

# Application: 0000000177

Robert Way - robert.way@queensu.ca  
Partnered Research Program

## Summary

**ID:** 0000000177

**Last submitted:** May 5 2025 07:04 PM (UTC)

## Annual Report Form 1

**Completed** - Feb 12 2026

## Annual Report Form

### 1. Name of Project Leader

**First Name:** Robert

**Last Name:** Way

**Affiliation:** Queen's University

---

### 2. Project Title

Forging community-engaged participatory glacio-ecohydrological research in Tongait KakKasuangita SilakKijapvinga (Torngat Mountains) National Park, northern Nunatsiavut

---

### 3. Project Summary

Here is the summary of your project from your application: " The Tongait KakKasuangita SilakKijapvinga (Torngat Mountains) National Park (TMNP) in northern Nunatsiavut, Canada, is cooperatively managed by Inuit from Nunatsiavut and Nunavik. TMNP's Arctic Cordilleran landscape, including Canada's southernmost Arctic glaciers, sustains culturally significant species such as caribou, Arctic char, and ptarmigan which are essential to Inuit livelihoods and cultural practices. Climate-driven changes to the region's snow and ice, freshwater systems and plant communities, have the potential to alter culturally important habitats and ecosystems creating challenges for resilience and resource management. In partnership with the Nunatsiavut Government and Parks Canada, this research investigates environmental change across TMNP watersheds through an interdisciplinary, participatory research program that builds on ArcticNet's nearly two decade legacy of supporting applied ecosystem science in TMNP (2009-2017; 2019-2024).

Participatory monitoring programs, contributed to by Inuit Youth Research Technicians (IYRTs), will integrate glacier, watershed, and ecosystem science to address known research gaps and inform ecological integrity assessment in TMNP. The IYRT program will provide hands-on training, building local capacity and empowering youth to contribute to environmental monitoring in Nunatsiavut. The anticipated findings will support multi-level planning and policy development including through providing critical knowledge to the TMNP Cooperative Management Board, the Nunatsiavut Government, and Parks Canada. This project will enhance conservation planning in TMNP and strengthen community resilience to climate change while supporting Inuit stewardship. Our work addresses the interconnected challenges of climate change, ecosystem function, and cultural resilience in one of Canada's most iconic Arctic landscapes."

Provide an updated, concise, plain language abstract that briefly summarizes the project background, approach, results, outcomes and impacts.

(max. 250 words)

The Tongait KakKasuangita SilakKijapvinga (Torngat Mountains) National Park (TMNP) in northern Nunatsiavut, Canada, is cooperatively managed by Inuit from Nunatsiavut and Nunavik. TMNP's Arctic Cordilleran landscape, including Canada's southernmost Arctic glaciers, sustains culturally significant species such as caribou, Arctic char, and ptarmigan which are essential to Inuit livelihoods and cultural practices. Climate-driven changes to the region's snow and ice, freshwater systems, and plant communities, have the potential to alter culturally important habitats and ecosystems creating challenges for resilience and resource management. In partnership with the Nunatsiavut Government and Parks Canada, this research investigates environmental change across TMNP watersheds through an interdisciplinary, participatory research program that builds on ArcticNet's nearly two decade legacy of supporting applied ecosystem science in TMNP (2009-2017; 2019-2024).

Participatory monitoring programs, contributed to by Inuit Youth Research Technicians (IYRTs), will integrate glacier, watershed, and ecosystem science to address known research gaps and inform ecological integrity assessment in TMNP. The IYRT program will provide hands-on training, building local capacity and empowering youth to contribute to environmental monitoring in Nunatsiavut. The anticipated findings will support multi-level planning and policy development including through providing critical knowledge to the TMNP Cooperative Management Board, the Nunatsiavut Government, and Parks Canada. This project will enhance conservation planning in TMNP and strengthen community resilience to climate change while supporting Inuit stewardship. Our work addresses the interconnected challenges of climate change, ecosystem function, and cultural resilience in one of Canada's most iconic Arctic landscapes.

### Project disciplines

Please select up to five (5) primary research disciplines that best describe your project. Use the dropdown menus below to select each discipline.

Discipline 1	Earth and related environmental sciences
Discipline 2	Other natural sciences
Discipline 3	Other natural sciences
Discipline 4	Other natural sciences
Discipline 5	(No response)

#### 4. Project Research Results and Impacts

Here is your previous "Project Rationale & Expected Outcomes": " Rationale: Indigenous-led stewardship of protected areas mitigates against climate change and biodiversity loss, while protecting Indigenous cultural heritage for future generations (Lemelin et al. 2016). However, protected areas can be disproportionately impacted by climate warming and development pressures, leading to habitat fragmentation and species loss (Berteaux et al. 2018). Environmental change in Canadian National Parks has already impacted waters, ecosystems, and lands relied on by Northerners and Indigenous Peoples (Holsinger et al. 2019). In recognition of this challenge, the Indigenous Circle of Experts (2018) recommended that all levels of government support partnerships with academic institutions to assess climate change impacts and support capacity-building in Indigenous Protected Areas.

The Tongait KakKasuangita SilakKijapvinga (Torngat Mountains) National Park (TMNP) is among the least studied of Canada's National Parks (see Hanly et al. 2023). This Arctic Cordilleran landscape is the homeland of the Avanimiut, who were forcibly relocated south in the late 1950s (Brice-Bennett, 2024) and is now cooperatively managed by Inuit from Nunatsiavut and Nunavik. Continued cultural resource use by Nunatsiavummiut and Nunavimmiut, makes this protected area a source of Indigenous resilience against colonial pressures (McDowell et al. 2023). However, modification of glacial and snow-fed watersheds in TMNP is a growing concern for Nunatsiavummiut and Nunavimmiut as ecosystem-wide implications of change are unclear (Davis et al. 2021; Nunatsiavut Government, 2024).

TMNP hosts 105 small glaciers (simmik in Inuttitut; Way et al. 2014) which are Canada's southernmost Arctic glaciers and are locally significant for their meltwater contributions to watersheds that host cultural keystone species like tuttuk (caribou), ikKaluk (Arctic char) and aKiggik (ptarmigan). Climate-driven changes to snow and ice (Barrette et al. 2020) may shift these systems from meltwater-driven to precipitation-driven with effects on ecosystem services, connected habitats, and community resource use. Further, warmer streamflow could impact cold-water fish species (e.g. ikKaluk) while changes to snow may alter riparian (e.g. aKiggik) and upland (e.g. tuttuk) habitat (Johnson et al. 2024).

Research questions, goals and objectives: The lack of a strong evidence base for understanding glacio-ecohydrological systems in Nunatsiavut is a nationally recognized gap (see Hanly et al. 2023) and our proposed project seeks to address this by evaluating (a) regional cryospheric change; (b) runoff change; and (c) watershed-level ecosystem functioning and ecological status, and supporting Inuit-led efforts to maintain ecological integrity in the Torngat Mountains. We build on previous work including ArcticNet-supported TMNP research (2009-2017; 2019-2024) to establish an integrated monitoring framework that will evaluate climate change impacts on glacio-ecohydrological systems, while maintaining critical research infrastructure established by our research team over the past two decades.

This research has five primary objectives:

Objective #1 (O1): To expand long-term participatory hydroclimatological and ecological monitoring in TMNP.

Objective #2 (O2): To establish a participatory glacier mass balance program and evaluate late-lying snow influences on water availability in watersheds in TMNP.

Objective #3 (O3): To assess ecosystem responses to regional snow and ice changes in key TMNP watersheds focusing on tundra ecosystems and habitats of cultural keystone species.

Objective #4 (O4): To facilitate capacity building, knowledge mobilization and networking through the development of an interdisciplinary Inuit Youth Research Technician Program.

Objective #5 (O5): To provide support and evidence-based knowledge to the Torngat Mountains Cooperative Management Board, the Nunatsiavut Government and Parks Canada, in support of ecological integrity monitoring and climate change research programs in Nunatsiavut.

