



Ottawa River  
Regulation  
Planning Board

Commission de planification  
de la régularisation  
de la rivière des Outaouais

# **Ottawa River Integrated Management of the Principle Reservoirs**

Ottawa River Regulation Secretariat  
Michael Sarich, Senior Water Resources Engineer



## The Ottawa River Regulation Planning Board

- Ensures the integrated management of the principal basin reservoirs to minimize damage from flood and droughts
- active all year long



## *La Commission de planification de la régularisation de la rivière des Outaouais*

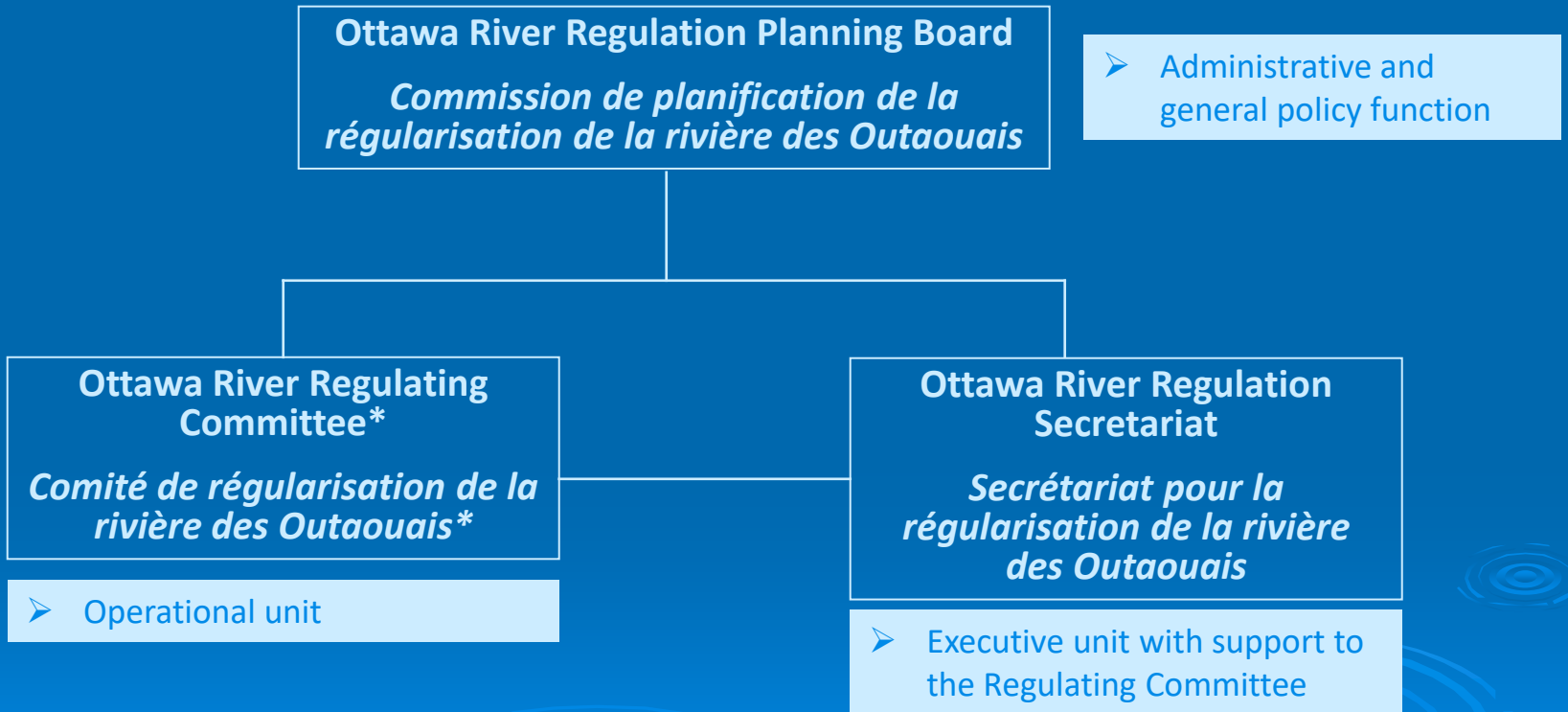
- *Assure une gestion intégrée des principaux réservoirs du bassin versant afin de minimiser les dommages liés aux inondations et aux étiages*
- *tout au long de l'année*

## The 1983 Canada-Ontario-Quebec Agreement established:



- Ottawa River Regulation Planning Board
  - Ottawa River Regulating Committee
  - Ottawa River Regulation Secretariat
- to ensure that the flow from the principal reservoirs of the Ottawa River Basin are managed on an integrated basis

