

**POLAR EARLY CAREER
WORLD SUMMIT**

2025

Synthesis Report

Early career priorities for long-term polar research planning



Polar Early Career World Summit Synthesis Report

A report on polar early career research priorities for ICARP IV and IPY-5

This report presents the synthesized priorities of polar early career community members, gathered from the Polar Early Career World Summit (PECWS) and multiple modes of online engagement before and after the event. The Association of Polar Early Career Scientists (APECS) and the Polar Science Early Career Community Office (PSECCO) organized the summit and associated engagement opportunities, engaging 238 polar early career professionals from across the globe to shape collective priorities for the future of polar research.

These perspectives are especially timely as the international community prepares for the 5th International Polar Year (IPY-5) in 2032–2033, offering an unprecedented opportunity for early career contributions to be integrated into global polar science planning. This document represents a community-driven vision: a roadmap developed by polar early career professionals that urges the polar research community to rethink systems, value relationships, and strengthen pathways for equitable participation. It highlights not just what research should be pursued, but how we can work together to ensure polar science is impactful, responsible, and resilient in the face of rapid change.

Lead editors

Mariama C. Dryák-Vallies
Sarah Marie Strand
Madison R. Payne
Axel Schlindwein

Contributors

All contributors who wished to be acknowledged are listed by role at the end of the report.

How to cite this report

Dryák-Vallies, M. C., Strand, S. M., Payne, M. R., & Schlindwein, A. (2025). **Polar Early Career World Summit Synthesis Report**. Association of Polar Early Career Scientists (APECS) International Directorate and Polar Science Early Career Community Office (PSECCO). <https://doi.org/10.5281/zenodo.16994869>

License

This document is distributed under a **CC BY-NC 4.0** license.

Version

This is **version 1.0** of the PECWS Synthesis Report - published on **3 September 2025**.

Introduction

In March 2025, the **Association of Polar Early Career Scientists (APECS)** and the **Polar Science Early Career Community Office (PSECCO)** co-hosted the **Polar Early Career World Summit (PECWS)** in Boulder, Colorado, USA, alongside the Arctic Science Summit Week (ASSW) 2025 and Fourth International Conference on Arctic Research Planning (ICARP IV). The goal of this summit was to bring together individuals from the polar early career community from around the world and across disciplines to identify shared priorities for the polar community, with a particular focus on contributions to the ICARP IV process in 2025-2026 and the **5th International Polar Year (IPY-5)** in 2032-2033. Drawing on the perspectives of 238 participants of the summit and related online engagement opportunities, this report synthesizes those priorities and shares reflections and learnings on the process, to inform future polar science policy, decision-making processes and community-led initiatives.

The International Arctic Science Committee (IASC) organizes International Conferences on Arctic Research Planning (ICARPs) every 10 years to engage the global Arctic community in identifying key research priorities that will guide Arctic science efforts for the following decade. International Polar Years are coordinated international research initiatives with an intensive focus on the polar regions for a defined period of time. IPY-5 builds on a legacy of four previous IPYs taking place between 1883 and 2008 at intervals of 50 years, each of which brought unique and significant achievements for polar research. Due to unprecedented changes in the polar regions and their global consequences, IPY-5 is planned for 2032-2033, 25 years after IPY-4.

Given that APECS was born out of IPY-4, IPY-5 presents an unprecedented opportunity for the polar early career community to have their

opinions integrated in the planning stages of an IPY. While significant strides have been made towards support of early career individuals and their inclusion in the wider community, early career representation in larger-scale research planning often happens through token involvement of an individual representing their own thoughts and experiences rather than representing the broader community. Diverse backgrounds, disciplines, and perspectives within the polar community necessitate the representation of collated community input. This report shares a synthesis of polar early career perspectives to inform IPY-5. The integration of this input into IPY-5 planning and putting these priorities into action will require the intentional work of the broader community.

PECWS and its associated activities were officially supported by the Scientific Committee on Antarctic Research (SCAR) and the International Arctic Science Committee (IASC).

Notes on word choice in this report:

Early career researcher (ECR) is a commonly used term that appears in this report. We recognize and welcome that the polar early career community includes individuals who may not identify as researchers. We use ECR(s) to refer to the polar early career community in the broadest sense.

The term **“communities”** has many nuanced meanings in the polar context. We have tried to be as clear as possible in defining the communities we refer to in this report. If we are referring to Arctic Indigenous Peoples’ communities, we will be explicit.

The synthesis process

The PECWS synthesis followed a multi-step approach spanning several years. This process had both strengths and limitations, which are outlined below.

A notable strength is that this report is a product of the polar early career community and represents the collective opinions of many individuals, not just one or a few. One way we were able to compile a community product was by engaging ECRs remotely both before and after the in-person event. Ahead of the event, we collated input on early career priorities at community events like an early career workshop at the Scientific Committee on Antarctic Research Open Science Conference 2024 (held in Pucón, Chile), as well as through a pre-PECWS online form to shape priority themes that

was open to everyone self-identifying as a member of the polar ECR community. Survey participants were asked three broad questions concerning IPY-5 conversations and activities: (1) What big research questions do you want prioritized? (2) Do you have any input on how we conduct research as a community? and (3) Do you have any input on how we foster our research community? From these responses, 12 emergent topics were identified, forming the 12 theme groups that participants were divided between at the physical PECWS event.

