

## Water Resources Science of the U.S. Geological Survey

in New York

**General Information Product 185** 

New York State Federation of Lake Associations – May 2019



- Minimize loss of life and property as a result of water-related natural hazards, such as floods, droughts, and land movement.
- Effectively manage groundwater and surface-water resources for domestic, agricultural, commercial, industrial, recreational, and ecological uses.
- Protect and enhance water resources for human health, aquatic health, and environmental quality.
- Contribute to the wise physical and economic development of resources for the benefit of present and future generations.



- Department of the Interior
- U.S. Geological Survey (USGS)
- Water Mission Area (others... Core Science Systems, Ecosystems, Energy and Minerals, Environmental Health, Land Resources, Natural Hazards)
- Northeast Region (Virginia–Maine & Kentucky)
- New York Water Science Center (NYWSC)
  - 4 Offices-Coram, Ithaca, Potsdam, & Troy
  - ~150 Scientists, Hydrologic Technicians, and Support Staff





- The NYWSC has <u>four offices</u> in New York (Troy, Coram, Ithaca, and Potsdam).
  - ~125 Scientists, Technicians, Students, and Support Staff.
- Backed by a the World's Foremost Experts in Earth System Science (8000+ Strong).
- Mostly non-federal funding (Matching Funds) –adapt our science to meet cooperator needs
- Some cooperators include: NYSDOS, NYSDEC, NYCDEP, Canal Corp, ACOE, TNC, etc. (~100 Customers at any one time)
- Avoid competition w/Private Sector

## Capabilities

- 5
- Groundwater and Surface-Water Information
- 2. Water Availability and Use
- 3. Geospatial Applications
- 4. Water Quality
- 5. Ecosystem Health
- 6. Coastal Science
- 7. Geophysics
- 8. Harmful Algal Blooms



Data Networks – Streamgages



Data Networks –Tide Gages

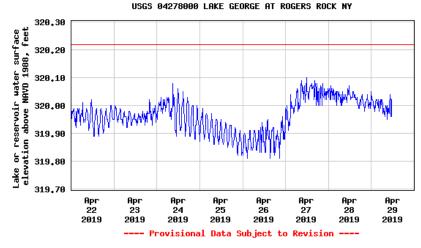
30

Predefined displays	Group table by	Select sites by number or name				
New York Lake and Reservoir Table	no grouping 🔻		go	show sites on a map		

Station Number 01304250





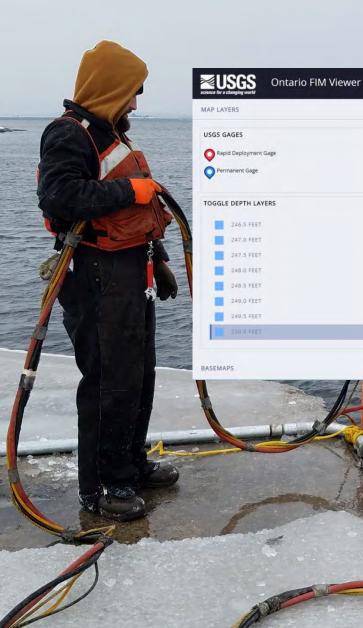


- Lake or reservoir water surface elevation above navd 1988 National Heather Service Flood Stage \_\_\_\_

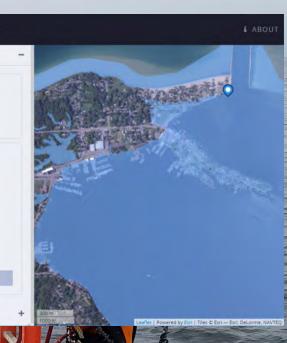
0423207760						
04233500						
04235396						
04240495						
04253300						
04253400						
04256500						
04278000	LAKE GEORGE AT ROGERS ROCK NY	04/29 11:30 EST	320.30	320.02	 	
04279085	LAKE CHAMPLAIN NORTH OF WHITEHALL NY	04/29 10:45 EST	101.01	100.74	 	
	[backup]	04/29 10:45 EST	101.04	100.77	 ÷-	
04294413	LAKE CHAMPLAIN AT PORT HENRY NY	04/29 10:45 EST	101.03	100.09	 	
04294500	LAKE CHAMPLAIN AT BURLINGTON, VT	04/29 12:00 EDT	100.93		 	
04295000	RICHELIEU R (LAKE CHAMPLAIN) AT ROUSES POINT NY	04/29 11:00 EST	100.74	100.31	 	

