



NOAA GREAT LAKES OCEAN SERVICES UPDATE CO-OPS

Richard Edwing, Director
Center for Operational Oceanographic Products and Services

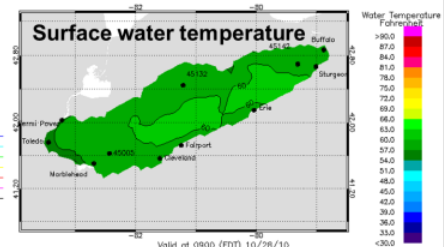
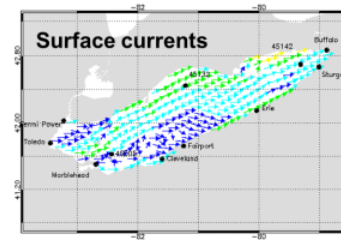
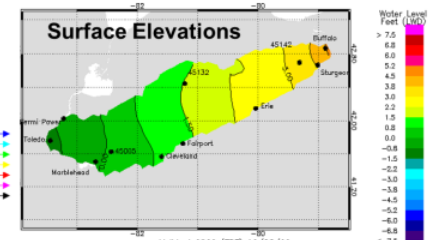
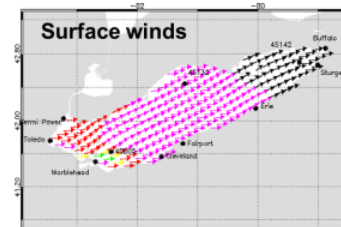
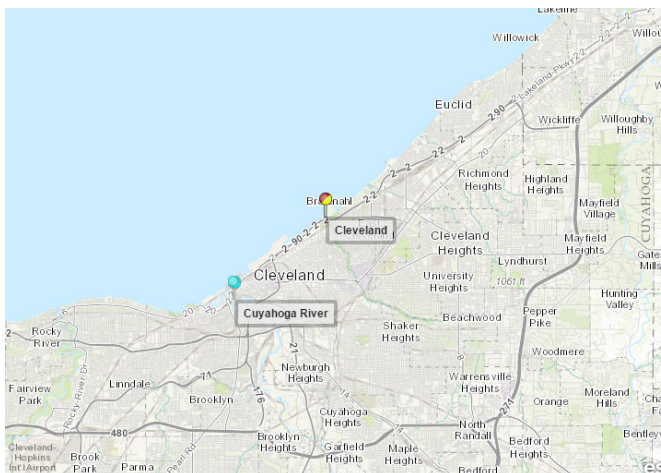
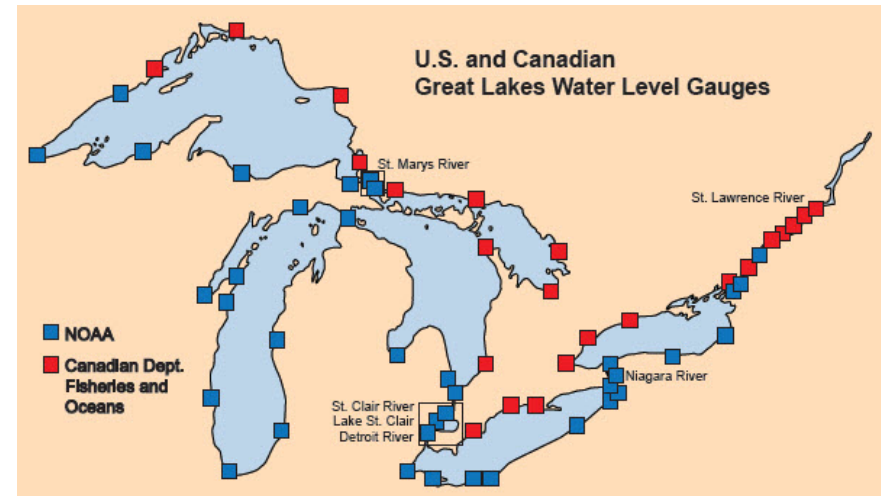
Lake Carriers' Association
February 2018





Overview of Services in the Great Lakes

- NWLON/Water Levels
- Currents
- PORTS[®]
- Website Update
- Nowcast/Forecast Models

