



WEATHER AND SOCIETY: TAILORING WEATHER, WATER, ICE, AND CLIMATE SERVICES TO NORTHERN COMMUNITY NEEDS

Summary of the Weather and Society side meeting hosted at the
ArcticNet Annual Scientific Meeting

December 5, 2022

Workshop organized and report prepared by:

[Gita Ljubicic](#)

Professor
McMaster University
gita.ljubicic@mcmaster.ca

[Natalie Carter](#)

Research Associate
McMaster University
carten7@mcmaster.ca


Side meeting logistical support provided by
[StraightUpNorth team members:](#)

Regena Sinclair, Faith Rahman, Alexis Polidoro, and Stuart Anderson

School of Earth,
Environment & Society



July 2023



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Thank you!

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We are grateful to all the participants who joined the side meeting and shared their ideas and experiences.

More information on ArcticNet project context and research partners available at:

<https://straightupnorth.ca/community-wwic-uses-and-needs/>

ArcticNet

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TABLE OF CONTENTS



Side Meeting Overview	p.1
Introduction	p.1
What we did	p.1
Who was involved	p.2
Recommendations for priority actions	p.4
Collective recommendations for improving coordination	p.4
Collective recommendations for improving communications	p.4
Collective recommendations for increasing end-user participation	p.5
Collective recommendations for establishing long-term funding programs	p.6
Collective recommendations for improving data availability and accessibility	p.7
Collective recommendations for developing specific training for weather/ice applications	p.8
Taking action together	p.9



"Decolonize practices and move towards initiatives that respond to community climate needs instead of going in with set priorities."

LIST OF BOXES, APPENDICES, AND FIGURES



Boxes	
Box 1 - Priorities for next steps	p.1
Box 2 - Guiding questions	p.2
Box 3 - Regional coordination	p.9
Box 4 - Training (technical and cross-cultural)	p.9
Box 5 - Community capacity and leadership	p.10
Box 6 - Data access and self-determination	p. 10
Appendices	
Appendix 1 - Opening presentation slides	p.11
Appendix 2 - Ranked priorities for next steps on action items	p.14
Figures	
Figure 1 - What experience do you bring to this meeting?	p.2
Figure 2 - Which northern region do you live/work in?	p.3
Figure 3 - Do you consider yourself a user or provider of environmental information?	p.3



Side meeting overview

Introduction

This meeting was organized to build on the first [Weather and Society workshop](#) focused on Inuit Nunangat, which was held virtually in March 2022. With many previous workshop participants already planning to be in Toronto, Ontario for the ArcticNet Annual Scientific Meeting, we saw this as a great opportunity to continue discussions in person. We also extended an open invitation to any community members, northern/Inuit organizations, academics, and service providers who were interested and available to join. **The purpose of the meeting was to develop connections, foster coordination, and encourage innovation in efforts to tailor weather, water, ice, and climate services to better meet Inuit and other northern community needs.**

What we did

The side meeting involved a full afternoon (3.5 hours) of interactive discussions on Monday, December 5, 2022 at the Beanfield Centre (ArcticNet conference venue).

Gita Ljubicic opened the meeting by welcoming everyone, and with a short presentation to provide context on the previous virtual Weather and Society workshop hosted in March 2022. She also presented key findings from the previous workshop in order to set the stage for side meeting discussions (**See Appendix 1** for presentation slides, and visit <https://straightupnorth.ca/march2022-presentations/> for full Weather and Society agenda, report, and presentations). Participants were then invited to rank the priorities for next steps identified in the earlier workshop report related to engagement, coordination, training, and funding (**See Appendix 2** for Mentimeter poll results). The 6 highest ranked priorities (**Box 1**) became the focus of group discussions for the remainder of the side meeting. Participants worked in small groups to discuss one of the priorities, based on 4 guiding questions (**Box 2**). After initial group discussions and points were recorded on chart paper, the groups were asked to move to a different table to discuss a different priority, and to add to the points recorded by the previous group (i.e. a modified [World Café](#) approach).

