



United Nations   
Academic Impact

SUSTAINABLE DEVELOPMENT **GOALS**

**6** CLEAN WATER AND SANITATION



The University of Manitoba campuses and research spaces are located on original lands of Anishinaabeg, Ininiwak, Anisininewuk, Dakota Oyate, Dene and Inuit, and on the National Homeland of the Red River Métis.

We recognize that the Treaties signed on these lands are a lifelong, enduring relationship, and we are dedicated to upholding their spirit and intent. We acknowledge the harms and mistakes of the past and the present and we commit to supporting Indigenous rights holders. Our collaboration with Indigenous communities is grounded in respect and reciprocity and this guides how we move forward as an institution.

# Co-chairs

## 6 CLEAN WATER AND SANITATION



Claire Herbert

Head, Digital Strategy

Program Manager, Manitoba Great Lakes Program



Dr. Nicole Wilson

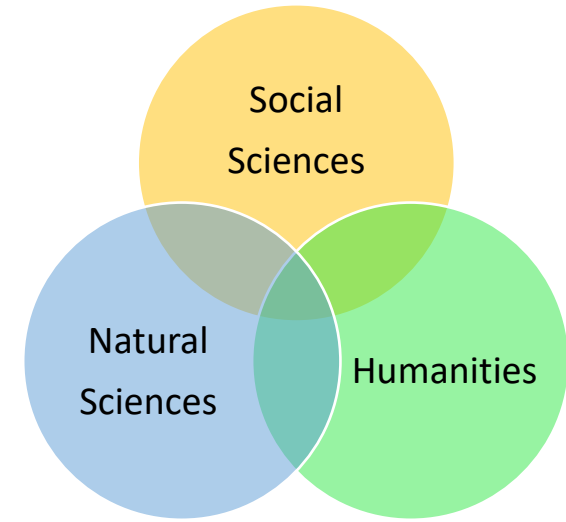
CRC in Arctic Environmental Change and Governance

Assistant Professor



# UNAI SDG 6 Working Group

- Clayton H. Riddell Faculty of Environment, Earth and Resources
- Faculty of Agricultural and Food Sciences
- Faculty of Arts
- Faculty of Science
- Faculty of Architecture
- **Collaborators:** The Office of Sustainability



