



Arctic Observing Summit 2024 Program overview

Day 1: Wednesday, March 27		
Time		
8:00	Registration	
9:00	Plenary: Welcome to the Arctic Observing Summit	<i>South Hall</i>
9:30	Plenary: Panel discussion on Equity in Arctic Observing	<i>South Hall</i>
10:30	Coffee	
11:00	Working group sessions (1.5 hours)	
	WG 1: Local to Global Observing	Local to Global Observing <i>St Trinnean's (St Leonards)</i>
	WG 2: Data Sharing	Indigenous Data Sovereignty Part 1: Capacity Sharing <i>Nelson (St Leonards)</i>
	WG 3: System Implementation	Societal benefits and impacts of Arctic observing and data systems <i>Prestonfield (JMCC)</i>
	WG 4: Observing System Benefits	Arctic Shipping & Monitoring and Predicting Health Concerns <i>Salisbury (JMCC)</i>
12:30	Lunch	
13:30	Breakout Sessions (2.5 hours)	
	The use of low-cost and open-source technologies in community-based monitoring approaches: emerging areas, scaling, and training requirements.	<i>St Trinnean's (St Leonards)</i>
	Toward equitable Arctic Observing Systems – tracking human well-being and advancing environmental observations through societal and intersectional lenses	<i>Prestonfield (JMCC)</i>
16:00	Coffee AOS Organizing committee and chairs meeting	
16:30	Poster session and reception Reception starts 17:00	<i>Kirkland</i>



Day 2: Thursday, March 28		
Time		
8:00	Registration	
9:00	Plenary: Day 1 recommendation summaries, reporting strategy <i>South Hall</i>	
10:00	Plenary: Keynote presentation on wildfire observing needs identified during the SAON ROADS Expert Panel process <i>South Hall</i>	
10:30	Coffee	
11:00	Working group sessions (1.5 hours)	
	WG 1: Local to Global Observing	Introductions and Introduction to Circumpolar Biodiversity Monitoring Program Coastal efforts <i>St Trinnean's (St Leonards)</i>
	WG 2: Data Sharing	Indigenous Data Sovereignty Part 2: Technical Capacities <i>Nelson (St Leonards)</i>
	WG 3: System Implementation	Mock Phase II case example on salmon <i>Prestonfield (JMCC)</i>
	WG 4: Observing System Benefits	Data Products, Local Observation, Policy and Communication <i>Salisbury (JMCC)</i>
12:30	Lunch	
13:30	Breakout sessions (2 hours)	
	Guiding Observing Network and Data System Development with Societal Impact Approaches: A Dialog Toward Establishing an Arctic Community of Practice	<i>St Trinnean's (St Leonards)</i>
	Co-designing a pan-Arctic ocean observing alliance	<i>Nelson (St Leonards)</i>
	Making an inclusive and holistic Arctic Observing system through inclusion of diverse knowledge systems - how to progress?	<i>Prestonfield (JMCC)</i>
15:30	Coffee AOS Organizing committee and chairs meeting	



16:00	Breakout sessions (2 hours)	
	Guiding Observing Network and Data System Development with Societal Impact Approaches: A Dialog Toward Establishing an Arctic Community of Practice	<i>St Trinnean's (St Leonards)</i>
	Co-designing a pan-Arctic ocean observing alliance	<i>Nelson (St Leonards)</i>
	Understanding the value of capacity sharing in Arctic research: Progress, lessons learned, and next steps from the AOS Capacity Sharing Working Group	<i>Prestonfield (JMCC)</i>

Day 3: Friday, March 29			
Time			
8:00	Registration		
9:00	Working group sessions (1.5 hours)		
	WG 1: Local to Global Observing	The strengths of Indigenous knowledge and subsistence practices for coastal observing and monitoring; equitable and ethical engagement of Indigenous Peoples	<i>Pentland West (JMCC)</i>
	WG 2: Data Sharing and WG 3: System Implementation	SAV Integration into Existing Data Systems/ Networks	<i>Salisbury (JMCC)</i>
	WG 3: System Implementation	Evaluating societal benefit assessments: salmon societal benefit under the framework of the Inupiaq Ilitqusait	<i>Prestonfield (JMCC)</i>
	WG 4: Observing System Benefits	Remote Sensing and Observing Assets	<i>Pentland East (JMCC)</i>
10:30	Coffee		
11:00	Working group sessions (1.5 hours)		
	WG 1: Local to Global Observing	Connecting local-scale monitoring to wide-scale policy, governance, and conservation outcomes	<i>Pentland West (JMCC)</i>
	WG 2: Data Sharing	Data Interoperability	<i>Salisbury (JMCC)</i>



	WG 3: System Implementation	Developing recommendations	<i>Prestonfield (JMCC)</i>
	WG 4: Observing System Benefits	Discussion and development of recommendations	<i>Pentland East (JMCC)</i>
12:30	Lunch		
13:30	Breakout Sessions (2 hours)		
	Supporting coordination and engagement of Indigenous-led and community-based monitoring programs in the Arctic		Pentland West (JMCC)
	Launch of the EUPolarnet2 White Paper with recommendations to accelerate the development of a sustained and fully integrated Polar observing system		Pentland East (JMCC)
	Wildfire Shared Arctic Variable proposal Ignition identification		Prestonfield (JMCC)
15:30	Coffee AOS Organizing committee and chairs meeting		
16:00	Plenary: Handover ceremony (15 min) Meeting conclusions and recommendations (1.75 hr)	<i>South Hall</i>	
18:00	<i>Meeting concludes</i>		

