Experimental Lake Erie Harmful Algal Bloom Bulletin

National Centers for Coastal Ocean Science and Great Lakes Environmental Research Laboratory
31 July 2013; Bulletin 10

Dense cyanobacteria blooms, including surface scum, are present in Maumee Bay and along some of the western shore. The "clouds" (shown as gray) in the image in those areas actually mask the scum regions. (The gray in the center of the lake north of Cleveland are clouds.) U.Toledo confirmed the Maumee Bay bloom is composed of cyanobacteria.
There is a mild bloom from Sandusky Bay extending eastward and southward in the lake (potentially as far as Vermillion). The algae is not yet confirmed, although cyanobacteria is suspected.
Slight eastward transport is forecasted for the next few days.
Cyanobacteria concentrations will vary with winds, scum development is possible with winds < 15 knots (16 mph).
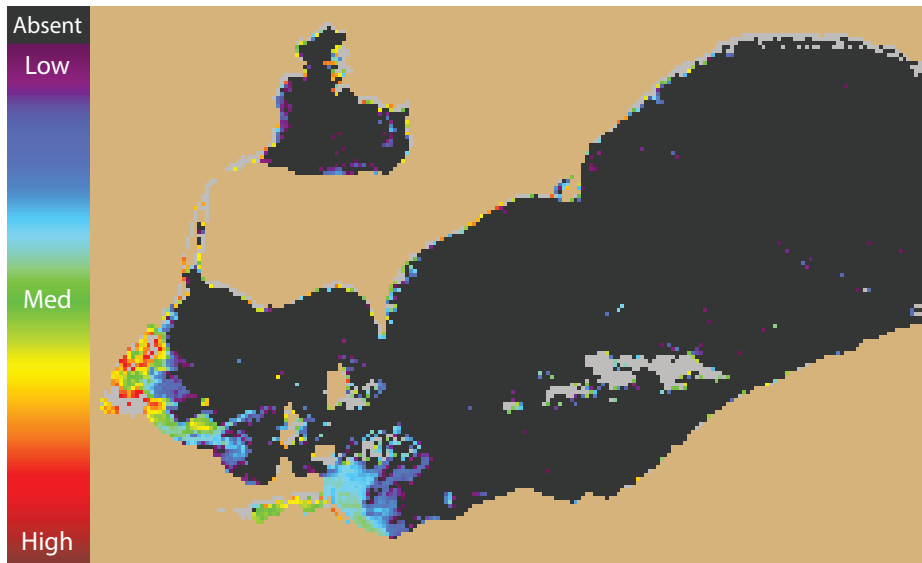- Dupuy, Stumpf

Figure 1. MODIS Cyanobacterial Index from 30 July 2013. 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.
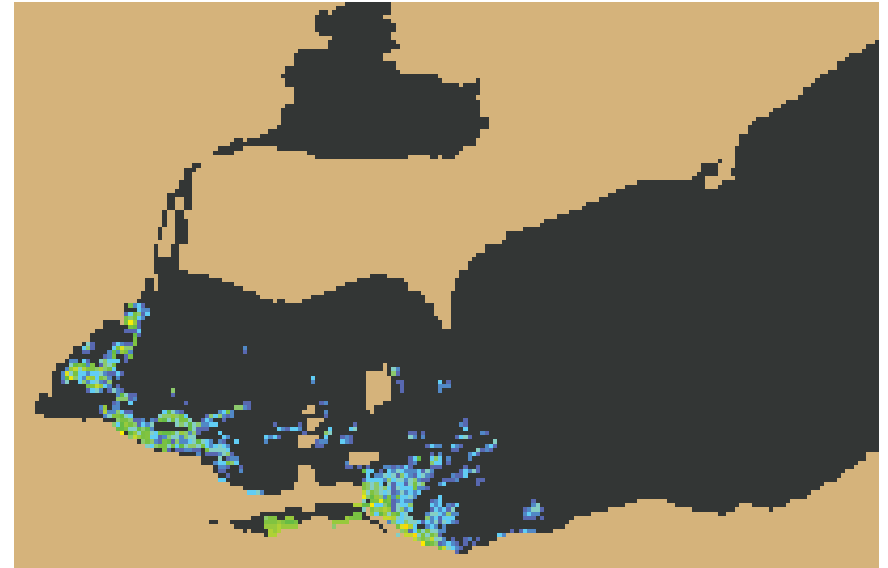

