Experimental Lake Erie Harmful Algal Bloom Bulletin

National Centers for Coastal Ocean Science and Great Lakes Environmental Research Laboratory

21 July 2015, Bulletin 02

The Microcystis cyanobacteria bloom extends across the central portion of the western basin, running from west of West Sister Island, then around to the northeast and past Pelee Island. Scum formed yesterday (Mon July 20) around and north of West Sister. Patches of scum were also found in the northeastern part of the bloom. Slight mixing is possible today (Jul 21), calm weather over the next few days will favor scum formation, especially during daytime. The bloom is located away from the Ohio coast. Some southeastward movement is expected over the next few days. The persistent bloom in Sandusky Bay is present.

The bloom in the central basin has substantially diminished and was not detectable. Past years have seen similar central basin blooms that have disappeared by late July. There is no evidence of a bloom in the eastern basin.

- Stumpf, Dupuy

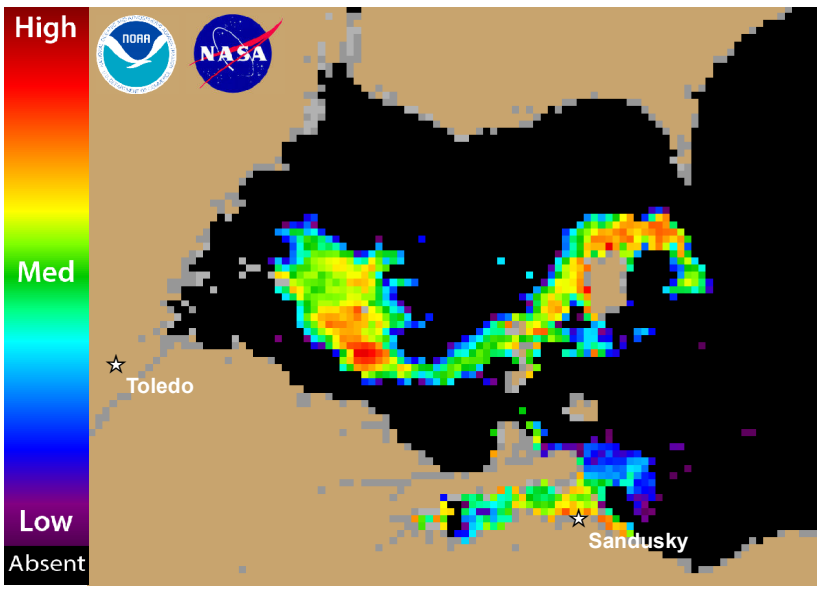


Figure 1. Cyanobacterial Index from NASA's MODIS-Terra data collected 20 July 2015 at 12:25 pm EDT. Grey indicates clouds or missing data. Black represents no cyanobacteria detected. Colored pixels indicate the presence of cyanobacteria. Cooler colors (blue and purple) indicate low concentrations and warmer colors (red, orange, and yellow) indicate high concentrations. The estimated threshold for cyanobacteria detection is 35,000 cells/mL.

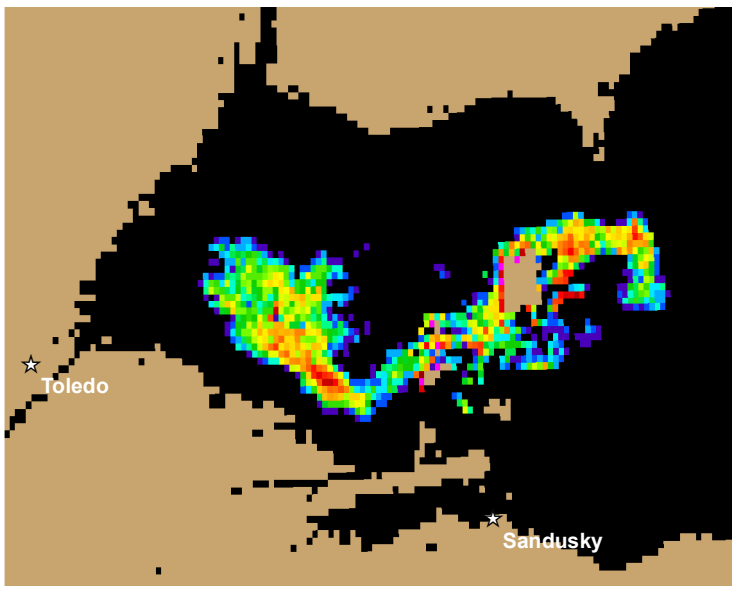


Figure 2. Nowcast position of bloom for 21 July 2015 using GLCFS modeled currents to move the bloom from the 20 July 2015 image.

