Field	Response
1. Contact Information | Name	Bronwyn Benkert
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2. Please indicate the alignment of your research expertise to one or more of the following GWF objectives/ deliverables:	Improve disaster warning – develop scientific knowledge, monitoring and modelling technologies, and national forecasting capacity to predict the risk and severity of extreme events 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 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 Human-Water Systems – address the human dimensions that will determine water futures, including governance, policy, communities, border, and water resources management Water and Health – determine how changes to climate, extreme events, hydrology and water quality will affect human health in urban, rural and Indigenous communities

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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
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 Energy & Natural Resources - including mining and hydroelectricity Indigenous Communities
4. Please indicate the alignment of your research expertise to one or more of the following user needs:	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. Risk reduction and analysis tools, including forecasts of floods, droughts, wildfires, and freezing rain (and other weather and climate extremes); water quality assessments; disease risk analyses; and integrated assessments. These tools alert industry and government to potential problems and allow cost/benefit analyses for potential risk mitigation. Knowledge mobilization for decision support, including the facilitation of communities of practice, stakeholder engagement with science, visualization and Decision Theatres, development of place-based solutions for climate adaptation, and evidence-based decision making. 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.

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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:	Yukon, northern Canada, mountainous/permafrost regions
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:	My research team works on applied research questions related to the impacts of climate change on northern environments, with an emphasis on communities, infrastructure and northern ways of life. We work in both natural and social sciences, and with a variety of northern partners. We have strong expertise in permafrost assessment, and interests in the impacts of permafrost thaw on surface and groundwater hydrology. We are experienced in working with communities and First Nations, and in knowledge mobilization, science communication, and linking research results to decision-makers.