell Peeranut Visetsuth Peter Richardson Pips Veazey Rachel Gibilisco Ragen Davey Randy A. Kee Renato Fakhoury Roben Itchoak

Robert D. Hollister Robert Graham **Robert W Faubel** Seira Duncan Shawnee Traylor Shiori Nakaya Shreyas Sunil Gaikwad Shuyu Zhang Sian Shields Stacey A. Fritz **Stephen Carmel** Suhail Khan Suzann Speckman Sylvia Schreiner Thomas Kelly Tim Nichols Timothy Cabalo Tom Onyango Victoria Herrmann Wesley Moses Yajaira Fuentes-Tauber Yilin Liu Yuji Kodama Yvette Gonzalez

ARCUS COOPERATIVE AGREEMENT



Building Community in Arctic Research: Communication, Research Support, and Multi-Knowledge System Integration

An NSF-funded Cooperative Agreement (2019–2024; Award # OPP-1928794) supports the work we do to nurture collaborations across disciplines, sectors, and perspectives; and to broaden participation across the Arctic research enterprise.

ARCUS Cooperative Agreement activities focus on:

Research community support, including fostering community-driven research initiatives through virtual tools and support of early-career researchers;
Networking activities, including network analysis and community-building events for the Arctic research community;
Collaboration with Indigenous communities and knowledge systems, including integration of Indigenous knowledge with weather and ice predictions, and support for Indigenous scholars of all career levels;
Arctic research communications and outreach; and
Support of the Interagency Arctic Research Policy Committee (IARPC).

The added value of these research support functions—effective collaboration management, networking, communications, and outreach—is key to successful interdisciplinary research.

WHAT KINDS OF ACTIVITIES DOES THE COOPERATIVE AGREEMENT SUPPORT?











Arctic Indigenous Scholars Program

Early Career Conference Awards

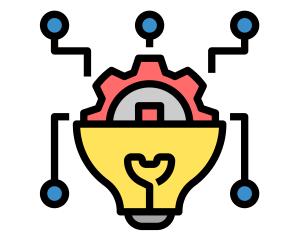
Arctic Citizen Science Virtual Conference Arctic Research Seminar Series











Communication Tools Collaboration Workshops

Sea Ice for Walrus Outlook

Cross-Network Coordination Efforts Polar Technology Community Support

9

Arctic Indigenous Scholars

The Arctic Indigenous Scholars program creates a space for Indigenous scholars to educate and inform policy- and decision-makers on Arctic issues. Three Arctic Indigenous Scholars were selected in 2023 by a seven-member volunteer selection committee. Two scholars, Craig Chythlook and Taniesha Moses, traveled together to meet with agency and government officials in Washington, DC in March of 2024 and, in September 2024, Billy Adams used the award to participate in the National Tribal & Indigenous Climate Conference.



Craig Chythlook (Yup'ik/Bristol Bay, AK) - Craig is a non-traditional graduate student at the University of Alaska Fairbanks (UAF), with a background as a commercial salmon fisherman and 19 years of small business ownership. His policy engagement will focus on Indigenous food sovereignty and building equity in resource management.

Taniesha Moses (Athabscan/Fairbanks, AK) - Taniesha is the Indigenous Wellness and Outreach Coordinator for the University of Alaska Fairbanks Rural Student Services program. The focus of her policy-maker engagement is the preservation of Indigenous food sovereignty and the role that traditional foods play in community health and well-being.

Billy Adams (Iñupiat/Utqiaġvik, AK) - Billy is an Iñupiat elder, hunter, and lifelong resident of Utqiaġvik. The focus of his policy-making engagement is on Arctic research co-production, marine resource management, and food sovereignty.

More information: https://www.arcus.org/indigenous-scholars/2023

Early Career Conference Funding Awards **Congratulations To:**

This ARCUS Early Career Conference Funding Award supports the participation of US-based, early career researchers in meetings and events relevant to Arctic research, with a focus on underrepresented minorities (Black, Indigenous, **Isabel Rivera**

(Pennsylvania State University)

Loreto Paulino Jr. (Woods Hole Oceanographic Institute)

and People of Color; BIPOC).



Izuchukwu Ezukanma (University of Florida)

> **Daniel Price** (West Virginia University)

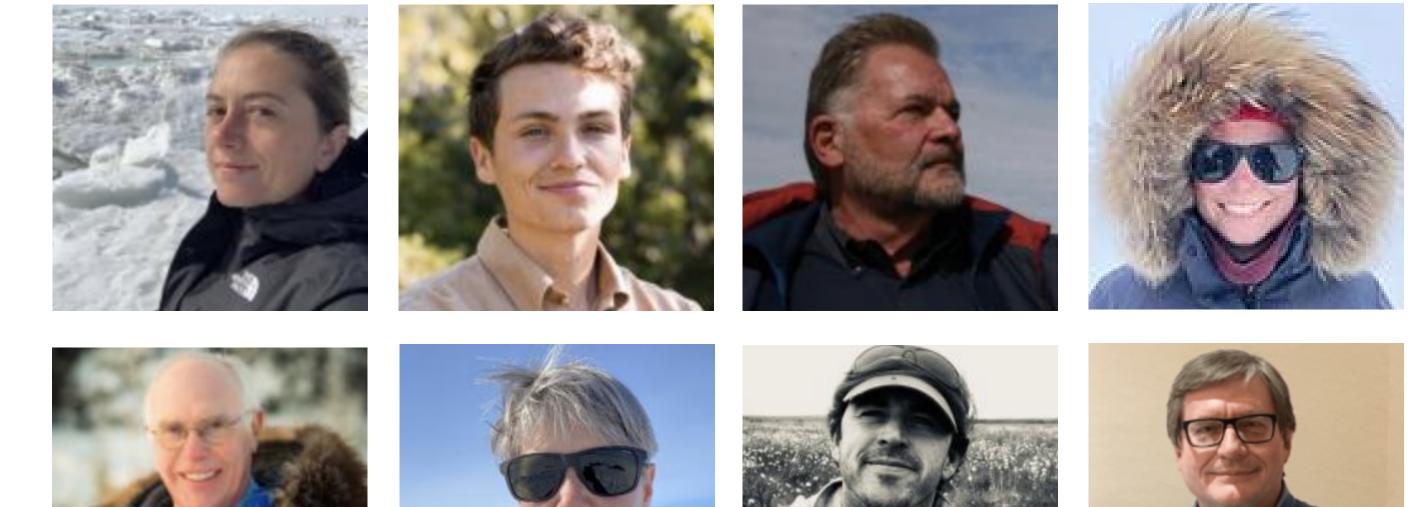
Shriya Thakkar (Louisiana State University)

