Great Lakes Water Levels and Coastal Impacts 2020

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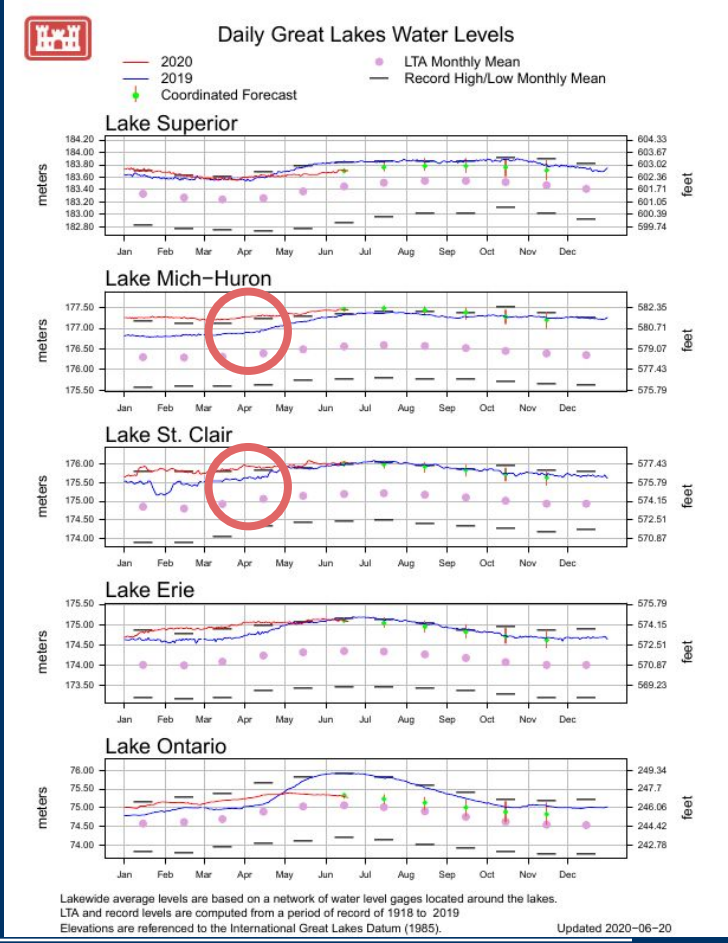
Great Lakes Water Levels: Current

