



Global Water Futures: Solutions to Water Threats in an Era of Global Change

Request for Proposals for Pillars 1 and 2

Due: February 28, 2020

Summary

The Strategic Management Committee (SMC) for the Global Water Futures (GWF) program, funded by the Canada First Research Excellence Fund (CFREF) is inviting proposals to develop transformational research projects directed towards **Pillar 1 - Diagnosing and Predicting Change in Cold Regions** and **Pillar 2 - Developing Big Data and Decision Support Systems** by February 28, 2020.

Proposed science, big data and decision support system projects should complement and show consistency with GWF core teams and strategies and should be in alignment with the vision of GWF, which is:

- to provide Canada with the information and tools needed to prepare for and manage water futures in the face of unprecedented environmental and societal change, whilst ensuring health and wellbeing,
- to provide world-leading water science for Cold Regions and to be a global partner of choice for developing user-focussed solutions to water security.

The three-year projects will aim to put Canada at the forefront of water science and innovation. Whilst any aspect of Pillars 1 and 2 can be the subject of a proposal, projects of particular interest to the SMC will be strategic to the needs of GWF. Strong project proposals will include those that make the case that their objectives are not adequately covered by GWF Core Support activities and by Pillar 3 User-need Led Projects. For instance the SMC identifies strategic research needs in the areas of:

- Social science, policy and governance
- Water and health
- Innovative sensors, citizen science and apps development
- Water in Cities
- Science in support of big data, process inclusion in model and high-end computing
- Cold regions processes

Projects that include Indigenous community engagement are welcome under this call.

The project principal investigator must be a faculty member at one of the GWF partner institutions (USask, Waterloo, McMaster, WLU) or a listed partner in the original GWF proposal. Co-investigators must be a full-time faculty member at an accredited Canadian University.





Background

At least half the world's population is dependent upon water from 'cold regions' where snow, ice and frozen soils drive water availability and quality. Cold regions are severely affected by climate change and human activity, resulting in dramatic rates of warming, changing water availability and unsustainable water use. Canada and much of the world are ill prepared for this unprecedented shift, which has already resulted in intensified floods and droughts, reduced water availability and degraded water quality, costing billions in economic loss and impacting the health of populations. Addressing how to protect communities against these extreme water threats and consequent health risks in the face of climate uncertainty and human-induced global changes is one of the world's grand challenges.

Our response, through GWF, will transform the way communities, government, and industry prepare for and manage water-related risks in an era of unprecedented change.

GWF's overarching goal is to deliver risk management solutions—informed by leading-edge water science and supported by innovative decision-making tools—to manage water futures in Canada and other cold regions where global warming is changing landscapes, ecosystems, and the water environment.

Budget

A budget of up to \$2.5 million over 3 years (September 1, 2020 to August 31, 2023) is available for this call. Depending on the size of the team and project scope, smaller projects can request up to \$200K in total and larger projects (consortia of three or more investigators from more than one university) can request up to \$400K in total. The available funding is for project costs related to hiring highly qualified personnel (students, postdoctoral fellows, research assistants) and towards project operating and travel expenses. Please note that no overhead funding is allowed in the budget allocation. Integration of international components in the projects will be encouraged.

Proposal Process

The following process will be followed by GWF to secure, assess, and approve project applications:

- Step 1: Release a request for proposal (RFP) document having working guidelines and quality criteria for Pillars 1 and 2 (**Deadline: November 21, 2019**)
- Step 2: Receive proposals (**Deadline: February 28, 2020**)
- Step 4: International Science Advisory Panel and the SMC to review proposals by **April 15, 2020**
- Step 5: Funded projects will be informed by **end of May 2020**



Project Management

Each successful project must provide an annual progress report and its progress against proposed deliverables will be reviewed annually by the SMC.

GWF Core Support

GWF provides core support teams for the program as follows:


- Computer Science Team – Human Computer Interface and Re-engineering Codes
- Observatories and Data Management Team
- Modelling Core Team
- Knowledge Mobilization Team
- Communications Team

Interaction with and enhancement of these teams is desirable and some support is likely to be available from these teams for agreed collaboration with successful projects. The full strategy documents for these teams should be consulted.

Proposal Outline

The proposal should not exceed 10 pages (excluding CVs and budget spreadsheet tables)

- Project Title
- Names of PI and Co-PIs and contact information (as needed)
- Names of Co-Is and their affiliations (as needed)
- Summary (1/2 page)
- Rationale (1 page) – indicate needs and any GWF progress in this area
- Objective (1 page)
- Science deliverables and Timelines (2 1/2 pages)
- Alignment with the GWF Vision (1 page)
- Budget, including justification and any leveraging opportunity (1 page plus budget tables)
- HQP Training (1 page)
- International Partnership and/or field work (1 page)
- Request for GWF Core Support (1 page)
- 4-Page CVs of each of the PIs and Co-Is (attach all CVs as one pdf file) – CV Requirements:
 - Name/ Affiliation, Current Job Title, Key Awards, Distinction:
 - Track record of research and outreach success as evidenced by high impact factors, outreach and leadership, Research Funding Track Record;

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- Narrative describing up to 5 of the most significant contributions to knowledge as well as any experience of user engagement and knowledge mobilization;
 - Relationship to other grants, including other GWF projects in which the PI/Co-I is involved;
 - Key publications including h-index.
 - If applicable, 2-Page letters of support from each users/stakeholders (attach PDF as one file). The letters should provide an overview of who the partner is; why they are interested in participating, what they expect to gain through the collaboration; and what they are contributing to the collaboration (cash and/or in-kind contributions).

Evaluation Criteria

The proposals will be evaluated using the follow criteria and weighting:

- 1) Transformative – excellent science that transforms the approach to water problems (30%)
- 2) Relevance to Pillar 1 and/or 2 and to GWF objectives (30%)
- 3) Complements, enhances and/or uses Core GWF activities/facilities – observations, modelling, data (15%)
- 4) Track record of excellent research, collaboration and user engagement (10%)
- 5) Identifies a science or technical topic(s) that requires strategic investment by GWF due to lack of national capacity, lack of examination by GWF projects and/or need identified by GWF or other national research, insufficient core support from GWF or inability to adequately address the topic(s) in Pillar 3 projects. (15%)

Submission Process

Please email your application package by February 28, 2020 as one pdf file to Dr. Phani Adapa, Director of Operations, Global Water Futures at phani.adapa@usask.ca

Contact

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