



High Outflows Continue in 2018

South Stormont Township Hall
Long Sault, ON
September 11, 2018

Jamie Dickhout
Alternate Canadian Regulation Representative
International Lake Ontario – St. Lawrence River Board



- Overview of the Board
- How are flows managed?
- Lake St. Lawrence Current Conditions
- What can we expect in the future?



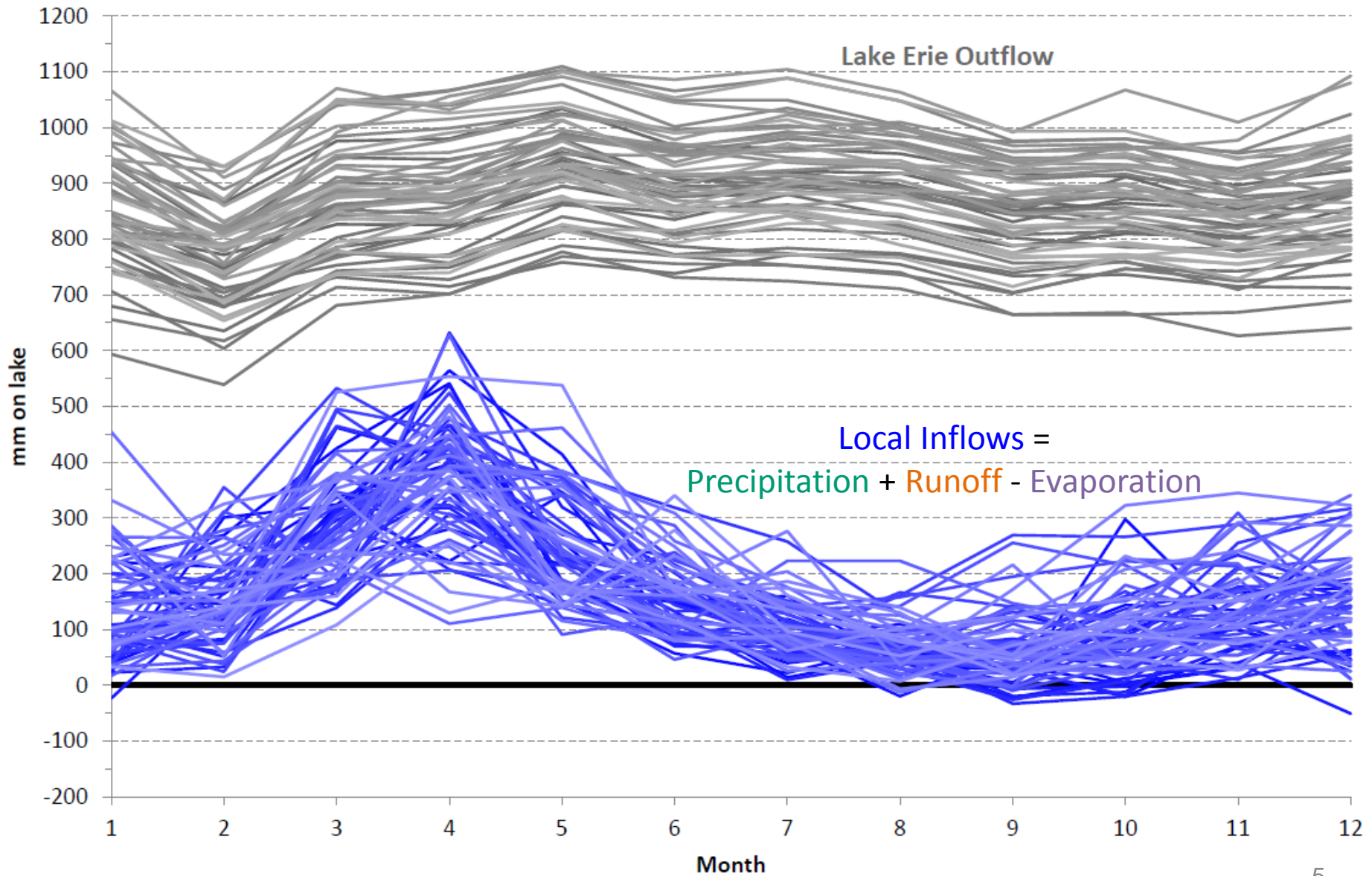
International Lake Ontario – St. Lawrence River Board

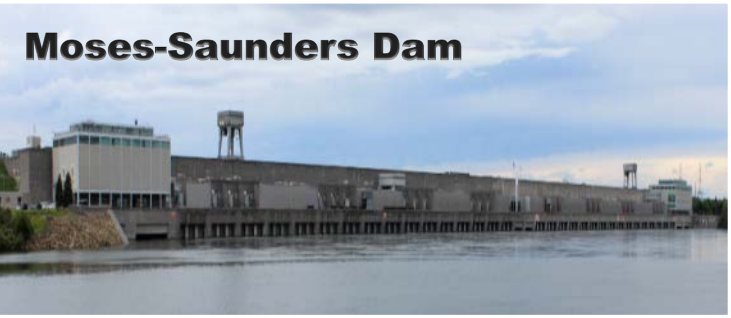
- Manages **Lake Ontario outflow** through **St. Lawrence River**
 - Follows criteria set by the IJC and **rules in Plan 2014**
 - Criteria and rules designed to **respond to hydrologic conditions**, provide benefits and protection to interests throughout the system
- Ten Members: Five each from Canada and the United States
- Supported by Canadian and US secretaries & technical staff, and subcommittees