Scientific and policy outcomes and impact: Our project will leverage our team's expertise in glacio-ecohydrological monitoring, our record of research excellence ("high-performing project" in prior ArcticNet RMC assessments), and our extensive experience working with Nunatsiavummiut and Parks Canada to generate knowledge, methods, and research benefits focused on impact creation and Inuit self determination in research. Our project also proposes to generate scientific publications, assessment and summary reports and open access data that will reduce the significant knowledge gaps on the cryosphere and tundra vegetation in Nunatsiavut. This is especially relevant for local decision-makers (e.g., Torngat Mountains Cooperative Management Board, Nunatsiavut Government, Parks Canada, Kativik Regional Government, Nunavik Parks) who require current evidence-based information to inform conservation and recovery targets. Nunatsiavummiut and Nunavimmiut are also keenly interested in these issues which affect on-the-land activities and cultural resource use. This research will have direct implications for parks and protected area policy including through habitat susceptibility mapping and ecological integrity assessment for critical species at risk, such as tuttuk.

Societal and economic outcomes and impact: Our proposed Inuit Youth Research Technician (IYRT) program will generate societal benefits through capacity-building in Nunatsiavut and eastern Nunavik. IYRTs will receive training on state-of-the-art technologies and exposure to applied scientific research methods that will prepare them for employment opportunities in ecosystem assessment, environmental monitoring and climate resilience. The knowledge generated from this project will inform environmental assessments for resource and infrastructure development, including in Nunatsiavut where several major resource projects have been proposed. "

Describe each Research Results and Science Highlights, indicate the linked objective(s), and explain the impacts.

	Research Results &	Research Objective(s)	Impacts (for communities,
--	--------------------	-----------------------	---------------------------

	Science Highlights		northerners, outreach policy, science)
	<p>1. Remote automated climate monitoring stations located at Saglek Fiord (n=3), Blow Me Down Mountains (n=1) and Komaktorvik River (n=1) were visited by the research team including Inuit Youth Research Technicians in August 2025 for data downloads, infrastructure repair and to perform annual maintenance. Additional monitoring infrastructure including rain gauges were installed at selected sites.</p> <p>2. Remote automated hydrological stations (LiDAR-based &amp; pressure-based) located at Nakvak Brook and Blow Me Down Mountains were visited by the research team including Inuit Youth Research Technicians in August 2025 for data downloads, infrastructure repair and to perform annual maintenance. Two additional LIDAR-based stream monitoring stations were installed by the research team at Torr Bay Brook and Nakvak Brook.</p> <p>3. Water samples were collected at 44 sites across 10 watersheds by FORGE-TMNP team, Parks Canada, and the</p>	<p>1. Objective 1: To expand long-term participatory hydroclimatological and ecological monitoring in TMNP.</p> <p>2. Objective 1: To expand long-term participatory hydroclimatological and ecological monitoring in TMNP.</p> <p>3. Objective 2: To establish a participatory glacier mass balance program and evaluate late-lying snow influences on water availability in watersheds in TMNP &amp; Objective 3: To assess ecosystem responses to regional snow and ice changes in key TMNP watersheds focusing on tundra ecosystems and habitats of cultural keystone species.</p> <p>4. Objective 2: To establish a participatory glacier mass balance program and evaluate late-lying snow influences on water availability in watersheds in TMNP</p> <p>5. Objective 2 (O2): To establish a participatory glacier mass balance program and evaluate late-lying snow influences on water availability in</p>	<p>1. These sites are the only high elevation climate monitoring infrastructure currently operational in northern Nunatsiavut. The sites also include the only active precipitation measurement stations in the Torngat Mountains National Park. According to Way (2025), all previously operational precipitation stations in the Torngat Mountains have been removed since 2017 meaning these monitoring stations have become critical for our understanding of ongoing hydroclimatological change in the region. Training of IYRTs on maintaining climate data is also an important skill for those who continue in the environmental sector.</p> <p>2. Hydrological stations operated by the FORGE-TMNP team provide unique insights into changes in streamflow in the Torngat Mountains. These stations are situated downstream of glaciers, snow patches and rain-fed catchments offering the opportunity to compare drivers of streamflow variations in the southern Torngat Mountains. These data will</p>

Nunatsiavut Government Research Team in August 2025.

4. Two uncrewed aerial vehicle surveys were undertaken four days apart in August 2025 by members of the research team including Inuit Youth Research Technicians at an unnamed glacier in the Blow Me Down mountains at the southern end of the Torngat Mountains National Park. These surveys covered the entire glacier surface and some of the downstream environment. Analysis of these surveys together with past surveys from 2023 and 2024 will enable comparison of long-term (years) and short-term (days) glacier melt rates.

5. A pilot study of field glaciological methods was undertaken by members of the research team including Inuit Youth Research Technicians at an unnamed glacier in the Blow Me Down mountains at the southern end of the Torngat Mountains National Park. Field activities included Global Navigation Satellite System surveys of boulders on and around the glacier ice surface and installation of two ablation stakes in the glacier to allow measurement of

watersheds in TMNP.

6. Objective 3: To assess ecosystem responses to regional snow and ice changes in key TMNP watersheds focusing on tundra ecosystems and habitats of cultural keystone species.

7. Objective 3: To assess ecosystem responses to regional snow and ice changes in key TMNP watersheds focusing on tundra ecosystems and habitats of cultural keystone species.

8. Objective 4: To facilitate capacity building, knowledge mobilization and networking through the development of an interdisciplinary Inuit Youth Research Technician Program.

9. Objective 4: To facilitate capacity building, knowledge mobilization and networking through the development of an interdisciplinary Inuit Youth Research Technician Program.

10. Objective 4: To facilitate capacity building, knowledge mobilization and networking through the development of an interdisciplinary Inuit Youth Research Technician Program.

contribute to ecological integrity assessment for the Park. We are also testing a novel LiDAR based method against current pressure based system which require larger installation apparatus and have data quality issues. These LiDAR-based methods we are developing could prove to be useful for expanded monitoring throughout northern areas. Training of IYRTs on maintaining hydrological infrastructure is also an important skill for those who continue in the environmental sector.

3. Water sample collection improves our understanding of the current state of freshwater systems and riverine habitats in the Torngat Mountains. This was a clear knowledge gap articulated to us during project design. The work completed in Summer 2025 provides the opportunity to compare to previous years water samples to build our knowledge of the regions hydrological cycle to track future change through time. It also allows us to increase our sample size enabling robust interpretations of data. The carbon measurements will also be useful in

glacier melt rates from 2025 to 2026. One ice-penetrating radar survey was also taken in the center of the glacier to characterize ice thickness.

6. A total of 45 vegetation plots were surveyed at Nakvak Brook and Torr Bay Brook across three days. The vegetation surveys consisted of plot level ground photography, soil moisture measurements, canopy height measurements, plot level LiDAR scans, land classification validation, and evidence of forage. Data from the vegetation survey plots informed the creation of local summer and winter forage quality datasets for caribou and willow ptarmigan. The local summer and winter forage quality datasets will be utilized in modelling the local distribution of forage quality for caribou and willow ptarmigan. The models will be spatialized into maps to visually depict areas of preferred forage for caribou and willow ptarmigan at Nakvak Brook and Torr Bay Brook.

7. Two uncrewed aerial vehicle (UAV) surveys were conducted at Torr Bay Brook, a site located just south of TMNP. The area surveyed is approximate to the area surveyed in

11. Objective 5: To provide support and evidence-based knowledge to the Torngat Mountains Cooperative Management Board, the Nunatsiavut Government and Parks Canada, in support of ecological integrity monitoring and climate change research programs in Nunatsiavut.

12. Objective 5: To provide support and evidence-based knowledge to the Torngat Mountains Cooperative Management Board, the Nunatsiavut Government and Parks Canada, in support of ecological integrity monitoring and climate change research programs in Nunatsiavut.

