

SCIENTIFIC RESEARCH LICENSE

LICENSE NUMBER 02 022 25R-M

ISSUED TO: Melissa Lafreniere
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TITLE: Cape Bounty Arctic Hydrological Observatory (CBAWO)
Melville Island, Nunavut.

OBJECTIVES OF RESEARCH:

We will measure winter snow accumulation using both remotely piloted aircraft systems and ground measurements in the spring. Collect daily stream water samples and install optical sensors in streams, to investigate how permafrost disturbances affect dissolved organic matter (DOM) composition, nitrogen and phosphorus loads in High Arctic streams and ponds. Additionally, our team will aim to measure a compressive investigation of the sources and pathways controlling mercury movement in atmosphere-soil-plant-water continuum. Other team members will focus on observations to obtain full-year estimates of the landscape-scale net carbon balance and quantify terrestrial methane (CH₄) fluxes across gradients of temperature and moisture in our ITEX site. New experimental plots near the ITEX sites will also be sampled and monitored to evaluate the impact of climate extremes on local vegetation phenology. Finally, our research team will examine the end of season movement and biogeochemical signature of subsurface (groundwater) flow.

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 #03YN010) and the Department of Culture & Heritage archaeological sites terms and conditions. These terms and conditions will form part of this licence. These terms and conditions will form part of this license.

DATA COLLECTION IN NU:

DATES: May 25,2025 to August 18,2025

LOCATION: Cape Bounty

Scientific Research License 02 022 25R-M expires on December 31,2025

Issued at Iqaluit, NU on March 20, 2025


James Shirley
Science Advisor