Box 1

Priorities for next steps

(focus of interactive discussions)

1. Improve coordination
2. Improve communications
3. Increase end-user participation
4. Establish long-term funding programs
5. Improve data availability and accessibility
6. Develop specific training for weather/ice apps

Box 2

Guiding questions

- What can community organizations do to address these actions?
- What can service providers do to address these actions?
- What can community organizations and service providers do together to address these actions?
- What steps are needed for each to move forward?

Side meeting overview (continued)

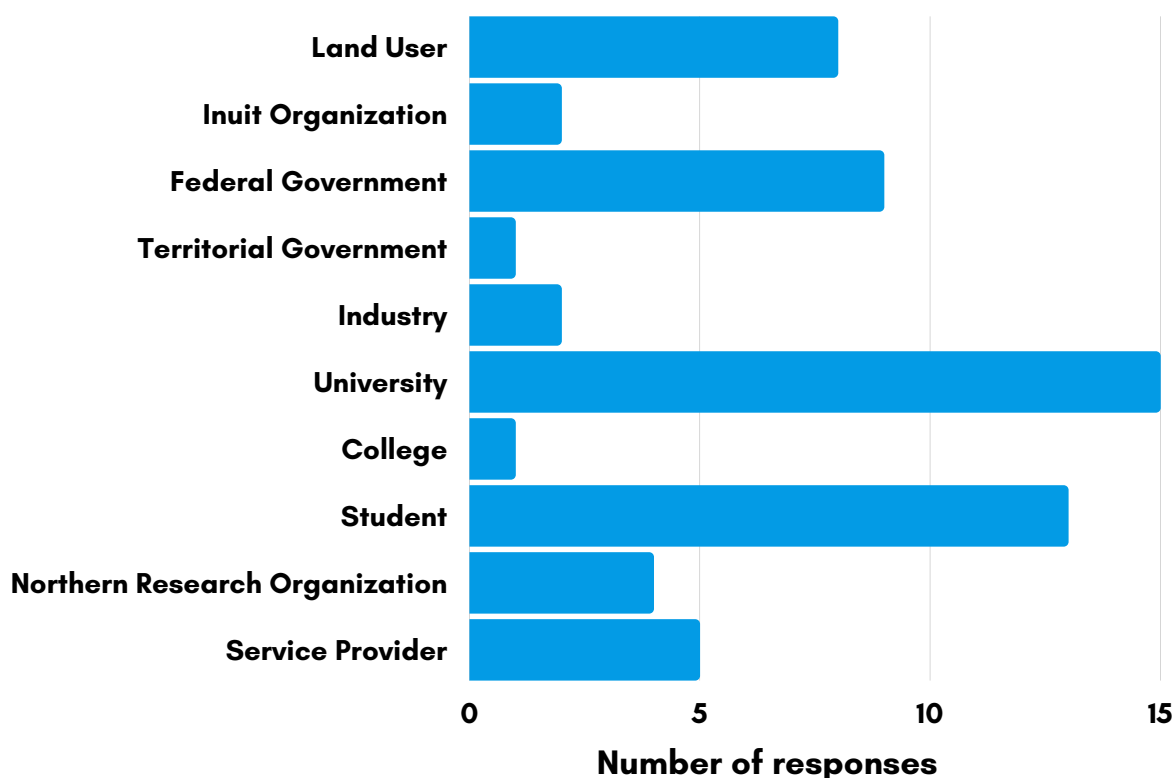
Who was involved

Approximately 50 people attended the side meeting (41 registered ahead of time, but some were unable to attend, and additional participants attended who had not registered). Participants were invited to share what experiences they bring to the meeting through [Mentimeter polling](#). Of the 33 participants who responded to the poll, there was primarily university and student representation in the room, as well as diverse representation from federal government, land users, service providers, and northern research organizations (**Figure 1**). There was also important representation from Inuit organizations, industry, territorial government, and colleges. In addition, participants represented experiences from across all three Territories and all four regions of Inuit Nunangat, with the highest representation from Nunavut and Nunatsiavut (**Figure 2**).

Side meeting participants were also invited to share if they consider themselves a user and/or provider of environmental information. Of the 31 participants who responded, most considered themselves as contributing to service development, as well as being BOTH a user and provider of environmental information (**Figure 3**).

