

Project Summary

The CCGS Amundsen research icebreaker will be conducting scientific operations in Labrador Sea, Baffin Bay, Lancaster Sound, in the Queen Elizabeth Islands and in Foxe Basin during its 2025 scientific expedition. If time and weather constraints allow, a helicopter will be used to access rivers and glaciers along the Amundsen's cruise track. Sampling for river water, glacier ice, melt water and rocks will allow research teams measure the contaminant levels and identify their provenance in the water, ice and sediments, understand glacier dynamics and retrace the geological history of the area.

Sampling Activities

The following activities greatly depend on weather conditions. Access to the land with the ship's helicopter is an efficient way to reach locations along the cruise track and supports research projects related to water quality, geology and glaciology.

River sampling: The sampling sites will be accessed using the ship's helicopter. Sampling at each river will take approximately one hour. One scientist will wade into the river and collect water sample with a syringe (total volume: max 5L) and sediment sample with a spatula. The total amount of sediment collected for each river fits in one large Ziploc bag (about 2L). All samples will be brought back on the ship, refrigerated or frozen, and analysed in laboratories after the expedition. Many potential sites are identified, but we do not expect to sample more than 10 rivers.

Ice sampling and surveys: The ship's helicopter will be used to conduct aerial surveys of the outlet glaciers and adjacent ice cap regions to understand glacier thickness and movement. On-ice operations on the glaciers could include the collection of ice cores and the sampling of water from meltponds and glacial streams.