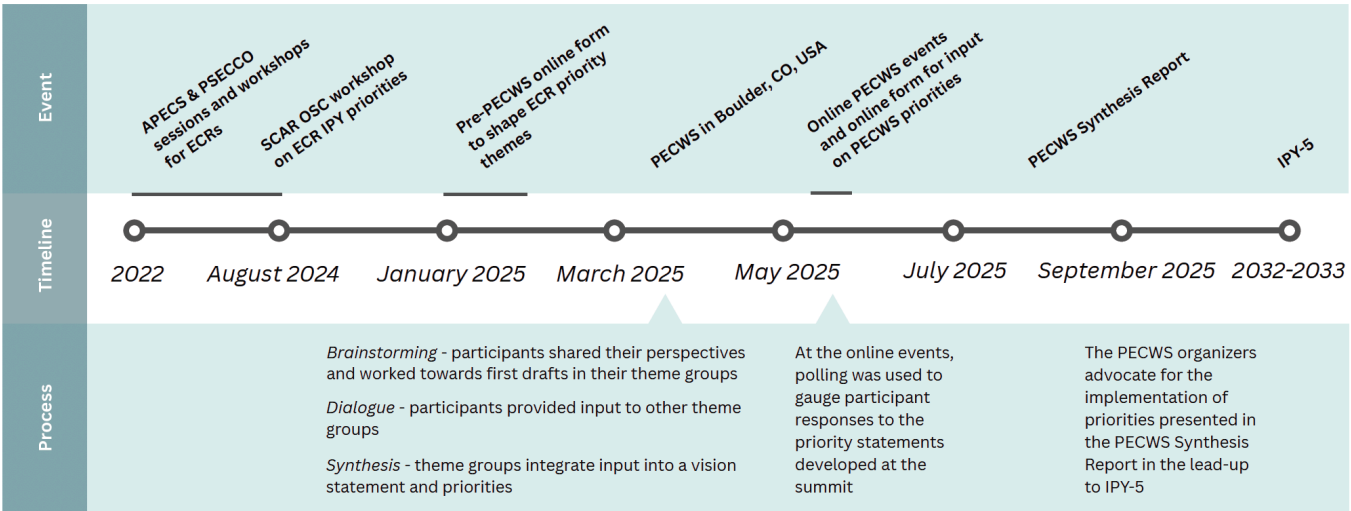


Figure 1: PECWS synthesis process and its modes of community input and engagement.

At PECWS, the first step was for participants to share their perspectives and brainstorm about priorities within their theme groups. Next, we employed the ‘world café’ participatory method, a format of dialogue and knowledge sharing. This method enables anyone interested in a topic to participate while fostering engagement and discovery across diverse perspectives (Innovation Training, 2023). In our case, the

individual PECWS participants left the groups they started in to provide input to other themes. The theme groups reconvened after the world café session to integrate input and write vision and priority statements, supported by individual reasonings and examples.

After PECWS, we held three online events that allowed for global engagement across time zones. These events ensured that engagement in the priority synthesis process was expanded beyond those who were able to attend the main PECWS event in-person, which was limited to those ECRs who had the financial means to attend, get to, and stay in Boulder, Colorado during the time period of the summit. In tandem with the online events, a digital input form was promoted to enable ECRs who did not attend the in-person summit to provide written feedback on the priority statements developed at the summit.

The co-editors of this report incorporated this written feedback into the vision and priority statements written at the summit. Vision and priority statements were edited if more than two people provided similar input regarding clarification and changes.

Observations about relevant demographic engagement in the PECWS process are summarized in Table 1. Demographic information was collected via PECWS application materials, in which in-person participants reported their

Career stage, PECWS attendees		Field of study, PECWS attendees	
PhD student	48.4%	Arctic	80.4%
Postdoctoral researcher	21.5%	Antarctic	37.0%
Master's student	8.6%	Cryosphere	22.8%
Undergraduate student	8.6%		
Research scientist	5.4%		
Other	7.5%		

**Percentages total over 100% as participants could select more than one field of study.*

Location, PECWS attendees		Location, online event attendees	
North America	54.4%	North America	37.3%
Europe	36.8%	Europe	31.3%
Oceania	4.4%	Asia	16.4%
South America	2.6%	Oceania	7.5%
Asia	1.8%	South America	6.0%
		Africa	1.5%

Table 1: Demographic information for PECWS attendees and online event participants.

career stage, field of study, and location, and online event surveys, in which online participants were only asked to report their location.

There were relatively more polar ECRs who engaged in the PECWS synthesis process from North America and Europe. Additionally, there was a greater proportion of people studying Arctic topics than Antarctic topics. This imbalance likely reflects our choice to host PECWS paired with an Arctic conference, in addition to the larger Arctic community.



Figure 2: Participants of the PECWS 2025 in Boulder, Colorado, USA

The PECWS Synthesis Report is open for endorsement by individuals until the fall of 2026.

Show your support!



View endorsees at pecws.org/synthesis-report and add your name at pecws.org/support.

Cross-cutting topics

Six cross-cutting topics were established by identifying topically related priority statements across the 12 theme groups. The presented cross-cutting topics are supported by priority statements from at least four different theme groups, indicating relevance across varied topics of community concern.

based on
priorities across
12
themes

Themes with priorities supporting the cross-cutting topics are highlighted in a darker color.

- 1 Broadening the definition of science
- 2 Understanding responses to climate change
- 3 Addressing knowledge gaps related to the polar regions using interdisciplinary collaboration
- 4 Developing open science principles into practices
- 5 Building and leveraging international collaborations
- 6 Implementing ethical and environmentally responsible research practices
- 7 Fostering equitable, sustainable, and relationship-centered engagement with local communities and Indigenous Peoples
- 8 Effectively communicating science and engaging the public
- 9 Making polar research more accessible, inclusive, and welcoming
- 10 Breaking hierarchical barriers in science
- 11 Reimagining career paths and funding
- 12 Bridging polar research and policy

Funding system transformation

1 2 3 4 5 6 7 8 9 10 11 12

Current funding structures are inadequate for supporting the collaborative, relationship-based research that polar science requires. There is a strong consensus around the need to more justly distribute funding across diverse communities and groups and to better distribute long-term funding that encourages collaborative resource sharing. Multiple priority statements call for funding cycles that support relationship building, reduce barriers to international collaboration, and eliminate unpaid labor in research. This transformation should reduce institutional gatekeeping in research processes, enabling direct community funding mechanisms.