Quotes cited throughout the report are based on notes from participants, written on the chart paper during small group discussions.

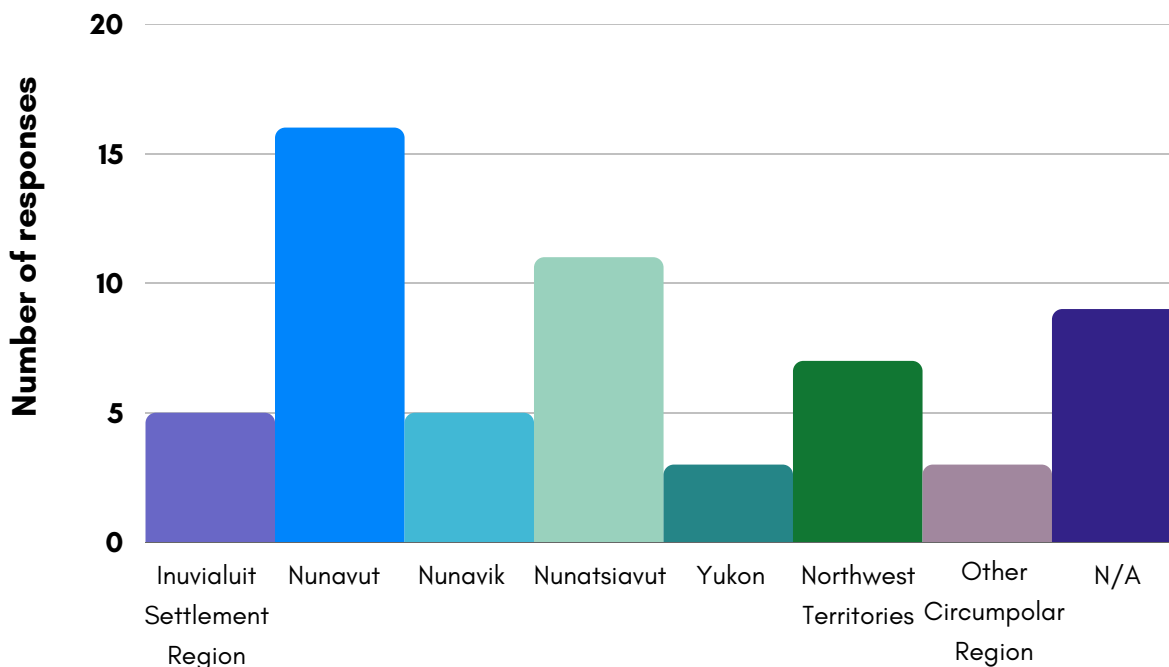
Figure 1 - What experience do you bring to this meeting?



(33 participants responded, and could select multiple roles)

