



# Cape Dorset Climate Change Community Engagement Summary Document

## SUMMARY OF ACTIVITIES

The Climate Change Section of the Government of Nunavut's (GN) Department of Environment (DOE) led community engagement activities in Cape Dorset from September 8-10 2015, to gather and share information on how permafrost is shifting in Cape Dorset. Discussions focused on how infrastructure is impacted by changing permafrost, and how these changes influence current and future development in the community. These activities engaged community members, including the Hamlet of Cape Dorset, community planners and land administrators, the housing sector, elders and youth. These consultations were part of a larger GN-led project to map the suitability of land for future development in seven Nunavut communities. The overall goal of this project is to consider climate change impacts on our communities, and to develop adaptation measures that deal with these changes. The Cape Dorset suitability map was a central piece to stimulate discussion at these meetings. The GN worked with project partners, including Université Laval, Northern Climate ExChange and 3V Geomatics.

## MEETINGS WITH HAMLET, COMMUNITY PLANNERS AND LAND ADMINISTRATORS, AND HOUSING DECISION MAKERS

Project partners and stakeholder groups (see page 5 for complete list) met over the course of three days in informal knowledge-sharing meetings. The GN shared early results of the Cape Dorset land suitability map. This map shows how the ground is moving and puts land into different "suitability" groups based on ground stability. 3V Geomatics explained in greater detail the process of creating the map and how the results can be understood. Permafrost researchers from Université Laval and the Northern Climate ExChange provided more insight into ground and permafrost conditions based on a drilling program that they ran during the course of that week. This extra work



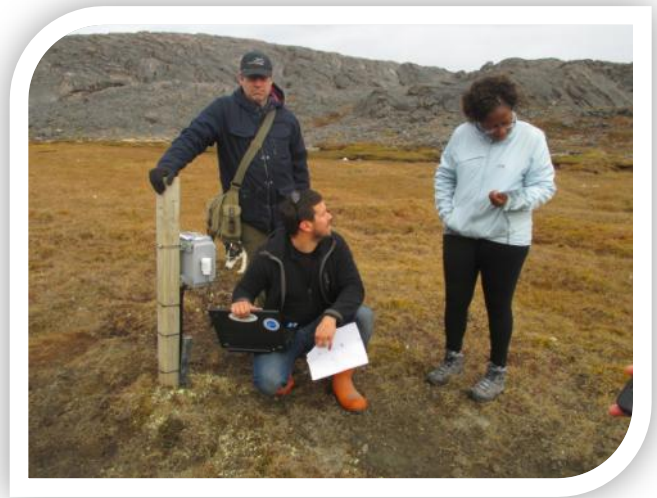
Examples of steel piles and mesh skirting around a house.

supports the current mapping project and allows communities to better understand ground conditions.

Participants at the meeting talked about the suitability of future development areas and the reason for choosing one area over another within the community (i.e. areas that would create engineering challenges: too wet, too rocky, too costly to service, etc.). Two topics that got a lot of attention during meetings were foundations and building designs.

The meetings were also a useful forum for getting feedback on the map and making sure they are user-friendly and practical. It was useful to learn that the maps are beneficial to groups for not only future development planning, but also for existing infrastructure. For example, the local housing authority said that they could use the map to identify buildings that would likely need more maintenance because of their location on shifting permafrost.

In addition to the drilling program that Université Laval and the Northern Climate ExChange permafrost researchers ran, these partners also installed a monitoring station to measure permafrost temperatures. A site visit was done with community planners and land administrators to learn how to download data from the station. These instructions have been sent to the high school science teacher, who, with his students, will help collect data.



GN staff learn how to use permafrost monitoring equipment from U Laval and NCE researchers.

As a result of the stakeholder meetings, permafrost researchers and Hamlet staff were able to talk about site options for the new cemetery. They even went on a site visit to these suggested locations. Hamlet staff are now prepared to make more informed decisions for future site placement. These stakeholder meetings have made positive connections between stakeholders and have shared valuable knowledge to groups able to use it.

## YOUTH ENGAGEMENT ACTIVITIES

Youth climate change engagement activities were held throughout the week with a few age groups. The entire Cape Dorset elementary school was involved in two activities: a school-wide presentation on climate change and a climate change art competition that allowed students to submit their original art. Classes also participated in hands-on activities, including building model houses on thawing permafrost to see how the houses deal with the changes. Due to the unfortunate tragedy of the high school fire during the week of the visit, high school workshops



Fun activities for elementary students learning about the impact of permafrost on building foundations

natural drainage areas. They also noted that houses on pile foundations were experiencing more deterioration than houses on pad and wedge foundations. They noted increasing cracks in the walls, and that the houses on piles seemed less solid. They were especially interested in the land suitability map and how they can influence future development decisions in their community.

## COMMUNITY-WIDE ACTIVITIES

Community events were held throughout the week to provide a wide range of engagement opportunities for the residents of Cape Dorset. Events included:

- A call-in radio show that featured an “Ask the Expert” session where community members could call in with their climate change observations and questions to permafrost researchers;
- A climate change movie night where the documentary *Inuit Knowledge and Climate Change* was shown, winners from the art competition were announced, and climate change prizes were given out.

were cancelled; however, all educational materials were made available to the teachers for future learning.

## ELDER CONSULTATIONS

The meeting with Elders highlighted invaluable information. Elders noted that the landscape in town has changed, particularly water bodies. They related these changes to the development of the community and the significant disruptions to the



DOE staff with the winners of the climate change drawing contest.

## CHALLENGES WITH BUILDING IN CAPE DORSET

Throughout the week-long discussions, key challenges were identified around the planning, development, construction, and maintenance of infrastructure in Cape Dorset. They included:

- High demand for housing, putting pressure on timelines for planning and construction of new infrastructure development;
- Very rocky, steep landscapes that are not suitable for development;
- Drainage issues due to disrupting natural drainage patterns;
- Current energy restraints, stopping any new development; and
- Knowledge gaps in surficial geology conditions.

## FUTURE CONSIDERATIONS

There is a lot of interest to incorporate climate change research and local knowledge into community planning. This project identified challenges with community infrastructure planning and raised awareness of potential climate change impacts on future development. It also emphasized the need for continued partnership, knowledge sharing, and creation of best practices across all decision-making levels. In order to properly incorporate climate change adaptation measures into community planning, the following considerations were gathered from stakeholders and project partners:

- The GN will continue to update Cape Dorset stakeholders of the hazard mapping project, and will continue to facilitate discussions on how to incorporate adaptation measures into community planning;
- Identify expertise where needed to help with knowledge gaps (e.g. drainage concerns, surficial geology, etc);
- Share existing resources and databases relevant for development in Cape Dorset with all project partners and stakeholders including:
  - geotechnical reports;
  - permafrost data;
  - community plan and zoning bylaws; and
  - northern infrastructure standards;
- Continue to engage Cape Dorset teachers at all school levels, and encourage the continued partnership work around the permafrost monitoring station.



Elders participate in climate change and permafrost discussions.

## ATTENDEES

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