

Annual Summary:
Climate change effects of a changing cryosphere on Northern lakes
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Climate change is projected to cause significant change to arctic aquatic ecosystems. Changes in the thickness and composition of arctic lake ice covers will produce second order impacts on lake biological productivity and ecology. The most important effects are likely to result from changes in temperature (ice growth) and precipitation (ice cover composition). While a number of models have been developed to model these changes, their validation has been stalled by lack of relevant field data. Relevant field data has been gathered annually since 2009.

From March 14 to March 28, 2020, weekly single point lake ice thickness and composition measurement were collected at Lower Dumbell Lake, Ellesmere Island by Meteorological Service of Canada. Activities at Lake Hazen were cancelled due to the Coronavirus.

For 2021, ice-composition surveys may be repeated, depending on time and resource availability, at the above noted lakes with the assistance of local contractors or agencies. If undertaken, the proposed completion dates for the surveys at the lake sites will be between March 1 and July 30, 2021. Specific dates will be determined based on agency/contractor availability.