

# OCEAN OPTICS XXIV

Valamar Lacroma Dubrovnik Hotel | Dubrovnik, Croatia | October 7–12, 2018

<https://oceanopticsconference.org>

Thursday, October 11

Poster Session 4

10:30–12:00

## Poster 243

### JOINT MONITORING PROGRAMME OF EUTROPHICATION IN THE NORTH SEA WITH SATELLITE DATA

The Marine Strategy Framework Directive (MSFD) is currently one of the most important drivers for monitoring the coastal and offshore waters in Europe with the objective of reaching a 'good environmental status' (GES) by 2020. Human-induced eutrophication is one of the criteria for assessing the extent to which GES is being achieved and is established by monitoring of chlorophyll-a (CHL) concentration as a proxy of phytoplankton biomass. While in situ data acquisition is still considered as the main monitoring tool, there is a growing tendency to use optical remote sensing as a supporting tool to achieve a coherent assessment of CHL in the North Sea. In the JMP-EUNOSAT project we present the evaluation of publicly accessible satellite-based chlorophyll products available from Copernicus Marine Environment Monitoring Services (i.e. CMEMS), European Space Agency (i.e. ODESA) and other data providers (i.e. IFREMER) and determine their validity for different water types in terms of CHL, suspended matter (SPM) and colored dissolved organic matter (CDOM) concentrations. The validity of each CHL product was determined using the Coast Colour Round Robin dataset which was designed to test algorithms and assess their accuracy for retrieving water quality parameters. The quality controlled CHL products were subsequently merged together into a coherent CHL product to enable a definition of cross-border assessment areas based on ecosystem characteristics, rather than national borders. The blended CHL product is compared to in situ datasets for all assessment areas found in the North Sea and its suitability for eutrophication monitoring is assessed.

**Dimitry Van der Zande**, Royal Belgian Institute of Natural Sciences / OD Nature, [dvanderzande@naturalsciences.be](mailto:dvanderzande@naturalsciences.be),

<https://orcid.org/0000-0002-2742-0721>

Heloise Lavigne, RBINS / OD Nature, [hlavigne@naturalsciences.be](mailto:hlavigne@naturalsciences.be)

Francis Gohin, IFREMER, [Francis.Gohin@ifremer.fr](mailto:Francis.Gohin@ifremer.fr)

Silvia Pardo, PML, [spa@pml.ac.uk](mailto:spa@pml.ac.uk)

Gavin Tilstone, PML, [ghti@pml.ac.uk](mailto:ghti@pml.ac.uk)

Marieke Eleveld, Deltares, [marieke.eleveld@deltares.nl](mailto:marieke.eleveld@deltares.nl)