



# Experimental Lake Erie Harmful Algal Bloom Bulletin

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

17 August, 2015, Bulletin 11

The *Microcystis* cyanobacteria bloom continues across a large part of the western basin south of West Sister Island from Michigan to the islands. Dense scums have formed in highest concentration areas, with extensive scums occurring in the red to dark red areas in the western basin. The bloom is found east of the islands, including scum patches away from shore. Moderate concentrations extend as far as Rondeau on the Ontario coast. Microcystin is present in this bloom, and the toxin levels are extremely high in scums.

Light southerly to southwesterly winds will continue today and Tuesday, gradually increasing to Thursday. Least mixing and greatest scum formation earlier in the week, and greatest mixing with passage of a cold front late Wed and Thursday. These winds will cause continued movement of the eastern edge into the central basin and also eastward on the Ontario coast.

The persistent bloom in Sandusky Bay continues. No other blooms are evident in the central and eastern basins.

Please check Ohio EPA's site, <http://epa.ohio.gov/habalgae.aspx> for safety information, including updates on the State Parks. Keep your pets and yourself out of the water in areas where scum is forming. - Stumpf, Tomlinson

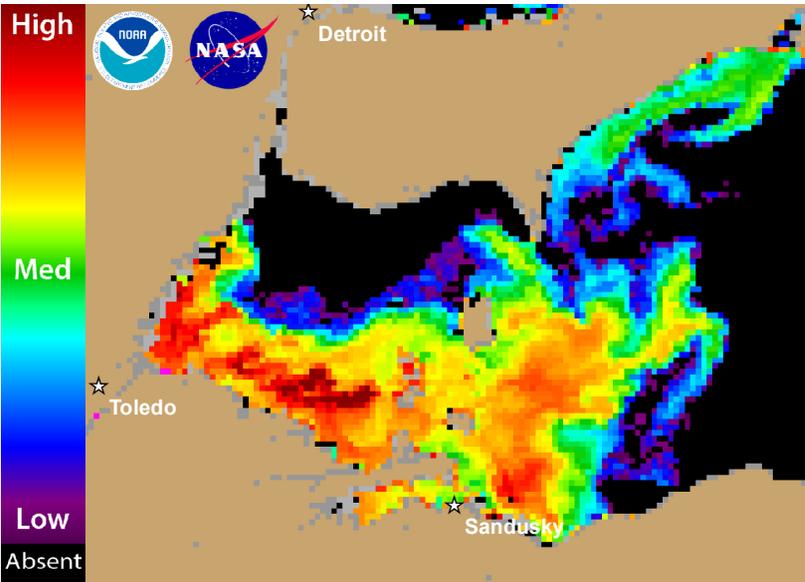


Figure 1. Cyanobacterial Index from NASA's MODIS-Terra data collected 16 August, 2015. Grey indicates clouds or missing data. Black represents no cyanobacteria detected. Colored pixels indicate the presence of cyanobacteria. Cooler colors (blue and purple) indicate low concentrations and warmer colors (red, orange, and yellow) indicate high concentrations. The estimated threshold for cyanobacteria detection is 20,000 cells/mL.

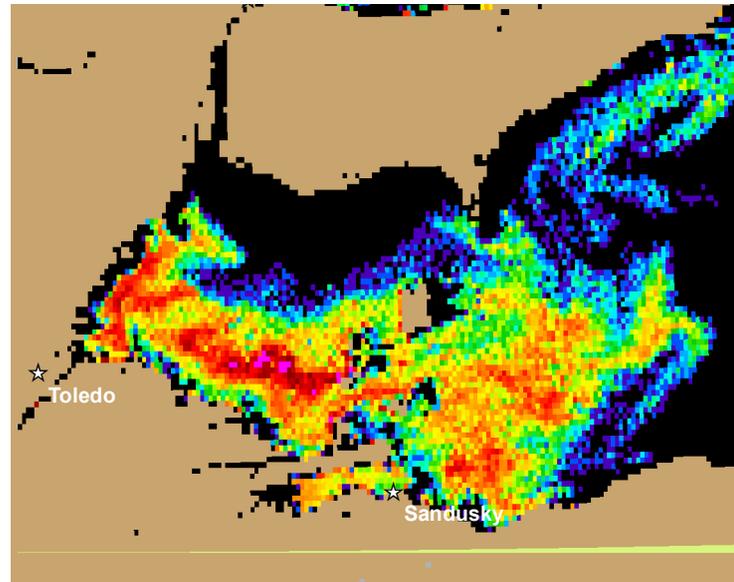


Figure 2. Nowcast position of bloom for 17 August, 2015 using GLCFS modeled currents to move the bloom from the 16 August, 2015 image.