2 ZERO HUNGER



3 GOOD HEALTH AND WELL-BEING



5 GENDER EQUALITY



10 REDUCED INEQUALITIES



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



13 CLIMATE ACTION



14 LIFE BELOW WATER

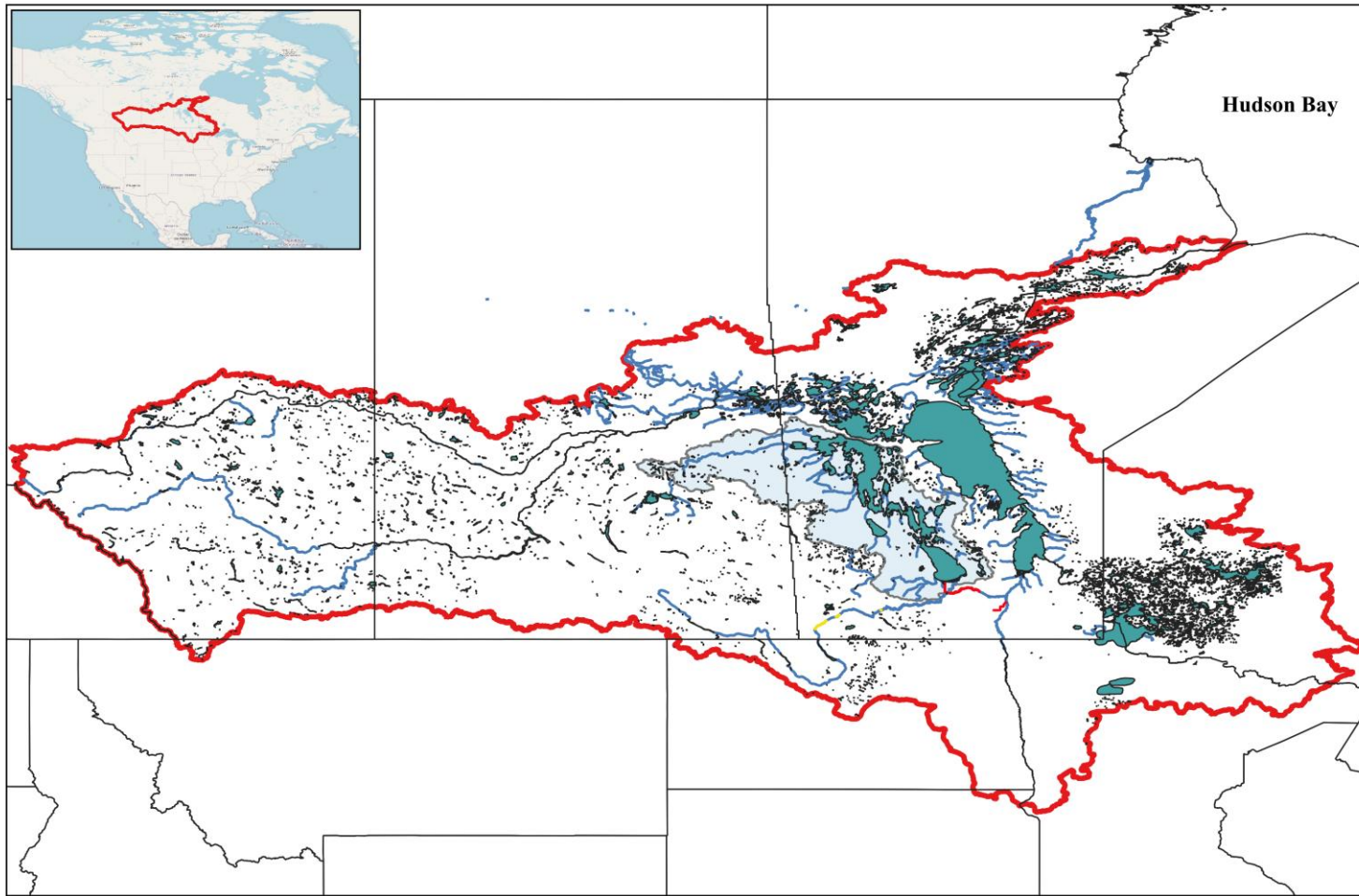


16 PEACE, JUSTICE AND STRONG INSTITUTIONS

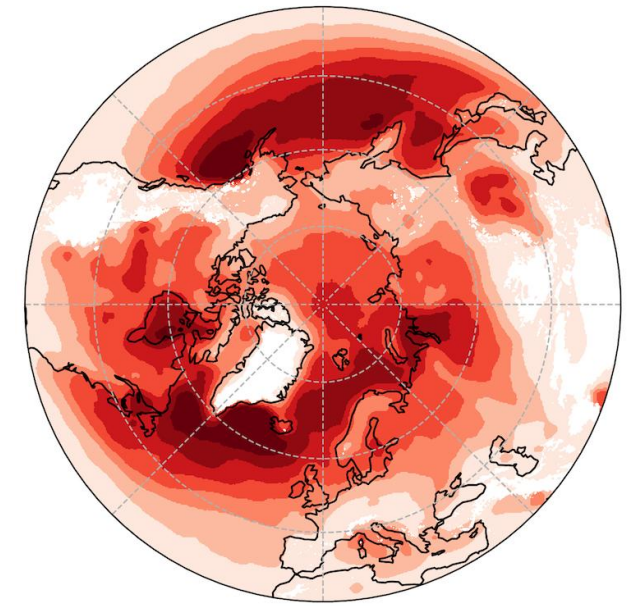


17 PARTNERSHIPS FOR THE GOALS





Projection WGS 84 (EPSG:4326)  
 Scale: 1:4900000  
 Sources: Standard Drainage Area Classification (SDAC) 2003, Government of Canada





Eelgrass and Geese – Coastal waters and food security

Vertical aeroponics



- Contaminated soil and groundwater
- Water management & conservation – agriculture
- Food security - Wild rice restoration
- Antimicrobial resistance in drinking water, wastewater and drinking water sources

# WATER FOR CLIMATE, RESILIENCE AND ENVIRONMENT:

SOURCE TO SEA, BIODIVERSITY, CLIMATE, RESILIENCE AND DRR



- Community based monitoring – fish, water quality, wildlife
- Indigenous self-determination
- Indigenous data sovereignty
- CanWIN data center



