
Nunavummi Qaujisaqtulirijikkut / Nunavut Research Institute

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SCIENTIFIC RESEARCH LICENSE

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AFFILIATION:

TITLE: Arctic Aerosol and Gas Measurements, Pond Inlet.

OBJECTIVES OF RESEARCH:

The Canadian Aerosol Baseline Measurement program under the Climate Chemistry Research Measurement Section in collaboration with the Air Quality Processes Section in the Air Quality Research Branch proposed to measure changes in atmospheric pollution levels in the Arctic. These changes are expected due to increasing economic activities in the Arctic region and increasing accessibility due to diminishing sea ice, which lead to increased ship traffic. Black carbon is released in the atmosphere from incomplete combustion of fossil fuels, from biomass burning and biofuels. Black carbon is climatically important in the Arctic atmosphere and is recognized as one of the "Short Lived Climate Forcers" that can warm up the atmosphere. In addition, it may be responsible for faster melting upon deposition on the ice-pack. Also measured are sulfur dioxide (SO₂), nitrogen oxides (NO_x) and ozone (O₃). SO₂ and NO_x are also emitted during fossil fuel combustion, while O₃ is a product of transformation processes of pollutants due to atmospheric chemistry. All three are important pollutants with detrimental effects on human health and the biosphere.

TERMS & CONDITIONS:

DATA COLLECTION IN NU:

DATES: February 20, 2019-December 31, 2019

LOCATION: Pond Inlet

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for Mary Ellen Thomas
Science Advisor