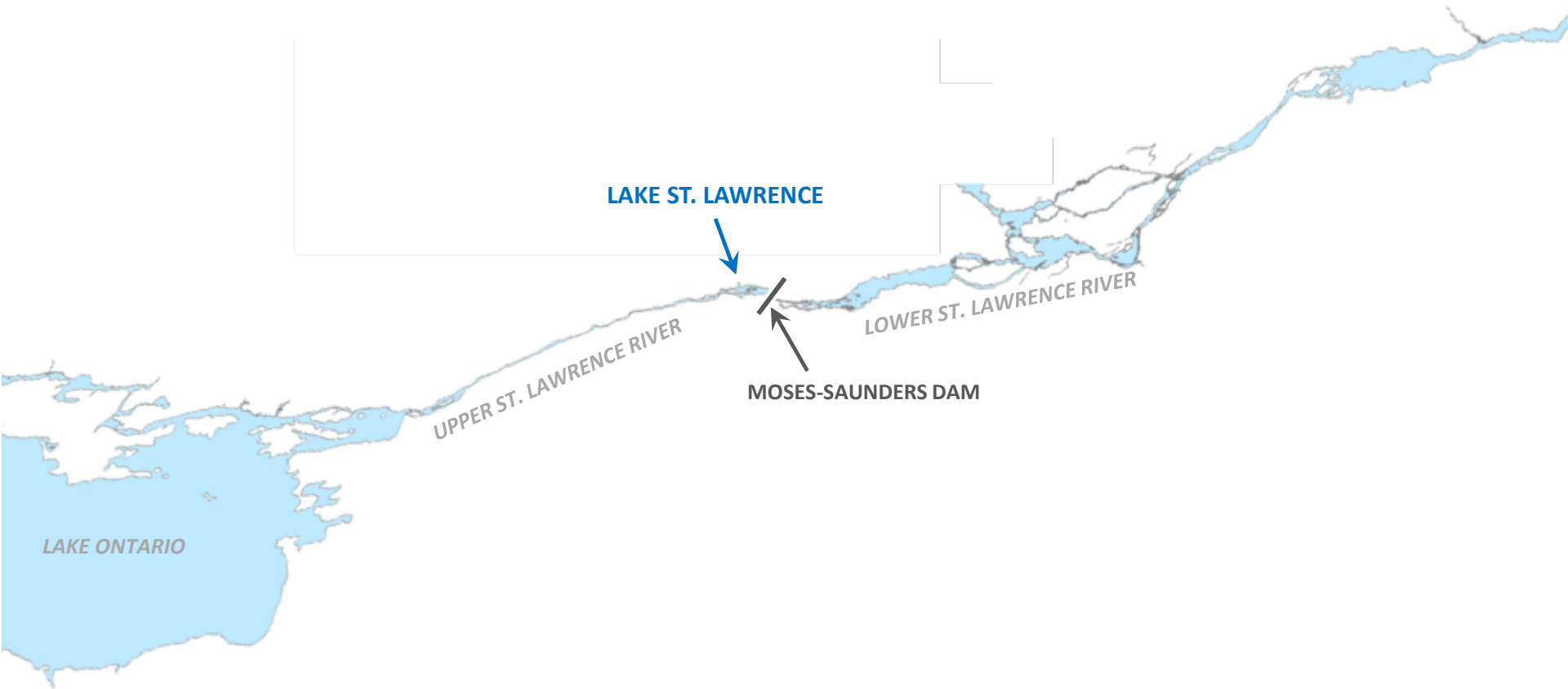


Components of Inflow to Lake Ontario



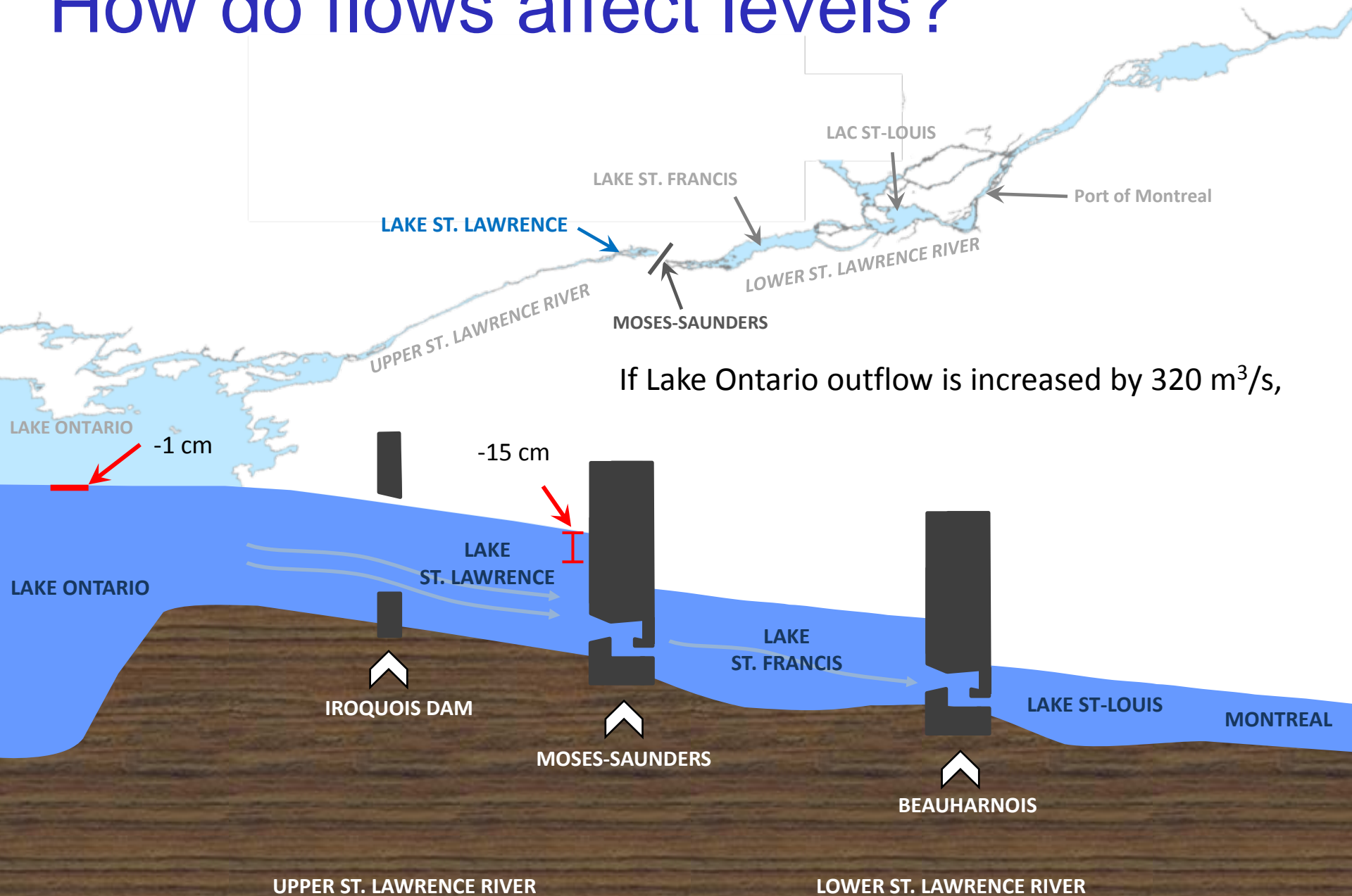


The Board does not control water levels.



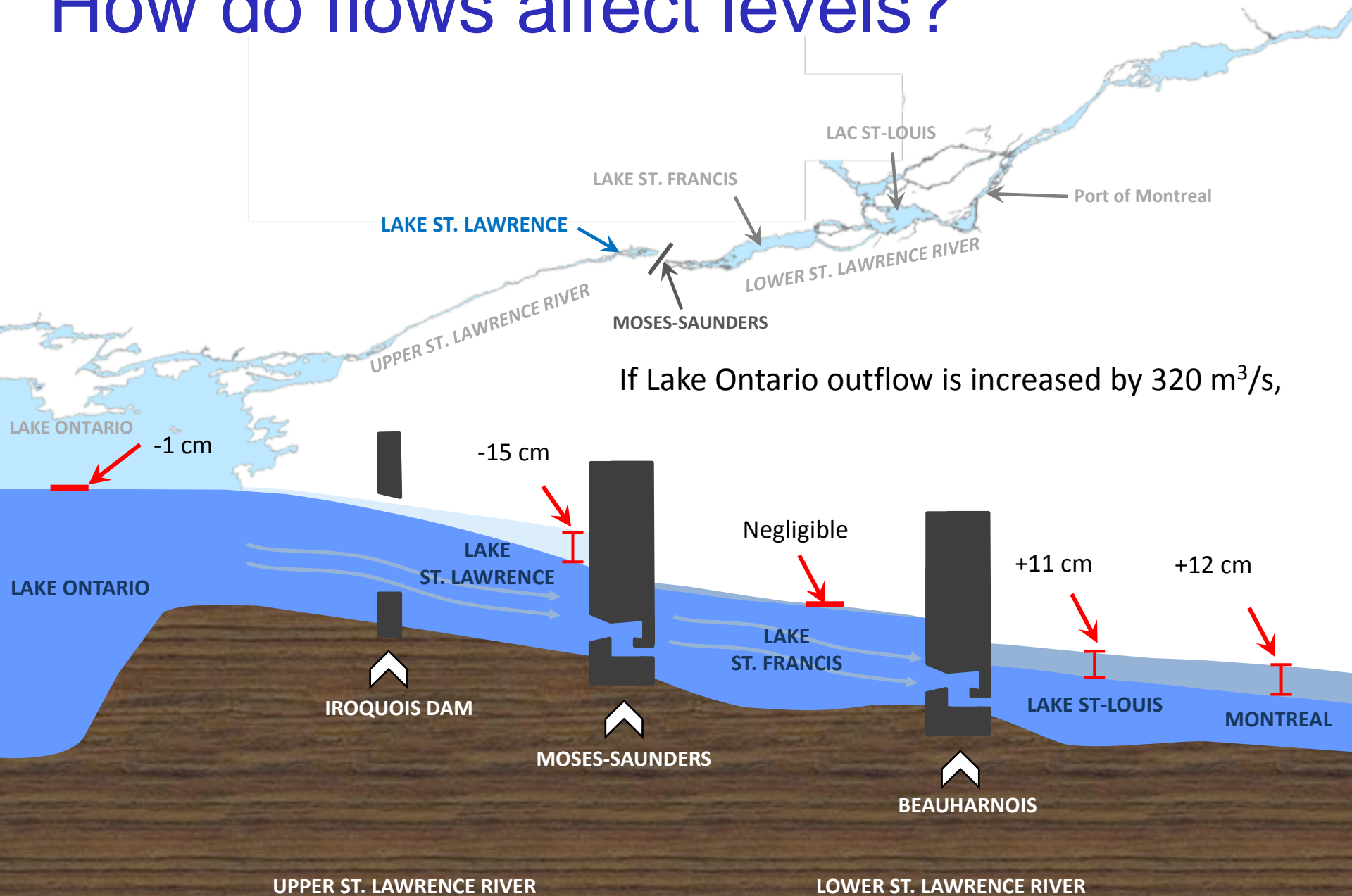
The Board can only influence them by managing outflows, which are regulated and adjusted according to conditions on Lake Ontario and throughout the St. Lawrence River.

How do flows affect levels?



