

SCIENTIFIC RESEARCH LICENSE

LICENSE # 01 040 26R-M

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TITLE: Impacts of Air Pollution on Terrestrial and Aquatic Ecosystems on Southern Baffin Island

OBJECTIVES OF RESEARCH:

The impact of atmospheric emissions on air quality in the Arctic is expected to increase as new and expanded economic developments trigger growth in marine traffic and resource extraction. Emissions of sulphur dioxide and nitrogen oxides can contribute to ecosystem acidification and eutrophication in regions characterized by acid sensitive geology and nutrient poor soils, such as Baffin Island. This project will use a critical loads approach to quantify the assimilative capacity of arctic terrestrial and aquatic ecosystems to pollutant deposition. Lake water in the Iqaluit regions will be sampled for chemical analysis. In addition, moss and soil samples will be collected at the study sites, and vegetation surveys will be carried out to assess terrestrial ecosystem impacts. In the 2026 field season, we are planning a one-week field trip to the Iqaluit region. During July 2-9, we will re-establish our vegetation plots, repeat the vegetation species abundance counts, collect soil samples for microbial analysis, and repeat the nitrogen amendments.

TERMS & CONDITIONS:

The holder of the license will be bound by the terms and conditions of the Nunavut Impact Review Board Screening Decision Report (NIRB File #16YN048) and the Department of Culture & Heritage archaeological sites terms and conditions. These terms and conditions will form part of this license.

DATA COLLECTION IN NU:

DATES: July 02, 2026-July 09, 2026

LOCATION: Outskirts of Iqaluit and Kimmirut

Scientific Research License 01 040 26R-M expires on December 31, 2026

Issued at Iqaluit, NU on June 24, 2026


James Shirley
Science Advisor