Honoring multiple ways of knowing and doing

1 2 3 4 5 6 7 8 9 10 11 12

Polar research must move beyond narrow definitions of science to embrace diverse knowledge systems and methodologies. Science should be validated through diverse lenses while building bridges between knowledge systems in ways that honor their distinctions. This includes implementing decolonial methodologies, promoting Indigenous and Traditional Ecological Knowledge, and ensuring that data sovereignty principles protect community knowledge systems.

Community-centered research practices

1 2 3 4 5 6 7 8 9 10 11 12

Research must be restructured to center project co-creation and co-ownership between researchers and parties involved in any stage of the research process. The polar ECR community calls to promote research as a cyclical rather than linear process, better reflecting Indigenous knowledge systems. This includes ensuring community input from conception to completion, implementing trauma-informed practices, and supporting Indigenous data sovereignty. Success in research should be inclusive of non-Western, non-academic, and non-bibliometric achievements.

Open and accessible science

1 2 3 4 5 6 7 8 9 10 11 12

While supporting open science, the polar ECR community recognizes the need to balance data accessibility with ethical considerations. Data are ideally standardized, readily accessible, and interoperable, and simultaneously uphold Indigenous data sovereignty. Global standards for data sharing should ensure that open science practices do not perpetuate extractive research relationships. Accessibility must extend beyond data to include participation in all stages of research processes and decision-making.

Effectively communicating science

1 2 3 4 5 6 7 8 9 10 11 12

Effective science communication requires moving beyond traditional academic dissemination to embrace diverse formats, audiences, and feedback mechanisms. Groups emphasize the need to employ new modes of engagement to reach the broader public while ensuring that communication is culturally appropriate and accessible. This includes training scientists as effective communicators, establishing clear communication pathways between researchers, policymakers, and communities, and incorporating community feedback as an integral component of the research process.

Ensuring safety and well-being

1 2 3 4 5 6 7 8 9 10 11 12

Safety encompasses physical, mental, and cultural well-being for all contributors to polar research and is particularly relevant to historically marginalized groups. The polar ECR community calls for the prioritization of the mental and physical well-being of polar researchers in addition to the creation of safe and accepting spaces for all. This includes implementing trauma-informed practices, addressing systemic barriers and harassment, and providing culturally appropriate support systems in all stages and places of research. Research processes should not perpetuate harm to communities or individuals. Safety considerations must be integrated into all aspects of research design and implementation.

**Read on for the full vision statements
and priorities for all themes.**

The *synthesis* process **outcome:**

238

contributors

developed

12

visions

and

75

priorities

for long-term polar research planning.

Vision statements and priorities by theme groups

The following are the priority theme group **vision statements** and **priorities** (bullet points) as established by the PECWS priority synthesis process.

Theme group 1 **Broadening the definition of science**

Our vision is for multiple definitions of science to be accepted, trusted, and supported by society through respectful relationships and conversations about language and values. We recognize that identities attached to science take many forms and that stereotypes are not always desirable. Broadly, science is supported by intentional communication, which counters sensationalized polar narratives. Broad definitions of science make space for Indigenous ways of knowing, being, and doing, multiple research disciplines and methodologies, spiritual and emotional connections, and creative endeavors. Legitimacy of science takes many forms, and success should be based on culturally appropriate metrics. This vision for multiple definitions of science (Figure 3) should center decolonial and gender-accessible methodologies and attend to uneven power dynamics, amplifying historically undervalued types of science.

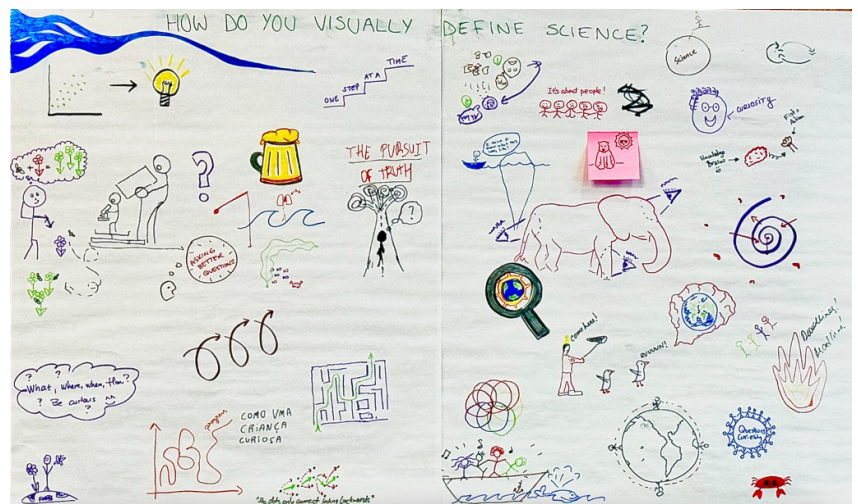


Figure 3: This photo depicts a visual representation of science as drawn by participants of the in-person PECWS.

