UNIVERSITY OF MANITOBA | Clayton H. Riddell Faculty of Environment, Earth, and Resources
Centre for Earth Observation Science

MULTIPLE POSITIONS AVAILABLE

1. Postdoctoral Research Associate – Mercury Cycling in Arctic Coastal Marine Environments

2. PhD or MSc Student – Biogeochemical Tracers in Arctic Coastal Marine Environments

3. PhD Student – Sea Ice – Ocean Modeling in Hudson Bay, Canada

4. PhD or MSc Student – Carbon Cycling in Arctic Coastal Marine Environments

5. Postdoctoral Fellow – Northern Climate Change Modeling

6. PhD or MSc Student - Mixing & Stratification in Hudson Bay, Canada

7. PhD Student - Light propagation in sea ice-covered environments

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1. Postdoctoral Research Associate – Mercury Cycling in Arctic Coastal Marine Environments

We are seeking a highly motivated postdoctoral research associate (up to a four-year term) with exceptional academic standing to examine mercury biogeochemistry within estuarine and marine environments of the sub-Arctic Hudson Bay. The successful candidate will join a recently funded project whose overarching objective is to characterize the effects of varying river discharge on mercury cycling within Hudson Bay. The research will involve both laboratory and fieldwork, including research cruises onboard the icebreaker CCGS Amundsen.

2. PhD or MSc Student – Biogeochemical Tracers in Arctic Coastal Marine Environments

We are seeking a highly motivated graduate student with exceptional academic standing to examine various biogeochemical tracers (e.g. mercury, radionuclides, organic carbon) within estuarine and marine environments fo the sub-Arctic Hudson Bay (Canada). The position is open to Ph.D. or M.Sc students. The successful candidate will join a recently funded project whose overarching objective is to characterize the effects of varying river discharge on mercury cycling within Hudson Bay. The research will involve both laboratory and fieldwork including research cruises onboard the research icebreaker, CCGS Amundsen

3. PhD Student – Sea Ice – Ocean Modeling in Hudson Bay, Canada

The Centre for Earth Observation Science (CEOS), Faculty of Environment, Earth, and Resources, at the University of Manitoba is seeking a highly motivated doctoral student in ice-ocean modeling as part of a recently funded project that will look at the relative contributions of climate change and hydro-electric regulation to the variability and change of freshwater-marine coupling in the Hudson Bay System. CEOS conducts multidisciplinary freshwater and marine research in the Arctic, with a specific emphasis on environmental change. This project is designed to explore the relative contributions of climate change and regulation on sea ice and oceanographic conditions in Hudson Bay.

4. PhD or MSc Student – Carbon Cycling in Arctic Coastal Marine Environments

We are seeking a highly motivated graduate student with exceptional academic standing to examine water carbon chemistry and associated air-sea CO2 exchange within estuarine and marine environments of Hudson Bay. This announcement is open for PhD or MSc opportunity. The successful candidate(s) will join a funded project whose overarching objective is to characterize the effects of varying river discharge on carbon cycling within Hudson Bay. The research will involve fieldwork, including research cruises onboard the icebreaker *CCGS Amundsen*

5. Postdoctoral Fellow – Northern Climate Change Modeling

We are seeking a highly motivated post-doctoral fellow with strong academic experience in hydrology and hydrologic modeling to examine freshwater inputs to Hudson Bay under climate change. The successful candidate for this position will be working with the freshwater systems team to quantify freshwater exports into Hudson Bay under climate change, examining the relative effects of hydro-electric regulation and climate on freshwater variability and quantity. Year one of post-doctoral research involves performing a cluster analysis to derive climate forcing for hydrologic projection, and initial setup of a continental-scale hydrologic model for Hudson Bay. Candidates will work in close collaboration with industry and will be expected to take a leadership role in graduate student supervision, project management and peer-reviewed publication.

6. PhD or MSc Student – Mixing & Stratification in Hudson Bay, Canada

We invite applications for an exciting graduate student position to investigate mixing and re-stratification due to tidal forcing, air-ice-sea interactions, and CDOM and sediment-rich river discharge within Hudson Bay. The successful candidate will join a recently funded four year project 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. As the largest continental shelf sea in the world, Hudson Bay receives an annual freshwater loading of about 760 km^3 from more than 42 rivers within a drainage basin of over 3×10^6 km^2 in area. An even larger seasonal freshwater flux, estimated at 1200 km^3 or more, is withdrawn from or added to the water column by the formation or decay of sea ice. The research will involve participation in fieldwork that will include the deployment and retrieval of oceanographic moorings and in-situ observations onboard the icebreaker CCGS *Amundsen* and coastal locations.

7. PhD Student - Light propagation in sea ice-covered environments

We are seeking a highly motivated PhD student with an interest in biological oceanography and/or marine optics. The successful candidate will join a recently funded project 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. This PhD studentship will focus on characterizing light propagation through sea ice-covered oceans and its relationship to primary producers within and below the sea ice. The project will be field intensive, involving sea ice- and ship-based deployment of profiling light sensors, a remotely operated vehicle (ROV) suited with light sensors, and sample collection for inherent optical property measurements. Up scaling of results will be pursued through the use of remote sensing and modeling.

For more details and pdfs for each position:
http://umanitoba.ca/faculties/environment/departments/ceos/people/jobs.html