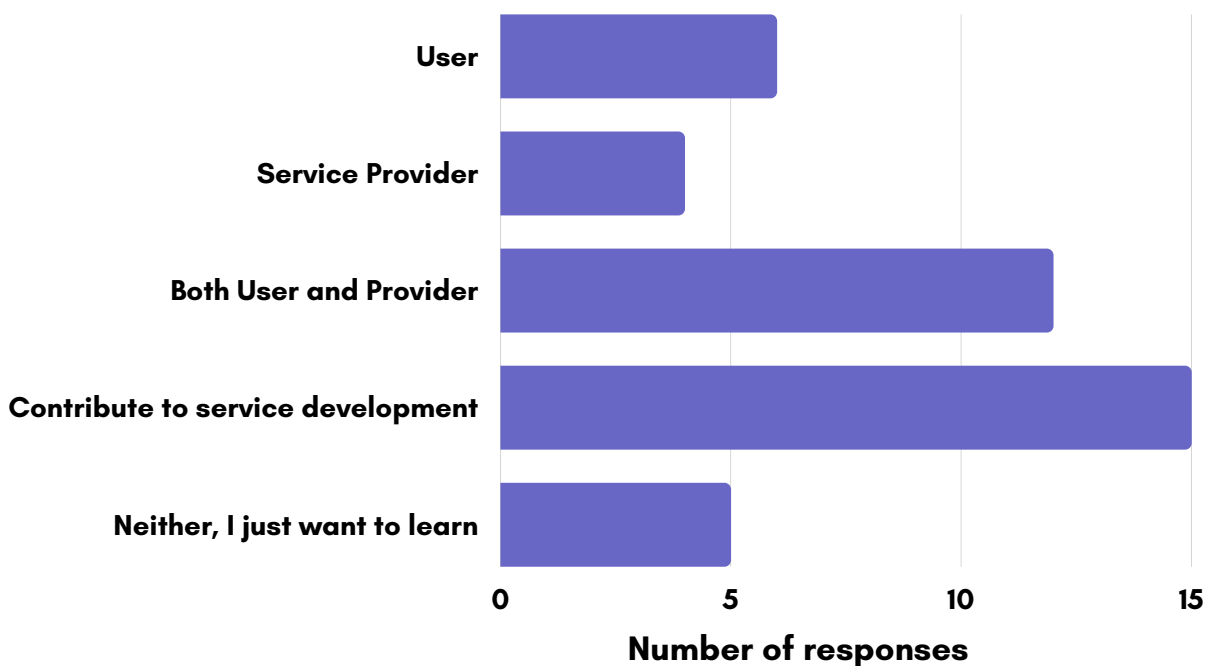
Side meeting overview (continued)

Figure 2 - Which northern region do you live/work in?



(33 participants responded, and could select multiple regions)

Figure 3 - Do you consider yourself a user or provider of environmental information?



(31 participants responded, and could select multiple roles)

Recommendations for priority actions

Summary of collective recommendations for improving coordination (of community-based monitoring programs)

Discussions around improving coordination of environmental service provision focused on community-based monitoring. The key message emerging was **the importance of reducing duplication by connecting monitoring initiatives that are already happening** in different communities. It was suggested that getting more youth involved, and approaching research licensing committees, could be opportunities to connect initiatives. It was also emphasized that coordination can be improved by sharing information and lessons learned between programs. Improved coordination can be supported by developing pilot projects and engaging more community representatives to expand to different locations and communities.

"[We] need connections between Indigenous knowledge networks across Canada and internationally."

Summary of collective recommendations for improving communications (between community/northern organizations and service providers)

Discussions around improving communications in environmental service provision focused on building relationships, and providing communications training.

Building relationships is important for both community organizations and service providers. We can learn from good examples (case studies) where trusted relationships have developed through long-term partnerships. Working together in person is also very important, including service providers spending time in communities, and opportunities for community members to visit southern institutions. However, community visits need to be planned together for appropriate timing, and must follow community leadership, so all partners can be coordinated and prepared. Online meeting options are also good to reduce barriers associated with travel time and cost. Regular check-in meetings are effective to maintain relationships, and it is important that these be well documented (i.e. to show progress, detail improvements, track use of a product, etc.).

Training in communication is also very important for community organizations and service providers to work together effectively. It was suggested that a local community coordinator could be trained to facilitate relationships, and act as a liaison between project partners. Cultural training and trauma-informed communications training need to be provided to researchers/service providers at an institutional level. Community organizations and individuals do not have the time or capacity to keep training every new person who joins a team, or wants to work with them. Communications also need to prioritize local Inuktitut (or other Indigenous language) dialects.

"It always boils down to relationships in whatever I do."

Summary of collective recommendations for increasing end-user participation (in future workshops)

Discussions around improving end-user participation in future workshops provided ideas from both community and service provider perspectives.

It was suggested that **community organizations could help spread information by word of mouth (i.e. share positive experiences)**. For meetings such as this one at ArcticNet, it is helpful that it is connected to another event so that people only have to travel once. For future meetings, it is good to keep connecting with events that are already planned to minimize travel. For community-hosted meetings, it is best to meet in the winter (January and February), and not during key harvesting seasons.