- Legitimize multiple knowledge systems while respecting the autonomy and integrity of each
- Restore trust in science and scientists through intentional communication
- Recognize and value dialogue and relationships across ways of knowing without collapsing distinctions
- Center and prioritize equitable science by creating funding opportunities, expanding grassroots outreach, and increasing science communication and education
- Diversify contributors to the definitions and practices of science
- Implement decolonial and gender-accessible research methodologies
- Recognize and value the role of citizen science in research efforts

Theme group 2

Understanding responses to climate change

Our vision for the polar research community is to foster a comprehensive understanding of responses to climate change by integrating diverse perspectives, including Indigenous and local knowledge systems, Western science (IPBES, 2025), and communication amongst all actors. By prioritizing cross-disciplinary collaboration considering ethical research practices, we aim to better understand the complex interplay between environmental, social, and political factors that shape climate change responses in polar regions. This approach promotes inclusive adaptation and mitigation strategies. Our mission is to establish best practices for polar researchers by best aligning spatial and temporal analysis scales across social and natural sciences.

- Enhance interdisciplinary collaboration by best aligning priorities and perspectives across specializations, disciplines, and communities
- Justly distribute funding and resources across diverse groups
- Understand environmental responses to climate change by examining regime shifts, tipping points, and interactions among all components of the environment in polar and alpine regions
- Examine societal responses to climate change by identifying barriers and facilitators at local, regional, and global levels that can hinder or enhance climate change adaptation and mitigation in the polar regions
- Foster international cooperation to conserve polar areas through treaty frameworks

Theme group 3

Addressing knowledge gaps related to the polar regions using interdisciplinary collaboration

We aim to cultivate a research environment that centers interdisciplinarity and promotes inclusiveness to identify and address knowledge gaps in polar regions. Polar research depends on collaboration to enhance science, policy, and stewardship. Recognizing interdisciplinarity as a skill will require engagement, education, funding, resources, time, and leadership. By understanding each discipline's strengths and weaknesses, we promote effective collaboration, leading to a comprehensive understanding of polar challenges.

- Promote diverse methods of knowledge sharing
- Share existing resources, equipment, and methodologies
- Encourage data sharing, open-access research, and utilize existing datasets
- Train the next generation of interdisciplinary leaders
- Learn from the past and identify existing knowledge gaps
- Fund and staff the processes that foster interdisciplinarity

Theme group 4

Developing open science principles into practices

We promote open science by leveraging transparent and ethical practices at every stage of the research lifecycle and ensuring equitable access, management, and interoperability of data and computer code. This includes reducing or eliminating journal paywalls, securing sustainable funding, and establishing early and abundant training mechanisms to build technical capacity. We encourage the use of FAIR (Findable, Accessible, Reproducible, Reusable) and CARE (Collective benefit, Authority to control, Responsibility, Ethics) principles to guide data management, with Indigenous data sovereignty at the center. We propose moving towards global standards, inter-institutional collaboration, and international governance resilient to sociopolitical disruption to ensure long-term accessibility of data. Emerging technologies such as artificial intelligence and machine learning should be leveraged responsibly, with consideration for special ethical concerns.

- Recognize and fund open science, code, and data as a full lifecycle process, including maintenance of code and data post-publication
- Promote existing FAIR and CARE principles throughout the entire data lifecycle
- Ensure data are standardized, readily accessible (i.e., through ensuring multilingual documentation is provided and available), and interoperable for use worldwide
- Leverage university alliances to construct infrastructure that promotes data-steward-led education and skill development to foster an open science culture
- Adapt to new technologies including artificial intelligence, machine learning, and cloud computing
- Secure long-term public access to data through resilient international governance structures to preserve rights of the public
- Ensure data sovereignty for Indigenous Peoples and other communities from which data originates

Theme group 5

Building and leveraging international collaborations

We believe that advancing polar science requires international collaboration to maximize efficiency, innovation, and impact. The international community includes, but is not limited to, scientific researchers, Indigenous Peoples, local communities, policy- and decision-makers, and non-polar nations. We can accomplish this by establishing shared communication platforms and frameworks that facilitate international scientific cooperation. There is also a need to restructure funding mechanisms to enable and encourage transnational polar efforts. By maintaining and expanding international research networks we can decrease redundancy and leverage diverse expertise. Finally, international research collaboration can be threatened by political instability, so improving strategies and resources to sustain international research amid political uncertainties will be critical in the coming decades. By prioritizing these efforts, we can drive groundbreaking scientific discoveries and ensure the long-term success of polar research on a global scale.

- Identify and address issues with existing frameworks, such as the Antarctic Treaty and the Arctic Science Agreement
- Establish international platforms and communication channels to facilitate collaborations
- Decrease barriers for international funding and cost-sharing
- Increase collective maintenance of monitoring programs and networks
- Improve strategies and resources for managing geopolitical tensions in international scientific collaboration

Theme group 6

Implementing ethical and environmentally responsible research practices

We are committed to implementing ethical and environmentally responsible research practices by minimizing negative environmental and social impacts of scientific activities, optimizing research infrastructure, and ensuring efficient resource use. We endorse the creation of an ethical research framework that prioritizes safe and responsible data collection, management, and use, and ensures data sovereignty, privacy, and autonomy. We recommend establishing a protocol for the inclusion and evaluation of environmental and social impact assessments in funding proposals and research reports. We urge the responsible development, deployment, and utilization of current and emerging technologies, including artificial intelligence. Through transparent research practices, we aim to create a more inclusive and accessible space by addressing systemic barriers in science and prioritizing the interests of Indigenous Peoples, local communities, and interest groups.