JUNE 2020
Lakes Michigan/Huron, St. Clair, and Erie at or above record highs

Superior and Ontario are below 2019 water levels

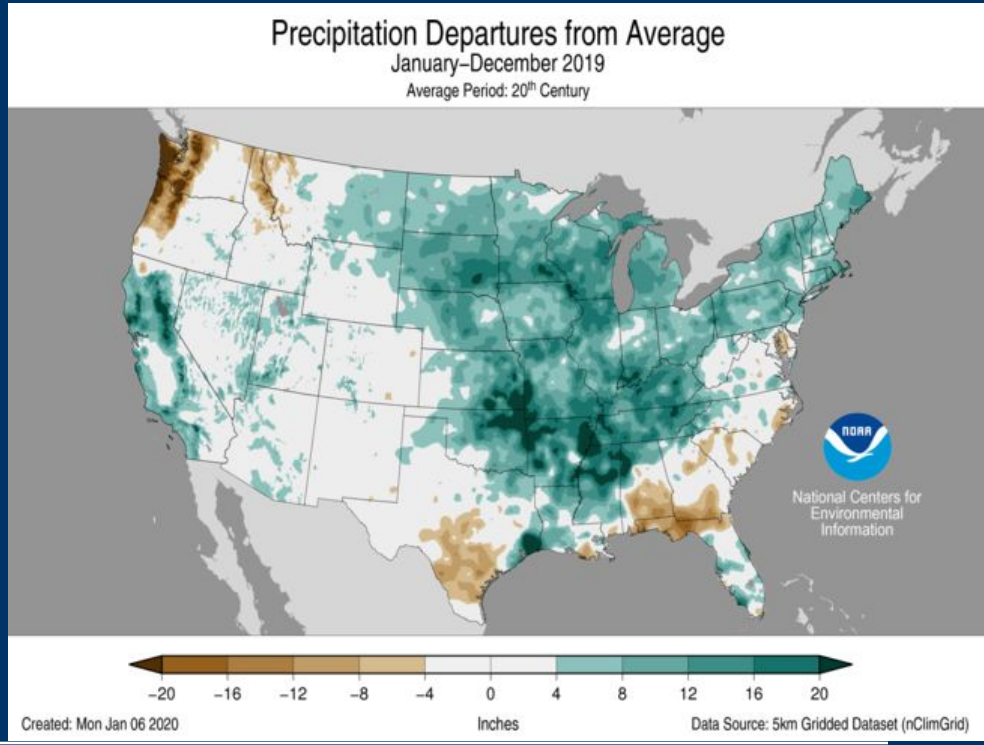
Source: US Army Corps of Engineers



Great Lakes Water Levels: Inputs and Outputs

Wet across much of the Central US in 2019

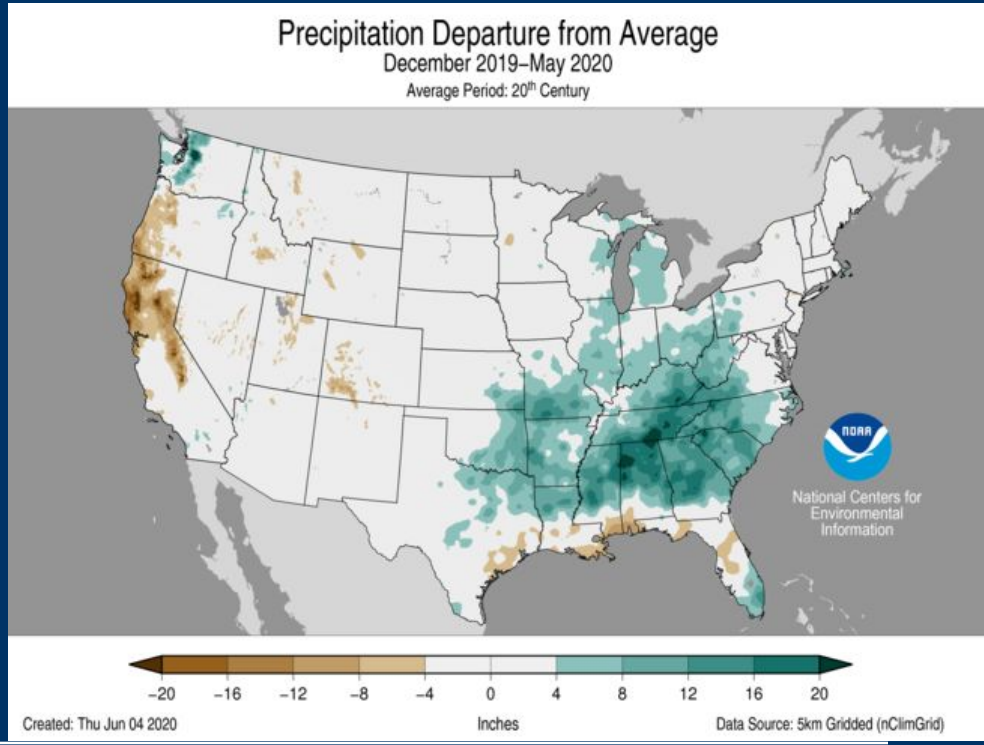
Year to Date Precipitation Departure from Average 2019



Great Lakes Water Levels: Inputs and Outputs

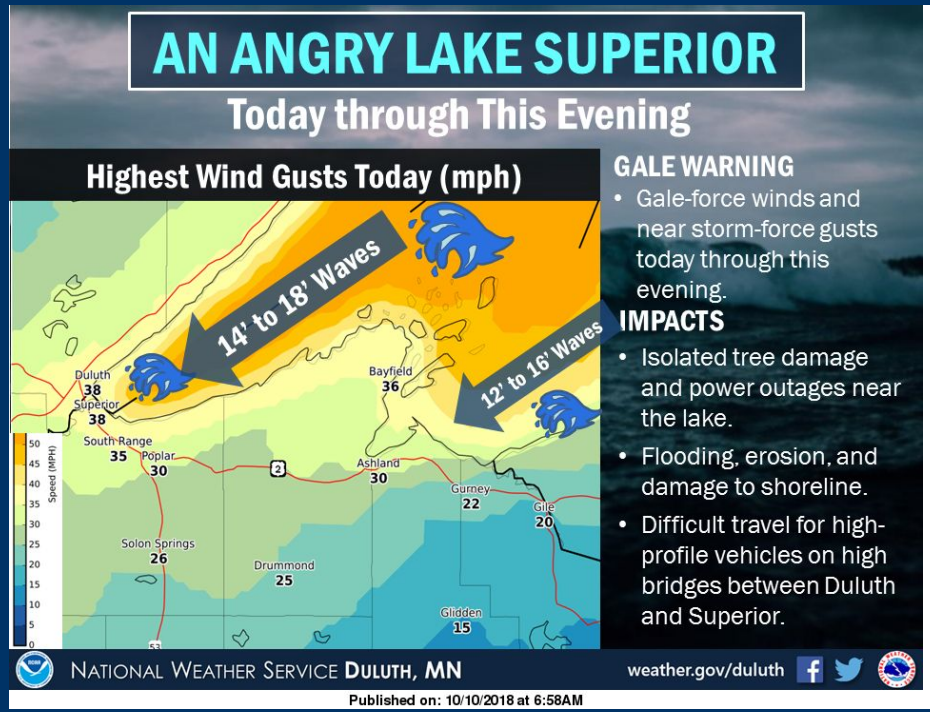
Wet across central part of the Great Lakes basin

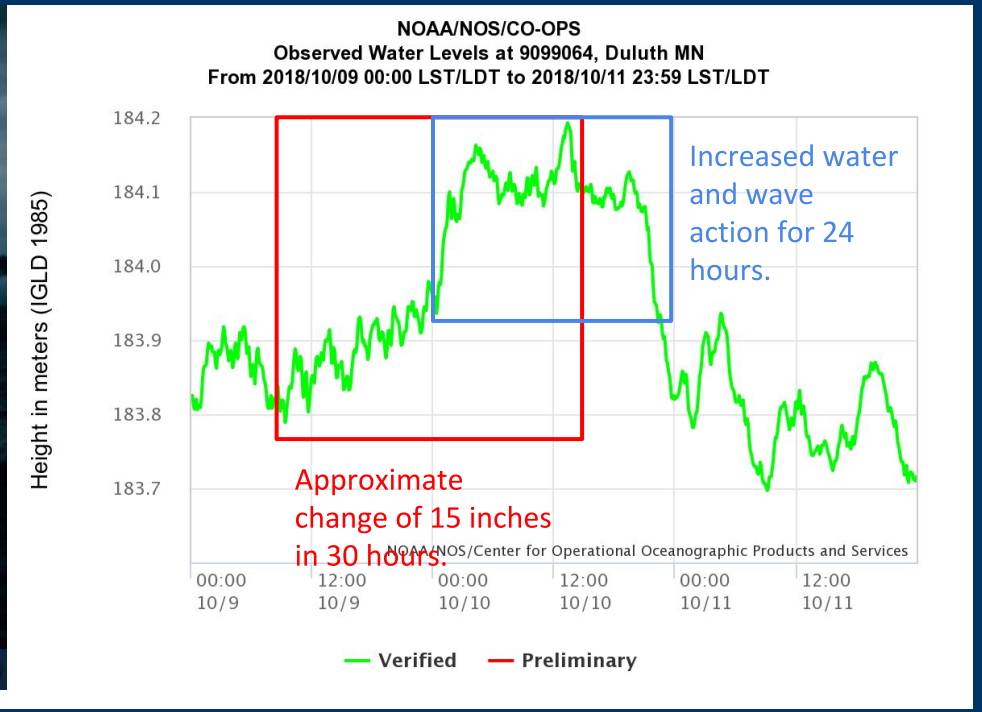
Year to Date Precipitation Departure from Average Last 6 months