> **Solange Saxby** (Dartmouth College)

> > 10

More information: https://www.arcus.org/early-career-funding

WITNESS THE ARCTIC CONTRIBUTORS













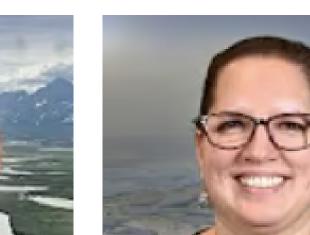






















Donatella Zona, Kyle Lunneberg, Walter C. Oechel, Melissa Ward Jones, Susan Natali, Ming Xiao, Larry Hinzman, Jana Pierce, Benjamin Jones, Vladimir Romanovsky, Billy Connor, Lisa Sheffield Guy, Craig Chythlook, Taniesha Moses, Joed Polly, Kristin Schild, Gerald "J.J." Frost, Meghan Helmberger, Kanesia McGlashan-Price and Cody Johnson

WEBINAR SPEAKERS



















Heather Sauyaq Jean Gordon, Christopher Marianetti, Yaari Walker, Michael Koskey, Yoko Kugo, Stanislav Ksenofontov, Amy Ahnaughuq Topkok, Bobby Qalutaksraq Brower, & Susan Qilgialuk Hope, Jessica Mejia, Alyssa Scott, Katie Spellman, Elena Sparrow, and Roben Itchoak

