Environment Canada Environnement Canada

Canada

Automated Freshwater Quality Monitoring and Surveillance Network
-Québec status

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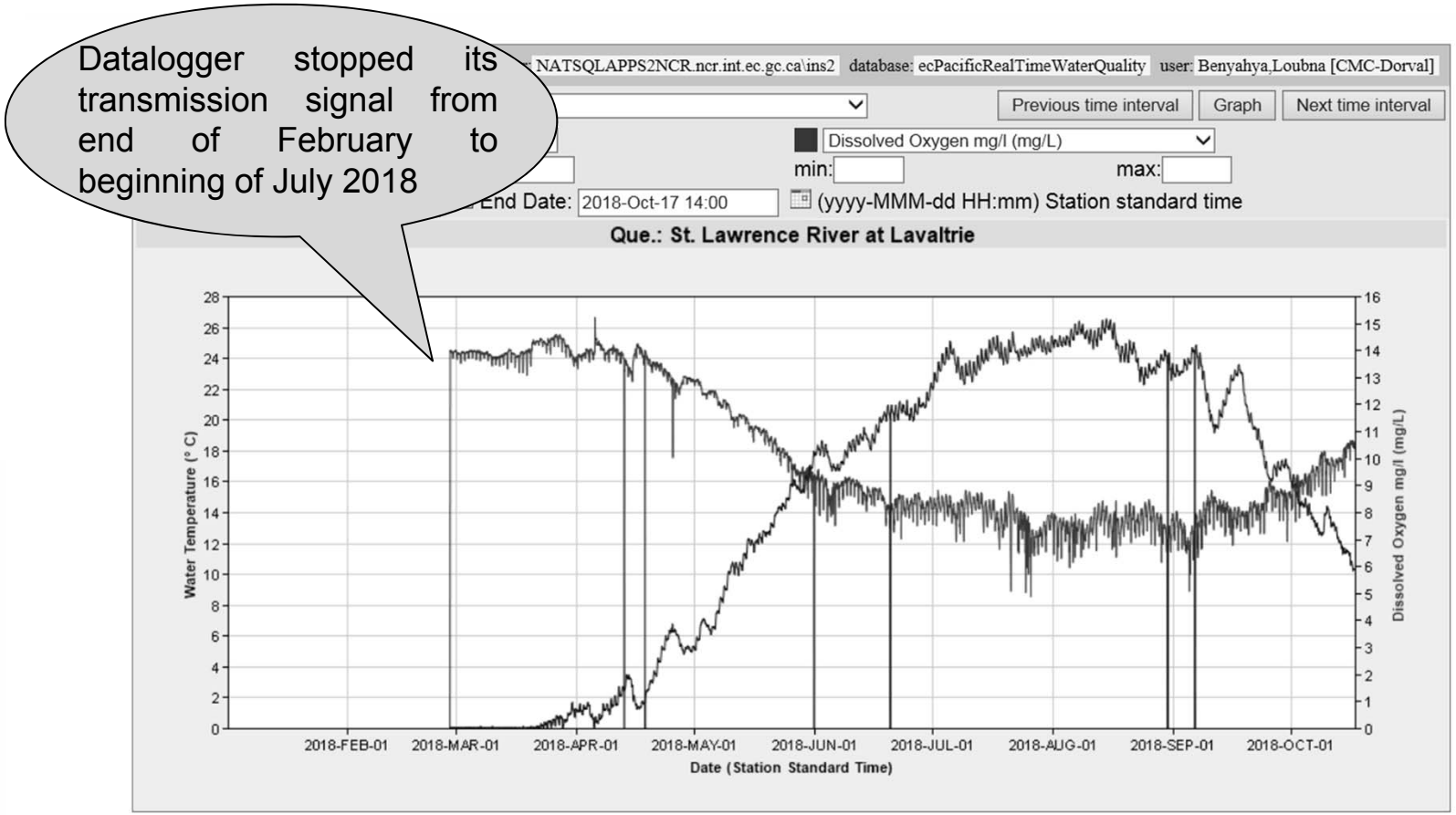
WSC Real-Time Hydrometric Data & WQMS automated stations

Supplement automated stations is needed in the province of Québec

Appearance on the website of Real Time Data Base (RTDB)

