



# Experimental Lake Erie Harmful Algal Bloom Bulletin

National Centers for Coastal Ocean Science and Great Lakes Environmental Research Laboratory  
 15 July 2015, Bulletin 01

A *Microcystis cyanobacteria* bloom has started in the western basin. During calm weather on Sat, July 11, scums were found on a line from Toledo channel marker, south and east of West Sister Island. The bloom is located away from the Ohio coast. The continued high flow from the Maumee River will tend to carry the cyanobacteria away from Maumee Bay. Stronger winds today promote mixing; calmer on Thursday may favor some surface scum. Passage of a front with southwest winds on Friday may produce some mixing, particularly away from shore; this reduces the surface concentration. The persistent bloom in Sandusky Bay is present.

The central basin has a bloom of mixed cyanobacteria (Fig 1b, below right). This is not associated with the western basin bloom and a similar bloom has occurred for a few weeks in July in other years (like 2012, shown below as Fig 2). The concentration of this bloom was relatively low over most of the area. The eastern limit reaches Pennsylvania. There is no evidence of a bloom in the eastern Basin at this time.

- Dupuy, Stumpf

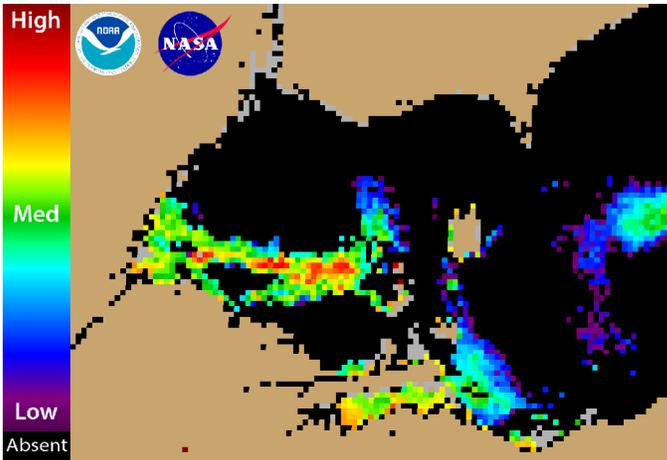


Figure 1A

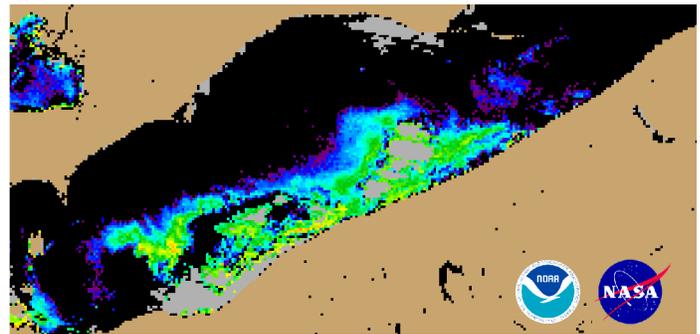
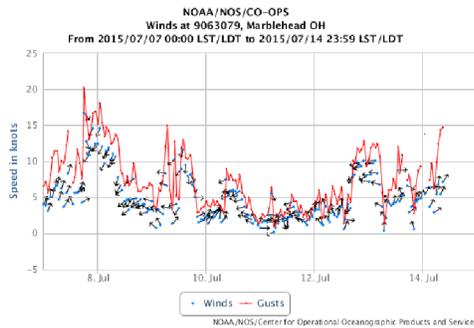
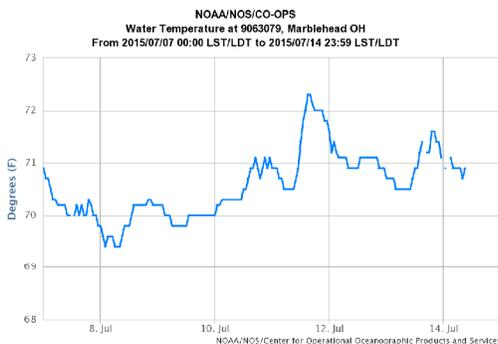


Figure 1B

Figure 1. Cyanobacterial Index from NASA's MODIS- Terra data collected 11 July, 2015 at 11:33 AM. 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.



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).

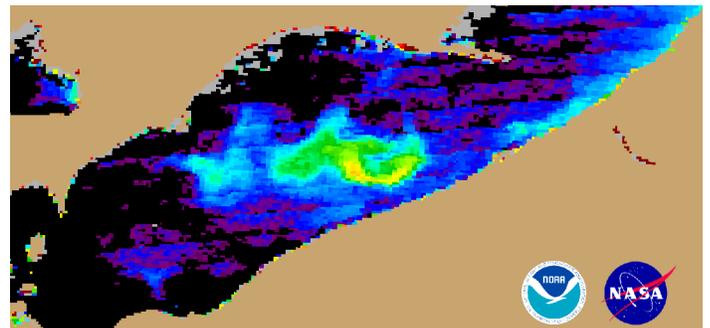
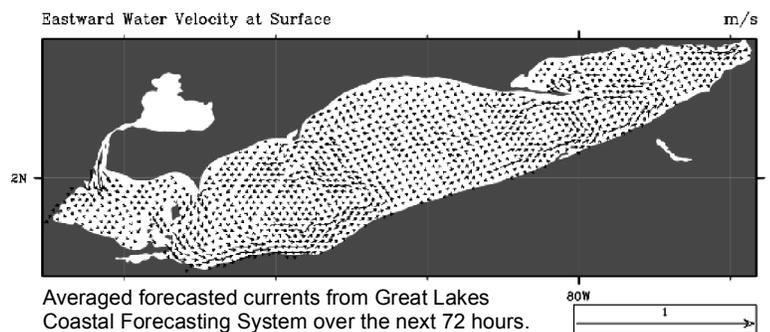


Figure 2. Cyanobacterial Index from NASA's MODIS- Aqua data collected 10 July, 2012. The image of the 2012 July bloom in the Central is included for context. This bloom occurred in a dry year. A similar bloom occurred in 2010 and 2013, all of which lasted only a few weeks.



For more information visit: <http://coastalscience.noaa.gov/research/habs/forecasting/>