

# Nunavummi Qaujisaqtulirijikkut / Nunavut Research Institute

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## SCIENTIFIC RESEARCH LICENSE

LICENSE # 02 063 18N-M

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TITLE: Watershed and Permafrost Responses to a Changing Climate in the Resolute Bay Area.

### OBJECTIVES OF RESEARCH:

As climate warms, permafrost degradation is accelerating, with numerous impacts on ground stability and soil erosion. Simultaneously, precipitation regimes are expected to shift toward more rainfall and less snow, affecting late summer water quality and sediment transport in rivers. The modification of hydrology is a concern for water quality and availability in Arctic communities and will directly impact freshwater ecosystems, which are among the most vulnerable yet the most poorly understood in North America. This project is aimed at investigating potential effects of permafrost degradation and of increased rainfall on the hydrology, water quality and sediment dynamics of the McMaster River near Resolute Bay, Nunavut. This research will act as a parallel study to the watershed the community is using as a water source, and will provide crucial knowledge of permafrost and hydrological conditions in and around the community.

### TERMS & CONDITIONS:

The holder of the licence will be bound by the terms and conditions of the Nunavut Impact Review Board Screening Decision Report and the Department of Culture & Heritage archeological sites terms and conditions. These terms and conditions will form part of this licence.

### DATA COLLECTION IN NU:

DATES: July 23, 2018-August 20, 2018

LOCATION: Resolute Bay, McMaster River

Scientific Research License 02 063 18N-M expires on December 31, 2018

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Mary Ellen Thomas  
Science Advisor