# How is the Planning Board structured?



\* Associate membership with Ontario Ministry of Natural Resources and Forestry

# 13 Principal Reservoirs *13 principaux réservoirs*

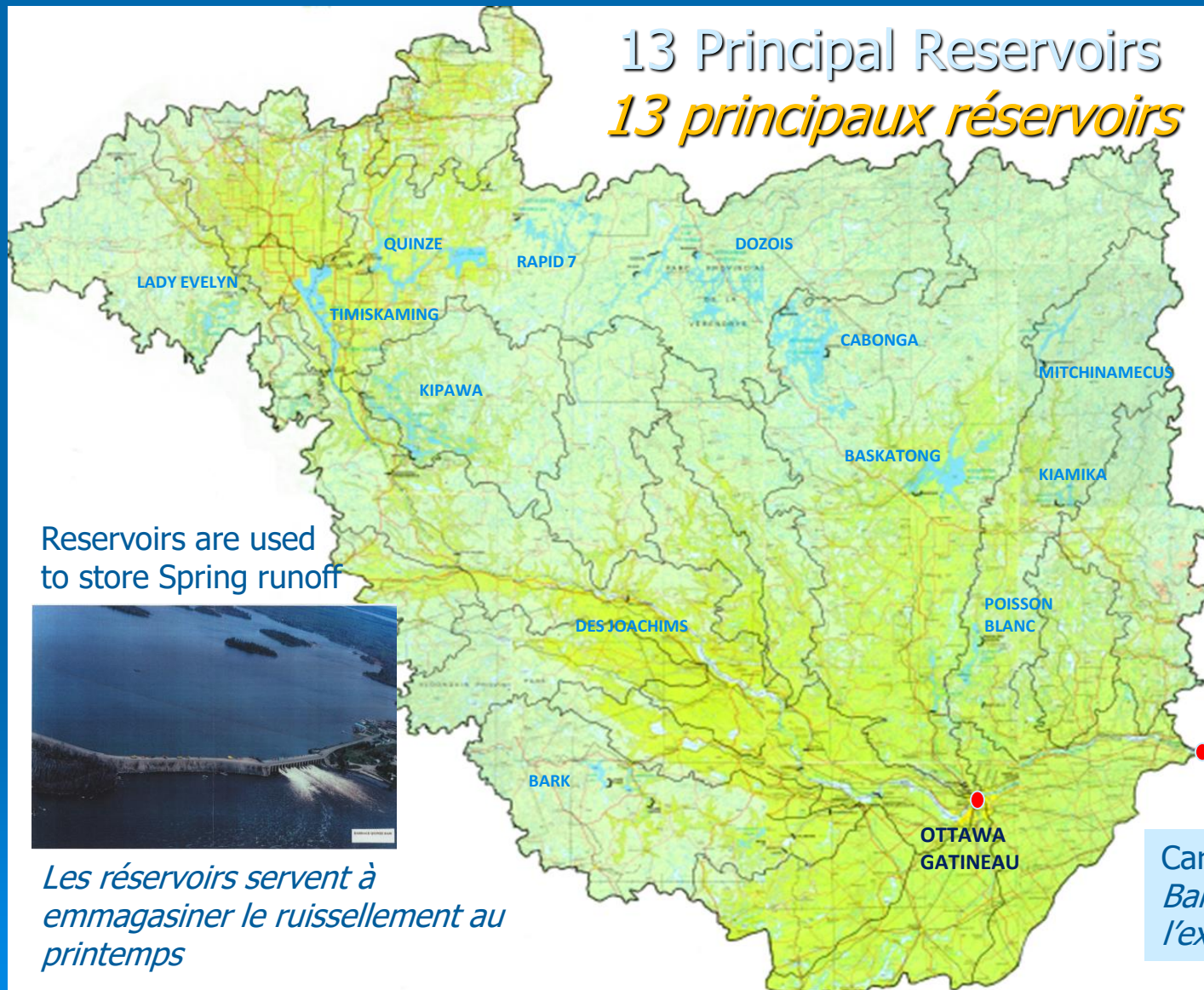
ONTARIO **POWER**  
GENERATION



Gouvernement  
du Canada



Québec



Reservoirs are used  
to store Spring runoff



*Les réservoirs servent à  
emmagasiner le ruissellement au  
printemps*

Carillon dam at outlet  
*Barrage de Carillon à  
l'exutoire*

# Types of Installations and Operations



*Daily Reservoirs (run of river)*

**Little or no capacity to  
store water**



*Annual Reservoirs*

**Capacity to store part of  
the spring runoff**



*Multi-year Reservoir*

**Capacity to store runoff  
over more than one year**



# Season-based Reservoir Management

## Winter

- reservoir drawdown
- hydroelectric production (HQ/OPG)