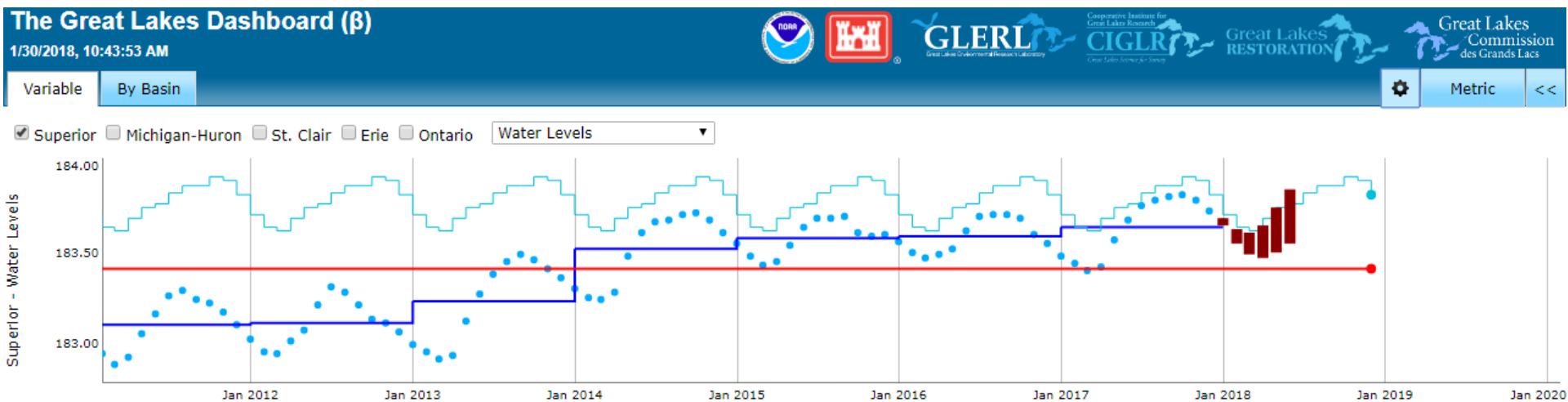


U.S. Great Lakes Water Level Station Network



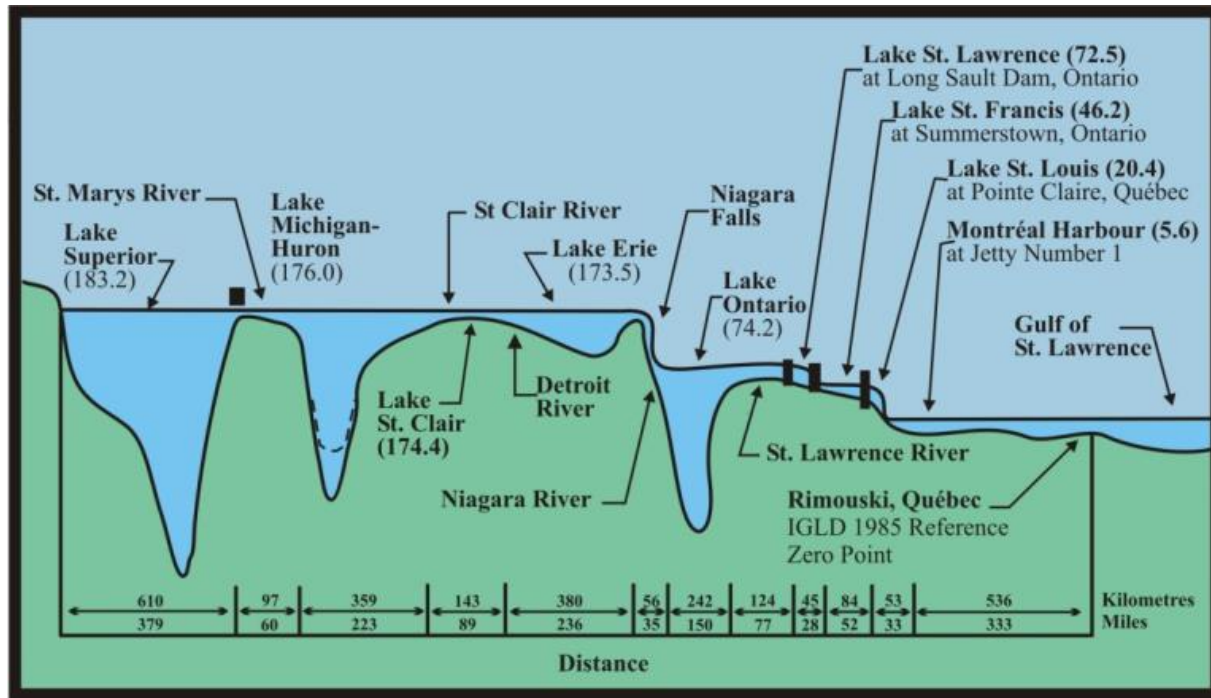


Lake Superior High Waters





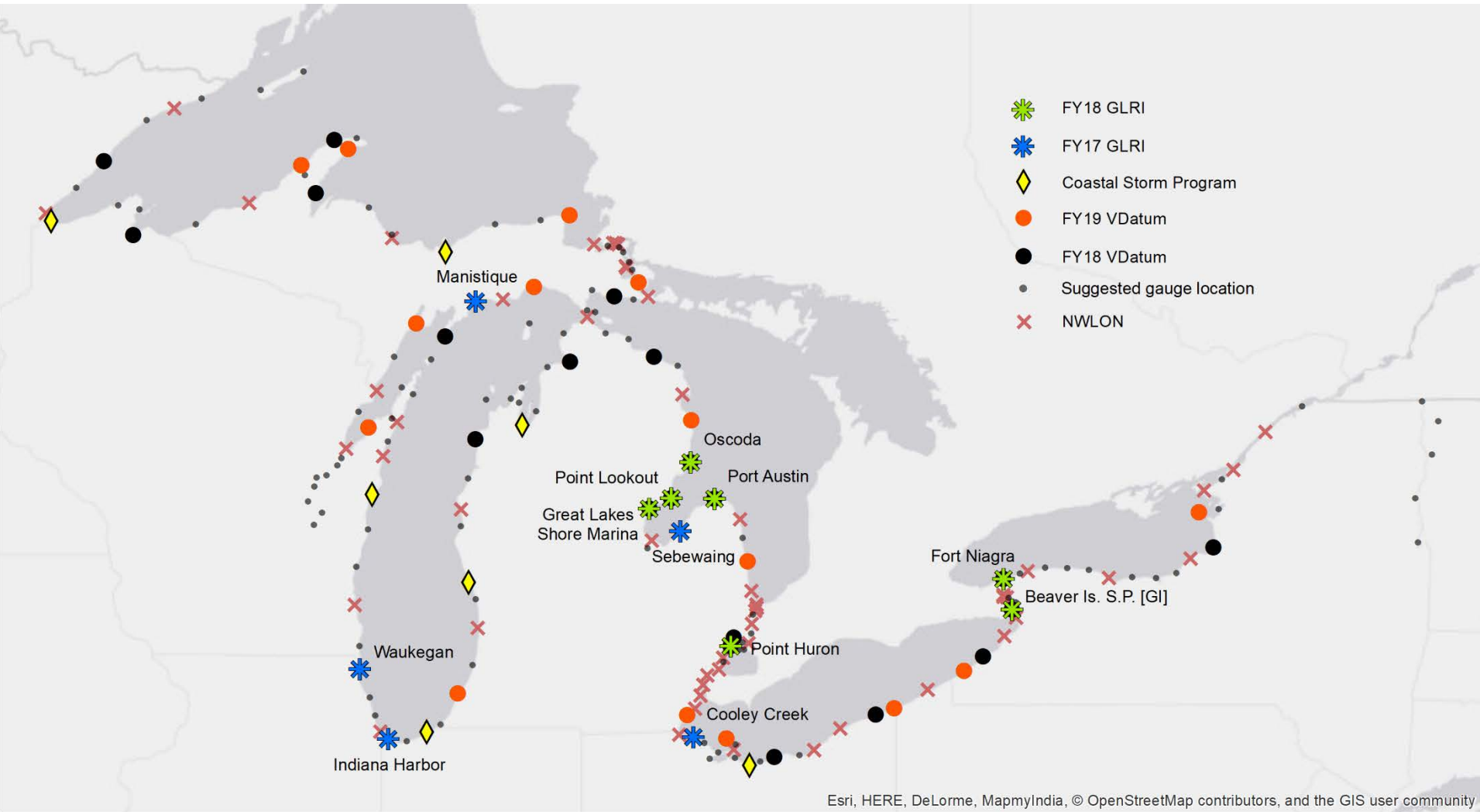
International Great Lakes Datum Update



- IGLD 55 replaced USLS 1935 and CGVD 28
- IGLD 85 updated IGLD 55 due to isostatic rebound
- **IGLD to be updated again in 2020 – with release in 2025**
 - Coordinating Committee Outreach website:
<http://www.greatlakescc.org>

