

SEOM's 'advanced Clouds, Aerosols and Water vapour products for Sentinel-3/OLCI' project CAWA

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ABSTRACT:

The ESA-SEOM S3 'advanced Clouds, Aerosols and Water vapour products for Sentinel-3/OLCI' CAWA project aims to develop advanced atmospheric retrieval algorithms in preparation of the Sentinel-3/OLCI missions, including: a sensor comprehensive and consistent 1D-Var water vapour algorithm using the Envisat/MERIS and EOS-Aqua/MODIS measurements; the application of the Envisat/MERIS cloud top pressure 1D-Var procedure to the three Sentinel-3/OLCI O2 A-band channels using radiative transfer simulations; and the implementation using Envisat/MERIS of the innovative and computationally challenging Generalized Retrieval of Aerosol & Surface Properties (GRASP) algorithm for the retrieval of aerosols and surface properties. In addition, the CAWA project will assess the combination of the above algorithms so as to improve the atmospheric correction approaches for both the Envisat/MERIS and Sentinel-3/OLCI land and ocean products by using complete atmospheric retrievals. All CAWA developed algorithms will be implemented in the free ESA Sentinel-3 toolbox (<https://earth.esa.int/web/sentinel-tbx/sentinel-3-toolbox>).