## Spring

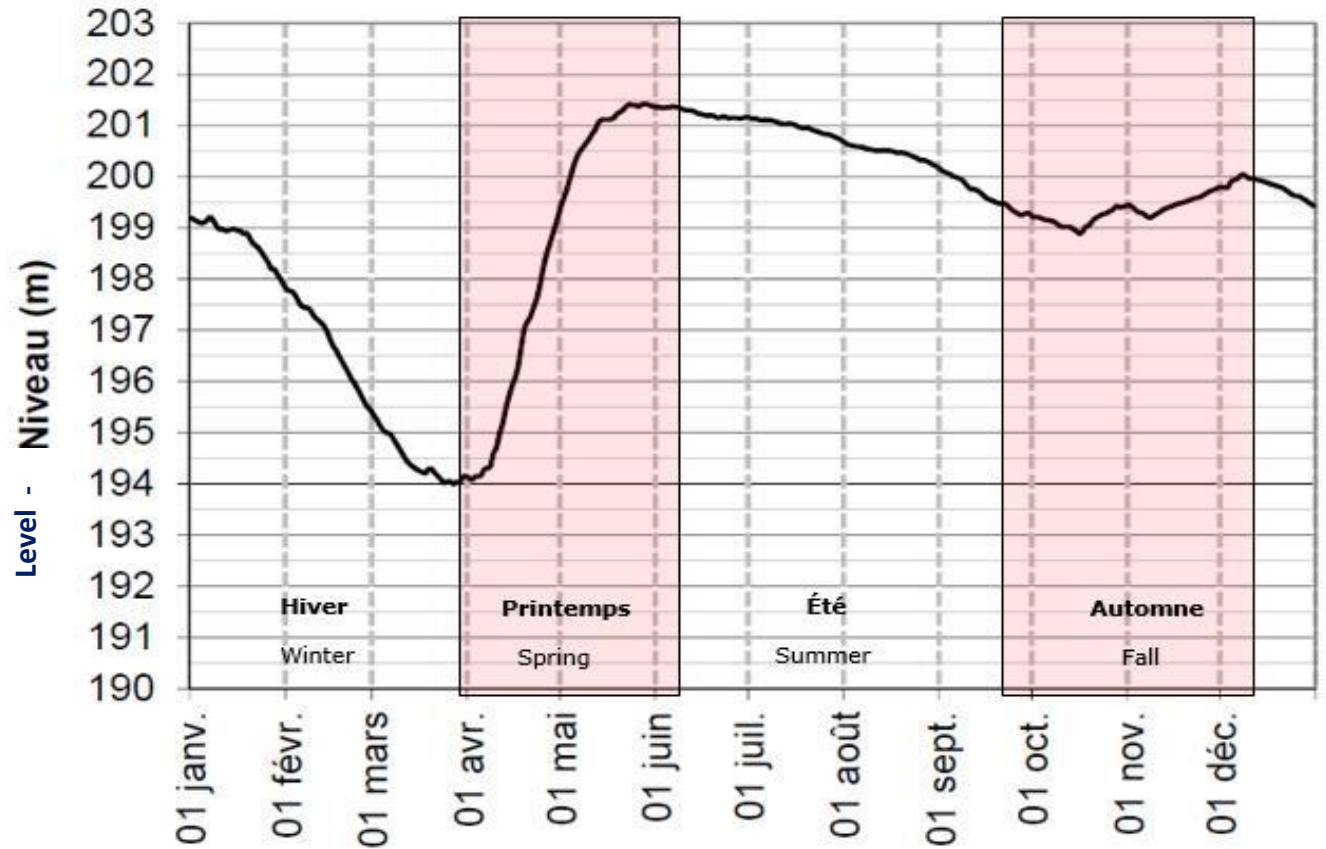
- refill
- flood mitigation

## Summer

- water level stability
- drought mitigation

## Fall

- flood / drought mitigation



Québec



Gouvernement  
du Canada

ONTARIO POWER  
GENERATION

# The Ottawa river - still partially a natural river...

## ➤ Capacity to regulate flows

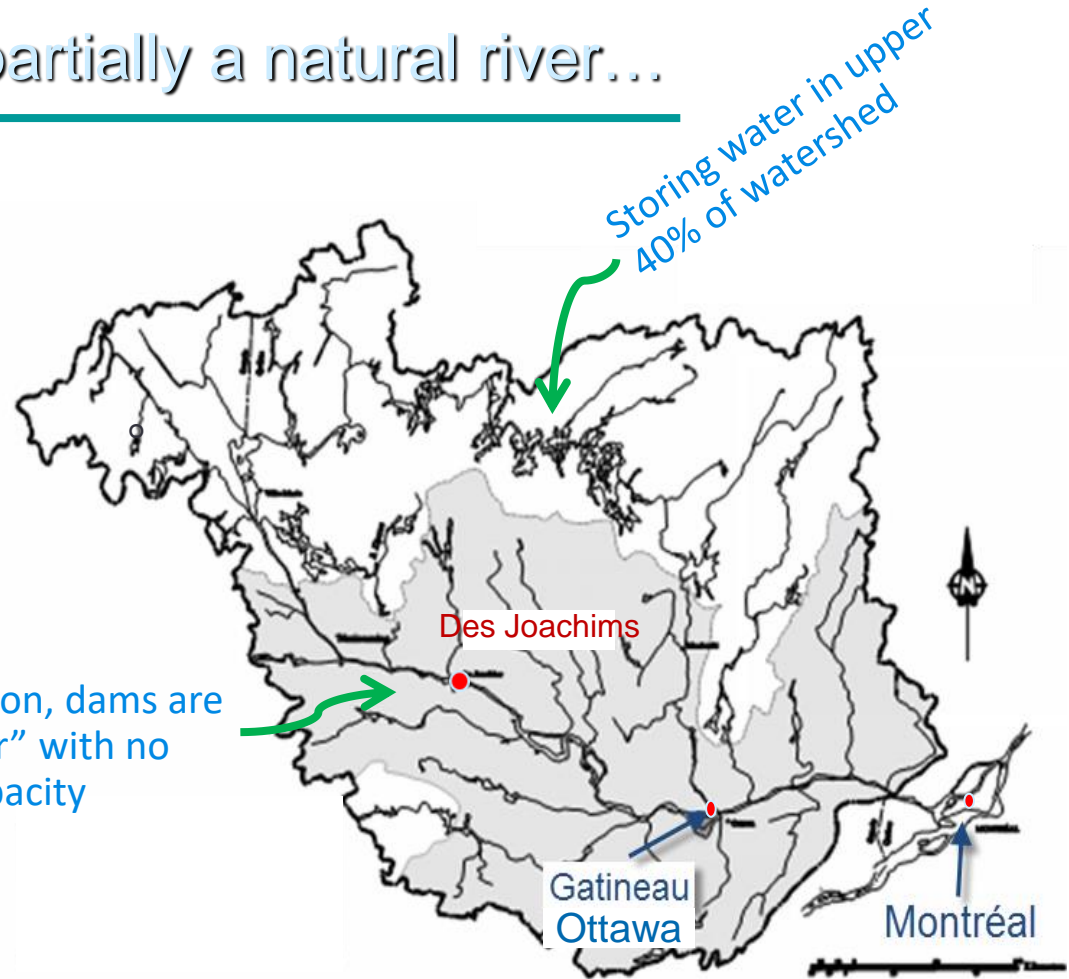
**60%**

unregulated

**40%**

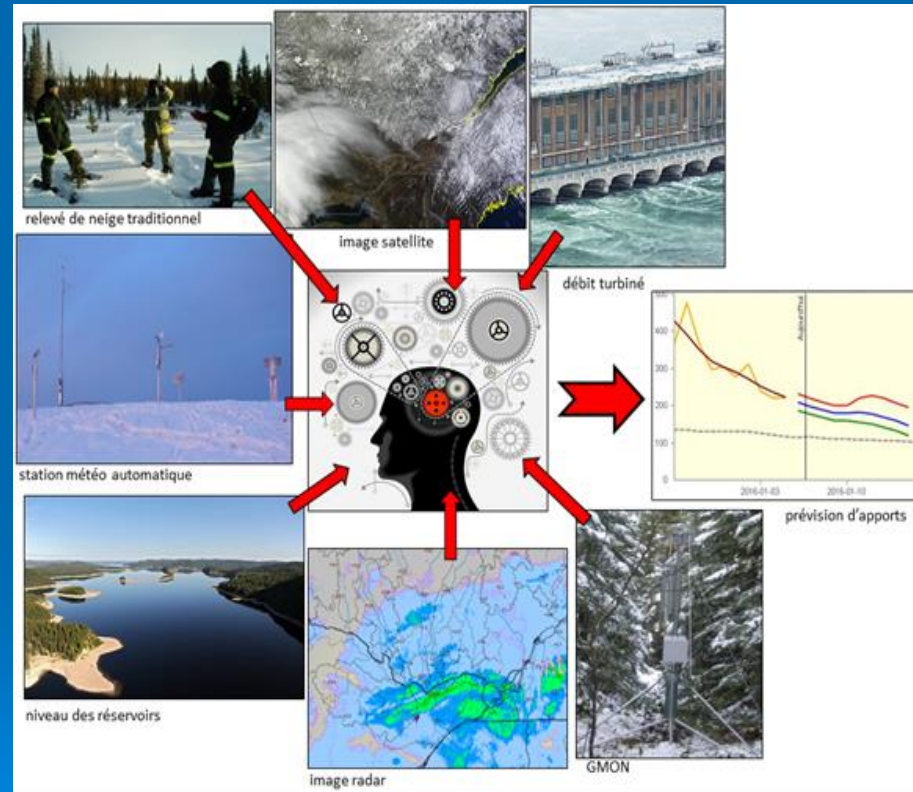
regulated

In the unregulated basin portion, dams are essentially “run of the river” with no significant storage capacity





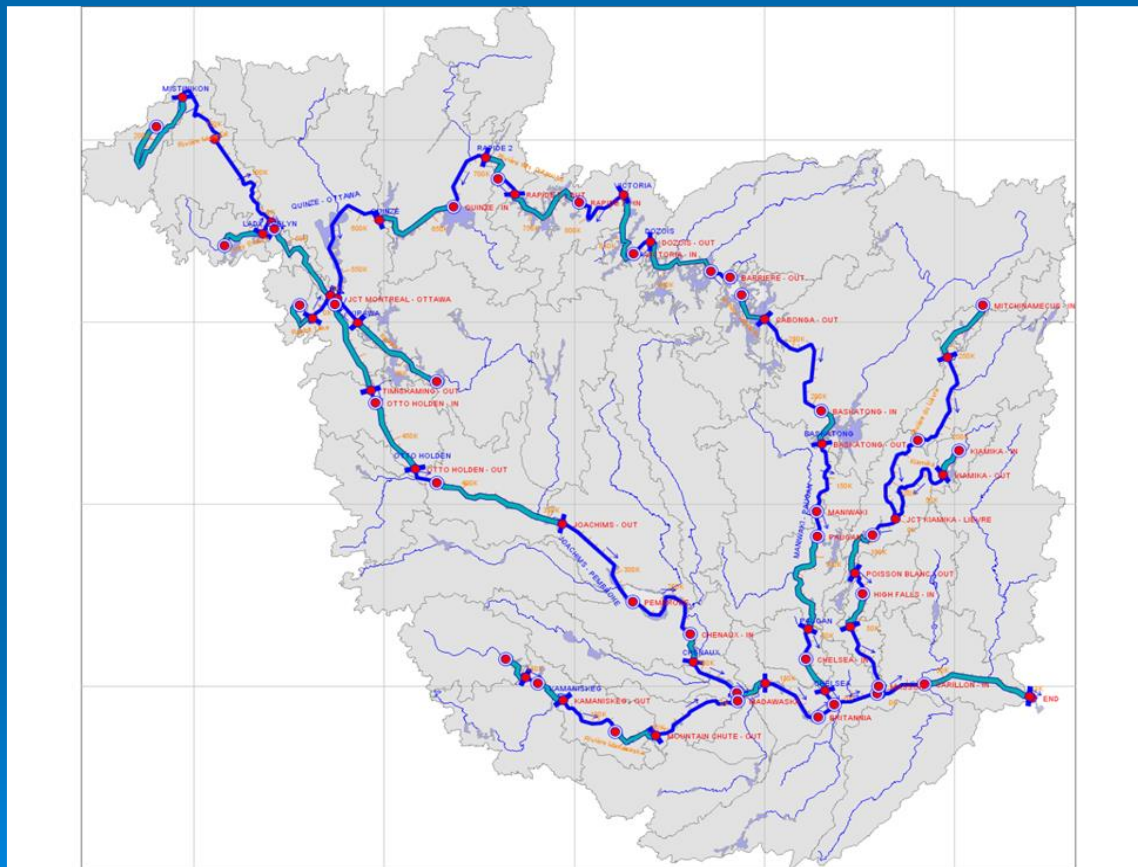
# Daily work of the Regulating Committee – hydrological assessment



**Assessment and modelling** - How much water will there be in the river system?

Note: Activities are done daily from Monday to Friday and more frequently in times of high flows