It was suggested that **service providers could provide incentives for participants to attend information and/or training workshops**. Environmental products and services need to be accessible, easy to use, and locally relevant, as well as to be flexible to adapt to current and changing conditions. How-to videos explaining how to use environmental products/services were considered to be very useful. It is also helpful to partner with community organizations to co-develop training workshops, and to make training available in person as well as in hybrid/online formats. In this way, training is considered as a "two-way street", where both parties see value in - and learn from - the opportunity for exchange.

To increase end-user participation and two-way learning opportunities in future workshops some critical steps identified include:

- **hire and mentor community champions** (community members who can speak to the product/service and engage other community members);
- **design from the community up to service provider** (through clear accessible communication and open two-way feedback);
- **provide travel support** (service providers to spend time in communities, community champions to spend time with service providers); and,
- **fund people** (community champions need salaried positions with benefits, not just occasional honoraria payments).

"Mechanisms are problematic, they don't accommodate community needs or long-term issues."

Summary of collective recommendations for establishing long-term funding programs

(including support for ongoing personnel and maintenance)

Discussions around establishing long-term funding programs focused on the need for continuity, including in support for personnel and ongoing maintenance of equipment or facilities.

Continuity in programs requires continuity in funding. Core funding – not proposal based funding – is important to build and maintain connections, and follow up on new ideas. Continuity in funding also contributes to continuity in local capacity and economy. Investing in training/expertise to keep increasing capacity in the North helps to create a "two-way street". Programs should not have to rely on volunteers to carry out their work, they need to be regular paid positions.

Funding organizations are encouraged to consider broad and inclusive criteria. For example: funding available across jurisdictions, across ages (youth, adults, Elders), and involving people knowledgeable of local needs and community concerns. This means breaking down "silos" in funding envelopes at national, territorial, and local scales. It needs to be clear what opportunities are available at what levels, and how to access that funding. It is also important to have funding committees that allow for a broad scope to address local needs and concerns, including identifying priorities where investments should be made.

Funding organizations – especially federal government – also **need to consider the flexibility and longevity needed to sustain programs and jobs** (for community members). Community organizations need to be able to access funding that not only supports new ideas and ongoing programs, but also that covers personnel and maintenance costs, and a host of related needs (e.g. computers, overhead, administration, management, internet, office space, shop space, etc.).

Community organizations are encouraged to coordinate with partners early, to develop and shop around proposals to different funding agencies. Associated support mechanisms include seed funding to draft proposals, as well as funding to do evaluations to see how things worked.

"Target funding to what people care about (over external priorities) and sustained initiatives (e.g. weather monitoring)."



Side meeting participants discussing ways to increase end-user participation.

Summary of collective recommendations for improving data availability and accessibility

Discussions around data availability and accessibility focused on: 1) increasing liaisons (relationships) between data providers and data users; 2) increasing the speed at which data can be shared across scales between federal service providers (e.g. [Environment and Climate Change Canada](#); ECCC) and municipalities/communities; and, 3) the need for data that is available directly to the user (e.g. through [SIKU](#), [SmartBUOY](#)).

The [First Nations OCAP principles](#) were cited as important (i.e. data Ownership, Control, Access, and Possession) when collecting and sharing environmental data.

However, it was also highlighted that "possession" is not considered a great word in a northern/Inuit context, and that "protection" is a better word to use. Discussions around what data sovereignty means in a northern context are underway, and each community or organization may have their own approach to what they consider as data sovereignty.

To view and access environmental data across northern communities requires some considerations of unique cultural and geographic contexts. Some key points highlighted by participants include to:

- Ensure terminology and language used in products are accessible and relevant (develop them collaboratively);
- Use regional- or community-specific terminology (e.g. for species, environmental conditions); and,
- Tailor the way information is displayed/presented so that it is shared in a more meaningful way for northerners (e.g. display wind speed more prominently than temperature).

It was also identified that the capacity to house and use data is lacking in many northern communities, which makes it challenging for existing apps to expand, or for community members to access large datasets. **Some ideas suggested to address limitations were to THINK BIG, and consider:**

- What ways can communities access data-heavy applications today?
- How can access be improved as connectivity and data storage changes?
- What is the potential of centralization (i.e. a resource - app or website - that provides all data sources and tutorials in one place)?
- How to ensure consistent data standards (i.e. interoperability)?
- What will be possible if everyone can use [Starlink](#)?
- What more can be done if we invest in data management experts, especially for large projects (with appropriate funding and compensation)?

