

ᓄᓇᓂᓪ NUNAVUT



SMARTICE

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Results of a community survey
on environmental forecasting
uses and needs

ᓄᓇᓂᓪ 2023
DECEMBER 2023

Full Inuktitut/English bilingual report will be
available in February 2024 at:
<https://straightupnorth.ca/community-wwic-uses-and-needs/>

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360

Nunavummiut Participated

360 ᓄᓇᓂᓪᓄᓇᓂᓪ ᖃᓄᓂᓪᓄᓇᓂᓪ ᓄᓇᓂᓪᓄᓇᓂᓪ
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Photo: Gita Ljubicic

Thank you!

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We wish to acknowledge the **360 Nunavummiut** who participated in this survey between December 2019 and November 2022.

Thanks to everyone for their time and sharing their experiences.

Arviat

Albina Kabvitok
Andrea Aliquot
Andrew Panigoniak SR
April Roxanne Anowtalik
Augaaj Karetak
Cecile Kinniksie
Christina Ahmak
Clayton Hallauk
Eden Owlijoot
Gary Ippiak
Gideon Kaslak
Gloria Isumatarjuak
Jason Ahmak
John Alikut
John Alikut
Joseph Kinniksie
Larry Issakiark
Leona Curley
Leonard Irksuk
Lucy Akammak
Mary Ann Halluak
Mike Curley
Nooks Lindell
Rene Aggark SR
Robert Johnson
Scottie Shamee
Seepa Katsuak
Sheila Kirkwa

Arviat (continued)

Thomas Aggark
Tommy Arviyut
Wendy Shamee
Tamar Mukyungnik
Willie Mukyungnik
Winnie Panigoniak

Cambridge Bay

Aaron Pedersen
Angulalik Pedersen
Brent Nakashook
Cathryn Epp
George Naikak Hakongak
Roland Emingak

Clyde River

Gregory Joanas

Coral Harbour

Bobby Eetuk
Elijah Kataluk
Gordon Nakoolak
Hattie Ottokie
Inuapik Ell
Lorna Ell
Lucassie Nakoolak
Saimonie Saviakjuk

Gjoa Haven

Brent Puqiqnak
Caitlyn Porter
Charlene Porter
Devon Pauloosie
Eruk Pauloosie
Gail Putuguk
George Porter
John Aglukkaq
Kayla Carter
Keith Nimiqaqtuq
Kenny Arqviq
Oliver Porter
Otto Ikkutisluk
Rita Porter
Roy Pootogok
Shanna Porter

Thank
you!

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CONTINUED

Iqaluit

Andrew Maher
Blaine Heffernan
David Aglukark
Dion FitzPatrick
Glen Williams
Jason Akearok
Jason Aliqatuqtuq
Jason Sudlovenick
Jeremy Fraser
John Maurice
Jon Neely
Joseph Monteith
Jovan Simic
Laurie-Anne White
Levi Nowdluq
Luke Wilman
Lynn Peplinski
Mary-Lee Sandy-Aliyak
Michael DeMaio
Rhoda Ungalaq
Sean Qappik
Shamus Armstrong
Steve Pinksen
Tiivi Qiatsuk
Tony Lee
Torsten Diesel
William Flaherty

Pond Inlet

Brian Kasarnak
Christopher Mutch
Ivan Koonoo
James Simonee
John Ringrose
Jonathan Pitseolak
Simeonie Aksarjuk
Trevor Arreak
Tyson Angnetsiak

Sanikiluaq

Charlie Kudluarok
Davidee Kowcharlie
Eli Kavik
Emily Kattuk
Jack Uppik
Johnny Takatak
Josie Amituk
Lucassie Arragutainaq
Lucy Appaqaq
Niviasia Iqaluq
Samwillie Amagualik
Simieonie Uppik

And **113 Nunavummiut** who asked to remain anonymous.



Collaborative analysis workshop in Paris, Ontario
(November 2022, photo: Natalie Carter)

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ABOUT THIS PROJECT

Our research team includes Inuit, northern, and southern researchers who have worked together for many years in Nunavut communities. Over the years we have heard from Nunavummiut (people of Nunavut) that services providing information on weather, water, and ice conditions are not easy to use, access, or understand. We have also heard that the information is not always accurate for local conditions. This, along with increasingly unpredictable weather, and changing sea ice conditions, has made it harder and riskier for Nunavummiut to hunt and travel safely. We developed this project to learn how Nunavummiut are using environmental information to make decisions about safe travel on the land (including water and ice).

Our goal is to help improve the information that is available, and how it is communicated in northern communities. To accomplish this goal, we created a survey to get feedback from communities across Nunavut. Survey questions were developed together with input from all team members, as well as from environmental service providers, Inuit organizations, and northern governments and research organizations.

We work together according to the [Aajiiqatigingniq research framework](#), outlined by the Aqqiumavvik Society working with Elders from across Nunavut. This framework guides how we make decisions, and build consensus on our research approach and results. Surveys were facilitated by Local Research Coordinators working in their home communities. We also worked together in two collaborative analysis workshops to interpret survey results and decide on key messages for service providers and for Nunavut communities.

Ultimately, we hope that the results of this project will help service providers and decision-makers make their information more relevant and accurate for Nunavummiut, in support of safe travel.

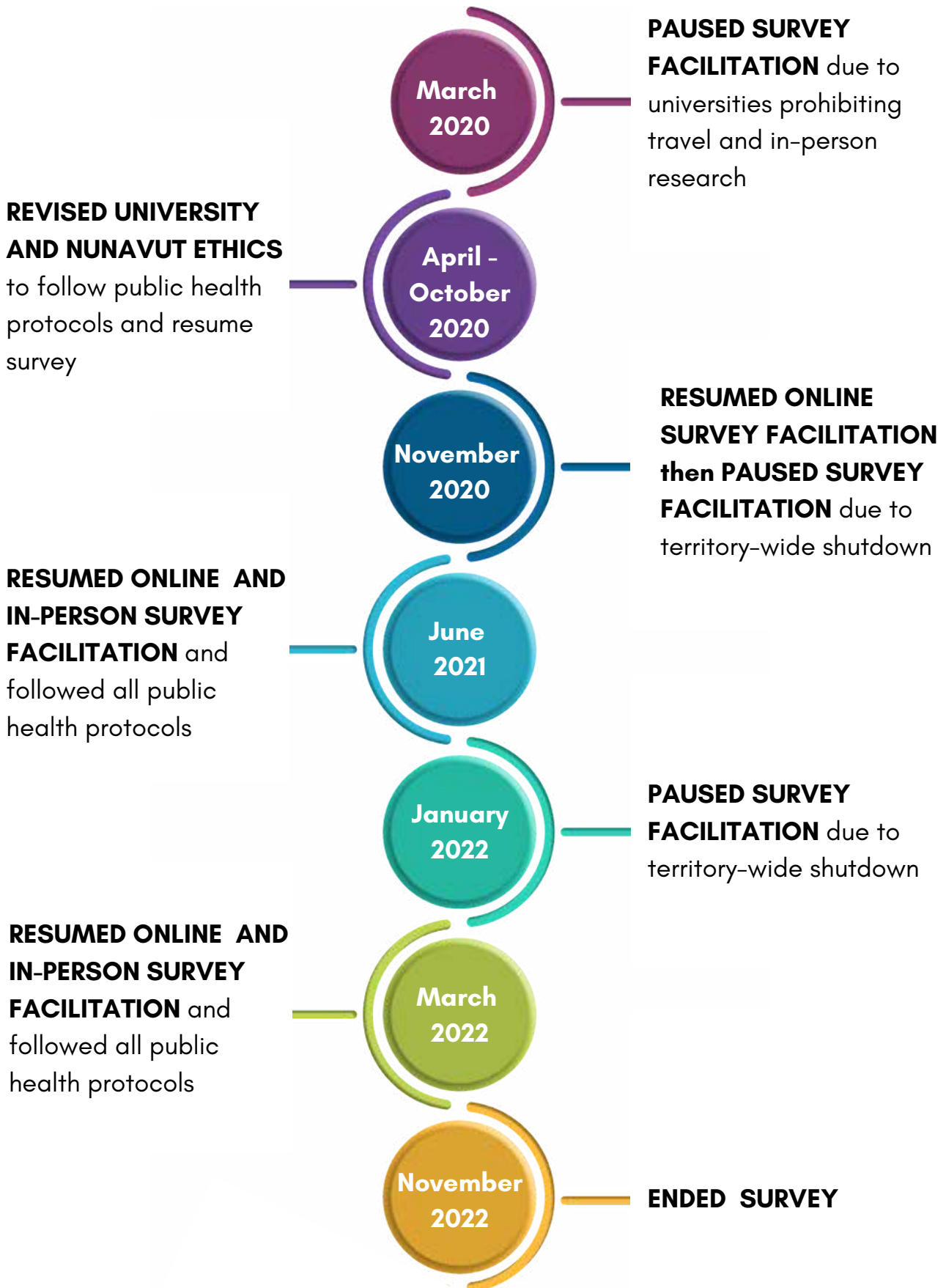


Collaborative analysis workshop in Arviat, Nunavut
(October 2021, photo: Gita Ljubicic)

KEY PROJECT ACTIVITIES (2018 - 2022)

| Timeline | Activities |
|----------------------------|---|
| December 2018 | <ul style="list-style-type: none"> • collaborative project planning meeting at ArcticNet conference in Ottawa, Ontario |
| January - November 2019 | <ul style="list-style-type: none"> • collaborative survey development (involving our project proposal team, Local Research Coordinators, and a number of external reviewers) <ul style="list-style-type: none"> ◦ this led to survey questions, wording, and options that were much more clear, relevant, and accessible for Nunavummiut ◦ it also means results can be more meaningful and impactful to researchers, northerners, and policy-makers |
| October - November 2019 | <ul style="list-style-type: none"> • training sessions with Local Research Coordinators near Montreal, Quebec and in Iqaluit, Nunavut |
| December 2019 - March 2020 | <ul style="list-style-type: none"> • Local Research Coordinators facilitated surveys in their home communities |
| March 2020 | <ul style="list-style-type: none"> • surveys put on hold due to the COVID-19 pandemic (see page 5 for more details) <ul style="list-style-type: none"> ◦ we started working together on a plan for how to safely continue the project |
| June 2021 | <ul style="list-style-type: none"> • Local Research Coordinators restarted survey facilitation <ul style="list-style-type: none"> ◦ this could only happen after public health and research license/ethics restrictions allowed it, and with local community organizations' support ◦ Local Research Coordinators also followed up with some earlier participants to clarify answers |
| October 2021 | <ul style="list-style-type: none"> • collaborative analysis workshop in Arviat Nunavut |
| November 2022 | <ul style="list-style-type: none"> • Local Research Coordinators stopped facilitating surveys in their home communities |
| December 2022 | <ul style="list-style-type: none"> • collaborative analysis workshop in Paris, Ontario, • presentations of refined results at ArcticNet conference in Toronto, Ontario |

SURVEY TIMELINE DURING THE COVID-19 PANDEMIC



SURVEY FACILITATION BY LOCAL RESEARCH COORDINATORS

In total, **19 Local Research Coordinators** were involved in the project, and they completed **360 surveys** across **8 communities** in Nunavut.

Local Research Coordinators invited community members to participate based on certain criteria. Specifically, we wanted to learn about uses and needs of weather, water, ice, and climate information and services from community members who were actively travelling on the land (including water and ice) in the last three years (since 2017). This included men and women of all ages and experience levels, and they could be experienced hunters, seasonal travellers, or people who just like to get out on the land.

Local Research Coordinators facilitated the surveys in English or Inuktitut based on participant preference. They used Qualtrics survey software to enter responses on iPads. They facilitated the survey in a community office or in participants' homes, based on individual comfort level. Some participants did the survey on their own using an online survey link, when COVID-19 pandemic public health restrictions prevented in-person surveys. Participants were compensated for their time. We obtained research ethics and license approvals before we started the survey.

For this report, we present the results based on survey answers from a total of 360 Nunavummiut = 100%.



For more information about this report and the larger study please contact:

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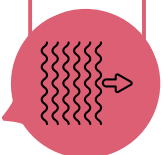
To access community reports, please visit:

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

KEY MESSAGES FOR SERVICE PROVIDERS

At the 2021 and 2022 collaborative analysis workshops, Local Research Coordinators developed twelve key messages for service providers:

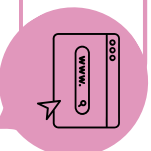
Provide more tide information that is specific to communities



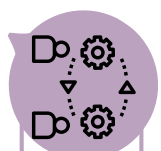
Create colour-coded visuals for ease of interpretation



Reduce number of pages and sites to go to when accessing online environmental products



Need more real time weather information (update more often)



Need more weather stations in key hunting areas



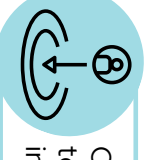
Faster and more affordable internet (address cost and subsidize northern InReach/SPOT subscriptions)



Expand support for community programs and leadership



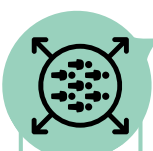
Continue to work on accuracy (short term forecast and more detailed wind information), leads to trust in products



Create forecast products that are easy to interpret and use (colour coded visuals)



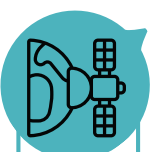
Increase awareness of local services and programs



Increase the number of VHF repeaters and cell towers (address calling for help)



Make ice charts and satellite images simpler to use (add links for tutorials)



KEY MESSAGES FOR SERVICE PROVIDERS

KEY MESSAGES FOR COMMUNITIES

At the 2022 collaborative analysis workshop, Local Research Coordinators developed seven key messages for community organizations:



UNDERSTANDING THE NUMBERS IN THIS REPORT

PERCENT

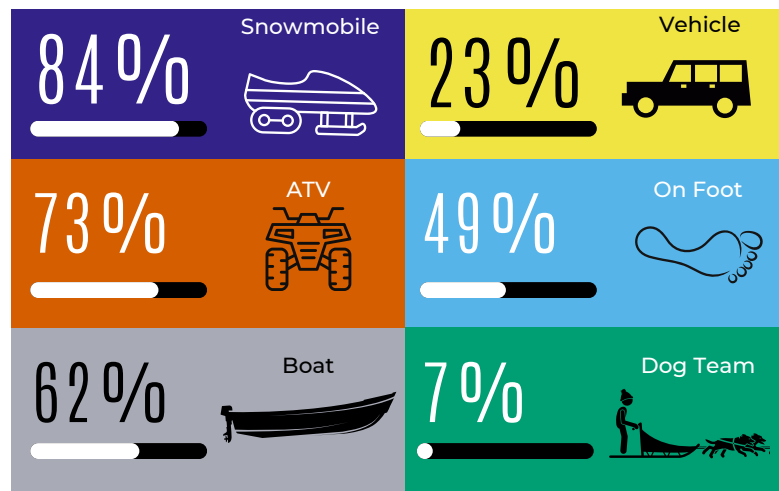
100% = all 360 participants

Most of the survey results in this report are shown as % (percent) where 100% means all 360 participants in Nunavut who completed the survey.

Sometimes participants could choose more than one answer, so totals in some figures don't add to 100%.

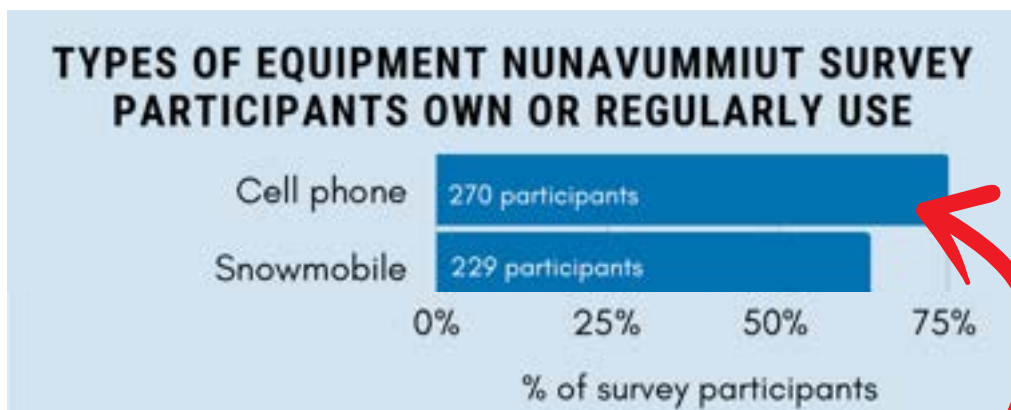
In this example **from page 18**, participants could choose **more than one method of transportation**.

METHODS OF TRANSPORTATION SURVEY PARTICIPANTS USE TO TRAVEL ON THE LAND



COUNTS

Count = the number of participants giving that answer



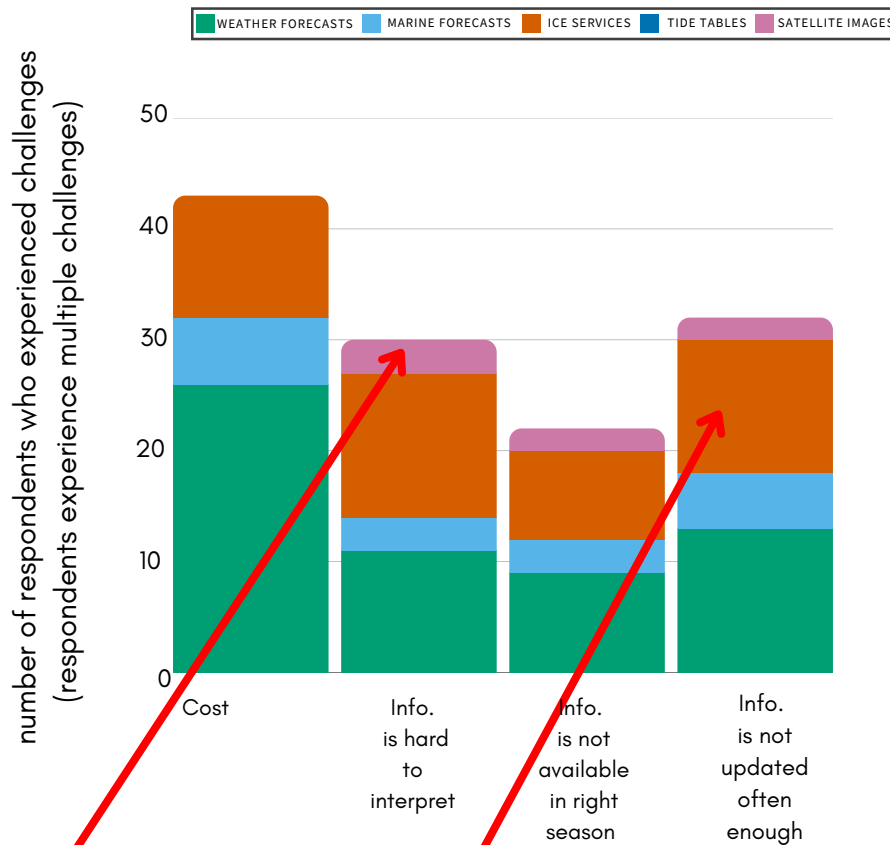
Some of the charts show the results in **percent** and the **count** (actual number) of participants who gave that answer. In this example **from page 16**, cell phones are owned or regularly used by 75% of participants (270 participants).

UNDERSTANDING THE NUMBERS IN THIS REPORT (CONTINUED)

RESPONDENTS

Respondents = only the participants who use forecasting products

REASONS WHY ENVIRONMENTAL FORECASTING INFORMATION IS DIFFICULT FOR NUNAVUMMIUT RESPONDENTS TO ACCESS

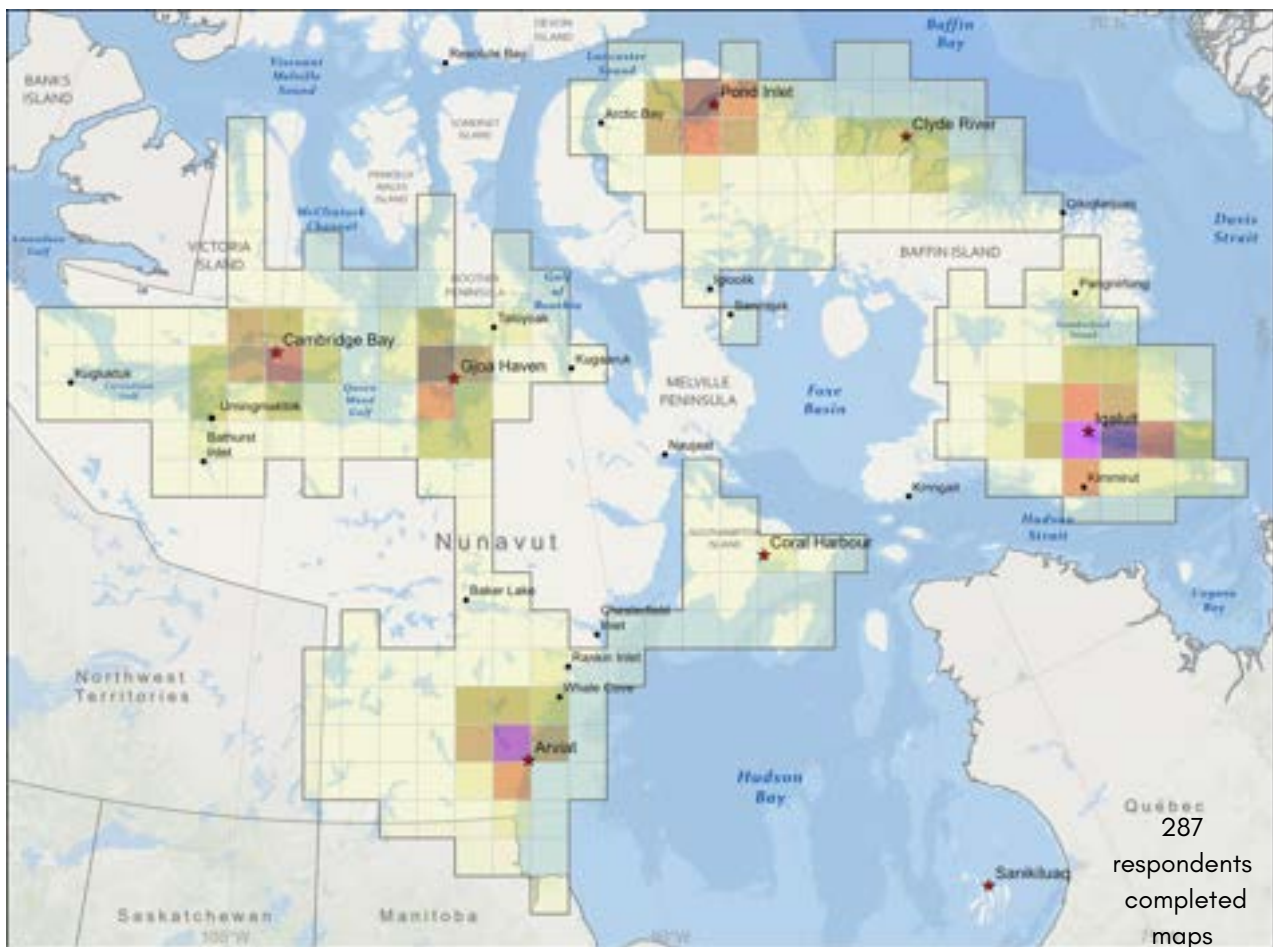


Some participants did not use every type of environmental forecasting information (i.e. weather forecasts, marine forecasts, ice services, tide tables, satellite images).

In this example from **p. 63**, of the respondents who said "Yes, I experience challenges when accessing satellite images",

2 of them experience challenges because the information is hard to interpret. Of the respondents who said "Yes, I experience challenges when accessing ice services", 12 of them experience challenges because the information is not updated often enough.

UNDERSTANDING THE MAPS IN THIS REPORT



Number of respondents who travelled in the selected area

MAP COLOURS AND LEGENDS

Each coloured box on the maps represents a certain number of respondents who travelled to that area, and all of the types of transportation they used to travel there (e.g. if a respondent went to an area by ATV and by snowmobile, it is counted as having travelled to the area twice).