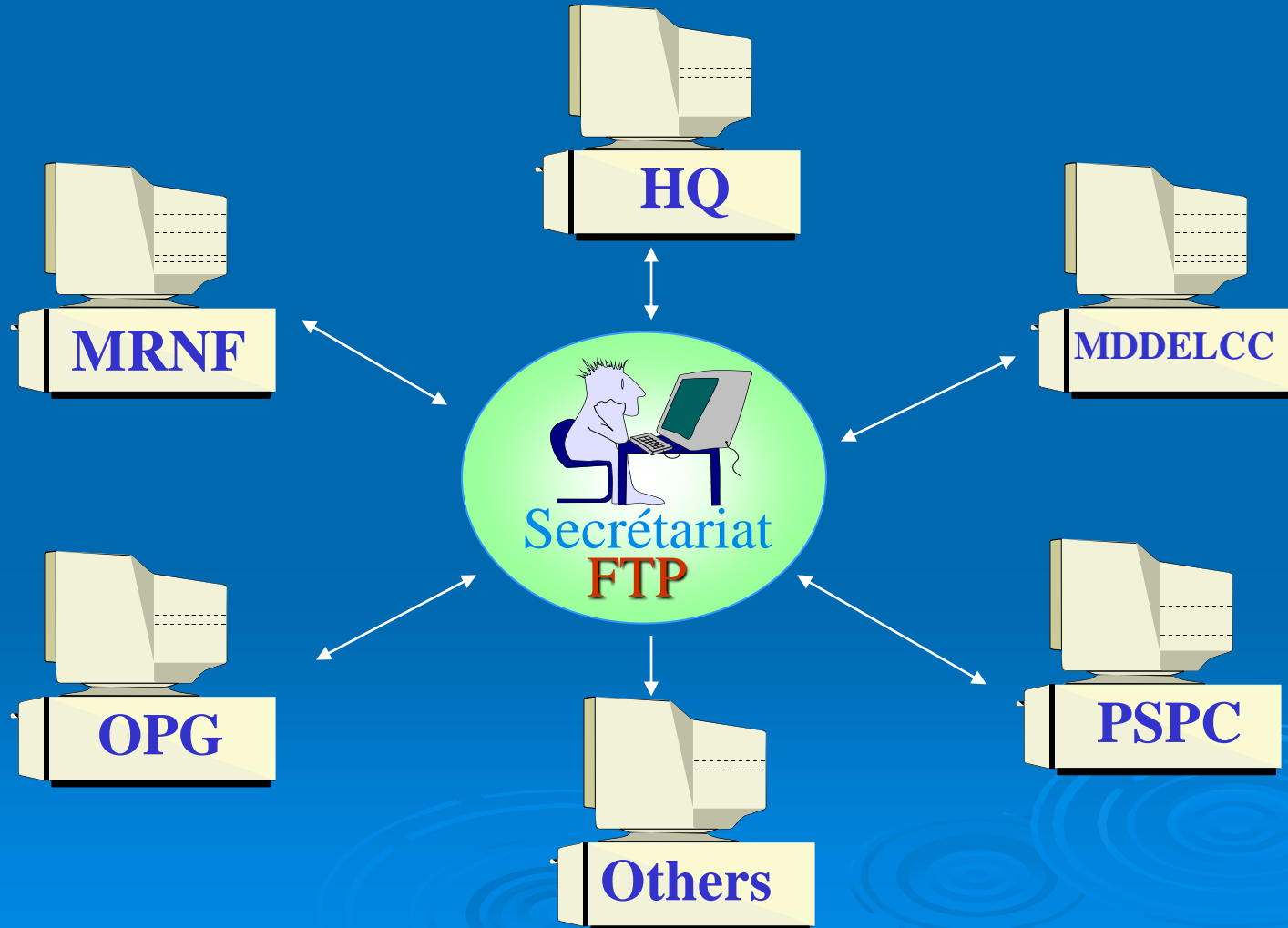
# Daily work of the Regulating Committee – hydraulic assessment



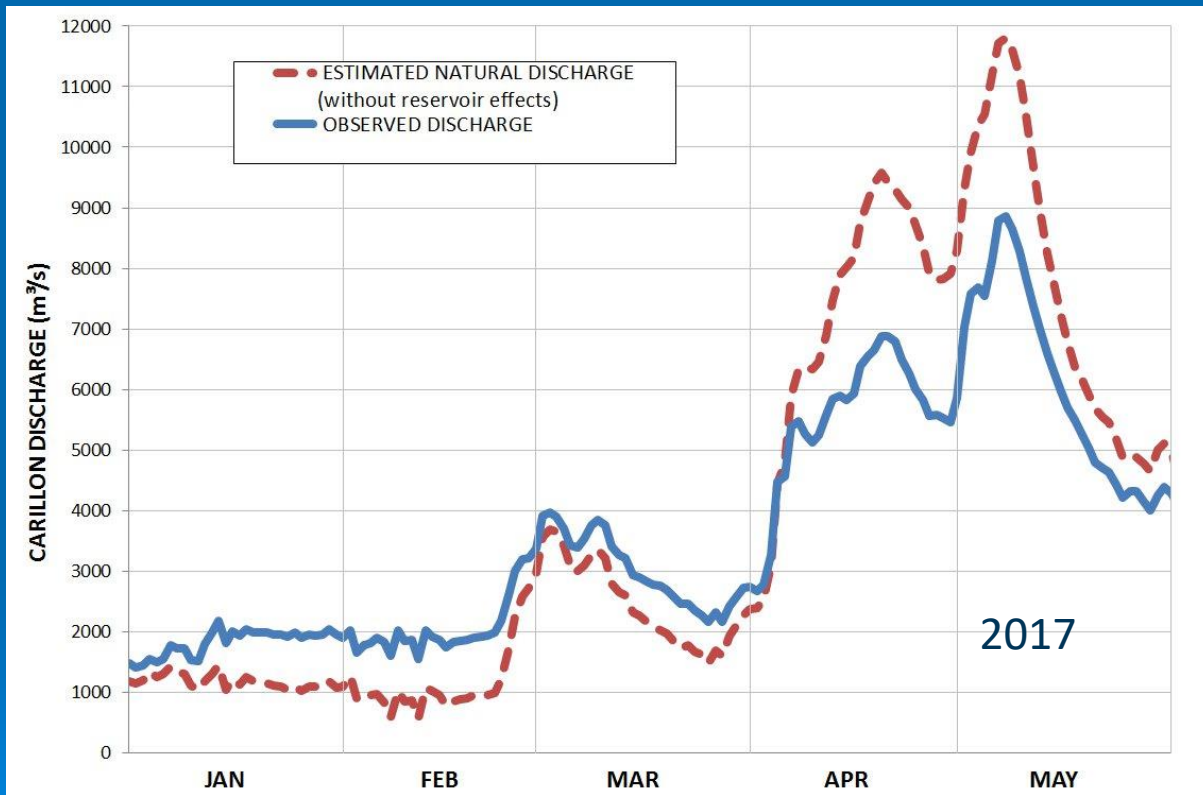
**Assessment and modelling –**  
What will the corresponding flows and levels be?

Note: Activities are done daily from Monday to Friday and more frequently in times of high flows

# Sharing of Data – Optimization



# Reservoirs are managed to minimize flooding



## Without the reservoir effect



Flows at Carillon dam would have been much higher, and flooding levels higher throughout the basin

- 40 cm higher at Chats Lake (Arnprior)
- 90 cm higher at Lac des Deux-Montagnes

# Disseminate Flow Forecasts to Provincial Authorities

- MNRF District Offices are informed of forecasted Ottawa River conditions through MNRF associate membership on the Regulating Committee.
- They issue flood warning messages and information to those that may be at risk, and those that respond to flood events.