13. Objective 5: To provide support and evidence-based knowledge to the Torngat Mountains Cooperative Management Board, the Nunatsiavut Government and Parks Canada, in support of ecological integrity monitoring and climate change research programs in Nunatsiavut.

14. Objective #5: To provide support and evidence-based knowledge to the Torngat Mountains Cooperative Management Board, the

determining carbon contributions to the atmosphere/oceans from different types of watersheds. Training of IYRTs on collecting water samples is also an important skill for those who continue in the environmental sector.

4. An updated analysis of the state of glaciers in the Torngat Mountains has been identified as a priority in previous discussions with Parks Canada and the Torngat Mountains Cooperative Management Board. From a National-scale review by Hanley et al (2023) "The least studied mountain ranges in Canadian academic literature are... and the Torngat Mountains... Additional research is needed in regions where glacier runoff trends have not been assessed in detail such as... the Torngat Mountains..." The analysis of long term and short term geodetic mass balance generated in this project will support a better understanding of the state of headwaters for fjord ecosystems in the TMNP. Investigating how the mass of these glaciers are changing annually and daily facilitates an understanding of potential impacts for downstream

<p>2022. Local environmental datasets were generated from the processed UAV data. The local environment datasets included RGB orthomosaic, multispectral bands (red, red edge, green, and near-infrared), Digital Elevation Model, Digital Surface Model, Digital Terrain Model, Land Classification, Canopy Height Model, Topographic Wetness Index, Normalized Difference Vegetation Index, and Normalized Difference Water Index. In conjunction with the local summer and winter forage quality datasets, the environmental datasets will be used to model the local distribution of summer and winter forage quality for caribou and willow ptarmigan at Nakvak Brook and Torr Bay Brook.</p>	<p>Nunatsiavut Government and Parks Canada, in support of ecological integrity monitoring and climate change research programs in Nunatsiavut.</p> <p>15. Objective #5: To provide support and evidence-based knowledge to the Torngat Mountains Cooperative Management Board, the Nunatsiavut Government and Parks Canada, in support of ecological integrity monitoring and climate change research programs in Nunatsiavut.</p> <p>16. Objective #5: To provide support and evidence-based knowledge to the Torngat Mountains Cooperative Management Board, the Nunatsiavut Government and Parks Canada, in support of ecological integrity monitoring and climate change research programs in Nunatsiavut.</p>	<p>biodiversity and ecosystem function. Specifically, colder glacier runoff supports temperature specific aquatic habitats for culturally important fish species, including Arctic char.</p> <p>5. In-situ mass balance measurements provide ground validation and point source information of glacier ice change at an annual level. Including direct mass balance measurements completes a TMNP monitoring dataset to an international standard, and primes the project to contribute to the World Glacier Monitoring Service, in future years, as desired.</p> <p>Training of IYRTs on collecting glacier mass balance information offers the potential for long-term development of Inuit-led glaciological investigations in the future.</p>
<p>8. Three Inuit Youth Research Technicians (IYRTs) were hired to participate in the Inuit Youth Research Technician Program.</p>	<p>17. Objective #5: To provide support and evidence-based knowledge to the Torngat Mountains Cooperative Management Board, the Nunatsiavut Government and Parks Canada, in support of ecological integrity monitoring and climate change research programs in Nunatsiavut.</p>	<p>6. The local summer and winter forage quality maps may help identify potential areas of preferred habitats for caribou and willow ptarmigan across TMNP. Both caribou and willow ptarmigan are cultural keystone species for Nunatsiavut Inuit and Nunavik Inuit.</p>
<p>Training on various field methods utilized throughout the field season was provided to ensure the IYRTs were equipped for fieldwork.</p> <p>9. As part of the Inuit Youth Research Technician Program, the</p>	<p>programs in Nunatsiavut.</p>	<p>In addition, we plan to upscale the local summer</p>

project HQP (KB, NG, AG, NL, TMS) led a four day training workshop from August 1 to August 4, 2025 in Happy-Valley Goose Bay (HVGB), Labrador before going into the field.

10. Supported Inuit Youth in attending ArcticNet Annual Science Meeting 2025

11. Research team members prepared manuscripts using data collected using ArcticNet funded research or contributed to by ArcticNet funded researchers. Colyn et al (2025) was published in Arctic Science. Montgomery-Stinson et al (in review) is in review at a peer reviewed journal. Wang et al (2026) is a refereed book chapter recently published.

12. Presentation to Torngat Mountains Cooperative Management Board at Torngat Mountains Basecamp and Research Station on August 7, 2025.

13. Site visit to Unnamed Glacier and downstream environment with the Torngat Mountains Cooperative Management Board on August 8, 2025.

14. Presented at ArcticNet

and winter forage quality maps to the regional TMNP scale. This may help inform long-term management and ecological integrity assessment of TMNP by local (Nunatsiavut and Nunavik) and federal (Parks Canada) governments.

7. The local distribution of summer and winter forage quality maps for caribou and willow ptarmigan may help identify potential areas of preferred habitats in TMNP. Both caribou and willow ptarmigan are cultural keystone species for Nunatsiavut Inuit and Nunavik Inuit. In addition, the UAV surveys provide local scale data for potential vegetation analysis, which can help inform long-term management and ecological integrity assessment of TMNP by local (Nunatsiavut and Nunavik) and federal (Parks Canada) governments.

8. The IYRT program provides an opportunity for three Inuit youth to gain employment experience in the environmental sector while learning about natural science techniques being employed on their ancestral homelands. IYRTs are also given the

Annual Science Meeting 2025. Oral Presentations were delivered by PI Robert Way, and HQP Katryna Barone, Nicole Gaul, and Taylor Montgomery-Stinson. Poster presentations were delivered by HQP Nhu Le and Alyssa Goulet.

15. Submission of Annual Investigators report to Parks Canada on November 16, 2025. Report is 38 pages.

16. Submission of update report to Nunatsiavut Government on November 16, 2025. Report is 38 pages.

17. Presentation at Nunatsiavut Climate Change Workshop (upcoming - March 16-20, 2026).

opportunity to participate in visits to culturally important sites and to partake in harvesting activities for Char. Multiple past IYRTs are employed in environmental related fields including for the Nunatsiavut Government. The IYRT program is one of many programs ongoing in the Canadian North which aim to support building capacity in northern communities.

9. Centralizing the field team members in HVGB ahead of field work provided the opportunity for introductions and training in environmental monitoring and data collection before flying to the TMNP. The workshop was designed to support and facilitate healthy group dynamics including technical, safety and social activities. Introduction to technical methods included ecology (vegetation plot surveys, open-top chambers, UAV surveys); hydrology methods (water sampling); glaciology (mass balance stake drilling); and weather monitoring (AMET).

10. Two IYRTs were supported in attending the ArcticNet ASM 2025. This helped provide IYRTs with exposure to environmental research activities ongoing

across the Canadian North. It also helped provide networking opportunities, direct exposure to a scientific conference environment and experience collaborating on presentations and posters. IYRTs also gain entries on the CVs demonstrating involvement with producing scientific content.

11. Generation of formal academic outputs from research generated by the research team is an important part of demonstrating value to the public for publicly funded research. It is a means of disseminating research results to the scientific community and can serve as an important contributor to the evidence base for policy-making on ecological and hydrological issues. All three manuscripts are unique contributions that have the potential to generate significant value. Two of these manuscripts directly integrate Inuit landscape knowledge and offer a glimpse into the importance of cultural keystone places in the Torngat Mountains for Inuit.

12. The Torngat Mountains Cooperative

Management Board is an Inuit-led board that provides advice to the Government of Canada on the management of the Torngat Mountains National Park. Presenting to the co-management board includes both dissemination of research results and a forum for discussion of future avenues of research. This gives us a chance to have relational accountability and to ensure that our project is aligned with the board's priorities. Our presentations and related discussions are also attended by Parks Canada and often Nunatsiavut Government staff who also contribute to these discussions. These annual presentations are an important step for maintaining positive working relationships and for ensuring the project continues to operate in the spirit of Inuit management of the park.

