Experimental
Lake Erie Harmful Algal Bloom Bulletin

2010-008
29 July 2010
National Ocean Service
Great Lakes Environmental Research Laboratory
Last bulletin: 22 July 2010

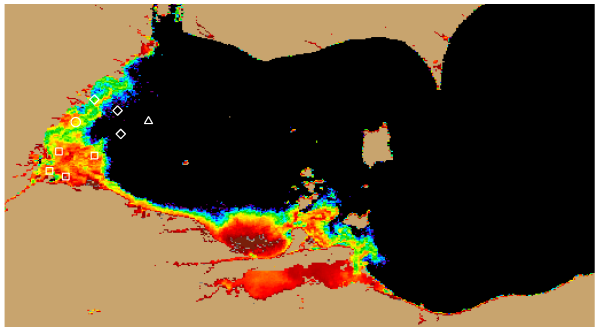


Figure 1. MERIS image from the European Space Agency. Imagery shows the spectral shape at 681 nm from July 27, where colored pixels indicate the likelihood of the last known position of the *Microcystis* spp. bloom (with red being the highest concentration). *Microcystis* spp. abundance data from July 26 shown as white squares (very high), circles (high), diamonds (medium), triangles (low) , + (very low) and X (not present).

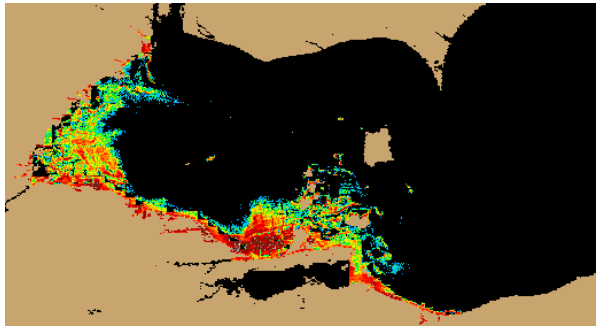


Figure 2. Nowcast position of *Microcystis* spp. bloom for July 29 using GLCFS modeled currents to move the bloom from the July 27 image.

Conditions: A bloom of *Microcystis* cyanobacteria has been identified in from Maumee Bay to Catawba Island. A *Planktothrix* cyanobacteria bloom is also occuring in Sandusky Bay.

Analysis: Imagery and field samples indicate high concentrations of *Microcystis* in Maumee Bay with low to medium concentrations to the north and further offshore. Imagery also indicates the bloom continuing along the southern coast to Catawba Island. The largest bloom area appears to be occuring from Port Clinton to Catawba Island. Image analysis has also identified a large scum patch off of Port Clinton (centered at 41 32' 50"N, 82 56' 10"W) and a smaller patch halfway between Toledo and Cedar Point (centered at 41 41' 56"N, 83 23' 37"W). Although unconfirmed, imagery indicates that the *Microcystis* bloom may extend east of Sandusky. Additionally, models indicate the bloom area east of Sandusky Bay will be transported eastward and offshore parallel to the coast as far as 41 25.62'N, 82 32.98'W. A *Planktothrix* cyanobacteria bloom is also occuring in Sandusky Bay. Moderate winds over the weekend may mix portions of the bloom subsurface.

-Neff, Tomlinson

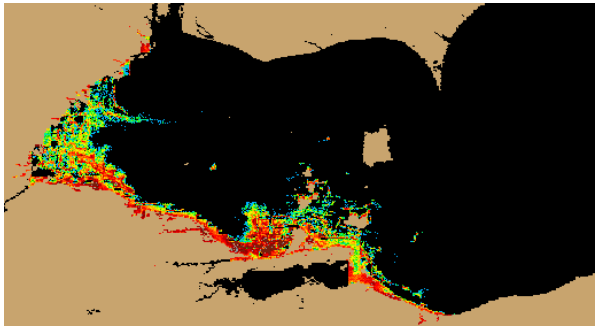
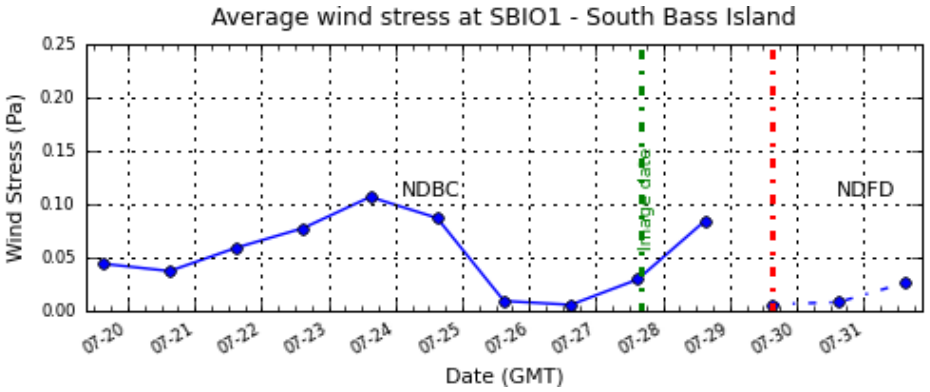
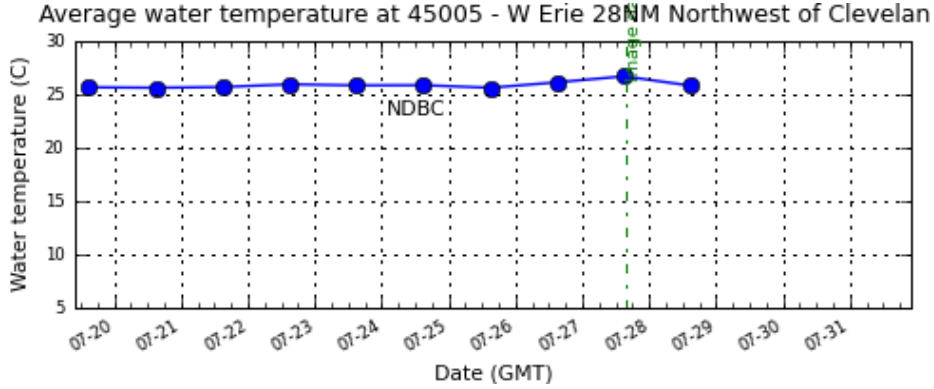


Figure 3. Forecast position of *Microcystis* spp. for August 01 using GLCFS modeled currents to move the bloom from July 27 image.

Please note:
- MERIS imagery was distributed by the NOAA CoastWatch Program and provided by the European Space Agency
- http://www.glerl.noaa.gov/res/Centers/HABS/lake_erie_hab/lake_erie_hab.html
- Cell counts were collected by the Great Lakes Environmental Research Laboratory
- The wind data is available through the National Data Buoy Center and the National Weather Service
- Modeled currents were provided through the Great Lakes Coastal Forecasting System


Average wind stress at SBIO1 - South Bass Island
Wind Stress (Pa)
0.25
0.20
0.15
0.10
0.05
0.00
NDBC
NDFD
07-20
07-21
07-22
07-23
07-24
07-25
07-26
07-27
07-28
07-29
07-30
07-31
Date (GMT)


Average water temperature at 45005 - W Erie 28NM Northwest of Clevelan
Water temperature (C)
30
25
20
15
10
5
NDBC
07-20
07-21
07-22
07-23
07-24
07-25
07-26
07-27
07-28
07-29
07-30
07-31
Date (GMT)