





Arena for the gap analysis of the existing Arctic Science Co-Operations AASCO 4-5 February 2025, Oceanographic Museum

PROGRAM

Tuesday, 4 February 2025

08:30 Registration

09:00 Opening session

Hanna Lappalainen, University of Helsinki - Masters of the Ceremony

09:10 Welcome address, HSH Prince Albert II of Monaco

09:20 Hanna Snellman, University of Helsinki

09:30 Kick-off Panel moderated by Lars Kullerud, University of the Arctic

Speakers:

Tuukka Petäjä, University of Helsinki Sandy Starkweather, University of Coloardo Aaja Chemnitz, Arctic Parliamentarians

09:50 Group photo

10:00 Coffee break

10:35 Robert Calcagno, the Oceanographic Institute of Monaco

10:45 Olivier Wenden, the Prince Albert II of Monaco Foundation

10:55 Arctic policy – Funding perspectives

10:55 Frederik Paulsen, Chair of UArctic

11:15 Shaping Arctic Futue Research: The Impact of EU-PolarNet on Arctic research cooperation, Nicole Biebow, POLARIN & EU-PolarNet 2, Alfred-Wegener-Institut, Helmholtz-Zentrum für Polarund Meeresforschun

11:30 Arctic research and EU 9th/10th FPs, Ms Szilvia Nemeth, European Commission DG Research & Innovation Unit B4 – Ocean, Seas and Waters (remote)

11:45 Arctic perspectives – Current frameworks

Tuukka Petäjä, University of Helsinki

11:45 ICARP IV Research priorities & IPY, Gerlis Fugman, International Arctic Science Committee



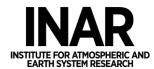


















12:00 Summary from the Aussois IPY planning workshop, Markus Frey, British Antarctic Survey

12:15 Climate, Environment and Societies (PACES) Initiative, Steve R. Arnold, University of Leeds and Kathy Law, LATMOS-CNRS, Paris

Discussion & reflections

12:30 Lunch at the Museum

14:00 Arctic perspectives – Current frameworks

Petteri Uotila, University of Helsinki

- 14:00 AASCO research priorities, Timo Vihma, Finnish Meteorological Institute
- 14:45 Achieving Progress under SAON's Arctic Roadmap for the Observing And Data Systems (ROADS) Process, Sandy Starkweather, University of Coloardo
- 15:00 Arctic Research Cooperation: Expanding our view on why we do and who we do it for? ICARP Science diplomacy & open data, Jennifer Spence, Arctic Initiative Belfer Center for Science and International Affairs, Harvard Kennedy School
- 15:15 Pan-Eurasian Experiment (PEEX) Program, Tuukka Petäjä, PEEX Science Program Director, University of Helsinki
- 15:30 From Indigenous Knowledges to Climate Innovation: Centering Arctic Community Priorities in Science, Cana Uluak Itchuaqiyaq, Indigenous Knowledge, Technical & Scientific Communication, Center for Sustainable Engagement in the Arctic

Discussion & reflections

Roundtables 16:00

Renuka Badhe

Organizing into groups for detailed discussions and reflections to the on the going frameworks. Tables will have their own discussion theme, and the discussion (ca 2 hours) is coordinated by a designated chairperson and supported by a co-chair. The groups will discuss the themes based on the ICARP Research Priorities Themes (RPT, icarp.iasc.info/engagement/research-priority-teams), PACES and Climate Inventions (climateinterventions.org)). List of Tables and chairs

Table-1 Arctic Sea ice and Greenland Ice Sheet (ICARP RPT 1)

Chair Petteri Uotila, University of Helsinki

Co-chair Angelika Humbert, The Alfred Wegener Institute

Guiding questions

- 1. What are the main research priorities related to Arctic sea ice?
- 2. How could observations and monitoring support these research priorities?
- 3. What would be the next steps in implementing supportive actions
- 4. How to monitor adequately the state of the Greenland Ice Sheet from surface processes to sea level rise?
- How to increase knowledge on processes of the ice sheet hydrology?



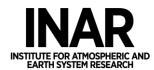


















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6. How to do we best foster coordinated monitoring programs of Greenland in the International Polar Year 2032/33?

