Remote Sensing for Characterization of Intertidal Sediments and Microphytobenthic Algae

Investigation the variation of microphytobenthos (MPB) at various time and spatial scales

(2007 – 2009)

Stefanie Adam, Renaat Dasseville, Rodney Forster, Elsy Ibrahim, Jaak Monbaliu, Koen Sabbe, Daphne van der Wal, Aaike De Wever

ALGASED: funded by the Belgian Science Policy Office in the frame of the STEREO II programme project SR/00/109
Objectives

- Improvement and fine-tuning of biomass estimates (exploration of ratio’s and vegetation indices) and modeling of primary production (PP)

$R^2$ for correlation of index obtained from field spectra with Chl a data
Objectives

- Accuracy assessment and improvement of supervised and unsupervised classification methods for hyperspectral imagery

-unsupervised classification of a hyperspectral image by different techniques: classifying the IJzermonding in two classes of chl-a

Investigating different techniques using artificial data sets
  - Varying spatial properties
  - Varying spectral properties
Objectives

- Assessment of the performance of various types of satellite data for the quantification of MPB biomass and sediment physical properties

- Multi-scale analysis incorporating ground, airborne and satellite data

Figure: Mud content from CASI (above, 5m res) and from SPOT (below, 10m res), 27 May 2005

Reflectance spectra of a pixel by an ASD

Sand with low chl-a content

ALGASED: funded by the Belgian Science Policy Office in the frame of the STEREO II programme project SR/00/109