Figure 2. Nowcast position of bloom for 31 July 2013 using GLCFS modeled currents to move the bloom from the 30 July 2013 image.
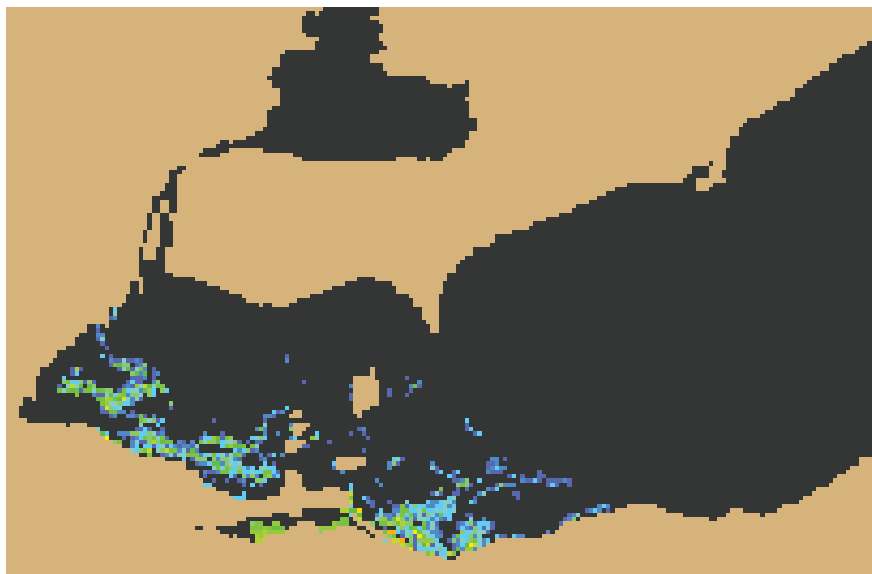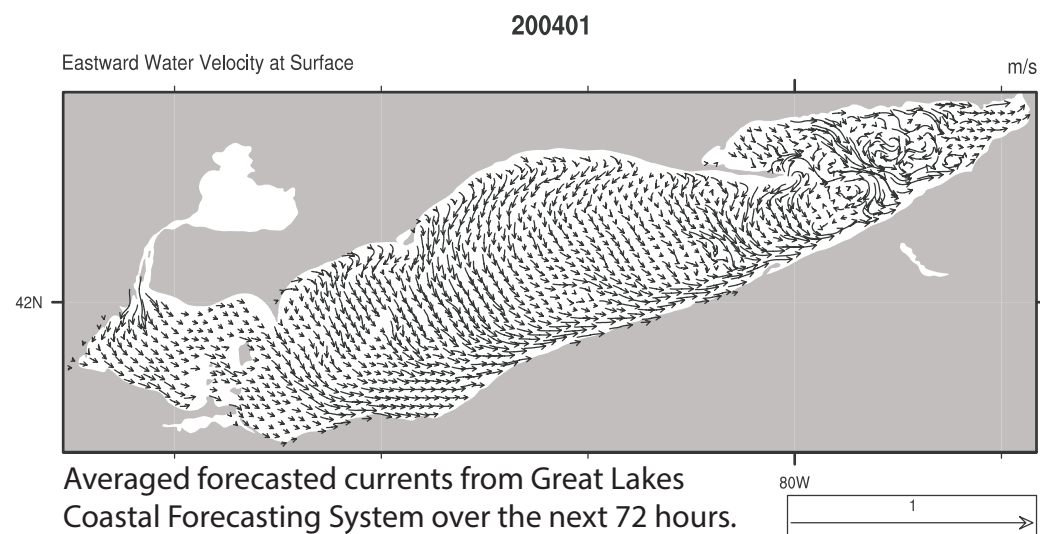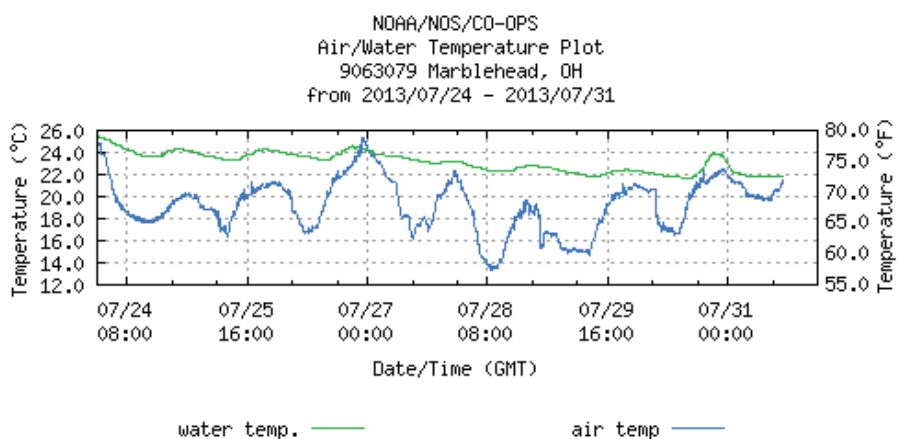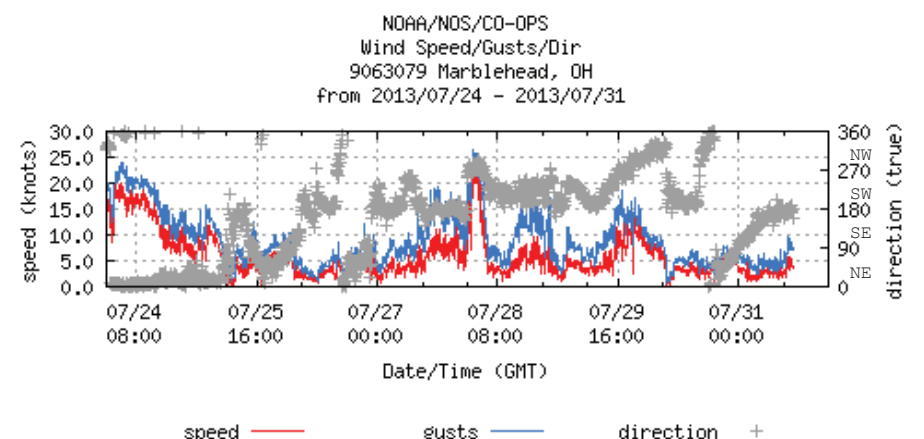

Figure 3. Forecast position of bloom for 3 August 2013 using GLCFS modeled currents to move the bloom from the 30 July 2013 image.

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

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

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).

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