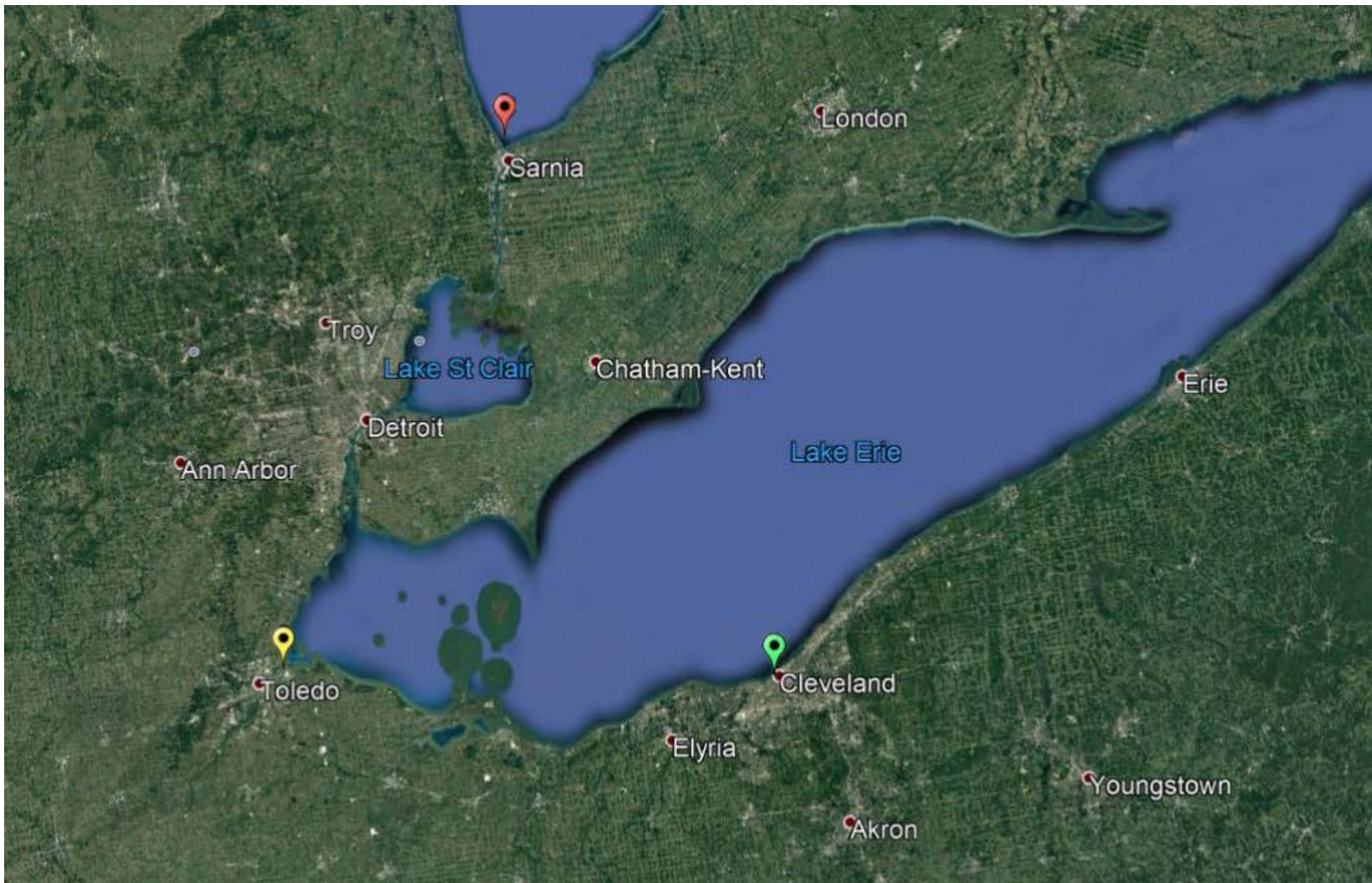


IGLD Seasonal Gauging



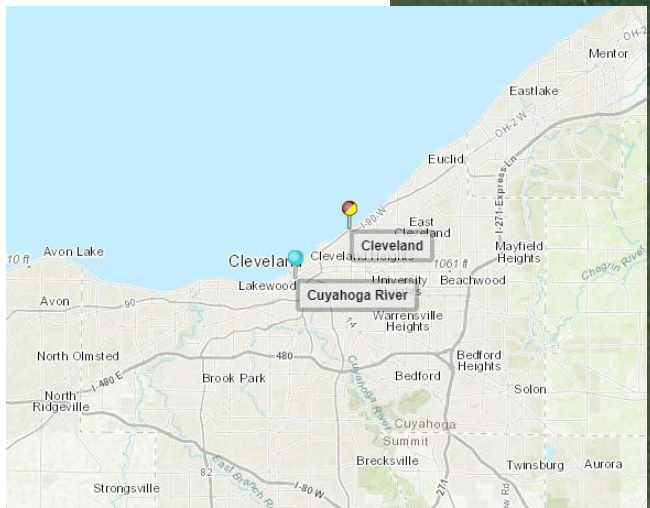
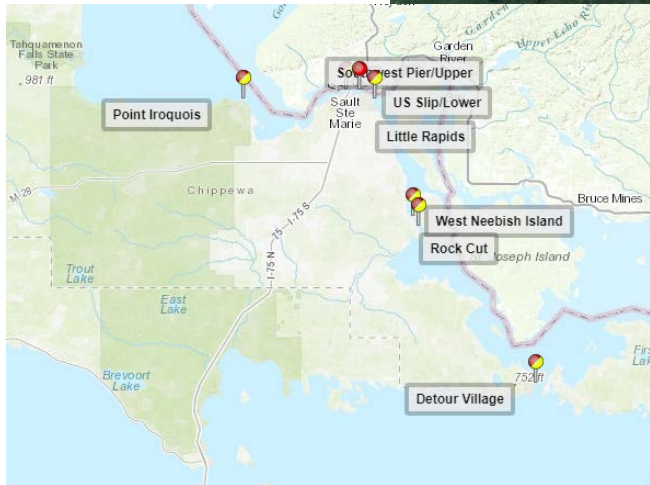


Great Lakes Current Meters





Great Lakes PORTS®





Website Changes

Streamlined web services

On Monday, October 16, 2017, NOAA will be discontinuing Tides Online. [Click here for more information on Tides Online Service Change Notice.](#)

No Low Water Condition

No High Water Condition

Select Stations By:

- [Low/High Water Condition](#)
- [State Maps](#)
- [Water Level Stations](#)
- [Current Stations](#)

Other Options:

- [Tides Online](#)
- [CO-OPS Website](#)
- [Historical Data Retrieval](#)
- [Great Lakes Operational Forecast Systems](#)
- [See Locks PORTS](#)
- [FAQ](#)

Data Disclaimer

Web site owner: [Center for Operational Oceanographic Products and Services](#)



NOAA National Ocean Service Center for Operational Oceanographic Products and Services

Great Lakes Online



[Privacy Policy](#) - [Contact Us](#)