## Data Networks –Lake-Level Gages

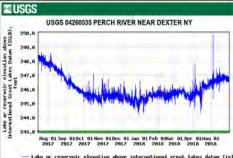
n=26



Lake Ontario –Flooding/Coastal Erosion

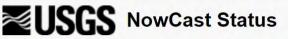


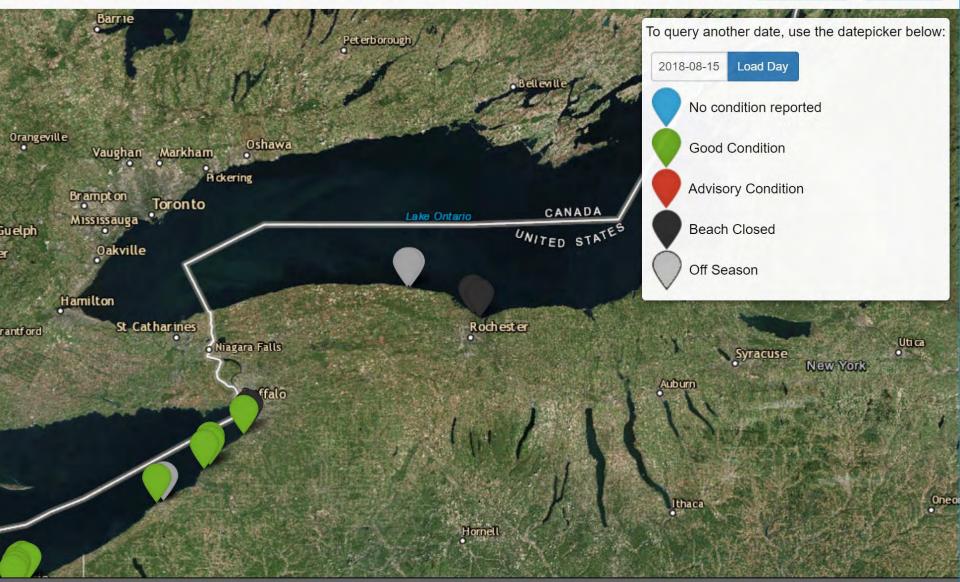




— Lake or reservoir elevation above international great Lakes datum (igld — Estimated Lake or reservoir elevation above international great Lakes da — Period of approved data







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USA.gov

U.S. Department of the Interior | U.S. Geological Survey URL: https://ny.water.usgs.gov/maps/nowcast/ Page Contact Information: Website Manager Page Last Modified: Tuesday, June 19, 2018

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## Three multi-parameter sondes: shallow, mid, bottom

Temperature, specific conductance, dissolved oxygen (concentration and saturation), pH, turbidity, chlorophyll and phycocyanin fluorescence, dissolved organic matter fluorescence.

O-HAR

Temperature and light sensors every 1-m to bottom Optical nitrate & orthophosphate sensors near surface Multi-channel fluorometer Acoustic Doppler Current Profiler

2018

Meteorological stations and cameras





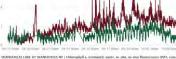
SKANEATELES LAKE BOUY Get Lass

0

DM, water, in situ, single band tation, fluorescence emission, ppp prophyli a, estimated, water, in-situ, DJ No fluorescence (IVE), relative

rophyll a estimated, water, in-olta wo fluorescence (IVF), concentratio mated from reference material, ograms per iter cocyanins (cyanobacterial, water, i fluorometric method, excitation a 15 nm, emission a 685 z 20 nm, ogramn per iter occuanis (cyanobacterial, water, i

550 ±15 nm, emission at 685 ±20 nm, relative fluorescence units (RFU) Colored dissolved organic matter (CDOM), water, in sito, fluorometric mathed relative fluorescence units (P



09-18-2018 Tue 08:00:02 USGS 04236000 Skaneateles

**Finger Lakes** 

4)

5)

6)



Site Information





Departure from Median Annual Glens Falls Precipitation (1957-2017), in inches

ZUSGS









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