

Opportunities for graduate (Msc and PhD) students

Hydrological Modeling of Wetlands

Wetlands play a critical role in maintaining the hydrological balance of watersheds and in combating climate change. However, their vulnerability to external disturbances remains poorly understood. This PhD or Master project aims to better understand the potential impacts of climate change on wetland hydrology and to develop and/or improve modeling tools to facilitate the quantification of infrastructure impacts on wetland hydrology. This project is in line with the first recommendation of the Quebec Expert Group on Adaptation, which advocates precautionary management of natural ecosystems and ecosystem services.

Project Objectives

The main objective of the project is to develop modeling tools capable of analyzing the effects of hydrologic disturbances on wetlands, even when they occur outside their boundaries. In addition to improving our understanding of the connectivity between wetlands and surface and groundwater, this work will contribute to better management and conservation of these vital ecosystems.

Desired Profile

- Master's degree or baccalaureate diploma in geography, geomatics, environmental science, engineering, or another related field;
- Skills in hydrological modeling, data analysis, and GIS;
- Interest in wetlands and water management;
- Excellent written and oral communication skills;
- Ability to work independently and in a team.



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Conditions

The project will be funded for a period of four (two) years with a financial support of \$27,000 (\$17 500) per year for a PhD (Master). The work will be supervised by Marc-André Bourgault, Professor of Climate Change Risk Geography at Université Laval. Co-supervision will be considered from the beginning of the project.

Application

Interested individuals are invited to submit their application before October 30 2024 at:

marc-andre.bourgault@ggr.ulaval.ca

Please use the following subject line: **PhD-Hydrology-Your Name.**

The application must include:

- A cover letter
- A resume
- Academic transcripts
- Contact information for two references