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Plenary descriptions

Equity in Arctic Observing: Identify Systemic Hurdles and Approaches to Achieving Equity in International Arctic Observing Efforts

Conveners: An T. Nguyen (co-lead), Kiki Schulz (EC, co-lead), Hajo Eicken (co-lead)

Keynote speakers and panelists:

- (1) Dr. Cana Itchuaqiyak - <https://www.itchuaqiyaq.com/>, <https://respectfulresearch.com/>
- (2) Dr. Renuka Badhe, European Polar Board, <https://www.europeanpolarboard.org/about-us/secretariat/>
- (3) Dr. Camilla Brattland, UiT The Arctic University of Norway, https://en.uit.no/ansatte/person?p_document_id=93823 Co-

Moderator: Michael Karcher, Alfred Wegener Institute

Session description, including major goals and discussion questions

<https://arcticobservingsummit.org/summits/aos-2024/>
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As recognized by the SAON Roadmap for Arctic Observing and Data Systems (ROADS), “Indigenous Peoples’ equitable partnership and funding for their active participation is critical to ROADS”. In this plenary session, we will hear voices of experts in the equitable engagement of Indigenous communities, and inclusive and decolonialized science to learn about relevant concepts of and experiences with equity in Arctic observing. Our goal is to raise awareness about this sensible topic, provide orientation about common caveats and existing resources, and to facilitate the community’s effort to achieve greater equity. In particular, we will explore approaches or resources for the observing and research community to familiarize themselves with equity issues in preparation for observing program design and implementation. Other questions to explore, including discussion in the plenary, may include the following:

- How to start, maintain and sustain dialogues around equity in Arctic observing;
- How to tap into existing infrastructure and synthesized community input;
- How to ensure equity at all stages of organization and execution of Arctic observing (design, planning, carrying out, post, distillation of knowledge, data), e.g., addressing Indigenous and international communities’ needs, co-producing, co-funding;
- How to address intergenerational equity;
- How to ensure clear and consistent communication with Indigenous and Arctic community members.

Three AOS Brief Statements focused on equity in Arctic observing and related to this session have been submitted to help foster conversations at the summit: [Equity in Arctic observing](#), [Evaluating equity in Arctic observing in practice](#), and [Substantive training in Indigenous history and engagement is a necessary step towards equity in Arctic Observing](#)

Wildfire observing needs

The SAON ROADS process, a product of prior Arctic Observing Summits, is being piloted by several expert panels, each with a different thematic focus. The Wildfire theme has been initially led by a Finnish team, bringing together Indigenous knowledge holders, community response and decision makers, scientists, and operational experts to identify the observation needs where coordination and information sharing would provide the most benefit. Ignition identification has emerged from this process as a proposed Shared Arctic Variable.



Working Group Descriptions

Working Group 1: Local to Global Observing

Chairs: Lauren Divine, Rowenna Gryba, Victoria Qutuuq Buschman, Mathew Avarachen

Working Group Description:

Given the rising interest in the utilization of Indigenous knowledge in global observing and monitoring activities, the Local to Global Working Group will focus on the role of Indigenous knowledge, community-based monitoring, and the co-production of knowledge, through a special focus on the Arctic Council’s Conservation of Arctic Flora and Fauna (CAFF) Circumpolar Biodiversity Monitoring Programme (CBMP). In part, we will explore how we can bring Indigenous knowledge and engagement from the local and regional scales through, and into, the policy and conservation outcomes realized at the global scale. Additionally, a consideration of the values, goals, and approaches for partnering science and Indigenous knowledge for application in real-world monitoring and decision making will benefit monitoring systems beyond those specifically explored in this working group. This working group was convened by representatives from the Inuit Circumpolar Council, the Aleut International Association, and the CAFF Kingdom of Denmark Chairship.

Working Group Focal Topics

- Topic 1:** ***On the Ground:*** the strengths of Indigenous Knowledge and Subsistence Practices for Coastal Monitoring
- Topic 2:** ***In the Community:*** the Equitable and Ethical Engagement of Indigenous Peoples (co-production of knowledge, data sovereignty, ...)
- Topic 3:** ***In Our Networks:*** Community Networks and Co-Production of Knowledge for Coastal Monitoring
- Topic 4:** ***In Our Platforms:*** Connecting Local-Scale Monitoring to Wide-Scale Policy, Governance, and Conservation Outcomes

Session agenda Day 1:

Topic	Description	Leads	Time slot (GMT +1)
WG1: Grounding and Introduction	Round robin room introductions (30 min)	Lauren Divine, Rowenna	Day 1 March 27: 11:00am - 12:00pm



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	<p>Introduction to Circumpolar Biodiversity Monitoring Program (CBMP) Coastal - international level (30 min broken down below)</p> <ol style="list-style-type: none"> 1. General CBMP background and overview (15 min) 2. Coastal CBMP (including introduction to Indigenous engagement, community-based monitoring, co-production of knowledge (15 min) 	Gryba	
Open discussion	(room for expanded introductions), joint intent for meeting, areas of interest, reflections on importance, focus on terms to reach common understanding, who has the mandate, what does "community-based" mean (focus on geographic scale of community)?	Lauren Divine, Rowenna Gryba	Day 1 March 27: 12:00pm -12:30pm