COMMUNICATION TOOLS

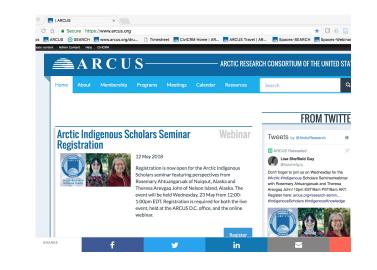
PRODUCTION & ANNUAL USAGE STATISTICS

Witness The Arctic



- 5 community highlight issues
- 8,929 subscribers

ARCUS Website

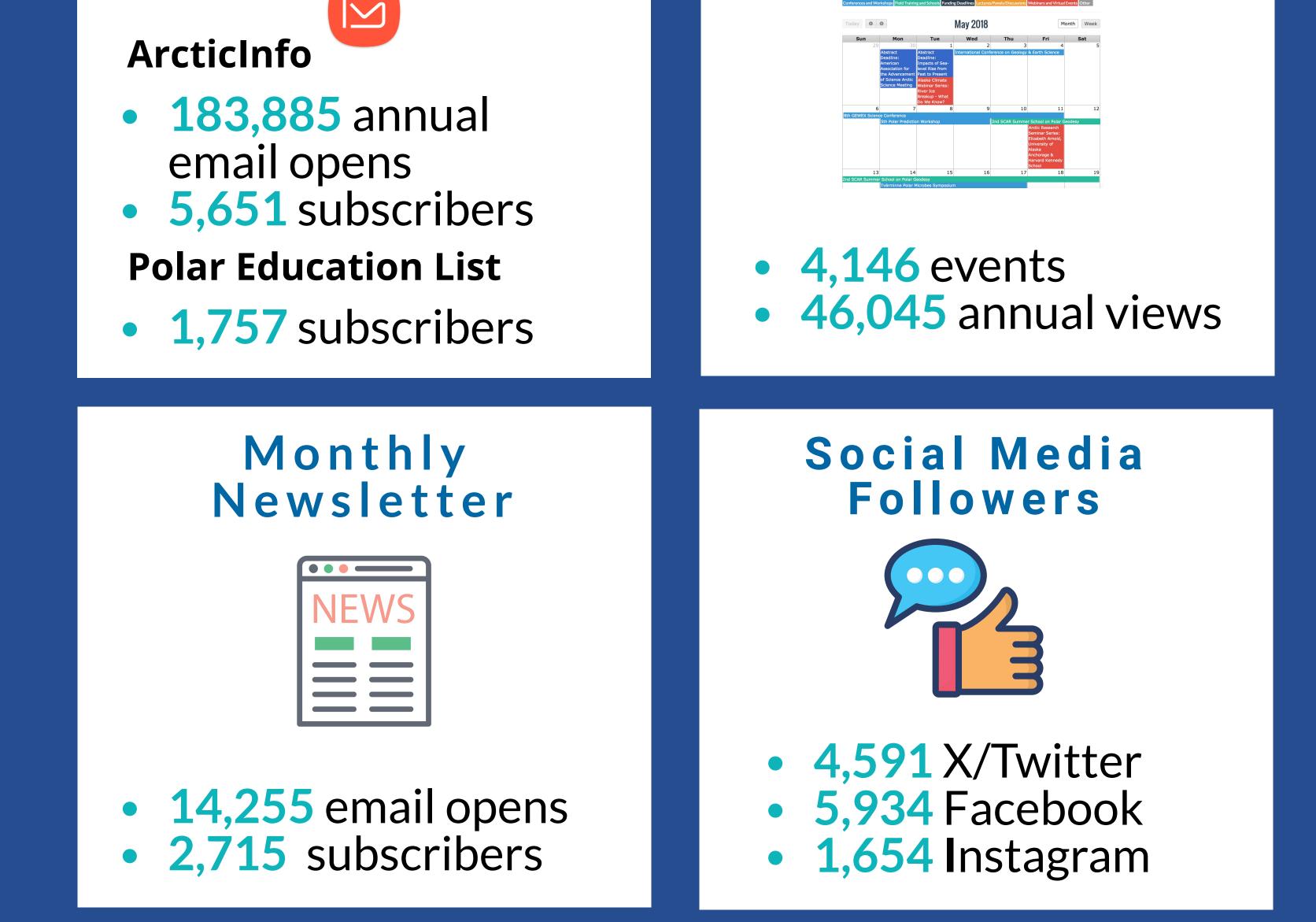


198,124 annual page views
10,000+ files

Mailing Lists

Arctic Calendar

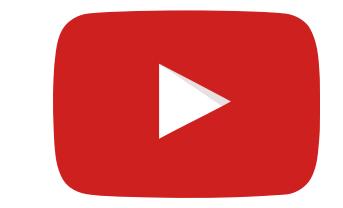
Event Types



Polar Media Archive



 23,500+ free to use images ARCUS YouTube



349 videos
4,571 annual views

12



Connect the Arctic is an online community open to anyone with an interest in Arctic research, education, and collaboration. Designed as a hub for sharing knowledge and fostering connections, this platform welcomes contributions from researchers, educators, students, and others passionate about Arctic topics.



Members can explore interest-based groups, join discussions, and stay updated on the latest Arctic news, research, and events. Whether you're a seasoned expert, a community member, or new to Arctic issues, your voice and participation are valued.

Key Features of Connect the Arctic:

- Participate in groups and discussions tailored to your interests.
- Share and discover the latest Arctic news, resources, and research.
- Build connections with individuals and organizations to foster collaboration.
- Stay informed about announcements, events, and community updates.

You don't need to be an ARCUS member to join. Simply visit https://connectthearctic.com/ to explore this resource and get involved.

The workspace currently hosts two main groups:

The Arctic Science Education Network: Connecting Arctic educators and researchers to improve Arctic education and outreach.
 The Community & Citizen Science in the Far North Community of Practice: Connecting community and citizen science efforts across the Arctic.







We plan to create space for additional initiatives, including memberled groups, in early 2025

More information: https://connectthearctic.com/





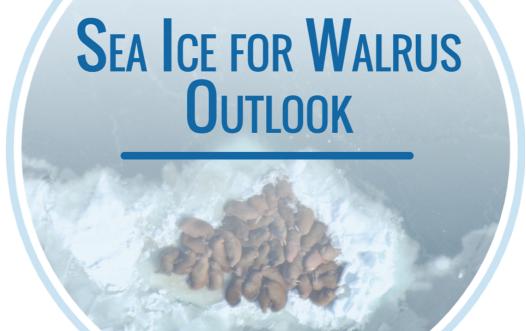


13

Company: ArcticResearch Group: Sea Ice Prediction Network

in

Sea Ice for Walrus Outlook



The Sea Ice for Walrus Outlook (SIWO) is a resource for Alaska Native subsistence hunters, coastal communities, and others interested in sea ice and walrus. The SIWO provides weekly reports each spring with information on weather and sea ice conditions relevant to walrus in the northern Bering Sea and southern Chukchi Sea regions of Alaska.

More information: www.arcus.org/siwo

Follow us on Facebook: www.facebook.com/seaiceforwalrus



LOCAL OBSERVERS:

Shishmaref:



Curtis E. Nayokpuk

Wales: Robert Tokeinna, Jr.

Brevig Mission: Marcus Barr

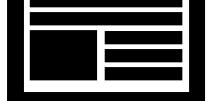
Gambell: Clarence Irrigoo, Jr.

Savoonga: Aqef Waghiyi

Diomede: Eeleengayouq Ozenna

Nome: Frank (Boogles) Johnson

SIWO is managed by ARCUS and produced in partnership with the Alaska Ocean Observing System, the National Weather Service, Eskimo Walrus Commission, University of Alaska Fairbanks, SIKU, and local observers.



of Weekly
Reports in 2023
(29 March-28 June)

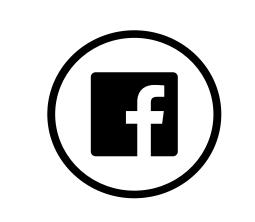




of local observations Q5

Top Locations of FB Followers

Anchorage			1347
Nome	172	1	
Savoonga	81	I I	
Utqiagvik	48		
Gambell	45	- 	
Shishmaref	44	I I	
Fairbanks	37		
Brevig Mission	32	 	



of Facebook
 Followers





Kotzebue	26	
Bethel	24	











2024 Sea Ice for Walrus Outlook Partners Workshop

On July 12–13, 2024, Sea Ice for Walrus Outlook (SIWO) partners gathered in Nome, Alaska, for a two-day workshop—the second in-person meeting since the program began in 2010. Fourteen participants, including local observers, Indigenous Knowledge holders, and program partners, came together to strengthen relationships, reflect on the 2024 season, and plan for SIWO's future.

