



UNIVERSITY
OF MANITOBA

CENTRE FOR EARTH
OBSERVATION SCIENCE (CEOS)

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Job Advertisement: The Centre for Earth Observation Science (<http://www.umanitoba.ca/ceos>), Clayton H. Riddell Faculty of Environment, Earth, and Resources, The University of Manitoba, is seeking qualified candidates to fill a position at the Postdoctoral or Research Associate level. This position will become part of a collaborative team working with **Dr. Julienne Stroeve**, the new senior Canada-150 research chair in *climate forcing of sea ice* at the University of Manitoba (<http://www.canada150.chairs-chaires.gc.ca/home-accueil-eng.aspx>)

Candidates are expected to have a PhD or equivalent experience and MSc, in the field of Arctic System Science and in particular in the field of geophysics, remote sensing, modelling, and climate forcing of sea ice. The positions will begin Sept 1, 2018 or as soon thereafter as mutually agreeable.

Atmospheric responses to Arctic sea ice loss – Rain on Snow - Over the last several decades of continuous observations from satellite passive microwave imagers, scientists have documented a nearly 50% decline in Arctic sea ice extent at the time of the annual summer minimum. This has led to both a warmer and wetter Arctic atmosphere, with the potential for more winter rain on snow (ROS) events. ROS events can have a large impact on ungulate grazing conditions, hydrology, surface energy balance and remote sensing of sea ice concentration and ice thickness. Continued Arctic warming is expected to have pronounced effects on the frequency, distribution and intensity of ROS events, but detection of ROS events across the Arctic landscape remains challenging. Satellite microwave retrievals (both passive and active) show considerable promise, but such approaches are challenged by the sparse network of meteorological stations for validation and the heterogeneous landscape of the Arctic. Atmospheric reanalysis provide gridded fields of atmospheric temperature at various levels in the atmosphere, forecasted precipitation and its phase, but atmospheric reanalyses have their own shortcomings.

The objective of this post-doc position will be to evaluate historical and future ROS events over land and ocean by combining satellite observations, station records, atmospheric reanalysis and output from CMIP6. The position includes opportunities to participate in field programs for validation of remote sensing ROS detection. The successful candidate will be expected to engage in collaborative science programs with others involved in the C-150 program, manage students, staff and field resources pertinent to the program and to conduct lead authored peer-reviewed research into the field of sea ice remote sensing.

Candidates should send a CV and letter of intent via email to Prof. Julienne Stroeve (j.stroeve@ucl.ac.uk). Pay and benefits are competitive internationally and commensurate with qualifications. **Applications are due by January 1, 2019 and decisions will be made by February 1 2019.**

The University of Manitoba is strongly committed to equity and diversity within its community and especially welcomes applications from women, racialized persons/persons of colour, Indigenous peoples, persons with disabilities, persons of all sexual



orientations and genders, and others who may contribute to the further diversification of ideas. All qualified candidates are encouraged to apply; however, Canadian citizens and permanent residents will be given priority. 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.