Session agenda Day 2:

Topic	Description	Leads	Time slot (GMT +1)
WG1: Topic 1 – <i>On the Ground:</i>	The strengths of Indigenous knowledge and subsistence practices for coastal observing and monitoring	Lauren Divine, Rowenna Gryba	Day 2 March 28: 11:00am - 12:30pm
WG1: Topic 2 – <i>In the Community:</i>	The equitable and ethical engagement of Indigenous Peoples	Lauren Divine, Rowenna Gryba	

Session agenda Day 3:

Topic	Description	Leads	Time slot (GMT +1)
WG1: Topic 3 – <i>In Our Networks:</i>	Community networks and co-production of knowledge for coastal observing and monitoring	Lauren Divine, Rowenna Gryba	Day 3 March 29: 9:00am - 10:00am



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WG1: Topic 4 - <i>In Our Platforms:</i>	Connecting local-scale monitoring to wide-scale policy, governance, and conservation outcomes (Coffee break as needed)	Lauren Divine, Rowenna Gryba	Day 3 March 29: 10:00am -11:00am
Continued WG1: Topic 4 - <i>In Our Platforms:</i>	Connecting local-scale monitoring to wide-scale policy, governance, and conservation outcomes WG1: Discussion: Come to Consensus on Conclusions; Group Drafting of Statement/ WG1 Summary	Lauren Divine, Rowenna Gryba	Day 3 March 29: 11:00am -12:30pm
Coffee & Drafting Recommendations	Come to Consensus on Conclusions; Group Drafting of Statement/ WG1 Summary	Lauren Divine, Rowenna Gryba	Day 3 March 29: 13:30pm -16:00pm

WG1 Suggested Pre-reading:

- CAFF (2019). Arctic Coastal Biodiversity Monitoring Plan. Conservation of Arctic Flora and Fauna International Secretariat: Akureyri, Iceland. ISBN 978-9935-431-76-9
<https://oaarchive.arctic-council.org/items/149b4b62-c16b-4c04-b5b7-291e324982f4>
- Inuit Circumpolar Council. 2022. Circumpolar Inuit Protocols for Equitable and Ethical Engagement.
<https://www.inuitcircumpolar.com/project/circumpolar-inuit-protocols-for-equitable-and-ethical-engagement/>
- Ellam Yua, J. Raymond-Yakoubian, R.A. Daniel, and C. Behe. 2022. "A framework for co-production of knowledge in the context of Arctic research." Ecology and Society, 27(1), 34. <https://ecologyandsociety.org/vol27/iss1/art34/>



Working group 2: Data Sharing

Chairs: Chantelle Verhey, Øystein Godøy, Jan Rene Larson, Kabir Rasouli, Noor Johnson, Joshua Brown, Hannah-Marie Garcia, Bruce Robson, Vanessa Raymond, Alexandra Ravelo, Natasha Haycock-Chavez

Data Sharing Description:

Building on previous Arctic Observing Summit (AOS) efforts, the objectives of the Data Sharing Working Group are to:

- Identify existing and new issues in sharing data.
- Address the issue to bring Arctic data into action at multiple levels of decision-making (i.e., local and community scales to international scales)
- Support various communities within and beyond the Arctic.

This working group intends to look at data sharing through the lens of relationships between Indigenous data sovereignty and knowledge mobilization. Another important aspect of data sharing is moving towards actionable data beyond the discovery metadata level. Actionable data refers to data that can be used or interoperated to inform decision-making at multiple levels and take action, while discovery meta-data refers to data that describes data. By providing advice on how the Shared Arctic Variables related to wildfire and permafrost can be integrated into existing data systems and by looking at data sharing through the lens of Indigenous data sovereignty, the Data Sharing Working Group will discuss the challenges of the observing programs in producing actionable data that is relevant and useful to Indigenous Peoples, organizations, and communities as well as other entities at local and regional scales. The group will also discuss how these programs should be designed and how data can be shared in ways that generate meaningful action with collaborating organizations, support Indigenous data governance and reflect Indigenous priorities.

Data Sharing Session agenda:

- To learn more about each session, please feel free to visit the links in the topic column

The me	Topic	Description	Leads	Time slot (GMT +1)
1.1	Indigenous Data Sovereignty Part 1: Capacity Sharing	Indigenous Data Sovereignty (IDS) speaks to the right of Indigenous knowledge holders, communities, and nations to determine Indigenous data usage, sharing, and storage. This session will begin with a panel discussion followed by group discussion with all participants focusing on the	Natasha Haycock-Chavez (ELOKA), Joshua Brown (ELOKA), Hannah-Marie Garcia (ISN)	Day 1 March 27: 11:00am - 12:30pm