The 2024 season saw record engagement, with increased observations and participation enabled by Starlink satellite internet. Partners discussed integrating video-based reports in 2025 to enhance Knowledge-sharing, engage younger hunters, and adapt to improved connectivity. Workshop outcomes include plans for a 15-year synthesis paper and a community outreach video to highlight SIWO's lessons and successes.

Looking ahead, SIWO will provide higher-resolution satellite imagery, expand youth

engagement, and continue to serve as a bridge between Indigenous Knowledge and scientific observations. ARCUS is seeking new funding to sustain this vital program and its partnerships into 2025 and beyond.



2024 ENGAGEMENT HIGHLIGHTS

ARCUS regularly serves an important facilitation role for collaborative research endeavors seeking to engage participants across institutions, sectors, disciplines, cultures, geographic locations, and/or career levels.

Sea Ice Prediction Network - Phase 2 (SIPN2)

SIPN2 activities aim to improve Arctic sea-ice forecasts using a multidisciplinary approach that includes modeling, new products, data analysis, and scientific networks.

- ARCUS' role in SIPN2 includes strategic planning, project management, networking, and outreach.
- A key activity of SIPN is the Sea Ice Outlook, with



reports in June, July, and August containing a variety of perspectives on Arctic sea ice—from advanced numerical models to qualitative perspectives from citizen scientists. In 2024, 95 predictions were contributed to the effort by groups from around the world.

More information: https://www.arcus.org/sipn

Conference Sessions & Community Calls

ARCUS worked to advance Arctic research collaboration through participation in the Arctic Congress 2024 and the Navigating the New Arctic (NNA) Annual Meeting. At the Arctic Congress, ARCUS organized sessions on community and citizen science, U.S. Arctic social sciences, and network-to-network collaborations, fostering interdisciplinary dialogue and actionable outcomes.

At the NNA Annual Meeting, ARCUS hosted a session on Bering Strait Regional Research Coordination and Community Engagement, featuring presentations on regional projects, updates on Kawerak's research protocols, and discussions on NSF tribal consultation requirements. ARCUS also held follow-up community calls to sustain collaboration among researchers, Indigenous leaders, and stakeholders.





These efforts demonstrate ARCUS's commitment to inclusive research, interdisciplinary collaboration, and strengthening connections between science, policy, and Arctic communities.



2024 COMMUNITY & CITIZEN SCIENCE IN THE FAR NORTH CONFERENCE

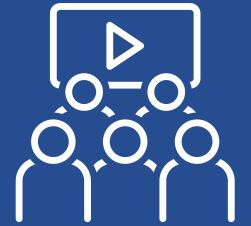
The Community and Citizen Science in the Far North Virtual Conference, hosted by ARCUS on April 17–18, 2024, brought together researchers, educators, and community members to share and advance citizen science initiatives in Arctic and sub-Arctic regions. With over 130 registrants and 76 active participants, the two-day event highlighted the growing role of community-driven research in addressing Arctic challenges.

The conference featured 29 presentations, showcasing diverse programs focused on local observations, Indigenous knowledge, and youth-led initiatives. A preconference webinar in February highlighted K-12 student-led research, underscoring the importance of early engagement in scientific inquiry. Recordings of the keynotes and sessions were made publicly available, ensuring broader access and continued impact beyond the event.

Organized with the support of a diverse planning committee—including educators, community leaders, and researchers—the conference provided a platform for meaningful dialogue and knowledge exchange. It also strengthened the foundation for an active Community of Practice, with participants collaborating through ARCUS's newly launched Connect the Arctic online platform. Complementing the event, ARCUS developed a Citizen Science Project Catalog, a growing resource to connect community science initiatives and researchers. The conference and its associated tools fostered opportunities for collaboration, encouraged the integration of local knowledge with scientific research, and highlighted the value of inclusive, community-led approaches to understanding Arctic systems.

More information: https://www.arcus.org/ccs/meetings/2024-conference





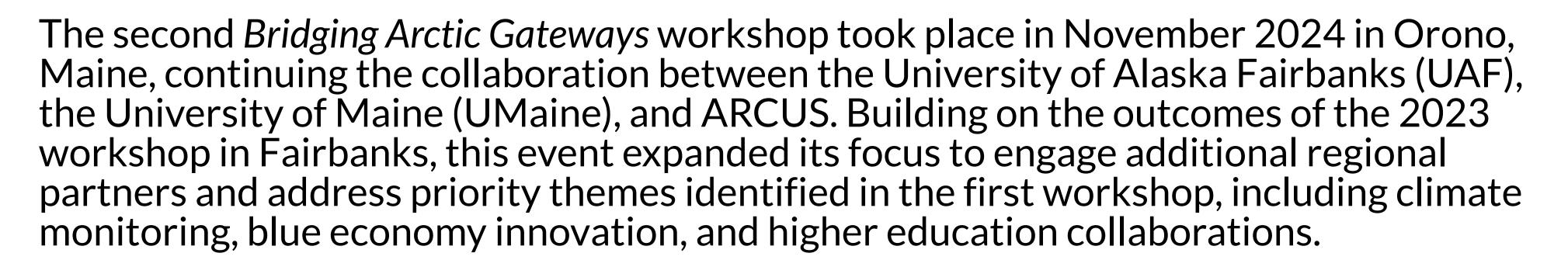
130 Registrants

29 Presentation

2 Day Virtual Event

2024 BRIDGING ARCTIC GATEWAYS ARCUS **1865** THE UNIVERSITY OF UNIVERSITY OF ALASKA FAIRBANKS

MAINE



The workshop featured interdisciplinary discussions among researchers from the Alaskan Arctic and North Atlantic regions. Highlights included presentations on the blue economy and innovations in cold regions engineering, as well as thematic breakout sessions to refine collaborative strategies. The event strengthened partnerships across regions and sectors while providing actionable steps to enhance Arctic and sub-Arctic research coordination. A workshop report detailing outcomes and recommendations will be released in early 2025.

