

Mackenzie DataStream

www.MackenzieDataStream.ca



MACKENZIE DATASTREAM

Mackenzie DataStream is more powerful with more data! To upload your community's data, please contact us at DataStream@gordonfn.org. To learn more about what information you will need to upload your data, choose the type of data you would like to upload below and check out the CSV template provided.

[Play video](#)[Find datasets](#)

Mackenzie DataStream is an online, open access platform that allows the public and decision-makers to find, visualize and download water data in the Mackenzie Basin.

THE MACKENZIE BASIN

The Mackenzie Basin regulates global climate by sustaining Arctic sea ice. On a more local level, the Basin's waters provide habitats for hundreds of plant and animal species and is a lifeline for remote communities along its shores.

The Mackenzie Basin is one of the most intact large-scale ecosystems in North America. Flowing northwest 6,825 kilometres from the Columbia ice field in Jasper National Park to the Beaufort Sea in the Arctic, the Basin drains 20 per cent of Canada's landmass. Its waters provide habitats for hundreds of plants and animals. These waters also form the cultural and economic foundation of the peoples who live in the region. Furthermore, Canada's "Cold Amazon," as it has been dubbed, performs eco-hydrological functions that bring benefit not just to Canada and the Western Hemisphere but to the globe as a whole.

RESEARCH AND MONITORING CRITICALLY NEEDED

Despite its importance at local and global scales, little research and monitoring have historically been done in the Basin relative to other world rivers. As described in the 2012 Rosenberg International Forum report on the Mackenzie Basin:

The Mackenzie River system has been studied less than rivers in other regions in warmer climes. In addition, the Mackenzie River Basin is undergoing relatively rapid change. These two factors combine to create high levels of uncertainty that must be addressed in any effort to manage the basin in a holistic, integrated way. More science will be needed.

The Rosenberg Forum's findings are clear: data is urgently needed to maintain the Mackenzie Basin as a globally significant resource. Today, efforts are underway to fill data gaps that address this uncertainty. This includes leadership and contributions from communities who are now actively monitoring the Basin's waters.