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		relationship between Indigenous data sovereignty and Arctic observing.		
Panelists for Theme 1.1: Hannah-Marie, Indigenous Sentinels Network (ISN); Roberta Glenn, Alaska Arctic Observatory and Knowledge Hub (AAOKH); Cana Itchuaqiyak, Professor, Virginia Tech; Camilla Brattland				
1.2	Indigenous Data Sovereignty Part 2: Technical Capacities	Following the general discussion in part I about Indigenous Data Sovereignty (IDS), in this session we will discuss technical capacities and requirements for implementing data sovereignty in data-sharing networks and systems as part of Arctic observing.	Hannah-Marie Garcia (ISN), Bruce Robson (ISN), Noor Johnson (ELOKA)	Day 2 March 28: 11:00am -12:30pm
Panelists for Theme 1.2: Peter Pulsifer, GCRC (virtual); Bruce Robson, ISN (virtual); Sophie Crump, SIKU; Vanessa Raymond				
2	SAV Integration into Existing Data Systems/ Networks	SAV Evaluation and Integration of Data into Existing Data Systems/ Networks: Dialogue on how to evaluate societal benefit and impact assessments based phase II of the mock salmon example and a real example on wildfire. Formulate advice on how the data flows from SAVs should be documented, evaluated and integrated into existing data systems.	Jan Rene Larsen, Ilkka Matero, SAV team, All	Day 3 March 29: 9:00am -10:30am Salisbury Room
3	Data Interoperability	The intention is to explore possibilities leading to more efficient and consistent interpretation and reuse of data, not to define only one way of achieving this.	Øystein Godøy, Chantelle Verhey, Kabir Rasouli	Day 3 March 29: 11:00am - 12:30pm Salisbury Room

Data Sharing Pre-Reading list for Theme 1.1:

- Watch the last Keynote that the Collaboratory for Indigenous Data governance group gave (on youtube): <https://www.youtube.com/watch?v=ooMGRj3bFY4>
- Operationalizing the CARE and FAIR Principles for Indigenous data futures <https://www.nature.com/articles/s41597-021-00892-0>

Data Sharing Pre-Reading list for Theme 2:

- 2-pager on the ROADS process: https://drive.google.com/file/d/15oeYsMP5rR-072mHAvUewkanTC8Alr_O/view?pli=1
- 1-pager on the SAVs: <https://drive.google.com/file/d/1iAVkDGjnM-X4i4E5T-9zBezZE0ltMasR/view>

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- Starkweather et al: The ROADS process (longer journal article): <https://journalhosting.ucalgary.ca/index.php/arctic/article/view/74330>

Data Sharing Related Short Statements AOS 2024

- (short statement) [Observations Of Energy Infrastructure and Operationalizing CARE](#)
- (poster) DALAM: Thematic Network on Decolonization of Arctic Library and Archives Metadata
- (poster) The US Arctic Observing Viewer: A Tool for Data Discovery, Visualization, Strategic Planning, and Decision Support
- (poster) A Collaborative Approach to Designing an Information Portal for Northern Salmon

Working group 3: System Implementation and SAON ROADS

Chairs: Margaret Rudolf, Michael Karcher, Christina Goethel, Ilkka Matero, Casey Brayton

WG 3: System Implementation will focus on SAON's Arctic ROADS in developing an expert panel process for co-defining observables to meet the needs of Arctic Indigenous communities. Specifically, the group will focus on Phase II of the Arctic ROADS process: defining and assessing impactful observables. This phase is developing the "why" and context of forming an Expert Panel. Central to the dialogue is a mock Phase II case example on salmon, specifically focusing on balancing scientific and Indigenous perspectives on societal benefit and impact. Followed by a discussion on evaluating the potential outcomes. The objective of WG3 is to develop a set of recommendations for the methods, guidelines, and evaluation for the Phase II process.

Wednesday's session will discuss assessing the societal benefits and impacts of Arctic observing and data systems, in general, to open up dialogue.

Theme	Topic	Description	Leads	Time slot (GMT +1)
WG3: Theme 1	Societal benefits and impacts of Arctic observing and data systems	Introduction to WG3 topic on societal benefit and impact assessments of Arctic observing Systems	Casey Brayton	Day 1 March 27: 11:00am - 12:30pm
2	Mock societal benefit assessment of a salmon expert panel	Walking through designing a societal benefit and impact of a salmon observing system towards impacting policy and decision-making for the North Pacific	Margaret Rudolf, Harmony Wayner, and Jamie O'Connor	Day 2 March 28: 11:00am -12:30pm

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3	SAV Evaluation and Integration of Data into Existing Data Systems/ Network	Dialogue on how to evaluate societal benefit and impact assessments based phase II of the mock salmon example and a real example on wildfire. Formulate advice on how the data flows from SAVs should be documented, evaluated and integrated into existing data systems.	Jan Rene Larsen, Ilkka Matero	Day 3 March 29: 9:00am -10:30am Salisbury Room
3	Evaluating societal benefit and impact assessments	Dialogue on how to evaluate (peer and merit review) of societal benefit and impact assessments - based on the mock salmon example and real example on wildfire	Casey Breyton and Margaret Rudolf	Day 3 March 29: 9:00am -10:30am Prestonfield room
4	Developing recommendations	Developing next step plans for this work	Christina Goethel and Michael Karcher	Day 3 March 29: 11:00am - 12:30pm Prestonfield room

Pre-reads:

- 2-pager on the ROADS process: https://drive.google.com/file/d/177mOBz7fTRrie_C2zDrTlkU2gdy7Wh0V/view?usp=sharing

Pre-reads for Theme 2:

- Short videos on Alaska fisheries science & policy, Alaska Native fishing rights, and equity & well being in fisheries. <https://www.youtube.com/@CoastalCulturesResearch>
- Donkersloot et al. (2020) Assessing the sustainability and equity of Alaska salmon fisheries through a well-being framework. <https://ecologyandsociety.org/vol25/iss2/art18/> (the referenced framework in dialogue)

