

# **Mercury in Ontario's Far Northern Rivers: Exploring the connections between water, land, and traditional foods**

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The second largest peatland in the world, the Hudson Bay Lowland, is largely in Ontario. While widespread interest is focussed on the fate of the carbon stored in this region under future climate scenarios, less attention has been paid to water quantity and quality. While carbon may capture national and international attention, the local to regional concerns of First Nations residents centre around water and food quality; specifically the impact of climate and land-use changes on mercury in traditional foods such as freshwater fish harvested from the large rivers draining the region. Despite the potentially synergistic and cumulative effects of human-induced land-use change and climate change, there is little scientific knowledge available to inform consumers of traditional foods or guide policymakers.



In this lecture, I will present an overview of the Hudson Bay Lowland ecosystem, and the range of challenges that it and its residents currently face. I will present the outcomes of recent collaborative research efforts to make connections among the peatland landscape, surface waters and mercury in fish in the Attiwapiskat River watershed. Data will be presented on the role the peatlands in the fate and transport of mercury in the environment, variability of mercury over space and time in a range of streams and rivers, and the use of small-bodied fish as integrators of mercury loading and environmental change.