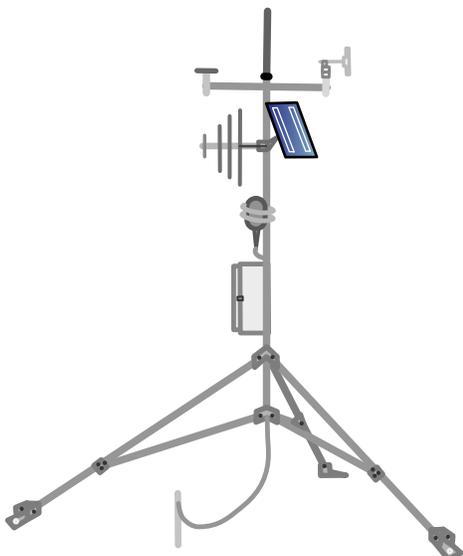


The Weather Keeper program will expand upon previous research conducted on the Manitoba Great Lakes (MBGL - Lakes Winnipegosis, Waterhen, Manitoba, and Winnipeg) by researchers at the Centre for Earth Observation Science (CEOS), University of Manitoba (UM).

Key objectives include:

- i) Creation of a partnership between CEOS and the Manitoba Métis Federation (MMF) that will provide support to the Métis Nation in increasing their capacity to conduct scientifically credible research of MMF prioritized environmental issues within the Lake Winnipeg Basin;
- ii) Increasing the MMF's capacity to engage in decision-making processes and actions regarding nutrient reduction activities within the Lake Winnipeg Basin; and
- iii) Increasing MMF representation on committees through development of a joint science stakeholder committee to identify common water quality priorities in the Lake Winnipeg Watershed;

Water-weather keeper and water quality monitor pilot programs were developed in coordination with the MMF and were designed to build Métis capacity in water quality management activities and increase Métis ability to make science-based decisions about climate and nutrient issues in the basin. These programs will underpin a co-developed and jointly managed monitoring network that will allow for a system-level understanding on how the MBGL respond to land-use change and variability in weather, including those elements influenced by regional changes in climate.



*An example of a weather station.*

Through this pilot project, the ability of the MMF to conduct scientifically credible climate and water quality research and monitoring in support of science-informed policy decisions regarding watershed management will be enhanced. Ongoing lake, river, and watershed sampling and mooring programs will be supplemented with new automated meteorological stations operated by members of the Métis Nation's Manitoba Métis Community (MNMCC). MNMCC members will be trained in weather observation and provided with analytical support and training by CEOS personnel.

We will continue and expand on current programs in remote sensing and modelling of water quality parameters to bring additional value to the project and aid in improving our knowledge of phosphorus, nitrogen and carbon loading to, and transport through this system, and ecosystem response to changes in these parameters (e.g. algal biomass monitoring by remote sensing) ultimately providing additional support and increasing the MMF's ability to inform on science-based management and decision-making processes for these ecosystems.

The data collected in this project will be summarized clearly and concisely to help inform Métis commercial fisherman on the water quality and weather conditions on the upper MBGL's. Commercial fishing is a major driver of the Manitoba economy. The vast majority of commercial fishers in Manitoba are Indigenous and the majority of Indigenous fishers are Métis citizens. The Métis government in Manitoba regularly consults with its citizens on issues of resource management, impacts to the environment and climate change targets. Water quality is among the priorities identified by the citizens at these consultations. The water-weather keeper project will teach Métis fisherman and harvesters water sampling and weather station monitoring techniques while generating scientifically accurate data available for Manitoba Métis Citizens on weather conditions and water quality parameters on lakes they rely on for their livelihood.

We will continue to engage and provide opportunities within and outside of this project for additional communities to participate.