

# Fifty Years of Change

## Inuit observations of environmental change in eastern Hudson Bay

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### Introduction

Large-scale changes in the marine environment driven by human activity in eastern Hudson Bay date back to the 1970s, when the development of hydroelectricity began. More recently climate change has added to and compounded these changes. To understand the cumulative effects of these drivers of environmental change, interviews with Inuit land users have been conducted in 2017 as a collaborative, community-driven research effort.

Photo: 'Running on Spring Ice', Umiujaq, May, 2017 Megan Sheremata

### Project background

The Arctic Eider Society has worked with eastern Hudson Bay and James Bay communities to establish a regional Community-Driven Monitoring Network to monitor the effects of environmental change. After five years of oceanographic monitoring and preliminary research, communities in the region have proposed this research so that Inuit knowledge may be mobilized to provide a baseline historical context for understanding the effects of environmental change, and to help establish next steps moving forward.

### Methods

Semi-directed interviews with Inuit Elders and younger land users from four communities were conducted in the spring, summer and fall of 2017. A total of 39 interviews were conducted (4 interviews in Kuujjuaraapik<sup>1</sup>, 16 interviews in Umiujaq, 9 interviews in Inukjuak, and 10 interviews in Sanikiluaq). Interviews incorporated participatory mapping methods to assist in documenting the spatial aspect of the interviews. Interviews have been interpreted in Inuktitut and English by local translators, and are being analyzed qualitatively using a thematic approach to elucidate key themes through an iterative reading of interview notes and interview transcripts. Some key themes will be further analyzed spatially. All key themes will be verified in small group workshops in the spring of 2018.

Notes:  
1. Although we interviewed many younger hunters, we primarily sought Elders for these interviews to best understand conditions before and after hydroelectric development. Many of the Elders originally from Kuujjuaraapik moved to Umiujaq in 1986 to distance themselves from the effects of the James Bay Project. We interviewed more people in Umiujaq as a result.



Elders and younger land users shared their observations of change on the land over the past fifty years, including Elders pictured above (clockwise from top left): Davidee Nivaxie speaking with research associate Annie Novalinga (Umiujaq), Abraham Kasudluak (Inukjuak), Peter Kattuk (Sanikiluaq), and Alec Tuckatuck (Kuujjuaraapik)

### How has the marine environment changed?

#### Preliminary Themes

Some changes discussed were first observed in the late 1970s or early 1980s, including:

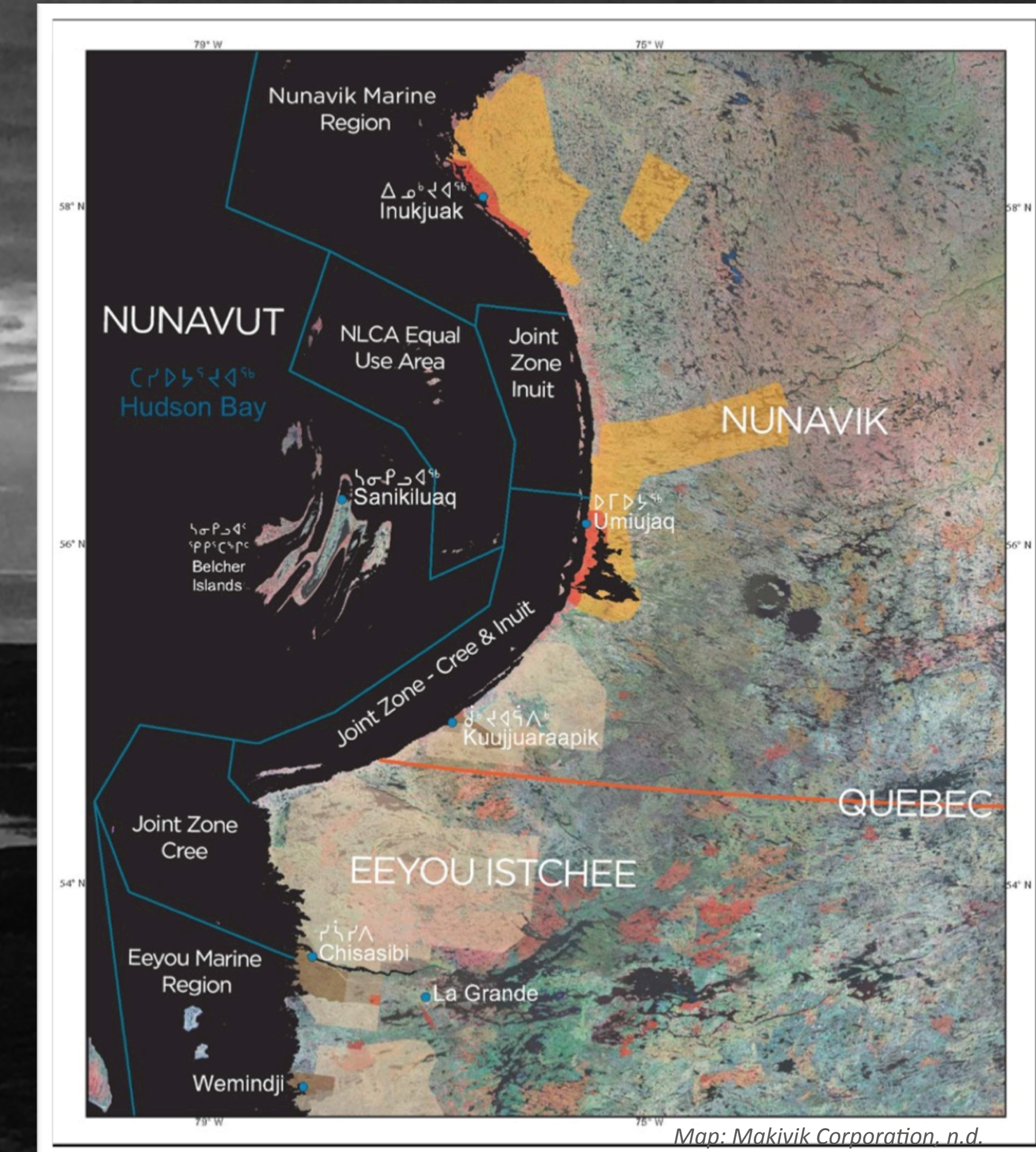
- Reduced salinity in southern portions of the region, as indicated by:
  - Increased brittleness of sea ice
  - Reduced safety of sea ice
  - Changes in the buoyancy of ringed seals
- Other sea ice changes:
  - Reduced extent of sea ice near James Bay
  - Winter travel between Belcher Islands and Kuujjuaraapik no longer possible
- Changes in weather and currents
  - Changes in wind strength and direction

Other changes have been widely observed since the 1990s :

- Changes in sea ice characteristics, such as:
  - Reduced thickness and extent
  - Increased roughness, impeding travel
  - Later freeze-up and earlier breakup
  - Changes in pack ice movement
  - Winter travel between Belcher Islands and Umiujaq or Inukjuak no longer possible
- Reduced salinity of sea ice in northern portions of region as indicated by:
  - Increased brittleness and reduced safety
  - Changes in the buoyancy of ringed seals
- Weather, including the following changes:
  - Cooler summers and warmer winters
  - Windy season shift: from fall only to year-round wind storms
- Wildlife populations:
  - New species

#### Next Steps:

1. Complete analysis of interview transcripts and maps
2. Verify the results of analysis in a series of community workshops
3. Report on final results to communities in the region



Many thanks to the numerous community members across eastern Hudson Bay for your collaboration on this project, particularly those Elders who contributed extensive knowledge from years of experience on the land. Additional thanks to the municipalities of Kuujjuaraapik, Umiujaq, Inukjuak, and Sanikiluaq for your time and material support, and to our sponsors and funders:



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