*"Challenge the notion that good information has to be quantitative...
find value in things that are not measurable."*

Summary of collective recommendations for developing specific training for weather/ice applications (e.g. [Windy.com](#), [SIKU](#), [Floe Edge Service](#), [WebTide](#))

Discussions around developing specific training for weather/ice apps focused on different and complementary roles for community organizations and service providers.

It was suggested that **community organizations could lead coordination of local and regional workshops**. Opportunities for youth engagement and exchange with youth in other communities were emphasized. It was also identified as critical to have training opportunities for all ages of community members, and to use workshops as a way of collecting and sharing knowledge with service providers. For regional training (i.e. bringing together people from different communities) it was suggested to hire regional coordinators to organize and facilitate. A "train the trainer" approach has worked well for [SmartICE](#) and the [Arctic Eider Society](#), and was suggested as an important way to enhance community capacity and reduce the time and cost of service providers or researchers travelling from the south.

It was suggested that **environmental service providers (government, non-profit, social enterprise, industry) work with community partners to co-develop training modules**. Online training products (i.e. links to how-to videos) are seen as valuable, especially when users have been involved in developing the training. Social media is seen as a useful way to reach youth (TikTok, Instagram, Facebook, etc.). A "train the trainer" approach was also suggested for service providers, so that there are a few people specialized in delivering regional or community training sessions.

Both community and service provider training initiatives need to be developed and delivered collaboratively if they are going to be relevant and effective. Flexible and informal approaches to training were suggested as appropriate ways to engage and learn from different perspectives. For example, working in small groups before having a large group discussion, facilitating community radio interviews, and hosting land-based workshops were some ideas suggested. Researchers and service providers working to improve apps need to learn from community members (and the larger group discussion), and this comes from personal engagement, relationships, and experiences.

Participants identified some key steps needed to develop more specific weather/ice app training, including to:

- **Find funding** - develop a business case, reach out to industry, invite apps like Windy to come to communities to see how their apps are being used;
- **Host challenges and contests** - use apps/polls to do a contest (e.g. SIKU [Goose Watch](#) and [Ice Watch](#)) with prizes (e.g. rifles, gas, GPS); and,
- **Partner with groups doing good work** - schools, [Ikaarvik](#), SIKU, SmartICE, [Ittaq](#), [Pinnguaq](#), [Young Hunters Program](#), and local organizations.

"Transform values in academia to prioritize family and community, over careers and settler institutional values."

Taking action together

"Inuit culture is the medicine the world needs."

Participant citing Sheila Watt-Cloutier

Summary of collective recommendations for action items and next steps

Wrapping up the side meeting, Gita Ljubicic facilitated a discussion with all participants around the actions and commitments they recommend based on all the points raised in small groups. All are highlighting the need for improved collaboration and coordination between community organizations, local experts, and service providers. They are loosely grouped into four themes focused on: regional coordination (**Box 3**), training (technical & cross-cultural) (**Box 4**), community capacity & leadership (**Box 5**), and data access & self-determination (**Box 6**).

BOX 3 – REGIONAL COORDINATION

- Need for group/regional funding coordinators to facilitate funding applications for programs that involve multiple communities
- Increased communication between communities and researchers and government, etc.
- Improve internet/cell service access and infrastructure
- Hire and train regional coordinators as part of the "train the trainer" approach
- Increase knowledge of new weather and measurement stations in the North

BOX 4 – TRAINING (TECHNICAL & CROSS-CULTURAL)

- Understand community needs and goals to develop relevant training programs
- Train local community members to work with weather stations (increase station reliability, accuracy, and numbers)
- Need more training and stronger relationships to support use of environmental products and services
- Service providers and researchers need to spend more time in communities
- Need more opportunities for youth to learn, and then to TEACH others too
- Learn and use Inuktitut



Side meeting participants discussing recommendations for priority actions.

