



University  
of Manitoba

CENTRE FOR EARTH OBSERVATION SCIENCE

## PhD position in biogeochemical ocean modelling

*The marine system in James Bay and Southern Hudson Bay (JB&SHB) represents the southernmost boundary of the Arctic, with water masses originating largely in the Arctic, a seasonal sea-ice cover and an Arctic-like marine ecosystem. It remains one of the least studied water bodies in Canada despite being home to > 20,000 Cree and Inuit in 13 coastal communities, evidence of strong impacts on ecosystems by climate and environmental change, and its critical location bordering the carbon-rich peatlands of the Hudson Bay Lowlands. As the largest inland sea in the world, Hudson and James Bays receive relatively more river runoff per area than the Arctic Ocean. The two largest rivers are regulated for hydroelectric power generation, which has also impacted the seasonality of the runoff with more freshwater input during winter than what occurred naturally. Cumulative impacts to the ecosystems observed by Inuit and Cree are closely associated with climate change and the winter-weighted freshwater input from regulated rivers. Little is known about how the increasing loss of carbon from the peatlands will impact the JB&SHB marine ecosystems in terms of ocean acidification risks.*

I'm seeking highly motivated students at PhD level interested in studying **biogeochemical cycles** (especially carbon) in JB&SHB through **numerical models**. The successful candidate will work under my guidance (Dr. Juliana Marson) on the coupling of biogeochemical models to the *Nucleus for European Modelling of the Ocean* (NEMO). Candidates should hold a degree in Oceanography, Biology, Computer Science, Meteorology, Physical Geography, Environmental Science, or a related field. The start date for this project is flexible.

**Positions are open until filled**

**Applications should be emailed to Dr. Juliana Marson ([Juliana.MariniMarson@umanitoba.ca](mailto:Juliana.MariniMarson@umanitoba.ca)). Please include in your application a cover letter indicating your motivation to work in this subject and relevant research experience, a detailed curriculum vitae, academic transcripts, and the contact information for at least two referees.**

### Diversity and Immigration Statement:

The University of Manitoba is strongly committed to equity and diversity within its community and especially welcomes applications from women, racialized persons, Indigenous Peoples, persons with disabilities, persons of all sexual orientations and genders, and others who may contribute to the further diversification of ideas. If you require accommodation supports during the recruitment process, please contact U of M's Equity, Diversity and Inclusion Facilitator, Valerie Williams at [Valerie.Williams@umanitoba.ca](mailto:Valerie.Williams@umanitoba.ca) or 204-474-8371. All qualified candidates are encouraged to apply; however, Canadian citizens and permanent residents will be given priority.

### FIPPA Statement:

Application materials, including letters of reference, will be handled in accordance with the protection of privacy provision of The Freedom of Information and Protection of Privacy (Manitoba). Please note that curriculum vitae may be provided to participating members of the search process.