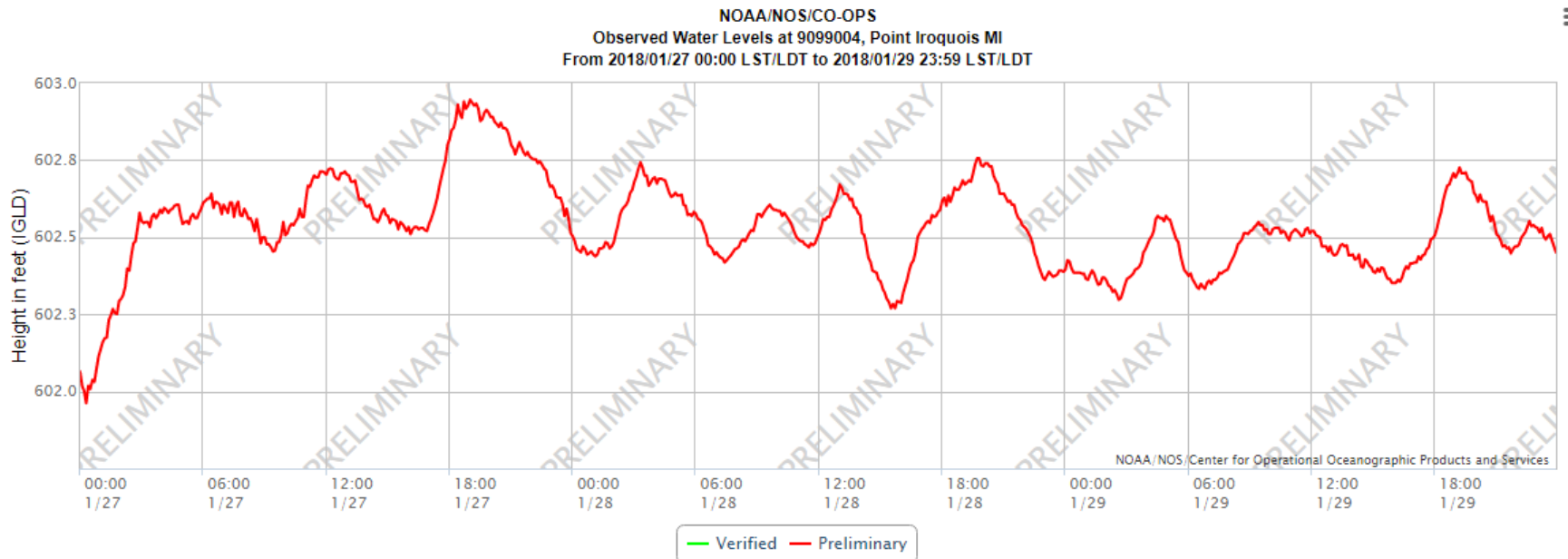


Web site owner: [Center for Operational Oceanographic Products and Services](#)

NOTICE: The phone number for voice access to all Great Lakes stations information is:
301-713-9596



Website Changes



Options for

9099004 Point Iroquois, MI

From:

Jan 27 2018

To:

Jan 29 2018

Units

Standard

Timezone

LST/LDT

Datum

IGLD

Shift dates

Back 1 Day

Forward 1 Day

Interval

6 min

1 hr

H/L

Day

Month

Update

Plot

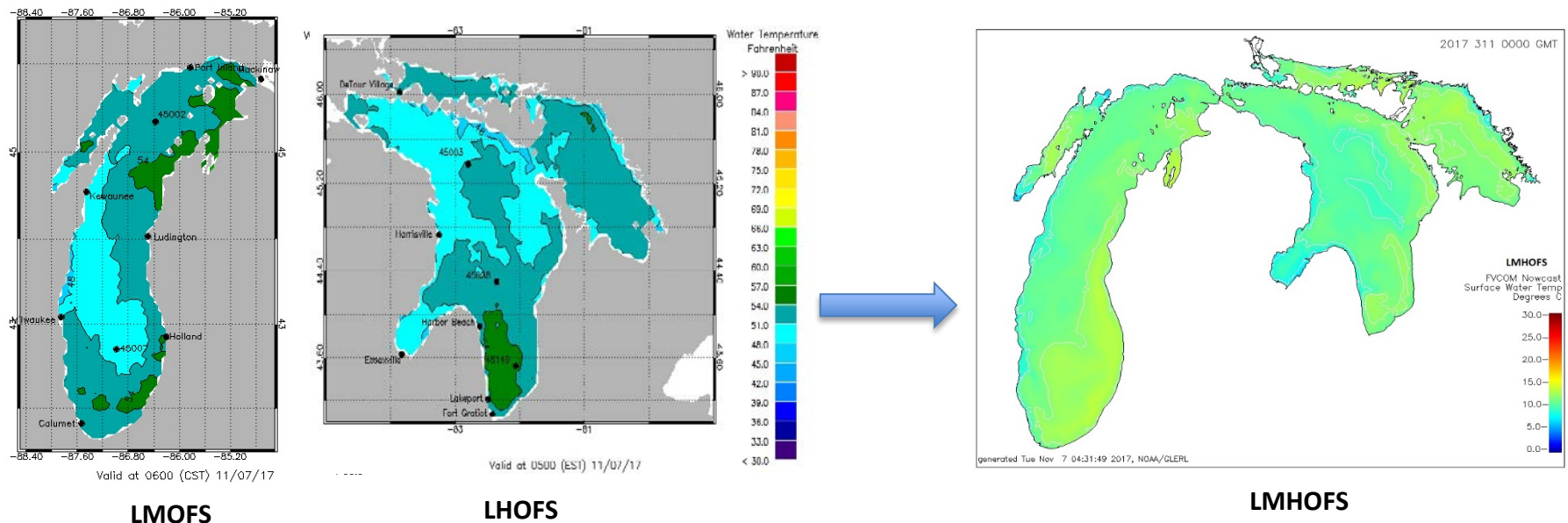
Data Only

Show Data Listing



Operational Forecast Systems

- NOAA upgraded Lake Erie OFS in Spring of 2016
 - Model provides higher resolution forecast guidance out to 120 hours of water levels, currents, and water temperature.
- Remaining lakes to be upgraded starting in 2019, starting with Lake Michigan/Lake Huron