13. This visit allowed the co-management board to directly see and experience the research location where our work is ongoing and where the IYRT program is run. This type of site visit is beneficial for us to learn from co-management board members and for

them to be able to better understand the practical realities of working at these sites. This was an important step for maintaining positive working relationships and to receive extensive feedback in a less formalized setting.

14. Attendance at the ArcticNet ASM gives project team members another opportunity to disseminate research results and solicit feedback on ongoing research activities. As these conferences are well-attended by northerners, policy-makers and scientists, it is a unique venue where research can be discussed with many of those who will be impacted by decisions or who will be making decisions. The Nunatsiavut Government had a large contingent at the ASM and it gave our team another opportunity to continue to build relationships with project partners. For highly qualified personnel, there are tremendous benefits to attending ArcticNet ASMs including for exposure to other scientific ideas and also for networking purposes.

15. Our annual investigators report

submitted to Parks Canada is a requirement under our research permit and is also an important step in relational accountability. It also offers us an opportunity to share early research results and to ensure that Parks Canada is aware of the exact data that was collected at what time. This information can help Parks Canada decide on its own monitoring priorities and complete gap analyses in its ecological integrity monitoring assessments for the Torngat Mountains National Park.

16. Our annual report submitted to Nunatsiavut Government is an important step in relational accountability. It also offers us an opportunity to share early research results and to ensure that the Nunatsiavut Government is aware of the exact data that was collected and gives an opportunity for them to ask questions if there are concerns about the ongoing research. This information can help Nunatsiavut Government decide on its own monitoring priorities and complete gap analyses in its climate and environmental strategies for the Torngat Mountains

National Park. Steps like these help to ensure that we are continually engaging with our important research partners.

17. Our team will be participating in the Nunatsiavut Climate Change Workshop in Nain, Nunatsiavut in March. The exact nature of our participation is still being decided but inevitably this will be a great opportunity for project team members to continue to build relationships with research partners and engage with the Nunatsiavut Government. It will also offer a space for questions to be answered.

## 5. Challenges, Changes, or Issues Encountered

This section should provide information on any obstacles or challenges you have encountered in the advancement of your project, if any, and how these challenges were mitigated or overcome. Please indicate if any changes to your team or research objectives have occurred.

(max. 400 words)

In 2025 the project faced a number of significant challenges due to last minute changes to the operation and available logistical support at Torngat Mountains Basecamp and Research Station (TMBC). This resulted in last minute alterations to travel arrangements and field plans. TMBC is owned by the Nunatsiavut Government and operated by a combination of subcontracted support and logistics providers. In June a new provider (Arctic Kingdom) was contracted to operate TMBC for the 2025 operating season. Four weeks before the start of our planned fieldwork, Arctic Kingdom notified us that they would not have regularly scheduled flights to TMBC and we would be required to charter an aircraft. We were also notified that there would not be a helicopter positioned at TMBC during the 2025 summer season. This was the first time in at least a decade where a TMBC operator did not have a helicopter available for researchers to purchase hours from for usage. As a majority of our field sites are accessed by helicopter we were left with a difficult choice to either cancel field activities or to find alternative arrangements. Our research team decided to move forward with finding an alternative travel arrangement to ensure we fulfilled our commitments to our Inuit Youth Research Technicians and graduate students dependent on the field season.

In partnership with the Nunatsiavut Government and the Department of Fisheries and Aquaculture of Newfoundland and Labrador, we contracted a helicopter to service our combined field activities. This arrangement introduced high additional costs since we had to pay for daily minimum flight costs compared to only buying hours used. Due to high additional travel costs, we did not have helicopter access for research activities during the first four days at TMBC. Correspondingly, early research activities were limited to field sites accessible by foot from TMBC. Further challenges were encountered during fieldwork due to weather delays in accessing TMBC (1.5 days lost) and persistent coastal fog, which limited our ability to access the glacier site for extensive time periods. This resulted in a scaling back of field glaciological activities.

Our team received an extension from another funding source that was set to expire. This allowed us to offset many field costs from the 2025 summer field season. Though this funding is now depleted, it allowed us to underspend ArcticNet funds this year and protect against cost overruns.

**6. Knowledge Mobilization Activities**

Please complete the tables below to report all knowledge mobilization activities related to your project.

---

## 6a. Refereed contributions

Indicate in the table below the refereed contributions associated with your project. Refereed contributions are works that have undergone peer or expert review, including:

- peer-reviewed journal articles,
- refereed conference papers;
- books or book chapters;
- reports that were externally reviewed.

Click [here](#) for the definition of “Early Career Researcher”, “High-impact publication” and “Open access”.

	Title of publication	Format	Authored or Co-authored by an Indigenous individual	Reviewed by Indigenous partners	Authored or Co-authored by an Early Career Researcher	Open access	High-impact publication (Impact factor over 10)	Link/DOI
1	Investigating spatial variability of ground temperatures across coastal and continental highlands in Labrador, northeastern Canada	Peer-reviewed journal	✓	✓	✓	✓	No	10.1139/as-2024-0079
2	Borealisation of Plant Communities	Peer-reviewed journal	✗	✗	✓	✓	No	10.1111/ele.70209

	es in the Arctic Is Driven by Boreal-Tundra Species							
3	BioTIME 2.0: Expanding and improving a database of biodiversity time series.	Peer-reviewed journal	✘	✘	✔	✔	No	10.1111/gob.70003
4	"It's because we're out there and experiencing": Inuit Knowledge, climate change, and Cultural Keystone Places in Nunatsiavut	Other	✔	✔	✔	✔	No	In review at Botany.
5			✘	✘	✘	✘		
6			✘	✘	✘	✘		
7			✘	✘	✘	✘		
8			✘	✘	✘	✘		
9			✘	✘	✘	✘		
10			✘	✘	✘	✘		
11			✘	✘	✘	✘		

12			<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>		
13			<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>		
14			<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>		
15			<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>		
16			<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>		
17			<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>		
18			<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>		
19			<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>		
20			<b>x</b>	<b>x</b>	<b>x</b>	<b>x</b>		

## 6b. Non-refereed and others contributions

Indicate in the table below the non-refereed contributions or other dissemination activities associated with your project.

This may include:

- Conference abstracts, posters, and oral presentations not published in peer-reviewed proceedings
- Policy briefs, white papers, technical bulletins, or internal reports
- Blog posts, op-eds, newsletters, podcasts, infographics, radio interviews, artistic creations
- On the land activities, workshops, or other gatherings
- Public consultations, hearings, or other outreach formats
- Maps, datasets, or visualizations

Click [here](#) for the definition of “Early Career Researcher”.

	Title	Activity Type	Specify (if not listed before)	Medium	Target Audience	Indigenous involvement	If relevant, specify indigenous involvement (e.g. interpretation, development, review)	Impact & how it was measured	Early Career Researcher involvement	Reach	Link/Reference
1	Where snow lingers: Temporal dynamics of late-	Poster		In person	Early career researchers	✓	Coauthor. Conceptualization. Review.	N/A	✓	Regional	Goulet, A.*, Trant, A. and Way, R. (2026). Where

lying snowp  
atches  
and  
their  
plant  
commu  
nities  
in the  
Tornga  
t  
Mount  
ains  
Nation  
al  
Park,  
Labrad  
or.

snow  
lingers:  
Tempor  
al  
dynam  
ics of  
late-  
lying  
snowp  
atches  
and  
their  
plant  
commu  
nities  
in the  
Tornga  
t  
Mount  
ains  
Nation  
al  
Park,  
Labrad  
or.  
38th  
Annual  
Cold  
Region  
s  
Resear  
ch  
Centre  
Studen  
t  
Confer  
ence.  
Waterl  
oo,  
Ontario  
,  
Canad  
a.  
Poster