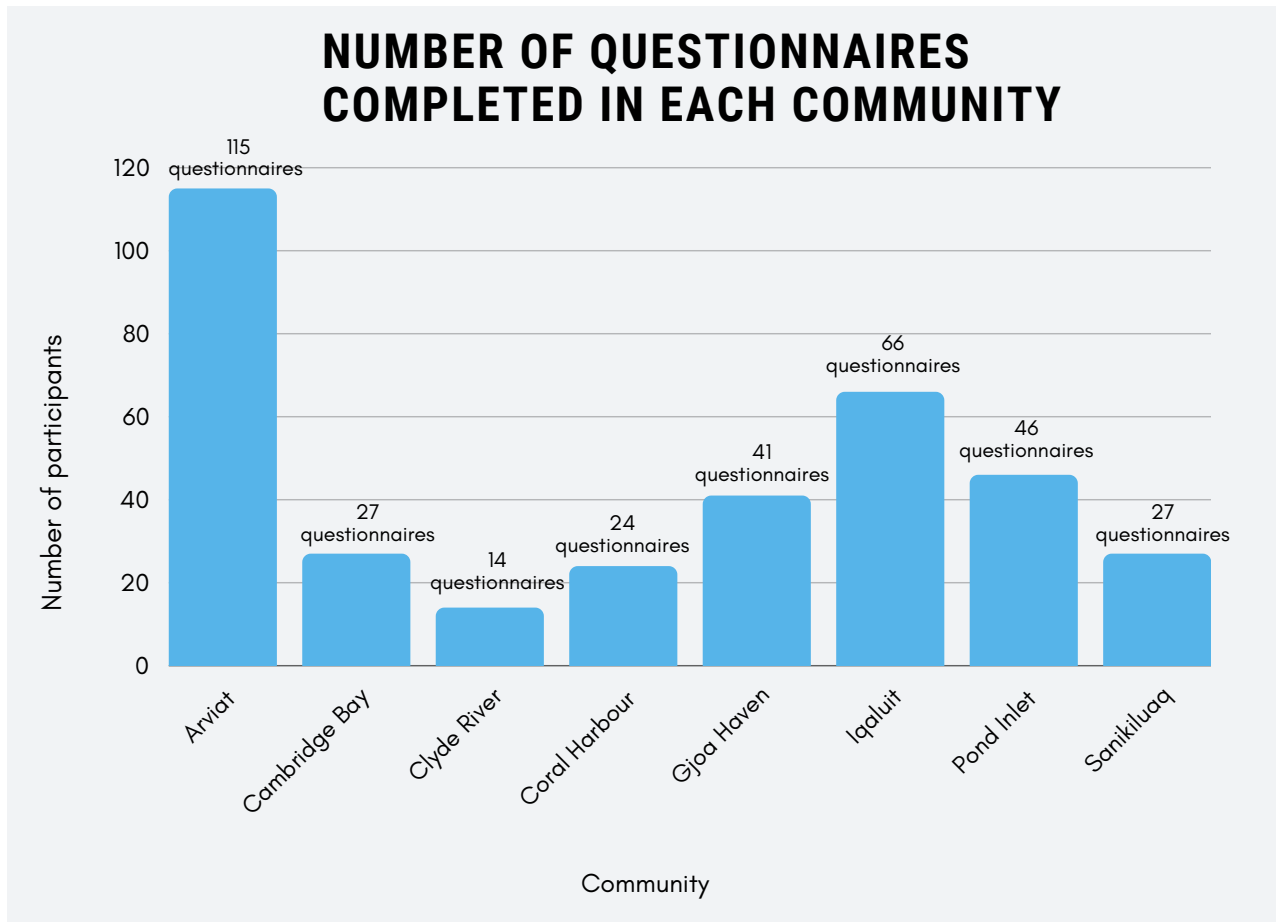
Darker/brighter colours = more respondents went there.

Lighter colours = less respondents went there.

Respondents = only the participants who completed maps

Some participants did not complete travel maps (due to technical issues and other reasons). When we show the maps, we call this group of participants "respondents", because they were the ones who completed maps.

NUNAVUMMIUT SURVEY PARTICIPANT DEMOGRAPHICS

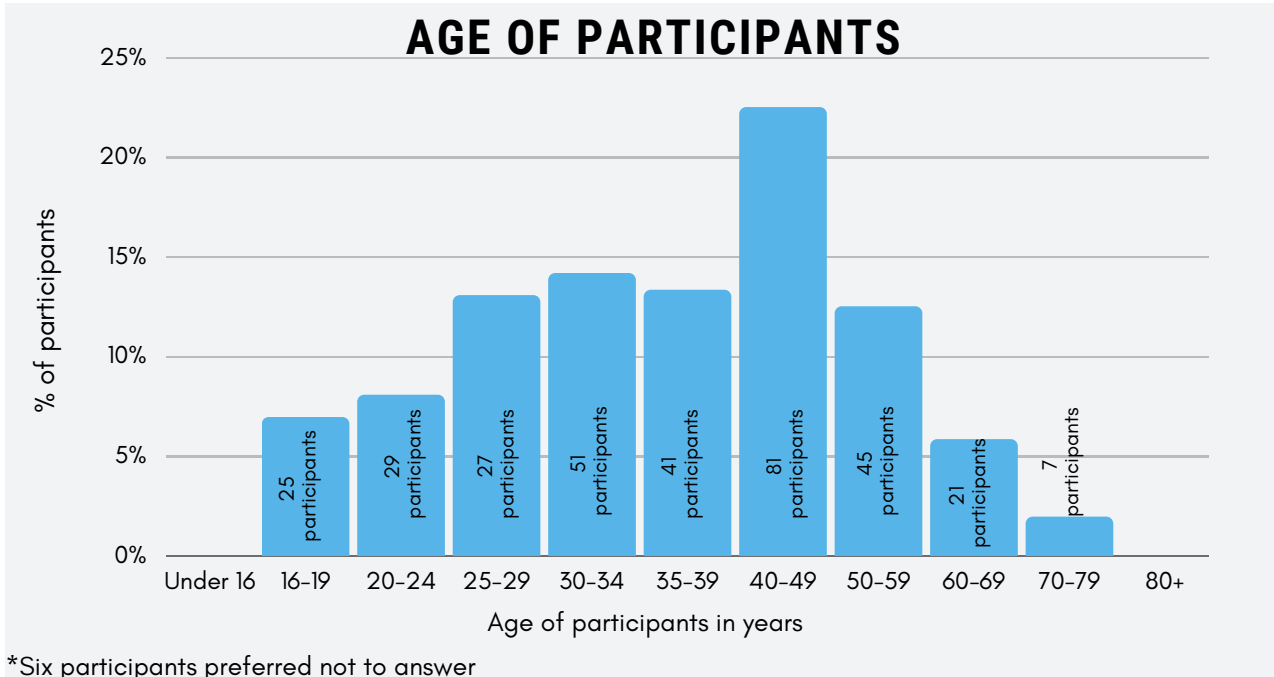


The highest number of questionnaires were completed in Arviat (115), followed by Iqaluit (66), Pond Inlet (46), and Gjoa Haven (41). In both Cambridge Bay and Sanikiluaq, 27 questionnaires were completed. Twenty four questionnaires were completed in Coral Harbour, and 14 were completed in Clyde River.

NUNAVUMMIUT SURVEY

PARTICIPANT DEMOGRAPHICS

(CONTINUED)



Survey participants ranged in age from 16 to 79 years, with the highest proportion (23%) being between 40-49 years old. No one under 16 or over 80 years, participated in the survey.



69% of participants identify as male



31% of participants identify as female

Most participants identify as male (69%), and some identify as female (31%).

88%

of participants identify as an Indigenous person

94%

of Indigenous respondents identify as Inuit

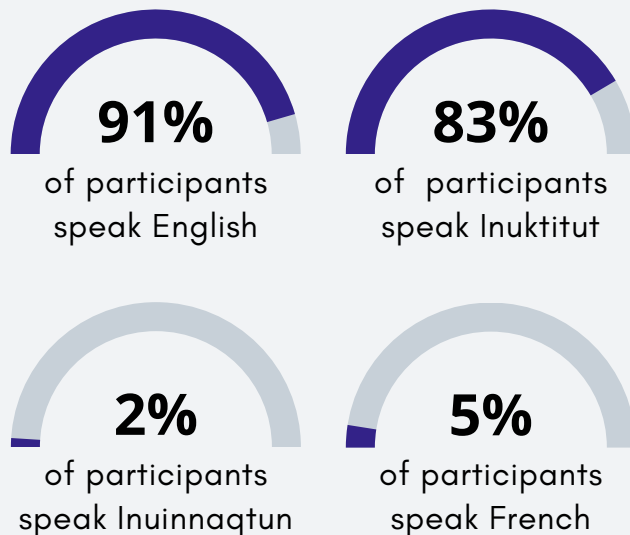
Nearly all participants identify as an Indigenous person (88%), and 94% of Indigenous respondents identified as Inuit.

NUNAVUMMIUT SURVEY

PARTICIPANT DEMOGRAPHICS

(CONTINUED)

LANGUAGES SPOKEN*

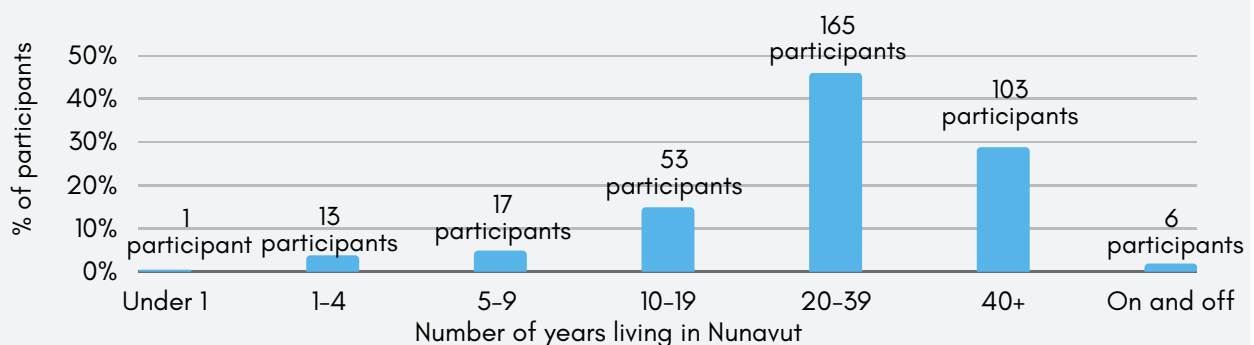


*Participants could choose multiple languages

Participants were asked about which languages they speak.

Most participants speak English (91%) and Inuktitut (83%). Very few, speak Inuinnaqtun (2%), or French (5%). 1% of participants speak other languages: Serbian, Russian, or Spanish.

LENGTH OF TIME SURVEY PARTICIPANTS HAVE LIVED IN THE COMMUNITY

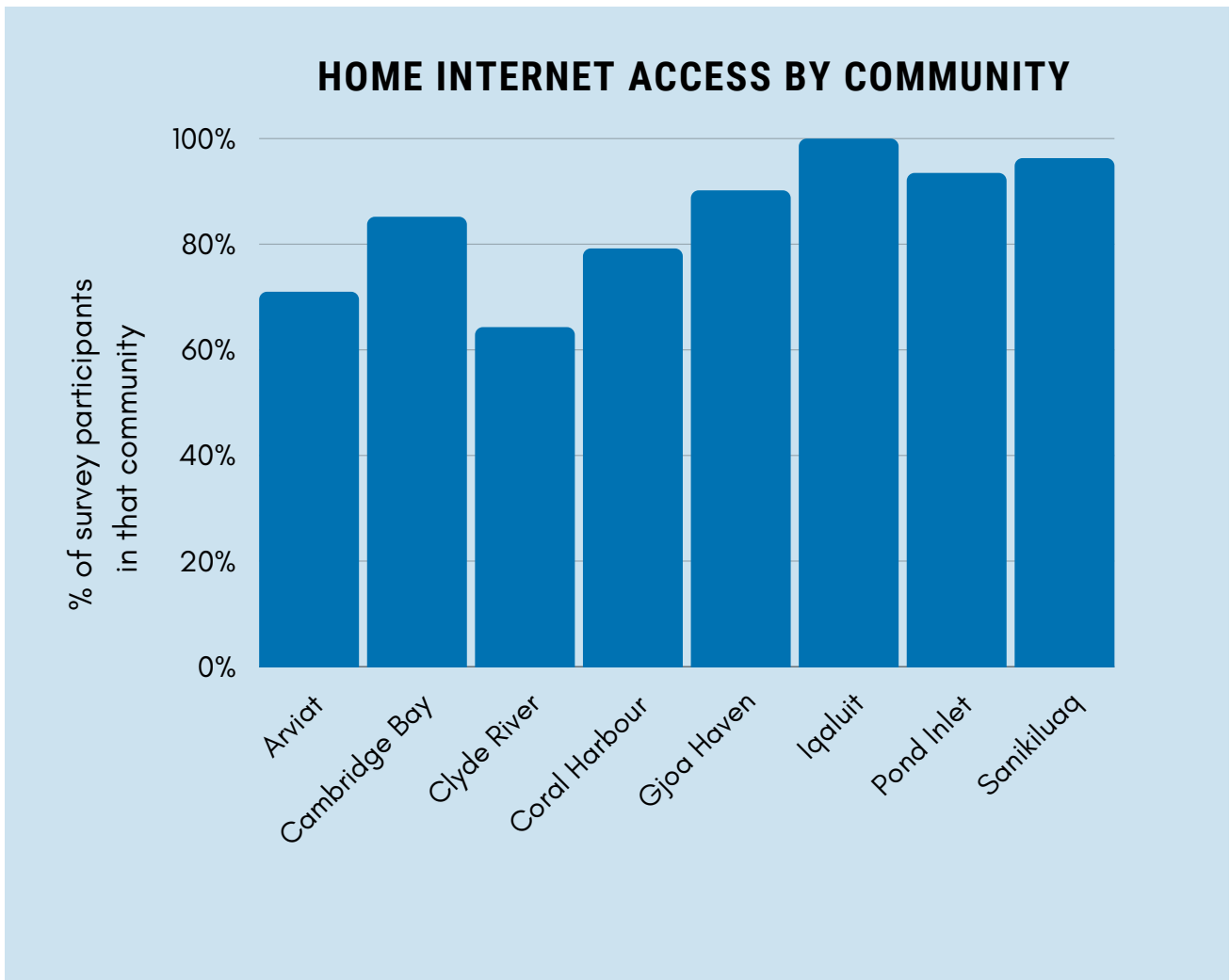
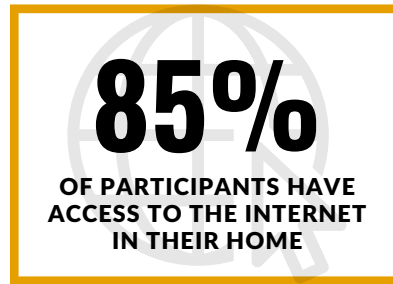


*Two participants preferred not to answer

Most participants (74%) have lived in Nunavut for 20 or more years.

It is important to understand how long participants have lived in Nunavut as this relates to (although does not necessarily determine) how much experience they have with travel on the land, water, or ice.

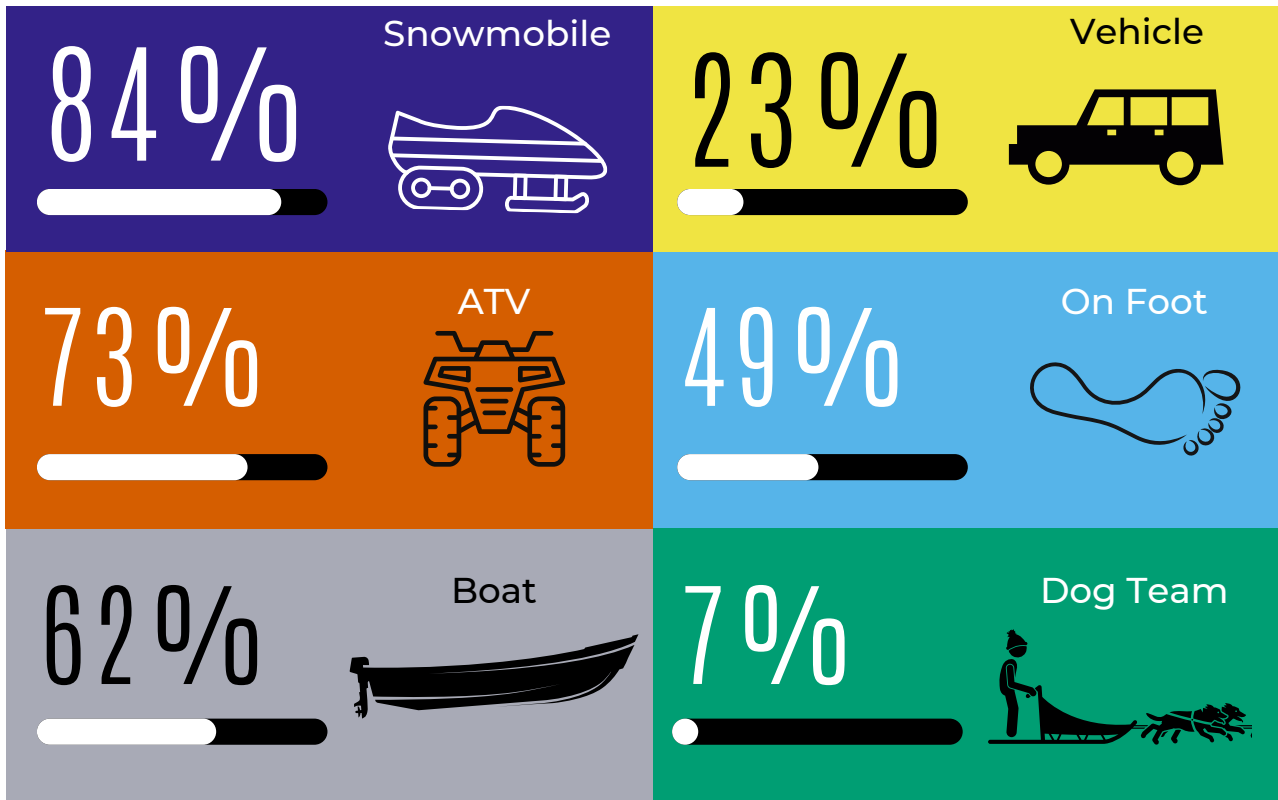
INTERNET ACCESS



Most (85%) participants have access to the internet in their home. The percent of participants with access to internet in their home, varied by community. For instance, in Iqaluit, 100% of participants had access to internet in their home, and in Clyde River 64% had access. This is important to know because it affects what kinds of environmental forecast information participants might be able to access.

TRAVEL HABITS

METHODS OF TRANSPORTATION SURVEY PARTICIPANTS USE TO TRAVEL ON THE LAND



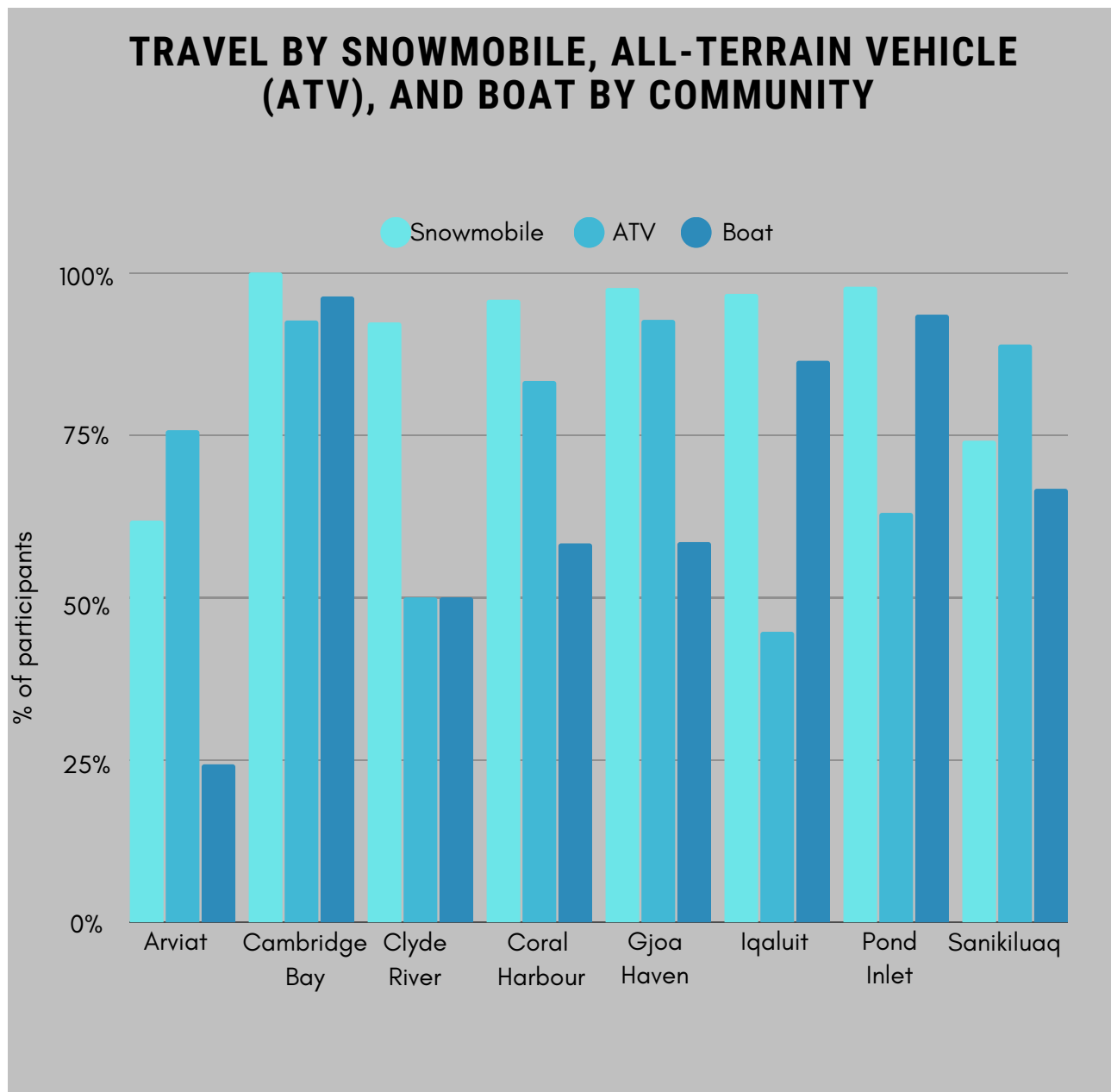
Survey participants travel on the land (meaning land, water, sea ice, and snow) in every month of the year. Snowmobile is the most common method of transportation used, followed by All-Terrain Vehicles (ATVs) and boats. Participants also travel by vehicle, on foot, and by dog team.

The value shown here for “On Foot” may overestimate the number of participants who travel on foot (i.e. leave their community on foot, not short walks or hikes), because they misunderstood what was meant.

TRAVEL HABITS

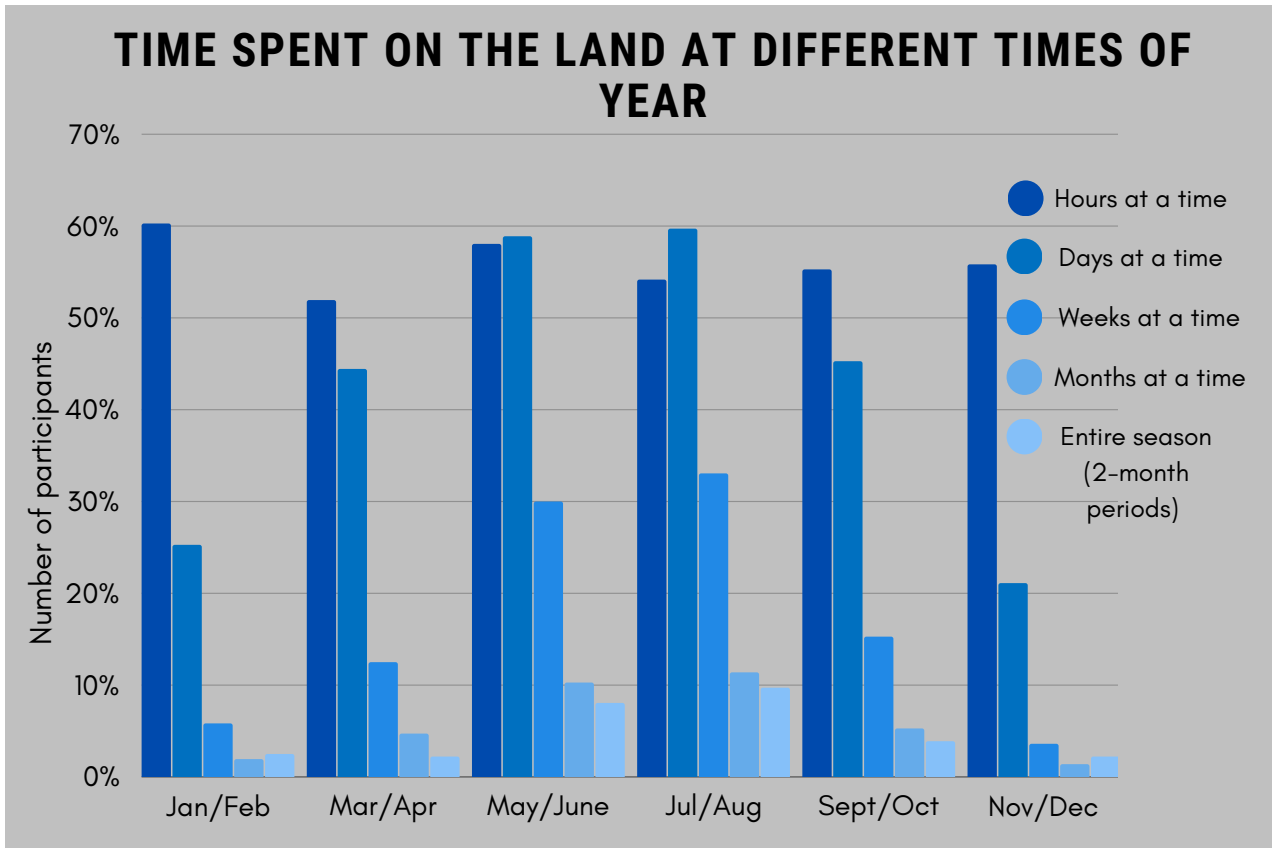
(CONTINUED)

METHODS OF TRANSPORTATION SURVEY PARTICIPANTS USE TO TRAVEL ON THE LAND (CONTINUED)



Snowmobiles are the transportation type the greatest percent of participants used in every community except Arviat and Sanikiluaq, where ATVs were used by the greatest number. ATV use differed notably between communities. For example in Iqaluit, less than half (45%) use ATVs compared to Cambridge Bay and Gjoa Haven (both 93%). Boat use also varied between communities. In Arviat, 25% of participants use boats, compared to Cambridge Bay (96%), Pond Inlet (94%), and Iqaluit (86%).

