



UNIVERSITY
OF MANITOBA

Clayton H. Riddell Faculty of
Environment, Earth, and Resources

Centre for Earth Observation Science

POSTING: Ph.D Student – MSc or PhD student: Remote sensing of freshwater in Hudson Bay

We are seeking a PhD or MSc student to work on the characterization of seasonal and inter-annual patterns in freshwater in Hudson Bay, Canada. The successful candidate will join a recently funded four year project, BaySys, whose overarching goal is to provide a scientific basis to separate the relative effects of climate change from those of hydroelectric regulation of freshwater on changing physical, biological and biogeochemical conditions in Hudson Bay. The dynamics of Hudson Bay is greatly influenced by freshwater as it receives about 1 m (volume divided by surface area) annually by runoff from its watershed, and another 1.4 m is withdrawn from or added seasonally to the water column by the formation or melting of sea ice. Most of this is supplied to the southern half of the Bay, where much of the ice melts and to where over two-thirds of all terrestrial runoff is supplied.

The goal of the MSc/PhD project is to use field observations and various satellite-derived freshwater proxies to improve our understanding of the distribution of freshwater in Hudson Bay. This could include observations and measurements of CDOM and suspended sediment, sea ice concentration and properties, oxygen isotope ratios, salinity (ESA's SMOS) and sea surface height from altimetry. The research will involve participation in fieldwork that will include observations onboard the icebreaker CCGS Amundsen and at coastal locations.

The successful candidate will be based at the Centre for Earth Observation Science (CEOS) University of Manitoba, with regular visits to University of Québec at Rimouski (UQAR). Housed within the Clayton H. Riddell Faculty of Environment Earth and Resources, CEOS is home to 15 full time faculty, and approximately 70 other students and staff devoted to the study of Arctic marine science. The Centre is located in the newly developed Nellie Cournoyea Arctic Research Facility. Graduate students have access to state-of-the-art field and laboratory facilities. CEOS is a founding member of the new international Arctic Science Partnership (ASP).

To apply, please email a curriculum vitae, transcripts, a short statement of relevant research experience and interests, and the contact information for two referees.

Application materials should be sent to

Simon_Belanger@uqar.ca

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For further information about CEOS visit: umanitoba.ca/ceos

For more information about UQAR visit: uqar.ca

For more information about ASP visit: asp-net.org



* This position will remain open until filled *