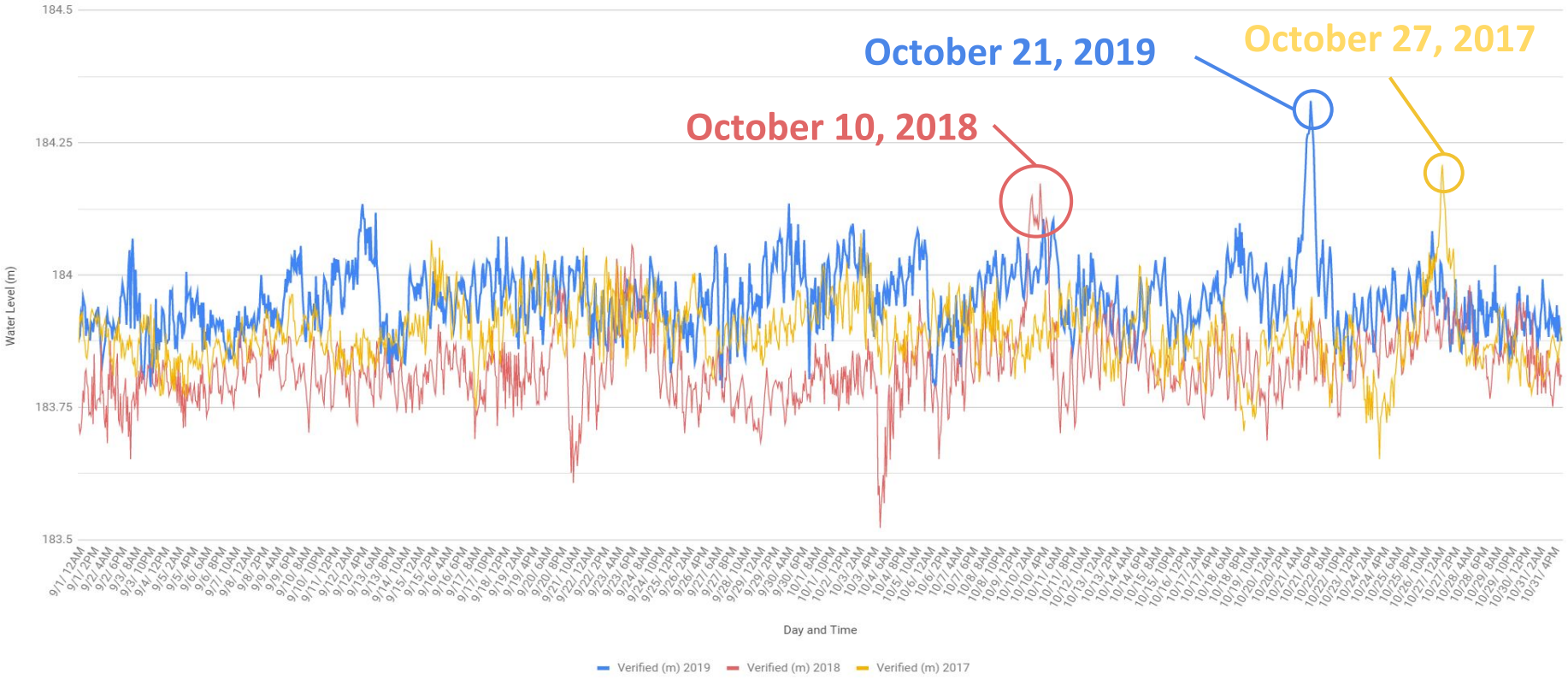
Water + Wind

Lake Superior Water Levels: Storm Impacts

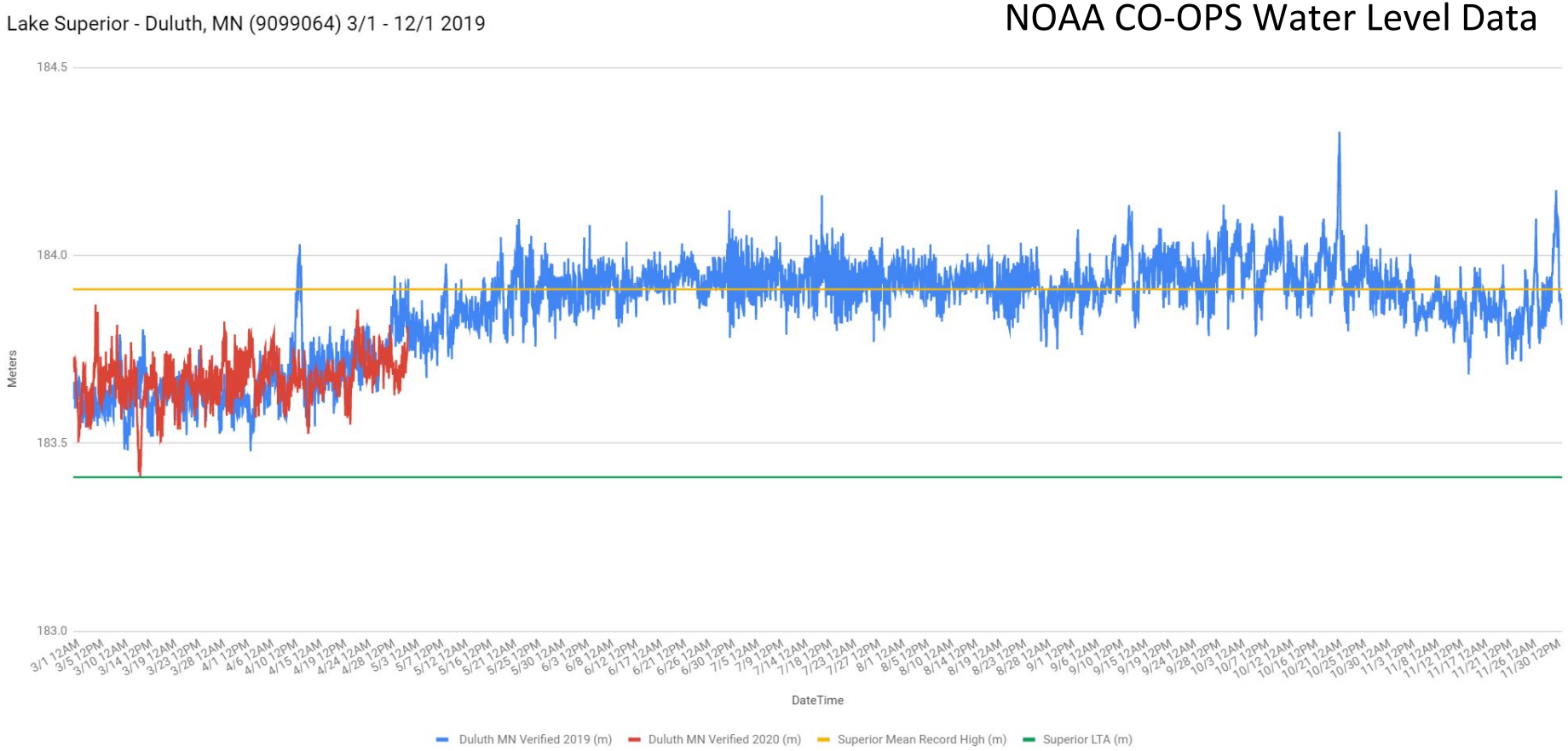




Comparison of Water Levels and Storm Events - Duluth, MN 9099064