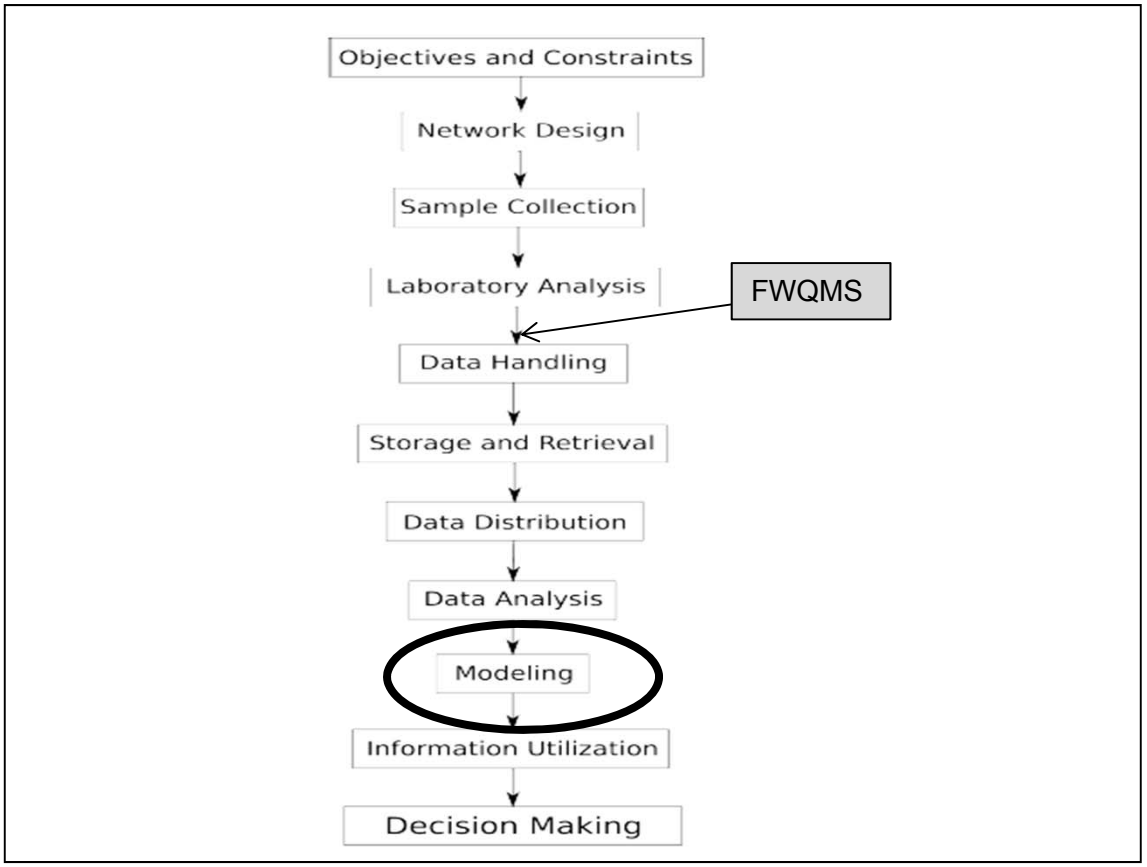


Indicators of water quality in real time are visible on the website of the RTDB. There is a choice of parameters, at the start and the end of the observation period.

WQMS Existing Automated Network-Québec

Laboratory			Field		
Parameters	**Carillon**	**Lavaltrie**	**Parameters**	**Carillon**	**Lavaltrie**
Physical properties			PH	√	√
Total suspended solids	√	√	Specific conductivity	√	√
Turbidity	√	√	Temperature	√	√
Groupe CNS			Dissolved Oxygen		√
Particulate organic carbon (POC)	√	√	Turbidity		√
Particulate organic nitrogen	√	√			
Particulate Sulphur	√	√			
Nutriments					
Ammoniacal nitrogen (N-NH3)	√	√			
Dissolved organic carbon (DOC)	√	√			
Orthophosphate (PO4)	√	√			
Other composites					
Chlorophyl -a	√	√			
Metals					
Dissolved metals	√	√			
Recuperable metals	√	√			
Mercury					
M. dissolved	√	√			
M. Total	√	√			
Major ions					
Anions	√	√			
Inorganic					
Total nitrogen	√	√			
Total phosphorus	√	√			
Dissolved total phosphorus	√	√			
Flame retardant					
Polybrominated diphenyl ether (PBDE)		√			
hexabromobiphenyl (HBB153)		√			