## WATER FOR COOPERATION:

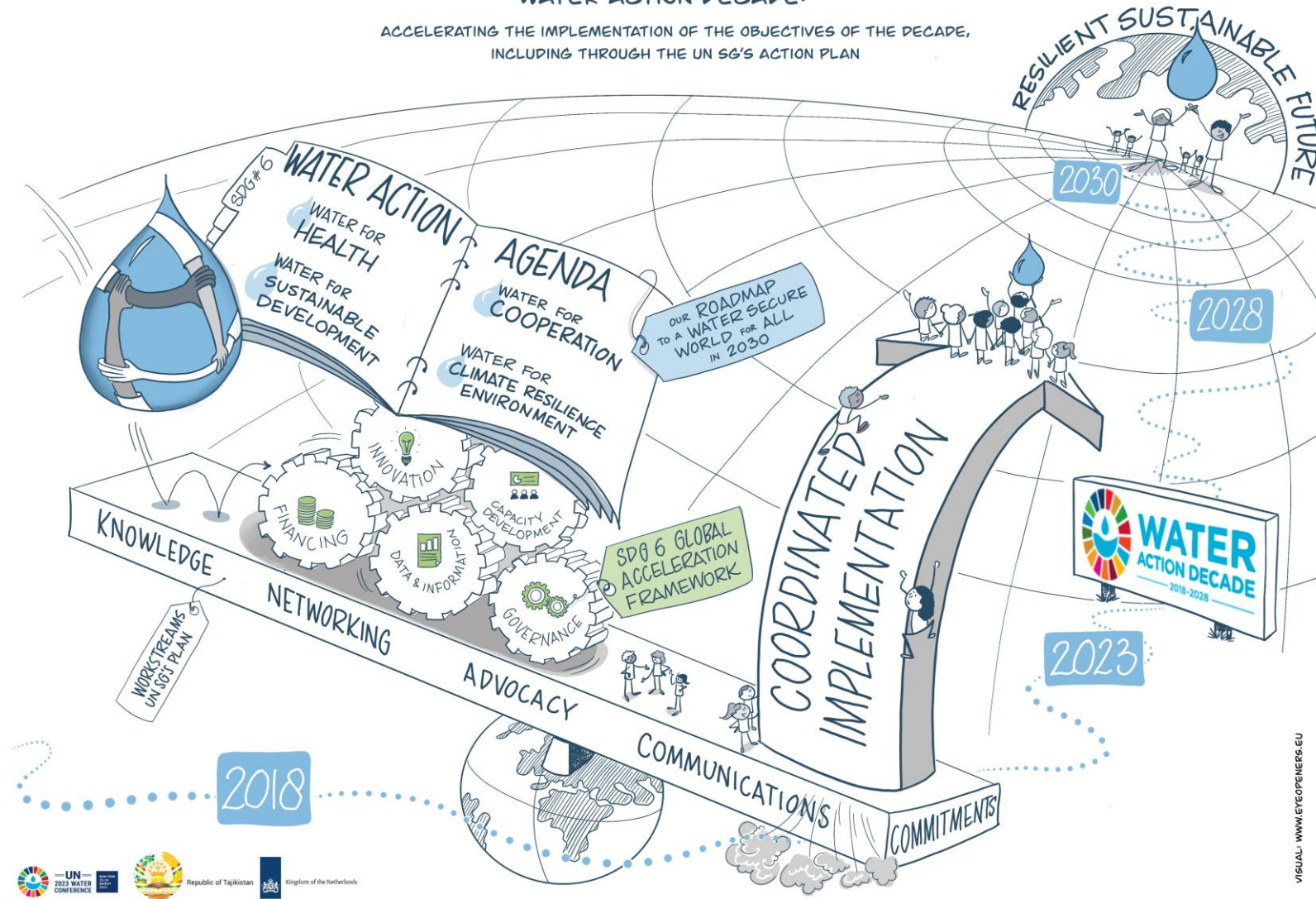
TRANSBOUNDARY AND INTERNATIONAL WATER COOPERATION, CROSS SECTORAL COOPERATION,  
INCLUDING SCIENTIFIC COOPERATION, AND WATER ACROSS THE 2030 AGENDA



