

BRADEX: Bottom Reflectance and Adjacency Experiment for Belgian coastal and inland waters.

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Existing optical remote sensing algorithms for chlorophyll (CHL), suspended particulate matter (SPM) and water transparency retrieval often fail or return results of poor quality in very near shore and inland waters, where bottom reflectance and/or adjacency effects may significantly contaminate products. The BRADEX project was motivated by the need to improve the scientific basis for processing of optical remote sensing imagery in shallow coastal and inland waters.

On 23 June 2005 a benchmark dataset of MERIS, MODIS and CHRIS satellite images, airborne AHS hyperspectral reflectance, TriOS in-situ hyperspectral reflectance, CIMEL, ASD, SPM and chlorophyll measurements was collected with the purpose to test algorithms for detection and correction of bottom reflectance and adjacency effects.

The AHS atmospheric correction is improved for coastal waters by using the near infrared similarity spectrum giving a better comparison with satellite- and TriOS in-situ hyperspectral reflectance measurements.

Bottom reflectance was not visible on 23 June 2003 but adjacency errors are found on many airborne data pixels, especially in the Spuikom, a small inland water body in Oostende. A preliminary algorithm is described to detect pixels affected by adjacency.

The collected data will not only serve for research on adjacency effects but can also be used to study the detection of *Noctiluca* from airborne data and testing of sunglint algorithms and probably more.