											Presenta- tion.
2	Estimat- ing the distribu- tion of forage quality for caribou and willow ptarmig- an in Tongait KakKa- suangit a SilakKij- apving a, Nunats- iavut, Labrad- or.	Non- referee- d confer- ence paper or report		In person	Early career research- ers	✓	Coauth- or. Conce- ptualiz- ation. Review .	N/A	✓	Region- al	Le, N.*, Way, R.G., Trant, A., Saund- ers, M., Kenne- dy, N., Lightfo- ot, H., Barone , K., Gaul, N., Lane, S., McNeill , E. and Winters , K. (2026). Estimat- ing the distribu- tion of forage quality for caribou and willow ptarmig- an in Tongait KakKa- suangit a SilakKij- apving a,

											Nunats iavut, Labrador or. 38th Annual Cold Regions Research Centre Student Conference. Waterloo, Ontario, Canada. 3-Minute Thesis Presentation.
3	Bridging the scales of Arctic greening: Integrating shrubification data from satellite remote sensing, uncrew	Poster		In person	Academic	✓	Coauthor. Conceptualization. Review.	N/A	✓	National	Goulet, A.*; Trant, A. and Way, R. (2025). Bridging the scales of Arctic greening: Integrating shrubification data

	ed aerial vehicle , and in-situ imager y in the Tongait (Tomg at) Mount ains in norther n Nunats iavut.										from satellit e remote sensin g, uncrew ed aerial vehicle , and in-situ imager y in the Tongait (Tomg at) Mount ains in norther n Nunats iavut. ArcticN et Annual Scienc e Meetin g 2025. Calgar y, Alberta , Canad a.
4	Estimat ing the local distribu tion of forage quality for	Poster		In person	Acade mic	✓	Coauth or. Conce ptualiz ation. Review .	N/A	✓	Nation al	Le, N.*, Way, R.G., Trant, A., Saund ers, M.,

caribou  
and  
willow  
ptarmig  
an in  
Tongait  
KakKa  
suangit  
a  
SilakKij  
apving  
a  
(Tomg  
at  
Mount  
ains  
Nation  
al  
Park),  
Nunats  
iavut,  
Labrad  
or.

Kenne  
dy, N.,  
Lightfo  
ot, H.,  
Barone  
, K.,  
Gaul,  
N.,  
Lane,  
S.,  
McNeill  
, E.  
and  
Winters  
, K.  
(2025).  
Estimat  
ing the  
local  
distribu  
tion of  
forage  
quality  
for  
caribou  
and  
willow  
ptarmig  
an in  
Tongait  
KakKa  
suangit  
a  
SilakKij  
apving  
a  
(Tomg  
at  
Mount  
ains  
Nation  
al  
Park),  
Nunats  
iavut,  
Labrad

											or. ArcticN et Annual Scienc e Meetin g 2025. Calgar y, Alberta , Canad a.
5	Estimat ing the distribu tion of caribou and willow ptarmig an forage quality at a long- term ITEX site in the southe rn Tornga t Mount ains Nation al Park, Nunats iavut, Labrad or.	Poster		In person	Acade mic	✓	Coauth or. Conce ptualiz ation. Review .	N/A	✓	Interna tional	Le, N.*, Way, R.G. and Trant, A. (2025). Estimat ing the distribu tion of caribou and willow ptarmig an forage quality at a long- term ITEX site in the southe rn Tornga t Mount

											ains Nation al Park, Nunats iavut, Labrad or. ITEX 2025, Norden s Ark, Hunne bostra nd, Swede n.
6	The Influen ce of Source Water on Alpine River System s in Tongait KakKa suangit a SilakKij apving a (Tormg at Mount ains Nation al Park), Nunats iavut, Labrad or.	Non- referee d confer ence paper or report		In person	Acade mic	✓	Coauth or. Conce ptualiz ation. Review .	N/A	✓	Nation al	Barone , K.*, Trant, A., Way, R., Barran d, N., Mallalie u, J., Hanna h, D., Le, N., Gaul, N., Lightfo ot, H., Kenne dy, N., Saund ers, M., Dennis ton, M., Jacque , E., Lane, S.,

McNeill, E., Sheppard, J., Winters, K. and Wang, Y. (2025). The Influence of Source Water on Alpine River Systems in Tongait KakKa suangit a SilakKij apving a (Tomg at Mount ains Nation al Park), Nunats iavut, Labrad or. ArcticN et Annual Scienc e Meetin g 2025.

											Calgary, Alberta, Canada.
7	In Calmer Waters : The Influence of Source Water on Alpine River Systems in Tongait KakKa suangit a SilakKij apving a (Tongait Mount ains National Park), Nunats iavut, Labrador.	Non-refereed conference paper or report		In person	Academic	✓	Coauthor. Conceptualization. Review .	N/A	✓	International	Barone , K.*, Trant, A., Way, R., Barrand, N., Mallalieu, J., Hannah, D., Le, N., Gaul, N., Lightfoot, H., Kennedy, N., Saunders, M., Denniston, M., Jacques, E., Lane, S., McNeill, E., Sheppard, J., Winters, K. and Wang, Y. (2025). In

Calmer Waters : The Influence of Source Water on Alpine River Systems in Tongait KakKa suangit a SilakKij apving a (Tomg at Mount ains Nation al Park), Nunats iavut, Labrad or. Interna tional Mount ain Confer ence (#IMC2 5- 3.1152 6), Innsbr uck, Austria .

8	Witnessing 20 years of change (2005-2025) at a small Arctic Mountain Glacier in Tongait KakKa suangit a SilakKij apving a (Tongait Mount ains National Park), Nunats iavut, Labrador, Canada.	Non-refereed conference paper or report		In person	Academic	✓	Coauthor. Conceptualization. Review.	N/A	✓	National	Gaul, N.*, Way, R.G., Trant, A., Barrand, N.E., Saunders, M., Barone, K., Le, N., Kennedy, N., Lightfoot, H., Mallalieu, J., Lane, S., McNeill, E., Winters, K., Dennis, M., Jacques, E., Sheppard, J., Andersen, B-M., Jacques, H., Wyatt, K., Wang, Y. and Rendel, E. (2025).
---	---	---	--	-----------	----------	---	--------------------------------------	-----	---	----------	---

Witnessing 20 years of change (2005-2025) at a small Arctic Mountain Glacier in Tongait KakKa suangit a SilakKij apving a (Tomg at Mount ains Nation al Park), Nunats iavut, Labrad or, Canad a. ArcticN et Annual Scienc e Meetin g 2025. Calgar y, Alberta

											, Canada.
9	A youth-based glacio-hydrological monitoring program in Tongait KakKa suangit a SilakKij apving a (Tongait Mount ains National Park), Nunats iavut, Labrador, Canada.	Non-refereed conference paper or report		In person	Academic	✓	Coauthor. Conceptualization. Review.	N/A	✓	International	Gaul, N.*, Way, R.G., Trant, A., Barrand, N.E., Saunders, M., Barone, K., Le, N., Kennedy, N., Lightfoot, H., Mallalieu, J., Lane, S., McNeill, E., Winters, K., Denniston, M., Jacques, E., Sheppard, J., Andersen, B-M., Jacques, H., Wyatt, K., Wang, Y.