Basics steps in data management system

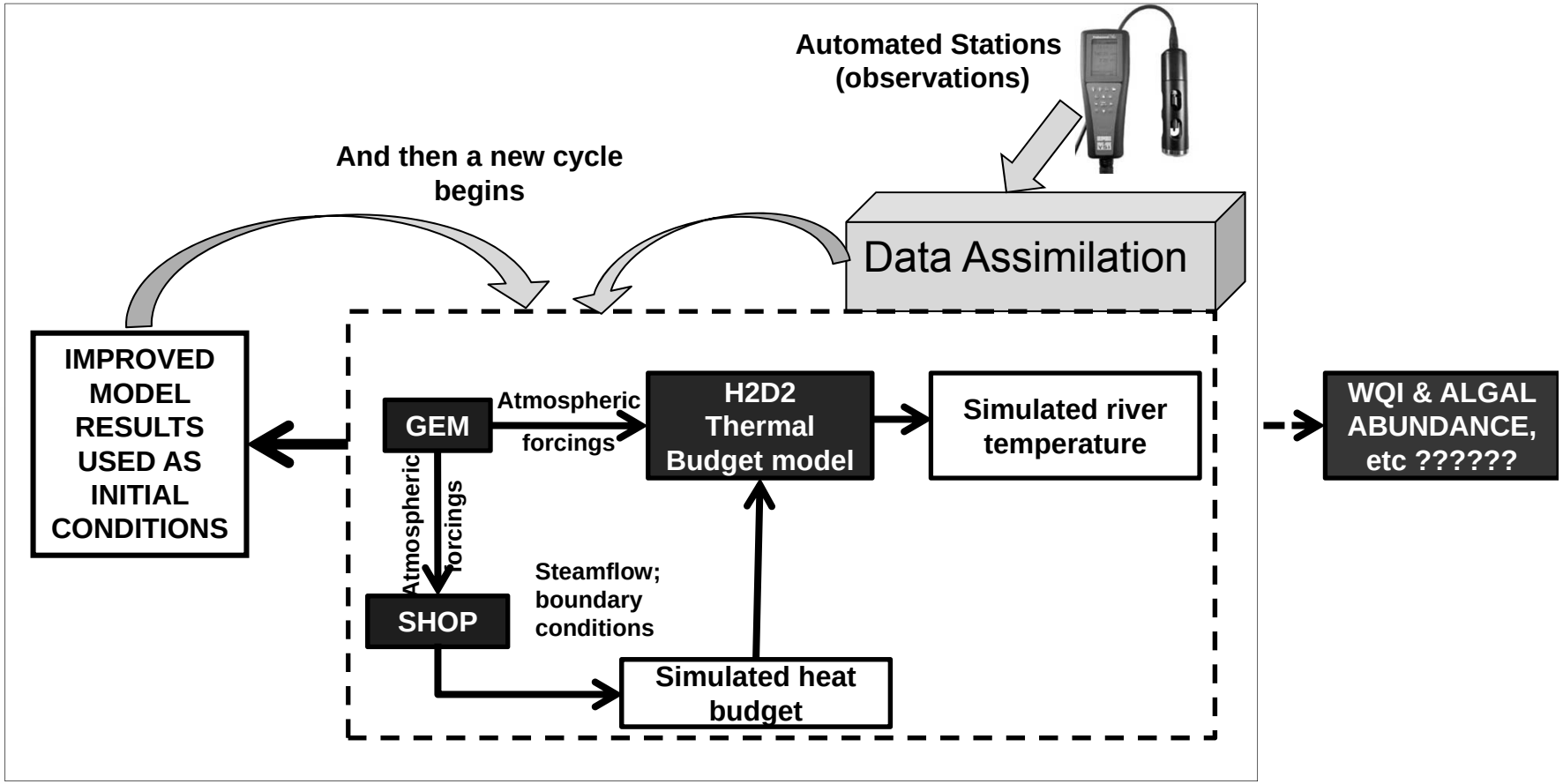


Harmancioglu, N. B., M. N. Alpaslan, and V. P. Singh (1998). Needs for environmental data management. Environmental Data Management 27, 1-12.

Objective of the study

The main objective of the present study is to utilize GEM, a 2D hydrodynamical model SHOP and a heat budget model H2D2 to forecast daily water temperature at two automated monitoring stations: Carillon and Lavaltrie from May to August. The model will help to determine which areas are affected by the thermal relief that comes from Carillon's Dam.

Flowchart of the hydrological/hydrodynamic modelling framework



Water Temperature Data Assimilation Cycle

Conclusion

- Supplement automated stations is needed in the province of Québec
- Conduct a more comprehensive inventory of project metadata for current and past water quality parameters monitoring. ArcGIS projection will help the visualization, management, creation, mapping and analysis water quality data
- Develop the operability of the RTDB

Thank You!