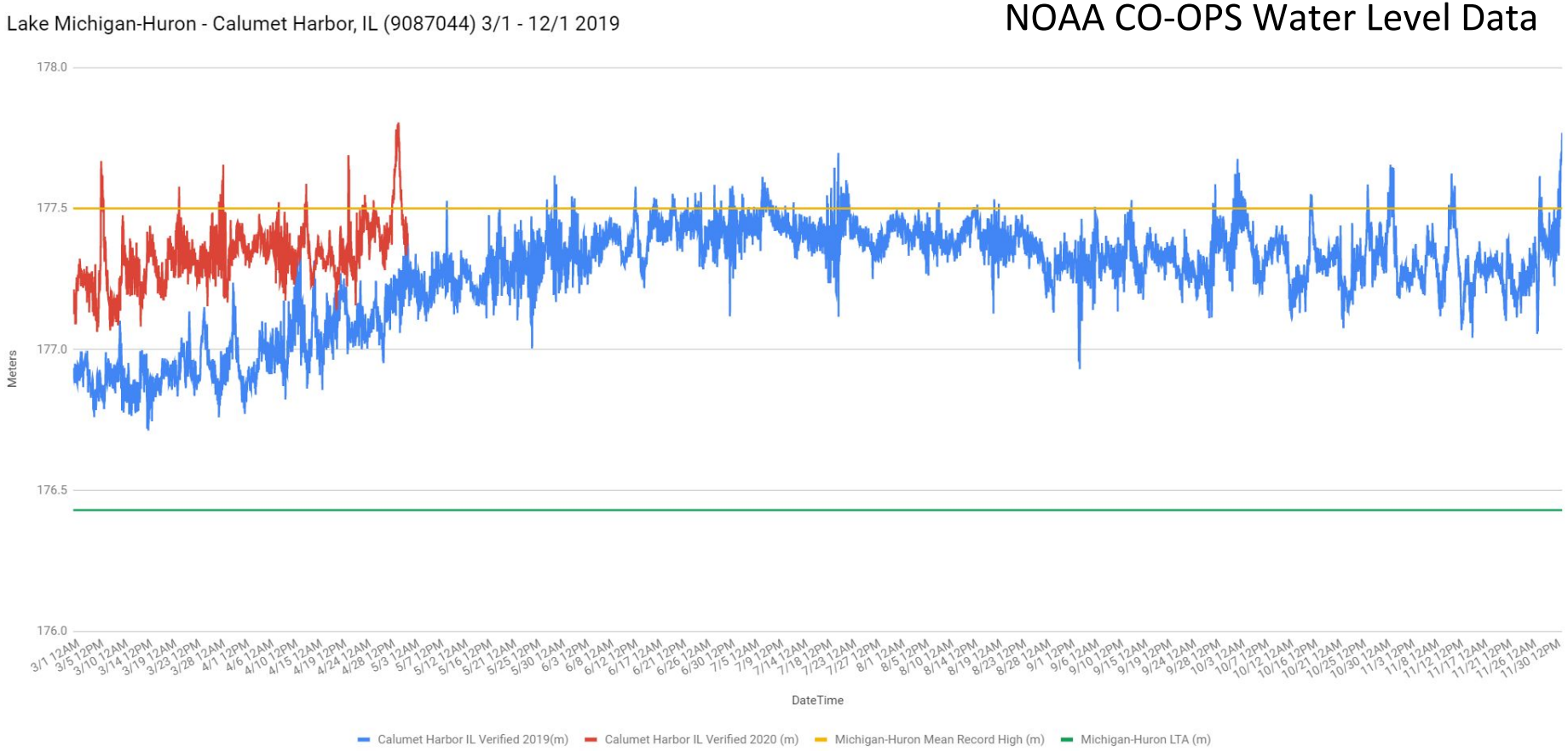


NOAA CO-OPS Water Level Data



IGLD 1985

NOAA CO-OPS Water Level Data



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