If Lake Ontario outflow is increased by $320 \text{ m}^3/\text{s}$,

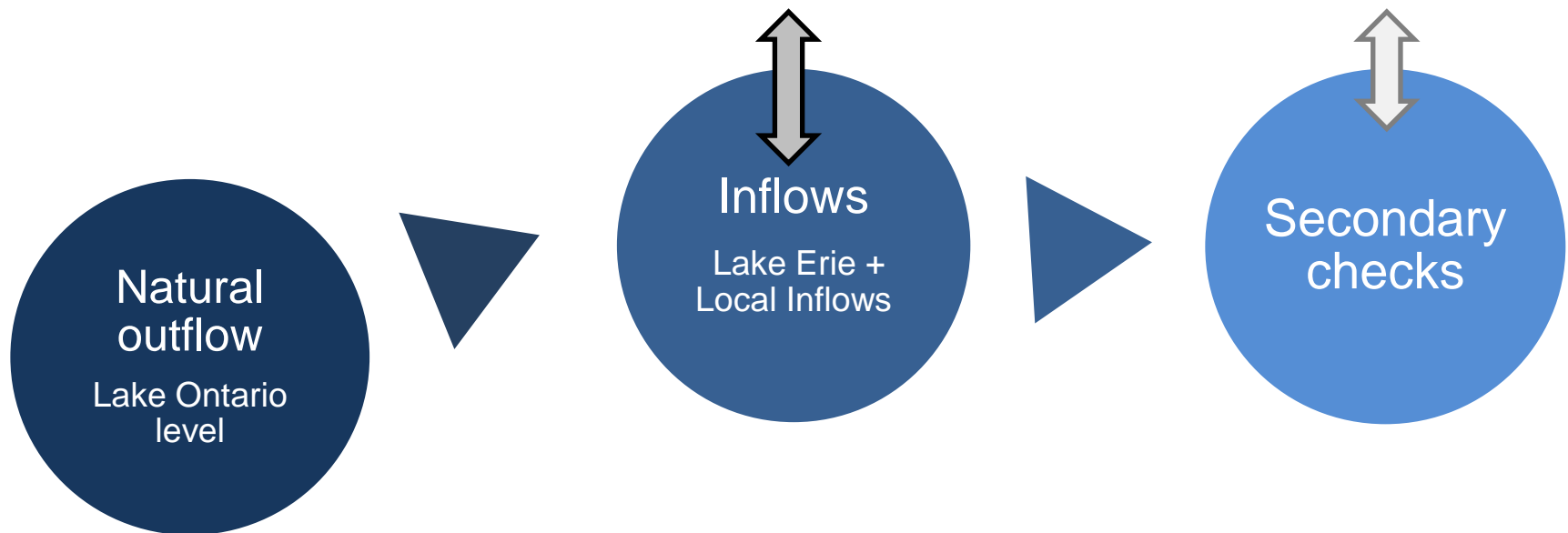
How do flows affect levels?



NOT TO SCALE

Regulation Plan 2014

- Set of rules designed to *respond to weather and water supply conditions*
- *Initial outflow calculation*



Regulation Plan 2014

- Set of rules designed to *respond to weather and water supply conditions*
- *Initial outflow calculation*
- Check flow against a series of maximum and minimum flow **“limits”**

Regulation Plan 2014: Limits

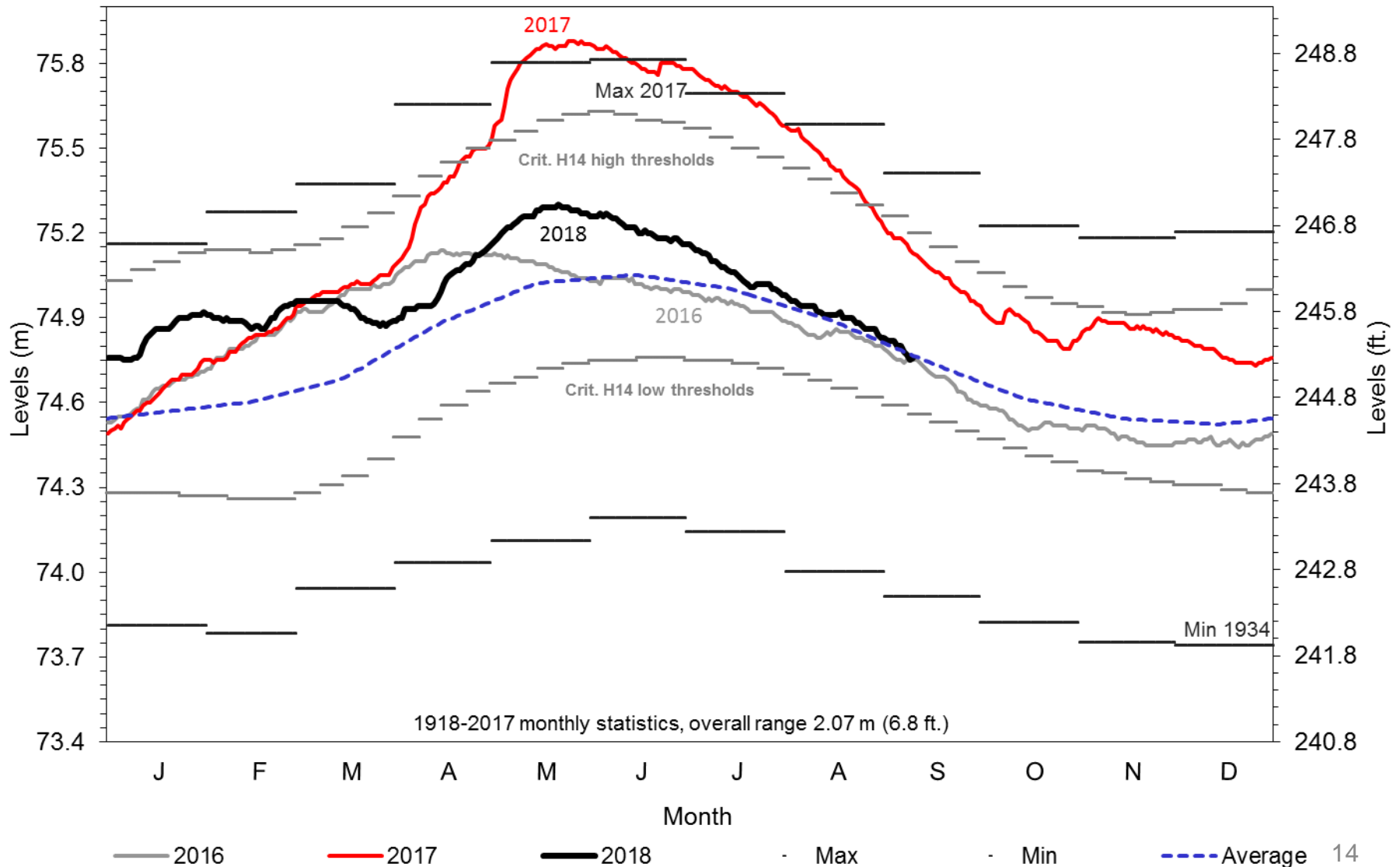
- ***“I” limit or “ice” limit:*** maximum flow during ice formation at critical locations on the St. Lawrence River
- ***“F” limit:*** maximum flow to limit flooding on Lake St. Louis in consideration of the Lake Ontario level. Attempts to **balance upstream and downstream flooding** damages.
- ***“L” limit:*** maximum flow that can be released while maintaining safe conditions for **navigation** in the St. Lawrence River
- ***“M” limit:*** minimum flow required to **balance low levels** of Lake Ontario and Lake St. Louis
- ***“J” limit:*** maximum change in flow from one week to the next to ensure more consistent and predictable flows for hydropower and ships