- International Joint Commission
- World Data Systems
- Industry, Governments (Federal, Provincial, Municipal)

# WATER ACTION DECADE:

ACCELERATING THE IMPLEMENTATION OF THE OBJECTIVES OF THE DECADE,  
INCLUDING THROUGH THE UN SG'S ACTION PLAN



VISUAL: WWW.EYEOPENERS.EU



# The Canadian Watershed Information Network (CanWIN)

Turning Today's Data into Tomorrow's Insights

## Data



Raw data collected by researchers



## Information



Analyzed data converted to scientific information



## Knowledge



Information converted to knowledge that everyone can understand



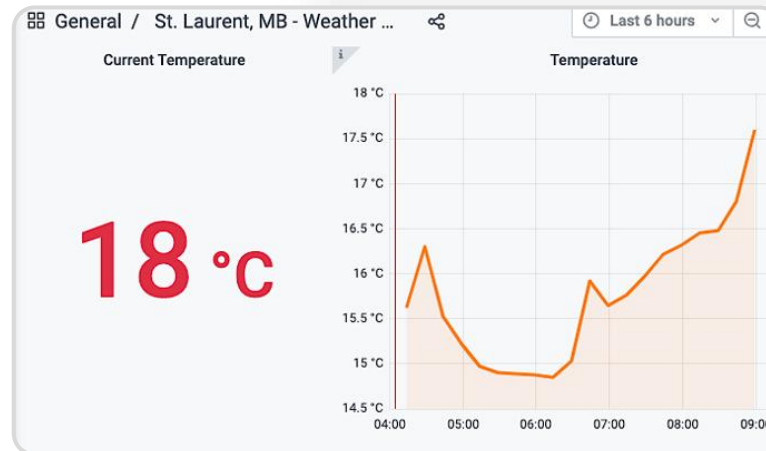
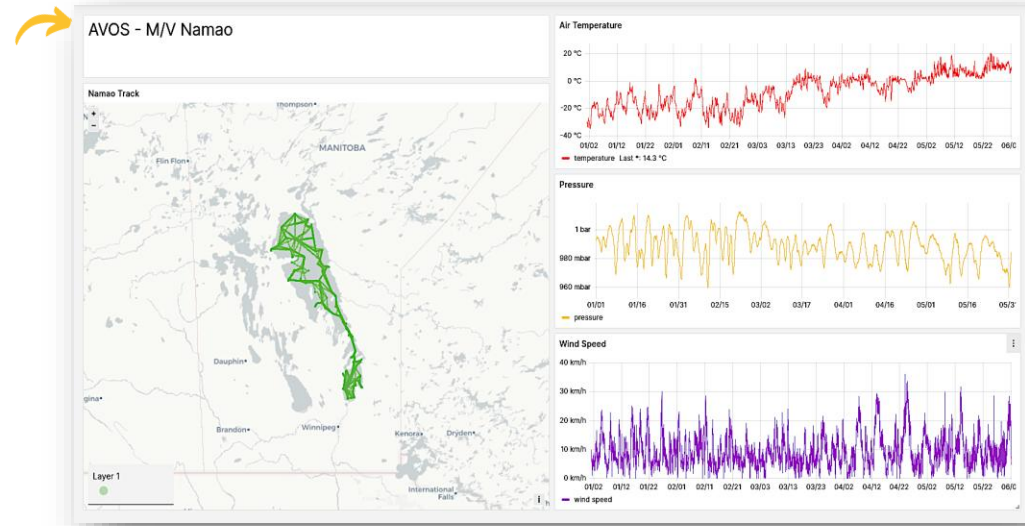
## Action



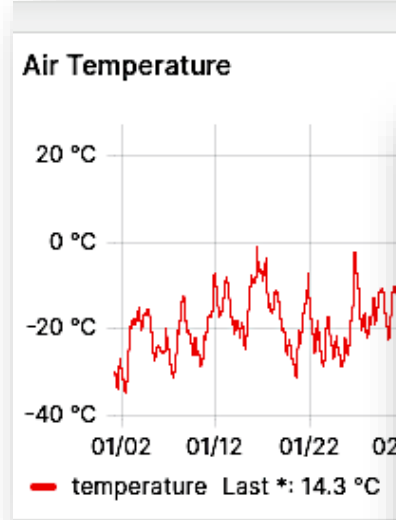
Knowledge drives policy and action



# Data Sharing – Data to Information



# Data Sharing – Information to Knowledge



## Lake Winnipeg Dashboard

### Blue Green Algae (cyanobacteria) on Lake Winnipeg

Blue Green algae on Lake Winnipeg occur when there is too much phosphorus compared to nitrogen in the water. This allows them to outcompete other algal species. Warm surface water temperatures and low winds over the open water months allow blue green algae to form the surface blooms that are commonly observed on the lake.