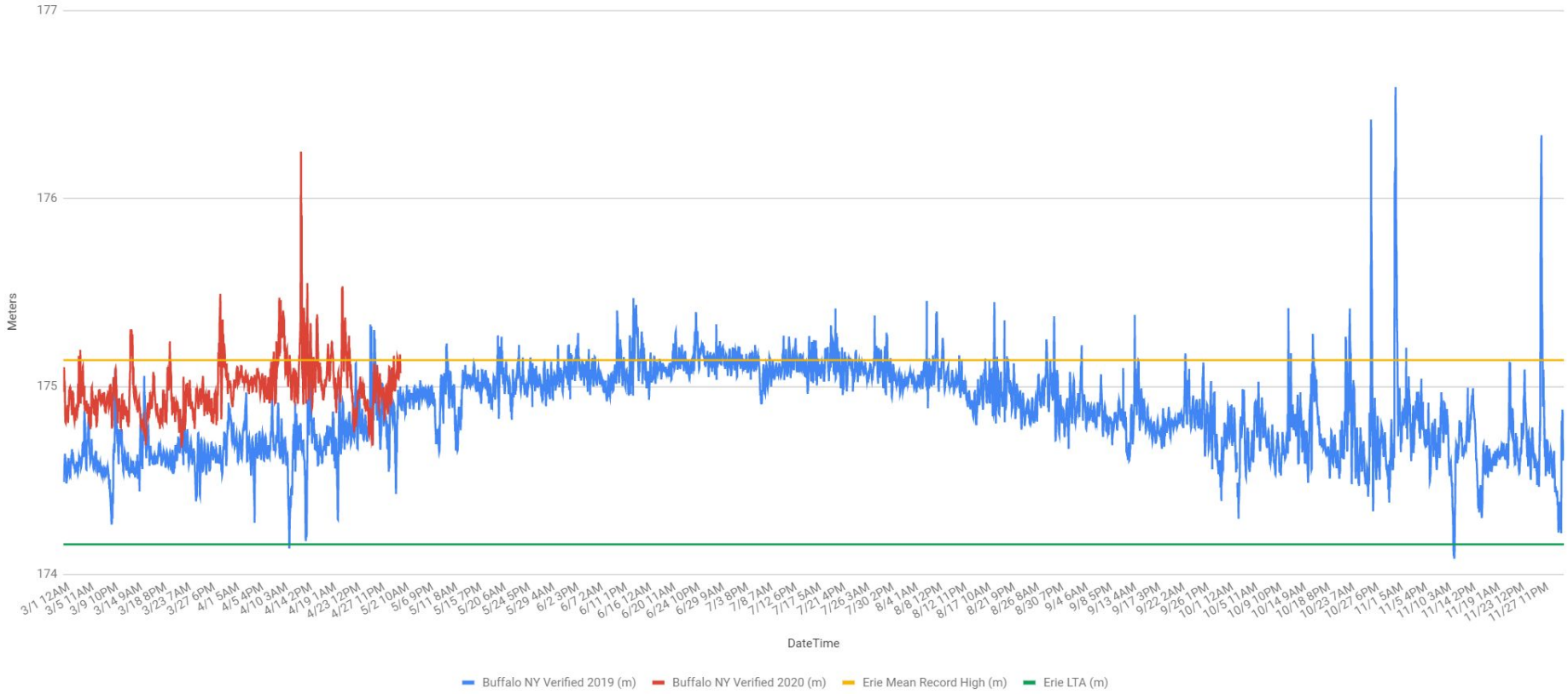

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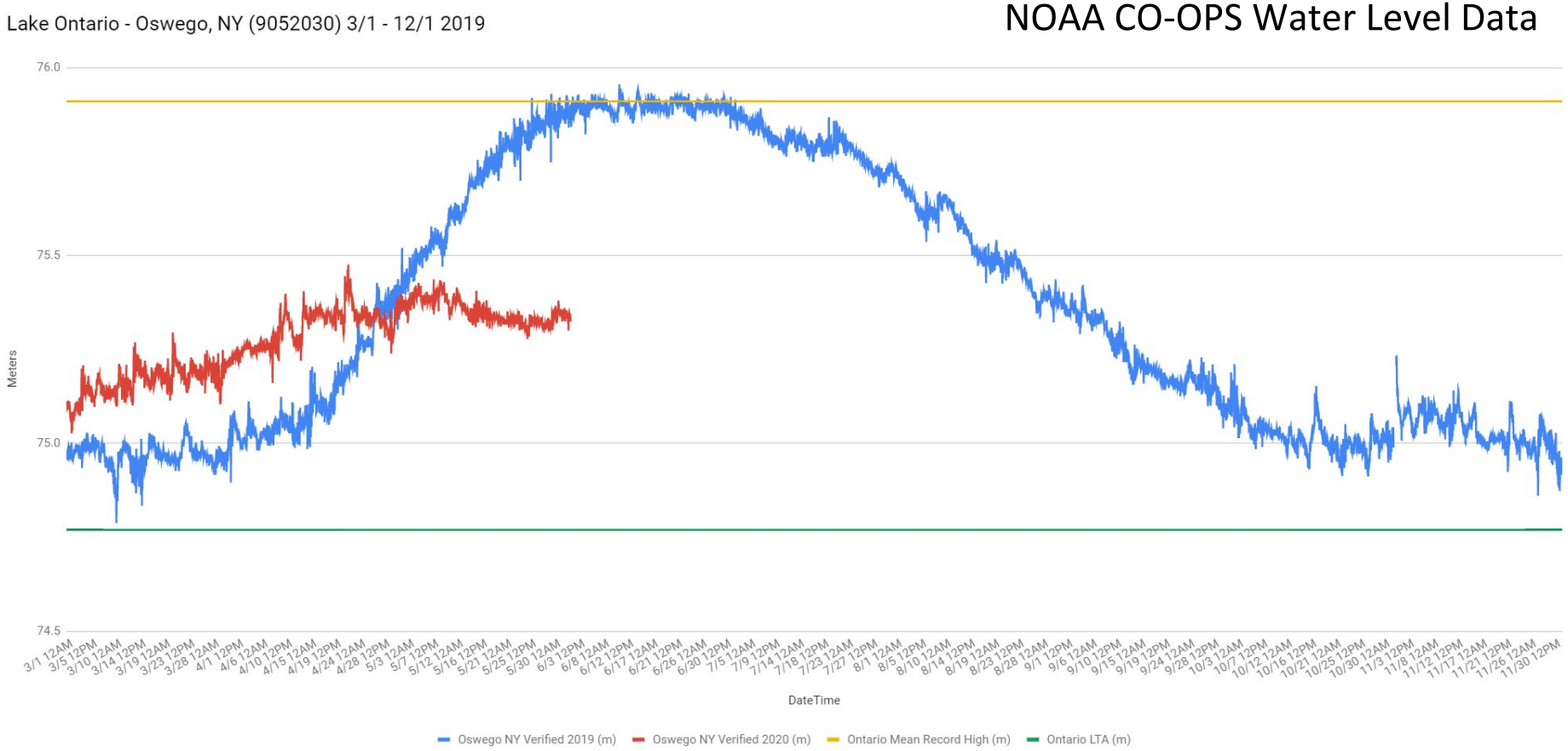
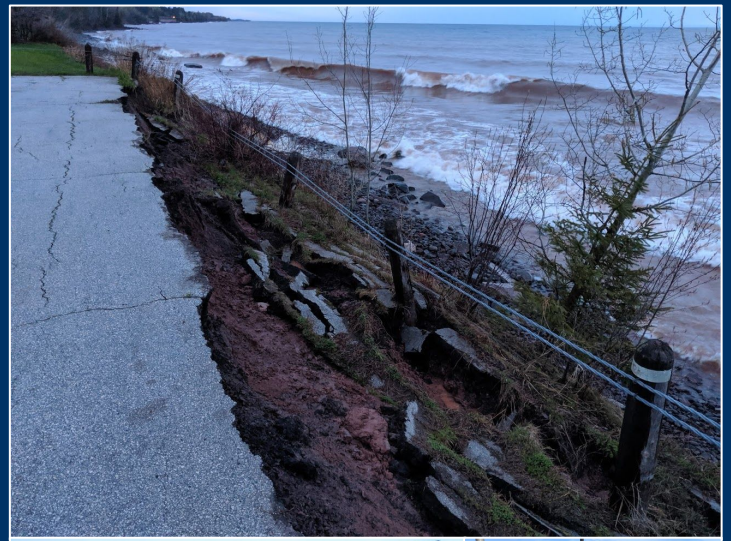