Table-2 Short-lived climate forcers (SLCFs) (ICARP RPT 1)

Chair Heikki Lihavainen, SIOS

Co-chair Yubao Qui, Digital Belt and Road Program (DBAR)

Guiding questions

- 1. What would be the main research priorities and knowledge gaps in context SLCF and Arctic climate?
- 2. What observations and where are required to fill the knowledge gaps and improve Arctic climate projections?
- 3. How to avoid biases caused by SLCF data gaps in understanding SLCF emissions and effects now and in climate projections as half of the Arctic is in many ways inaccessible?
- 4. What would be ambitious enough goals for 5th IPY in SLFC context?

Table-3 Interplay between Arctic processes and the coupled climate system (ICARP RPT 1)

Chair Timo Vihma Finnish Meteorological Institute

Co-chair Dorotea Iovino, Foundation Euro-Mediterranean Centre on Climate Change (CMCC)

Guiding questions

- 1. What are the key knowledge gaps and research priorities regarding local physical processes in the Arctic atmosphere, ocean, and sea ice?
- 2. How are local processes in the Arctic atmosphere, ocean, and sea ice influenced by heat and moisture transports to the Arctic
- 3. How are climate feedback effects expected to evolve during this century and beyond?
- 4. How do changes in the Arctic system impact weather and climate in mid-latitudes?

Table-4 Climate interventions (climateinterventions.org, ICARP RPT 7)

Chair John Moore, Arctic Centre, University of Lapland

Co-chair Marc Macias-Fauria, Department of Geography & the Scott Polar Research Institute

University of Cambridge

Guiding questions

- 1. What systems in the Arctic are most at risk of collapse, and what, if anything, might delay or avert them?
- 2. What systems might be helped with only local (domestic law) interventions?
- 3. What field tests in the Arctic might be feasible socially, legally and technically?
- 4. How might preserving the Arctic cryosphere be paid for?

Table-5 Research priorities around Arctic air pollution (PACES)

Chair Steve Arnold, University of Leeds

Co-chair Kathy Law, LATMOS – CNRS, Paris / Alexander Baklanov University of Copenhagen

Guiding questions



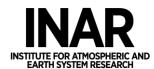


















- 1. What are key remaining knowledge gaps in understanding sources and processing of local emitted air pollutants in the Arctic?
- 2. What are the research priorities in better understanding impacts of local Arctic air pollution on health, ecosystems, climate?
- 3. Which science questions could be better addressed by improving frequency and coverage of regular vertical profile sampling of air pollution in the Arctic?

Additional questions; How to improve regular vertical sampling in the Arctic (PACES)

- 1. Which science questions could be better addressed by improving frequency and coverage of regular vertical profile sampling (aerosol, trace gas, temperature, humidity) in the Arctic?
- 2. What are the potential platforms available to undertake routine vertical profile sampling?
- 3. Which technological / instrumentation developments can we expect in advance of IPY (2032-
- 33) to help enable routine vertical sampling?

Table-6 The role of Co-Production and local communities (ICARP RPT 3, 5)
Chair Cana Itchuaqiyaq, Center for Sustainable Engagement in the Arctic

Co-chair Hanna Snellman, Univeristy of Helsinki

Guiding questions

- 1. How do you ensure that the principle of "nothing about us without us" guides your research, particularly when working with Arctic Indigenous communities?
- 2. Beyond this principle, what other ethical guidelines do you prioritize to ensure your research aligns with the values and self-determination of Indigenous peoples?
- 3. What is your process to actively involve local communities as co-creators in shaping, conducting, and disseminating your research to make it meaningful and beneficial to them?
- 4. How do you approach language justice and meaningful access in your work, such as sharing research findings in Indigenous languages or through culturally appropriate and accessible mediums?

Table-7 Pan-Arctic Science Research Collaboration (ICARP RPT 4)

Chair Jennifer Spence, Harvard Kennedy School

Co-chair Kamrul Hossain, Northern Institute for Environmental and Minority Law, Arctic

Centre, University

Guiding questions

- 1. To what extent is Pan-Arctic research collaboration important?
- 2. What is your vision for Pan-Arctic research collaboration in 2035?
- 3. What are the challenges for Pan-Arctic research collaboration?
- 4. What are the tools available and/or do we need to advance Pan-Arctic research collaboration?

