



## Experimental Lake Erie Harmful Algal Bloom Bulletin

2010-007

22 July 2010

National Ocean Service

Great Lakes Environmental Research Laboratory

Last bulletin: 08 July 2010

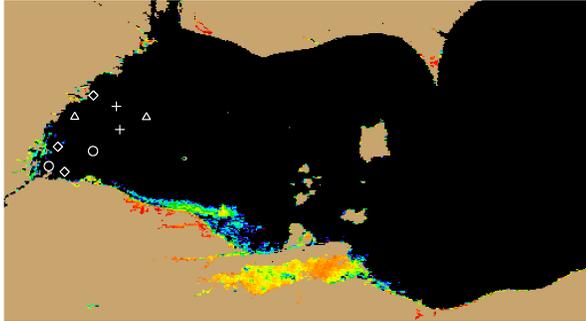


Figure 1. MERIS image from the European Space Agency. Imagery shows the spectral shape at 681 nm from July 20, where colored pixels indicate the likelihood of the last known position of the *Microcystis* spp. bloom (with red being the highest concentration). *Microcystis* spp. abundance data from shown as white squares (very high), circles (high), diamonds (medium), triangles (low) , + (very low) and X (not present).

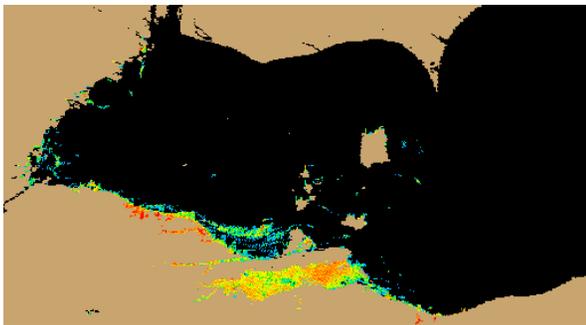


Figure 2. Nowcast position of *Microcystis* spp. bloom for July 22 using GLCFS modeled currents to move the bloom from the July 20 image.

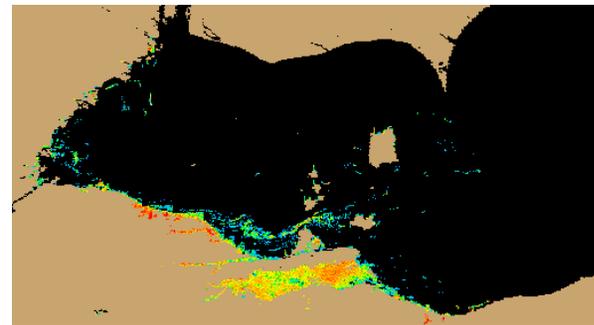


Figure 3. Forecast position of *Microcystis* spp. for July 25 using GLCFS modeled currents to move the bloom from July 20 image.

*Conditions:* There have been recent reports of low-very high concentrations of *Microcystis* this week in Western Lake Erie.

*Analysis:* The image shown is from July 20. There were winds causing a wind stress of  $\sim 0.1$  Pa the previous day. This is the threshold where complete mixing of the lake generally occurs. This very well may have caused the cells to be homogeneously mixed throughout the water column, causing apparently low surface concentrations in the image. It is likely that the bloom will resurface if windstress remains low ( $>0.05$  Pa). Water temperature is high, which may cause increased concentrations of *Microcystis*. However, forecasted windstress by the NDFD calls for moderate mixing in the lake, which should prevent the formation of surface scum. Continued sampling is recommended.

-Wynne, Briggs

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](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