TRAVEL HABITS (CONTINUED)



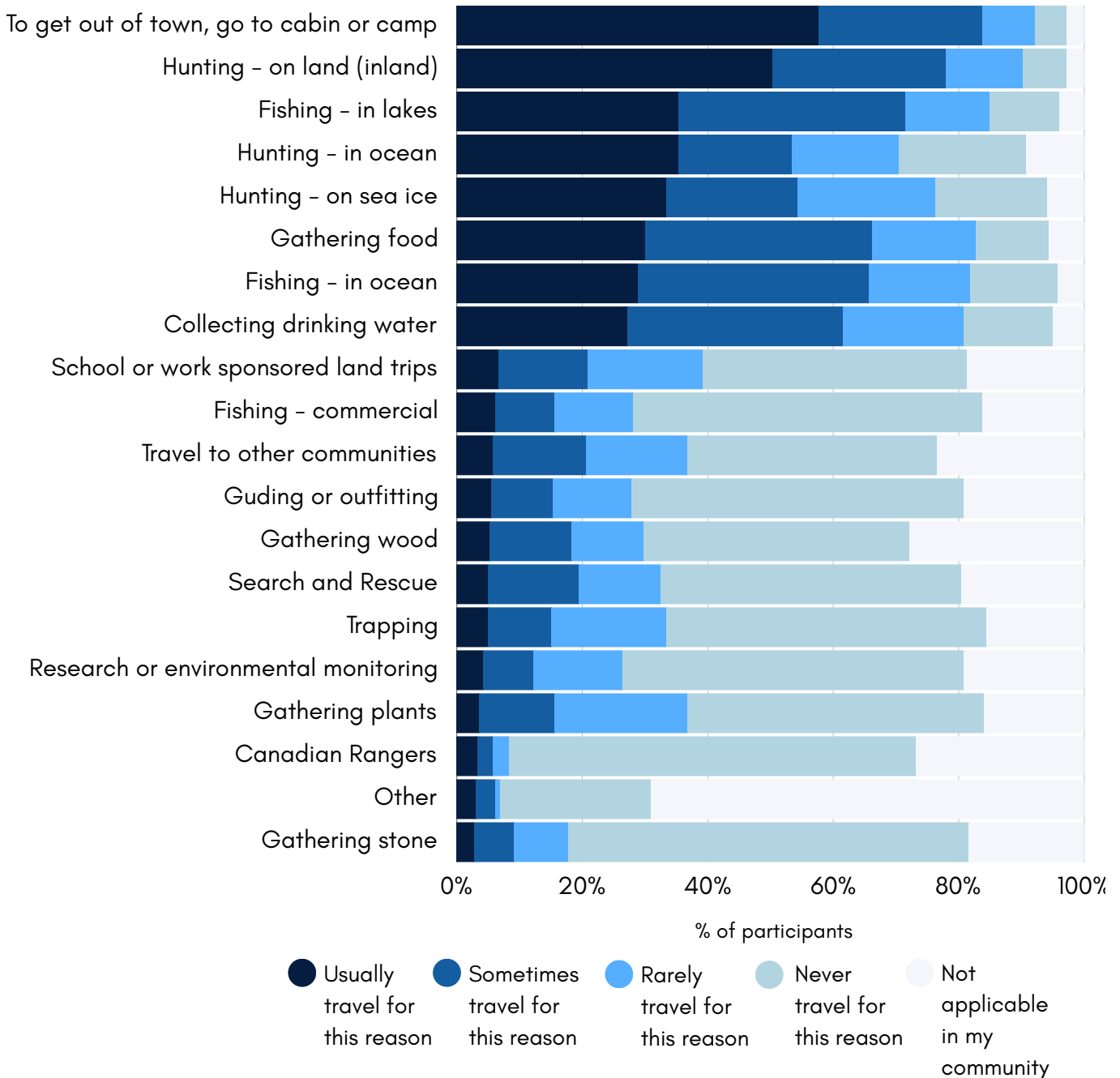
In different times of year, survey participants spend different lengths of time on the land. Most commonly, participants are on the land for hours or days at a time. In May through August many participants are on the land for weeks at a time. Some travel for longer periods of time.



Photo: Natalie Carter

TRAVEL HABITS (CONTINUED)

REASONS NUNAVUMMIUT PARTICIPANTS USUALLY TRAVEL ON THE LAND



Survey participants travel on the land, water, and ice for many reasons. Most often they travel to get out of town/go to a cabin or camp, hunt on land, fish in lakes, hunt in the ocean or on sea ice, to gather food, fish in the ocean, or to collect drinking water. See page 22 for details about “Other” reasons Nunavummiut participants travel on the land.

TRAVEL HABITS (CONTINUED)

REASONS NUNAVUMMIUT PARTICIPANTS USUALLY TRAVEL ON THE LAND (CONTINUED)

Survey participants travel on the land, water, and ice for many reasons. Those who answered "Other" (see Page X.) said they boat, camp with family, butcher seals, clam dig, dog sled, ski, fat bike, exercise, reunite with family, cache fuel, survey wildlife, drop off cabin/camping supplies, hike, kite, and map sea ice with a drone. Participants all travel on the land for mental health, photography, to practice Inuit Qaujimajatuqangit, mobile journalism, Parks Canada, sport fishing, to support snowmobile races, take people who never get to go out, teach friends, white water kayak, church trips, and for peace and quiet.



Photo: Natalie Carter

WHERE NUNAVUMMIUT RESPONDENTS TRAVEL

When looking at the maps in this report (pages 25 to 28), it is important to note that:

1. **Participants do not only travel to the areas indicated on the maps.** Some individuals go further than shown. However, the maps we used limited the areas people could select;
2. Not all community members participated in the survey so for this reason, the **travel extent may be even greater than shown in our maps;**
3. **Community members need to access weather, water, and ice information across the vast distances they travel.** Environmental conditions may be very different at their destination compared to in their community where the main weather station may be located; and
4. **The areas where participants travel overlap, or are connected, with other communities; they are all connected.** Therefore, weather stations placed between communities could benefit multiple communities seeking to access weather information.

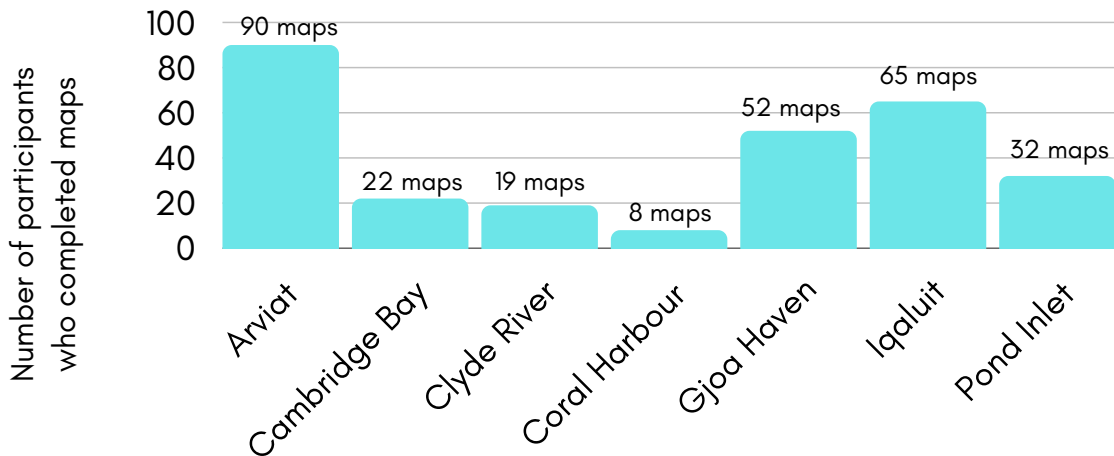


Photo: James Nanau Tagalik

WHERE NUNAVUMMIUT RESPONDENTS TRAVEL

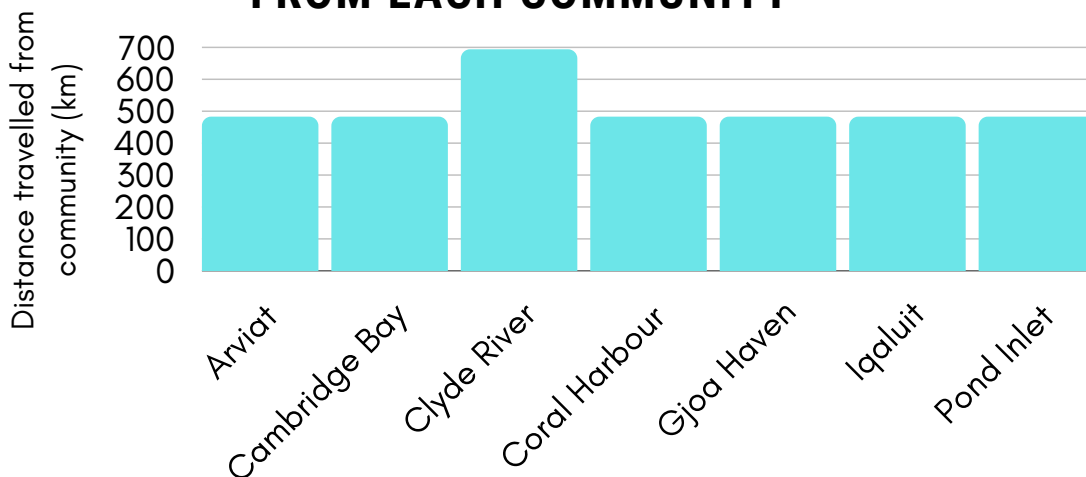
(CONTINUED)

NUMBER OF MAPS COMPLETED IN EACH COMMUNITY*



The number of participants who completed maps varied by community.

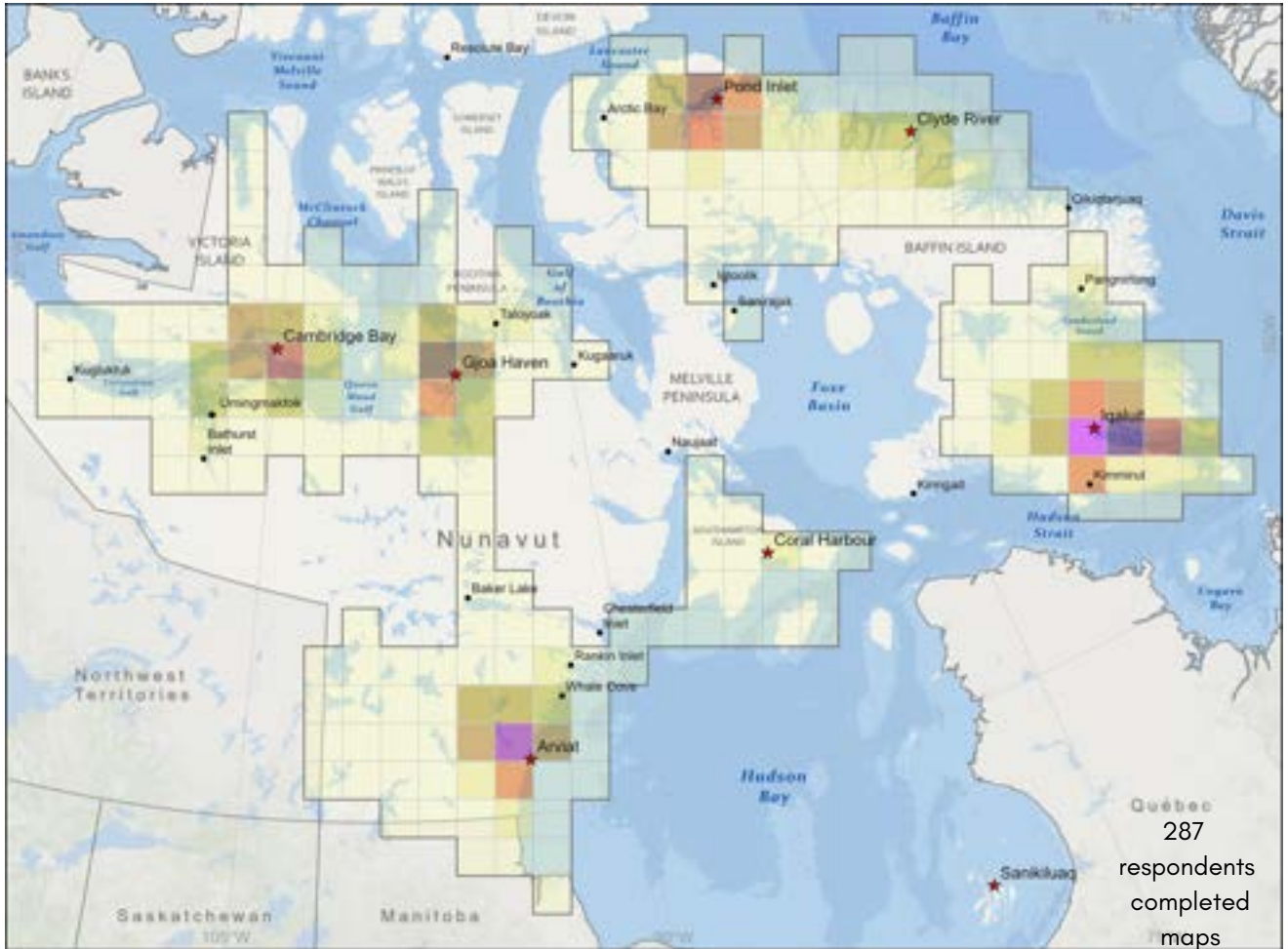
DISTANCE TRAVELLED (IN KILOMETERS) FROM EACH COMMUNITY*



Participants in Clyde River traveled the farthest from their community (694 kilometres). Participants in all of the other communities travelled very far as well (483km from their community). It is important to note that not all participants travel such long distances, rather these are the maximum distances travelled by some participants.

***No maps were completed in Sanikiluaq.**

WHERE NUNAVUMMIUT RESPONDENTS TRAVEL (CONTINUED)



Geographic Coordinate System: GCS WGS 1984; Projection: Lambert Azimuthal Equal Area;
 Maps created by Regena Sinclair, June 28, 2023; Service Layer Credits: HERE, Garmin, FAO, NOAA, USGS,
 © OpenStreetMap contributors, and the GIS User Community



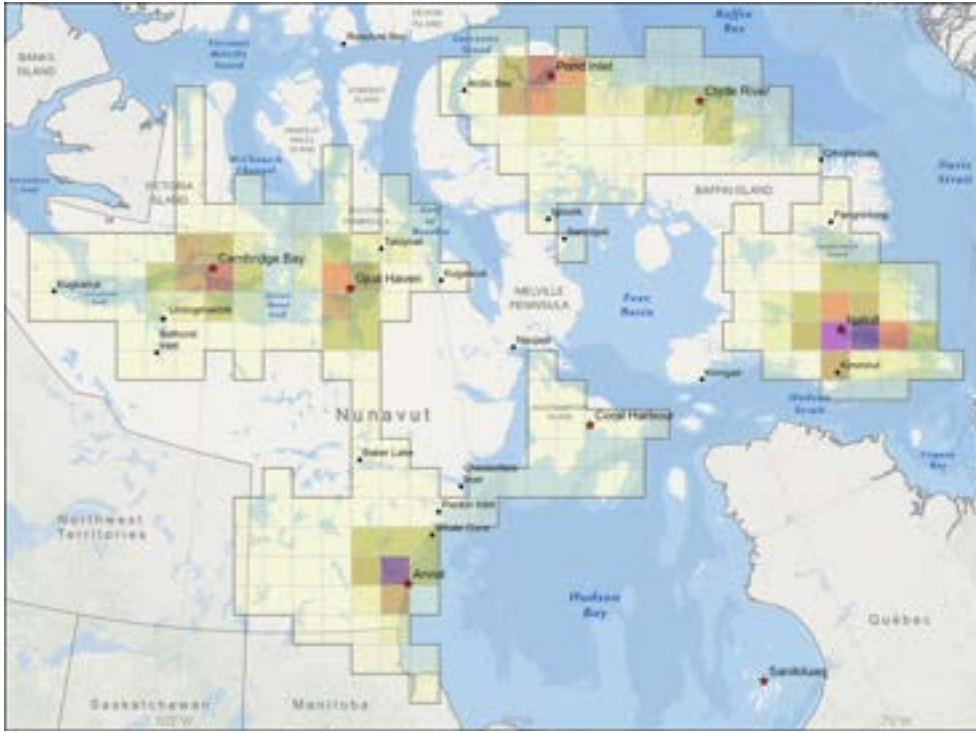
Number of respondents who travelled in the selected area

To access full-page maps visit:

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

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TRAVEL BY MEN



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TRAVEL BY WOMEN



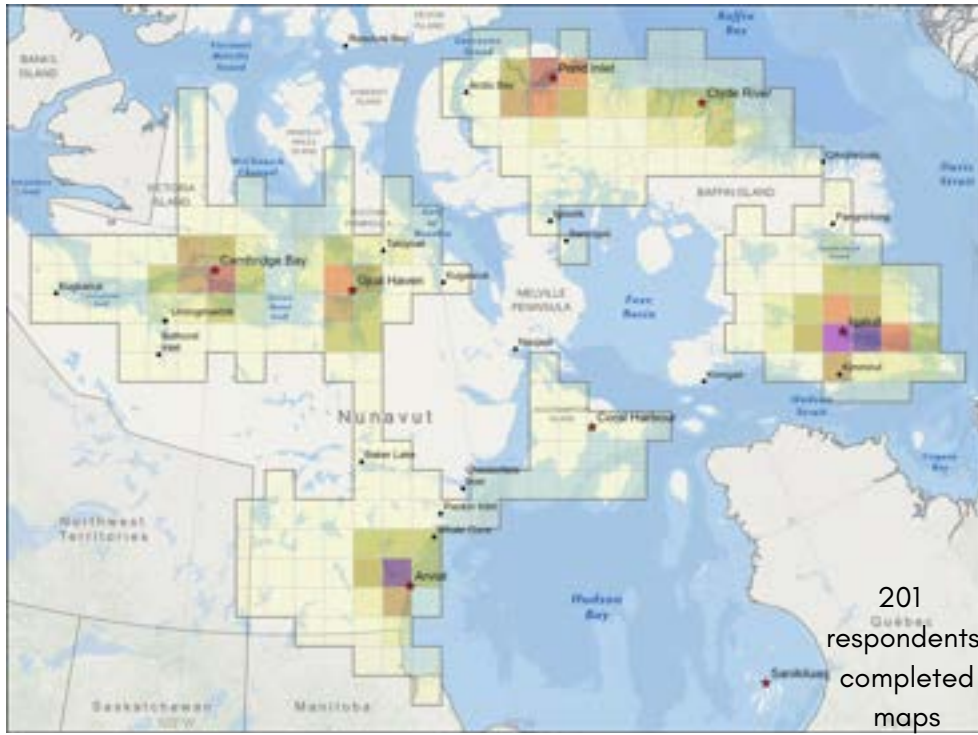
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WHERE NUNAVUMMIUT MEN AND WOMEN RESPONDENTS, TRAVEL

TRAVEL BY MEN



TRAVEL BY WOMEN



Number of respondents who travelled in the selected area

WHERE NUNAVUMMIUT RESPONDENTS TRAVEL (BY AGE)

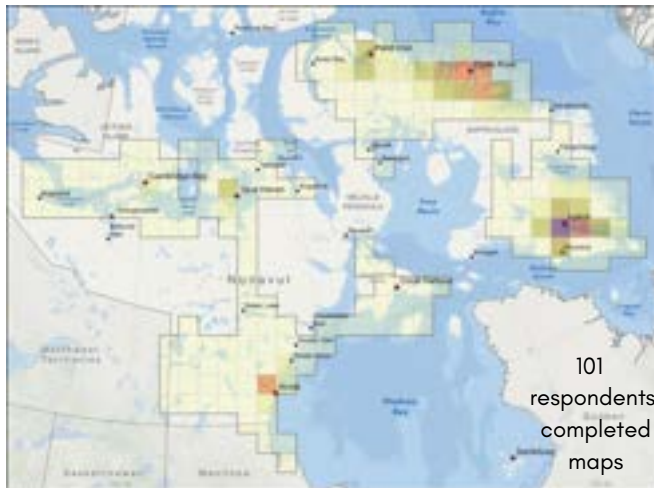
AGES 16 TO 24 TRAVEL



AGES 25 TO 34 TRAVEL



AGES 35 TO 49 TRAVEL



AGES 50 TO 69 TRAVEL



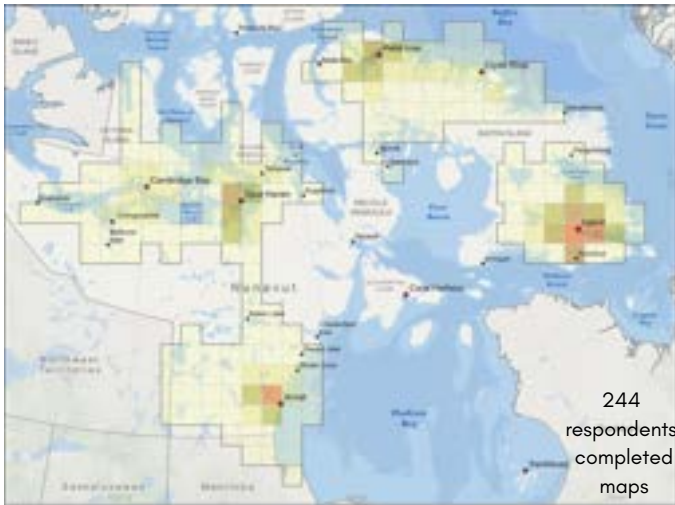
AGES 70 AND ABOVE TRAVEL



Number of respondents who travelled in the selected area

WHERE NUNAVUMMIUT RESPONDENTS TRAVEL (BY MODE OF TRAVEL)