- Assess and reduce the environmental impact of research practices
- Responsibly develop, deploy, and utilize current and emerging technologies, including artificial intelligence
- Support Indigenous, local, and Traditional Knowledge and data and research sovereignty
- Ensure equitable access to data and research opportunities
- Address systemic and institutional barriers in research, with regard to funding, academia, and publishing
- Create safe and accepting spaces for all populations involved in polar and alpine research

Theme group 7

Fostering equitable, sustainable, and relationship-centered engagement with local communities and Indigenous Peoples

Reimagine science approaches through relational, land-based, and cyclical processes (Peterson & Rosing, 2023). Time is not linear; seasons are cyclical (Qaujigiartiit, 2021). Let our research processes reflect that. In order to achieve this vision, institutions must increase capacity within their doors to build cultural sensitivity throughout all levels of research support, including for administrators. Rather than asking, “How can we build research capacity for these communities?”, we challenge our colleagues to ask, “How can we invite community priorities, values, and knowledge systems into our community?”

We advocate for the use of holistic research processes, increased implementation of trauma-informed practices, as well as historically and culturally responsive collaboration alongside Indigenous colleagues and students. The purpose of this is to reduce harm and support the wellness of the whole person, to support researchers and community members, and to support mental and physical safety. Acknowledging that research operates in past-present-future colonial contexts, we advocate for structural and systemic changes that are anti-colonial to allow for cyclical and holistic research processes that reflect Indigenous ways of knowing and contextual realities of Arctic Indigenous Peoples’ communities.

- Develop cultural sensitivity and trauma-informed trainings to support all research collaborators
- Reimagine research into a cyclical rather than linear process
- Redefine research success to be inclusive of non-Western, non-academic, and non-bibliometric achievements
- Disempower colonial institutions as arbiters of research processes
- Improve infrastructure for researcher-community communication of priorities
- Make mandatory education on Indigenous ways of knowing and doing in undergraduate and graduate programs, and establish this as a prerequisite for participation in community-driven research in the Arctic
- Co-develop research goals with Indigenous Peoples and local communities

Theme group 8

Effectively communicating science and engaging the public

We must create incentives for scientists and feedback loops for communities to manifest effective public engagement and communication. In order to accomplish this, we will prioritize audiences and democratize information access by diversifying modes of participatory engagement. We must create frameworks to evaluate effective communication in different contexts with, not for, different communities. We must also prioritize skills training, resources, and incentivization for science communication as a means of empowering polar scientists to effectively communicate.

Theme group 9

Making polar research more accessible, inclusive, and welcoming

- Empower scientists to be effective communicators
- Diversify communication formats and modes of engagement to reach the broader public
- Engage with educators to bring polar science into existing public education, and thus create cohesive science literacy
- Value bidirectional communication and community exchange with participatory feedback and iteration as an integral component of science communication
- Create metrics to measure the effectiveness of polar science communication from conception to community reception
- Evaluate and validate communication frameworks for public engagement with the public and interest groups

Making polar research more accessible, inclusive, and welcoming is essential in conducting meaningful, accurate research and ensuring the well-being of all people and communities involved in the research process. To achieve these goals, we recommend addressing key issues that affect the recruitment, retention, and physical and psychological safety of a diverse polar community. We especially emphasize the prioritization of issues impacting historically excluded groups, including Black, Indigenous, racially diverse, ethnically diverse, disabled, and LGBTQ+ researchers, workers, and community members. We stress that this is only possible with proper funding, monitoring metrics, and community and institutional commitment to address systemic issues at their root. By centering these efforts, we can begin to break down systemic barriers and foster a resilient, versatile, and equitable future for the polar science community.

- Empower and elevate underrepresented voices in the polar community through visibility, mentorship, and support
- Engage underrepresented groups in polar science through targeted education and outreach on polar themes, career pathways, and community-building at different career levels
- Prioritize and address the mental and physical well-being of polar researchers
- Plan and teach safe, inclusive, and accessible fieldwork
- Communicate transparently by using inclusive language to discuss identity, explain acronyms and jargon, and clarify objectives
- Address bias, prevent harassment, and create consistent and supportive reporting measures at individual and institutional levels
- Define success metrics for grants, projects, and organizations to measure progress in inclusion, accessibility, and belonging
- Allocate proper funding to support these priorities

Theme group 10

Breaking hierarchical barriers in science

We aim to work towards achieving a flattened hierarchy free from any forms of discrimination, exploitation, or harassment, and create equal access to polar regions, polar infrastructure, academic resources, and career development. Creating an appropriately structured hierarchy, as flat as possible yet as structured as needed for the necessary functioning of activities, will give ECRs the opportunity to equitably develop their career and achieve success while promoting work-life balance, personal well-being, and contributions to science and society.

- Recognize volunteer work as a part of ECR work
- Develop training programs for both mentors and mentees to navigate power dynamics and build internal and external support systems
- Facilitate international collaboration and access to polar research stations and infrastructure
- Establish standards for ECR funding
- Involve ECRs in decision-making roles, positions, and committees at all levels
- Increase accessibility to participate in polar activities and meetings
- Encourage institutions to establish offices to mediate conflict between various hierarchical positions with the authority to intervene where necessary
- Adopt a framework convention establishing the rights of ECRs between international polar organisations (e.g. IASC, SCAR, APECS) and universities, that is endorsed by these institutions and can be used worldwide

Theme group 11

Reimagining career paths and funding

We believe that funding should prioritize long-term academic and non-academic careers in polar science. To achieve this, we must provide equal opportunities to all polar career pathways, support transition periods in all career stages, and eliminate unpaid labor in the polar science enterprise. By investing in the full range of polar careers, we will reduce undue burdens on individuals and foster an environment that values all.

