Field	Response
1. Contact Information | Name	Chanchal Roy
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2. Please indicate the alignment of your research expertise to one or more of the following GWF objectives/ deliverables:	Predict water futures – use Big Data to make informed decisions, better models to assess change in human/natural land and water systems
3.1 Please indicate the alignment of your research expertise to the GWF Science Pillar 1 – Diagnosing and Predicting Change in Cold Regions:	
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 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:	
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.

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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:	
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:	I am one of the Project Co-Leads of Theme 3.1: Cloud Platform for Genomic-Phenomic Analysis of the Crop Phenotype CFREF project. In this project, our research is focused on establishing a high-speed, large-scale, hybrid-cloud infrastructure to support crop phenomics research. As part of this, we have been exploiting well established Big Data frameworks, Big Data analytics techniques, state-of-the-art cloud technologies, and high-speed processing pipelines towards analyzing, modeling, visualizing and exploring petabytes of heterogeneous types of crop phenotype data. My understanding is that our experience and tools from this project will work as a vehicle for supporting the Big Data and decision support part of the GWF project.