IGLD 1985

Great Lakes Water Levels: Coastal Impacts

- Shoreline Erosion
- Increased sediment transport in the littoral zone
- Alterations to stream and river mouths
- Damage to coastal infrastructure
- Flooded marinas and docks
- Hazards to navigation
- Loss of coastal terrestrial and wetland habitat
- Shrinking beaches for recreational use
- Increased impacts when storms move through
- Damage and loss of private property



Brighton Beach, Duluth, MN

Brighton Beach Monday October 21, 2019 8:48AM

Brighton Beach Monday October 28, 2019 8:50AM

Illinois Beach State Park

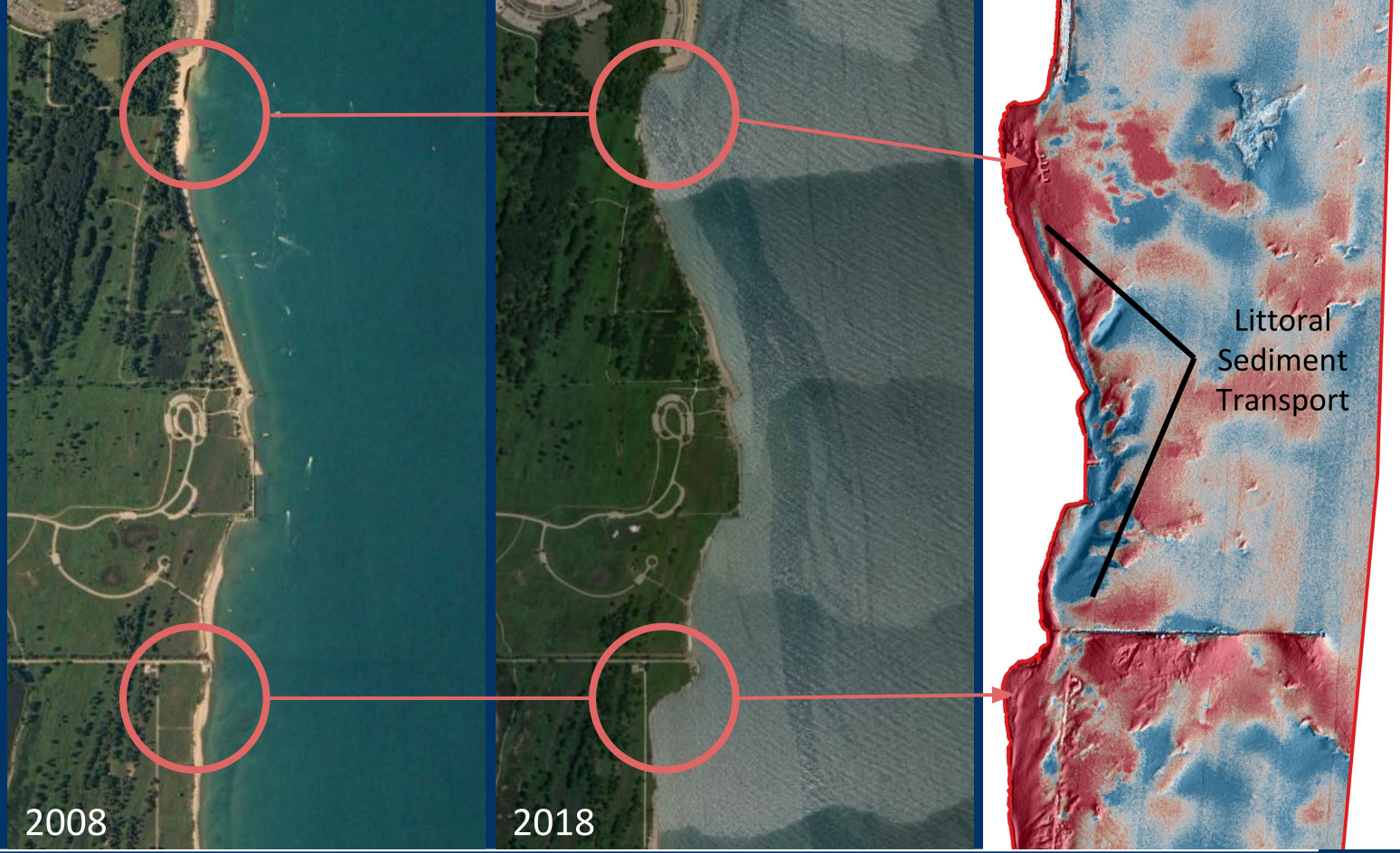
