



Terrestrial Observations

Expansion of muskox lungworm onto Victoria Island: Implications for population sustainability

Since 2008, researchers from the University of Calgary, the Government of Nunavut, the US National Parasite Collection, and Princeton University have studied parasites in muskoxen on Victoria Island, Nunavut. Research indicates the recent establishment of muskox lungworm on southwestern Victoria Island and its rapid expansion eastward across the island. With implications for population sustainability, this research can inform sustainable muskox harvesting practices and help scientists to better understand host-parasite transmission and parasite establishment under warming conditions. [More...](#)



Muskoxen in Nunavut
Photo credit: Susan Kutz

Atmospheric Observations

Effects of GHGs and aerosols on rising Arctic temperatures: Measurements improve Arctic climate change models

Under the Canadian Sea Ice and Snow Evolution Network, researchers have been working to understand the distinct effect that GHGs and other human-induced and natural factors have on Arctic warming. Results demonstrate that approximately 60% of the warming caused by GHGs in the Arctic has been offset by aerosols. This research can be used to improve climate models that predict snow cover and sea ice changes. Results also highlight the need for more stringent targets to reduce GHG emissions. [More...](#)



Northern tip of Ellesmere Island
Photo credit: Francis Zwiers

Human Health Observations



Sampling for mercury in Lake Melville, Labrador
Photo credit: Amina Schartup, Harvard University

Baseline exposure of Labrador Inuit to mercury prior to flooding from a hydroelectric dam

Once commissioned, the planned 2017 dam in Labrador will flood parts of the lower Churchill River, which may cause downstream mercury dynamics to change. Researchers from Harvard University are working with the Nunatsiavut Government to assess baseline Inuit exposure to mercury from food harvested from Lake Melville, which is located downstream. Results from dietary surveys and hair samples, along with water and sediment samples from earlier research, can inform potential impacts from hydroelectric development such as changes in mercury exposure for Labrador Inuit, and options for mitigating health risks. [More...](#)

Cryospheric Observations

Glacier mass loss in the St. Elias Mountains, Yukon: Implications for sea level rise and the Kluane National Park

Since 2006, researchers at Simon Fraser University, the University of Ottawa, and the University of British Columbia have been studying the glaciers of the St. Elias Mountains. Results demonstrate rapid loss of ice and variability of glacier dynamics, including between neighbouring glaciers. Monitoring of glaciers globally can assist in forecasting implications for sea level rise. The glaciers of St. Elias Mountains drain into important rivers in the Kluane National Park and Reserve, which can impact summer water levels and sediment concentrations. Monitoring changes in meltwater runoff can inform park management plans for these bodies of water. [More...](#)



Kaskawulsh Glacier
Photo credit: Jeff Crompton

SAON Canada

Sustaining Arctic Observing Networks (SAON) aims to enhance Arctic-wide observing activities by facilitating partnerships and synergies among existing observation and data management activities, and promote sharing and synthesis of data and information. This Results Bulletin is an initiative of SAON Canada to increase awareness of monitoring and assessment results and their policy linkages. For more information, please visit <http://arcticobservingcanada.ca>

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