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Working group 4: Observing for Adaptation and Benefit

Chairs: Maribeth Murray, Ravi Sankar, Talia Wells, Nicholas Parlato, Harmony Wayner

The Observing System Benefits WG has several objectives for AOS 2024 that build on the outcomes from AOS 2022. Those outcomes included identification of: 1) needed observational information to support the development of sustainable infrastructure in a changing permafrost environment; 2) needed observations to support the transition to renewable, affordable energy systems across the Arctic; 3) improving access to and understanding and utilization of earth observation data to support safe transportation, fire management, and Indigenous land management and co-management; and 4) ways to advance the application of unique observing tools (i.e., genomics) to support biodiversity monitoring, conservation and Indigenous food sovereignty. Objectives for AOS 2024 involve using a case study approach to jointly identify priority actions that will move forward use of observational information for broad benefit and the development of solutions to real world problems including achieving environmental justice. There remain legal, political, and economic barriers to fully realizing observing system benefits but with a diverse array of experts and organizations at the table, WG 4 strives to determine where and how benefits can be achieved on short, medium and long-term scales and by leveraging ongoing and existing efforts within the Arctic observing space.

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Breakout Session Descriptions

The use of low-cost and open-source technologies in community-based monitoring approaches: emerging areas, scaling, and training requirements.

Howard Epstein (University of Virginia), Louise Mercer (Northumbria University), Casey Brayton (Columbia University)

Email contacts: hee2b@virginia.edu, louise.mercer@northumbria.ac.uk, cbrayton@ldeo.columbia.edu

The Arctic is experiencing rapid climate-driven environmental change, increasing the need for baseline data collection to monitor change. Community-based monitoring (CBM) offers the opportunity to expand environmental data collection over greater temporal and spatial scales while increasing inclusivity of Arctic research approaches. This session will explore the potential for low-cost and open source technologies to aid data collection in areas of emerging research, including infrastructure development (e.g. relocation/managed retreat from erosion and storm recovery) and changes to the marine environment. We will discuss what appropriate data collection methods look like with regard to feasibility and collaboration across cultural, country, and disciplinary boundaries. We will highlight the value of interdisciplinary approaches to environmental CBM which can support the progression towards more inclusive research processes. We will identify what support is required for researchers looking to utilise these approaches. Focus will be placed on identifying needs for key roles within interdisciplinary teams including Early Career Researchers, project leaders, and Indigenous team members.

Pre-reading:

Towards more inclusive and solution orientated community-based environmental monitoring:

<https://iopscience.iop.org/article/10.1088/1748-9326/accfb0>

Ensuring continuity and impact in Arctic monitoring: a solution-orientated model for community-based environmental research:

<https://iopscience.iop.org/article/10.1088/2752-664X/ad0241>

Connecting community-based monitoring to Arctic environmental decision-making and governance: A systematic scoping review of the literature:

<https://cdnsiencepub.com/doi/full/10.1139/AS-2023-0034>

Nunaaqqit Savaqatig ivlugich—working with communities: evolving collaborations around an Alaska Arctic observatory and knowledge

hub:<https://cdnsiencepub.com/doi/full/10.1139/as-2022-0044>

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Toward equitable Arctic Observing Systems – tracking human well-being and advancing environmental observations through societal and intersectional lenses

Convenors (alphabetical): Gertrude Saxinger (IASSA WG on Gender Equality in the Arctic & University of Vienna), Joachim Otto Habeck (IASSA WG on Gender Equality in the Arctic & University of Hamburg), Malgorzata Smieszek (UiT The Arctic University of Norway & Women of the Arctic), Michael Karcher (AWI), Renuka Badhe (WiPS), Tahnee Prior (Women of the Arctic)

Contact Person: Tahnee Prior, tahnee@genderisnotplanb.com & info@genderisnotplanb.com

Arctic communities experience profound environmental, socio-economic and cultural changes that put their well-being and adaptability to the test. Attempts of tracking well-being through a set of robust social indicators aim at being a fundamental part of social monitoring along with biophysical indicators of ecosystem health (Larsen et al. 2014). However, there is currently no integrated, cross-regional, long-term monitoring and indicator system in place for the Arctic. Benefits of large-scale and integrated pan-Arctic observation attempts are still not entirely clear. Simultaneously, the efforts aimed at bringing about such a system raise fundamental questions of what is to be observed, monitored, and measured? Who decides on these issues? What are the methods, and what are their ethical ramifications? How to collect data in ways that account for local knowledge and needs? How can we ensure that the resultant tracking system is equitable in an intersectional sense and addresses rights of Arctic peoples and the users of such a system? Those questions also pertain to environmental observations of Arctic change and recent efforts toward more diverse inclusive, gender-sensitive and intersectional approaches into Arctic observing systems.

Speakers:

- Arja Rautio, University of Oulu
- Gertrude Saxinger, University of Vienna
- Harmony Jade Sugaq Wayner, International Arctic Research Center
- Joachim Otto Habeck, University of Vienna
- Stanislav Ksemonotov, University of Northern Iowa

Website: <https://www.genderisnotplanb.com/edinburgh-2024>

<https://arcticobservingsummit.org/summits/aos-2024/>

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Guiding Observing Network and Data System Development with Societal Impact Approaches: A Dialog Toward Establishing an Arctic Community of Practice

March 28, 2024 - 13:30-17:30 GMT

Conveners: Sandy Starkweather, Vanessa Raymond, Susa Garlter

Session description

Creating ethical, equitable, and impactful connections between researchers from 'Western' traditions and Indigenous communities has been a long-standing focus within the Arctic Observing Summit, even as researchers and funding agencies have put an increased emphasis on research with tangible benefits to communities and other regional and global actors engaged in decision-making. Increasingly, traditional science projects and funders aim to center societal benefits, while community-centered work emphasizes building and maintaining meaningful relationships. Engaging with Indigenous communities through societal impact evaluation is one path toward achieving these diverse objectives in observing and data system design.