Regulation Plan 2014

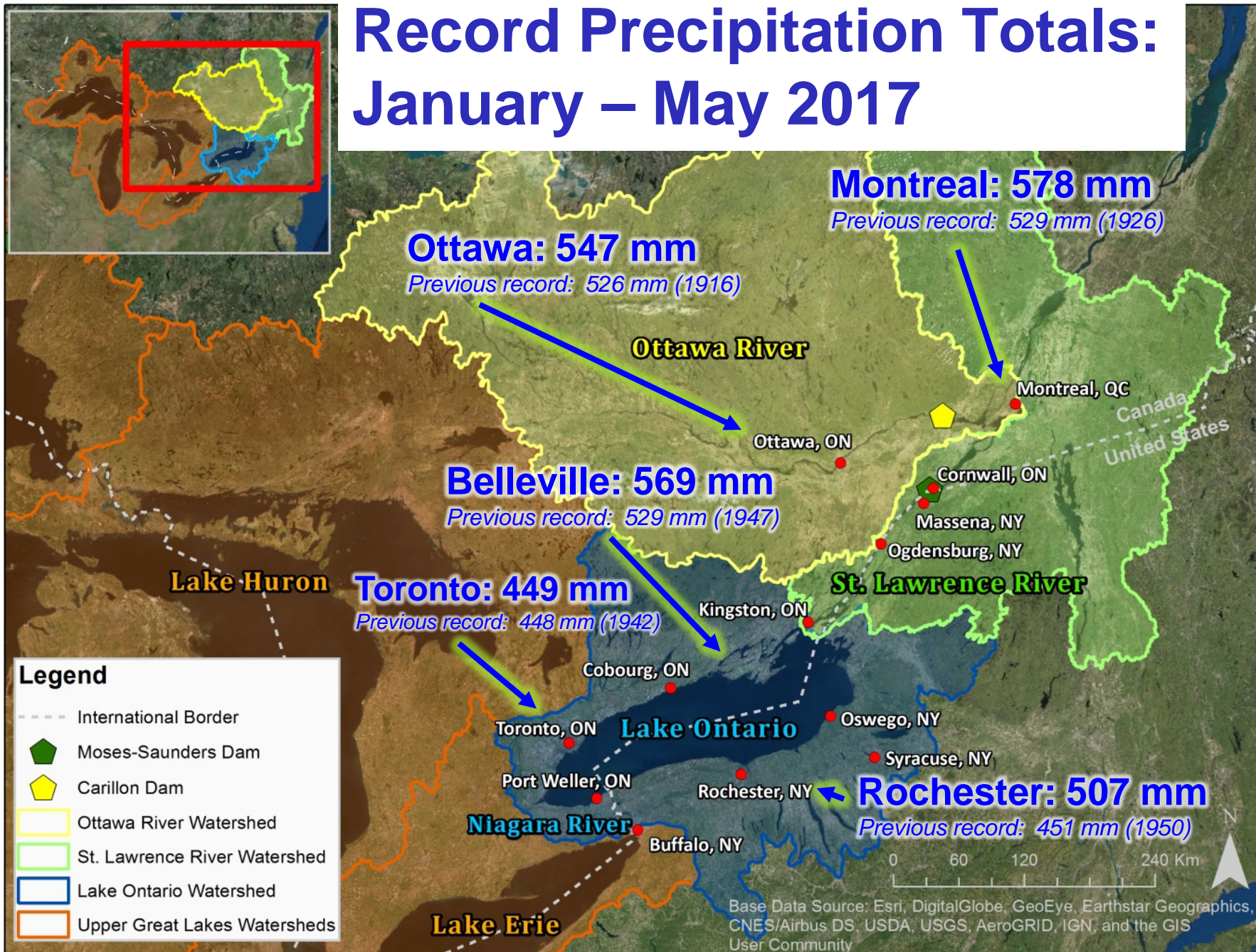
- Set of rules designed to *respond to weather and water supply conditions*
- *Initial outflow calculation*
- Check flow against a series of maximum and minimum flow “*limits*”
- ***Operational adjustments*** to address changes in conditions within the week
- ***Minor deviations*** to address short-term needs on the St. Lawrence River
- ***Major deviations*** under extreme water level conditions

Regulation Plan 2014: Major Deviations

Daily Lake Ontario Levels



Record Precipitation Totals: January – May 2017



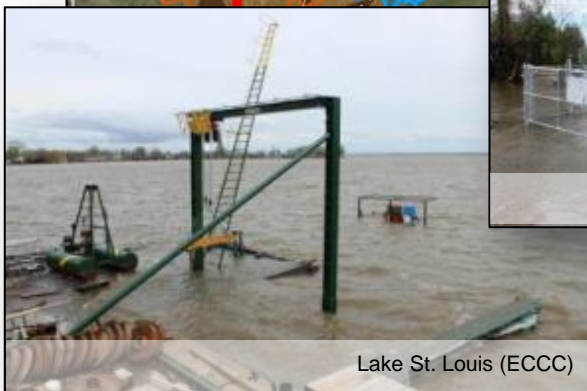
St. Lawrence River at Lake St. Peter (NASP)



High Water: Ottawa & Lower St. Lawrence Rivers



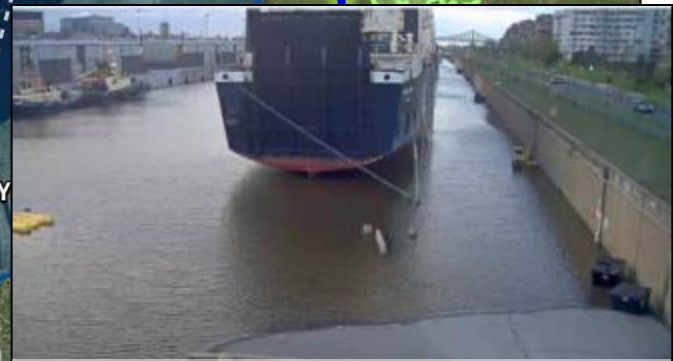
Lake St. Louis (ECCC)



Lake St. Louis (ECCC)



Ottawa River (NASP)



(Port of Montreal)

High Water: Lake Ontario & Upper St. Lawrence River



Brighton, ON (ECCC)



Brockville, ON (IJC)



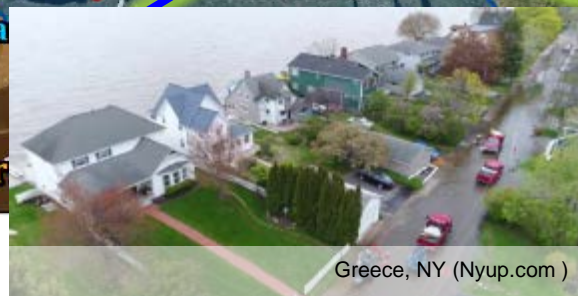
Rockport, ON (IJC)



Brighton, ON (ECCC)



Bowmanville, ON (Ryan Pfeiffer/Metroland)



Greece, NY (Nyup.com)