SNOWMOBILE TRAVEL



ATV TRAVEL



BOAT TRAVEL



VEHICLE TRAVEL



DOG TEAM TRAVEL

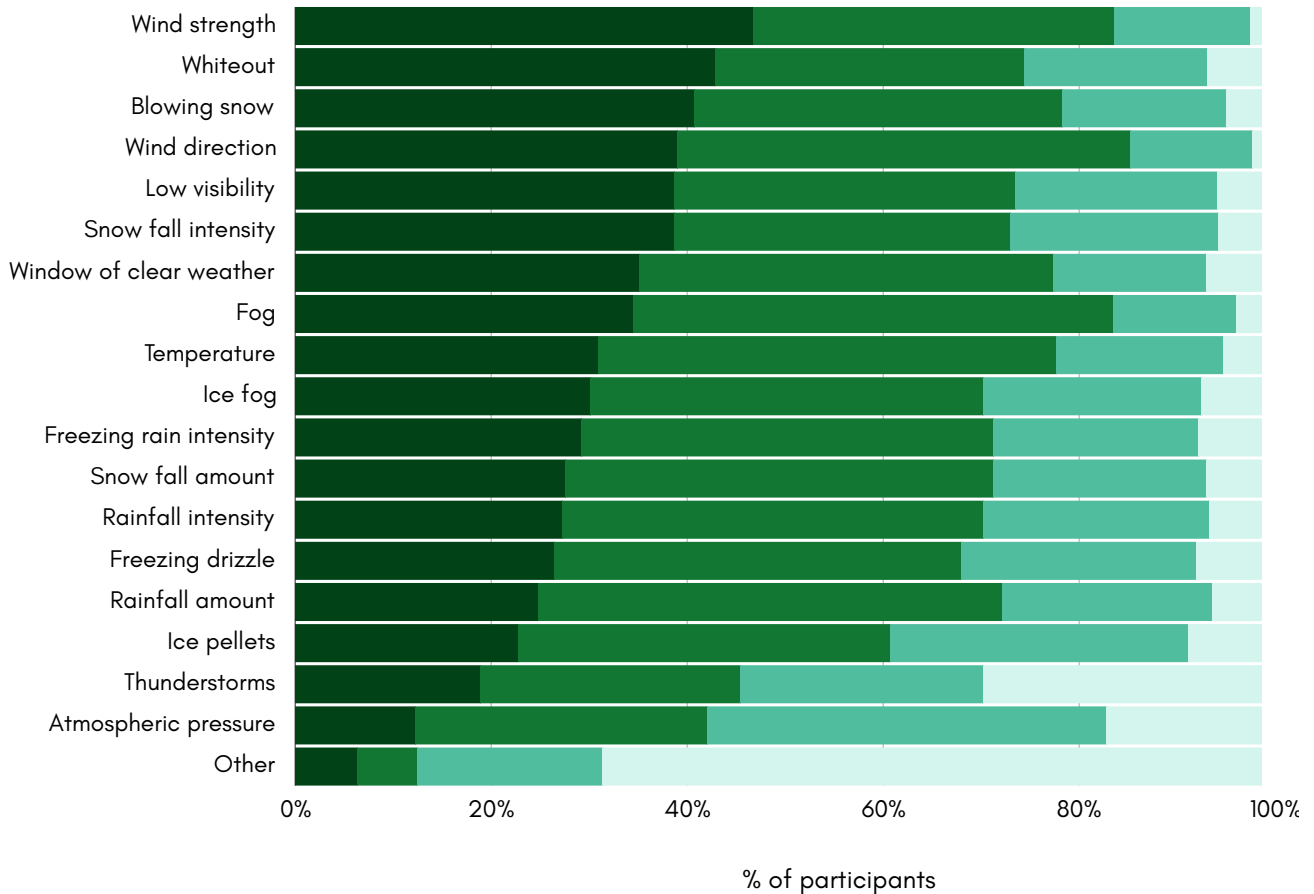


ON FOOT TRAVEL



Number of respondents who travelled in the selected area

WEATHER CONDITIONS NUNAVUMMIUT PARTICIPANTS CHECK BEFORE THEY TRAVEL

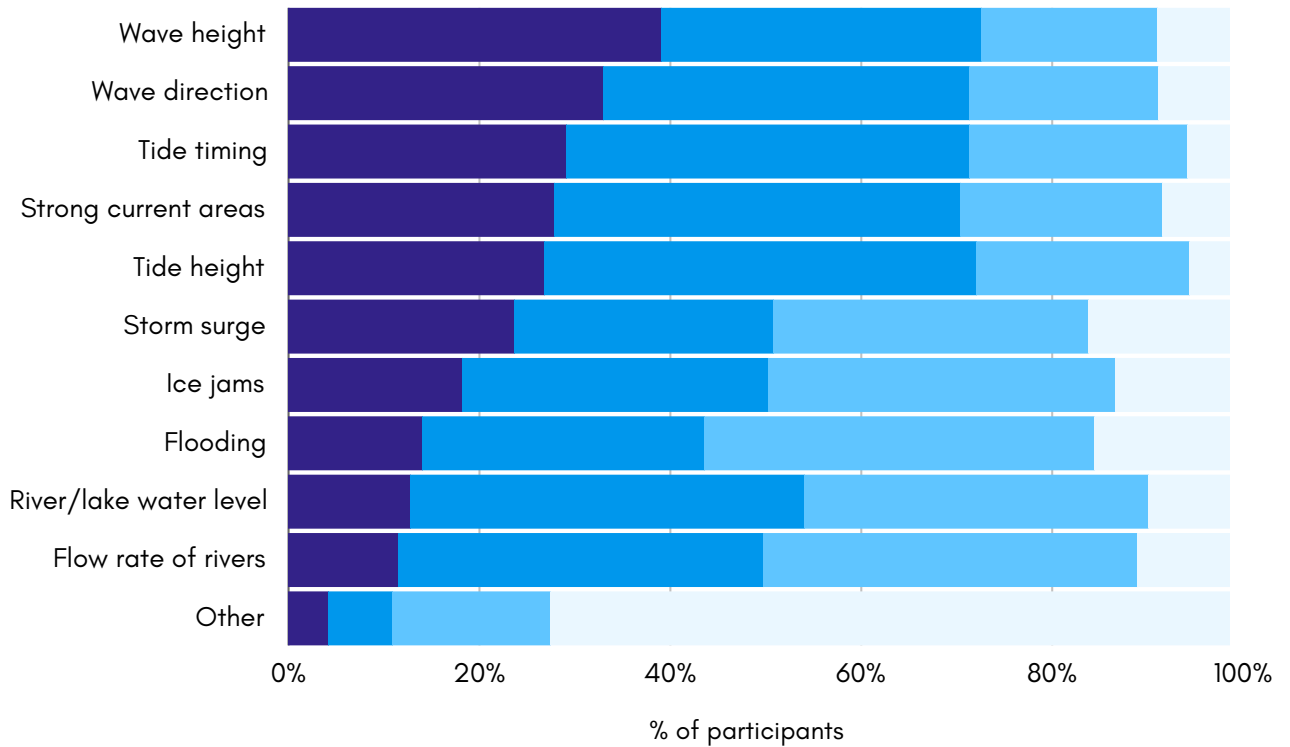


- Necessary:**
 I would not travel without knowing about this condition
- Good to know:**
 It is helpful to know about this condition, it informs travel decisions
- Don't consider:**
 I don't consider this condition to make travel decisions
- Not applicable:**
 This condition is not applicable in my community



Nunavummiut participants check many types of weather conditions before they travel on the land. Wind strength, whiteout, blowing snow, wind direction, low visibility, snowfall intensity, window of clear weather, and fog are the weather conditions most commonly considered “necessary” to check before travelling. It is important to note that many of these are associated with visibility. Participants who answered "Other" also check for blizzard warnings, cloudy conditions, wind speed on the water, and the size of snow flakes (small or large).

WATER CONDITIONS NUNAVUMMIUT PARTICIPANTS CHECK BEFORE THEY TRAVEL

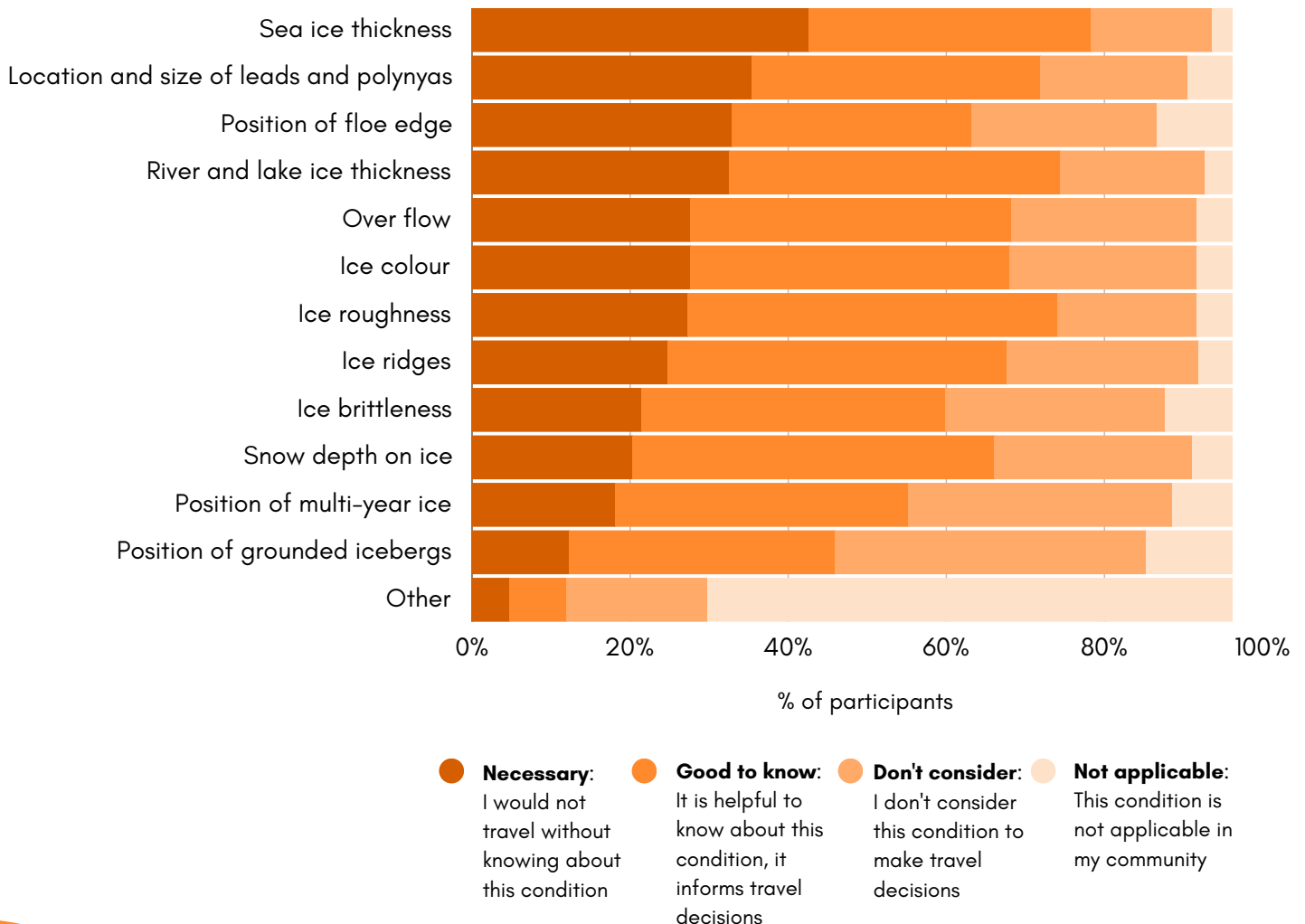


- **Necessary:**
I would not travel without knowing about this condition
- **Good to know:**
It is helpful to know about this condition, it informs travel decisions
- **Don't consider:**
I don't consider this condition to make travel decisions
- **Not applicable:**
This condition is not applicable in my community

Nunavummiut participants check many types of water conditions before they travel on the land. Wave height, wave direction, tide timing, and tide height are the water conditions most commonly considered "necessary" to check before travelling. Those who said "Other" also check slush and overflow on rivers and lakes, as well as salinity levels.

WATER

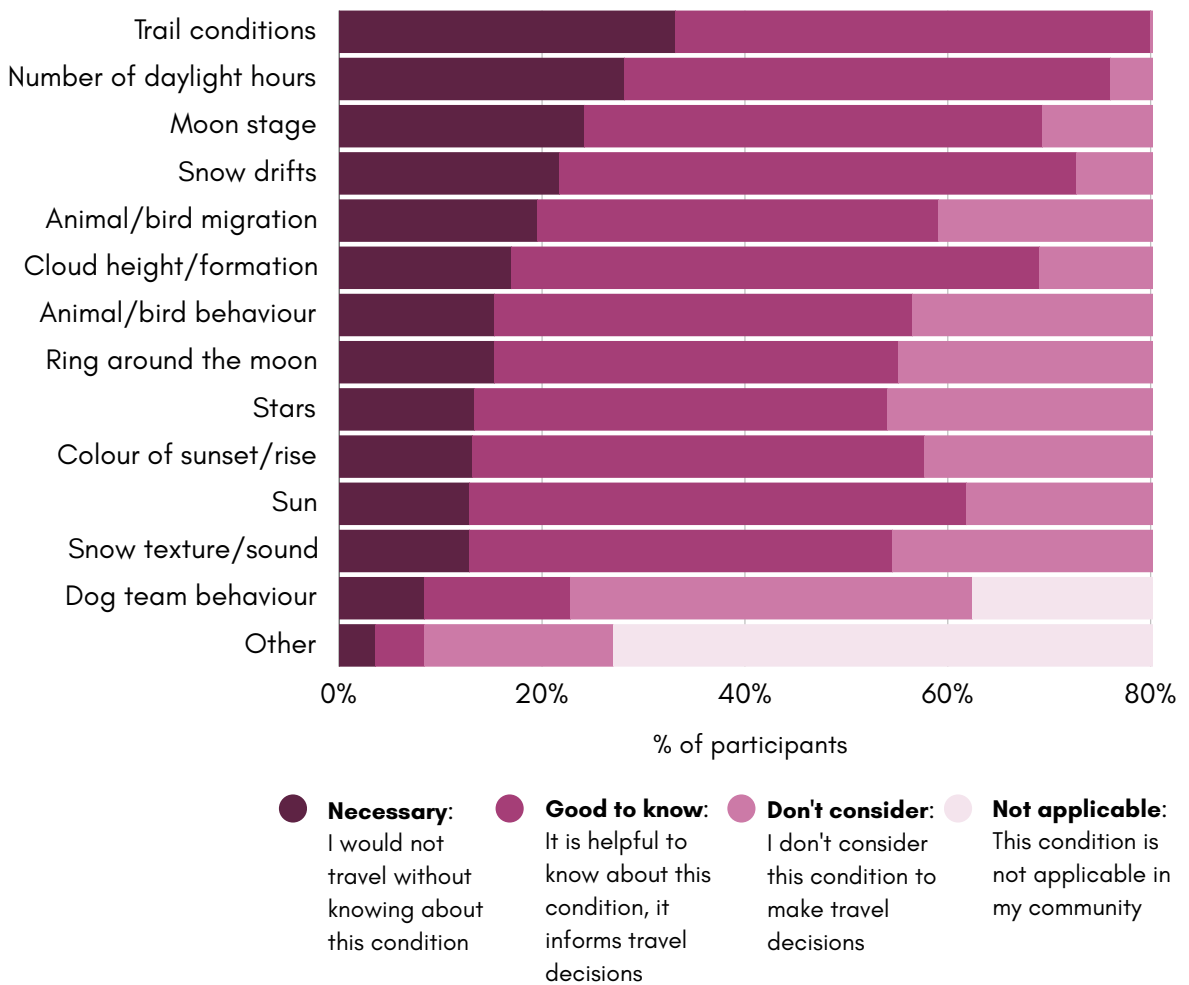
ICE CONDITIONS NUNAVUMMIUT PARTICIPANTS CHECK BEFORE THEY TRAVEL



Nunavummiut participants check many types of ice conditions before they travel on the land, water, sea ice, and snow. Sea ice thickness, location and size of leads and polynyas, the position of the floe edge, river and lake ice thickness, overflow, ice colour, and ice roughness are most commonly considered "necessary" to check before travelling. Those who said "Other" also check for situations where ice appears to be solid but is actually thin with blowing snow over it, the solidity of the ice (i.e. slushy, moisture), and low visibility.

ICE

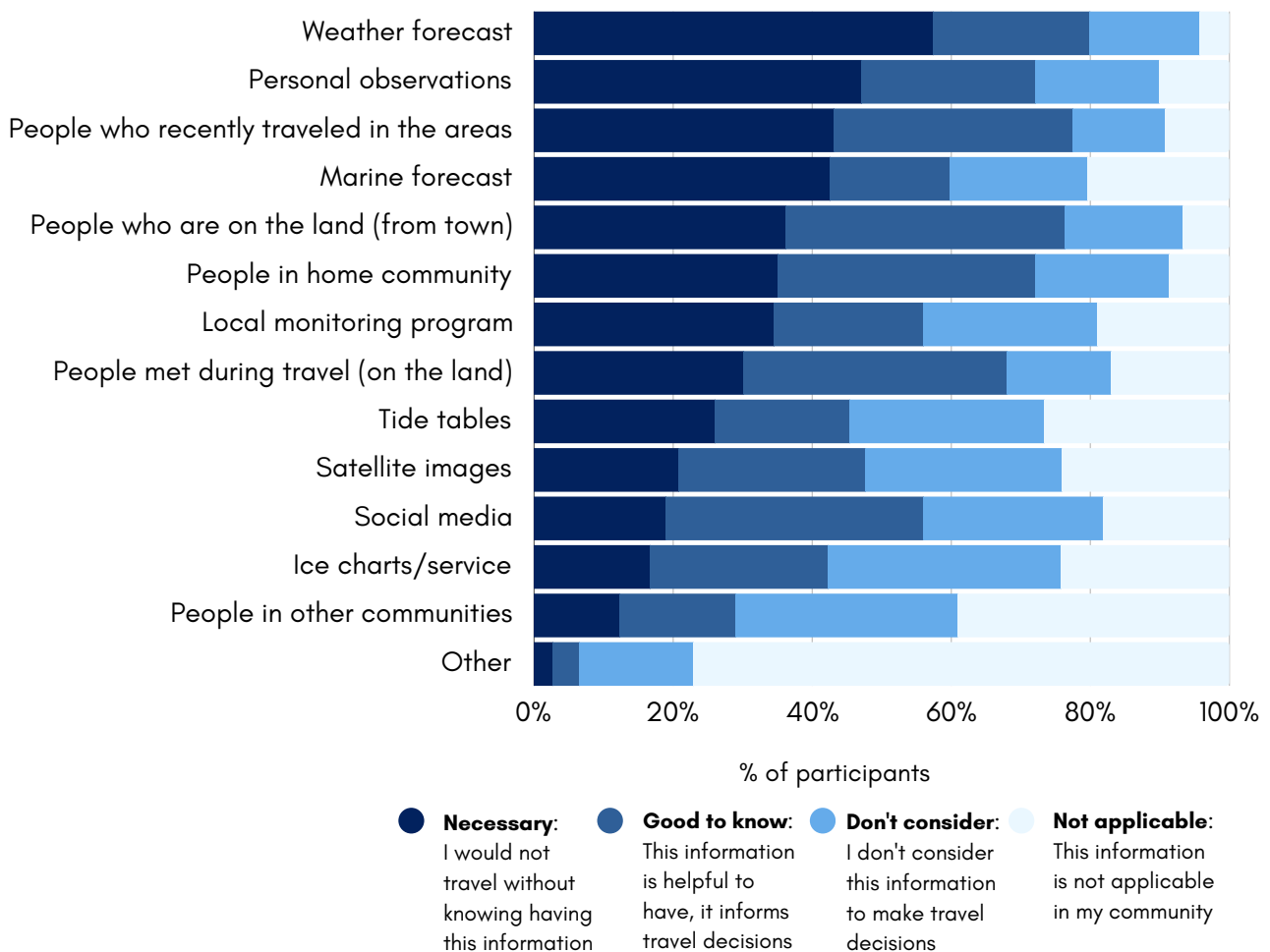
OTHER ENVIRONMENTAL CONDITIONS NUNAVUMMIUT PARTICIPANTS CHECK BEFORE THEY TRAVEL



OTHER

Nunavummiut participants check many other environmental conditions before they travel on the land, water, sea ice, and snow. Trail conditions, and number of daylight hours are the conditions most often considered "necessary" to check before travelling. Those who answered "Other" also check for humidity, frost, winds on higher mountain peaks or mountain ranges, snow drift direction, the lunar cycle, earth's axis, the look and colour of the sun, the horizon colours, if they feel pressure in their bones, and if dogs and wildlife move in similar ways.

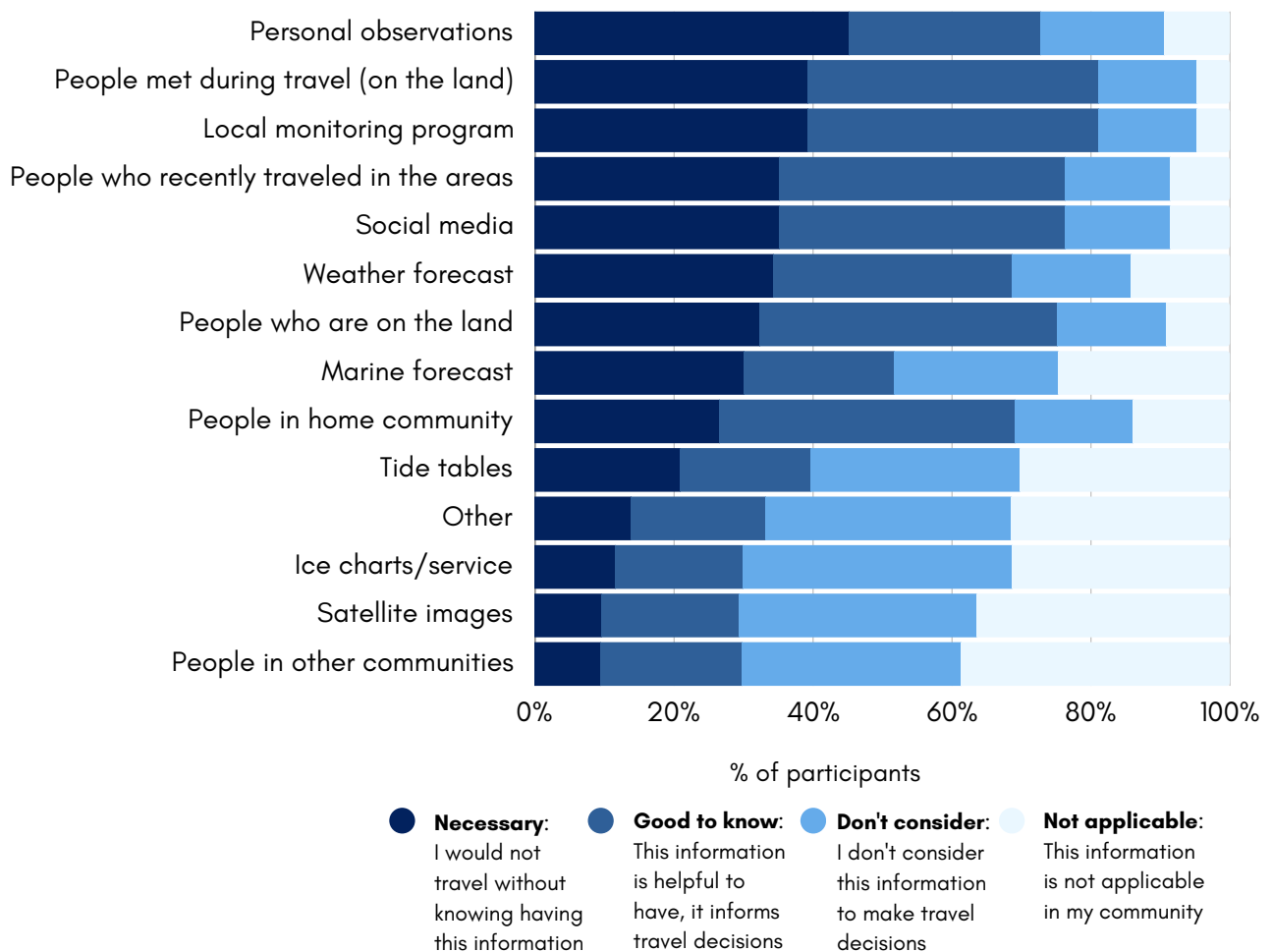
INFORMATION SOURCES NUNAVUMMIUT PARTICIPANTS USE WHEN PLANNING A TRIP



When planning a trip, Nunavummiut participants access many sources of environmental information before they travel on the land. Weather forecast, personal observations, people who recently travelled in the area, and marine forecast are the sources that participants most often consider “necessary” to check before travelling.

Weather forecast is in the top two sources that participants most often consider “necessary” to check before travelling, in all communities except Clyde River (where it is 8th). **People who recently traveled in the area** are considered “necessary” to check more often than weather forecast, in Arviat, Cambridge Bay, Clyde River, and Coral Harbour. **Marine forecast** is in the top three considered “necessary”, in Cambridge Bay and Pond Inlet, and **tide tables** is in the top three in Iqaluit. **Local monitoring programs** is in the top three in Arviat, Coral Harbour, and Sanikiluaq.