Taking action together (continued)

BOX 5 – COMMUNITY CAPACITY & LEADERSHIP

- Increase capacity for communities to access funding
- Need more opportunities/employment in communities
- Need more knowledge sharing spaces/opportunities (especially between youth and Elders, connecting, knowledge sharing)
- Follow existing models that work (see p. 8), and these need stable funding
- Provide more project development programs to facilitate community participation AND community-led initiatives
- Encourage co-development of projects and programs
- Redefine innovation to:
 - what works (community monitoring)
 - what is needed (better weather infrastructure/upkeep/data management, information useful for hunters and youth, community benefits, jobs)

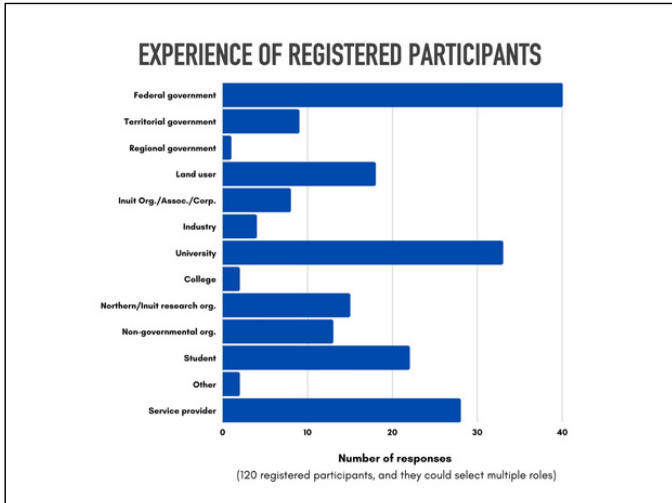
"Think BIG to promote changes in how southern institutions can be better in supporting Inuit priorities."

"Advocate [to universities] to put more value on community engagement and less on publishing papers."

"Fund projects that are action-based and actually do things to support/benefit communities."

BOX 6 – DATA ACCESS & SELF-DETERMINATION

- Climate research and information must be accessible to Inuit
- Community managed weather data must be accepted by ECCC and shared through national platform
- Formalize policies for working in partnership with Indigenous communities and their knowledge (add OCAP, [Inuit Tapiriit Kanatami research policies](#), [Nunavut Research Institute](#)/regional licensing)
- Incorporate social elements (i.e. social networking, like what is done in SIKU)
- Integrate services as much as possible (develop a product/service/data access hub, a "one-stop shop")
- Use traditional place names (consider conflicting/multiple names), and digitize past paper records of place names
- Develop open source, easy to use, free outputs
- Establish data partnerships with the private sector
- Services should support Indigenous self-determination by making information available:
 - across jurisdictions
 - to communities
 - for hunters and younger generations
 - by decolonizing knowledge sharing
- Young Hunters programs involved in community sea ice monitoring, local training, education, and research – they need access to past projects, and they need information that is tailored with scientific and Inuit perspectives together



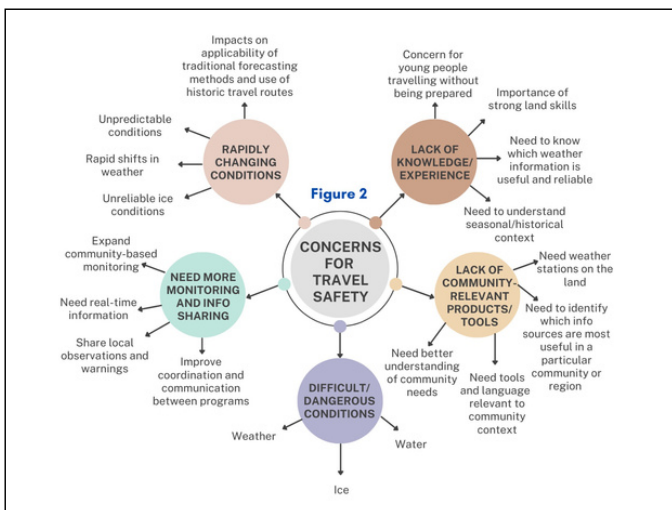
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PLEASE SHARE WHAT EXPERIENCES YOU BRING TO THIS MEETING