(2025).  
A  
youth-  
based  
glacio-  
hydrolo  
gical  
monitor  
ing  
progra  
m in  
Tongait  
KakKa  
suangit  
a  
SilakKij  
apving  
a  
(Tomg  
at  
Mount  
ains  
Nation  
al  
Park),  
Nunats  
iavut,  
Labrad  
or,  
Canad  
a.  
Septe  
mber  
17,  
2025.  
Interna  
tional  
Mount  
ain  
Confer  
ence  
(#IMC2  
5-  
3.1169  
3),  
Innsbr

											uck, Austria .
10	Significant gaps in Canada's climate and weather observing network.	Non-refereed conference paper or report		In person	Academic	✓	Author. Conceptualization.	N/A	✓	National	Way, R.* (2025). Significant gaps in Canada's climate and weather observing network. ArcticNet Annual Science Meeting 2025. Calgary, Alberta, Canada.
11	Understanding climate change through Cultural Keysto	Non-refereed conference paper or report		In person	Academic	✓	Coauthor. Conceptualization. Review.	N/A	✓	National	Montgomery-Stinson, T.*, Cuerrier, A., Trant, A. and Way, R. (2025).

	ne Places: Inuit Knowle dge and repeat photog raphy in Nunats iavut.									Unders tandin g climate chang e throug h Cultura l Keysto ne Places: Inuit Knowle dge and repeat photog raphy in Nunats iavut. ArcticN et Annual Scienc e Meetin g 2025. Calgar y, Alberta , Canad a.	
12	Unders tandin g climate chang e throug h	Non- referee d confer ence paper or report		In person	Acade mic	✓	Coauth or. Conce ptualiz ation. Review .	N/A	✓	Interna tional	Montg omery- Stinso n, T.*, Cuerrie r, A., Trant, A. and

	Cultural Keystone Places: Inuit Knowledge and repeat photography in Nunatsiavut.									Way, R. (2025). Understanding climate change through Cultural Keystone Places: Inuit Knowledge and repeat photography in Nunatsiavut. International Mountain Conference, Innsbruck, Austria.	
13	Glaciers and Ecosystems	Consultation		In person	Indigenous Community	✓	Coauthor. Conceptualization. Review.	N/A	✓	Local	Trant, A., Way, R.G., Barone, K., Gaul, N., Le, N. and

										Montg omery- Stinso n, T. (2025). Glacier s and Ecosys tems. Invited Presen tation to the Tornga t Mount ains Cooper ative Manag ement Board and Parks Canad a. Tornga t Mount ains Basec amp and Resear ch Station , Saglek , Labrad or, Canad a.
14						✘			✘	

15						X			X		
16						X			X		
17						X			X		
18						X			X		
19						X			X		
20						X			X		

---

### 6c. Intellectual Property

Has your project generated any Intellectual Property ?

No

---

Did your project lead to the creation of companies?

No

---

Did the activities lead to improvements in existing companies?

Yes

## 7. a. Partnerships and Engagement

Describe the partnerships and engagement activities over the past year with:

1. Inuit, First Nations, Metis and northern communities and organizations; and,
2. Government agencies and industry
3. Academic institutions

- Provide details on your National and International collaborative activities during the last year, both within your project and with partners collaborating with your project.
- Highlight the value of these partnerships and the collective contributions to your research project.

(no word limit)

1. This project is an extension of a previous project conducted in the region titled “Impacts of cryosphere-hydrosphere change on ecosystems and livelihoods in northern Nunatsiavut, Canada (IMAGINE)”, which received funding from Polar Knowledge Canada. In this project, we are continuing our partnership with the Nunatsiavut Government (NG), whom we have collaborated with in the past and aim to continue doing so in the future. NG has provided extensive in-kind support. NG also provided in-field support by assisting our team with water sample collection. We are continuing to engage with the Torngat Mountains National Park (TMNP) Cooperative Management Board. During the 2025 summer field season, our team went out to two field sites in TMNP with the TMNP Cooperative Management Board to showcase various field methods and discuss research activities. In addition, our team presented to the TMNP Co-operative Management Board on the field activities planned for Summer 2025 and engaged in a discussion session about future research priorities in the region.

2. In this project, we are continuing our partnership with Parks Canada (PC), specifically with staff from the Western Newfoundland and Labrador Field Units. We have maintained agreements, partnerships and collaborations with PC, which was initially built on successful knowledge generation in northern Labrador between 2016-2018 through the Weston Foundation-Nunatsiavut Government-Parks Canada Award for research based out of Torngat Mountains Base Camp and Research Station. The collaboration with PC has allowed us to expand our climatological, ecological, hydrological, and glaciological monitoring within TMNP. PC also provided in-field support by assisting our team in a variety of field activities such as water sample collection, vegetation monitoring, and bear guarding services.

3. Contributions from this project’s research activities continue to be added to international databases, such as the High Latitude Drone Ecology network, the International Tundra Experiments, and the SoilTemp global soil

temperature database. Each of these are large international research projects that span multiple institutions. Data collected in Torngat Mountains National Park has already been contributed to all three international projects and will continue to do so in the future.

---

## 7.b. Capacity Building and Training

Describe capacity-building and training efforts over the past year, including strategies for both northern and southern Highly Qualified Personnel.

(no word limit)

Training efforts for Highly Qualified Personnel included a one-day Crevasse Rescue Training Course in Canmore, Alberta on May 17th, 2025, for three graduate students to increase safety and awareness while conducting glacier work in TMNP. Additional training of Highly Qualified Personnel included a four-day workshop in Goose Bay, Labrador from August 1st to August 4th, 2025 for three Inuit Youth Research Technicians (IYRTs). This workshop aimed to provide the IYRTs with an overview of FORGE-TMNP project and training on various field data collection techniques. Additionally, the workshop provided an excellent opportunity for team members to get to know one another before going out to the field. The workshop was divided into multiple components: weather monitoring, uncrewed aerial vehicle surveying, ecological monitoring, hydrological sampling, and glacier work and safety. The workshop included both indoor seminars and outdoor field sessions designed to give an overview of each project component, and time to practice using equipment and collecting samples. IYRTs and project HQP would later apply these skills in a real-world setting during fieldwork in the Torngat Mountains. This challenging environment offered opportunities for skill development and building important research management skills while also allowing for IYRTs and project HQP to experience cultural activities led from Torngat Basecamp and Research Station. IYRTs and project HQP also received training on Polar Bear Safety and helicopter safety while in the field. After fieldwork, a subset of IYRTs and project-HQP were supported in their attendance at ArcticNet's Annual Science Meeting 2025 which offered networking, science communication and team building opportunities.

**7c. Are any of the end-users of this project's results also partners in the funded project**

Click [here](#) for the definition of "end-users".

Yes

---

## 8. Researchers Funded by ArcticNet (including Project Lead, Co-Leads, Other Funded Researchers)

Please complete the table below for each researcher in your team who is funded by ArcticNet, including the Project Leader:

- Specify the academic institution (Canadian University or College) or other affiliation for each funded researcher.
- Where applicable, include multiple affiliations (e.g., University of Manitoba; Department of Fisheries and Oceans)

*When completing this section, please ensure that each team member has verified and confirmed the accuracy of their information and has given their consent for it to be included in this report. Personnel information is asked for statistical purposes only and will not be disclosed.*

Click [here](#) for the definition of “Co-Lead”, “Early Career Researcher”, “Project Lead”, “Researcher”, “Youth”.

	First Name	Last Name	Academic Institution	Other Affiliation (If Applicable)	Other Affiliation's Sector (If Applicable)	Email	Role	Northerner	Youth (see definition in glossary)	Indigenous	Details of involvement (Indigenous Researchers Only)	Early Career Researcher	Discipline	Gender
1	Robert	Way	Queen's University			<a href="mailto:robert.way@queensu.ca">robert.way@queensu.ca</a>	Project Leader	✓	✗	Inuit	Project lead.	✓	Natural Science - Terrestrial	Man
2	Andrew	Trant	University of Waterloo			<a href="mailto:atran@waterloo.ca">atran@waterloo.ca</a>	Researcher	✗	✗			✗	Natural Science -	Man

													Marine	
3	Laura	Thomson	Queen's University			<a href="mailto:l.thomson@queens.u.ca">l.thomson@queens.u.ca</a>	Researcher	✘	✘			✘	Natural Science - Terrestrial	Woman
4								✘	✘			✘		
5								✘	✘			✘		
6								✘	✘			✘		
7								✘	✘			✘		
8								✘	✘			✘		
9								✘	✘			✘		
10								✘	✘			✘		
11								✘	✘			✘		
12								✘	✘			✘		
13								✘	✘			✘		
14								✘	✘			✘		
15								✘	✘			✘		
16								✘	✘			✘		
17								✘	✘			✘		
18								✘	✘			✘		
19								✘	✘			✘		
20								✘	✘			✘		

## 9. Collaborators and Partners

Please complete the table below for each collaborator or partner involved in your project:

- Specify the academic institution (Canadian University or College) or other affiliation
- Where applicable, include multiple affiliations (e.g., University of Manitoba; Department of Fisheries and Oceans)

*When completing this section, please ensure that each team member has verified and confirmed the accuracy of their information and has given their consent for it to be included in this report. Personnel information is asked for statistical purposes only and will not be disclosed.*

Click [here](#) for the definition of “Collaborator”, “Early Career Researcher”, “Partner”, “Youth”.