The goal of this session is to explore the diverse practices of societal impact approaches (inclusive of benefit, risk, resilience or causality-oriented framings) in guiding observing and data system planning and development and to identify actionable areas where greater work is needed or where practices can converge to achieve broader goals. In particular, the discussion will highlight opportunities to achieve greater equity for Indigenous-led work using these approaches, as reflected in recommendations from the AOS 2022 Food Security Working Group report. This includes reflecting on how these practices are in conversation with Indigenous data sovereignty considerations encapsulated in the CARE principles such as collective benefit, ethics, and responsibility concerns related to research, observations, and data governance.

A [short statement](#) with the same title has been submitted to support the rationale for this session, for which a very high-level summary is provided below.

1–3 goals for the session

- To bring together diverse practitioners of societal impact evaluation to exchange perspectives, approaches, tools, and findings and how they can be used to shape observing networks and data systems in support of societal benefit in the north.
- To build connections and focal points to initiate an Arctic impacts evaluation community of practice in support of SAON ROADS and other efforts; we recommend that the outcomes from this session should feed into a white paper to support this outcome.

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- To provide recommendations to Expert Panels engaged in Phase II of the SAON ROADS process and the members of the ROADS Advisory Panel on how to evaluate the results of Phase II of the ROADS process.

Agenda

Part I - 13:30 to 15:30

13:30 - 13:45 Welcome and around the room introductions with positionality (Gartler)

13:45 - 13:50 Quiet reflection** - What did you learn about positionality? How do you think it might be relevant to this session? ****NOTE: There will be a shared document for any quiet reflections that are voluntarily shared.**

13:50 - 13:55 Review of the agenda and session goals (Starkweather)

13:55 - 14:05 Progress on this topic under WG3 at AOS, relationship to SAON ROADS (Rudolf)

14:05 - 14:15 Read out from the Well-being/Indicators session and common objectives (Prior)

14:15 - 14:25 Overview of the short statement, including key terminology (Raymond)

14:25 - 15:00 Examples of Frameworks

- Nunataryuk Risk Framework & Applications (Gartler, 8 min)
- Salmon Well-being Framework & potential use in SAON ROADS (TBD/Wayner, 8 min)
- SAON-STPI Framework & Application through US AON (Starkweather or other, 8 min)
- Iñupiat Ilitqusiak (Cultural Values) (Margaret, 8 min)

15:00-15:05 Quiet reflection** - What other frameworks have you encountered and how are they applied in things that you're engaged in?

15:05 - 15:15 - Q&A about Part I

15:15 - 15:30 Set up breakout discussions, Q&A

15:30-16:00 Coffee Break

Part II - 16:00 to 17:30

16:00 - 16:25 Breakout Topic A, Reflections on Building Framework
Improv exercise with time for reflection

16:25 - 16:50 Breakout Topic B, Reflections on Applying Frameworks
Hands-on exercise with time for reflection

16:50 - 17:05 Report backs (All)

17:05 - 17:25 Discussion (Hazel)

- What might a Community of Practice on impact assessment lend to the AOS, SAON, ROADS and other efforts? (Hazel) Would you be interested in participating in a peer-reviewed article to capture good methods and practices?
- What recommendations would you make to the SAON Arctic ROADS Advisory Panel about Phase II of the ROADS process? Also, input to WG3. (Margaret)

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Co-designing a pan-Arctic ocean observing alliance

Convened by the Task team to advance the development of pan-Arctic ocean observing alliance

Session description

This session will advance discussions on the developing process to develop an Arctic-wide ocean observing system, such as a GOOS Regional Alliance (GRA). Following a roundtable meeting at ASSW 2023 in Vienna, an international task team was formed to develop this process, and work towards a co-design stage for a pan-Arctic ocean observing alliance. This session aims to: (1) Develop and articulate an understanding of the benefits an Arctic GRA would provide to Arctic rights holders and stakeholders, and (2) Review and refine challenges and opportunities associated with advancing a pan-Arctic ocean observing alliance.

The session is planned to consist of an opening presentation to provide context and overview of the current initiative advancing a process towards a pan-Arctic ocean observing alliance. A panel will discuss Arctic ocean observing in the context of global and large-scale regional initiatives. This will be followed by a panel focused on the rights, needs and contributions of Arctic communities in relation to ocean observing.

Each panel will be followed by guided discussions among participants, focused on the strengths, weaknesses, opportunities and threats (SWOT analysis) of a future pan-Arctic ocean observing alliance, and propose concrete actions to advance the process towards co-design of a pan-Arctic ocean observing alliance that can meet the needs of users throughout the Arctic and beyond. The session outcomes will be prepared in a report including concrete actions to be taken forward by the existing task team.

To indicate your interest in this session, please complete the form [here](#). This is not a mandatory registration, but will aid with planning. The session is open to all AOS 2024 participants.

