

| Field  | Response   |
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| 1. Contact Information   Name  | Colin Laroque  |
| 1. Contact Information   Department  | Soil Science / SENS  |
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| 1. Contact Information   University  | U of S   |
| 1. Contact Information   Personal Web Page   | <a href="http://www.madlabsk.ca/">http://www.madlabsk.ca/</a> or<br><a href="http://homepage.usask.ca/~cpl585/">http://homepage.usask.ca/~cpl585/</a>  |
| 1. Contact Information   Phone   | 306-966-493  |
| 2. Please indicate the alignment of your research expertise to one or more of the following GWF objectives/ deliverables:                    | Inform adaptation to change and risk management – propose governance mechanisms, management strategies, and policy tools to reduce the risk of water threats, design adaptive strategies, and enhance economic opportunities   |
| 3.1 Please indicate the alignment of your research expertise to the GWF Science Pillar 1 – Diagnosing and Predicting Change in Cold Regions: | Hydrometeorology and Climate Change – improve understanding and prediction of how climate change influences water availability and extreme events<br>Hydrology and Terrestrial Ecosystems – improve understanding and prediction of hydrological and terrestrial processes and watershed hydrology and how processes and systems will evolve and interact under a changing climate |
| 3.2 Please indicate the alignment of your research expertise to the GWF Science Pillar 2 – Developing Big Data and Decision Support Systems: | Big Data for Water – sensors, sensing, instrumented river basins, data analysis systems  |
| 3.3 Please indicate the alignment of your research expertise to the GWF Science Pillar 3 – Designing User Solutions:                         | Water Environment – ecosystem health and conservation, water management  |

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4. Please indicate the alignment of your research expertise to one or more of the following user needs:

Projects to improve environmental monitoring, including sensors, drones, satellites, river basin observatories, lake buoys, software development, chemical fingerprinting, real-time monitoring, citizen science, and integration of Big Data platforms for Cold Region water science. Model development to support climate change impact assessment, including regional climate change modeling, hydrological and ecological modeling, specifically involving improvements in forecasting and predictive capacity, downscaling, and scenario development of water futures. Merging Indigenous traditional knowledge with science for more effective climate adaptation, risk management, water governance, and sustainable development. Studies of environmental change and long-term, generational impacts of economic development on First Nations ecosystems and water resources.

5. Please list regions of Canada and the biomes (e.g. mountains, boreal forest, Great Lakes–St Lawrence), watersheds, and/or river basins where you are interested in conducting research for GWF:

BERMS Saskatchewan; Mountains (Rockies Mts; Mackenzie Mts).

6. Please list any other expertise or recent experience (subjects, river basins, technology) not covered by above query that could help us in assessing your alignment with the GWF programme:

Forest dynamics, drone research (archeological, 3d modelling, multi-spectral imaging), dendroecology, dendrochronology.