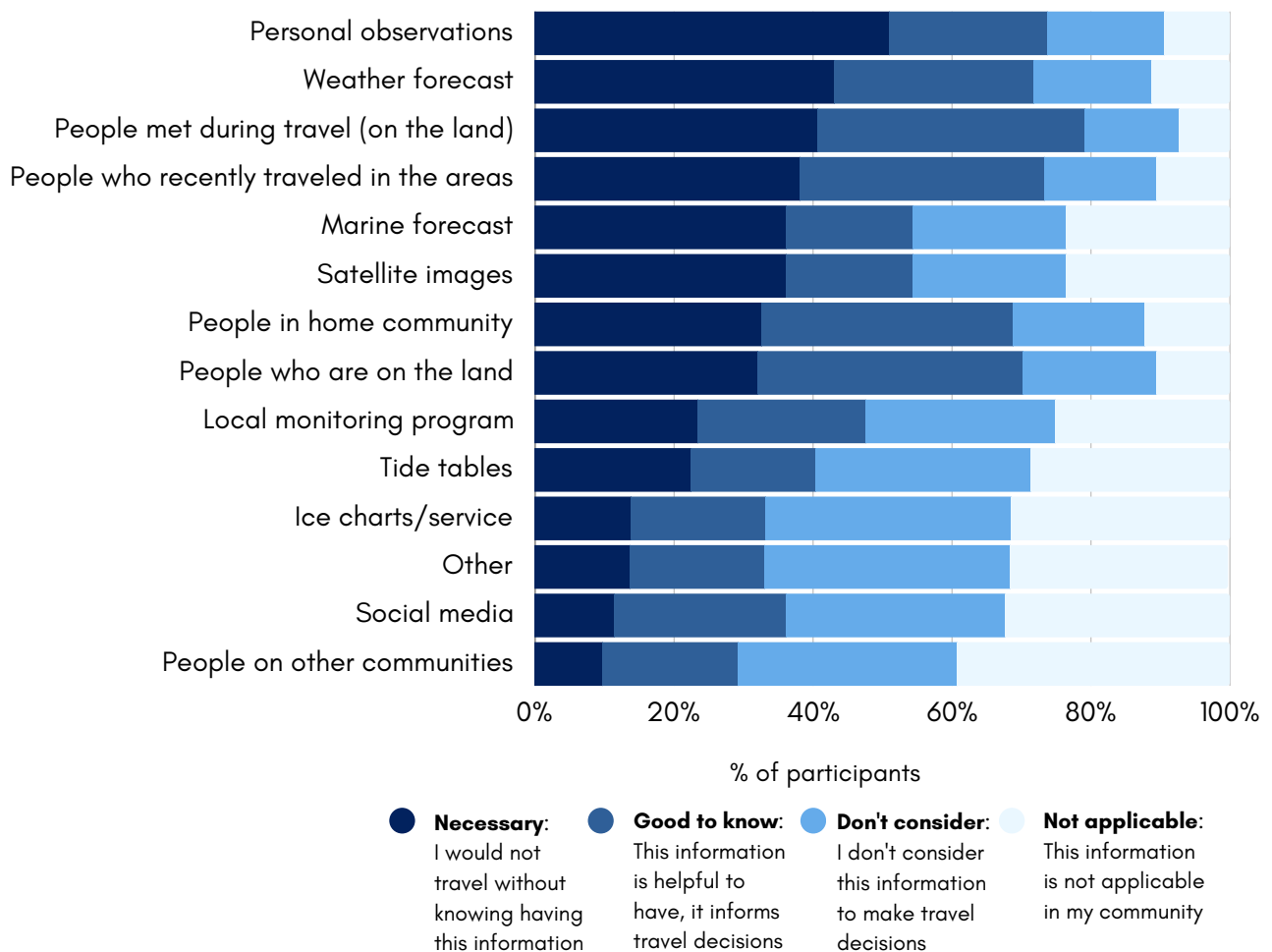
INFORMATION SOURCES NUNAVUMMIUT PARTICIPANTS USE WHEN ON THE LAND



When on the land, Nunavummiut participants access many sources of environmental information. Personal observations is the source that participants most often consider “necessary” to check before travelling. Other sources of information also commonly considered “necessary” include: people met during travel, local monitoring programs, people who recently traveled in the areas, social media, weather forecasts, people who are on the land, marine forecasts, people in their home community, and tide tables.

It is notable that when planning a trip (see page 33) weather forecast and personal observations are the information sources participants most often consider necessary to check, but when on the land personal observations are the mostly commonly accessed source of information. This is because, while on the land, participants have limited or no access to online products, and must ask someone else (in town) to access it for them.

INFORMATION SOURCES NUNAVUMMIUT PARTICIPANTS USE WHEN RETURNING HOME

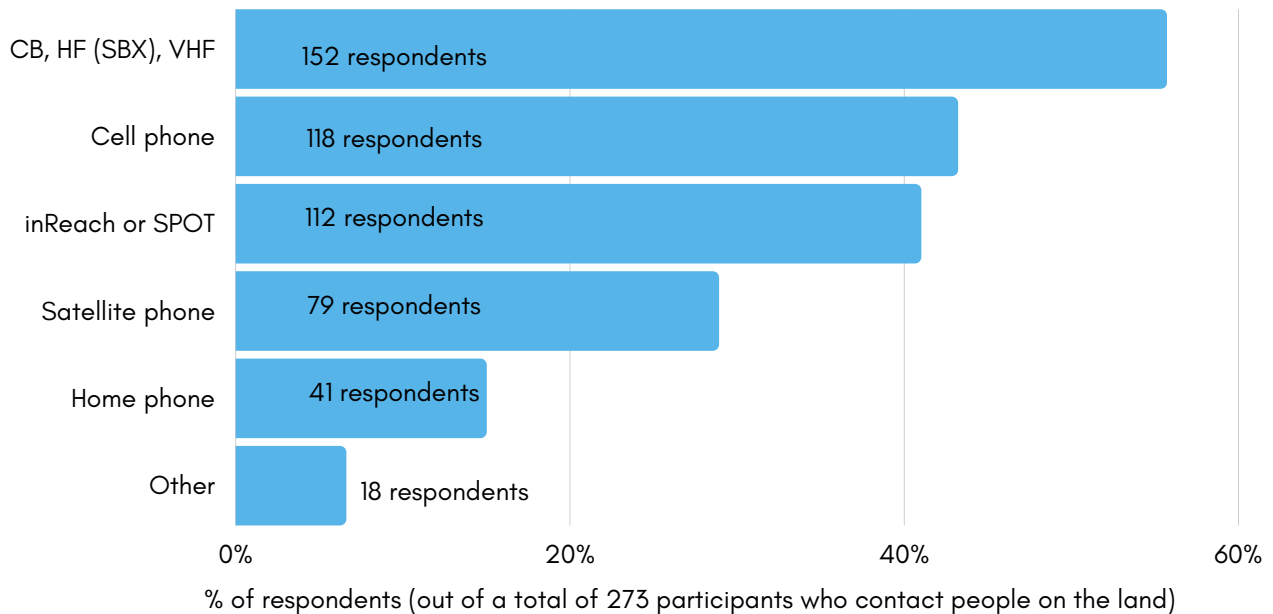


When planning to return home, Nunavummiut participants access many sources of environmental information. **Personal observations, weather forecasts, and people met during travel on the land** are the sources that participants most often consider “necessary” to check before travelling. People who recently traveled in the area, marine forecast, satellite images, people in their home community, people who are on the land, local monitoring programs, and tide tables are also often considered “necessary” to check before travelling.

It is notable that, similar to when people are planning a trip (page 33), personal observations and weather forecasts are the information sources most often considered “necessary” to check. It is important to note that while on the land, participants have limited or no access to online products, and must ask someone else (in town) to access it for them.

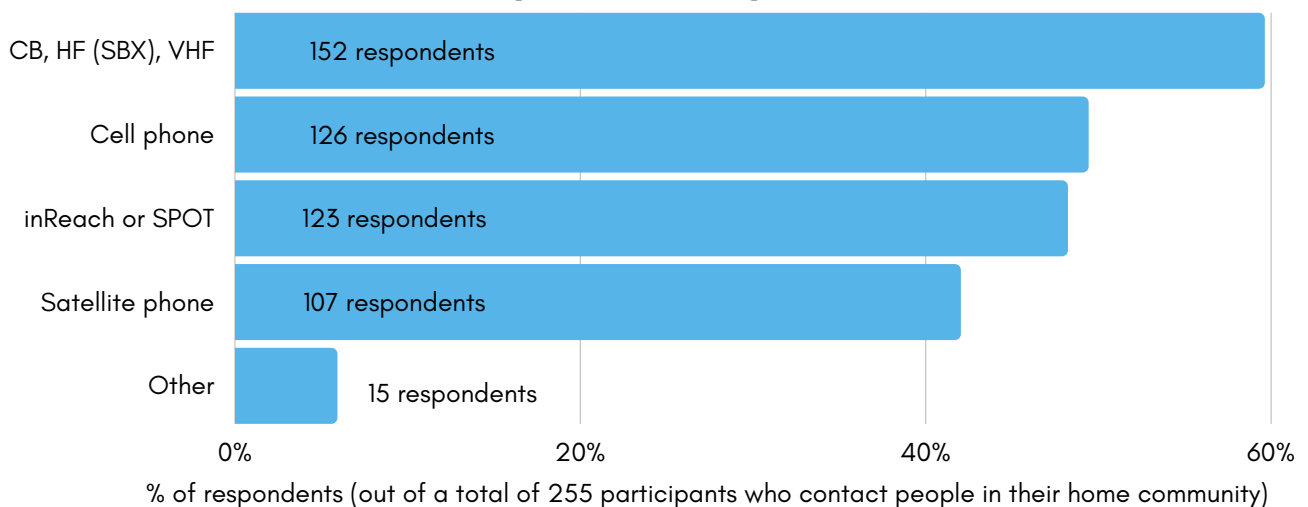
CONTACTING COMMUNITY INFORMATION SOURCES

Ways that respondents contact people on the land while they are in their home community



Respondents who contact people on the land to ask about environmental conditions, while they themselves are in their community, mostly use short-wave radios (CB, HF(SBX), VHF), cell phones, and inReach or SPOT to contact them. Those who said "Other" meet people in person (go find them, or wait to talk to them), use Zoleo, or another person in town would contact them.

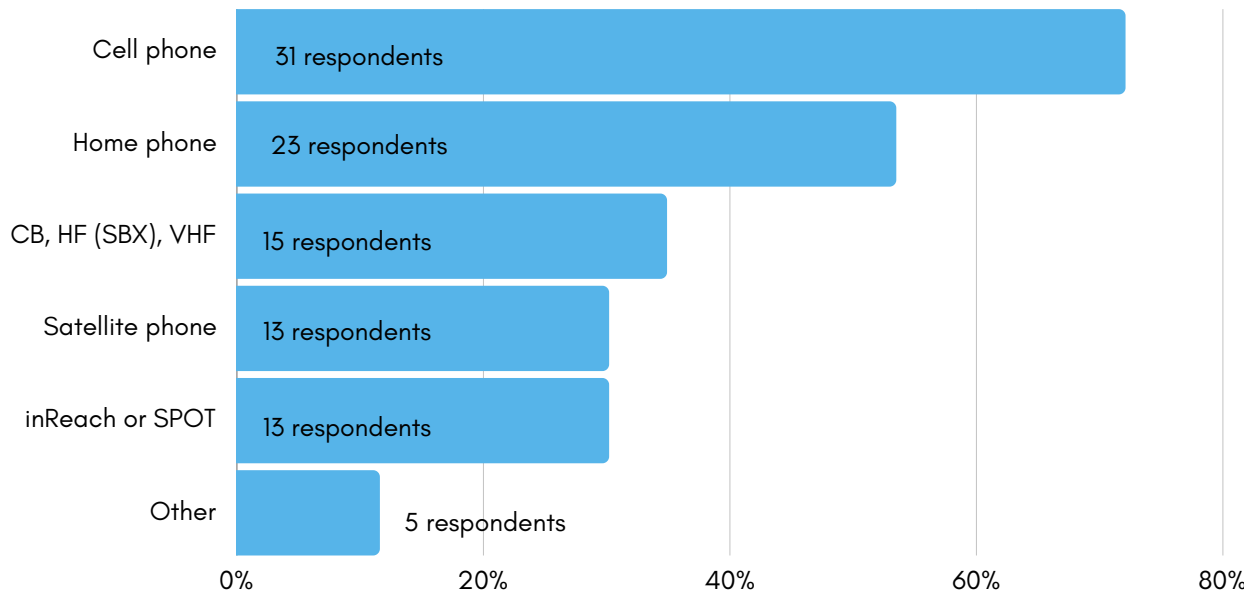
Ways that respondents contact people in their home community while on they are on the land



Respondents who contact people in their home community to ask about environmental conditions, while they themselves are on the land, also mostly use short-wave radios (CB, HF(SBX), VHF), cell phones, and inReach or SPOT. Respondents who answered "Other" also meet people in person, or use Zoleo.

CONTACTING COMMUNITY INFORMATION SOURCES (CONTINUED)

Ways that respondents contact people in other communities



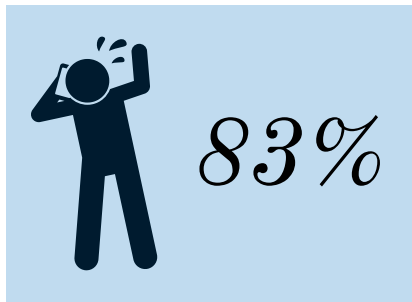
% of respondents (out of a total of 43 participants who contact people in other communities)

Respondents who contact people in other communities to ask about environmental conditions mostly use cell phones and home phones to contact them. Respondents who answered "Other" said they contact people from other communities when they meet them on the land, and when they get to other communities.

The other communities contacted are:

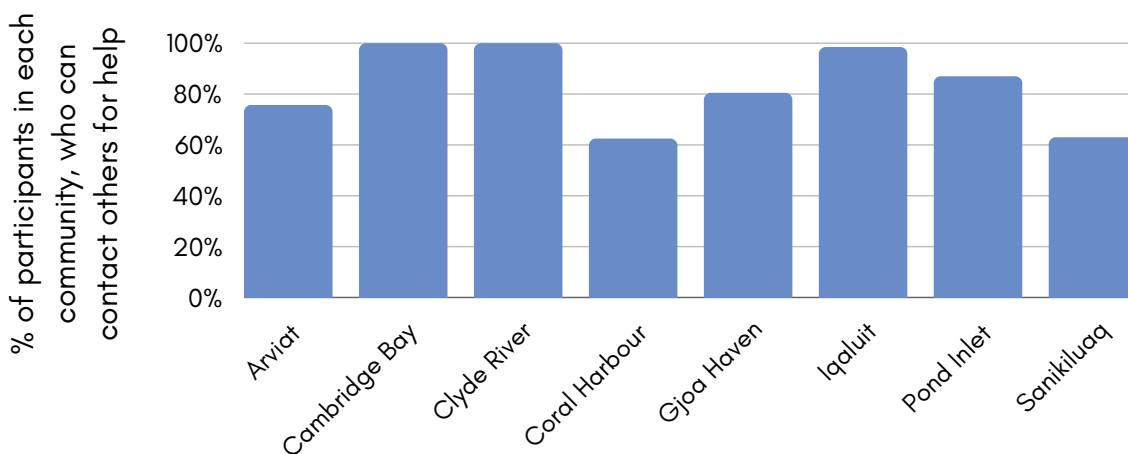
- **From Arviat:** Baker Lake, Churchill, Rankin Inlet, and Whale Cove;
- **From Cambridge Bay:** Kugluktuk, and Gjoa Haven;
- **From Clyde River:** No communities listed;
- **From Coral Harbour:** Naujaat and Rankin Inlet;
- **From Gjoa Haven:** Taloyoak and Cambridge Bay;
- **From Iqaluit:** Kimmirut, Pangnirtung, Qikiqtarjuaq, and Kinngait;
- **From Pond Inlet:** Arctic Bay, Clyde River, Igloodik, and Sanirajak; and,
- **From Sanikiluaq:** No communities listed.

CONTACTING OTHERS FOR HELP



If Nunavummiut participants get stranded or have an accident on the land, 83% (out of a total of 360) can call for help.

CONTACTING OTHERS FOR HELP BY COMMUNITY



In Cambridge Bay and Clyde River, 100% of participants said they can contact others for help if they get stranded or have an accident on the land. This is in contrast to the other communities where some participants said they cannot call for help. Notably, in both Coral Harbour and Sanikiluaq, only 63% of participants said they can call for help, compared to Arviat (75%), Pond Inlet (87%), and Iqaluit (99%) who are able to call for help when needed.

It is important to note that in many communities, there are options to borrow a SPOT device* from a local organization. However, some participants may not access these devices for a range of reasons, for example: they are not aware a SPOT can be borrowed, or the organization is not open when they need to borrow a SPOT.

***SPOT devices** use satellite technology to enable location tracking, sending and receiving messages, and notifying search and rescue if there is an emergency.

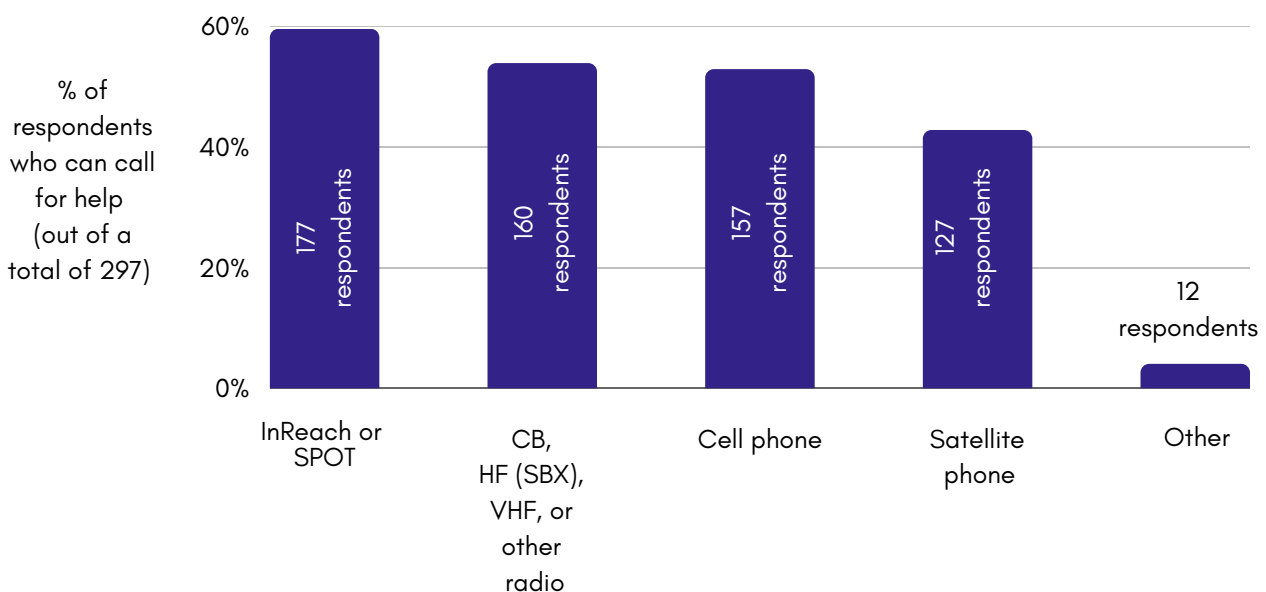
CONTACTING OTHERS FOR HELP (CONTINUED)

Of the 297 respondents who can call for help, most would call a family member (89%), or friend (59%), and some would call local search and rescue (SAR) (46%) for help. Respondents would also call the Hunters and Trappers Association/Organization (12%), Nunavut Emergency Management (11%), or Canadian Rangers (8%). Those who said "Other" (8%) would call base camp, co-workers or supervisor, the fire hall, nearby hunters, Royal Canadian Mounted Police, Wildlife Office, and/or pray.

Participants will call a family member or friend first when smaller incidents occur, such as if they get stuck, their machinery breaks down, or they run out of fuel. This is because they are closely connected to their family members and friends and feel more comfortable contacting them for help.

Participants will call organizations such as local SAR, the Hunters and Trappers Association/Organization, and Nunavut Emergency Management if there is a bigger incident (in an emergency situation).

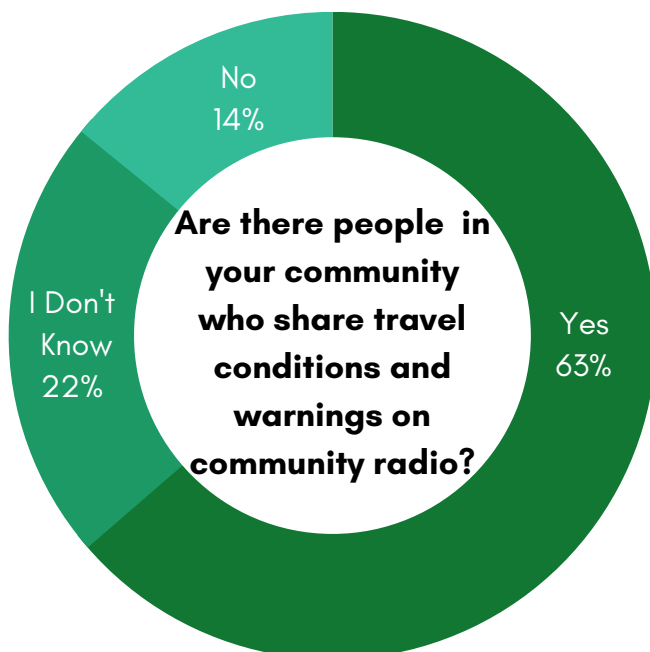
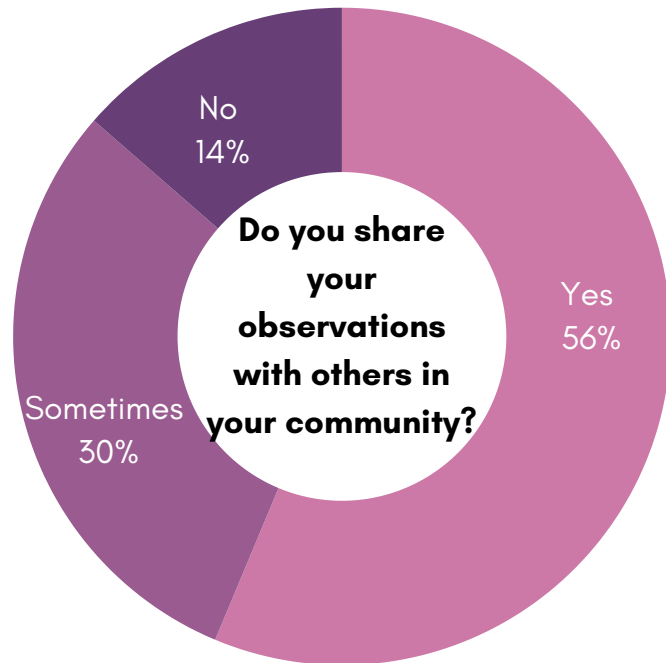
TO CALL FOR HELP RESPONDENTS USE ...



Of the respondents who can call for help, most use an inReach or SPOT (60%). They also use short-wave radios (CB, HF(SBX), VHF), cell or satellite phones. Respondents who answered "Other" use Zoleo, call nearby hunters, and/or set up check-in times with family members who call SAR if check-in is missed.

SHARING OBSERVATIONS OF WEATHER, WATER, ICE, OR SNOW CONDITIONS WITH OTHERS IN NUNAVUT

Many (56%) participants share their observations of weather, water, ice, or snow conditions with others in their community.



Most (63%) participants said there are people regularly going on community radio or CB/HF(SBX)/VHF radio, to share warnings or provide advice about weather, water, or ice conditions. A few (22%) participants did not know if people regularly go on radio to share warnings or provide advice.

**1% prefer not to answer*

GATHERING TO TALK ABOUT TRAVEL CONDITIONS WITH OTHERS IN NUNAVUT

Are there places in your community where people tend to meet and talk about recent travel conditions?



*2% prefer not to answer

Of the 159 respondents who answered "yes there are places"

46% go to these places to listen or ask for advice

46% go to share observations or advice

Some participants (33%) said they did not know if there are places in their community where people tend to meet and talk about recent travel conditions, or weather, water, ice and other environmental conditions.

Of the 44% (159 participants) who said there are places where people meet, some go to those places to listen or ask for advice (46%) and some go to those places to share their observations or advice (46%).



GATHERING TO TALK ABOUT TRAVEL CONDITIONS WITH OTHERS IN NUNAVUT

(CONTINUED)

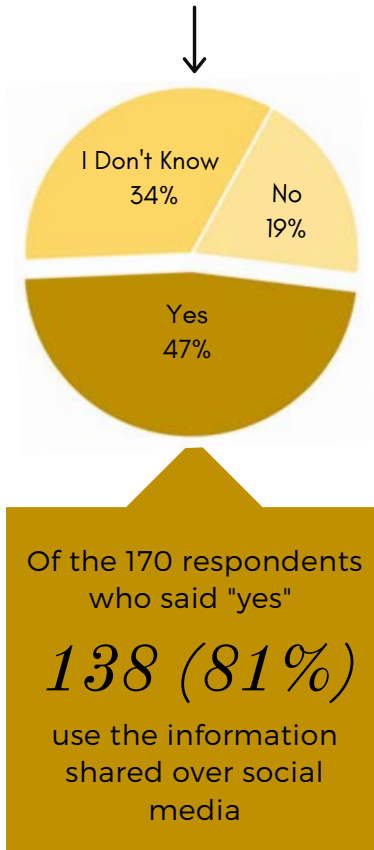
PLACES PARTICIPANTS GATHER TO TALK ABOUT TRAVEL CONDITIONS

- In people's homes or cabins
- On the street and around town
- Local stores/businesses/services:
 - Co-op, Northern
 - hotel
 - gas station
 - post office
 - radio station
 - restaurant/bar/coffee shop
- On route to a destination
- On the ice, beach, dock, sled dog yard, breakwater, or causeway
- On the land while hunting or camping
- Various local offices/meetings:
 - Hamlet/City Office
 - Community hall
 - Hamlet/City garage
 - Hunters and Trappers Organization
 - Schools
 - Regional Inuit Association
 - Wildlife Office
 - Water Board
 - Search and Rescue
 - Ilisaqsivik
 - Parks Office
 - Workplace (during coffee breaks)



SOCIAL MEDIA NUNAVUMMIUT USE TO SHARE TRAVEL CONDITIONS

**Do people in your community
use social media to talk about
travel conditions?**



There were 170 participants who identified being aware of social media pages or groups where people share observations or advice about weather, water, and ice conditions.

