PRAIRIE WATER
GLOBAL WATER FUTURES

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Annual Partners Meeting 2023 Report

On February 2, 2023, Prairie Water hosted its Annual Partners Meeting with the theme "Partnerships and tools for water resilient prairie communities". The meeting took place in Saskatoon, Saskatchewan, Treaty 6 Territory and featured research progress updates, a poster session with posters from partners and students, an introduction to the hydrological data product PHyDAP, and a hands-on demonstration of the Data Visualization Dashboard. Another important purpose for the meeting was to obtain guidance from partners on knowledge mobilization, project wrap-up, and future research directions. Later in this report, we highlight input related to knowledge mobilization that we received through a post-meeting survey. We thank all attendees their presence, braving travel to Saskatoon in the cold month of February, and further thank Elder Roland Duquette (Mistawasis Nêheyiwak), who kindly opened and closed our meeting in a good way.

ATTENDANCE

- 55 attendees out of 75 registered
  - 30 partners from 19 organizations including watershed stewardship groups (AB, SK, MB), provincial and federal bodies, environmental non-profits, and an Indigenous organization
  - 11 Prairie Water investigators
  - 14 other researchers and students

MEETING CONTENT

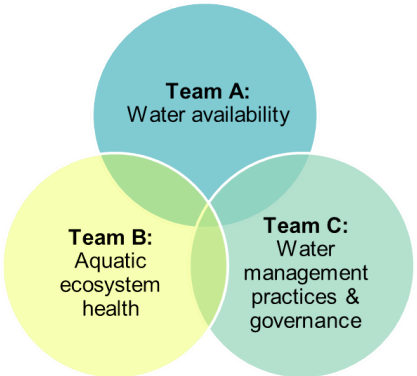
- Global Water Futures Introduction
- 3 Prairie Water research presentations
- Research application presentation
- Hands-on Dashboard demonstration
- Small group discussion
- Poster Session
  - 3 posters from partner groups
  - 11 posters from students/researchers

Research Updates

Prairie Water

We heard an overview from Dr. Colin Whitfield on Prairie Water research from our three Teams. Research findings are summarized in our *Summary of Research Progress* (May 2023).

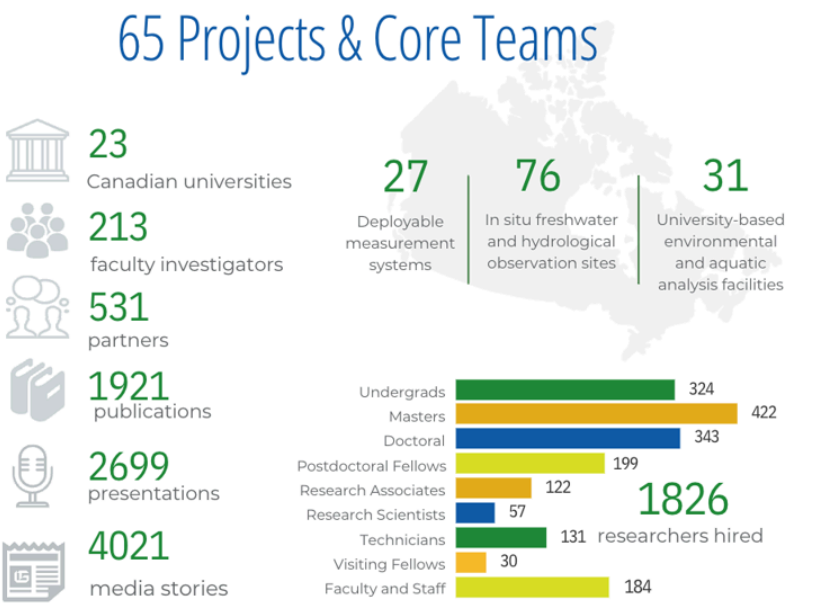
In Dr. Graham Strickert's presentation, we heard more about water governance research from multiple students with the overarching message being that "**Collaboration is essential to water governance and research-based tool development that aims to be Inclusive, Accessible, and Responsive".**



Global Water Futures

Prairie Water is one of 65 projects under the Global Water Futures (GWF) umbrella. Dr. John Pomeroy gave an overview of GWF-supported advances for science, policy and practice, including:

- First **national water predictions**
- **Interdisciplinary hydrological models** (including glaciers, water management, water quality, and crop growth)
- The **Virtual Water Gallery**, a science–art collaboration
- Key role in the formation of a **Canada Water Agency**
- **Indigenous co-development** of research
- Resources for advancing **Equity, Diversity, and Inclusion** in water research