# Flood Related Messages issued by MNRF - 2018

MNRF Local Agencies	29-Apr	30-Apr	01-May	02-May	03-May	04-May	05-May	06-May	07-May	08-May		
North Bay District Office												
North Bay-Mattawa CA												
Pembroke District Office					Flood Watch	Flood Warning						
Mississippi Valley CA					Flood Outlook (Constance Bay)							
Rideau Valley CA					Flood Outlook (Britannia)				(now includes Cumberland)			
South Nation CA					Water Safety							
Kemptville District Office						Water Safety						

	09-May	10-May	11-May	12-May	13-May	14-May	15-May	16-May	17-May	18-May
North Bay District Office										
North Bay-Mattawa CA										
Pembroke District Office				Flood Warning						
Mississippi Valley CA		Water Safety (Constance Bay)								
Rideau Valley CA		Water Safety (Britannia-Cumberland)								
South Nation CA	Water Safety									
Kemptville District Office	Water Safety									

**Flood Warning:** flooding is imminent or already occurring

**Flood Watch:** there is the potential for flooding

**Watershed Conditions Statements:**

**Flood Outlook** an early notice of the potential for flooding based on heavy rain, snow melt etc

**water safety** general notice of high flows, melting ice or other factors that could be dangerous for users





Commission de planification  
de la régularisation  
de la rivière des Outaouais

Accueil English

À propos Niveaux d'eau et débits Documentation FAQ Nous joindre

## Assurer la gestion intégrée des principaux réservoirs du bassin de la rivière des Outaouais

La Commission de planification de la régularisation Outaouais a été créée afin d'assurer une gestion intégrée des réservoirs du bassin de la rivière des Outaouais dans le but de protéger contre les inondations tout en préservant les intérêts des différents utilisateurs de l'eau, incluant la production hydroélectrique.



NIVEAUX ET DÉBITS  
DE LA RIVIÈRE



NIVEAUX  
DES



Ottawa River  
Regulation  
Planning Board

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## Integrated Management of the Principal Reservoirs of the Ottawa River Basin

The Ottawa River Regulation Planning Board was established to ensure integrated management of the principal reservoirs of the Ottawa River Basin. The goal of this integrated management is to provide protection against flooding and maintain the interests of the various users particularly in hydro-electric energy production.



RIVER  
LEVELS AND FLOWS



RESERVOIR LEVELS  
AND DISCHARGES



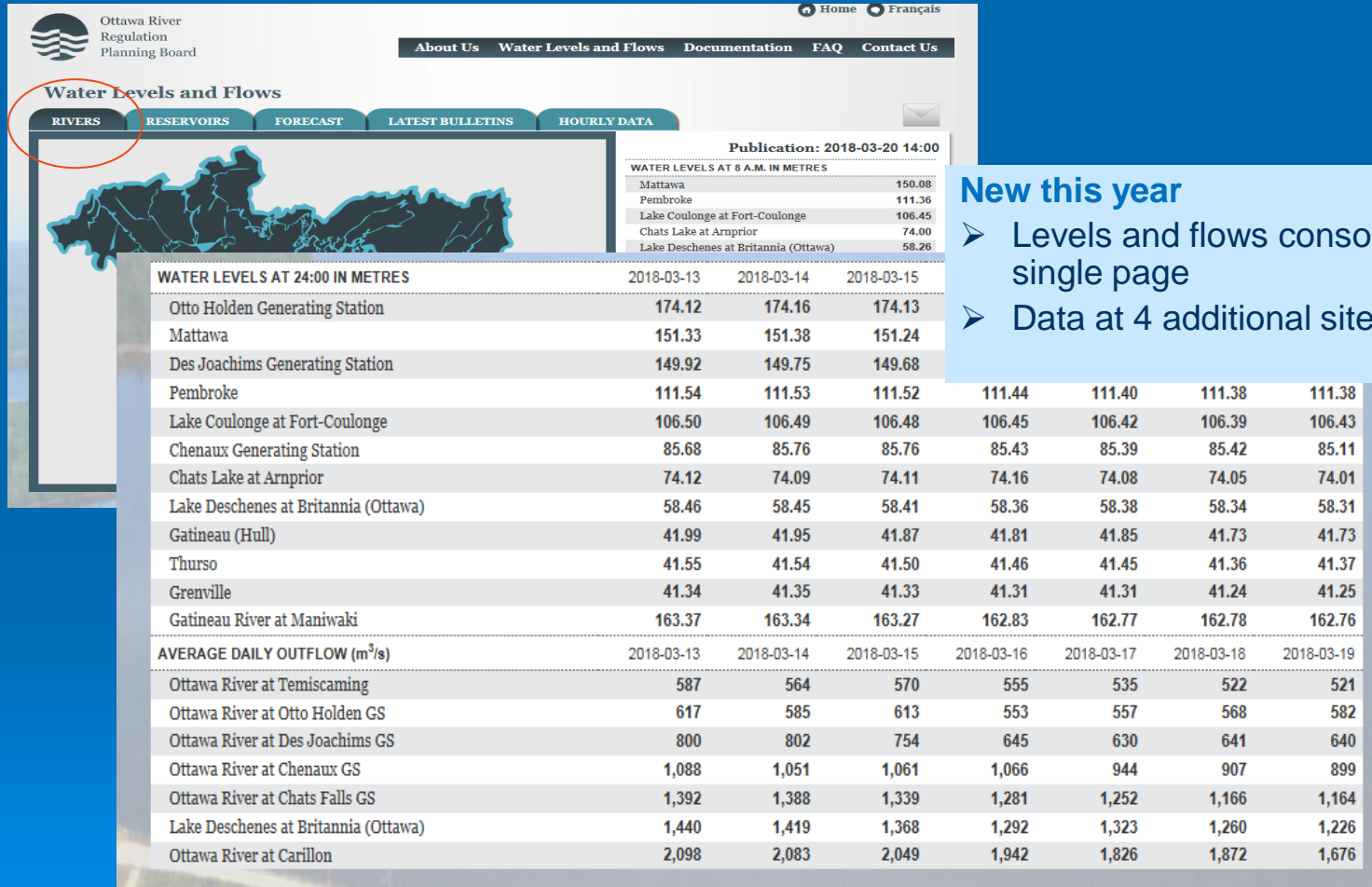
LEVELS AND FLOWS  
FORECAST



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Information to the general  
public : [ottawariver.ca](http://ottawariver.ca)

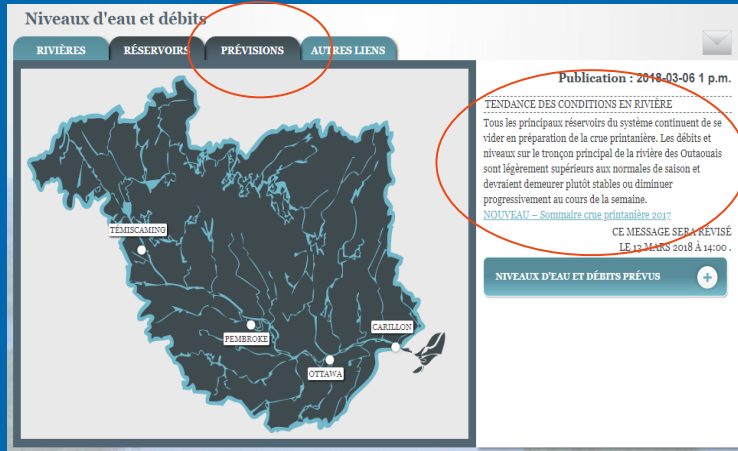
# Previous 7-day conditions on the Web site – ottawariver.ca



## New this year

- Levels and flows consolidated on a single page
- Data at 4 additional sites

# Forecasts available on the Web site – ottawariver.ca



## New this year

- Forecasts available for 4 days rather than 3
- One more site with forecasts (Chats Lake)

Les prévisions vont reprendre à la crue printanière de 2018.