It is important to note that some respondents have their own knowledge of the weather, water, ice, and snow conditions so they do not check social media for this information.

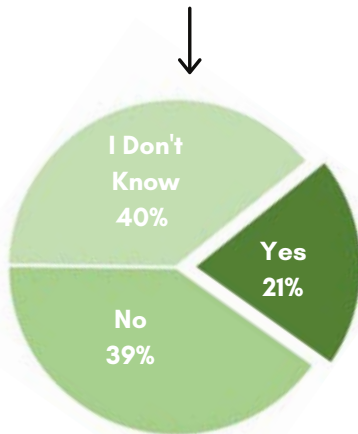
SOCIAL MEDIA NUNAVUMMIUT USE TO SHARE TRAVEL CONDITIONS (CONTINUED)

In each community, participants identified social media pages or groups where people share observations or advice about weather, water, and ice conditions. Each community has specific groups and discussion topics. Below we list the general topics and categories.

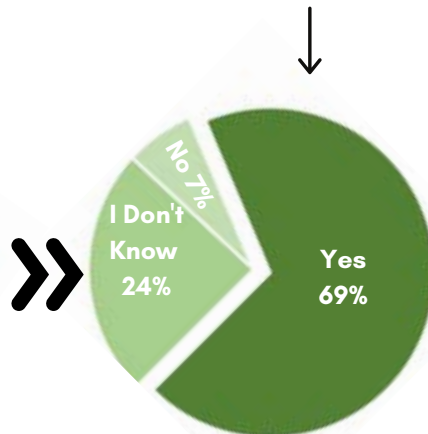
| Commonly used social media | Discussion topics |
|---|--|
| <p>Facebook</p> <ul style="list-style-type: none"> • Community-specific groups such as: <ul style="list-style-type: none"> ◦ news/public service announcements ◦ sell/swap ◦ Hunters/Trappers Associations ◦ local research organizations ◦ local youth/on-the-land programs ◦ photos ◦ dog teams ◦ search and rescue • Family and friends (personal feeds and direct messages) • Nunavut hunting stories of the day • Inuit hunting stories of the day <p>SIKU app (including for SmartICE)</p> <p>Instagram</p>    | <ul style="list-style-type: none"> • Safe and dangerous areas based on recent travel: <ul style="list-style-type: none"> ◦ trail conditions and travel routes ◦ warnings about unsafe areas ◦ local hazards/obstacles ◦ trip descriptions and pictures • Hunting, trapping, and fishing: <ul style="list-style-type: none"> ◦ wildlife observed/harvested ◦ polar bear sightings ◦ hunting stories ◦ good/poor hunting spots • Land and survival skills <ul style="list-style-type: none"> ◦ food sharing ◦ vehicle parts ◦ hunting equipment • Weather/water/wave/snow/ice/land conditions: <ul style="list-style-type: none"> ◦ melting snow and ice (slush) ◦ rivers, sea depth ◦ sea ice thickness ◦ wind, temperature, blizzards ◦ floe edge, leads, areas of open water ◦ moon phase • Sharing forecasts from other sites: <ul style="list-style-type: none"> ◦ Environment Canada ◦ NASA ◦ Windy.com ◦ extreme weather warnings ◦ satellite images |

COMMUNITY MONITORING PROGRAMS

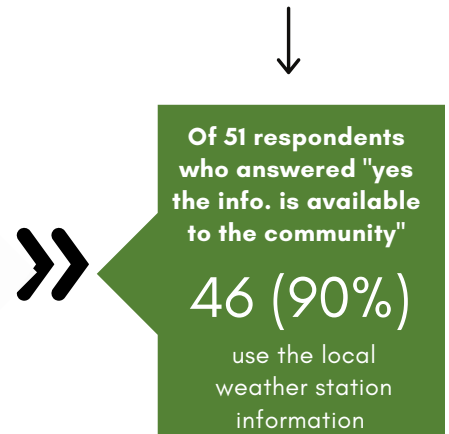
Are there local weather stations in your community?



Is the local weather station information available to the community?

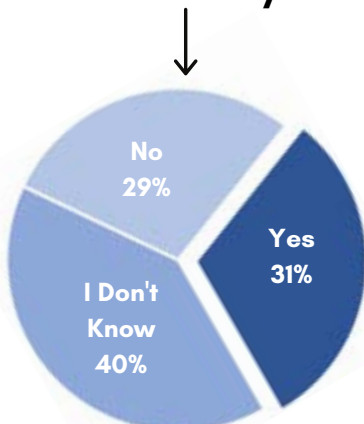


Do you use the local weather station information?

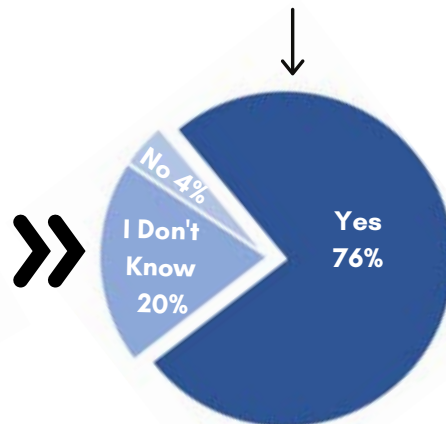


When asked about local weather stations, it is notable that 145 participants (40%) said that they do not know if there are local weather stations, and 74 participants (21%) said that local weather stations do exist. Of the 74 participants who said there are local weather stations in their community, 51 (69%) said the weather station information is available in the community, and 46 of them (90%) said they use the information.

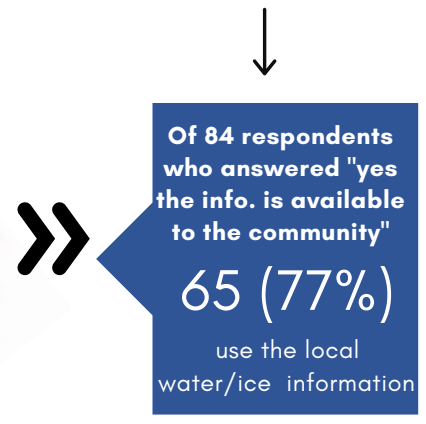
Are there local water/ice monitoring programs in your community?



Is the water/ice monitoring information available to the community?

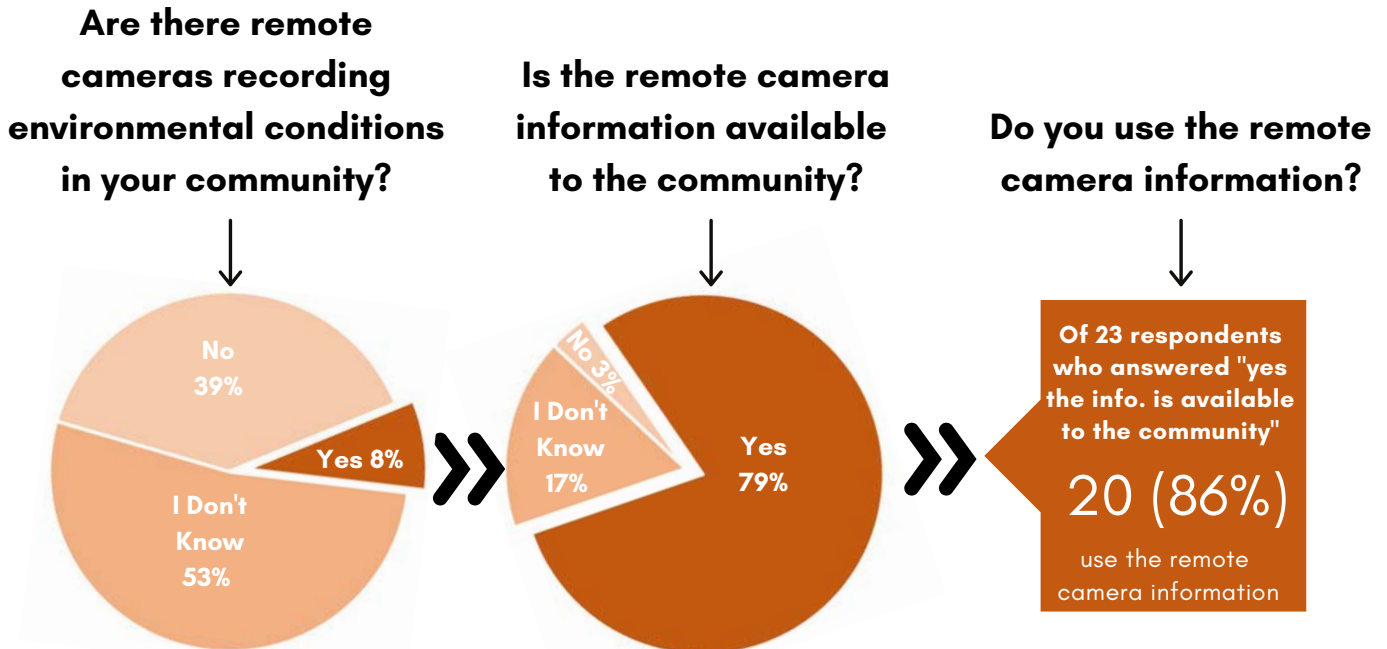


Do you use the local water/ice information?



When asked about local water and ice monitoring programs it is notable that 145 participants (40%) said that they do not know if there are local water and 111 participants (31%) said that ice monitoring programs do exist. Of these 111, 84 respondents (76%) said the information is available in their community, and 65 of them (77%) said that they use the information.

COMMUNITY MONITORING PROGRAMS (CONTINUED)



Remote cameras are cameras placed in areas where a photographer cannot be at the camera to take photos. Remote cameras often have a self-timer built into the camera so photos can be taken at specific times. An example is a remote camera mounted somewhere near a floe edge, with a built-in timer that is set to take a photo at noon each day.

When asked about remote cameras, it is notable that more participants said that they do not know if there are remote cameras (53%) than said that remote do (8%) or do not (39%) exist. Of the 29 participants (8%) who said there are remote cameras, 23 (79%) said the remote camera information is available in Nunavut, and 20 of them (86%) said they use the remote camera information.

Aqqiumavvik Society, Arctic Eider Society, Ittaq Heritage and Research Centre, and SmartICE are partners in this project, and through them we know that in many survey-participating communities there are local monitoring programs (described on pages 47 and 48). However, survey responses suggest that community members are not widely aware of these programs, or they did not associate them with the way the questions were asked in the survey.

COMMUNITY MONITORING PROGRAMS

LOCAL WEATHER MONITORING

Participants identified several community-based monitoring programs that are run by a various organizations. A wide range of conditions are monitored related to weather, water, ice, and sea depth.

| | Arviat | Cambridge Bay | Clyde River | Coral Harbour | Gjoa Haven | Iqaluit | Pond Inlet | Sanikiluaq |
|---|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|
| 867-857-4166 (now called Hello Weather) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Airport weather station/ airport radio | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Arctic Research Foundation | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Canadian High Arctic Research Station | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Community Aerodrome Radio Stations (CARS) weather | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| University of Calgary Weather Stations | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Kangiqtugaapik (Clyde River) Weather Station Network | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Canadian Rangers Camp 2 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carleton University Meteorology Station | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Local Co-op Channel | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

COMMUNITY MONITORING PROGRAMS

(CONTINUED)

LOCAL WATER/ICE MONITORING

| | Arviat | Cambridge Bay | Clyde River | Coral Harbour | Gjoa Haven | Iqaluit | Pond Inlet | Sanikiluaq |
|---------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|
| Aqqiumavik Society | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| SmartICE | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Ujjiqsuiniq Young Hunters Program | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Canadian High Arctic Research Station | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| SIKU | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

COMMUNITY MONITORING PROGRAMS

(CONTINUED)

LOCAL REMOTE CAMERAS

| | Arviat | Cambridge Bay | Clyde River | Coral Harbour | Gjoa Haven | Iqaluit | Pond Inlet | Sanikiluaq |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|
| Distant Early Warning (DEW) Line weather cameras | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Hunters and Trappers Organization | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Arctic UAV/Tibo program | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Floe Edge/Remote Camera | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| SmartICE | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

PRODUCTS AND ACCESSING ENVIRONMENTAL FORECASTS - WEATHER FORECAST PRODUCTS USED

Along with community sources of information, to decide if it is safe to travel Nunavummiut use a wide range of weather forecasts from polar service providers.

| | Arviat | Cambridge Bay | Clyde River | Coral Harbour | Gjoa Haven | Iqaluit | Pond Inlet | Sanikiluaq |
|---|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Accuweather | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Airport weather station/ airport radio | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Aurora forecast | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Canadian Aerodrome Radio Stations (CARS) weather | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| CBC, CBC Iglaaq, CBC news | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Cellular or satellite phone services | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Environment Canada weather | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| EOSDIS Worldview (NASA) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Facebook weather information page | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Google weather | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Government of Nunavut forecast | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Home thermometer | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

These graphics reflect survey participants' responses about product use. Note that some of these products are used by community members who did not participate in the survey.

PRODUCTS AND ACCESSING ENVIRONMENTAL FORECASTS - WEATHER FORECASTS PRODUCTS USED (CONTINUED)

| | Arviat | Cambridge Bay | Clyde River | Coral Harbour | Gjoa Haven | Iqaluit | Pond Inlet | Sanikiluaq |
|--|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|
| inReach weather | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Kangiqtugaapik (Clyde River) Weather Station Network | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Local CB | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| NAV CANADA's Aviation Weather | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Navionics app | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Norwegian Meteorological Institute - YR | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Polar View | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| PredictWind app and website | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Public recorded weather forecast, phone 867-857-4166 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Radio | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Search and Rescue | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| SIKU app | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| SmartICE | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

These graphics reflect survey participants' responses about product use. Note that some of these products are used by community members who did not participate in the survey.

PRODUCTS AND ACCESSING ENVIRONMENTAL FORECASTS - WEATHER FORECAST PRODUCTS USED (CONTINUED)

| | Arviat | Cambridge Bay | Clyde River | Coral Harbour | Gjoa Haven | Iqaluit | Pond Inlet | Sanikiluaq |
|---------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Spot Wx | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Television | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| The Weather Network, app, and channel | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Twitter | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Ventusky | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Weather app on phone | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Weather Underground (Wunderground) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Windy.com and Windy app | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

These graphics reflect survey participants' responses about product use. Note that some of these products are used by community members who did not participate in the survey.

PRODUCTS AND ACCESSING ENVIRONMENTAL FORECASTS - MARINE FORECAST PRODUCTS USED

Along with community sources of information to decide if it is safe to travel, Nunavummiut respondents use a wide range of marine forecasts.

| | Arviat | Cambridge Bay | Clyde River | Coral Harbour | Gjoa Haven | Iqaluit | Pond Inlet | Sanikiluaq |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Canadian Aerodrome Radio Stations (CARS) weather | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Environment Canada Marine Forecast | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Facebook | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Fisheries and Oceans Canada | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Google | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| inReach | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Kangiqtugaapik (Clyde River) Weather Station Network | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Marine forecast on CB radio channel 2 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Marine toll free phone, phone 867-857-4166 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Norwegian Meteorological Institute - YR | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Phone apps | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| PredictWind app and website | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Radio station | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

These graphics reflect survey participants' responses about product use. Note that some of these products are used by community members who did not participate in the survey.

PRODUCTS AND ACCESSING ENVIRONMENTAL FORECASTS

MARINE FORECAST PRODUCTS USED (CONTINUED)

| | Arviat | Cambridge Bay | Clyde River | Coral Harbour | Gjoa Haven | Iqaluit | Pond Inlet | Sanikiluaq |
|------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| SIKU app | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Television (Global News) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Tide time | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Ventusky | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| VHF Radio | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Weather Underground (Wunderground) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Windy.com and Windy app | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

These graphics reflect survey participants' responses about product use. Note that some of these products are used by community members who did not participate in the survey.

PRODUCTS AND ACCESSING ENVIRONMENTAL FORECASTS

ICE CHARTS/SERVICES USED

Along with community sources of information to decide if it is safe to travel, Nunavummiut respondents use a wide range of ice charts and services.

| | Arviat | Cambridge Bay | Clyde River | Coral Harbour | Gjoa Haven | Iqaluit | Pond Inlet | Sanikiluaq |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Canadian Aerodrome Radio Stations (CARS) weather | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Canadian High Arctic Research Station | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Canadian Ice Service | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Environment Canada | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| EOSDIS Worldview (NASA) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Global image system | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Google (Google Earth) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Hunters and Trappers Organization | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Ice Service - cameras | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| MODIS (NASA) | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Polar View | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

These graphics reflect survey participants' responses about product use. Note that some of these products are used by community members who did not participate in the survey.

PRODUCTS AND ACCESSING ENVIRONMENTAL FORECASTS - ICE CHARTS/SERVICES USED (CONTINUED)

| | Arviat | Cambridge Bay | Clyde River | Coral Harbour | Gjoa Haven | Iqaluit | Pond Inlet | Sanikiluaq |
|-----------------------------|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|
| Printout from Hamlet Office | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Satellite images | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| SIKU app | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| SmartICE | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Social Media | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Windy.com and Windy app | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Zoom Earth | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |



These graphics reflect survey participants' responses about product use. Note that some of these products are used by community members who did not participate in the survey.

PRODUCTS AND ACCESSING ENVIRONMENTAL FORECASTS - TIDE TABLE PRODUCTS USED

Along with community sources of information to decide if it is safe to travel, Nunavummiut respondents use a wide range of tide table products.

| | Arviat | Cambridge Bay | Clyde River | Coral Harbour | Gjoa Haven | Iqaluit | Pond Inlet | Sanikiluaq |
|--|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|
| Environment Canada | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Environment Canada marine forecast | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Fisheries and Oceans Canada | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Google (Google Earth) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Hunters and Trappers Organization | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| inReach | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Local organization Facebook pages | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| My Tide Times app | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Phone 867-857-4166 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Printed Tide Tables from Wildlife Office | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Radio broadcast | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

These graphics reflect survey participants' responses about product use. Note that some of these products are used by community members who did not participate in the survey.

PRODUCTS AND ACCESSING ENVIRONMENTAL FORECASTS - TIDE TABLE PRODUCTS USED (CONTINUED)

| | Arviat | Cambridge Bay | Clyde River | Coral Harbour | Gjoa Haven | Iqaluit | Pond Inlet | Sanikiluaq |
|-------------------------|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|
| SIKU app | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Tide-Forecast | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| VHF Radio | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Weather office | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Windy.com and Windy app | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

These graphics reflect survey participants' responses about product use. Note that some of these products are used by community members who did not participate in the survey.

PRODUCTS AND ACCESSING ENVIRONMENTAL FORECASTS - SATELLITE IMAGE PRODUCTS USED

Along with community sources of information to decide if it is safe to travel, Nunavummiut respondents use a wide range of satellite image products.

| | Arviat | Cambridge Bay | Clyde River | Coral Harbour | Gjoa Haven | Iqaluit | Pond Inlet | Sanikiluaq |
|--|-------------------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Environment Canada Satellite Imagery | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| EOSDIS Worldview (NASA) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Friends share satellite images on Facebook | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Geniusmap (offline GPS navigation app) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Geographic Information System (GIS) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Google (Google Image/Earth/Maps) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Hunters and Trappers Organization | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| inReach Earthmate app | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| MODIS, Sentinel, Radarsat imagery | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Polar View | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Search and Rescue | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| SIKU, and SIKU app (maps) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

These graphics reflect survey participants' responses about product use. Note that some of these products are used by community members who did not participate in the survey.

PRODUCTS AND ACCESSING ENVIRONMENTAL FORECASTS - SATELLITE IMAGE PRODUCTS USED (CONTINUED)

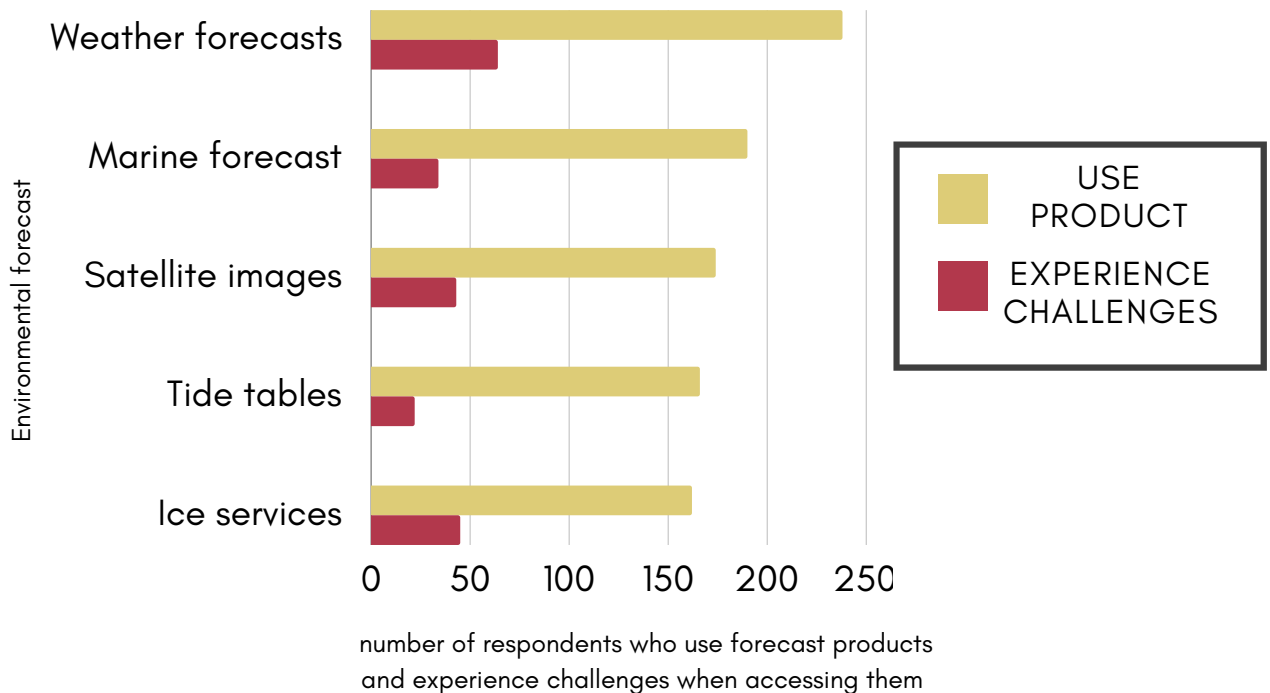
| | Arviat | Cambridge Bay | Clyde River | Coral Harbour | Gjoa Haven | Iqaluit | Pond Inlet | Sanikiluaq |
|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|
| SmartICE | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Windy.com and Windy app | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Zoom Earth | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |



Photo: Natalie Carter

These graphics reflect survey participants' responses about product use. Note that some of these products are used by community members who did not participate in the survey.