More Info: https://www.arcus.org/meetings/2024/bridging-arctic-gateways







TUESDAY, 29 OCTOBER 9:00 A.M. - 12:00 P.M. (ALASKA TIME)



WWW.ARCUS.ORG/ANNUAL-MEETINGS/2024

On Tuesday, October 29, 2024, ARCUS convened its 2024 Annual Meeting virtually, bringing together researchers, educators, policymakers, and Indigenous leaders engaged in Arctic research. The meeting served as a platform to discuss recent accomplishments, ongoing challenges, and opportunities for collaboration. Participants from nine countries and 25 U.S. states joined the discussions, representing a range of disciplines and 84 different institutions.

The event opened with remarks from ARCUS Interim Executive Director, Dr. Audrey Taylor, who welcomed attendees and highlighted ARCUS's 35-year history of supporting connections within the Arctic research community.

The meeting's agenda was structured around three panel discussions which reflected on research community challenges, opportunities, and other key topics to inform ongoing ARCUS community collaboration activities.

Panel 1: ARCUS Member Research Collaboration Opportunities

Moderators: Stacey Fritz (Alaska Adaptable Housing LLC) and Katherine Ginsbach (Georgetown University)

Panelists:

- Adrian Gall (ABR Inc.)
- Joshua Stein (Sandia National Laboratories)
- Alexis Will (World Wildlife Fund US Arctic Program)
- Ming Xiao (U.S. Permafrost Association)

The first panel featured diverse perspectives on current Arctic research. Panelists shared updates on their projects, highlighting new approaches, tools, and ongoing challenges in the field.



Goose nest at Toolik Field Station. Photo by Alejandra Martinez (PolarTREC 2019).

This panel provided an engaging overview of the cutting-edge research being conducted by ARCUS members and highlighted opportunities for collaboration. Discussions emphasized the transformative role of advanced technologies like satellite imagery, remote sensing, and drones in Arctic research. These tools are increasingly being used for monitoring landscape changes, assessing wildlife health, and studying permafrost degradation. Al and machine learning were identified as pivotal for analyzing large-scale datasets and enabling more precise environmental predictions.

Participants discussed the growing importance of interdisciplinary data sharing to foster collaboration across diverse scientific domains. Efforts to integrate renewable energy solutions into Arctic infrastructure were highlighted as an area of innovation, including the exploration of solar, marine, and hydrogen power systems to reduce reliance on non-renewable resources. Additionally, the potential for distributed acoustic sensing systems to monitor Arctic ice dynamics, marine traffic, and wildlife activity was examined as a promising research frontier.

However, the panel raised concerns about reduced federal funding for long-term monitoring programs and the shift toward remote methodologies, which may overlook critical insights gained through fieldwork. They stressed the need to balance advanced technological tools with traditional approaches to maintain a holistic understanding of Arctic ecosystems.

Key Takeaways:

- Advanced technologies are revolutionizing Arctic research, yet they must complement on-the-ground methodologies to ensure comprehensive data.
 Interdisciplinary partnerships and consistent funding are critical for addressing the
- region's complex challenges.
 Innovations in renewable energy and remote sensing hold significant promise for
- sustainable Arctic development.

Panel 2: Bridging Arctic Research and Community Needs

Moderators: Audrey Taylor (ARCUS) and Lisa Sheffield Guy (ARCUS)



Panelists:

- Julie Raymond-Yakoubian (Kawerak Inc.)
- Howard Epstein (University of Virginia)
- Kaare Sikuaq Erickson (Ikaagun Engagement)
- Heather Sauyaq Jean Gordon (Sauyaq Solutions)
 Marie Lowe (University of Alaska Anchorage)

2024 Sea Ice for Walrus Outlook observers meeting in Nome, AK. Photo by Joed Polly.

The second panel explored how Arctic research can better align with community priorities by integrating Indigenous knowledge and fostering equitable

partnerships. Participants highlighted the value of co-developing research questions with local stakeholders to ensure that projects address real-world needs and deliver actionable outcomes. Successful examples included community-led monitoring programs that integrate traditional knowledge with scientific methods, creating a holistic approach to environmental management.

Discussions emphasized the importance of building local capacity through education and workforce development programs. These initiatives equip Arctic residents with the skills and tools needed to take leadership roles in monitoring and decision-making processes. The panel underscored the critical role of community-driven solutions, including the adaptation of modern scientific tools to support Indigenous practices.

Another significant topic was the integration of diverse knowledge systems to enhance resilience in Arctic communities. This includes blending climate modeling with oral histories and localized observations to provide a more comprehensive understanding of environmental changes. Geopolitical challenges, such as restricted collaboration with Russian researchers, and logistical barriers in remote areas were acknowledged as ongoing obstacles. Nonetheless, the panel celebrated the resilience and adaptability of Arctic communities and their essential role in shaping research priorities.

Key Takeaways:

- Co-produced research bridges gaps between science and community needs, ensuring mutual benefits.
- Empowering local communities through education and training fosters resilience and selfreliance.
- Integrating Indigenous knowledge with scientific approaches creates more effective and inclusive solutions.