- Increase awareness and value of non-academic career paths in polar science
- Distribute long-term funding fairly to encourage collaboration and sharing of resources
- Identify and eliminate unpaid labour
- Provide permanent academic and non-academic polar careers in appropriate proportion to traineeships
- Make the training process for academic and non-academic polar careers feasible for all, especially with regard to financial and locational stability
- Empower polar scientists to be supportive mentors across all career stages

Theme group 12

Bridging polar research and policy

We are committed to advancing the relationship between polar research and policy through a holistic, inclusive, and action-driven approach. By forging strong relationships between local knowledge holders, researchers, and policymakers, we ensure that diverse perspectives shape equitable, community-informed outcomes. Clear, accessible communication across scientific, political, and public spheres is essential to building shared understanding, aligning priorities, and driving impactful policy. We champion the enforcement of existing legislation and policies by expanding access to legal knowledge and strengthening institutional capacity. Our approach is rooted in adaptability—recognizing and responding to the evolving relationship between research, institutions, and the communities they serve.

- Establish and prioritize community-led governance by actively facilitating collaborative workshops that connect researchers, policymakers, and local voices
- Implement a more informed understanding of diverse perspectives and ways of knowing to foster meaningful collaboration and decision-making
- Activate scientific, political, and public communication by establishing clear and accessible forms of communication to ensure shared understanding, the alignment of priorities, and drive effective policy action
- Involve diverse interest groups and, where applicable, Indigenous rights holders at all stages of the decision-making process to ensure equity and accountability
- Ensure effective implementation of existing national legislations by prioritizing stable funding streams and resource access to support long-term operational capacity
- Promote science policy training for researchers

How did participants experience the process?

Read about their reflections next.

Engaging, Inspiring, Empowering

were the **three most mentioned words** when participants were asked to describe PECWS 2025.

“I was certainly reminded about just how much we can do and achieve when we are together. I truly believe that collaborations formed through PECWS will create change and progress.”

- PECWS 2025 participant

Participant reflections

After PECWS and associated engagement activities, PSECCO and APECS collected feedback from participants through debriefs and surveys. This section shares a selection of participant reflections.

In-person participants (N=58) had a wide variety of takeaways, connections, and learnings from the summit, many of which are captured in the key words summarized in Figure 4. Most frequently, participants emphasized the strength of having a collective voice for the ECR community (n=11), the importance of building relationships and meeting other ECRs (n=11), the increased importance of interdisciplinarity (n=7), and effective and equitable engagement with Indigenous Peoples and local communities (n=5).

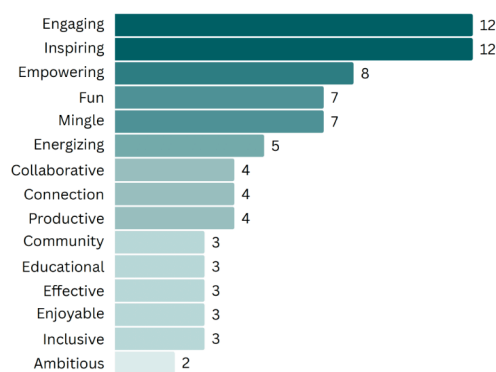


Figure 4: The top fifteen most-answered words in response to the question "How would you describe the PECWS in three words?"

Science is not conducted in silence. You need to consider what's at stake, who is most affected, and ensure that your research has meaningful and direct outcomes, especially in a changing Arctic. The international community has a voice and we can use it for good, and this gives me hope in such trying times.

I particularly appreciated the discussions I was able to have with Antarctic scientists to hear about the similarities and differences in our work. There are clearly a lot of great initiatives that align with PECWS values and a huge desire among ECRs to get help finding them through data repositories and lists of training resources, funding opportunities, and job announcements.

The welcoming and inclusive atmosphere was amazing! It allowed deep and honest conversations that were relevant for the aim of the workshop [...]

From the summit, I've become even more convinced of how crucial it is to connect with and collaborate across different disciplines. I learned many new things about Indigenous [Peoples'] communities that I hadn't known before, and I gained a deeper understanding of how essential inclusive participation is in scientific research. Without it, we risk losing valuable knowledge built over decades of lived experience.

[...] I loved meeting other ECR[s] and thinking big.

It provided an incredible opportunity to be involved in something international and wider than our own usual little research bubble. It created a network of super passionate and keen ECRs who are committed to long-term involvement in polar research initiatives. It hugely inspired me and made me realise that the polar research space is a community I love and hope I can continue being a part of going forward. It made me feel empowered that we do, as ECRs, have a voice.

When in-person participants (N=48) were asked what they would like to highlight about the summit, they frequently commented on the organization of the summit (n=18), networking and meeting other ECRs (n=6), the discussion

format (n=5), the high level of engagement (n=5), the safe space created by the PECWS team and participants (n=5), and the inspirational nature of the event (n=4).

PECWS impressions



Relevance and progress

During the online PECWS priority input sessions, participants provided real-time feedback on both the personal relevance of each priority and their perception of the broader polar community's progress toward it. While nearly all priorities were considered personally relevant, participants generally perceived that limited progress had been made toward achieving them (Figure 5).

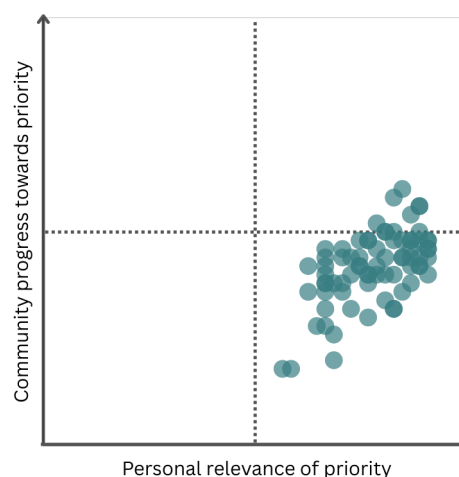


Figure 5: Personal relevance and community progress towards each priority as perceived by online event participants. Values for personal relevance and community progress were averaged across 42 online contributors.