These blooms are unsightly, smell unpleasant, and can make water toxic to humans, fish, livestock and pets.

Algal blooms over Lake Winnipeg have been increasing in size and frequency over the past several decades. The satellite image on the right shows the green streaks of algae covering the lake, October 2023.



Photo from the Winnipeg Free Press

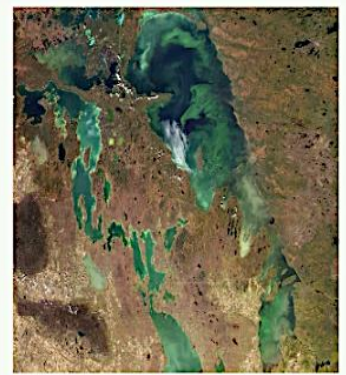
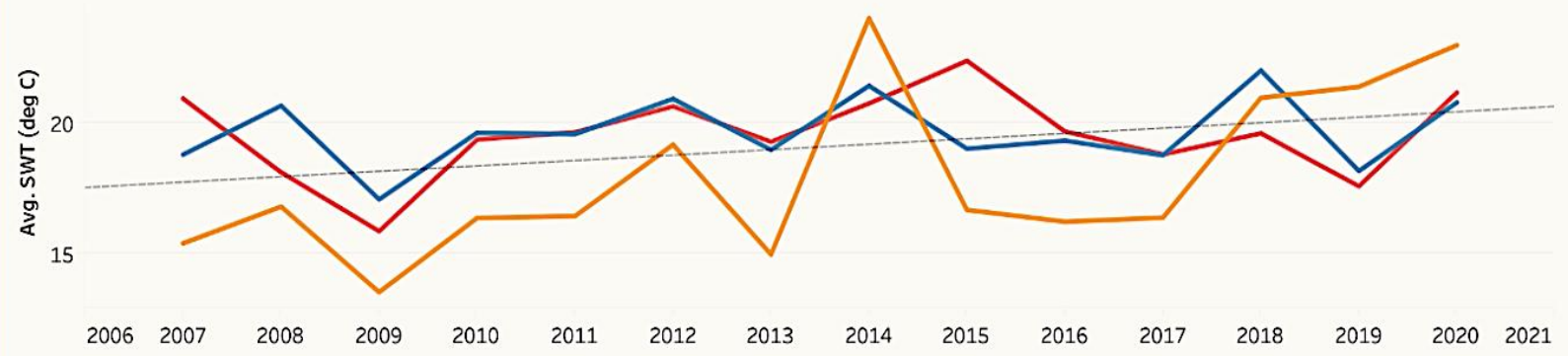





Photo from the Lake Winnipeg Research Consortium Satellite Image Library

### Surface water temperatures (SWT) from Environment and Climate Change Canada (ECCC) buoys over the summer months 2007 to 2020



 Since 1970, the region surrounding Lake Winnipeg has been warming at twice the rate per decade for the globe.

- Buoys**
-  Lake Winnipeg North Basin
  -  Lake Winnipeg Narrows
  -  Lake Winnipeg South Basin



## Stories



### Weather Keeper Program

The Weather Keeper Program is a collaboration between the Manitoba Métis Federation...



### L'Prâgramme dju Gardjiejn d'la Mitiô

L'Prâgramme dju Gardjiejn d'la Mitiô li ein partnariâ ant la Fidirassion di Métis dju Manitoba...