	First Name	Last Name	Academic Institution	Other affiliation (if applicable)	Other affiliation's sector (if applicable)	Email	Role	Gender	Northern	Indigenous	Details of Involvement (Indigenous Collaborators/Partners only)	Youth (see glossary)	Discipline	Early Career Researcher	International
1	Michelle	Saunders		Nunavut Government	Indigenous Organization	<a href="mailto:michelle.saunder@nunatsiavut.ca">michelle.saunder@nunatsiavut.ca</a>	Partner	Woman	✓	Inuit	Consultation. Logistical support. Concept	✓	Natural Science - Marine	✓	✗

											ualizatio n of rese arch priori ties.				
2	Holly	Ligh tfoot		Park s Can ada	Fed eral Gov ern men t	<a href="mailto:holly.lightfoot@pc.gc.ca">holly .light foot @pc .gc.c a</a>	Part ner	Wo man	✘		✘	Natu ral Scie nce - Terr estri al	✘	✘	
3	Nath an	Ken ned y		Park s Can ada	Fed eral Gov ern men t	<a href="mailto:nathan.kennedy@pc.gc.ca">nath an.k enn edy @pc .gc.c a</a>	Part ner	Man	✔	Inuit	Data colle ction . Con sulta tion. Logi stica l sup port. Con cept ualiz atio n of rese arch priori ties.	✔	Natu ral Scie nce - Terr estri al	✔	✘
4	Nich olas	Barr and	Univ ersit y of Birmi ngh am			<a href="mailto:n.e.barrand@bham.ac.uk">n.e. barr and @bh am. ac.u k</a>	Coll abor ator	Man	✘		✘	Natu ral Scie nce - Terr	✘	✔	

												estrial			
5	Joseph	Mallieu	University of Birmingham			<a href="mailto:j.mallieu@bham.ac.uk">j.mallieu@bham.ac.uk</a>	Collaborator	Man	X			X	Natural Science - Terrestrial	X	✓
6									X			X		X	X
7									X			X		X	X
8									X			X		X	X
9									X			X		X	X
10									X			X		X	X
11									X			X		X	X
12									X			X		X	X
13									X			X		X	X
14									X			X		X	X
15									X			X		X	X
16									X			X		X	X
17									X			X		X	X
18									X			X		X	X
19									X			X		X	X
20									X			X		X	X

## 10. Highly Qualified Personnel (HQP)

Please list all HQP who are or were involved in the project during the current year (2025-2026). Indicate if the HQP completed or will complete their degree in the current year (2025-2026).

For each HQP who has completed their degree during the current year (2025-2026), please specify (if known) their sector of employment, country of employment and whether their employment is related to the North.

*When completing this section, please ensure that each team member has verified and confirmed the accuracy of their information and has given their consent for it to be included in this report. Personnel information is asked for statistical purposes only and will not be disclosed.*

If you have more than 30 HQP, please write to the program officer at [anne-laure.agrinier@arcticnet.ulaval.ca](mailto:anne-laure.agrinier@arcticnet.ulaval.ca).

Click [here](#) for the definition of “High Qualified Personnel”, “Youth”.

First Name	Last Name	Institution	Email	Status	Citizenship	Northerner	Indigenous	Details of Involvement (Indigenous HQP Only)	Youth	Did the HQP follow a training on Indigenous Awareness and Ethical Research	Degree completed	Level completed	Employed or	Related to the North	Country of Employment	Gender

											ch in the Nort h?						
1	Katryna	Barone	University of Waterloo & Queen's University	<a href="#">katryna.barone@waterloo.ca</a>	Master Student	Canadian	✘			✓	✓	✓	MS (Masters)	Academic	✓	Canada	Woman
2	Nicole	Gaul	Queen's University	<a href="#">nicole.gaul@queensu.ca</a>	Master Student	Canadian	✘			✓	✓	✘	N/A	N/A	✓	N/A	Woman
3	Alysa	Golet	University of Waterloo	<a href="#">a2golet@uwaterloo.ca</a>	Master Student	Canadian	✘			✓	✓	✘	N/A	N/A	✓	N/A	Woman
4	Nhu	Le	University of Waterloo & Queen's	<a href="#">nhule@uwaterloo.ca</a>	Master Student	Canadian	✘			✓	✓	✘	N/A	N/A	✓	N/A	Woman

			Uni vers ity														
5	Taylor	Montgomery-Stinson	Université de Montral & University of Waterloo	<a href="http://taylor.montreal.ca">taylor.montreal.ca</a>	Master Student	Canadian	✘			✓	✓	✓	MSc	Private & Indigenous	✓	Canada	Man
6	Samuel	Lane	Queen's University	N/A	Other	Canadian	✓	Inuit	Inuit Youth Research Technician	✓	✓	✘	N/A	Student	✓	Canada	Man
7	Emma	McNeill	Queen's University	N/A	Other	Canadian	✓	Inuit	Inuit Youth Research Technician	✓	✓	✘	N/A	Private	✘	Canada	Woman
8	Kendra	Winters	Queen's University	N/A	Other	Canadian	✓	Inuit	Inuit Youth Research	✓	✓	✓	N/A	Student	✓	Canada	Woman

								ch Tec hnic ian									
9										X	X	X					X
10										X	X	X					X
11										X	X	X					X
12										X	X	X					X
13										X	X	X					X
14										X	X	X					X
15										X	X	X					X
16										X	X	X					X
17										X	X	X					X
18										X	X	X					X
19										X	X	X					X
20										X	X	X					X
21										X	X	X					X
22										X	X	X					X
23										X	X	X					X
24										X	X	X					X
25										X	X	X					X
26										X	X	X					X
27										X	X	X					X
28										X	X	X					X
29										X	X	X					X
30										X	X	X					X

## 11. Budget and Cash/In-Kind Contributions

For each funded researcher, using the [template Budget](#) :

1. Describe the status of your ArcticNet Project Budget for 2025-2026.
2. Provide an approximated forecast of your expenses up to March 31<sup>st</sup>, 2026.
3. Report any cash/in-kind contributions made to your ArcticNet project during the 2025–2026 fiscal year.  
Please indicate whether contributions are Matched or Leveraged. A detailed guide and examples for in-kind contributions are provided [here](#).

**Please note that you must submit an F300 form covering the period from April 1, 2025, to March 31, 2026, by May 15, 2026 to ensure continued funding from ArcticNet. Funds for subsequent years will not be released until ArcticNet has received your F300 submission.**

[WAY ARCTICNET BUDGET REPORTING 2025 2026.xlsx](#)

**Filename:** WAY\_ARCTICNET\_BUDGET\_REPORTING\_2025\_2026.xlsx.xlsx **Size:** 12.6 kB

[TRANT ARCTICNET BUDGET REPORTING 2025 2026.xlsx](#)

**Filename:** TRANT\_ARCTICNET\_BUDGET\_REPORTING\_2025\_2026.xlsx.xlsx **Size:** 12.6 kB

[THOMSON ARCTICNET BUDGET REPORTING 2025 2026.xlsx](#)

**Filename:** THOMSON\_ARCTICNET\_BUDGET\_REPORTING\_2025\_2026.xlsx.xlsx **Size:** 10.9 kB

---

## 12a. Data Management

Provide a link to your metadata or upload documentation confirming that the metadata have been uploaded to an approved platform (refer to [ArcticNet's recommended databases](#)).