SITES		DATE
(PUBLICATION : 2017-06-13 14:00)		
Rivière des Outaouais à Témiscaming	Débit (m <sup>3</sup> /s)	
Rivière des Outaouais à Pembroke	Niveau (m)	N/A, 8h
Rivière des Outaouais à Britannia (Ottawa)	Niveau (m)	N/A, 8h
	Débit (m <sup>3</sup> /s)	N/A, 8h
Rivière des Outaouais à Carillon	Débit (m <sup>3</sup> /s)	N/A, 8h

SITES		OBSERVATIONS		PRÉVISIONS			
(PUBLICATION : 2018-03-06 17:17)		DATE/HEURE	VALEUR	2018-03-06	2018-03-07	2018-03-08	2018-03-09
Rivière des Outaouais à Témiscaming	Débit (m <sup>3</sup> /s)			675	675	675	660
Rivière des Outaouais à Pembroke	Niveau (m)	2018-03-06, 8h	111.59	111.66	111.66	111.66	111.64
Lac des Chats à Arnprior	Level (m)	2018-03-06, 8h	74.03	74.12	74.12	74.12	74.12
Rivière des Outaouais à Britannia (Ottawa)	Niveau (m)	2018-03-06, 8h	58.51	58.43	58.42	58.42	58.41
	Débit (m <sup>3</sup> /s)	2018-03-06, 8h	1505	1433	1389	1381	1372
Rivière des Outaouais à Carillon	Débit (m <sup>3</sup> /s)	2018-03-06, 8h	2400	2481	2385	2341	2303

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## Tweets

## Tweets & replies



**ORRPB** @ORRPB · May 18

The last daily message and 4-day Ottawa River hydrologic forecast were posted today for the spring freshet of 2018. This service will be replaced with a weekly report, updated every Tuesday.

([ottawariver.ca/river-levels-f...](http://ottawariver.ca/river-levels-f...)) #OttawaRiverLevel



**ORRPB** @ORRPB · May 18

Peak flows due to snowmelt runoff continue to recede on the main stem of the Ottawa River and barring heavy rainfall in the month of May, no further increases are expected this spring. #ONFlood #OttawaRiverLevel



3



3



**ORRPB** @ORRPB · May 1

Second News release by the Ottawa River Regulating Committee : minor flooding levels may be exceeded starting Thursday May 3rd in flood prone areas along Lac Coulonge, Chats Lake and Lac Deschênes (Britannia) #ONFlood