Coastal Erosion

Impact to coastal wetlands

Littoral sediment transport

Red - erosion

Blue - deposition



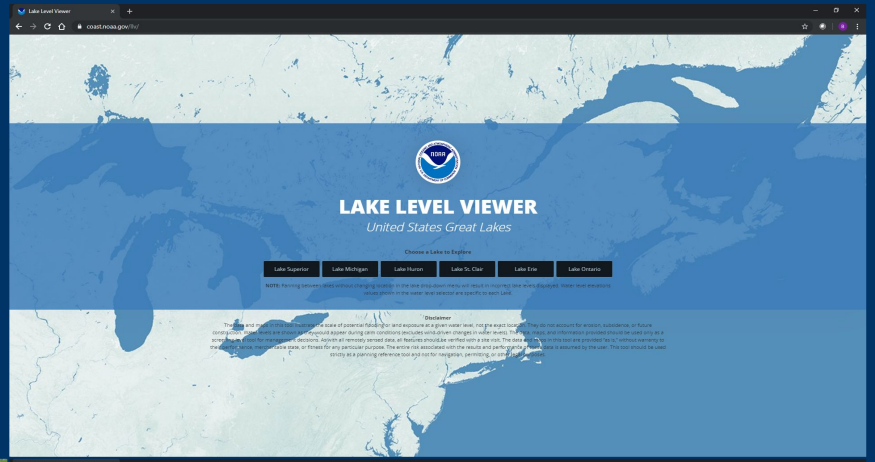
Ontario Beach Park, Rochester, NY

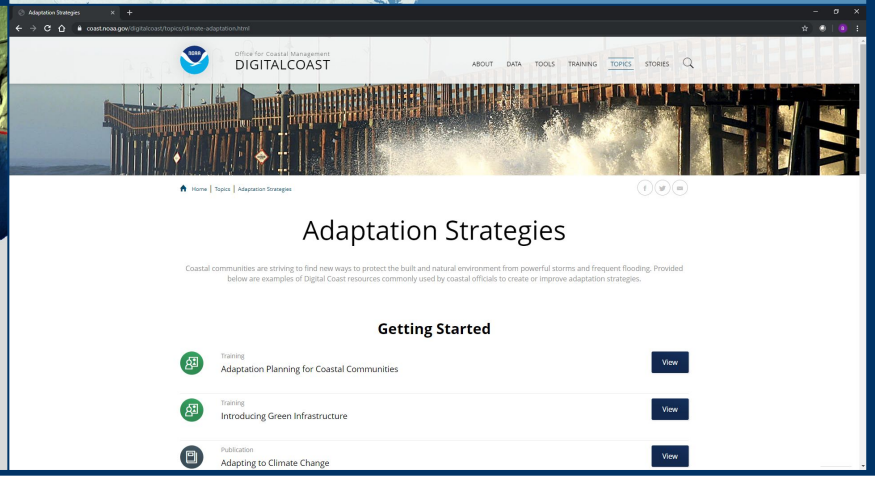
Office for Coastal Management

Digital Coast

Data, Tools, Trainings, and Resources

https://coast.noaa.gov/digitalcoast/





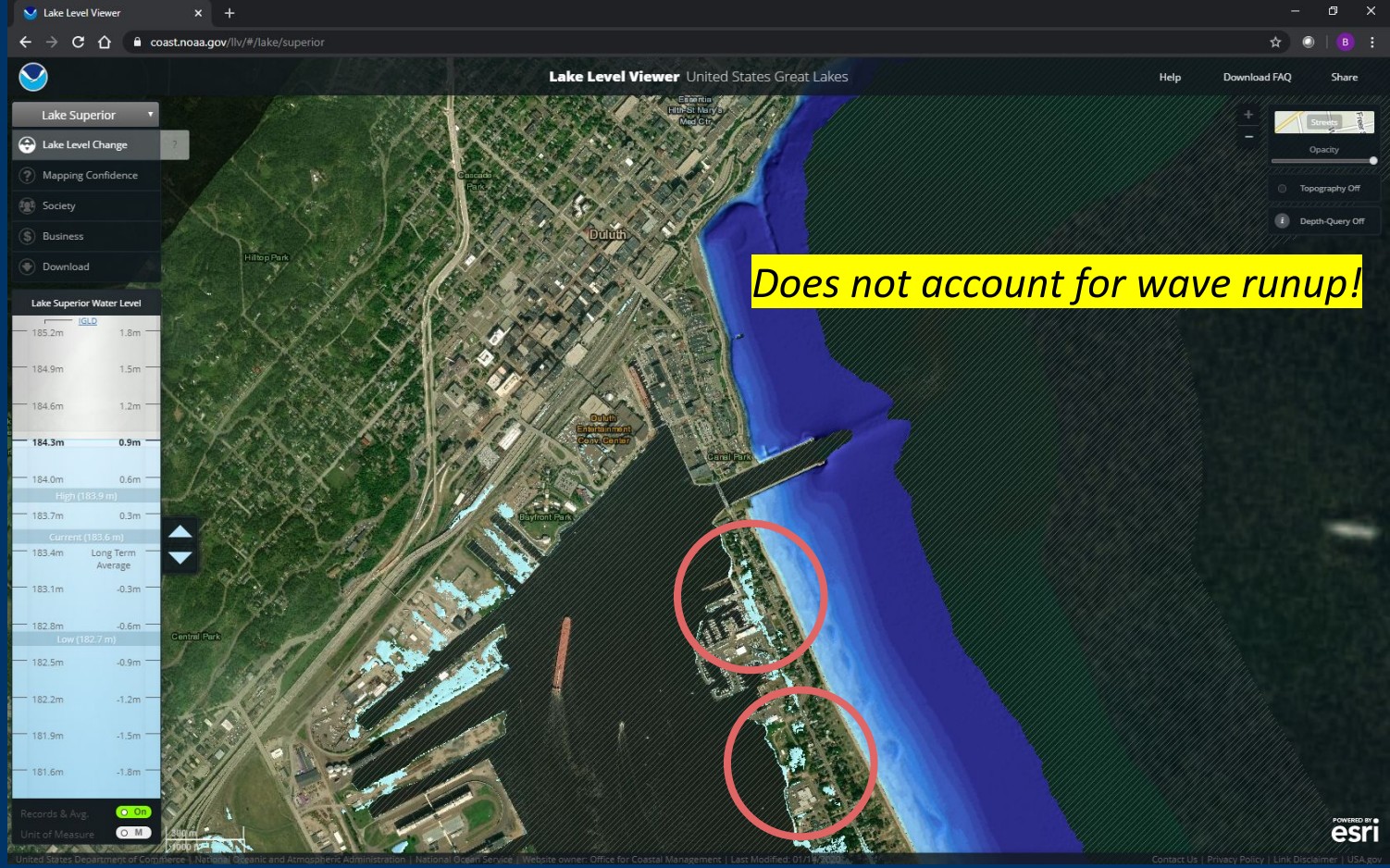
Duluth, MN

10/21/2019 4PM

184.33 meters
604.75 feet

LTA
183.41 m
601.74 ft

Difference
+0.92 m
+3.02 ft



Office for Coastal Management

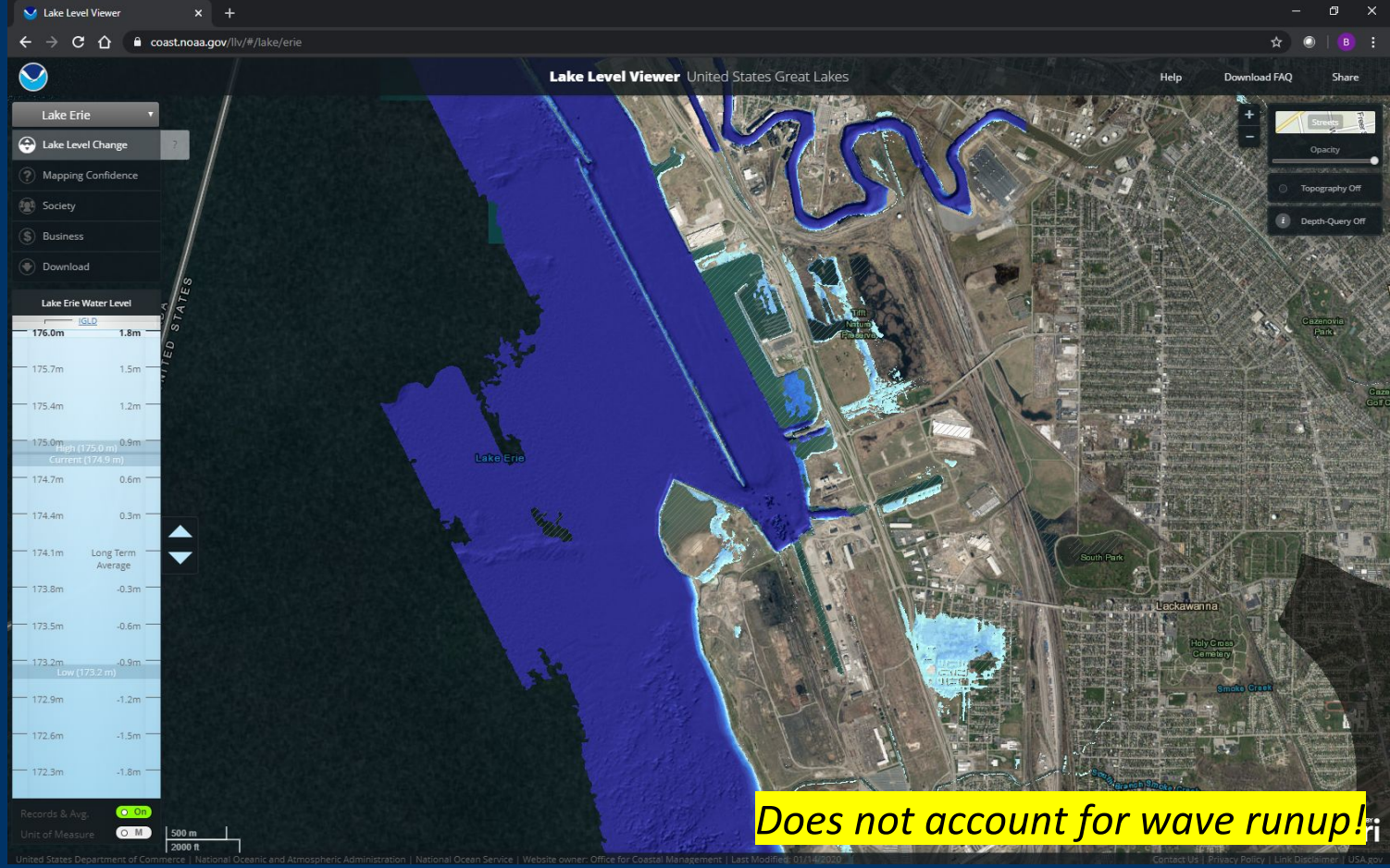
Buffalo, NY

11/1/2019 12AM

176.59 meters
579.36 feet

LTA
175.14 m
574.6 ft

Difference
+1.45 m
+4.76 ft



Office for Coastal Management

Great Lakes Coastal Zone Management Programs

MINNESOTA'S LAKE SUPERIOR COASTAL PROGRAM

WISCONSIN COASTAL MANAGEMENT PROGRAM

EGLE
MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

NEW YORK STATE OF OPPORTUNITY. Department of State

COASTAL Management Program
IL Dept of Natural Resources

INDIANA LAKE MICHIGAN COASTAL PROGRAM

Ohio Department of NATURAL RESOURCES
OFFICE OF COASTAL MANAGEMENT

pennsylvania
COASTAL RESOURCES MANAGEMENT

Contact Information

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