Conclusion

PECWS presented an incredible opportunity for the global polar early career community to exchange ideas on what they want the future of polar science to look like as they progress through their careers.

Notably, many of the priorities shared in this report are about the **how** of doing research, rather than being specifically about **what** research projects should take place. This framing of priorities developed through PECWS has already been critiqued by some in the polar community as not being relevant to 'how IPY planning has been done in the past', or more specifically, working to define scientific research questions.

The PSECCO and APECS teams see the framing driven by polar ECRs as an opportunity for the entire polar community to do science in a better and more equitable way in the years to come.

As organizations whose missions are focused on listening to and uplifting the voices of polar early career researchers, PSECCO and APECS understand how valuable fresh perspectives

from polar ECRs are in advocating for new systems of thinking within an already established community.

It is vital that these recommendations from the early career community are taken seriously to ensure that science welcomes everyone into the process, values relationships and collaborations, connects with the public, is environmentally responsible, and helps us to address pressing challenges through valuing interdisciplinarity.

Science is a holistic process that encompasses more than just addressing research questions. The polar early career community that engaged in the PECWS process believes that to do the best science we can as a polar research community, we must consider each of the priorities outlined above alongside our science goals and build processes that enable us to tackle urgent science questions responsibly.

Contributions

PECWS 2025 Organizing Committee, Planning Team and Facilitators

Riesna Audh, José Carlos Barbosa Neto, Emma Cameron, Mariama Dryák-Vallies, Hugo Guímaro, Natasha Haycock-Chavez, Eva Hidalgo Pla, Diana Khaziakhmetova, José Queirós, Conor Savage, Meghan Schaberg, Florina Schalamon, Axel Schlindwein, Annelou Snippe, Sarah M. Strand, Jacquelyn Veatch

Synthesis report supplementary editors

José Carlos Barbosa Neto, Hugo Guímaro, Lisa Grosfeld, Natasha Haycock-Chavez

APECS and PSECCO staff

Martí Amargant-Arumí, Eva Chamorro, Jack Ciulla, Mahalia Dryák, Mariama Dryák-Vallies, Becca Edwards, Anne U. Gold, Lisa Grosfeld, Neda Kikhia, Rose Leeger, Bradley Markle, Madison Payne, Laila Pellennec, Linda Pendergrass, Ethan Sanchez, Corrina Schell, Axel Schlindwein, Sarah M. Strand

Participants of the SCAR OSC workshop on ECR IPY priorities

José Abreu, Alex Aves, Natalia Banega, Lydia Brackwell, Micaela Isabel Conejeros, Marianna D'Amico, Natasha Gardiner, Carla Gimpel, Sergio Goncalves, Sergi Gonzalez, Alizée De Groodt, Nicole Hellessey, Naomi Krauzig, Tomas I. Marina, Swan LS Sow, Jasmin McInerney, Ashley McKenzie, Mireia Mestre, Abuyiselwe Nguna, Tam Pletzer, José Queirós, Iane Perdigão, Natalie Robinson, Vahid Sepahvand, Dimitrios Symeonidis, Hope Tracy

Participants of PECWS 2025 in Boulder, Colorado, USA

Anna Abramova, Ria-Maria Adams, Keito Aonuma, Alexandra Aves, Ireneusz Robert Badura, Hannah Bahrami, Kristina Black, Morgan Burger, Yu Cao, Ethan Carr, Yanxu Chen, Wai Yin Cheung, Jack Ciulla, David William Clemens-Sewall, Alfredo Jorge Costa, Zachary Cudney, Allison M. Cusick, Archana Dayal, Mariama Dryák-Vallies, Seira Duncan, Christopher Dunn, Vaibhavi Dwivedi, Nikolai Figenschau, Priscilla Frankson, Bryony Freer, Michael Gallagher, Angelica Garcia, Marjolein Gevers, Nicole Greco, Anona Nebraska Griffiths, Hugo Guímaro, Ella Hall, Jessica Hall, Kara Hartig, Henry Churchill Henson, Eva Hidalgo Pla, Meghan Taylor Holtan, Eva Horovčáková, Holly Rebecca Houlston, Soojin Kang, Shawnee Amelia Kasanke, Charlotte Nour Kastoun, Elena Kavanagh, Diana Khaziakhmetova, Sterre Koops, Laurien de Korte, Justin Langan, Amy Li, Julius Mihkkal Eriksen Lindi, Julia Rodgers Lober, Katie Lowery, Amy Macfarlane, Jessica McKellar MacFarquhar, Andrew Robert McDonald, Rosalie Dawn McKay, Alexandra Mehta, Jessica Mejia, Louise Mercer, Ellie Miller, Alizée Le Moigne, Maria Monakhova, Skye Moret, Chloe Nunn, Kathryn Ortenzi, Madison Payne, Frida Alejandra Perez, Malory K. Peterson, Anika Pinzner, José Queirós, Jonathan Raberg, Antonia Louise Radlwimmer, Youri David Renkema, Cláudia Morais Ribeiro, Julia Rogerson, Joseph Fortunato Rotondo, Samantha Rush, Elise Ryan, Jana Rüthers, Ethan Sanchez, Nicolas dos Santos Rosa, Meghan Schaberg, Florina Schalamon, Axel Schlindwein, Leilani Sharp Chan, Luciana Shighihara Lima, Silvia Simonetti, Annelou Snippe, Sarah M. Strand, Evelyn Strombom, Dimitrios Symeonidis, Kitrea Pacifica Takata-Glushkoff, Aikaterini Tavri, Anilla Till, Jacquelyn Veatch, Deniz Vural, Daniela Marianne Regina Walch, May Wang, Harmony Jade Wayner, Hailey Webb, Brandon Samuel Whitley, Patrik Winiger, Alexandra M. Zuhr and 9 anonymous participants