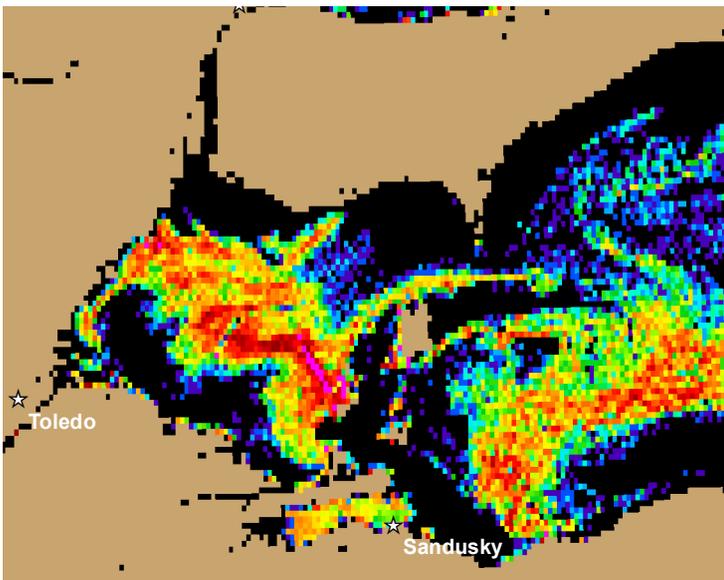
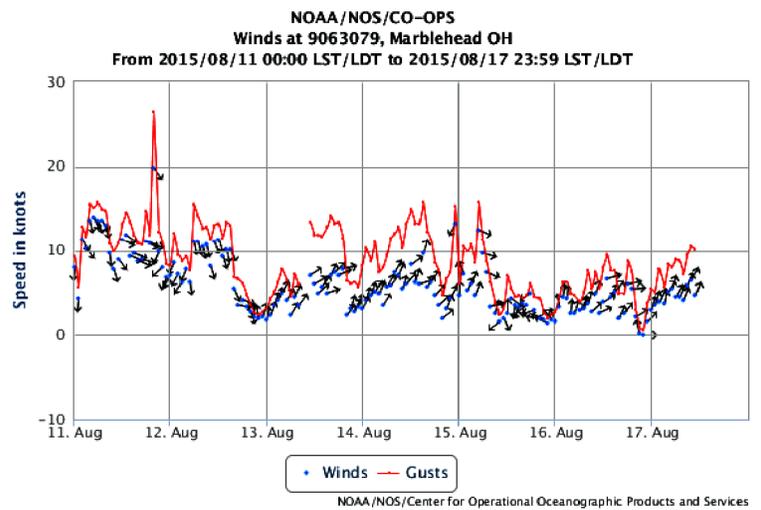
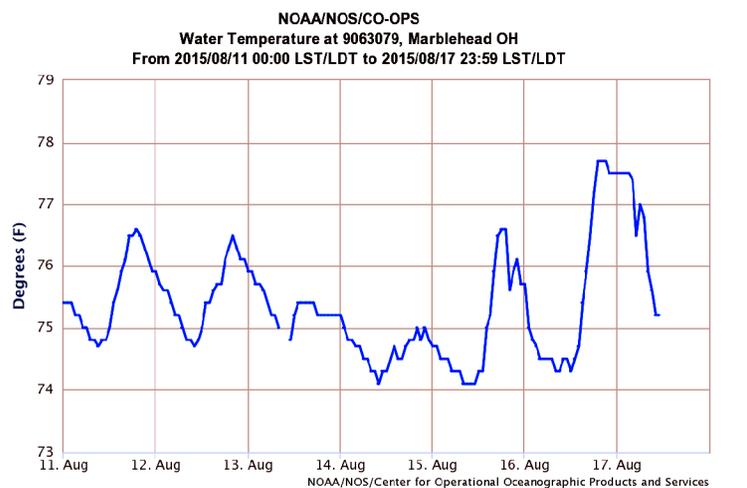


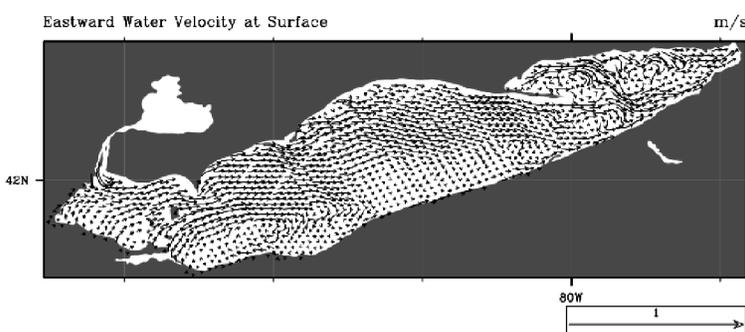
Figure 3. Forecast position of bloom for 20 August, 2015 using GLCFS modeled currents to move the bloom from the 16 August, 2015 image.



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).



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



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

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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