Panel 3: Strengthening the U.S. Arctic Research Network

Moderators: Victoria Herrmann (Arctic Institute) and Sara Morris (NOAA GML)

Panelists:

- **David Cairns** (Texas A&M University)
- Katharine Duderstadt (University of New Hampshire)
- Johanna Ikävalko (University of Lapland Arctic Centre)
- Anthony L. Russell (U.S. Coast Guard Academy)



The third panel focused on strategies to create a cohesive Arctic research network in the U.S., particularly in preparation for the upcoming International Polar Year (IPY). Discussions highlighted the benefits of multi-agency research hubs that pool resources and streamline funding. Participants explored ways to reduce redundancy by consolidating efforts across institutions, enhancing collaboration, and ensuring efficiency in addressing Arctic challenges.

The panel emphasized the importance of fostering international partnerships to address shared challenges, such as climate change, permafrost degradation, and biodiversity loss. These collaborations were framed as essential for leveraging global expertise and resources. The need for equitable participation across regions and stakeholders was a recurring theme, with an emphasis on ensuring inclusive access to research opportunities and knowledgesharing platforms.

Another significant focus was the role of early-career researchers and the importance of mentorship programs to strengthen the future of Arctic science. Panelists discussed initiatives to enhance training opportunities, create robust career pipelines, and encourage the participation of underrepresented groups in Arctic research. Additionally, the integration of community priorities within national research agendas was identified as key to creating impactful, actionable science.

The session concluded with a call for unified research efforts that prioritize innovation, inclusivity, and resilience to build a stronger U.S. Arctic research network.

Key Takeaways:

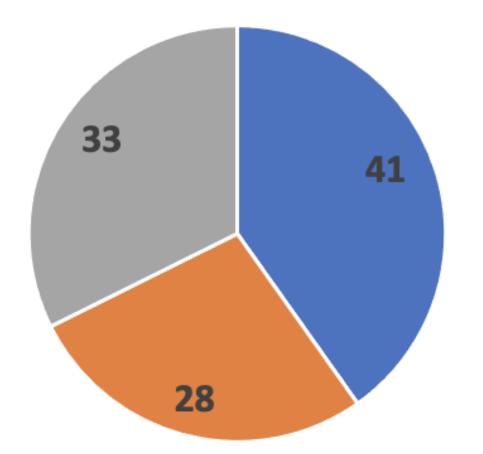
- Multi-agency research hubs enhance collaboration and efficiency by pooling resources and expertise.
- International partnerships and equitable access to research opportunities are vital for addressing Arctic challenges.
- Supporting early-career researchers and integrating community priorities are essential for the future of Arctic science.

Additional Highlights & Participant Profiles

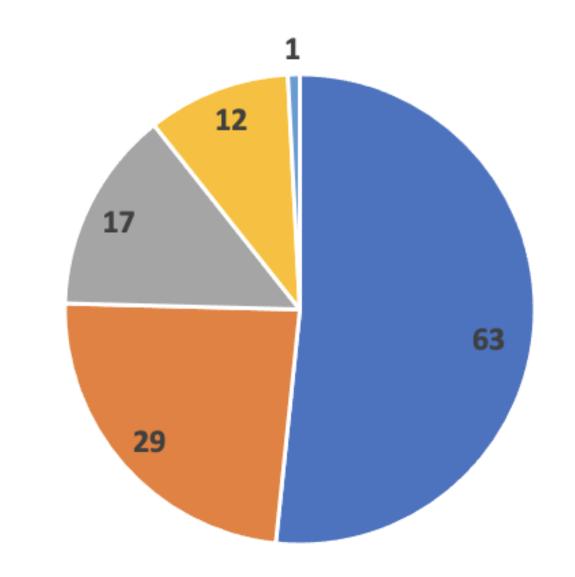
Following the panels, the meeting included updates on ARCUS board leadership and committee opportunities for 2025. Outgoing board members were recognized, and participants were encouraged to join committees such as Communications & Outreach and Proposals & Fundraising. Membership updates focused on new benefits and services, as well as calls for membership renewal and engagement. Networking sessions provided valuable opportunities for participants to connect with peers and discuss ideas, reinforcing ARCUS's role as a community collaboration hub.