Table-8 Data-sharing, AI (e.g. ICARP RPT 2, 5)

Chair Pier Luigi Buttigieg, the Alfred Wegener Institute, Helmholtz Centre for Polar and

Marine Research

Co-chair Jørn Kristiansen, The Norwegian Meteorological Institute



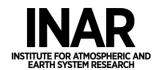


















Guiding questions

- 1. How can data platforms incorporate Indigenous and local knowledge alongside or integrated with scientific data?
- 2. What are the most critical unmet needs of diverse user groups, and how can data-driven services be designed to meet those needs effectively?
- 3. Can interdisciplinary approaches enhance the availability, quality and usability of environmental data?
- 4. How do geopolitical challenges and regulatory frameworks impact polar data sharing and service provision, and what actionable recommendations can address these issues?
- 5. The (artificial) elephant in the room: How do we leverage the AI boom for better data sharing, without it undermining foundational architectures?
- 6. Why can't I find all Arctic data (or even metadata) from trusted sources across all Arctic platforms?
- 7. What is working in delivering scientific data to other societal actors in a way they can react to? Why are most scientific data products still underused or invisible?
- 8. What can we as an Arctic community do now to improve the situation?

16:30 Coffee and refreshments available

Round Table discussions continue

18:00 Tour at the Museum

18:30 Dining Reception at the Aquarium, Drinks & Food

Wednesday, 5 February 2025

09:00 Welcome

09:15 Art performance

la Laiti, Nea-Veera Mäkäräinen, Saana Lahtela, Liisa Yrjänä Santasport Institute, Vocational Education on Dance, Rovaniemi

Choreography: Viljami Pekkala

09:30 Arctic futures - Invited talks

Heikki Lihavainen, SIOS

09:30 Global Challenges: Arctic and boreal viewpoints, Markku Kulmala, University of Helsinki

09:50 When is Arctic change bad? Kim Holmén, Norwegian Polar Institute

10:10 To intervene in the cryosphere or not, what do we need to know? John Moore, Arctic Centre, University of Lapland

Discussion & reflections

10:30 Coffee break

11:00 Arctic futures - Invited talks



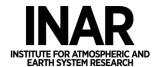


















Heikki Lihavainen, SIOS

- 11:00 Insights from establishing global data flows for Essential Ocean Varibles: Detecting assets, gaps, and opportunities with the IOC-UNESCO Ocean Data and Information System, Pier Luigi Buttigieg, the Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research
- 11:20 Improving weather and climate services in the polar regions, Jørn Kristiansen, the World Weather Research Programme's Polar Coupled Analysis and Prediction for Services (PCAPS)
- 11:40 Need for a coordinated program on the Greenland Ice Sheet in the next IPY, Angelika Humbert, AWI

Discussion & reflections

12:20 Lunch

13:20 Roundtables' reports Renuka Badhe

13:20 Table-1 Arctic Sea ice and Greenland Ice Sheet, Petteri Uotila & Angelika Humbert

13:30 Table-2 Short-lived climate forcers (SLCFs), Heikki Lihavainen & Yubao Qui

13:40 Table-3 Interplay between Arctic mesoscale processes and the coupled climate system, Timo Vihma & Dorotea Iovino

13:50 Table-4 Climate interventions, John Moore & Marc Macias-Fauria

14:00 Table-5 How to improve regular vertical sampling in the Arctic (PACES), Steve Arnold & Kathy

14:10 Table-6 The role of Co-Production, local societies, Cana Itchuaqiyaq & Hanna Snellman

14:20 Table-7 Pan-Arctic Science Collaboration, Jennifer Spence & Kamrul Hossain

14:30 Table-8 Data-sharing, AI, Pier Luigi Buttigieg & Jørn Kristiansen

Discussion & reflections

15:00 Conclusions and next steps

Tuukka Petäjä and Hanna Lappalainen, University of Helsinki

15:30 The end of the AASCO 2025 event