PRODUCTS AND ACCESSING ENVIRONMENTAL FORECASTS (CONTINUED)



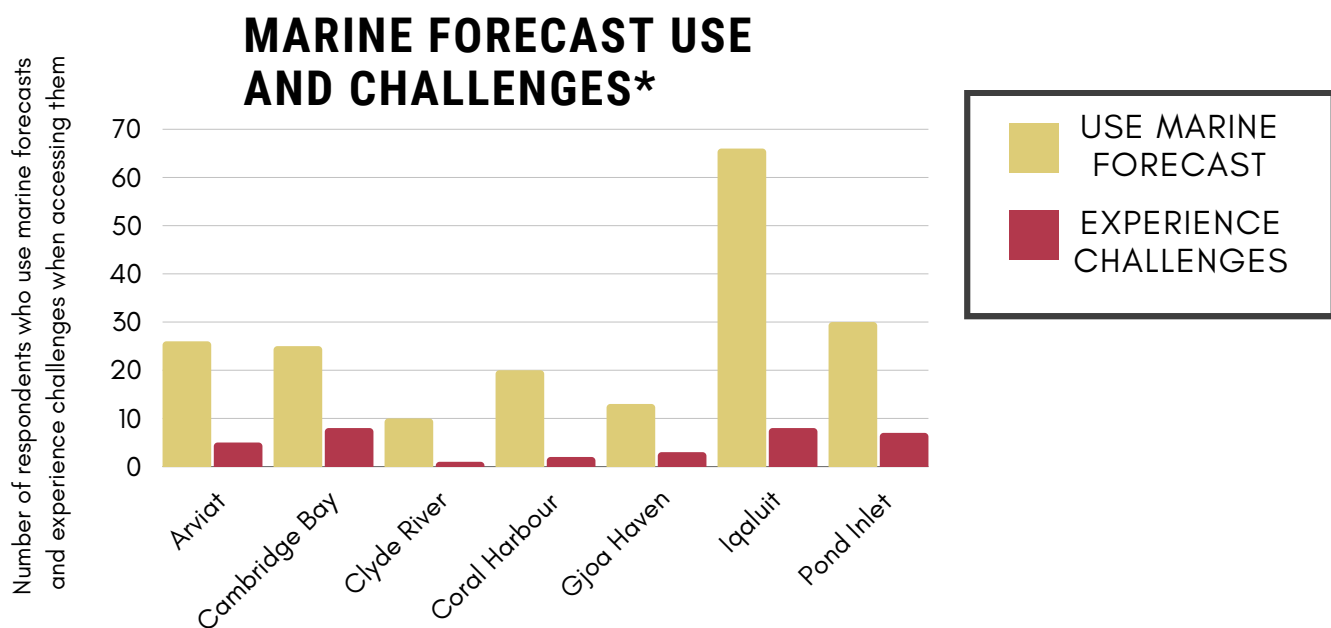
Of the forecasting products used, respondents most often rely on weather forecasts. This is followed by marine forecasts, satellite images, tide tables, and ice services.

Of the 66% of participants who use **weather forecasts**, 27% experienced challenges when accessing them. Of the 53% of participants who use **marine forecasts**, 18% experienced challenges when accessing them. **Satellite images** were used by 48% of participants, 25% of whom experienced challenges when accessing them. **Tide tables** were used by 46% of participants and of these, 13% experienced challenges. **Ice services** were used by 45% of participants and of these, 28% experienced challenges when accessing them.

PRODUCTS AND ACCESSING ENVIRONMENTAL FORECASTS (CONTINUED)

When accessing environmental forecasts, some participants experienced challenges (see pages 63 and 64). These varied by community, for example:

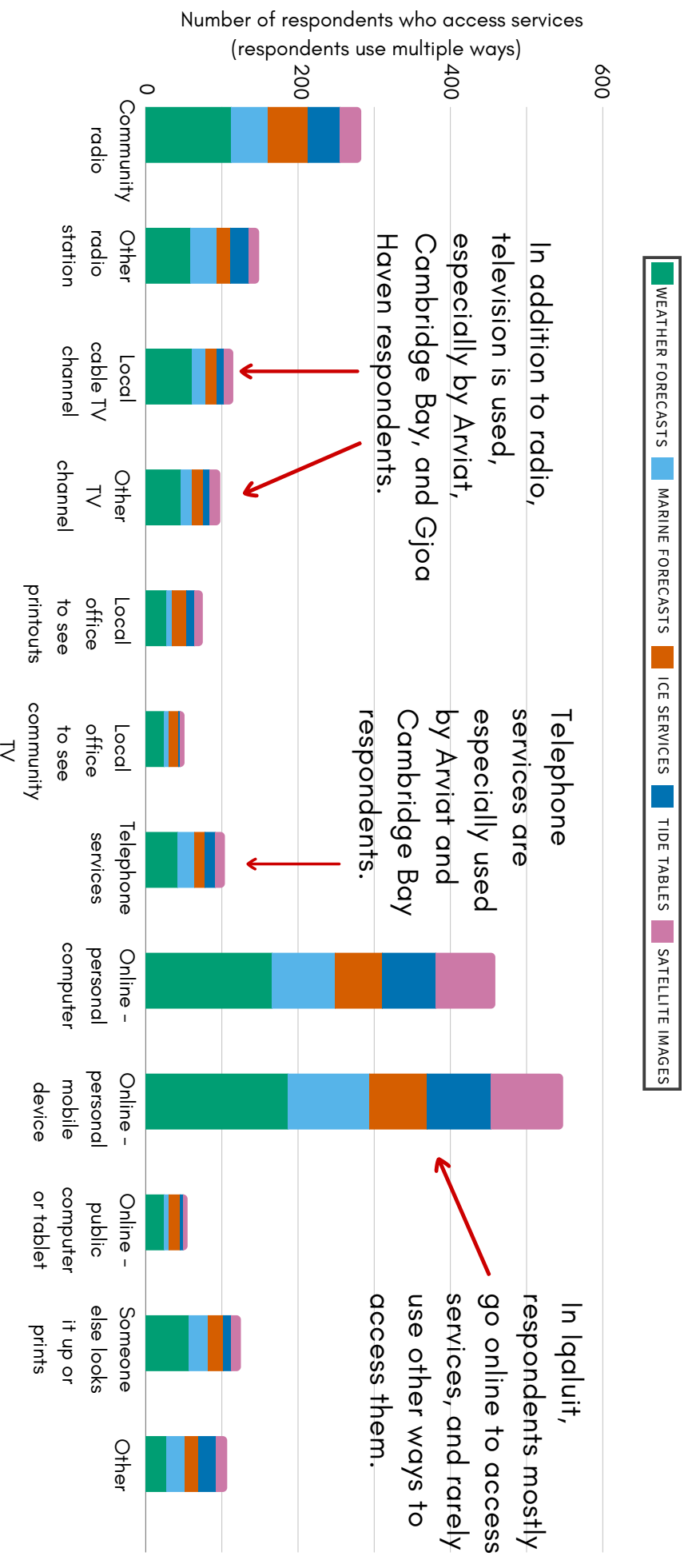
- In Arviat, Gjoa Haven, and Pond Inlet, participants most often experienced challenges when accessing **weather forecasts**.
- In Clyde River participants experienced challenges accessing **weather and marine forecasts** only.
- In Coral Harbour, participants most often experienced challenges when accessing **ice services**, and in Iqaluit participants experienced challenges most often when accessing **satellite images**.
- Many more participants in Arviat and Cambridge Bay experienced challenges when accessing **tide tables**, than in other communities.



As an example, the number of participants who use **marine forecasts** and who experienced challenges when accessing them, varied by community. In Iqaluit, all 66 participants use marine forecasts, 8 of whom experienced challenges compared to Pond Inlet where 30 of the 46 participants use marine forecasts, 7 of whom experienced challenges.

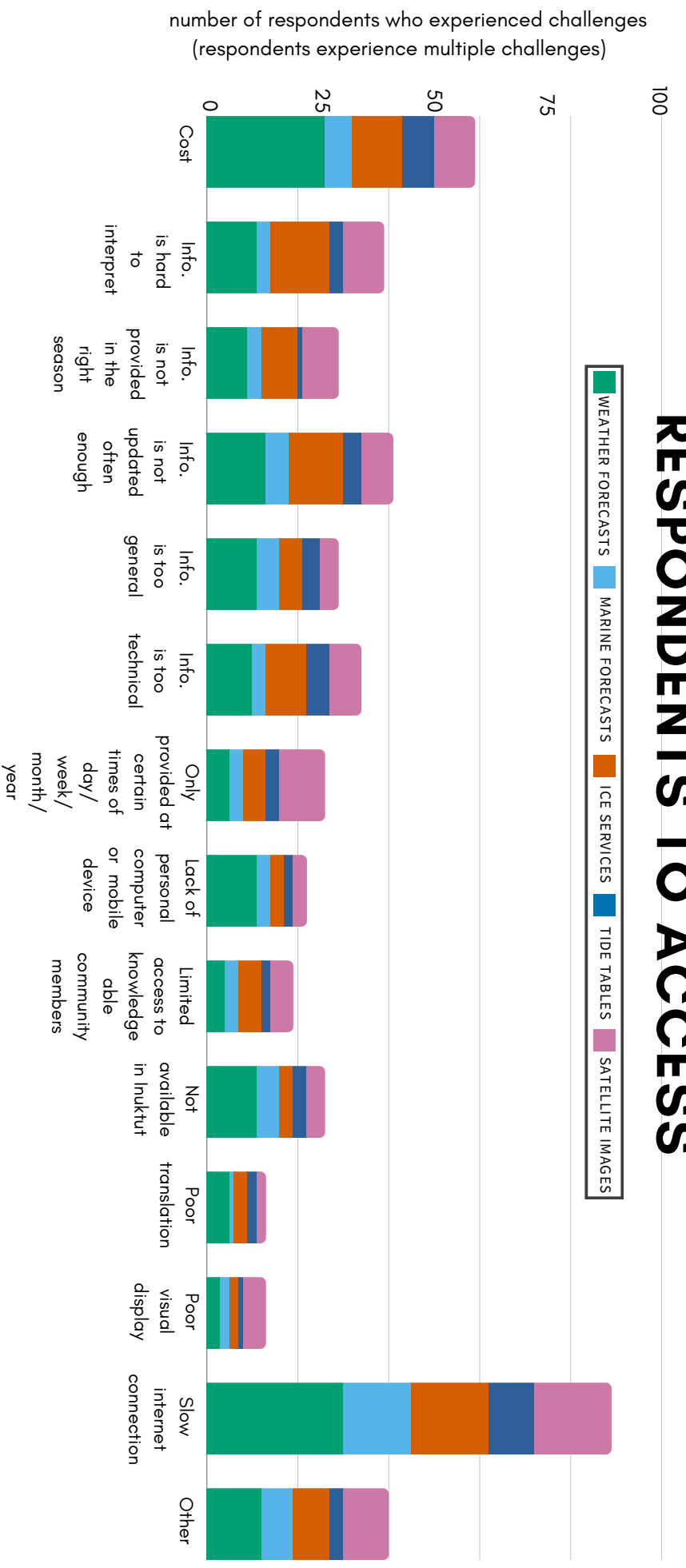
*No challenges were reported in Sanikiluaq

WAYS THAT NUNAVUMMIUT RESPONDENTS ACCESS POLAR SERVICES



Nunavummiut respondents access a broad range of environmental forecast products in a range of ways; mostly by going online using a personal mobile device, personal computer, or listening to community radio. Weather forecasts are accessed most often, through every means presented here. Respondents' use of online personal devices means they look up a range of services themselves and view them directly. Local radio, while less critical in Iqaluit, is an important way to access information in smaller communities. Listening to radio means respondents rely on other peoples' interpretations of environmental forecast products, versus getting it first-hand as with online devices.

REASONS WHY ENVIRONMENTAL FORECASTING INFORMATION IS DIFFICULT FOR NUNAVUMMIUT RESPONDENTS TO ACCESS



Nunavummiut respondents identified a number of reasons why information is difficult to access. See page 64 for additional details.

These results do not necessarily mean that there are no challenges in other areas.

REASONS WHY ENVIRONMENTAL FORECASTING INFORMATION IS DIFFICULT FOR NUNAVUMMIUT RESPONDENTS TO ACCESS

(CONTINUED)

Key reasons why information is difficult to access, that Nunavummiut respondents identified, include:

COST



- Refers to cost of devices, internet access/cellular data, and services requiring subscriptions.
- A challenge for accessing all online products, especially weather forecasts.
- A challenge in every community, except Iqaluit.

LACK OF PERSONAL COMPUTER OR MOBILE DEVICE



- A challenge in every community, and particularly for weather forecasts and ice services.
- Weather and ice conditions can change rapidly in Arctic Canada. Community members need up-to-date information to make travel decisions to support safe travel.



SLOW INTERNET CONNECTION

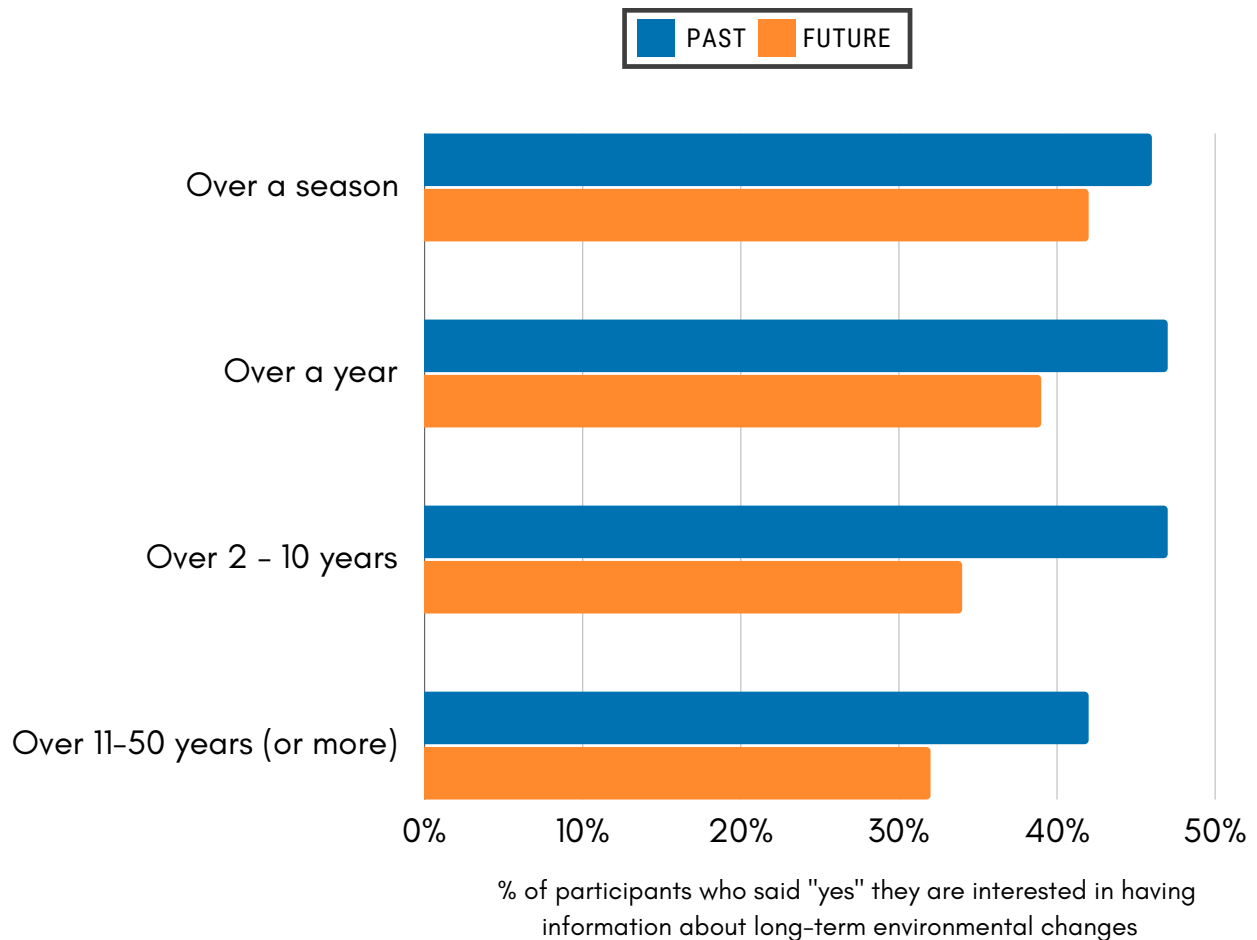
- Creates a challenge for accessing all online products, in particular, weather forecasts.
- A challenge in every community.

INFORMATION THAT IS NOT UPDATED OFTEN ENOUGH

- Creates a challenge for accessing all online products.
- A challenge in every community, in particular, Coral Harbour.



INTEREST IN INFORMATION ABOUT PAST AND FUTURE ENVIRONMENTAL CHANGES



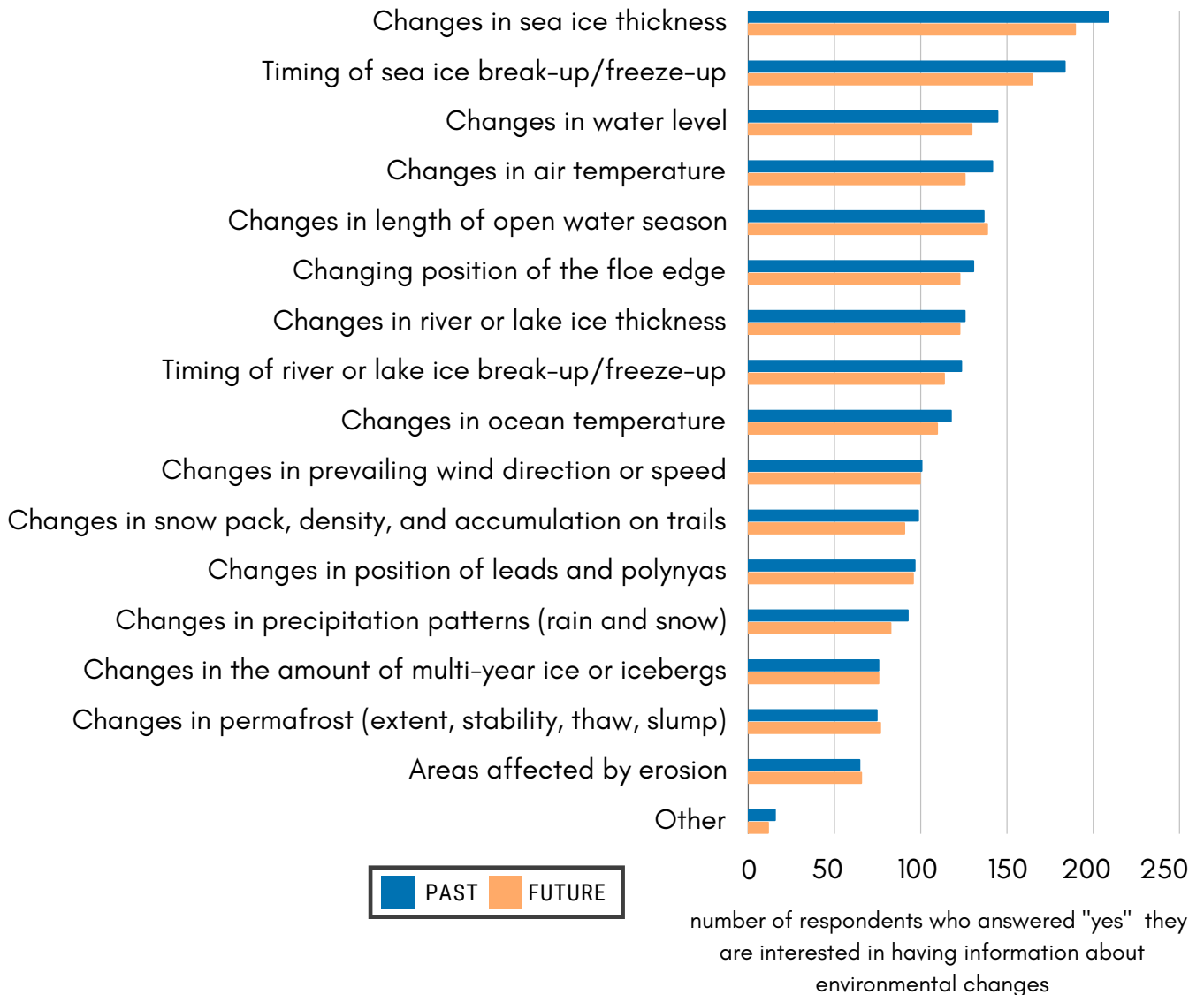
More participants are interested in information about past changes to weather, water, or ice conditions (related to climate change) than are interested in future changes (predictions).

Participants are slightly more interested in the shorter timescales of past changes (over the past season, past year, and past 2-10 years), than are interested in changes over longer timescales (over the past 11-50 years or more).

INTEREST IN INFORMATION ABOUT PAST AND FUTURE ENVIRONMENTAL CHANGES

(CONTINUED)

INFORMATION ABOUT PAST OR FUTURE CHANGES FOR MAKING DECISIONS



Environmental conditions of greatest interest related to past or future changes include: changes in sea ice thickness, timing of sea ice break-up/freeze-up, water level, air temperature, and changes in length of open water season. Those who answered "Other" are interested in information about past and future changes to wildlife populations, as well as past changes to: seasons, tides, permafrost, plant growth, the earth's atmosphere, magnetic fields around the North Pole, erosion, and socio-economic impacts of climate change and adaptation.

INTEREST IN TRAINING

Of the total 360 survey participants, about 16% said they were interested in receiving training. Participants responded to an open-ended question to describe the training they were looking for. We (report writers) created these general categories, to organize points according to key areas of training interest, including: 1) improving navigations skills on the land; 2) developing safety and survival skills on the land; 3) increasing knowledge of environmental conditions; 4) connecting to local programs and services; 5) gaining familiarity with technology; and, 6) strengthening hunting and Inuit cultural skills and practices.



Improving Navigation Skills on the Land

- Develop wayfinding and navigation skills
- Learn to not rely on GPS
- Traditional navigating including by sun, stars, moon, and snow (drifts)
- Learn land names, place names
- Learn travel routes, shortcuts, river crossings
- Learn about hunting areas and animal migration routes
- Navigating in bad weather
- Identifying/mapping navigational hazards (e.g. strong currents, dangerous areas)
- Identifying/mapping trails/routes
- Reading and creating maps
- Learn to navigate from:
 - Elders
 - Fisheries and Marine Training Consortium (NFMTC)
- Develop skills to become a guide
- Travelling to unfamiliar places
- Navigating on the water

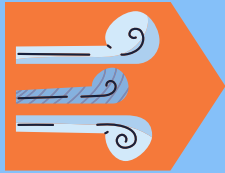


Developing Safety and Survival Skills on the Land

- Arctic survival skills
 - what to do if an accident happens
- First aid
 - field and wilderness training
 - learn from certified instructors
 - what to have in a first aid kit
- Boat/ice/land safety
- Dangerous areas around sea ice and or on the land
- Getting help
- Search and rescue training
 - ice safety/rescue
 - Civil Air Search and Rescue Association (CASRA)
 - Nunavut Emergency Services
- Traditional land and survival skills (especially for first-time/young hunters)
 - On land and water
 - Outdoor skills
 - Shelter building (e.g. igluit, stone houses)
 - Uses of plants
 - How to adapt to sudden weather changes
 - How to prepare, or what to get before going out
 - Independent travel (what to do if you are alone)
 - emergency small engine repair



INTEREST IN TRAINING (CONTINUED)



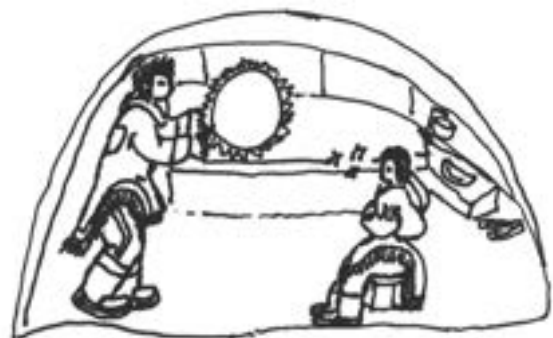
Increasing Knowledge of Environmental Conditions

- How climate change affects our weather and environment
- Which environmental conditions to observe/read out on the land and how to do it
 - Ice, land, water, and sea conditions
 - rivers and mud
 - Weather conditions, monitoring, forecasting, and (new) skills
 - Learning about sea ice including observing/interpreting ice thickness and dangerous areas
 - Locations and movements of leads and polynyas
 - Effects of high/low tides
 - Areas with strong currents
 - Seasonal changes
 - Interpreting cloud patterns and wind conditions
- Environmental conditions at specific places
- Monitoring wildlife
- Understanding historical records of ice break-up/freeze-up compared to today
- Develop more respect for the environment around us
- Increase opportunities for young women to learn about environmental conditions and to navigate and be safe on the land



Connecting to Local Programs and Services

- Aqqiumavvik Society, Young Hunters Program
- Learn from Elders, hunters, guides, and others who are experienced on the land
- Hunting programs about the environment and which area has more animals, ice conditions etc.
- Nunavut Arctic College land programs (Environmental Technology Program)
- Canadian Rangers
- Hunters and Trappers Organizations
- Polar Knowledge Canada
- Learn about local monitoring programs and how to access their information
 - Remote weather stations
 - SmartICE
- Become a mentor for monitoring programs



INTEREST IN TRAINING (CONTINUED)



Gaining Familiarity with Technology

- How to use and interpret satellite images
 - NASA Worldview
 - Earthdata
- How to use and interpret ice charts/data
 - Canadian Ice Service
 - SmartICE
- How to use and interpret online weather and marine forecasts
 - reading degrees Celsius
 - Environment Canada forecasts
 - Windy.com
 - GFA (Graphic Area Forecast time adjusted weather charts)
 - METAR weather report
- How to use specific websites, apps, and social media
 - Navionics
 - SIKU (website and app)
 - AIS
- General/basic computer training
 - Computers
 - Websites
 - Using Google
- Drone operation
- How to use electronic devices:
 - GPS
 - inReach
 - SPOT
 - Humminbird (fish finder)
 - Compass
 - Reading map/GPS coordinates
 - Satellite phone
 - Tablet
- Learning proper equipment use, maintenance and repair
 - Small engine repair (skidoos and Hondas)
 - How to properly use electronic devices
- Ways to use Inuit knowledge and science/technology



Strengthening Hunting and Inuit Cultural Practices and Skills

- Learn from Elders and experienced hunters:
 - who know the land, weather and where the good, fresh water is
 - who help people in the community
 - who learned from observing and from new technology and past records of lands conditions
- Learn through hands-on experiential training
- Learn about:
 - land skills
 - animals, where they are, their behaviour and movements
 - hunting and trapping
 - how to skin animals and prepare/dry meat
 - traditional sewing and making clothing
 - traditional first aid and medicine
 - fishing (general, and with a kakivak)
 - firearms use and safety (guns and bullets)
 - tool making
 - packing and tying ropes
 - reading weather and ice conditions (Inuit ways of predicting weather)
 - meaning of stars
 - travel routes and place names
 - Inuit Qaujimajatuqangit principles
 - Inuktut terminology
 - building igluit and stone houses

RESOURCES - COMMUNITY-BASED MONITORING

Based on all the responses from Nunavummiut survey participants, we created a list that describes the variety of community-based monitoring sources that are considered useful in assessing travel safety.

