

Developing atmospheric correction for hyperspectral ocean colour remote sensing in application to the EnMAP mission

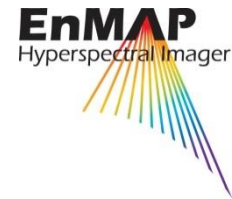
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Abstract:

The scope of the project is the scientific preparation for use of the hyperspectral satellite mission EnMAP (Environmental Mapping and Analysis Program) during the pre-launch, commissioning and nominal mission phase. The scientific lead of the mission lies with the Remote Sensing section at GFZ Potsdam, supported by a Core Science Team (ECST). Tasks of the ECST include (i) updating the EnMAP Science Plan, (ii) organising and conducting workshops and summer schools, (iii) coordinating networking and dissemination activities, and (iv) developing algorithms for processing and analysing hyperspectral data as well as implementing them into the free and open software package EnMAP-Box, developed in the frame of the EnMAP scientific preparation program.

The scope of the ACENMAP project activities comprised:

- radiative transfer simulations of top of atmosphere and water leaving radiance for different water types and atmospheric conditions (AC) for sensitivity studies;
- adaptation of the Polymer AC for the application on the hyperspectral EnMAP data and test on existing hyperspectral satellite data (HICO);
- validation of the retrievals over inland and coastal water sites with in situ multi- and hyperspectral radiometric measurements;
- intercomparison to other atmospheric correction algorithms (e.g. L2gen);
- integration of the AC algorithm in the EnMAP-Box software;
- support EnMAP education initiatives (e.g. **HYPERedu**, **EnMAP-Box** tutorials).



ECST Phase III – Ocean, coastal and inland water

Duration: 1.1.2017 – 31.12.2019

EO Data Source: EnMAP, HICO

Support Program: EnMAP Utilization Preparation

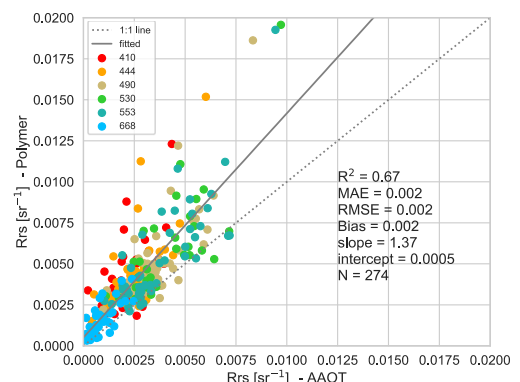
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<http://www.enmap.org/>

<https://www.awi.de/en/science/climate-sciences/physical-oceanography/main-research-focus/ocean-optics.html>



Scatter plot showing the comparison between Polymer-HICO-Rrs and in-situ Rrs (AERONET-OC).