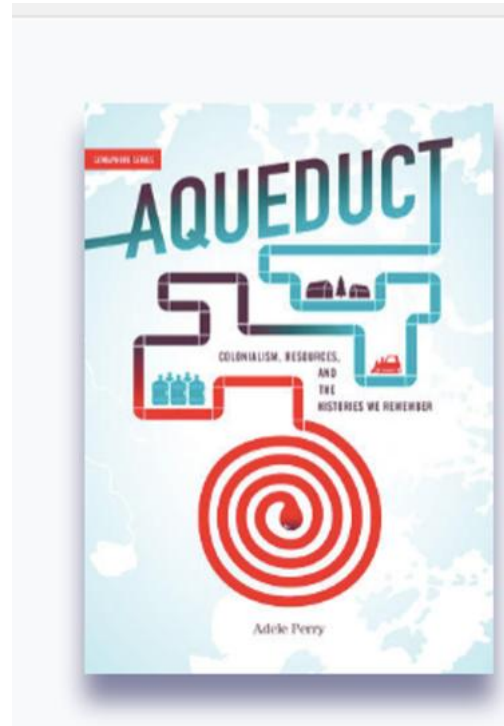
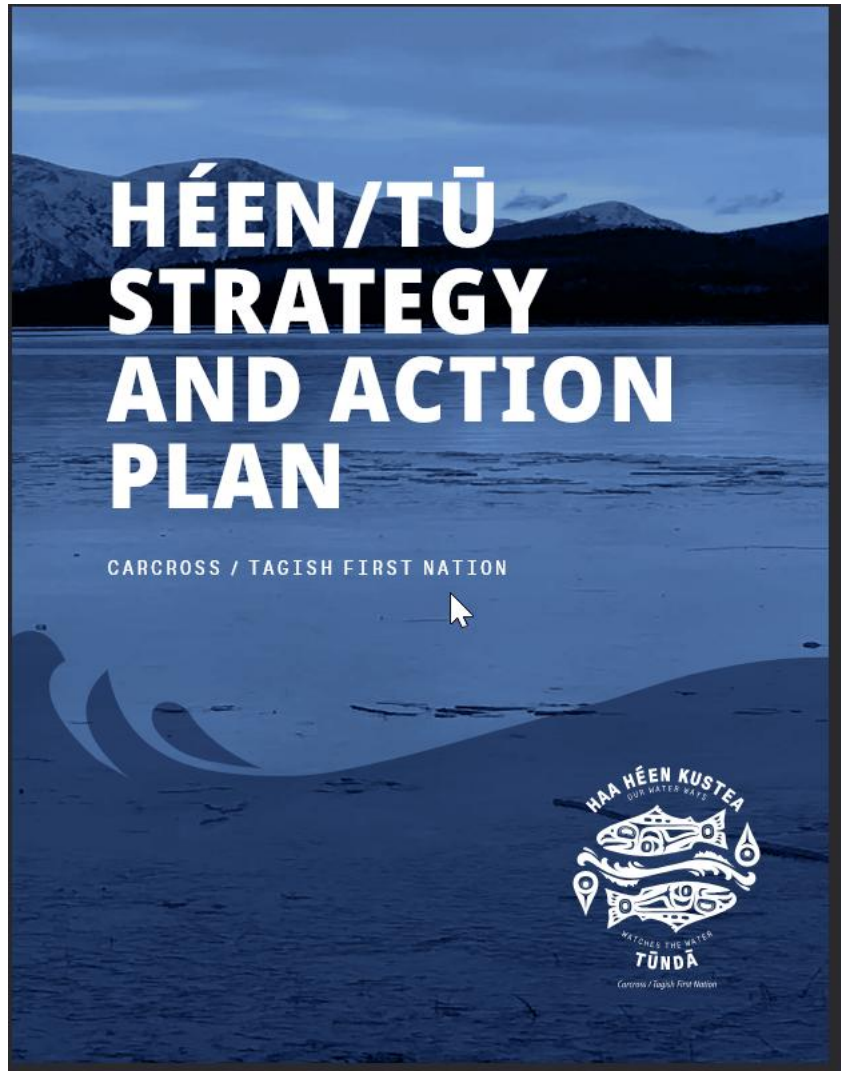
### Programme de surveillance des conditions météorologiques

Le programme de surveillance des conditions météorologiques est une collaboration entre la Manitoba Métis Federation...

# Data Stories



# Communication & Outreach



## Phosphorus

For descriptions of common forms of phosphorus please see page two

**What is Phosphorus**

Phosphorus is an important nutrient for both plants and animals.