Operational Forecast Systems

Lake Erie HAB forecast model – operational in FY17



Experimental Lake Erie Harmful Algal Bloom Bulletin National Centers for Coastal Ocean Science and Great Lakes Environmental Research Laboratory 4 August 2014, Bulletin 10

The microcystis bloom has intensified since last Thursday, and the area covered by medium to high concentrations (green to red) has increased. Calm winds have allowed the bloom to concentrate near surface; patches of scum were present in the areas of high concentration. Today and Tuesday expect slight northeast transport (away from the Maumee Bay area). However, this pattern will change and light southward transport is expected through the end of the week. Mixing is expected to be weak.

The imagery shows the persistent bloom in Sandusky Bay is present. There are no reported harmful algal blooms or suspicious features in the Eastern Basin at this time.

-Dupuy Stumpf

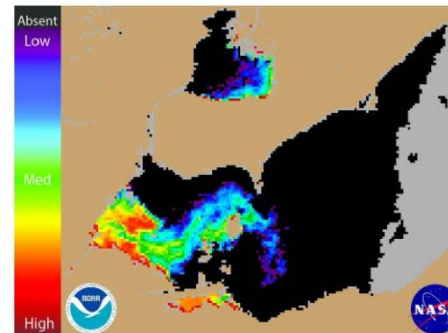


Figure 1. Cyanobacterial Index from NASA's MODIS-Aqua data collected 3 August 2014 at 1:10 pm. Grey indicates clouds or missing data. Black represents no cyanobacteria detected. Colored pixels indicate the presence of cyanobacteria. Cooler colors (blue and purple) indicate low concentrations and warmer colors (red, orange, and yellow) indicate high concentrations. The estimated threshold for cyanobacteria detection is 35,000 cells/mL.

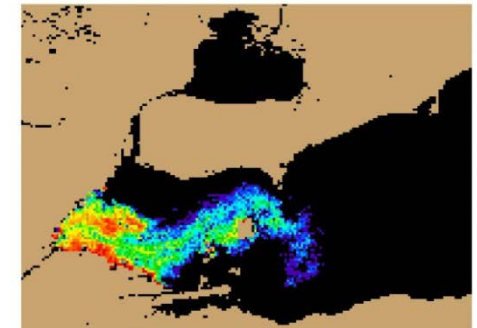
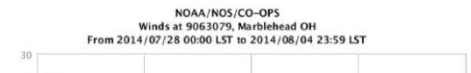


Figure 2. Nowcast position of bloom for 4 August 2014 using GLCFS modeled currents to move the bloom from the 3 August 2014 image.





Important Links

Links

- CO-OPS Tides and Currents Website:
<https://tidesandcurrents.noaa.gov/index.shtml>
- Cuyahoga PORTS:
<https://tidesandcurrents.noaa.gov/ports/index.html?port=cy>
- Soo Locks PORTS:
<https://tidesandcurrents.noaa.gov/ports/index.shtml?port=sl>
- GLOFS: <http://tidesandcurrents.noaa.gov/ofs/glofs.html>
- Lake Erie HAB forecast:
<https://tidesandcurrents.noaa.gov/hab/lakeerie.html>

