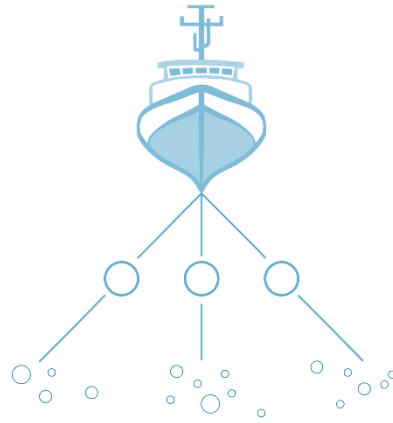**Faculty of Humanities and Social Sciences**

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# Geospatial data fusion and modelling of seabed sediment properties in Atlantic Canada
# (**PhD** position)

**Position:** This is a fully funded four-year PhD position based within the Earth & Geospatial Science Lab (EarthGS) at Memorial University of Newfoundland.

**Program of study**: The successful candidate will register for the MUN Department of Geography PhD program (https://www.mun.ca/geography/programs/graduate/).

**Start date**: Commencing fall 2024/winter 2025.

**Location**: St. John's, Newfoundland, Canada.

**Project description**: The EarthGS Lab is recruiting a student to study the geospatial modelling and fusion of seabed substrate data in the Canadian Atlantic region.

Information about the composition of the seafloor substrate is fundamental to a range of regional scientific and management activities in Atlantic Canada. These include broad scale oceanographic modelling, identifying key benthic habitats, predicting species range shifts due to changing climate, and designating protected areas. Currently, seafloor substrate data products are not available over sufficient extents to inform these activities for the entire Atlantic region. This is a critical gap that must be addressed to enable well-informed science amidst changing climate in this region, and to facilitate management decisions to meet Canadian national 2030 conservation targets.

A PhD student is being sought to develop and employ state-of-the-art methods for producing spatial data products to support these activities in Atlantic Canada. Broad scale geospatial models will be developed to predict of a range of physical and chemical substrate parameters across the full extent of the region using geospatial machine learning techniques. High-resolution data products already exist at some locations. Data fusion approaches will be explored to synthesize and incorporate such valuable previous efforts into new extensive regional data products. These will be made openly accessible to users through a living data portal that will be developed and updated as part of the project.

**The candidate**: The successful candidate will have a Master of Science degree in one of geography, computer science, earth science, or similar. The skills necessary to complete this project include GIS and geospatial modelling, data management, and scientific writing. Training will be provided as part of the program. Additional experience related to any of machine learning, big data analytics, data hosting, and earth science will be beneficial.

**How to apply**: To apply, please forward a transcript and cover letter to Dr. Benjamin Misiuk (bmisiuk@mun.ca). Qualified candidates will be invited to submit a full application through the Department of Geography.

https://www.earthgs.ca