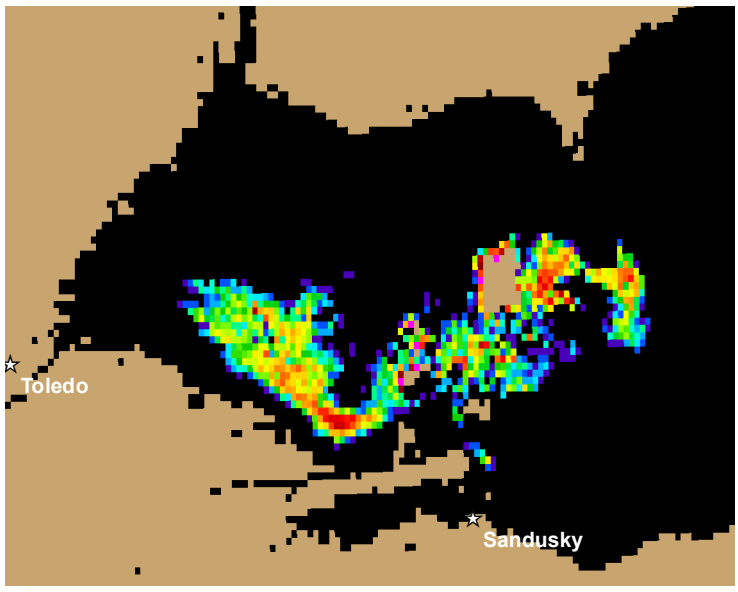
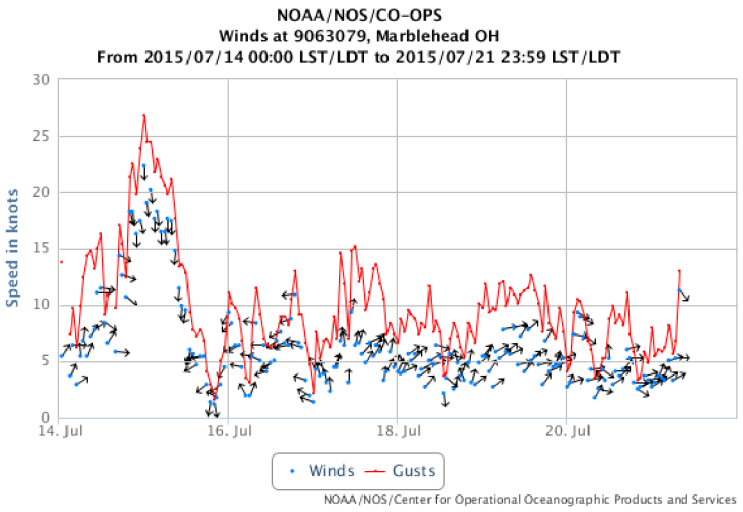
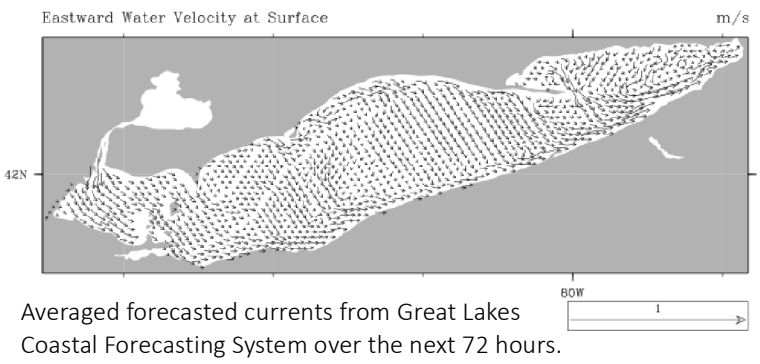


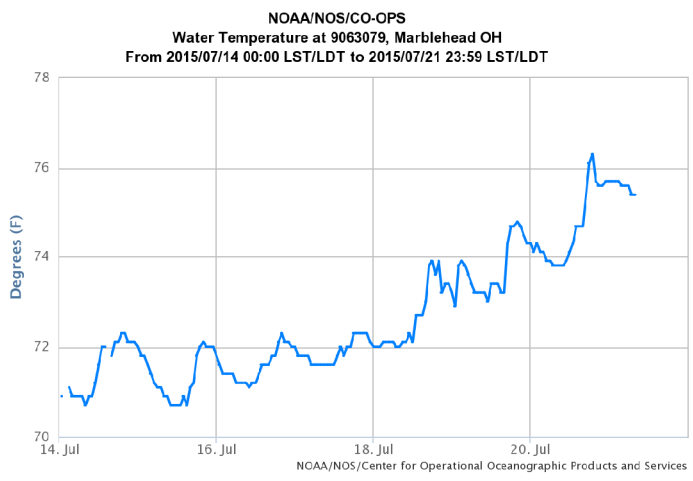
Figure 3. Forecast position of bloom for 22 July 2015 using GLCFS modeled currents to move the bloom from the 20 July 2015 image.



Wind Speed, Gusts and Direction from Marblehead, OH. From: NOAA/Center for Operational Oceanographic Products and Services (CO-OPS). Note: 1 knot = 0.51444 m/s. Blooms mix through the water column at wind speeds greater than 7.7 m/sec (~ 15 knots).



Averaged forecasted currents from Great Lakes Coastal Forecasting System over the next 72 hours.



Water Temperature from Marblehead, OH. From: NOAA/Center for Operational Oceanographic Products and Services (CO-OPS).

Supported by the NASA Applied Sciences Health and Air Quality Program.
Wind forecasts derived from NOAA/National Weather Service in Cleveland.

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