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.

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 Kuujjuaq, 16 interviews in Umiujaq, 9 interviews in Inuksuk, 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.

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 Kuujjuaq no longer possible
  - Changes in weather and currents

Other changes have been widely observed since the 1990s:

- Changes in sea ice characteristics, such as:
  - Increased 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 no longer possible

- Reduced salinity of sea ice in northern portions of the 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

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 Kuujjuaq migrated to Sanikiluaq in 1986 to distance themselves from the effects of the James Bay Project. We interviewed more people in Sanikiluaq as a result.