



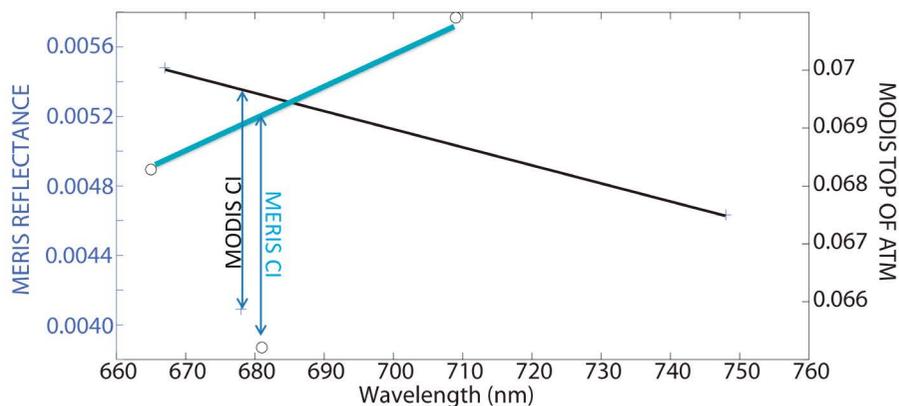
Supplemental Information on Experimental Lake Erie Harmful Algal Bloom Bulletin

NOS/NCCOS; Great Lakes Environmental Research Laboratory

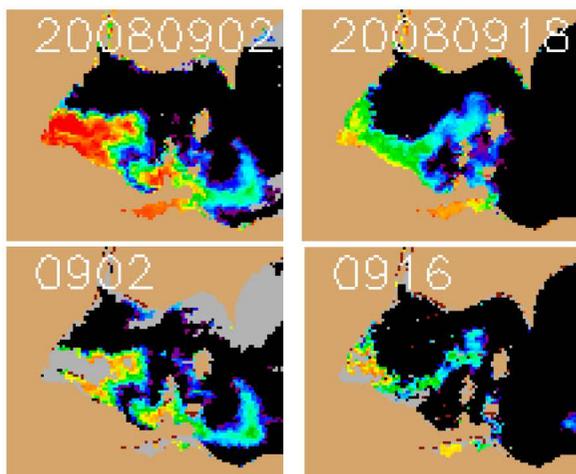
17 May 2012; Bulletin 0

The MERIS Sensor on ENVISAT stopped sending data on April 8, 2012. As a result we will be unable to use MERIS images for the Lake Erie Cyanobacterial Bloom Forecasts. We have applied the equivalent algorithm from MERIS to MODIS. The initial results look acceptable. The data from MODIS uses different wavelengths, but the algorithm seems to detect the optical signature from the cyanobacteria when in low to moderate concentrations. We will use a near-infrared/red ratio to quantify high concentrations if the need arises. We aim to start producing weekly bulletins in June and will continue to do so until late October.

-Tim Wynne

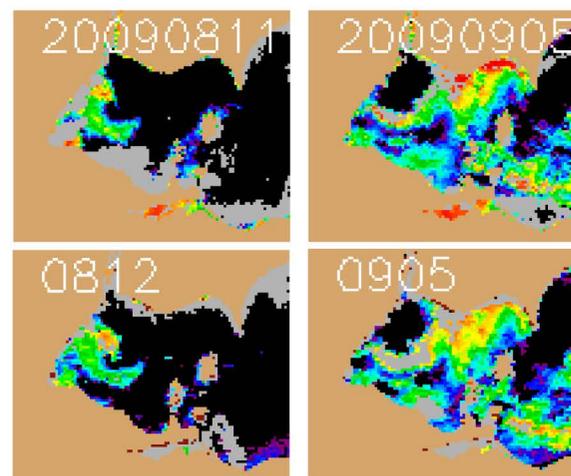


MODIS algorithm shown in black uses three top of atmosphere derived bands. MERIS algorithm shown in blue uses three reflectance derived bands.

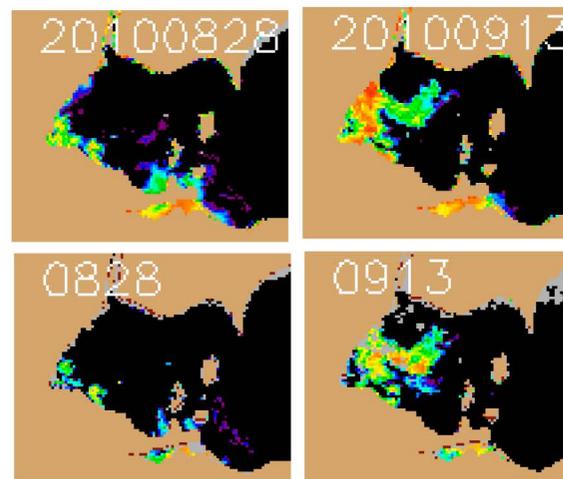


Initial results have been run, and the results from the algorithms seem comparable. The MODIS images become saturated in high cell concentrations. Basic statistics are shown on Page 2.

MERIS images are on the top row from Sept 2, 2008 and Sept 18, 2008. MODIS images from equivalent dates are on the second row. Data in Maumee Bay from the Sept 2, 2008 MODIS image has become saturated and appears as a cloud.



MERIS images on the top row, Aug 11, 2009 and Sep 5, 2009. MODIS images bottom row Aug 12, 2009 and Sept 5, 2009.



MERIS images on the top row Aug 28, 2010 and Sep 13, 2010. MODIS images bottom row Aug 28, 2010 and Sept 13, 2010.

Statistical Comparisons between images shown on Page 1.

No attempt was made to remove outliers.