At present, we have not uploaded metadata to approved platforms. Data from the three published manuscripts are available via SoilTemp and ITEX related databases but none of the additional data products have had metadata uploaded. For the hydrological sampling, it took a number of months to receive processed results so we are only now at a stage where we can begin to produce appropriate metadata. For other products, we agree with the need to produce metadata and will prioritize ensuring that metadata is available in approved venues prior to the next field season. We believe Nordicana D will be the choice for some of these products given our success with using that platform in the past.

---

## 12b. Data Management

If necessary, upload documentation confirming that the metadata have been uploaded to an approved platform (refer to [ArcticNet's recommended databases](#)).

---

### 13. Tables and Figures

If you have figures or tables you would like to add to your report, please provide the original formats in high resolution for publication purposes, in a separate file or files using one of the following formats : .pdf, .jpg,. png, .tiff,. xlsx, .ppt

[S2025 TMNP Workshop - DRAFT.pdf](#)

**Filename:** S2025 TMNP Workshop - DRAFT.pdf.pdf **Size:** 244.1 kB

[IMG\\_0281 2.JPG](#)

**Filename:** IMG\_0281 2.JPG.jpg **Size:** 506.5 kB

[IMG\\_7768.JPG](#)

**Filename:** IMG\_7768.JPG.jpg **Size:** 220.9 kB

[IMG\\_7972.JPG](#)

**Filename:** IMG\_7972.JPG.jpg **Size:** 254.2 kB

[IMG\\_9157.JPG](#)

**Filename:** IMG\_9157.JPG.jpg **Size:** 365.6 kB

[IMG\\_8900.JPG](#)

**Filename:** IMG\_8900.JPG.jpg **Size:** 429.3 kB

---

### 14a. Travel Details

Please confirm that you abided by ArcticNet's travel policy. You can review the policy [here](#). If any travel did not comply with the policy, please provide a brief justification explaining why in the section below.

#### Responses Selected:

I confirm that I have complied with Arcticnet's travel policy.

---

### 14b. Justification of deviation from travel policy

N/A

## 15. Revision of Environmental Impact Assessment

If changes are made to the location or type of your field activities, please download, complete and upload the [Environmental Impact Assessment Form](#) in this section.

# TMNP Field Training Workshop 2025

*Happy Valley - Goose Bay*

## General Overview

Welcome to the IMAGINE project's Inuit Youth Research Technician (IYRT) program and research team! Over the next three days we'll be getting to know each other and preparing to head up to the Torngat Mountains National Park (TMNP) for environmental monitoring and data collection. Our plan is to introduce you to a range of technical, safety and social activities before we head up to the base camp on August 5<sup>th</sup>.

The exact workshop schedule will be weather dependent.

## Roles and Responsibilities

As members of the research team we want you to feel comfortable asking questions! Our goal is for you to develop confidence with the equipment and methods we'll be using in the Park. You may be asked to support tasks like note taking, drilling, packing, water sampling, etc. The IMAGINE master's students (Kat, Nhu, Nicole & Taylor), along with project lead's Rob and Andrew, will be responsible for making sure we all feel as prepared and supported as can be!

## Workshop activities

Administrative	<ul style="list-style-type: none"><li>• Project overview</li><li>• Field note taking</li></ul>	<ul style="list-style-type: none"><li>• Data management</li><li>• Life + wellness at basecamp</li></ul>
Technical	<ul style="list-style-type: none"><li>• Ecology</li><li>• Hydrology</li><li>• Glaciology</li></ul>	<ul style="list-style-type: none"><li>• Weather stations</li><li>• UAV / GCPs</li><li>• AMET?</li></ul>
Safety	<ul style="list-style-type: none"><li>• Glacier travel</li><li>• Wildlife awareness</li></ul>	<ul style="list-style-type: none"><li>• Helicopter travel</li><li>• Remote wilderness first aid</li></ul>
Social / cultural	<ul style="list-style-type: none"><li>• Cultural keystone places</li></ul>	<ul style="list-style-type: none"><li>• Repeat photography</li></ul>

Date	August 1	August 2*	August 3*	August 4	August 5	August 6	August 7
Location	HVGB	HVGB	HVGB	HVGB	TMNP	TMNP	TMNP
Breakfast							
Morning 1	Travel / Arrival	AMET / GPS	Hydro sampling	Safety & Logistics	Travel	TMNP	TMNP
Morning 2		AMET / GPS	Hydro sampling				
Lunch							
Afternoon 1	Travel / Arrival	Ecology / UAV	Glacier / GPR	Field Prep	Travel/ Basecamp Orientation	TMNP	TMNP
Afternoon 2		Ecology / UAV	Glacier / GPR				
Supper							
Evening	Introductions / Project overview	Note Taking / Data management	Repeat photography / CKPs	Field Prep	Data management & Prep	Data management & Prep	Data management & Prep
	Personal time	Personal time	Personal Time	Personal Time			

*\*Schedule subject to change based on weather*

Date	August 8	August 9	August 10	August 11	August 12	August 13	August 14
Location	TMNP	TMNP	TMNP	TMNP	TMNP	TMNP	TMNP
Breakfast							
<b>Morning 1</b>	TMNP	TMNP	TMNP	TMNP	TMNP	TMNP	TMNP
<b>Morning 2</b>							
Lunch							
<b>Afternoon 1</b>	TMNP	TMNP	TMNP	TMNP	TMNP	TMNP	Pack up
<b>Afternoon 2</b>							
Supper							
<b>Evening</b>	Data management / Prep	Data management / Prep	Data management / Prep	Data management / Prep	Data management / Prep	Data management / Prep	Pack up

**Personal Items:**

- Driver's License and Health Card
- Medical / Travel Insurance Information
- Debit / Credit Card / Extra Cash
- Student Card (if applicable)
- Medication
- Permits / Certifications (if applicable)

**Electronics:**

- Wrist Watch
- Cell Phone and Charging Cord
- Laptop and Charging Cord
- Headphones
- External Hard Drive / USB Sticks\*
- Camera and Charging Cord
- Power Bank
- Entertainment (books/art pad/puzzles, etc.)

**Field Gear:**

- Day pack (would recommend ~20-30 litres)
- 2 1L Water Bottles / 2L Hydration Bladder
- Thermos for Tea or Coffee
- Reusable Lunch Container
- Pocket Knife
- Notebook\*
- Mechanical Pencils and Pens\*
- Permanent Markers\*
- Duct Tape\*
- Ziplock Bags\*
- Ear Plugs
- Sunscreen
- Sunglasses
- Bug Spray
- Hand and Toe Warmers\*
- Headlamp
- First Aid Kit\*
- Toilet Paper and Hand Sanitizer
- Gaiters (optional)

**Camping Gear (also can be provided by Parks):**

- Sleeping Bag (rated for at least 0°C)
- Sleeping Mat
- Sleeping Bag Liner (optional)
- Camp Pillow

**Field Clothes:**

- 1-2 T-shirts
- 2-3 Long Sleeve Shirts
- 1-2 Sweaters or fleece
- 1 Insulated Jacket
- 1-2 pairs of Hiking Pants
- 1-2 pairs of Leggings / Long-johns
- Bug Jacket\*
- Rain Jacket
- Rain Pants
- Thin Gloves / Work Gloves
- Sun Hat
- Toque
- Buff / Neck Scarf
- Thick Mitts / Gloves
- Casual/comfy clothes for Base Camp

**Clothes (intimates):**

- Socks
- Sports Bras
- Underwear
- Pajamas
- Swimsuit

**Footwear:**

- Hiking Boots (with ankle support)
- Rain Boots
- Shower Shoes (sandals, crocs, flip flops)
- Camp shoes/slippers (for Basecamp)

**Toiletries:**

- Toothbrush, Toothpaste, Floss
- Face Cleanser and Cream
- Face Cloth and Body Towel
- Hairbrush
- Shampoo / Conditioner
- Body Wash / Soap
- Eye Drops
- Tweezers
- Razor
- Lip Balm

*Note - laundry is available at Basecamp*

*\*= can be provided by the lab*