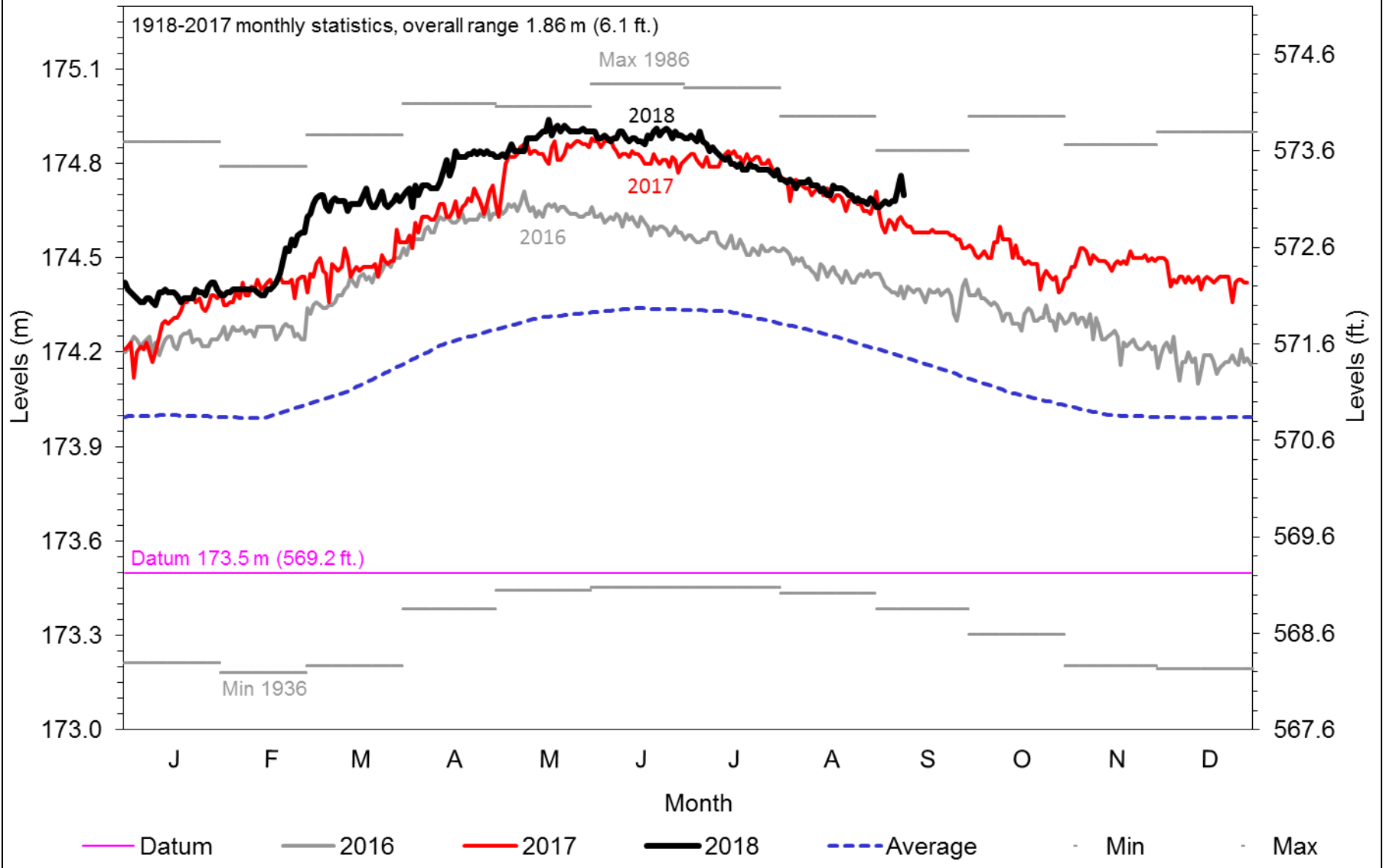


Sodus Point, NY (cnycentral.com)



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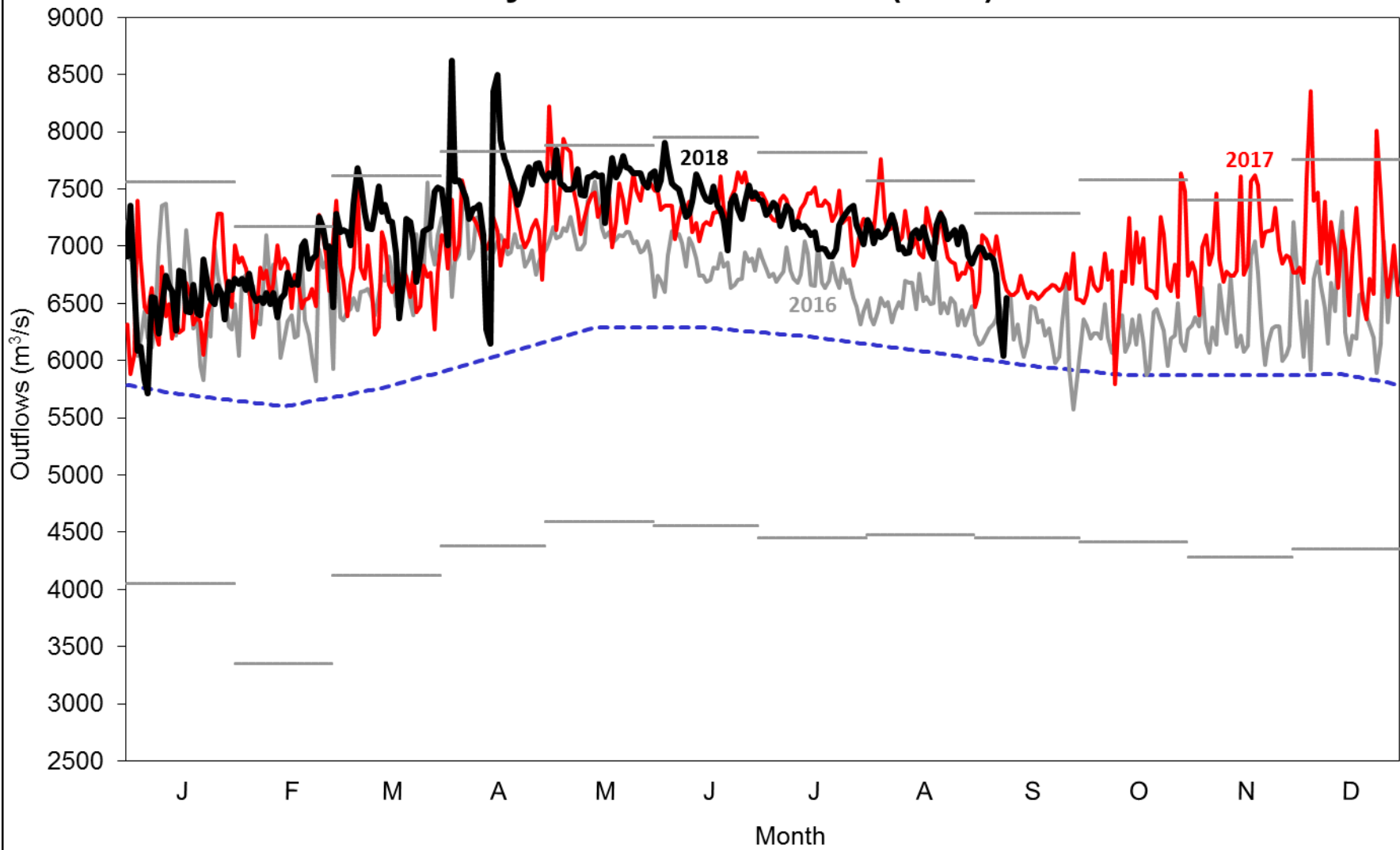
Daily Lake Erie Levels





Storms caused flooding along western Lake Erie's northern shore in April 2018.
Credit: Essex Region Conservation Authority, Ontario

Daily Lake Erie Outflows (m³/s)



· Min · Max - - - Average (1900-2017) — 2016 — 2017 — 2018



Long Sault, ON (B. St. Denis)



Long Sault, ON (R. Hart)

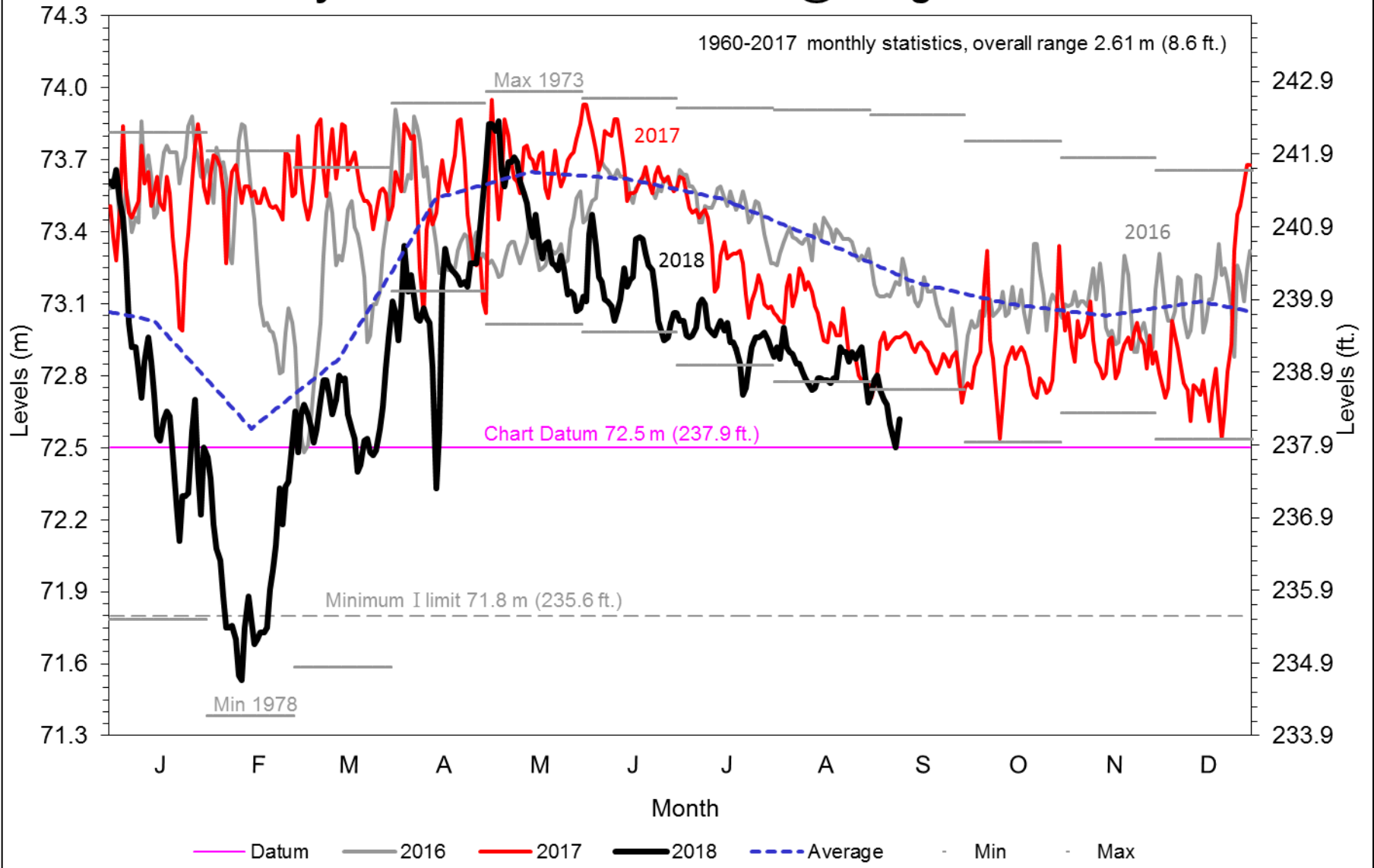


Louisville, NY (T. Carroll)