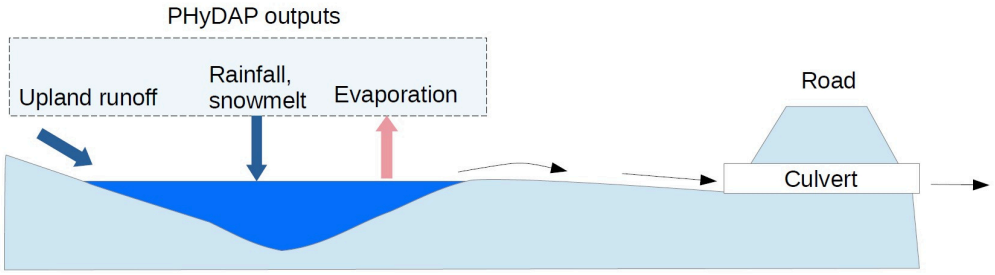


Infographic produced by GWF Secretariat

Research-based Tools for Practitioners

Prairie Hydrology Design and Analysis Product (PHyDAP)

PHyDAP is a set of high-quality, long-term, and localized hydrological data. PHyDAP was developed to help provide solutions to *local water problems* and can be used to design water infrastructure, model return-periods, and model flooded areas. Dr. Kevin Shook, the primary developer of PHyDAP, explained the purpose of PHyDAP and why it is a huge improvement on typical rating-curve-based methods. Amir Khatibi demonstrated that flooded areas mapped using PHyDAP were similar to flooded areas from satellite imagery, showing that PHyDAP produces well-estimated results. Find out more in our *Summary of Research Progress* (May 2023).

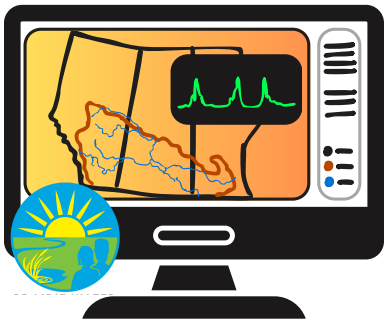


Using PHyDAP to force hydraulic models
(conceptualization produced by Kevin Shook)

Data Visualization Dashboard

In an interactive, hands-on session, attendees used their personal computers to explore the Data Visualization Dashboard. This Dashboard features much of the spatial (maps) and time-series (graphs) data produced through Team A and B. We asked attendees for feedback, since the dashboard is still undergoing development.

Explore the Dashboard here:
https://gwf-vis.usask.ca/prairiewater/



Partner Feedback

Overall, partners and researchers were most concerned about:

a. *Engagement with and training for practitioners to ensure use of tools*
b. *Ensuring that results are publicly accessible, understandable (plain language), and preserved.*

Discussion Questions and Responses

Three questions were given to small groups (combination of researchers and partners) to discuss with approximately ten minutes for each question (there was a notetaker for each group). The same three questions were included in a survey to partners sent two months after the Annual Partners Meeting. We compiled all responses and identified key themes for each question (Table 1).

QUESTIONS	**TOP THREE THEMES** (% of responses dedicated to each theme)
A. How can we more effectively communicate and 'mobilize' what we've learned so far?	• **Engage partner network** (26%) • Adjust language for audience (16%) • Demonstrate applicability/usefulness (10%)
B. What do you most want to see achieved, as we move towards the end of this program?	• **Communicate results** (21%) • Training on tools (18%) • Data accessible (14%)
C. What do you see as priority areas for future research and practice beyond Prairie Water?	• **Water security** (26%) • Tools in use (14%) • Adaption (7%), communication (7%), integration (7%), modeling that is accessible, relevant, and communicated (%7), and partner engagement (7%).

Explanation of Top Themes in Responses

The themes are generalizations of actual feedback. The top theme for each question encompasses a variety of responses. Additionally, a common thread across each of the questions was “Tools and training”; sharing tools and providing training on how to use the tools were key aspects of “Partner engagement” and “Communication”.

Engage Partner Network

Be present at meetings, conventions, and AGMs of partner organizations

Engage partners on their territory; in-person interactions are valuable

Reach key groups of end users (first adopters, industry leaders, champions, boundary organizations)

Communication

Communicate project results and outputs with partners using multiple channels

Encourage conversations between researchers and partners

Translate results to plain language and formats that are accessible

Water security

Priority research areas identified by partners and researchers:

- water availability
- water quality
- develop water quality tool
- droughts and flooding
- impacts of historical and current human activity
- water management solutions to mitigate risks
- human dimensions of water security (such as social values)

Thanks to all the partners and researchers of Prairie Water (photo from Mark Ferguson)

May 2023

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Prairie Water's vision is to gather and create useable knowledge to build resilient communities by ensuring sustainable watershed management and governance on the Canadian Prairies