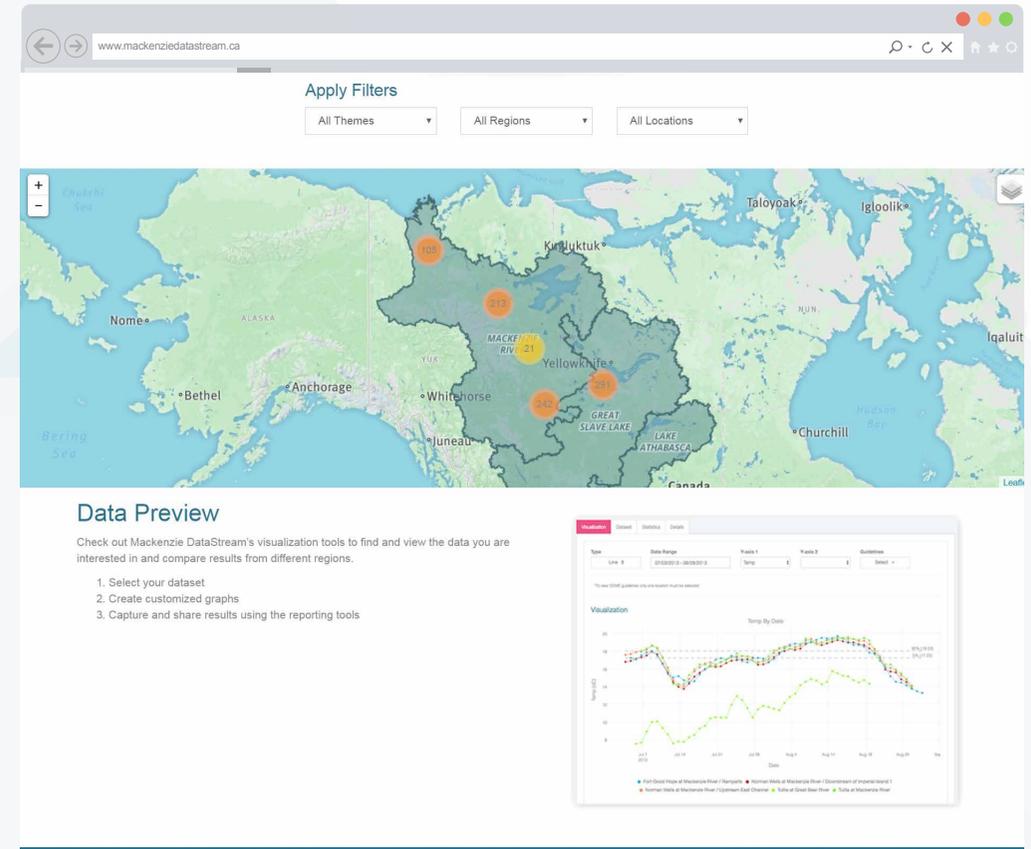


ABOUT MACKENZIE DATASTREAM

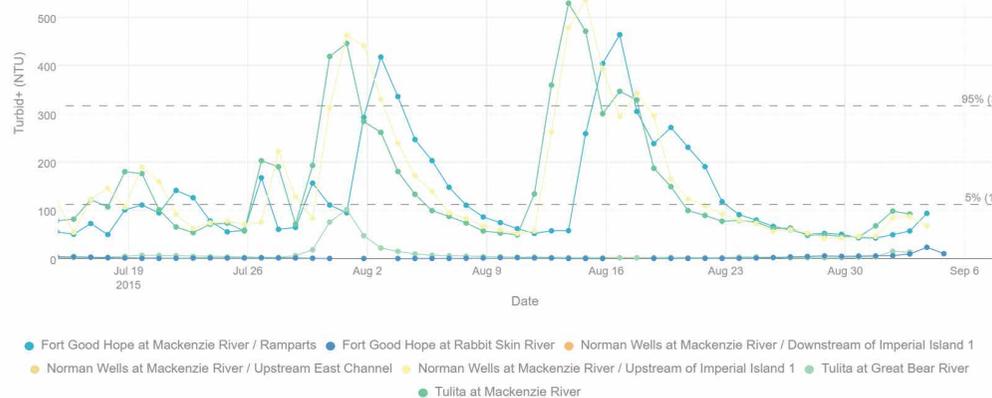
Mackenzie DataStream is an open access platform for sharing water data in the Mackenzie Basin. Its mission is to promote knowledge sharing and advance collaborative, evidence-based decision-making.

The platform currently contains data collected by **22** communities and the long term vision is to extend Mackenzie DataStream into all six provinces and territories in the Mackenzie Basin so that data is available from its southern reaches to its delta at the Arctic Ocean.

Mackenzie DataStream was spearheaded by The Gordon Foundation and built in partnership with the Government of the Northwest Territories, which facilitates the Northwest Territories-wide Community Based Water Monitoring program.



Turbid+ in the Sahtu Region



Seen here is one of the visualizations that you can create, download and print from Mackenzie DataStream.

OPEN ACCESS

Mackenzie DataStream is a collaborative open source and open access platform.

The aim of Mackenzie DataStream is to ensure the data contained within it is as **openly accessible as possible**, which involves minimizing or eliminating barriers to data access (e.g. the use of restrictive licensing or proprietary formats or high cost tools).

This approach is in line with widespread movements towards improving access to information and is critical to the development of sound, evidence-based decision-making at all levels.



■ DATA AVAILABLE ON MACKENZIE DATASTREAM

Monitoring programs in the Mackenzie Basin are generating critical data for informing policy and decision-making. Currently, Mackenzie DataStream users can access, visualize, and download full water quality data sets including:

- Dissolved metals
- Turbidity
- Temperature
- Chlorophyll-a
- Oil and gas chemicals (hydrocarbons)

Equipment and collection methods include:

- Grab samples to measure over 70 parameters
- Passive sample (Polyethylene Membrane Devices and Diffusion Gradients in Thin Film)
- Continuous samplers (YSI Sonde)

■ COMMUNITY-BASED MONITORING

Due to both its vast scale and its importance to communities, enormous amounts of data are being collected in the Mackenzie Basin, including through sophisticated community-based monitoring programs. These monitoring programs are already helping to build our understanding of the Basin, how it is changing and how best to manage it. And, the potential impacts of these efforts are greater still if data from across the basin are brought together and shared to give a regional, watershed-level picture of what's happening.





■ THE CASE FOR MANAGING AND SHARING DATA

Though data management receives relatively little attention, the way data are managed and disseminated determines the utility and impacts of community water monitoring efforts. The advent of computer and web-based technologies presents tremendous opportunities to amplify the impacts of community water monitoring efforts. When datasets are well-managed, are available in formats that permit re-use, and when they are accompanied by detailed metadata (information that describes how, why and by whom the data were collected), there are considerable benefits including:

- **Protection against data loss**
- **Access info on baseline conditions:** An important objective of many community monitoring programs is to establish baseline data that can be referenced in the future to track whether changes are taking place.
- **Efficiency in research:** When data are managed and widely available, research and monitoring efforts can fully benefit from and build upon work already performed in a region.
- **Scaling up impacts:** By sharing data and collaborating with other research and monitoring programs in a watershed or basin, communities can amplify the impacts of their monitoring efforts.

■ CORE PRINCIPLES

Mackenzie DataStream is committed to:

- Ethically open access
- Data quality
- Interoperability
- Security and Sustainability



■ GET INVOLVED

Mackenzie DataStream is emerging as a key source of critical data for informing decision-making but is only as powerful as the data it contains. Additional partners will be crucial to the ongoing success of this important initiative. The time to get involved is now.

The one-year pilot phase of Mackenzie DataStream generated significant interest from data holders around the Basin and immediately allowed for greater collaboration amongst other regions within the Basin.

Moving forward, we are actively seeking new partnerships to bring more locations, people and data together.

If you are involved in a monitoring program and are looking to amplify its impacts through data sharing and collaboration, don't hesitate to contact us to learn more about the benefits of joining our growing network.

If you are interested in supporting community engagement in this initiative, there are a number of opportunities to do so.

Please contact: DataStream@gordonfn.org to get involved!



■ PARTNERS

The Gordon Foundation has made a longstanding commitment to protect Canada's water and empower Canada's North. The Mackenzie River Basin Initiative supports innovative research and communications to strengthen citizen engagement in freshwater management, and to drive the development of sound freshwater policy.



The Government of the Northwest Territories (GNWT) in partnership with water partners throughout the Northwest Territories, the Mackenzie River Basin and beyond, leads the implementation of The NWT Water Strategy. The NWT Water Strategy, which was developed by territorial, federal and Aboriginal governments, environmental organisations, regulatory boards and other water partners is the guiding policy document for water management in the territory. Its implementation supports the vision that 'waters of the NWT remain clean, abundant and productive for all time.'



Mackenzie DataStream would not be possible without the work and collaboration of our community partners in the day-to-day collection of data. For a full list of the communities that have participated in the collection of data for Mackenzie DataStream see our Community page at www.mackenziedatastream.ca.