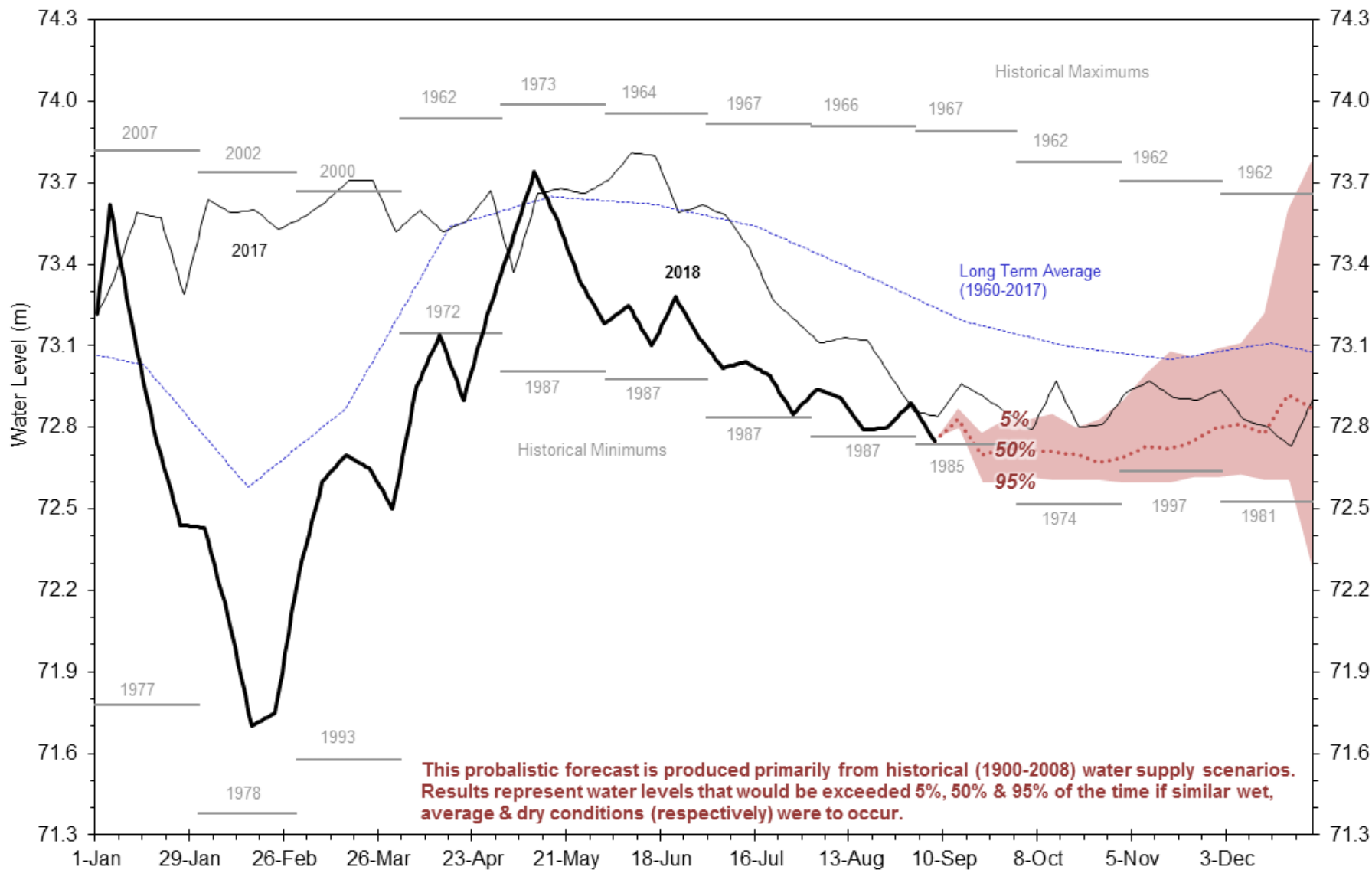


Massena, NY (J. Garcia)

Daily Lake St. Lawrence Levels @ Long Sault Dam



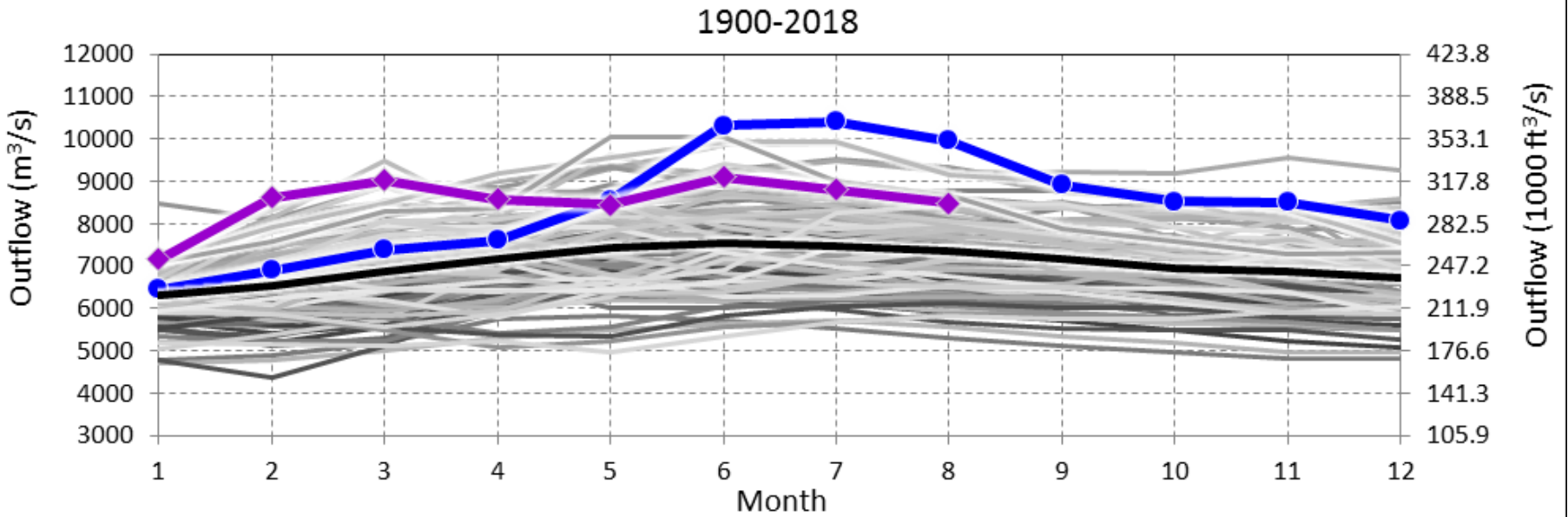
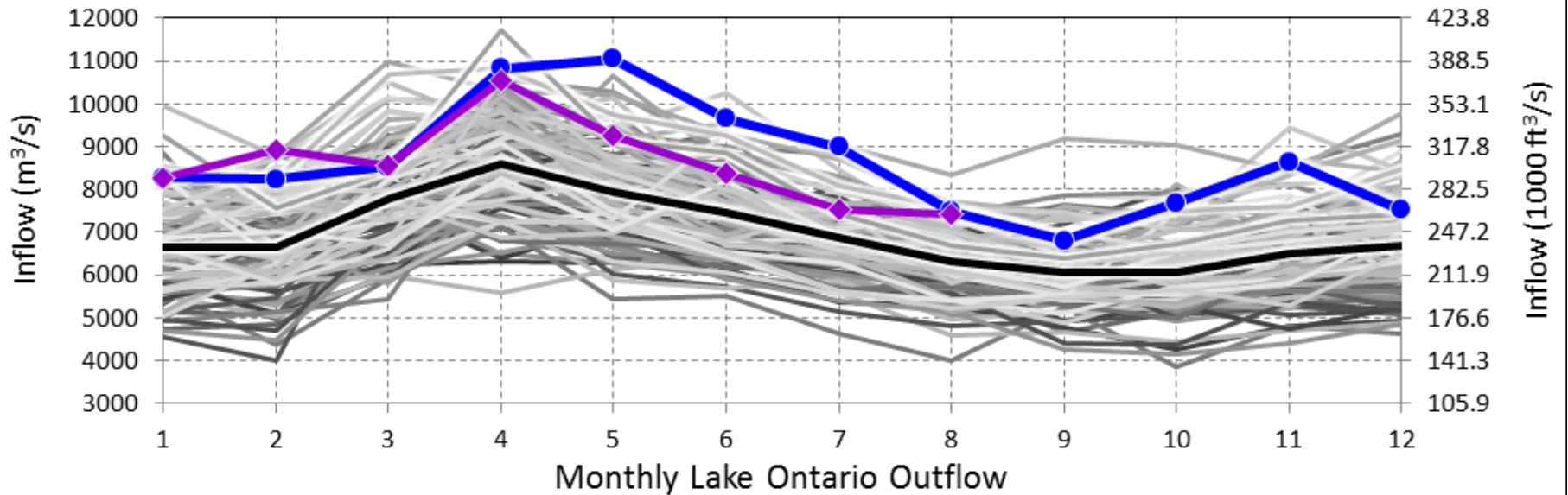
Lake St. Lawrence Water Level Forecast