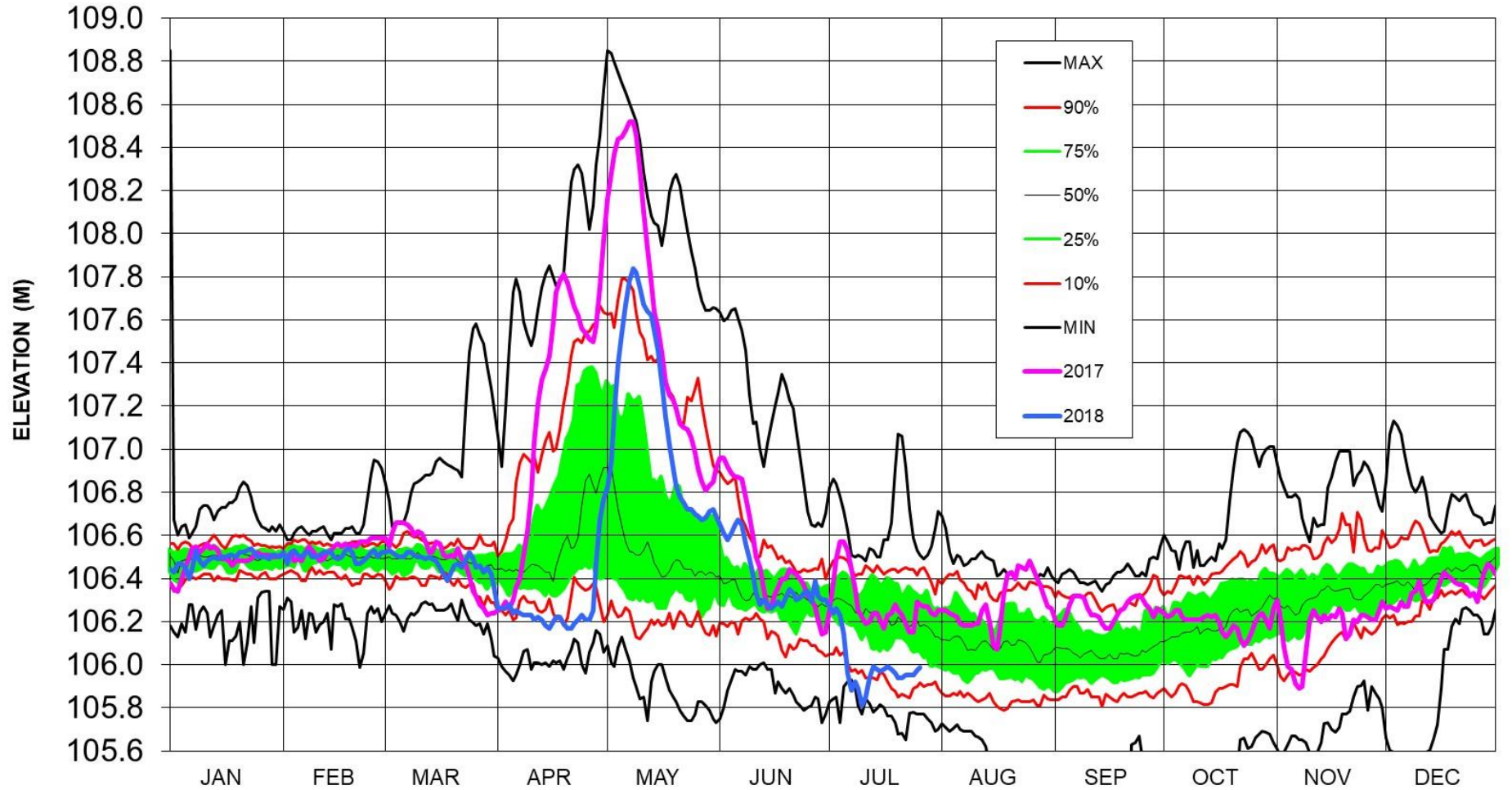
#OttawaRiverLevel



1

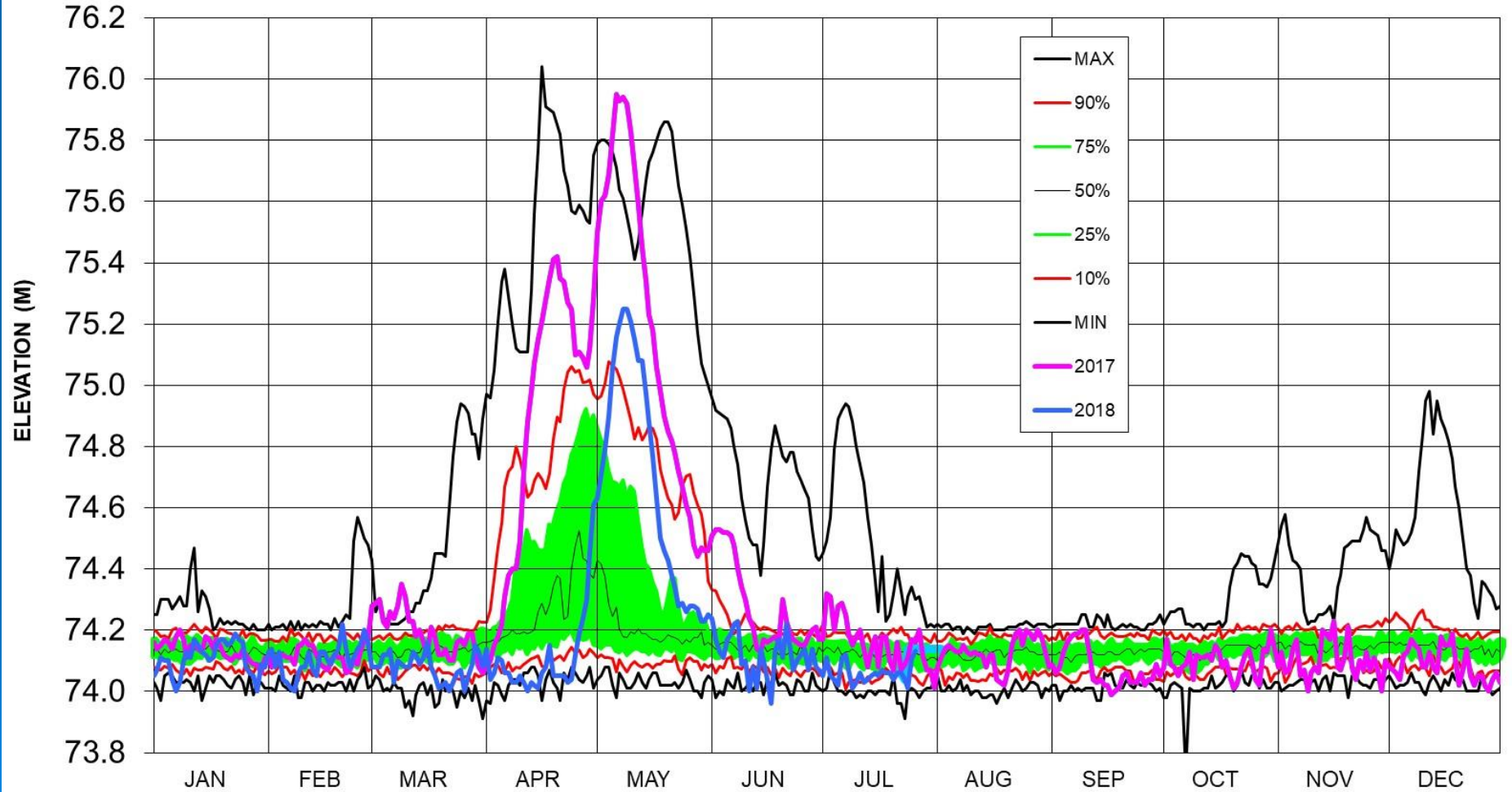


## OTTAWA RIVER COULONGE



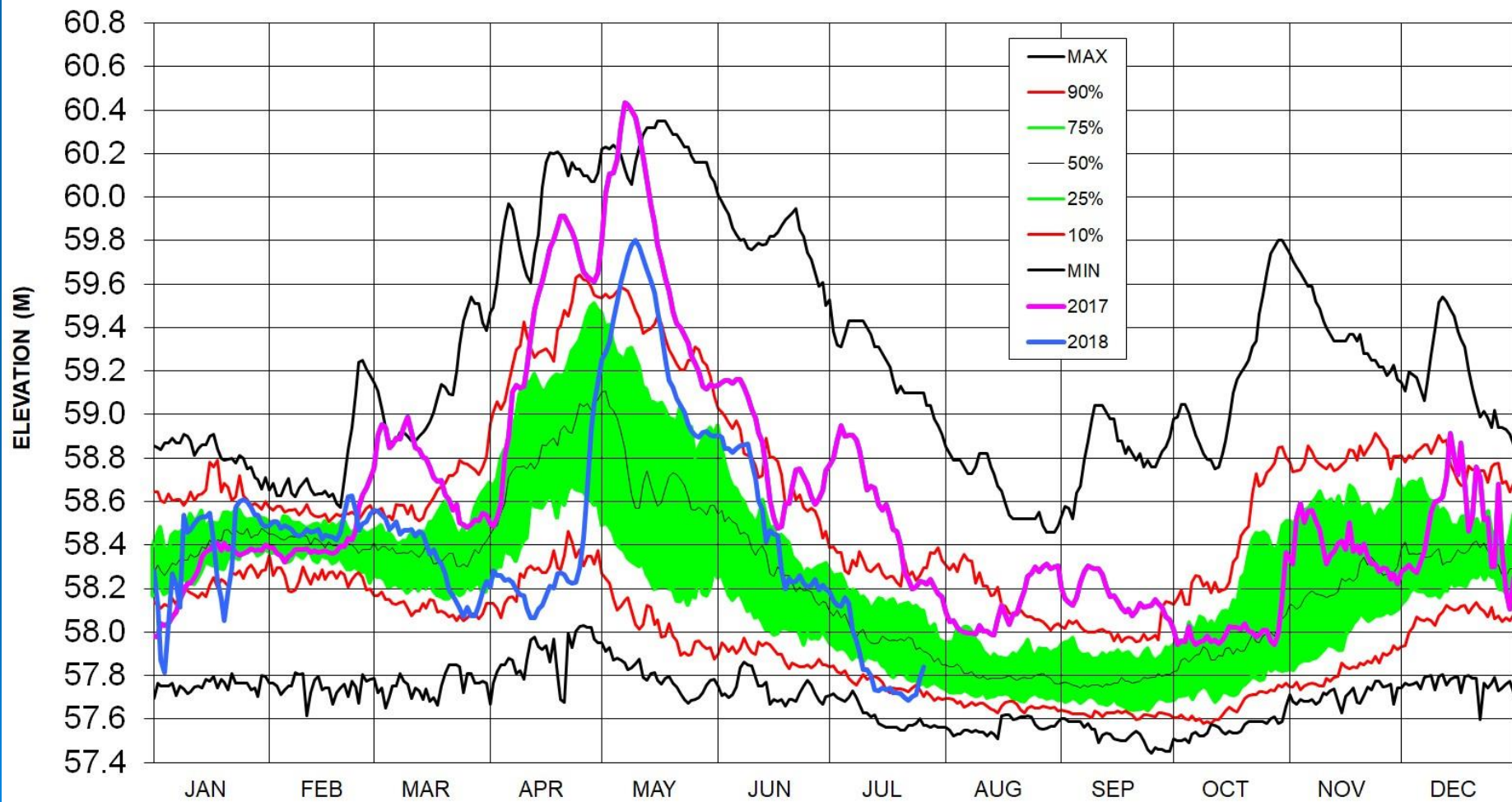


## CHATS LAKE





## BRITANNIA





# Information

Current and  
forecast  
conditions during  
freshet

[www.ottawariver.ca](http://www.ottawariver.ca)  
[www.rivieredesoutaouais.ca](http://www.rivieredesoutaouais.ca)

