Experimental
Lake Erie Harmful Algal Bloom Bulletin

2011-009
04 August 2011
National Ocean Service
Great Lakes Environmental Research Laboratory
Last bulletin: 28 July 2011

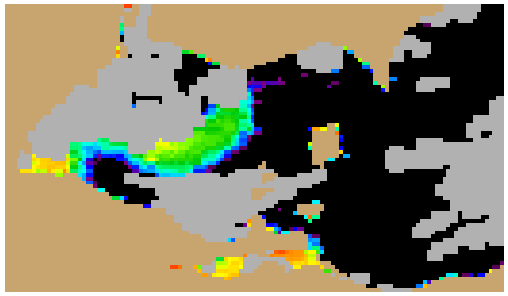


Figure 1. MERIS image from the European Space Agency. Imagery shows the spectral shape at 681 nm from August 01, where colored pixels indicate the likelihood of the last known position of the *Microcystis* spp. bloom (with red being the highest concentration). *Microcystis* spp. abundance data from shown as white squares (very high), circles (high), diamonds (medium), triangles (low) , + (very low) and X (not present). Please note: Colored pixels in Sandusky Bay are due to a mixed bloom dominated by *Planktothrix* spp.

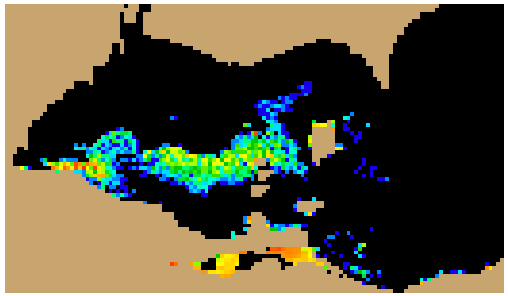


Figure 2. Nowcast position of *Microcystis* spp. bloom for August 04 using GLCFS modeled currents to move the bloom from the August 01 image. Please note: Colored pixels in Sandusky Bay are due to a mixed bloom dominated by *Planktothrix* spp.

Conditions: A *Microcystis* bloom has been confirmed in Western Lake Erie.

Analysis: In situ validation data collected this week confirm a large bloom of *Microcystis* in the Western Lake Erie basin. Models indicate the bloom will move south and east and will likely affect the Bass Islands this week. Relatively windy conditions may have mixed the bloom subsurface. Warm temperatures are conducive to bloom intensification. Due to cloudy weather this week the nowcast and forecast imagery do not represent the full possible extent of the bloom.

Please Note: Due to a data acquisition problem in the full resolution MERIS image collection, we are using the reduced resolution (1 km) imager for this bulletin.

-Neff, Wynne

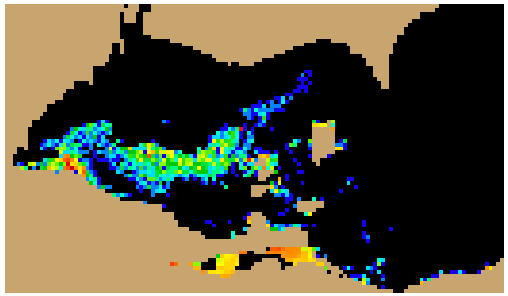
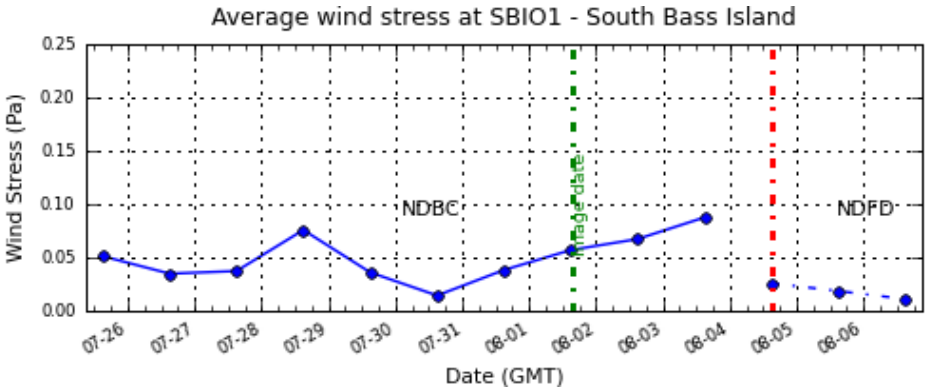


Figure 3. Forecast position of *Microcystis* spp. for August 07 using GLCFS modeled currents to move the bloom from August 01 image. Please note: Colored pixels in Sandusky Bay are due to a mixed bloom dominated by *Planktothrix* spp.

Please note:
- MERIS imagery was distributed by the NOAA CoastWatch Program and provided by the European Space Agency
- 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
Image date
NDFD
07-26
07-27
07-28
07-29
07-30
07-31
08-01
08-02
08-03
08-04
08-05
08-06
Date (GMT)