

This project focuses on coastal and environmental changes identified as priorities by the Nunavut communities of Ausuittuq (Grise Fiord) and Kugluktuk. In Ausuittuq, concerns revolve around storm impacts and coastal flooding, while in Kugluktuk, erosion near the Coppermine River Delta presents increasing challenges for infrastructure, cultural sites, and community safety. The project brings together local research partners and scientists from several universities to study and monitor environmental conditions in both communities. Research activities concentrate on coastal erosion and flooding, permafrost conditions, ocean processes, and related environmental risks. The project includes fourteen specific objectives, organized into four main themes: (1) supporting community adaptation to coastal change; (2) studying coastal and permafrost conditions; (3) studying ocean physics, geochemistry, and marine ecosystems; and (4) assessing risks associated with rockslides. Field campaigns are scheduled for May and later in August. Most field approaches, activities, and sampling methods will remain consistent with previous years.

In 2026, the research scope will expand to build on ongoing work by adding new objectives focused on oceanographic processes influencing the local marine environment. The project will investigate the physical dynamics of ocean waters, including stratification, mixing, freshwater and heat content, and biogeochemical properties, to better understand the impacts of sea ice loss, warming, storms, runoff, and deep-water inflows on marine ecosystems. The project will also start monitoring oceanic water masses in Jones Sound and along eastern Ellesmere Island to improve regional ocean circulation modelling and provide Inuit-acquired baseline data for the Tuvaijuittuq Marine Protected Area. These objectives will be supported by profiled and moored sensors and targeted water sampling for chemical and microbial analyses. Community engagement will extend through a workshop scheduled for May 2026 to share project findings, showcase decision-support tools, and collect local knowledge on environmental change and adaptation. Interviews and surveys will also record community perspectives on climate-related risks.