

Department of Informatics (DI/FCT/UNL)

MERIS PRODUCTS ASSESSMENT

Centre for Artificial Intelligence



In collaboration with
**SOFTWARE SYSTEMS
ASC Team**



Davide D'Alimonte

Since 2008, Davide D'Alimonte he joined CENTRIA to investigate the use of neural nets for the processing of ocean color remote sensing data.

Objectives

Ocean color applications are main components of Earth Observation Programs for environmental monitoring and climate change studies. Since autumn 2009, DI/FCT has been undertaking in collaboration with the Institute for Environment and Sustainability (IES) of the European Commission's Joint Research Centre (JRC) a research program led by CENTRIA and CITI to provide technical support to the European Space Agency (ESA) for the validation of space-born marine bio-geochemical parameters (e.g., chlorophyll concentration) in different European seas. The scope is to enhance remote sensing applications in coastal areas of Portugal critical for fisheries, aquaculture and environmental monitoring.

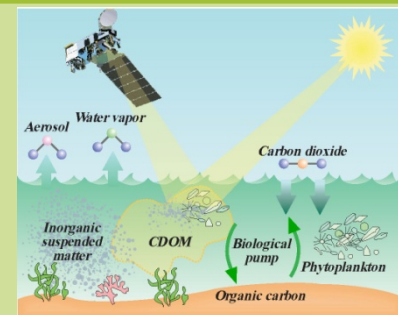
Methodology

Neural nets have been developed to derive regional product maps applicable to benchmark standard results from the Medium Resolution Imaging Spectrometer (MERIS) of ESA. Reference areas of investigation are the Adriatic Sea, the Baltic Sea and the Black Sea, characterized by different bio-optical regimens. Specific analyses have also been executed in the Atlantic off Portugal. Within this context, an oceanographic field campaign took place in the Atlantic of Portugal in spring 2011, as a result of a joint activity between DI/FCT, the Hydrographic Institute of the Portuguese Navy, the Oceanographic Institute of the University of Lisbon, the JRC of EC and Centro of Marine and Environmental Investigation, University of Algarve.

Expected Results

By creating a framework for the development, performance assessment, verification of applicability and products comparison, this study wants to emphasize the feasibility and strategic importance of using regional algorithms to timely evaluate operational space mission results as a cost-effective complement to match-up analyses. Underpinning elements are the maintenance of programs to collect high-quality field measurements and the development of regional ocean color inversion schemes with defined range of applicability. The relevance of these recommendations is fully in line with accuracy requirements of recent and forthcoming space sensors.

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CENTRO DE OCEANOGRAFIA
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Centro of Marine and Environmental Investigation, University of Algarve



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Hydrographic Institute of Portugal



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