Participants of PECWS 2025 online events

Mary Beth Armstrong, Natalia Banega, Anne Beemelmans, Janne Bruhns, Allison Cusick, Haley Dunleavy, Vikram Goel, Lisa Grosfeld, Alice Guzzi, Sophie Holland, Seungyeon Jang, Jaewon Kim, Naomi Krauzig, Aleksandar Krstic, Edmund Lea, Rose Leeger, Colombe Lefort, Nancy Lucà, Anirudha Mahagaonkar, Alexis Marshall, Martina Mascioni, Jasmin McInerney, Junhong Min, Maria Osińska, Mathilde Piette, Emilie Pillon, Elie Pinta, Annette Salles, Archana Singh, Maud van Soest, Rebecca Tapper, Jacquelyn Veatch, Martina Wenzl, Tom Williams, Hyeju Yoo, Julia York and 5 anonymous participants

Contributors to priority theme development (via online form)

Alex Aves, Jack Buckingham, Ryan Buttress, Ethan Carr, Exodus CL Sit, Duvet Claudin Koutsolo, Steven Dykstra, Priscilla Frankson, Nicola Gambardella, Isabelle Gapp, Alice Guzzi, Syed Hammad Ali, Millicent Harding, Kara Hartig, Andrew Hennig, Sophie Holland, Meghan Holtan, José João Lelis Leal de Souza, Elena Kavanagh, Varvara Kholmogorova, Ari Koeppel, Anastasia-Svenia Körner, Laurien de Korte, Naomi Krauzig, Kaushal Kumar, Anita Lafferty, Alizée Le Moigne, Chang Liao, Howard M. Huynh, Alexandra M. Zuhr, Lucie Malard, Skye Morét, Adiba Mosharraf, Kate Ortenzi, Malory Peterson, Dylan Seidler, Daniela Silvestre, Melanie Stammier, Aikaterini Tavri, Anilla Till, Carla Vielma, Lucas Vinicius Fernandes, Deniz Vural, Anthony Voisin, Brandon Samuel Whitley and 14 anonymous participants

Contributors to PECWS outcome refinement (via online form)

Sarah Bachinger, Laura Barbero-Palacios, Insha Batool, Jonathan Chambers, Kristina Collins, Patricia DeRepentigny, Emily Fedders, Lisa Grosfeld, Nicole Hellessey, Stine Højlund Pedersen, Naomi Krauzig, Arlie McCarthy, Kay McMonigal, Nina Piyusha Panda, Maria Victoria Quiroga, Annette Salles, Rebecca Tapper, Caleb Walcott-George, Sonu Yadav, Julia York and 12 anonymous participants

Funding and support

The Polar Early Career World Summit (PECWS) was organized by the Polar Science Early Career Community Office (PSECCO) and the Association of Polar Early Career Scientists (APECS) International Directorate in cooperation with members of the Early Career Ocean Professionals (ECOP) Programme and the Permafrost Young Researchers Network (PYRN).

PECWS was financially supported by Climate and Cryosphere (CliC), the International Arctic Science Committee (IASC) (Cross-Cutting and Working Group Proposals 2024), the Scientific Committee on Antarctic Research (SCAR), the Netherlands Polar Programme and Antarctic Science Ltd.

*PECWS 2025 was **organized** by*



*in **cooperation** with*



*and **supported** by*



PSECCO and the APECS International Directorate are supported by



About the organizers



The **Association of Polar Early Career Scientists (APECS)** is an international and interdisciplinary organization for early career researchers with interests in the polar and alpine regions and the wider cryosphere. APECS facilitates in-person and online capacity building, career development training, international opportunities, research sharing, collaboration development, polar education and outreach, and opportunity dissemination.

The APECS International Directorate is hosted at and financially supported by *UiT The Arctic University of Norway*, in partnership with the *Norwegian Polar Institute* and the *Fram Centre*.



The **Polar Science Early Career Community Office (PSECCO)** is a community-building and community-support organization for polar early career scientists, hosted at the *Cooperative Institute for Research in Environmental Sciences* at the *University of Colorado Boulder*, and funded by the *National Science Foundation Office of Polar Programs*, Award #2135176.

PSECCO's mission is to empower and elevate early career scientists in the polar sciences, support a vibrant community, provide opportunities and resources, offer skill trainings and work together towards a welcoming polar science environment for all.

References

Innovation Training (2023)

Available at: <https://www.innovationtraining.org/the-world-cafe-method-hosting-and-facilitating-collaborative-discussion/>

IPBES (2025) **"Western Science"**

Available at: <https://www.ipbes.net/glossary-tag/western-science>

IPY5 (2025) **"International Polar Year 2032–33 Updated Concept Note March 2025"**

Available at: <https://ipy5.net/media/zf0kdbkg/ipy-concept-note-rev2025-v4-4.pdf>

Peterson, M., & Rosing, A. (2023) **"Factors that influence fertility decisions in the community of Paamiut."** For Greenland Science Conference 2023, Nuuk, Greenland.

Qaujigiartiit Health Research Centre (2021) **"The Inuit Year"**.

Available at: <https://tasiutigiiit.org/inuit-culture-realities/>

Polar Early Career World Summit Synthesis Report

Published by

APECS International Directorate
info@apecs.is

Polar Science Early Career Community Office
psecco@colorado.edu

Document
Version 1.0

DOI
10.5281/zenodo.16994869

Date
3 September 2025