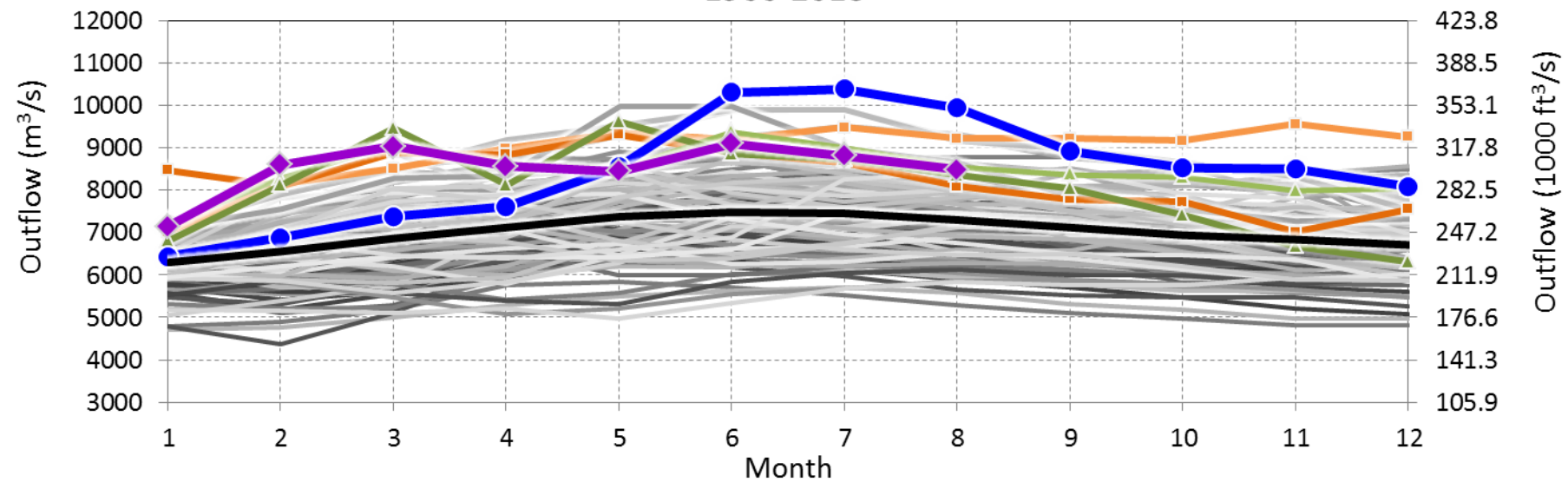
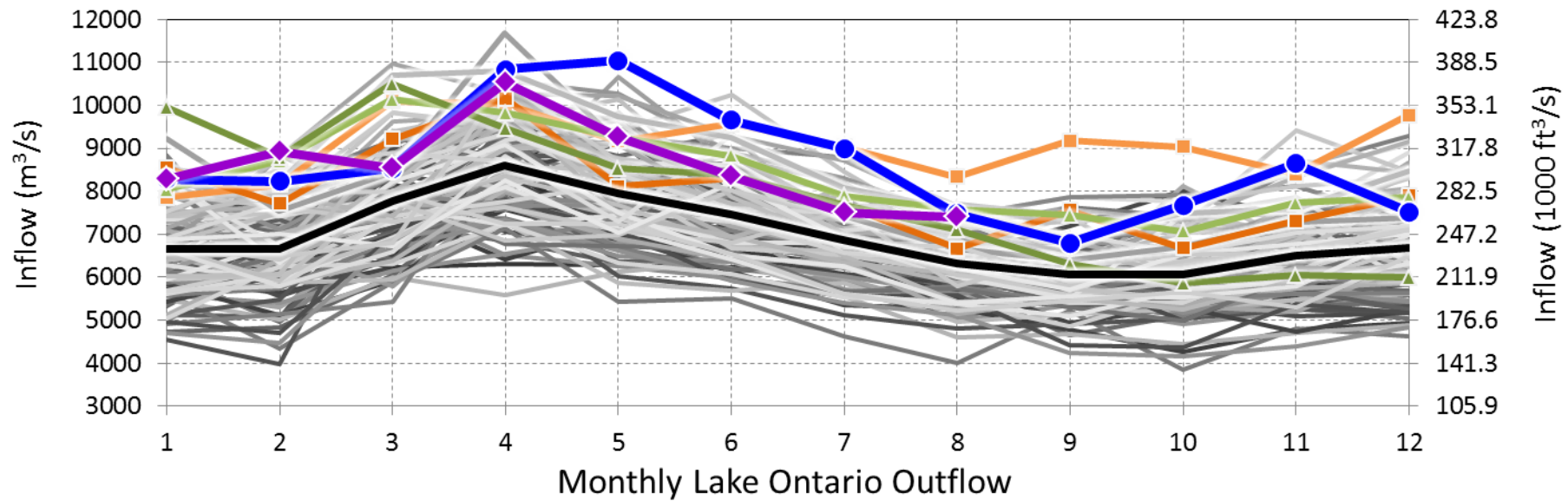
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Monthly Total Inflow to Lake Ontario 1900-2018

