Experimental
Lake Erie Harmful Algal Bloom Bulletin

2011-015
15 September 2011
National Ocean Service
Great Lakes Environmental Research Laboratory
Last bulletin: 08 September 2011

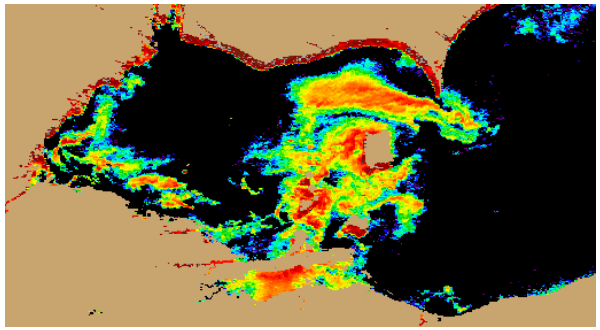


Figure 1. MERIS image from the European Space Agency. Imagery shows the spectral shape at 681 nm from September 14, where colored pixels indicate the likelihood of the last known position of the *Microcystis* spp. bloom (with red being the highest concentration). *Microcystis* spp. abundance data from shown as white squares (very high), circles (high), diamonds (medium), triangles (low) , + (very low) and X (not present).

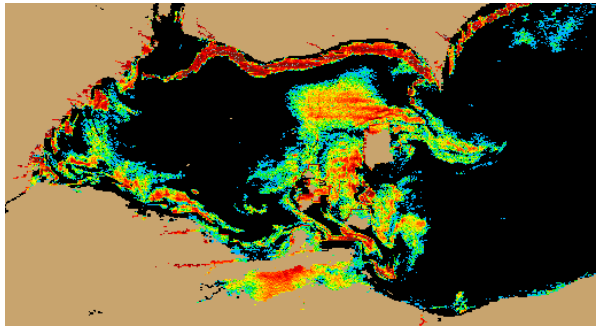


Figure 2. Nowcast position of *Microcystis* spp. bloom for September 15 using GLCFS modeled currents to move the bloom from the September 14 image.

Conditions: There is a bloom of Microsystis.

Analysis: Microcystis is still blooming in Western Lake Erie. The concentrations, particularly on the surface have been greatly reduced since last week. This is most likely as a result of increased wind stress the last few days. The increased wind stress has caused mixing and much of the biomass is likely to be subsurface (> 1 meter) and hence not likely to be visible by satellite. Forecast wind stress is low and water temperatures are still warm, therefore, the bloom biomass is expected to resurface over the weekend.

The forecast is for westward transport, however it is likely that any westward transport will be overwhelmed by resurfacing cells.

-Wynne

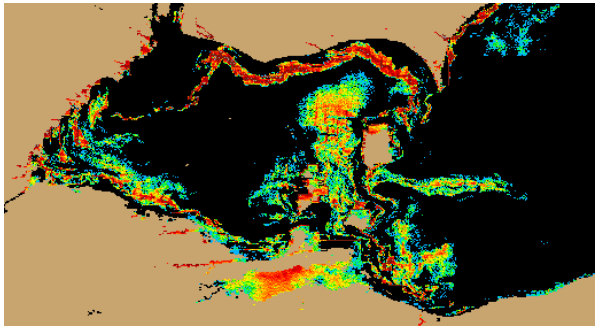
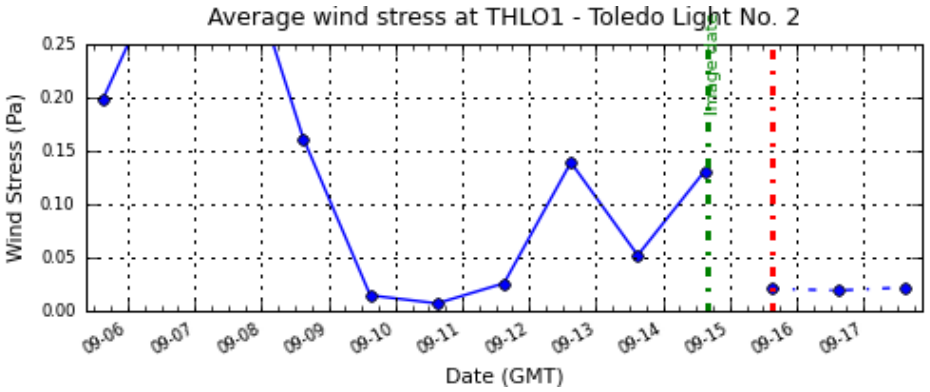
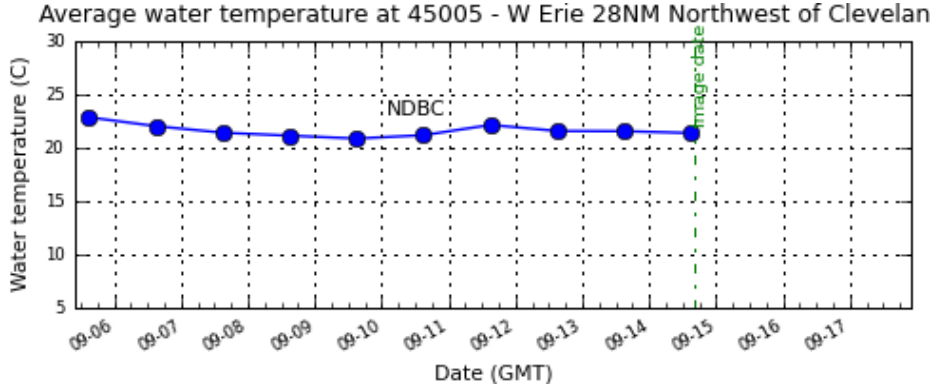


Figure 3. Forecast position of *Microcystis* spp. for September 18 using GLCFS modeled currents to move the bloom from September 14 image.

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 THLO1 - Toledo Light No. 2
Wind Stress (Pa)
0.25
0.20
0.15
0.10
0.05
0.00
Image date
09-06
09-07
09-08
09-09
09-10
09-11
09-12
09-13
09-14
09-15
09-16
09-17
Date (GMT)


Average water temperature at 45005 - W Erie 28NM Northwest of Clevelan
Water temperature (C)
30
25
20
15
10
5
NDBC
Image date
09-06
09-07
09-08
09-09
09-10
09-11
09-12
09-13
09-14
09-15
09-16
09-17
Date (GMT)