Goals of the session: (1) Review and refine challenges and opportunities associated with advancing a pan-Arctic ocean observing alliance, (2) Develop and articulate an understanding of the benefits a pan-Arctic ocean observing alliance would provide to rights holders and stakeholders.

Draft programme:

Item #	Time	Item/topic
Session 1 (13:30-15:30)		
1.1	13:30-13:45	Opening:

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		Why a pan-Arctic ocean observing alliance? Overview of session goals. Presentation of existing SWOT analysis
1.2	13:45-14:00	Presentation of currently proposed process towards a pan-Arctic ocean observing alliance
1.3	14:00-15:00	Panel 1: Arctic ocean observing: global context and large-scale regional initiatives
1.4	15:00-15:30	Group discussion
<i>Break (15:30-16:00)</i>		
Session 2 (16:00-18:00)		
2.1	16:00-16:10	Summary of session 1
2.2	16:10-17:10	Panel 2: Ocean observing: The rights, needs and contributions of Arctic communities
2.3	17:10-17:45	Group discussion
2.4	17:45-18:00	Next steps and wrap up
<i>End of meeting (18:00)</i>		

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Making an inclusive and holistic Arctic Observing system through inclusion of diverse knowledge systems - how to progress?

Convenors (alphabetical): Arild Sundfjord (NPI, Arctic PASSION), Lauren Divine (Tribal Government of St. Paul Island, AIA, SAON ROADS), Margareta Johansson (Univ Lund, INTERACT, Arctic PASSION), Maribeth Murray (AINA, CCADI, Arctic PASSION), Michael Karcher (AWI, Arctic PASSION), Tero Mustonen (Snowchange, Arctic PASSION), Jeremy Wilkinson (BAS, Arctic PASSION)

Our understanding of the Arctic System comes in many forms, from deep and diverse knowledge passed on through generations to dedicated scientific measurements and data collection efforts. To co-create an inclusive pan-Arctic observing system that meets the needs of the people living and working in the Arctic including those involved in science and governance, we must increase the scope and scale of the information we gather to understand the current state and future development/trajectory of the entire social-ecological system.

In a fully functioning observing system, the whole should be greater than the sum of its parts. To achieve this we need to be inclusive of consented Indigenous, traditional and local knowledge (ITLK) as well as scientific understanding. In recent years, several programmes and initiatives have been actively working on developing pathways toward a more inclusive and better coordinated Arctic Observing System. While this ambition includes the technical and governance domains, it is also clear that an impactful observing system must also be inclusive of the wealth of ITLK that exists in the Arctic.

Following a sequence of short presentations from the panelists who represent different approaches to observation, this session includes a panel discussion and an open floor discussion.

Goals for the session:

- Learn of the status of ongoing initiatives and programs for an integrated/inclusive observing system and/or its components
- Discuss and identify ways forward to co-create an observing system that includes different knowledge systems such as ITLK and science
- Discuss and identify steps to ensure the Arctic Observing System is holistic in its approach going forward

Panelists:

- Hannah-Marie Garcia (Indig. Sent. Network):
 - 'Empowering Indigenous-Led environmental monitoring and Collaboration'
- Camilla Brattland (UiT):
 - 'Transforming local and traditional knowledge into usable data. Challenges and solutions from work with coastal and Sami communities in Norway'
- Rowenna Gryba (ICC, UBC):

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- 'Co-creating species habitat models with Indigenous Knowledge and statistics'
- Bruce Forbes (U Lapland):
 - 'Arctic Observing during rapid climate and land use change in Arctic social-ecological systems: An emphasis on Northwest Eurasia'

Understanding the value of capacity sharing in Arctic research: Progress, lessons learned, and next steps from the AOS Capacity Sharing Working Group

Louise Mercer (Northumbria University), Lisa Grosfeld (AWI, Arctic PASSION)

Contact: louise.mercer@northumbria.ac.uk

Arctic research is moving towards being application-oriented and based on the needs of those directly facing the impacts of accelerating change in the Arctic. Capacity sharing is a two-way knowledge exchange process developed on the basis of reciprocity, communication and collaboration. It can exist in a variety of contexts including the spheres of intercultural collaboration and the science-policy interface. The creation of the Capacity Sharing Working Group at the AOS 2022 was an important initiative, reflecting the need for cross-cutting attention on this topic. During this session we will discuss Working Group progress since the last AOS and talk about recommendations and next steps moving forward.

Our goals address progress addressing recommendations from the AOS 2022:

1. Creating spaces to improve our understanding of what capacity sharing means and its valuable contribution to research processes.
2. Increase connection and support bridging processes between early career researchers and Arctic youth.
3. Develop a "resource hub" of relevant trainings, videos and reports.