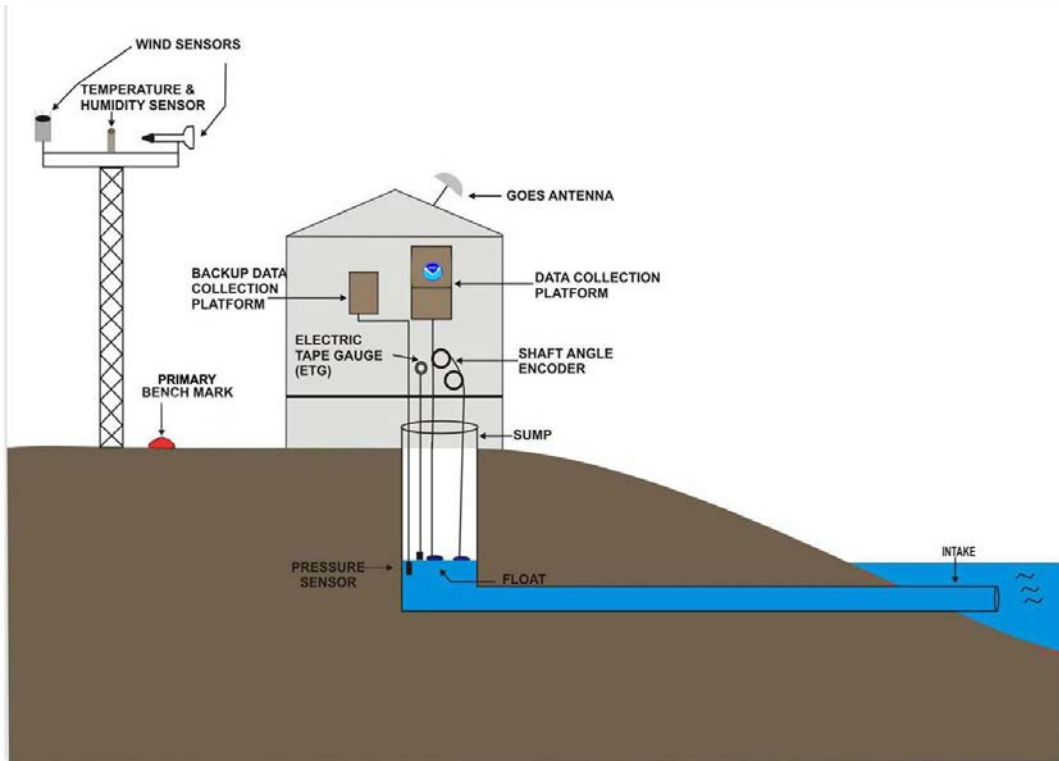


Questions?





Great Lakes Water Level Stations

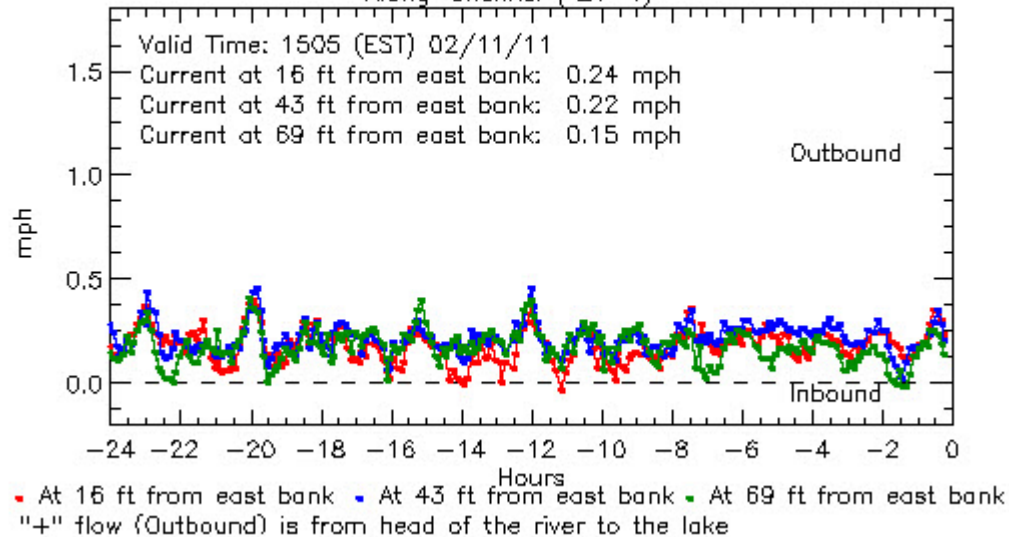




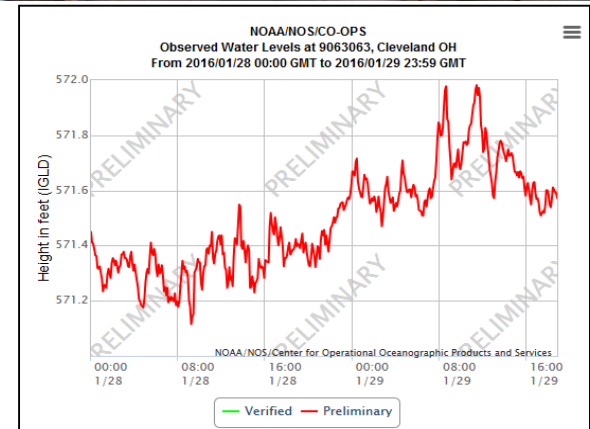
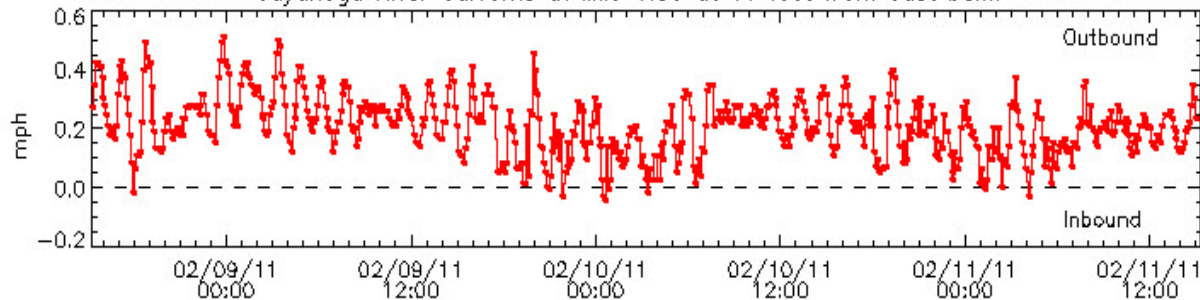
Cuyahoga PORTS[®]