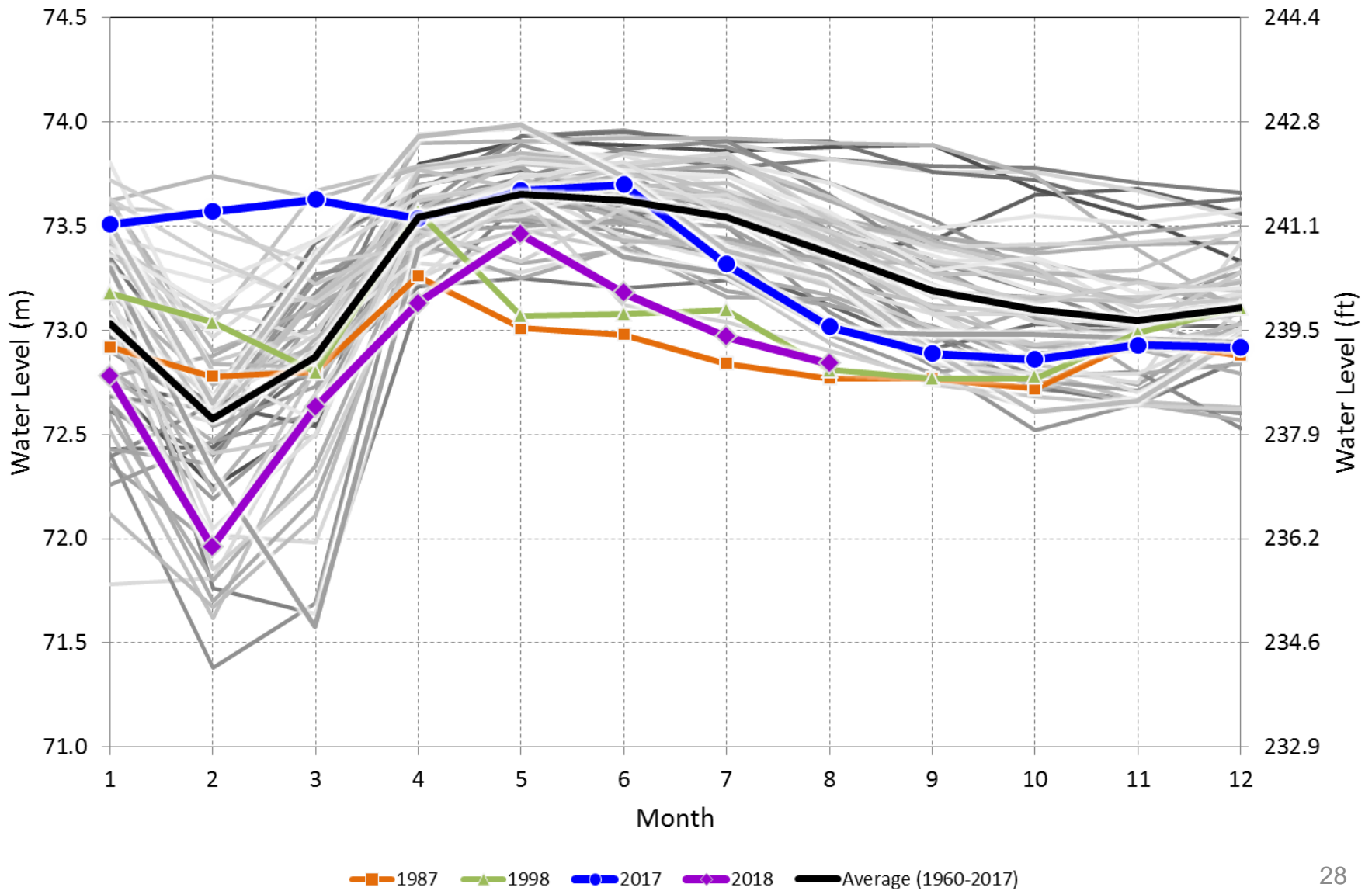


- 1986
- ▲— 1997
- 2017
- Average (1900-2017)
- 1987
- ▲— 1998
- ◆— 2018

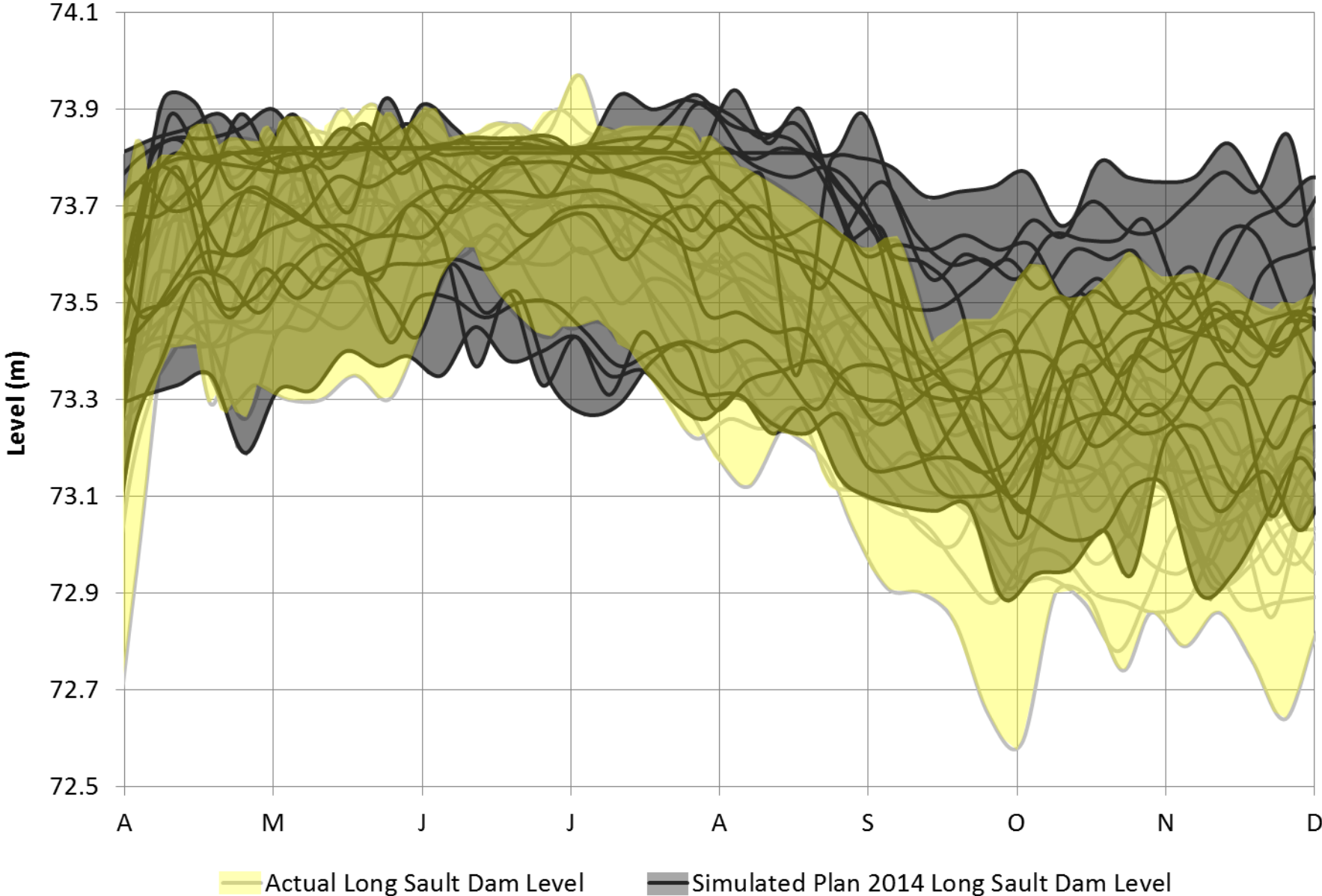
Monthly Total Inflow to Lake Ontario 1900-2018



Historical Monthly Mean Lake St. Lawrence Water Level (at Long Sault) 1960-2018



Actual vs. Plan 2014 Long Sault Dam Weekly Mean Levels (2001 - 2016)



Expectations for the Future

- Continued ***communication and engagement***
 - Make information available
 - Share feedback
- Be prepared for ***uncertain future conditions***
 - Resilience
- Great Lakes – St. Lawrence River
Adaptive Management Committee
 - Can water level management be improved?

To contact us and for more information, visit our website and Facebook page

www.ijc.org/en/_islrb (new website coming soon)

www.facebook.com/InternationalLakeOntarioStLawrenceRiverBoard



International Lake Ontario - St. Lawrence River Board

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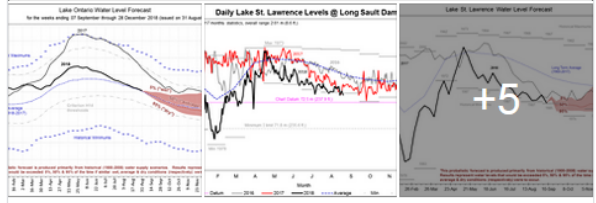
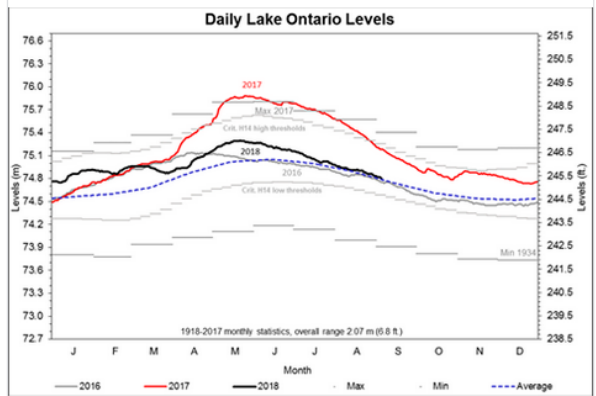
International Lake Ontario - St. Lawrence River Board 2 hrs

Lake Ontario's outflow is expected to average the Plan 2014 prescribed value for the coming week, 8,200 m³/s (289,600 cfs).

Lake Ontario's level declined 6 cm (2.4 in) last week. Yesterday's level was 74.80 m (245.41 ft), which is 2 cm (0.8 in) above average.

Lake St. Lawrence's level remained below average and is expected to remain below average for the next several weeks. Yesterday's level was 72.70 m (238.52 ft), which is 54 cm (21.3 in) below average....

See More



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Current Conditions