*Conditions actuelles  
et prévues en rivière  
pendant la crue*

Recorded message

**613-995-3443** Ottawa-Gatineau  
**1-800-778-1246** Outside

*Message téléphonique*

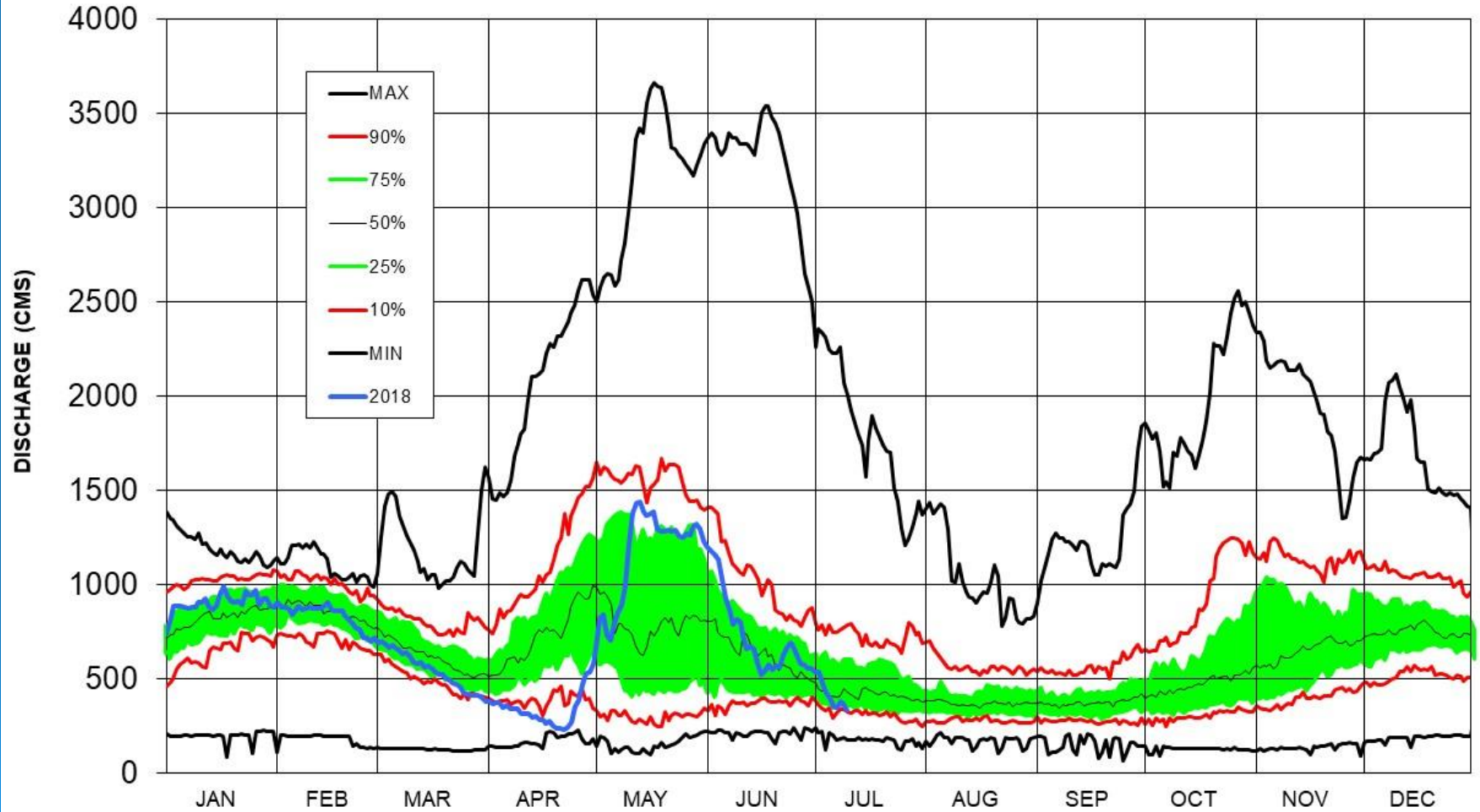
**613-995-3455** Ottawa-Gatineau  
**1-800-778-1243** À l'extérieur

Ottawa River  
Regulation Secretariat

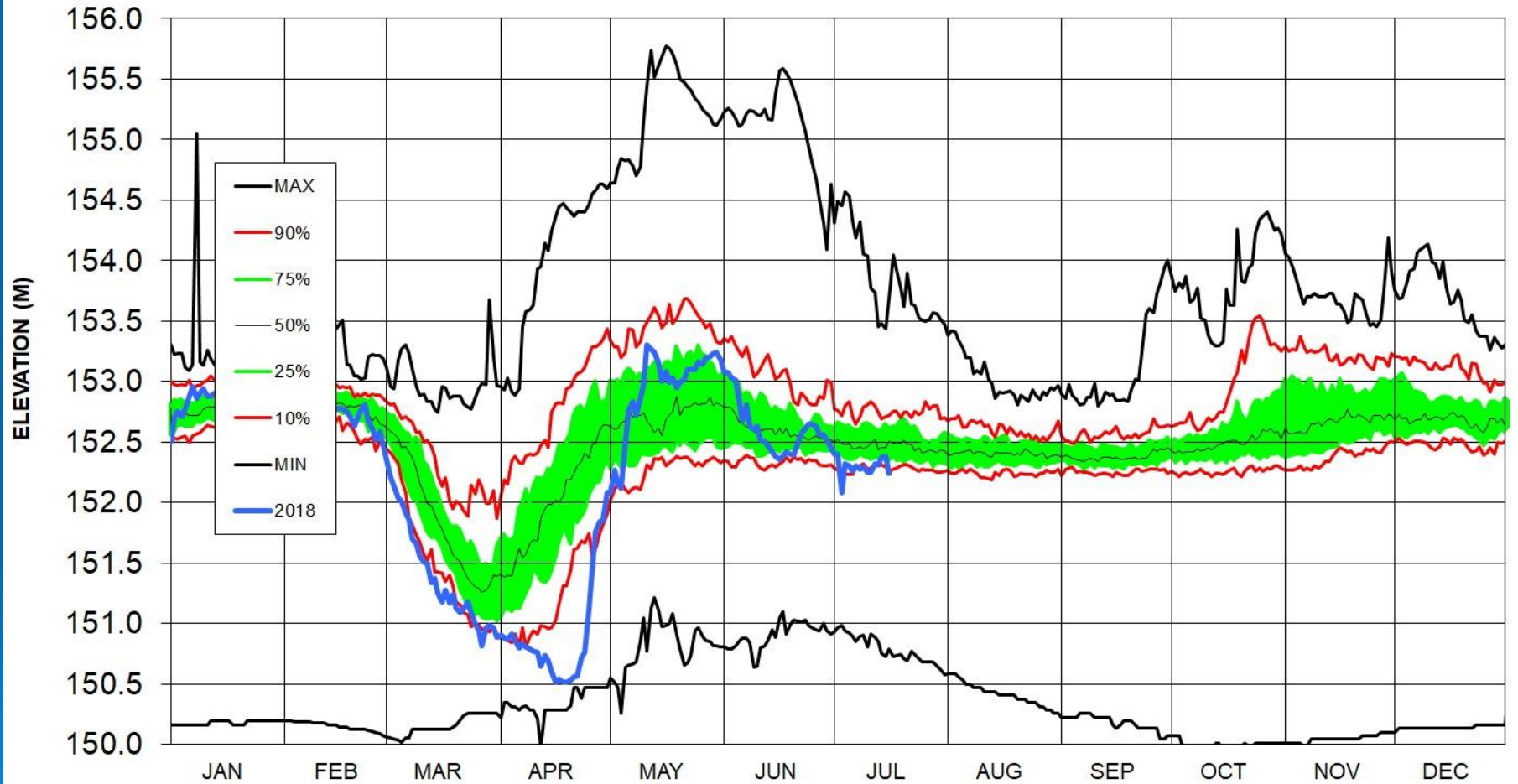
**Email : [secretariat@ottawariver.ca](mailto:secretariat@ottawariver.ca)**

*Secrétariat pour la régularisation  
de la rivière des Outaouais*  
**Email : [bureau@ottawariver.ca](mailto:bureau@ottawariver.ca)**

## LAKE TIMISKAMING



## MATTAWA



## DES JOACHIMS LEVEL