Cuyahoga River, OH

Currents at Center Street Swing Bridge (Cuyahoga River)
Along-Channel (21° T)



Cuyahoga River Currents at Mile 1.39 at 16 feet from east bank

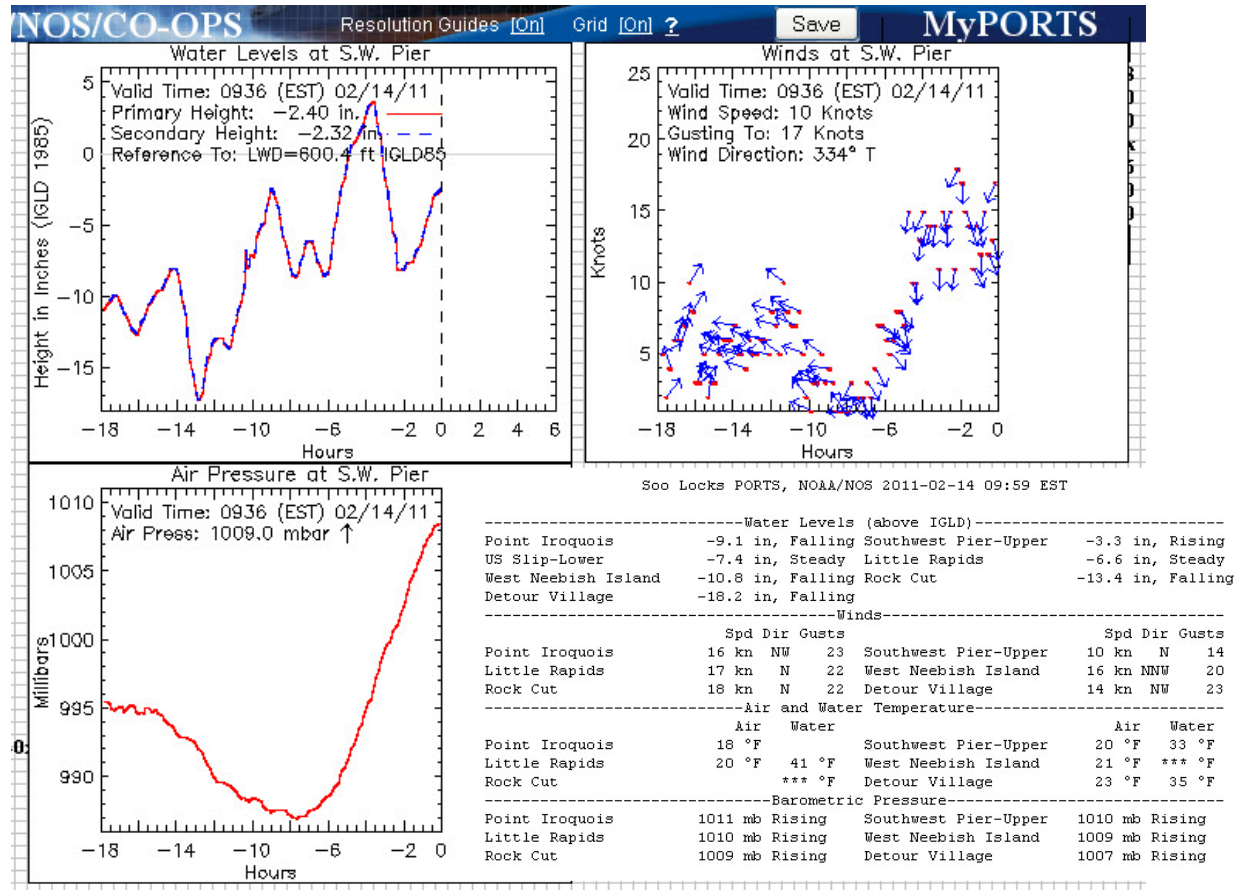
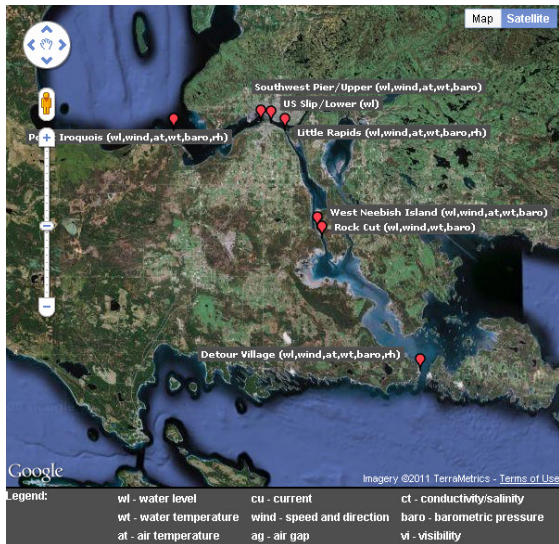


Cleveland Water Level



Soo Locks PORTS[®]

Physical Oceanographic Real-Time Systems



<http://tidesandcurrents.noaa.gov/ports/index.html?port=sl>



WL Forecast with Wind Event