Pre-reading:

- Shifting from capacity building to capacity sharing in Arctic research: Considering transformative shifts in collaborative research at the ArcticNet Annual Scientific Meeting: <https://doi.org/10.1080/2154896X.2023.2205248>
- Arctic Observing Summit 2022- Key themes and Recommendations from Working Group 6: Capacity Sharing: https://arcticobservingsummit.org/wp-content/uploads/2022/08/AOS_2022_Conference_Statement.pdf
- APECS & Arctic PASSION Sharing Circle event website: <https://arcticpassion.eu/sharingcircle/>

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Supporting coordination and engagement of Indigenous-led and community-based monitoring programs in the Arctic

Chairs: Natasha Haycock-Chavez, Alex Ravelo, Noor Johnson, Lauren Divine, Emma Harrison, Lauren Clavelle, Melissa Van Veen

Documenting and sharing Indigenous and local observations of a changing Arctic is important for decision-making and policy, transmission of Indigenous Knowledge, research, and community safety. With increased pressures from climate change, it is especially important to center Indigenous and local communities in discussions surrounding policy and decision making, and to include data and knowledge from community observations in these decisions. Organized by five programs focused on documenting and sharing observations and cultural knowledge in the Arctic, this session will provide a space for increased coordination across Indigenous-led and community-based monitoring (CBM) and observing programs. During this session, we will discuss priorities and practices for increased coordination, including potentials for cross-training and data management and sharing. We will consider how shared practices can support connections across CBM programs that can contribute to sustained Arctic observing systems. We will share how programs promote and represent expertise and knowledge within their program and to broader audiences, and will consider ways to enhance equity in program representation. A final topic of discussion will be priorities for enhancing uses of CBM data locally and regionally.

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Launch of the EU-PolarNet2 White Paper with recommendations to accelerate the development of a sustained and fully integrated Polar observing system

Chairs: Gael Lymer (glymer@naturalsciences.be), RBINS; Pjotr Elshout, EPB

EU-PolarNet 2 (funded by the EU-H2020) aims to co-develop and advance the European polar research actions, and to give evidence-based advice to policy making processes. It is composed of 25 European Member States and Associated Countries with polar research expertise and infrastructures.

This session will support the launch of the EU-PolarNet2 White Paper with recommendations to accelerate the development of a sustained and integrated Polar observing system. The session will be used as a platform to discuss how to concretely activate the actionable recommendations from the White Paper and implement the observing system.

At the time of the AOS, the EU-PolarNet2 White Paper will be ready to be delivered to a wide range of international stakeholders, funding bodies and policy makers from outside and inside the EU, including the European Commission. The White Paper will include actionable recommendations collected from the polar research, observing and data communities to develop an observing system that will provide a coordinated system for continuous, standardized data and transnational Polar observation and research actions of high societal relevance.

The session will bring together and engage EU and non-EU participants in order to activate the recommendations and concretely initiate the development of the integrated Polar observing system. Discussion themes will include possible contributions and involvement of the Polar scientific communities, stakeholders, funding bodies, governments and policy makers into the development of the observing system. The discussions will also involve many aspects of the implementation of the system, including: international agreements, international collaboration, inclusion of local communities, governance, data, funding, organizational structure, services, societal applications, etc...

Pre-reading:

EU-PolarNet 2 Consortium D6.4, 2022, Minutes of a workshop with coordinators of European Polar observing systems <https://doi.org/10.5281/zenodo.7276187>

EU-PolarNet2 website: <https://eu-polarnet.eu/>

EU-PolarNet2 White Paper: D6.7 - White paper with recommendations to accelerate the development of a sustained and fully integrated Polar observing system - To be released in March 2024

Session agenda :

- Introduction of the session (5-10 mins)
- Series of short talks to introduce the white paper (15 mins / talk, 45 mins)

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- Gael Lymer, RBINS - White paper with recommendations for strengthening international polar observations
- Jan Rene Larsen, AMAP - Polar observation: observing requirements and ROADS principles
- Pjotr Elshout, EPB - The European Polar Coordination Office (EPCO) and its role in strengthening polar observations
- Discuss with the experts (45 mins)
 - William Harcourt, APECS / University of Aberdeen - Remote sensing & AI, Earth observation, Glaciology, Digital Twins, ECRs in polar science
 - Sian Henley, SOOS / University of Edinburgh - Antarctic and Southern Ocean ecosystems, Observing systems, Science-policy, public engagement
 - Michael Karcher, Arctic PASSION / AWI - Polar observation and societal needs, Observing systems, SAON
 - Lina Madaj, APECS / Vrije Universiteit Amsterdam - Cryosphere, Permafrost, ECRs in polar science
 - Sandra Starkweather, SAON / CIRES / NOAA - Polar observation and societal needs, Inclusive polar observation, Dialogue with indigenous communities
 - Chantelle Verhey, International Science Council, World Data System - Data-collection, Data-sharing, -harmonization, -standardization
 - Deniz Vural, APECS / University of Potsdam - Permafrost, Science Communication, Sustainability, ECRs in polar science
- Open Questions & Discussions with the audience (20 - 30 mins)

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Wildfire Shared Arctic Variable proposal Ignition Identification

The first SAV kicked off as a Finnish national project and expert panel, which went through 3 phases of workshops to produce a proposal of a wildfire SAV - Ignition identification.

This session will present the work performed and the proposal and discuss the mechanisms to implement it.

Contact person: Katriina Veijola (katriina.veijola@fmi.fi)

Session Agenda:

- Introduction of the session (5 mins)
- Presenting phases 1,2 and 3 including the experts attending the work 45 min (Katriina Veijola 45 mins)
- Presenting the proposal Ignition identification (Mikko Strahlendorff 45 mins)
- Discussion about phase 4 and how to incorporate North-American deliberations with the audience (35 mins); Questions:
 - Does the proposal resonate also in North America/rest of the Arctic?
 - How can we reach entities to implement the proposal?
- Adjourn
-

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<https://forms.gle/2QPgiEiZA89vHUwc7>

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