The information included was compiled by report writers as an overview resource. Content in this table is not from specific survey responses.

| Community Monitoring Program/Service Provider | Website Link | Environmental forecast products/services |
|---|--|--|
| <p>(867) 857-4166 (now changed to Environment and Climate Change Canada - Hello Weather (automated telephone service))</p> | <p>https://www.canada.ca/en/environment-climate-change/services/whether-general-tools-resources/telephone-services/recorded-observations-forecasts.html</p> | <p>National toll-free numbers to access Weather and Marine forecasts by telephone: English 1-833-794-3556 (1-833-79HELLO), French 1-833-586-3836 (1-833-79METEO). Previous Nunavut community call-in numbers now changed to national number + specific location code, all codes listed on website.</p> |
| <p>Canadian Aerodrome Radio Stations (CARS)</p> | <p>https://gov.nu.ca/airports</p> | <p><u>ATS Services</u> is a company that provides aviation weather and communications services at Community Aerodrome Radio Stations (CARS) across the Canadian Arctic. The Government of Nunavut web link provides more information, including local phone numbers to call each airport station, that provides: aviation surface weather, meteorological observing, and critical operational information to pilots.</p> |

RESOURCES - COMMUNITY-BASED MONITORING (CONTINUED)

| Community Monitoring Program/Service Provider | Website Link | Environmental conditions monitored/products available |
|---|--|--|
| <p>Airport weather station (and airport radio)</p> | <p>https://weather.gc.ca/forecast/canada/index_e.html?id=NU</p> | <p>Provides weather forecast, including: daily high/low temperature, cloud conditions, pressure, dew point, humidity, precipitation, wind, visibility, air quality, weather radar (where available), jet stream, satellite, lightning, average and extreme conditions, and sunrise/sunset. And some airport weather stations are operated by NAV CANADA (see Service Provider table page 83). Some Nunavut communities have access to <u>weather radio broadcasts</u> of Environment and Climate Change Canada weather warnings, forecasts, and current conditions.</p> |
| <p>Aqqiumavvik Society</p> | <p>https://www.aqqiumavvik.com/young-hunters-program</p> | <p><u>Aqqiumavvik Society</u> is a community alliance of public, mental, and community health groups in Arviat, Nunavut. They run many wellness programs in Arviat. The Ujjiqsuiniq Young Hunters Program was designed to develop sustainable harvesting practices in youth (ages 8-18 years old). Along with gaining land skills based on inunnguiniq (Inuit principles for becoming capable), the Young Hunters contribute to many local monitoring programs and collaborative research projects, providing important information on: permafrost, safe land use, water quality, fish health, animal health and harvesting, migratory bird health and harvesting, water and ice monitoring, plant monitoring, impacts of climate change, sustainability planning, bathymetry mapping, among others. A lot of information is shared through the Aqqiumavvik Facebook page.</p> |

RESOURCES - COMMUNITY-BASED MONITORING (CONTINUED)

| Community Monitoring Program/Service Provider | Website Link | Environmental conditions monitored/products available |
|---|--|--|
| <p>Arctic Research Foundation</p> | <p>https://www.arcticfoc.us.org/about/vessels-and-labs/</p> | <p>The Arctic Research Foundation (ARF) is a private, non-profit organization that is developing scientific infrastructure for the Canadian Arctic, including research vessels and mobile laboratories. Different researchers have outfitted <u>labs and vessels</u> in different ways to monitor weather, ocean conditions, impacts of climate change, among others. We could not find specific weather, ice or ocean data online, but Polar Knowledge Canada, <u>Canadian High Arctic Research Station</u> may have more information, particularly for monitoring in and around Cambridge Bay.</p> |
| <p>Arctic UAV</p> | <p>https://www.arcticuav.ca/ice-maps/</p> | <p>Arctic UAV is an Apex-based company (just outside Iqaluit, Nunavut), that specializes in Unmanned Aerial Vehicle (UAV) and Unmanned Aerial Systems (UAS). Using these remote piloted systems they record imagery of the earth's surface including elevation data to create terrain models and topographic maps. They also provide ice maps that show areas of sea ice thinning, open water, and ice breakup.</p> |

RESOURCES - COMMUNITY-BASED MONITORING (CONTINUED)

| Community Monitoring Program/Service Provider | Website Link | Environmental conditions monitored/products available |
|---|--|--|
| <p>Cryologger</p> | <p>https://cryologger.org/</p> | <p>Provides local weather station data for several locations around: Arctic Bay, Igloolik, Pond Inlet, and Milne Inlet. Weather conditions monitored include: temperature, humidity, wind strength and direction, wind gusts, wind chill, and trends over past 7 days. Cryologger data is also available locally on TVs in Hamlet and Hunters and Trappers Association offices, and will soon be available on SIKU (see below).</p> |
| <p>Hunters and Trappers Organization</p> | <p>n/a</p> | <p>Local Hunters and Trappers Organizations (HTOs) are important places where people gather to share and discuss weather, water, and ice conditions, including stories and advice based on recent travel. HTOs also often print and post weather/marine forecasts and satellite images for community members who do not have computers. In some communities they also have TV screens that show sea ice and weather monitoring data (e.g. from SmartICE and Cryologger).</p> |
| <p>Kangiqtugaapik (Clyde River) Weather Station Data</p> | <p>https://clyderiverweather.org_</p> | <p>Kangiqtugaapik (Clyde River) Weather Station Data</p> |

RESOURCES - COMMUNITY-BASED MONITORING (CONTINUED)

| Community Monitoring Program/Service Provider | Website Link | Environmental conditions monitored/products available |
|---|--|---|
| <p>Local Co-op TV channel</p> | <p>https://arctic-coop.com/index.php/services/cable-tv/</p> | <p>Co-op Cable is available at community Co-op stores and is part of the Co-op System in the Arctic. On the local Co-op TV channel Environment and Climate Change Canada weather forecasts are often available. In some communities they also provide more local information based on weather stations or weather/ice observation monitoring programs available in the community.</p> |
| <p>Ocean Networks Canada</p> | <p>https://www.oceannetworks.ca/observatories/</p> | <p>Ocean Networks Canada (ONC) is an ocean observing facility hosted and owned by the University of Victoria and managed by the not-for-profit ONC Society. ONC provides ocean data from its cabled, mobile and community-based observing networks. Different kinds of Arctic Ocean data are available for: Cambridge Bay, Coronation Gulf, Darnley Bay, Davis Strait, Dease Strait, Franklin Strait, Gascoyne Inlet, Peel Sound, Queen Maud Gulf, and Victoria Strait. The Oceans 3.0 Data Portal provides access to available data.</p> |
| <p>Oceans North Floe Edge Camera</p> | <p>https://www.oceansnorth.org/en/monitoring-sea-ice-in-Tasiujaq/</p> | <p>Time lapse cameras take regular images to monitor near real-time sea ice conditions along the floe edge and around Tasiujaq, near Pond Inlet, Nunavut. However, as of the time of report publication, the FloeCam and EclipseCam were not operational.</p> |

RESOURCES - COMMUNITY-BASED MONITORING (CONTINUED)

| Community Monitoring Program/Service Provider | Website Link | Environmental conditions monitored/products available |
|---|---|--|
| SIKU | https://siku.org/ | <p>SIKU is the Indigenous Knowledge Social Network. It is an application and website that facilitates self-determination in research, education, and stewardship for Indigenous communities. With a free SIKU account, you can access SIKU map features that include: different kinds of basemaps and satellite imagery, and maps are also available to download for use offline. There is also local weather information available, as well as posts made by community members regarding travel conditions, wildlife, bird, plant, ice, ocean, and other environmental observations, and specific kinds of data collection for different research projects. SIKU also provides access to all SmartICE data (see page 76).</p> |



RESOURCES - COMMUNITY-BASED MONITORING (CONTINUED)

| Community Monitoring Program/Service Provider | Website Link | Environmental conditions monitored/products available |
|--|--|--|
| <p>SmartICE</p> | <p>SmartICE</p> | <p>SmartICE is a community-based Work Integrated Social Enterprise (WISE) that has developed climate change adaptation tools and services that integrate Inuit knowledge of sea ice with monitoring technology. SmartICE monitoring contributes to more informed decisions about sea ice travel and supports community economic development. SmartICE operators across the Canadian Arctic monitor local sea ice thickness with SmartQAMUTIK and SmartBUOY technologies, and also create sea ice safety maps based on local interpretations of satellite imagery. SmartBUOYs are sensors installed as the ice freezes, used to measure ice and snow thickness, as well as the temperature of the air, snow, ice, and water. The SmartQAMUTIK is towed behind a snowmobile during travel on sea ice, and provides real-time ice and snow thickness measurements, as well as the salinity (saltiness) of the sea water. All SmartBUOY and SmartQAMUTIK data is made available on SIKU (see page 75).</p> |
| <p>University of Calgary - community weather stations</p> | <p>https://people.ucalgary.ca/~belse/BrentElse/WX.html</p> | <p>Brent Else is a Professor at the University of Calgary who has set up several local weather stations around Cambridge Bay to monitor: air temperature, wind speed, wind direction, relative humidity, and pressure.</p> |

RESOURCES - ENVIRONMENTAL FORECAST PRODUCTS/SERVICES

Based on all the responses from Nunavummiut survey participants, we created a list that describes the variety of environmental forecast products/services that are considered useful in assessing travel safety.

| Service Provider | Website Link | Environmental forecast products/services |
|------------------------------------|---|---|
| Accuweather app and website | https://www.accuweather.com/ | Application for mobile devices and website provides access to: weather radar (where available), temperature, air quality index, precipitation probability, max UV index, wind, wind gusts, humidity, dew point, pressure, cloud cover, visibility, cloud ceiling, lightning, and smoke. |
| Aurora forecast | https://auroraforecast.com/ | Provides information on geomagnetic field activity level, including predicted activity of aurora borealis (northern lights). |
| CBC (News, Iglaaq) | https://www.cbc.ca/weather/s0000549.html | Provides Environment and Climate Change Canada weather forecasts online, on TV, and over radio, including: daily high/low temperature, UV index, wind, humidity, precipitation, pressure, visibility, sunrise/sunset, satellite, and radar (where available). |

RESOURCES - ENVIRONMENTAL FORECAST PRODUCTS/SERVICES

(CONTINUED)

| Service Provider | Website Link | Environmental forecast products/services |
|--|---|---|
| Environment and Climate Change Canada - Weather Forecast | https://weather.gc.ca/forecast/canada/index_e.html?id=NU | Provides weather forecast, including: daily high/low temperature, cloud conditions, pressure, dew point, humidity, precipitation, wind, visibility, air quality, weather radar (where available), jet stream, satellite, lightning, average and extreme conditions, and sunrise/sunset. |
| Environment and Climate Change Canada - Hello Weather (automated telephone service) | https://www.canada.ca/en/environment-climate-change/services/weather-general-tools-resources/telephone-services/recorded-observations-forecasts.html | National toll-free numbers to access Weather and Marine forecasts by telephone: English 1-833-794-3556 (1-833-79HELLO), French 1-833-586-3836 (1-833-79METEO). Previous Nunavut community call-in numbers now changed to national number + specific location code, all codes listed on website. |
| Environment and Climate Change Canada - Live weather consultation services (PAID service for telephone consultation with Environment Canada weather professional) | https://www.canada.ca/en/environment-climate-change/services/weather-general-tools-resources/telephone-services/live-consultation.html | Weather One-on-One 1-900-565-5555 Weather consultation service available 5am - 9pm weekdays, 6am - 6pm weekends and holidays (\$2.99 per minute charged to phone bill), additional consultation services listed on website. |
| Environment and Climate Change Canada - Marine Forecast | https://weather.gc.ca/marine/index_e.html | Provides marine forecast, including: marine warnings, watches, advisories, tropical cyclone statements, winds, waves, weather, visibility, air temperature, ice conditions, and technical marine synopsis. |

RESOURCES - ENVIRONMENTAL FORECAST PRODUCTS/SERVICES

(CONTINUED)

| Service Provider | Website Link | Environmental forecast products/services |
|---|---|---|
| Environment and Climate Change Canada - Canadian Ice Service | https://www.canada.ca/en/environment-climate-change/services/ice-forecasts-observations/latest-conditions.html | Provides ice information, including: ice and iceberg bulletins, ice edge, ice concentration, stage of ice development, daily and regional ice charts, historical data ice coverage, historical total accumulated ice coverage, weekly ice coverage for the season, and image analysis. |
| Fisheries and Oceans Canada - Tide Tables | https://www.tides.gc.ca/en/tides-currents-and-water-levels | Provides tidal information, including: 7-day and hourly tides, predicted times of weak and strong currents, and water levels. |
| Floe Edge Monitoring Service | https://c-core.ca/floe-edge-monitoring-service/ | Provides near-real time satellite imagery and information to arctic communities to support safe navigation on and off the ice. Images are marked with up-to-date information on floe edge location, areas of landfast sea ice cover, movement of landfast ice, tidal cracks, polynyas, and tracking of moving ice floes. This service also provides access to Canadian Ice Service ice charts. Requires a free account to login to access ice products. |
| Genius map (offline GPS navigation app) | https://www.mireo.com/genius-maps | Application for mobile devices, provides: offline GPS navigation application, free offline maps, navigation for urban traffic and road conditions. |

RESOURCES - ENVIRONMENTAL FORECAST PRODUCTS/SERVICES

(CONTINUED)

| Service Provider | Website Link | Environmental forecast products/services |
|------------------------------|---|---|
| Global News weather | https://globalnews.ca/ | On website you can select your city of choice (note that all Nunavut communities show under Northwest Territories), as well as basic weather on local TV news, including: daily high/low temperature, humidity, pressure, precipitation, sunrise/sunset, visibility, UV, wind, and radar (where available). |
| Google - Weather | www.google.com | Generic weather that shows in a basic Google search, including: temperature, precipitation, wind, and cloud conditions. |
| Google - Earth | https://earth.google.com/ | Provides a satellite image view of anywhere on earth. You can zoom in to a location of interest to see places, and view additional layers to see animated clouds (last 24 hours), 3D coverage (where available), and updated imagery. |
| Google - Maps | https://www.google.com/maps/ | You can select from a variety of layers to view: map, terrain, satellite image, wildlife, street view, air quality, and some basic weather conditions show when selecting places of interest. |
| Government of Nunavut | https://gov.nu.ca/ | On the Government of Nunavut website there is an option to sign up to receive notifications about weather closures and other important information. |

RESOURCES - ENVIRONMENTAL FORECAST PRODUCTS/SERVICES

(CONTINUED)

| Service Provider | Website Link | Environmental forecast products/services |
|---|--|---|
| <p>inReach - Weather forecasts</p> | <p>https://www.roadpost.ca/inreach-weather-forecasts</p> | <p>When you have purchased an inReach satellite communication device, you can choose to add the Basic service to an inReach device for access to weather for current location during travel, including: temperature, precipitation, wind speed and direction, and atmospheric pressure (for 2 days, in 2-6 hour intervals). There is also a paid Premium service option that can be added to an inReach device for access to more weather forecasts for current location during travel, including: temperature, precipitation, wind speed and direction, atmospheric pressure (for 7 days, in 1-2 hour intervals for first day, 3-6 hour intervals next day, 12-hour intervals for remaining 5 days).</p> |
| <p>inReach - Marine forecasts</p> | <p>https://www.roadpost.ca/inreach-weather-forecasts</p> | <p>When you have purchased an inReach satellite communication device, you can choose to add the Basic Marine service to an inReach device for access to Basic (weather) for current location during travel as well as: wave height, current, and visibility details. There is also a paid Premium Marine service that can be added to an inReach device for access to Premium (weather) for current location during travel as well as: wave height, current, and visibility details.</p> |
| <p>inReach - Marine forecasts</p> | <p>https://www.roadpost.ca/inreach-weather-forecasts</p> | <p>Application for mobile devices that is included with purchase of any inReach satellite communicator. It provides access to all the same features of inReach GPS navigation, and weather/marine forecasts (if purchased) to pair with mobile device and access offline.</p> |

RESOURCES - ENVIRONMENTAL FORECAST PRODUCTS/SERVICES

(CONTINUED)

| Service Provider | Website Link | Environmental forecast products/services |
|--|---|---|
| inReach - Earthmate app | https://www.garmin.com/en-CA/p/577212 | MODIS is the "Moderate Resolution Imaging Spectrometer" and provides optical satellite images that show land/water surface, cloud conditions, and atmospheric measurements. All data available at the website listed, but it is likely easiest to browse and find images of interest through NASA EOSDIS - Worldview (see below). |
| MODIS (NASA) | https://modis.gsfc.nasa.gov/data/dataproduct/ | MODIS is the "Moderate Resolution Imaging Spectrometer" and provides optical satellite images that show land/water surface, cloud conditions, and atmospheric measurements. All data available at the website listed, but it is likely easiest to browse and find images of interest through NASA EOSDIS - Worldview (see below). |
| My Tide Times app | https://www.jrustonapps.com/apps/my-tide-times | Application for mobile devices that provides information on: tide tables, currents (where available), sunrise/sunset, and moonrise/moonset. |
| NASA - EOSDIS Worldview | https://worldview.earthdata.nasa.gov | Provides access to: full-resolution, daily satellite imagery from a number of different satellites. |
| NASA - ESDS Global Imagery Browse Service | https://www.earthdata.nasa.gov/eosdis/science-system-description/eosdis-components/gibs | Provides access to: full-resolution, daily satellite imagery (similar to Worldview, with additional access to product catalogues). |

RESOURCES - ENVIRONMENTAL FORECAST PRODUCTS/SERVICES

(CONTINUED)

| Service Provider | Website Link | Environmental forecast products/services |
|--|---|--|
| NAV CANADA's Aviation Weather | https://plan.navcanada.ca/account/login | NAV CANADA's Collaborative Flight Planning Services (CFPS) is the new site to use since the NAV CANADA Aviation Weather website (<u>AWWS</u>) will no longer function as of February 28, 2024. The CFPS requires an account to log in, but it appears to provide weather information, access to airport weather cameras, sunrise/sunset, and a range of flight operations resources. |
| Navionics Boating app | https://www.navionics.com/usa/apps/navionics-boating | Application for mobile devices that provides information on: tide tables, currents (where available), sunrise/sunset, and moonrise/moonset. |
| Norwegian Meteorological Institute - YR - app and website | https://www.yr.no/en | Application for mobile devices and website provides an hourly forecast, and includes: maximum/minimum temperature, precipitation, wind speed and direction, UV forecast, Aurora forecast, sunrise/sunset, moonrise/moonset, and map visuals for weather, wind, and lightning. |
| Polar View | https://www.polarview.aq/arctic | Provides access to: satellite imagery (Sentinel-1, Radarsat-2, and combined image mosaics), sea ice concentration data, and sea ice charts. |

RESOURCES - ENVIRONMENTAL FORECAST PRODUCTS/SERVICES

(CONTINUED)

| Service Provider | Website Link | Environmental forecast products/services |
|------------------------|---|--|
| Radarsat | https://www.asc-csa.gc.ca/eng/satellites/everyday-lives/space-serving-the-arctic-and-the-great-canadian-north.asp | <p>RADARSAT satellites have Synthetic Aperture Radar (SAR) sensors as well as Automatic Identification Systems (AIS) used for tracking ships. SAR is not affected by darkness or clouds, because it sends out its own energy waves and then records the amount of energy reflecting back from the earth's surface. SAR sensors are especially useful in the arctic for monitoring in darkness and cloud cover.</p> <p>RADARSAT and associated satellites are used for marine surveillance, ice monitoring (ice cover and movement), disaster management, ecosystem monitoring, resource management and mapping, and monitoring impacts of climate change (e.g. permafrost thaw). RADARSAT imagery is available through the Government of Canada's Earth Observation Data Management System and is also used by the Canadian Ice Service to create their ice charts and other products.</p> |
| PredictWind app | https://www.predictwind.com | <p>Application for mobile devices and website provides access to forecasts including: wind, gust, CAPE (convective available potential energy - an indicator that is valuable in predicting severe weather), wave, rain, cloud, pressure, air temperature, sea temperature, tides, currents, sun/moon. Free forecasts online require an account to log in, and paid forecast subscriptions provide more detail.</p> |

RESOURCES - ENVIRONMENTAL FORECAST PRODUCTS/SERVICES

(CONTINUED)

| Service Provider | Website Link | Environmental forecast products/services |
|--|---|---|
| Sentinel | https://sentinels.copernicus.eu/web/sentinel/missions | The Sentinel missions involve several satellites capturing images of the earth on behalf of the joint European Space Agency and European Commission initiative "Copernicus". Different satellites record things such as: radar imagery of land and ocean conditions; optical imagery of vegetation, soils and coastal areas; marine observations of sea surface topography, sea and land surface temperature, ocean and land colour; atmospheric, air quality, and UV radiation monitoring for forecasting; mean sea level, and ocean state monitoring. All data available at the website listed, but it is likely easiest to browse and find images of interest through NASA EOSDIS - Worldview (see page 82). |
| SpotWX | https://spotwx.com/ | Provides access to a number of different weather forecast models, and includes information about: temperature, relative humidity, precipitation and clouds, wind and pressure, severe weather indices, CAPE (convective available potential energy - an indicator used to predict severe weather) and helicity (an indicator used to predict tornadoes), low level wind, planetary boundary layer, surface radiation flux, and haines index (an indicator used to predict wild fire behaviour). |
| The Weather Network, app, and channel | https://www.theweathernetwork.com/ca | Application for mobile devices, website, and TV channel provides short- and long-term forecasts (hourly, up to two weeks), including: temperature, wind, humidity, visibility, sunrise/sunset, air quality, wind gust, pressure, ceiling, and weather radar (where available). |

RESOURCES - ENVIRONMENTAL FORECAST PRODUCTS/SERVICES

(CONTINUED)

| Service Provider | Website Link | Environmental forecast products/services |
|---|---|---|
| Tide-Forecast | https://www.tide-forecast.com/ | Provides access to tide station data, including: high tide and low tide times, sea conditions, wave height, sea temperature, moon phase, sunrise/sunset, weather forecast/summary, wind, temperature, precipitation, visibility, gusts, and cloud. |
| Ventusky app and website | https://www.ventusky.com/ | Application and website provides access to: temperature, perceived temperature, precipitation, radar, satellite, clouds, wind speed, wind gusts, air pressure, thunderstorms, humidity, waves, snow cover, air quality, webcams (where available), and wind animation. |
| Weather Underground (Wunderground) app and website | https://www.wunderground.com/ | Application for mobile devices and website provides hourly and 10-day forecast, including: temperature, cloud conditions, precipitation (% chance), pollen, UV index, air quality, pressure, visibility, dew point, snow depth, rainfall, humidity, and station history. |
| Windy app and website | https://www.windy.com/ | Application for mobile devices and website provides map views and animations of: weather radar and satellite data, wind speed and direction, rain, snow, thunder, temperature, dew point, humidity, UV index, clouds, fog, visibility, waves, sea temperature, currents, extreme forecast, and weather warnings, among other layers that can be selected. |
| Zoom Earth | https://zoom.earth/maps/satellite/ | Provides map view including: weather radar (where available), satellite imagery, precipitation, wind, temperature, humidity, pressure, wind animation, fires, and tropical systems. |

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Nunavut



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Gita Ljubicic

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Results of a community survey on environmental forecasting
uses and needs

ᓂᓐᓂᓐ 2023
DECEMBER 2023