**Why is it Important to Measure Phosphorus**

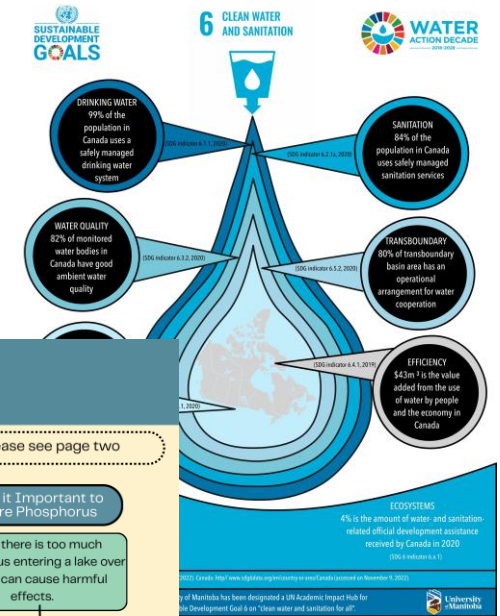
When there is too much phosphorus entering a lake over time, it can cause harmful effects.

When there is a lot of nutrients in a lake it is called **eutrophication**. Eutrophication can lead to things like algae blooms which can affect the water quality of the lake.

**What are Common Impacts of Algae Blooms**

They can lower oxygen levels in the lake and cause fish die offs. Blooms can also be harmful to human health because some algae can be toxic which can make people and animals sick.

Phosphorus enters water bodies from both human and natural sources. Some natural sources include the break down of rocks and soils and organic material such as manure or decomposed animal/plant material. Some human sources include fertilizers, agricultural runoff and sewage.





## Just Waters: Thinking with Hydro-Social Relations for a More Just and Sustainable World

LEARN MORE

👤 Nadya Crossman-Serb



# Projects

## The Last Drop Water Researchers Speaker Series

Research Team : [Dr. Nicole J. Wilson](#), [Claire Herbert](#)

Photo by Parinaz Shariat Zadeh



**THE LAST DROP**  
Water Researchers Speaker Series

**Water Challenges in the Anthropocene: Lessons from India**  
with [Dr. Mihir Shah](#)  
Distinguished Professor  
Shiv Nadar University, Delhi-NCR

The Anthropocene makes the need for a paradigm shift in water management and governance more urgent than ever before. Dr. Shah's experience of water policy can be deeply instructive for us to draw the most pertinent lessons from both its mistakes, and from the multiple innovations that have been proposed in recent decades.

**October 8, 2025**  
**12 pm - 1 pm CST**  
**10:30 pm to 11:30pm IST**  
**Zoom Webinar**



Scan the QR Code to register.


University of Manitoba | Centre for Human Rights Research | SUSTAINABLE DEVELOPMENT GOALS | UTM

# Projects

## Open Education Resource


Research Team : [Dr. Adele Perry](#), [Dr. Jocelyn Thorpe](#),  
[Dr. Shirley Thompson](#)

Photo by Sarah Deckert



Next, I take a water sample by scooping up some water from just below the surface with a plastic bottle. I hold the bottle underwater until it's full. Then I shake it out a bit so there's some air left when the bottle is closed. The bottle is then capped and mixed.

The water sample is sub-sampled into a 20 ml glass vial with Lugol's iodine, which acts as a preservative. The remaining water in the sampling bottle is saved for further processing.



After I take the water sample, Greg uses an instrument called a *CTD profiler* to measure the conductivity, temperature, depth (that's the C, T and D), and turbidity of the water from the surface to the bottom of the lake. Sometimes, we have a different instrument that can also measure dissolved oxygen, chlorophyll, and other pigments.

We always do the profiler after the water sampling because the profiler may hit the bottom of the lake and stir up sediment into the water column, which would contaminate the water sample.

# Creating Knowledge that matters

- Supports the creation of Information and knowledge products from siloed or multiple types of research data
- Cross-sectoral linkages between SDG goals
- Supports funding applications



# Empowering learners

- Cross institutional youth learning programs
- Deliverables showcased within the classroom helping us inspire the researchers of tomorrow



# Reimagining engagement

- Relate local, regional issues to national, global ones
- Tool for Researchers to do community outreach



# QR Codes

CanWIN Home page



UNAI SDG 6 Page



Data Tools



Bloom Beneath



Beluga whale GN





**Thank you!**