

Field	Response
1. Contact Information   Name	Lee Wilson
1. Contact Information   Department	Chemistry
1. Contact Information   Email	<a href="mailto:lee.wilson@usask.ca">lee.wilson@usask.ca</a>
1. Contact Information   University	Saskatchewan
1. Contact Information   Personal Web Page	
1. Contact Information   Phone	966-2961
2. Please indicate the alignment of your research expertise to one or more of the following GWF objectives/ deliverables:	<p>Improve disaster warning – develop scientific knowledge, monitoring and modelling technologies, and national forecasting capacity to predict the risk and severity of extreme events</p> <p>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</p>
3.1 Please indicate the alignment of your research expertise to the GWF Science Pillar 1 – Diagnosing and Predicting Change in Cold Regions:	<p>Water Quality and Aquatic Ecosystems – improve understanding and prediction of how climate changes in climate, hydrology, and land use impact water quality and the health of aquatic ecosystems</p> <p>Human–Water Systems – address the human dimensions that will determine water futures, including governance, policy, communities, border, and water resources management</p> <p>Water and Health – determine how changes to climate, extreme events, hydrology and water quality will affect human health in urban, rural and Indigenous communities</p>
3.2 Please indicate the alignment of your research expertise to the GWF Science Pillar 2 – Developing Big Data and Decision Support Systems:	Decision Support Systems – predictive and diagnostic modelling system development and deployment for hydrology, water quality and water resources

Field	Response
3.3 Please indicate the alignment of your research expertise to the GWF Science Pillar 3 – Designing User Solutions:	<p>Water Environment – ecosystem health and conservation, water management</p> <p>Agriculture – including farming, food processing, country foods</p> <p>Energy &amp; Natural Resources – including mining and hydroelectricity</p> <p>Other Industry – Including Insurance, Finance, Measurement and Engineering sectors</p> <p>Indigenous Communities</p>
4. Please indicate the alignment of your research expertise to one or more of the following user needs:	<p>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.</p> <p>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.</p> <p>Complex system modeling and analyses reflect the growing awareness of interacting dynamics in human–natural coupled systems. These studies emphasize the inter–relationships between water resources and transportation systems, infrastructure, energy generation, mining, food production, and source water protection.</p> <p>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.</p>
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:	<p>South Saskatchewan River Basin and Laboratory Research</p>

## Field

## Response

---

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:

Development of sensors and water treatment technology for monitoring and improvement of water quality futures.