More Info: https://www.arcus.org/annual-meetings/2024

Participants By Career Stage



Participants By Professional Sector

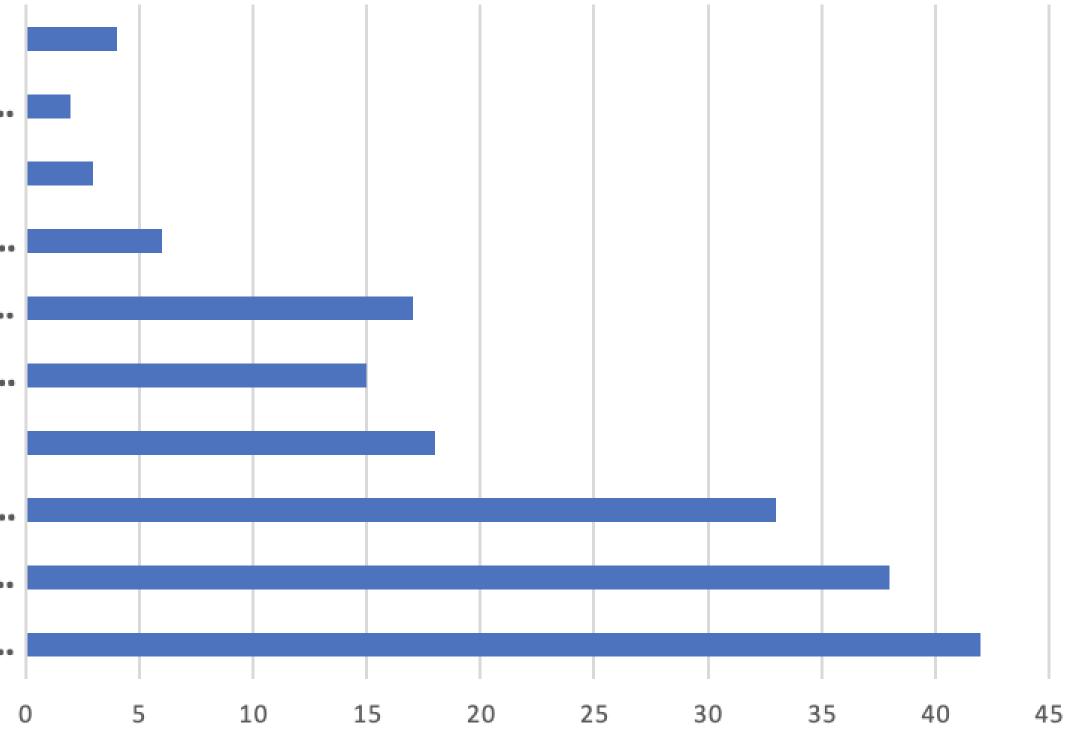


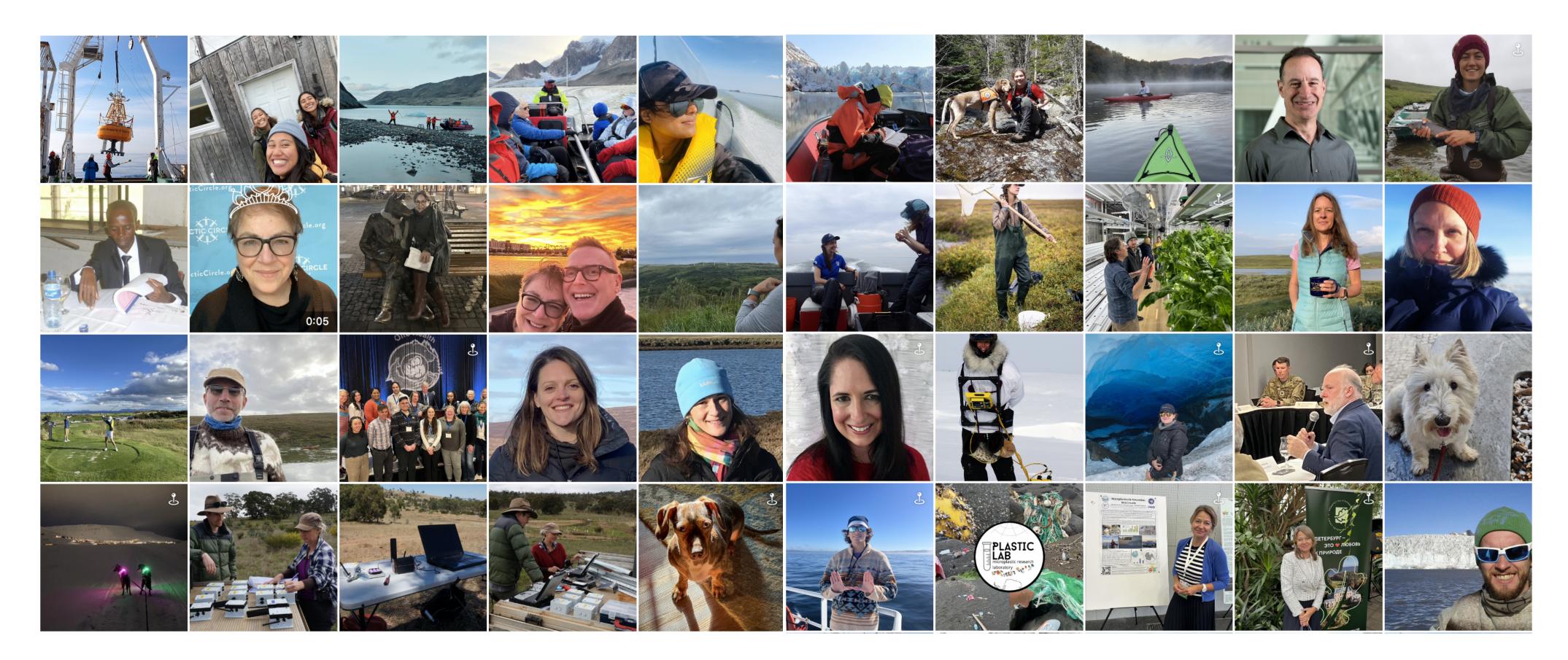
Early Career (< 10 yrs from last degree)</p>

Participants By Discipline

- Mid Career (10 to 20 yrs from last degree)
- Established Career > 20 yrs from last degree)
- University/Academic
- Government Agency or Institute (Including Tribal Government)
- NGO/Non-Profit Organization
- Private Sector/Industry/Consulting
- K-12 Educational Institution

