



Climate change in Northern Quebec and its impacts on accessibility to resources:

The example of the traditional trails network

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Communities of Kangiqsujuuaq, Umiujaq, Kangiqsuallujuaq and Kawawachikamach

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1. Introduction

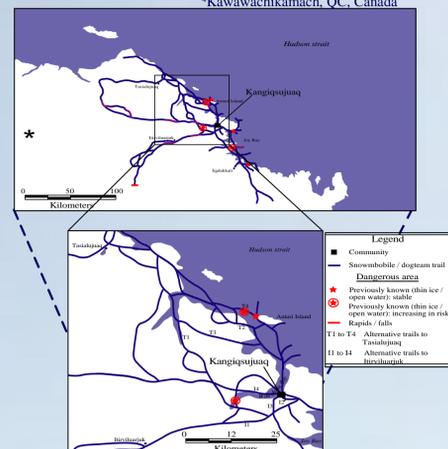
The manifestations of climate change in Northern Quebec are of great concern for the resident populations. The warming of the climate, the shorter winter periods and the increase in climate variability are all affecting traditional hunting and fishing activities directly because they can reduce by several weeks the periods when safe travel on land or on the coast are possible and thus prevent access to hunting, fishing and trapping grounds. Such change in the calendar of the seasonal activities could generate significant socio-economic impacts, in particular on the health and food security of populations already experiencing important changes in their way of life.

The current project documents the impacts of the climate changes on the trail networks that provide access to traditional harvesting grounds and resources in one Naskapi community and three Inuit communities of the northern Quebec region. Using topography maps, semi-directed interviews were carried out in February and March of 2004 with local experts in each community in order to gather their perspective on the changes occurring on the trail networks used for their subsistence activities.

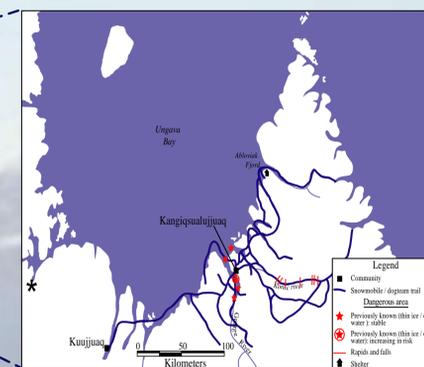
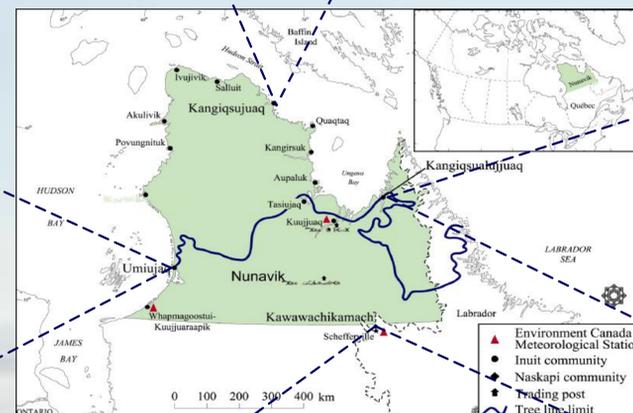
3. Adaptation strategies

The three Inuit communities whose trail networks are affected by climate change are already using adaptation strategies to face increasing risks while travelling on the land. These strategies include a slight modification of the layout of trails, the use of alternate routes located further inland when the instability of the pack ice prevents safe travel by snowmobile along the coast, or by navigating close to the coast when unforeseen bad weather rises when travelling by boat. These adaptation strategies decrease the impacts linked to climate change and provide access to harvesting grounds even when some trails are unusable.

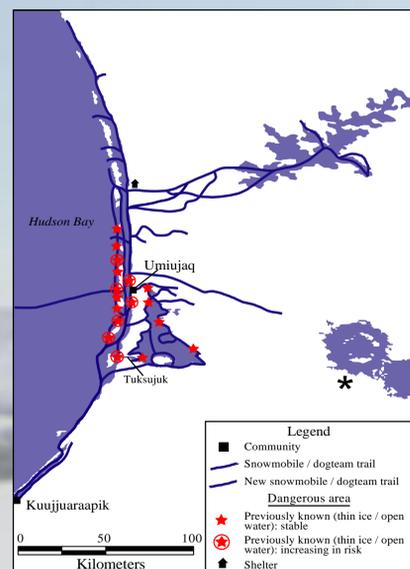
Until now, no traditional hunting, fishing or trapping areas have been abandoned for safety reasons. However, the questions remain: will these adaptive strategies continue to enable communities to cope if future climate changes fall outside the known natural variability? It is one of the variables that could affect the continuation of activities related to a traditional mode of life and consequently, the maintenance of the culture, identity and health of Northern communities.



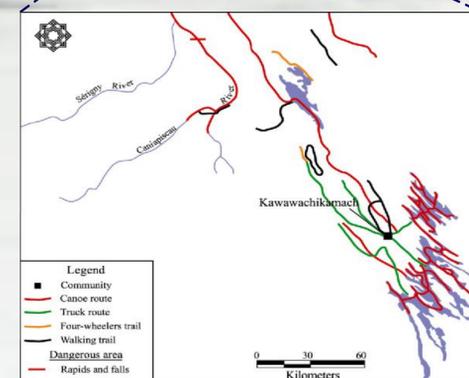
Kangiqsuallujuaq preliminary risks map



Kawawachikamach preliminary risks map



Kangiqsujuuaq preliminary risks map



Umiujaq preliminary risks map

2. Impacts of climate change on the trail networks

Naskapis and Inuit have always been confronted to risks associated travel on the land. Areas that present increasing risks form an integral part of trail networks and are well-known by community members. These sectors appear clearly on the preliminary maps developed in this project. Climate change does not seem to have had manifest impacts on the trail networks used by the Naskapis of Kawawachikamach, where zones of increasing risk did not appear to show signs of recent changes (one example of a zone of increasing risk is located on the preliminary map developed for the area around Kawawachikamach). Several dangerous zones are also present in the trail networks around the Inuit communities. However, local experts from the Inuit communities report that the recent changes in temperature would be responsible for the increased instability of some of these zones, sensitive to variations in temperature. In Kangiqsujuuaq and Umiujaq, the melting of pack ice has been reported to occur approximately one month earlier than before.

4. Next phases

- To carry out workshops in each participating community to validate the results obtained during the interviews conducted in winter 2004 and to characterize in a more detailed way the risks (season, type, causes) and current adaptation strategies used to face them;
- To include other communities in the project during the next year;
- To continue ice (pack, sea and lake) and snow monitoring activities in each community;
- To derive and validate new climatic indicators that correspond more closely to the reality of Inuit and Naskapi communities (climatic variability, characteristic of the winter season, frequency of cold and heat waves);
- To establish climatic indicators which correspond to the periods of freezing and melting (thawing) of the pack ice in order to integrate them into the global models of atmospheric circulation;
- To produce maps that identify areas of potential and increasing risk based on the different climatic scenarios;
- To involve the younger generations in documenting and mapping traditional place names (to help search and rescue teams);
- To produce decision-support tools for adaptation strategies to help cope with climate change (documentary video, trail maps, risk assessment maps, handbook for safe practices on the land)