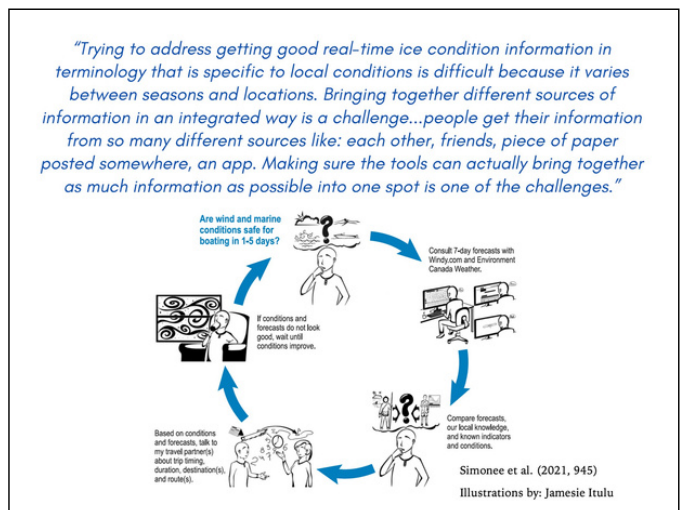
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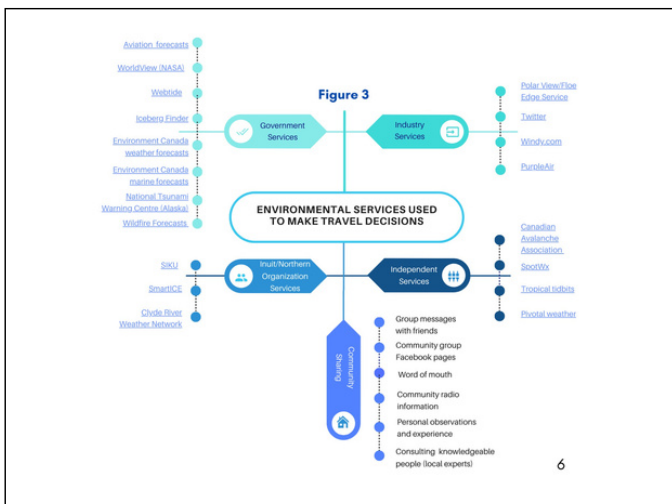
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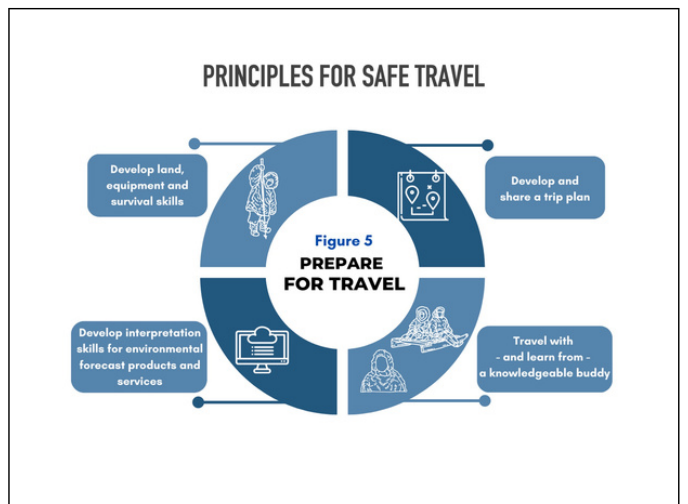
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Slide 8



Slide 9



Slide 10

Appendix 2

Ranked priorities for next steps on action items

Mentimeter poll responses from side meeting participants
(December 5, 2022)

Mentimeter

Rank the priorities for next steps related to engagement and coordination



27

Mentimeter

Rank the priorities for next steps related to training and funding



29

Thank you for reading!

To provide **feedback**, or to be added to our **mailing list** for upcoming workshops, please email:

[Natalie Carter](mailto:natalie.carter@unh.edu)





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July 2023