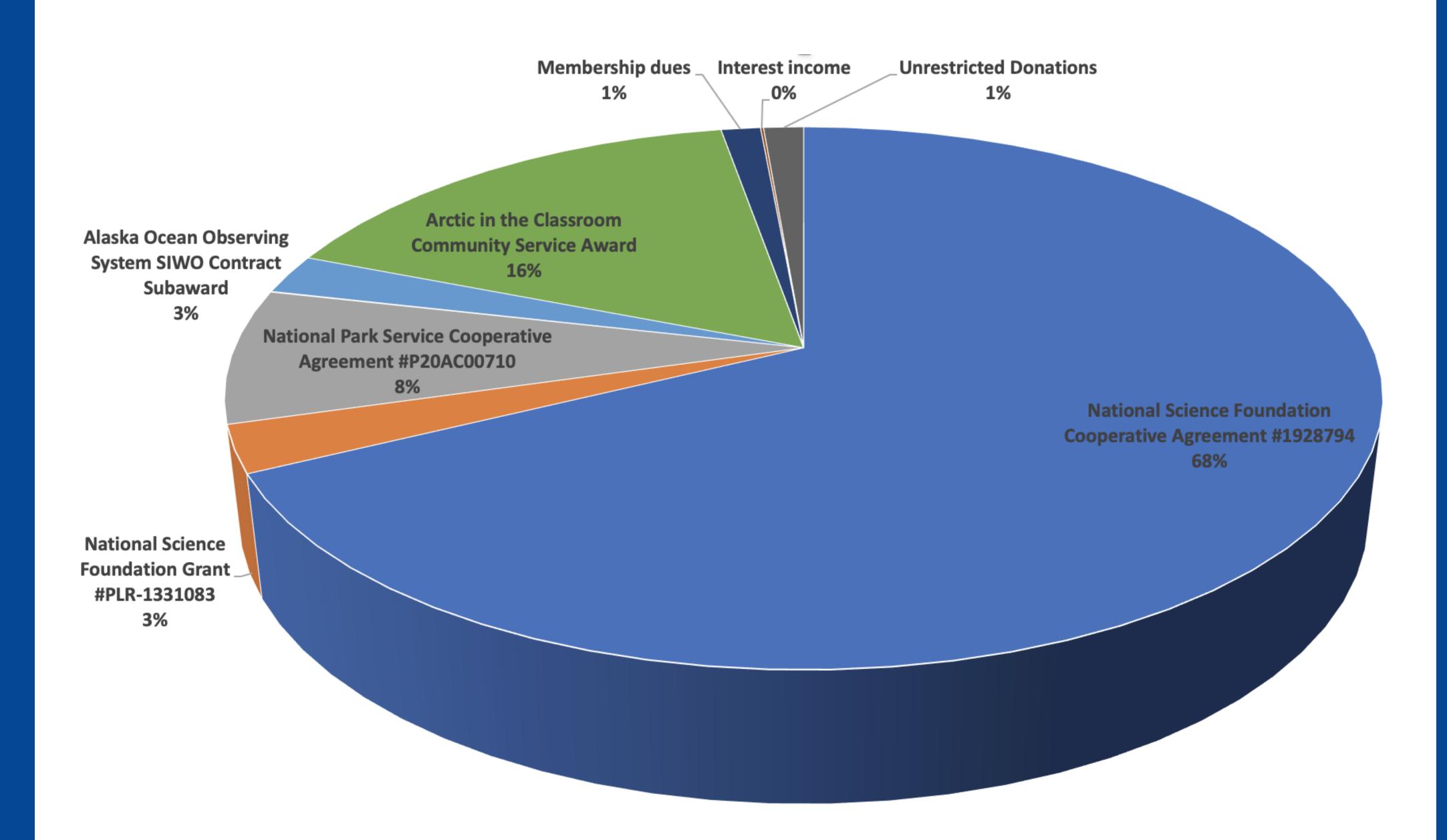
Interdisciplinary Arts & Humanities (e.g., art, literature, philosophy,... K-12 Educator (formal or informal) Formal Science (related to the study of abstract forms... Research Allied Professions (e.g., funders, logistics... Engineering (related to the design, building, and use of... Indigenous/Traditional Knowledge Life Science (related to the study of life, e.g., biology,... Social Science (related to the study of human society... Physical Science (related to the study of non-living...





2024 FINANCIAL REPORT

Fiscal Year 2024 Revenue by Source (October 2023–September 2024)



FY24 Direct Revenue By Source

National Science Foundation Cooperative Agreement #1928794	\$ 963,223
National Science Foundation Grant #PLR-1331083	\$ 39,860
National Park Service Cooperative Agreement #P20AC00710	\$ 114,277
International Arctic Research Center Contract Subaward	\$ 602
Alaska Ocean Observing System SIWO Contract Subaward	\$ 33,836
Arctic in the Classroom Community Service Award	\$ 231,426
Membership dues	\$ 18,726
Interest income	\$ 1,394
Unrestricted Donations	\$ 19,010
	\$ 1,422,354



Cover Page Photo Credits:

An aerial view of a section of the Sagavanirktok River ("Sag River"). Toolik Field Station, Alaska. Photo by Josh Dugat (PolarTREC 2010)

A polar bear cub sits in front of their mother on sea ice near the R/V Akademik Fedorov in the Central Arctic Ocean. Photo by Katie Gavenus (PolarTREC 2019)

Glacial ice twists and turns through the rough terrain of Greenland, with tributary glaciers merging into larger trunk glaciers flowing slowly toward the coast. Aboard the WP-3D Orion over the Greenland Ice Sheet. Photo by Kelly McCarthy (PolarTREC 2016)

A red fox on a boardwalk at Toolik Field Station, Alaska. Photo by Kate Steeper (PolarTREC 2019)

A person takes a midnight boat ride in Ilulissat Greenland. Photo by Erin Towns (PolarTREC 2022)

ARCUS

ARCTIC RESEARCH CONSORTIUM OF THE UNITED STATES



