

An assessment of the Global Water Futures program research outputs between 2017 and 2022

Sara Eager, Global Water Futures - University of Waterloo; Persaud B.D. (University of Waterloo), Goucher N. (UW), Grant J. (UW), Behbooei, M. (UW), Dukacz, K (McMaster University), Van Cappellen P. (UW), Lin Jimmy (UW), Adapa P (University of Saskatchewan).

The Global Water Futures program (GWF) was granted \$77.8 million by the Canada First Research Excellence Fund to conduct research on the forecasting and management of water futures in Canada as part of an effort to combat projected risks associated with global climate change. The production of scientific knowledge is a clear objective of the GWF program, and the evaluation and enumeration of research outcomes is a key metric. The goal of this work is to create a comprehensive bibliographic analysis of research outputs across the full extent of the GWF program including metadata such as the title, author, publication date and geographic locations of the works. Processes to incorporate quality control, classification and validation were documented to ensure these outputs are effectively managed, monitored and evaluated. Links to the resources are also made available to ensure they are easily accessible to a wide range of audiences. Enhanced accessibility is key in sharing critical climate change research and expanding international understanding of climate-water issues. The review and evaluation of existing procedures for research output reporting provided insight to propose improved processes to increase efficiency and accuracy. By establishing a consistent organizational tool for all forms of research outputs, opportunities are created for future widespread information sharing and global collaboration. Analysis of annual reports generated by 65 projects across for main partner universities (University of Saskatchewan, University of Waterloo, McMaster University, and Wilfrid Laurier University) listed 4,272 total outputs between 2017 and 2022 inclusive. Conference presentations, refereed publications, conference posters, and theses/dissertations constitute most of this total, accounting for 42%, 28%, 9%, and 6% of overall outputs, respectively. Other products, including non-refereed articles, data publications, model code, and book chapters, each make up less than 3 per cent of total GWF reported outputs.

By looking at the distribution of each output type annually, we were able to examine the impact of global circumstances such as COVID-19 on total output production over a significant period. Understanding the effects of large-scale events on project development and management are critical for future adaptation in water research that will enhance research opportunities and their subsequent data findings.