

1. Estimation of Chlorophyll-*a* Concentration using HICO Data:

Multiple HICO images acquired over the Taganrog Bay, Russia over a period of several months in 2012 and 2013 were used to estimate chlorophyll-*a* (chl-*a*) concentration. The objective was to assess the potential of HICO as a reliable tool for determining coastal water quality. This was especially important after the demise of the MEdium Resolution Imaging Spectrometer (MERIS) in April 2012, which caused a potentially significant gap in reliable data for determining coastal water quality. Algorithms based on the reflectances in the red and near-infrared channels of HICO gave accurate estimates of chl-*a* concentration in the Taganrog Bay during a period of significant spatial and temporal variations of chl-*a* concentration in the bay. The results demonstrated the potential of HICO as a tool for determining coastal water quality.

The results were published in the following article:

Moses, W. J., Gitelson, A. A., Berdnikov, S., Bowles, J. H., Povazhnyi, V., Saprygin, V., and Wagner, E. J. (2014). *HICO-Based NIR-red Algorithms for Estimating Chlorophyll-*a* Concentration in Productive Coastal Waters*, IEEE Geoscience and Remote Sensing Letters, **11**(6): 1111-1115.

The results were also presented in the form of oral presentations (marked with *) and posters at the following conferences/meetings.

***Moses, W. J.**, Bowles, J. H., Gitelson, A. A., Lamela, G. M., Berdnikov, S., Gillis, D. B., Povazhnyi, V., Saprygin, V., Wagner, E. J., and Yacobi, Y. Z., *Coastal Remote Sensing Using HICO – Results, Challenges, and Potential for Operational Biophysical Parameter Estimation*, Ocean Sciences Meeting, 24-28 Feb 2014, Honolulu, Hawaii.

Moses, W. J., Gitelson, A. A., Berdnikov, S., Bowles, J. H., Povazhnyi, V., Saprygin, V., and Wagner, E. J., *Operational NIR-Red Algorithms for Estimating Chlorophyll-*a* Concentration from Satellite Data in Inland and Coastal Waters*, Poster Presentation, 2013 ESA Living Planet Symposium, 09 – 13 Sep 2013, Edinburgh, Scotland.

Moses, W. J., Gitelson, A. A., Berdnikov, S., Bowles, J. J., Saprygin, V., Povazhnyi, V., and Wagner, E. J., *HICO-Based NIR-red Algorithms for Estimating Chlorophyll-*a* Concentration in Inland and Coastal Waters – the Taganrog Bay Case Study*, Poster Presentation, International Ocean Colour Science Meeting, 06 – 08 May 2013, Darmstadt, Germany.