Experimental
Lake Erie Harmful Algal Bloom Bulletin

2009-002
30 July 2009
National Ocean Service
Great Lakes Environmental Research Laboratory
Last bulletin: 23 July 2009

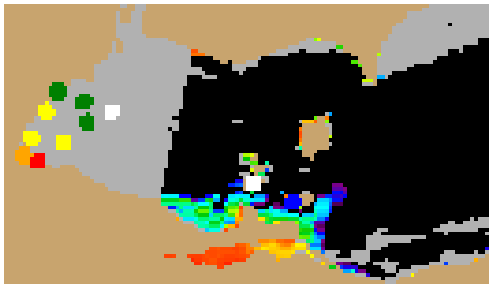


Figure 1. MERIS image from the European Space Agency. Imagery shows the spectral shape at 681 nm from July 27, where colored pixels indicate the likelihood of the last known position of the *Microcystis* spp. bloom (with red being the highest concentration). *Microcystis* spp. abundance data from July 27 shown as red (very high), orange (high), yellow (medium), green (low) , blue (very low) and white (not present) circles. Please note: Colored pixels in Sandusky Bay are due to a mixed bloom dominated by *Planktothrix* spp.

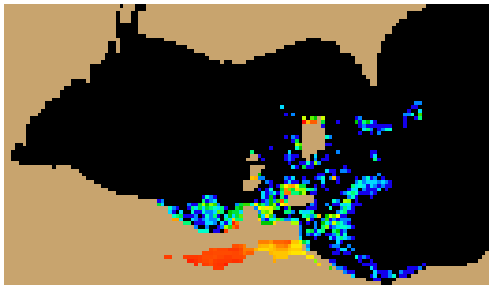


Figure 2. Nowcast position of *Microcystis* spp. bloom for July 30 using GLCFS modeled currents to move the bloom from the July 27 image. Please note: Colored pixels in Sandusky Bay are due to a mixed bloom dominated by *Planktothrix* spp.

Conditions: A *Microcystis* spp. bloom has been identified in the western basin of Lake Erie, and along the south shore just north of Sandusky Bay. The bloom may be visible (green) from the shore or in nearshore areas outside of Maumee Bay to the east, where cell abundances are high. Scum development is possible. A mixed bloom is also present in Sandusky Bay. Moderate taste and odor issues have been observed and may continue in Sandusky Bay as a result of the bloom.

Analysis: The *Microcystis* spp. bloom in the western basin and southern shore of western Lake Erie is enhancing. Imagery is obscured by clouds in the western basin, however cell abundance data indicate that it has intensified and moved further out into the Lake. In addition, a mixed bloom dominated by *Planktothrix* spp. has been observed in Sandusky Bay and moderate taste and odor problems have been observed. Extremely low wind stress over the weekend will most likely intensify the bloom, however transport will be minimal. Cells may be observed as far west as 82d31'W and 41d37'18"N.

-Tomlinson, Wynne, Dyble

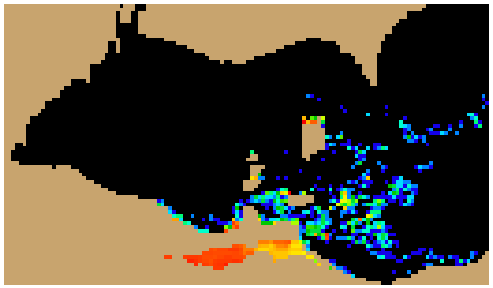
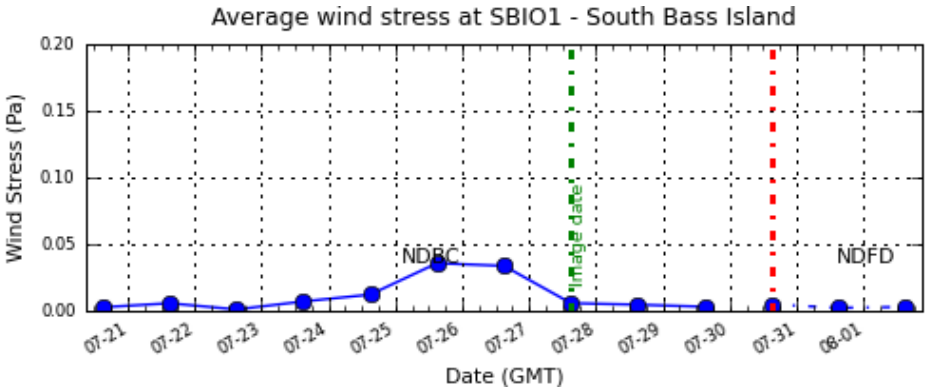


Figure 3. Forecast position of *Microcystis* spp. for August 02 using GLCFS modeled currents to move the bloom from July 27 image. Please note: Colored pixels in Sandusky Bay are due to a mixed bloom dominated by *Planktothrix* spp.

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)
0.20
0.15
0.10
0.05
0.00
NDBC
NDFD
landfall date
07-21
07-22
07-23
07-24
07-25
07-26
07-27
07-28
07-29
07-30
07-31
08-01
Date (GMT)