



Ph.D position

Forest management impact on climate change sensitivity of the carbon budgets of boreal forest stands located near the northern exploitation limit

Context and problematic:

While the political world is trying to organize against climate change and that the government of Canada reiterates its intention to participate in this struggle, it is becoming more and more imperative for Canadian industries to reduce or compensate their greenhouse gases (GHG) emissions. Such measures will be necessary not only for social acceptability reasons, but also in order to respect new incoming legislations on GHGs. Regarding GHG attenuation strategies, Canada can benefit from a major asset in its vast swathes of boreal forests, natural carbon stockpiles whose exploitation can be guided toward a maximized carbon sequestration – both in situ and in harvested wood products. The development of such a strategy, however, requires far more knowledge regarding the effects of forest management on the carbon budget of forest stands, and taking into account that climate change itself may be detrimental to some areas but could also allow to put others in production. In particular, the evolution of the huge amounts of carbon stored in boreal forest soils is a question as important as it is complex. In order to address this lack of knowledge, we aim to establish a coordinated data collection and field sampling campaign of carbon stocks and fluxes in boreal forest soils as well as vegetation, in forest stands that are degraded or at risk of becoming so, located near the northern exploitation limit, and with different disturbance histories. The ultimate goal is to better predict and thus optimize the results of different management strategies in these fragile areas.

Starting date: October 2018 or January 2019

Location: The selected candidate will become a member of the Forest Research Institute (IRF; <http://www.uqat.ca/programmes/irf/>), working primarily in the town of Sept-Îles, home of a growing team of researchers and graduate students. Fieldwork will necessitate travels notably in the Abitibi-Témiscamingue and James Bay regions of Québec. Sept-Îles itself is a small town nestled in a bay on the shores of the Gulf of Saint-Lawrence. Its region is a paradise for seafood- and nature-lovers and practitioners of all kinds of outdoor activities: hiking, camping, sea or river kayaking, skiing, snowshoeing, fishing, sailing, whale watching, etc.

Funding: Grant of 21 000\$/year for three years.

In order to apply: Send a resume, cover letter, grades and the name of two references to Xavier Cavard (xavier.cavard@uqat.ca) or Yves Bergeron (yves.bergeron@uqat.ca). A Master diploma or equivalent in ecology, biology or linked discipline is required, as well as a physical condition fit enough for prolonged fieldwork in remote forested areas.

Potential applicants must send the requested documents before September 30th 2018.



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