

MERIS Validation in the Norwegian Coastal Current during spring 2002 - Envisat AO #813

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Overall Objective:

- To collect sea truth measurements in the Norwegian coastal waters synoptically with Envisat over pass for validation of the MERIS products.
- To provide sea truth data to the ESA/NILU database for Envisat products validation.
- To perform validation study of the ESA delivered MERIS products with sea truth analysis of core water quality, chlorophyll distribution and other oceanographic parameters.
- To perform synergy studies of synoptic MERIS, ASAR and AATSR mapping of the coastal waters.

Three oceanographic cruises have been performed during the period May to July 2002 for validation of Envisat MERIS data products (Level-2) in the Norwegian Coastal Current. The field sampling includes oceanographic data, other satellite EO data, meteorological and ocean model simulations as well as sampling of direct product validation parameters according to the Envisat MERIS validation protocol of the MAVT (MERIS and AATSR validation Team). During the 23 cruise days a total of 73 stations have been collected at up to 3 depths and analysed with respect to chlorophyll, yellow substance and sediment concentrations. At least one daily station has been collocated with the over-time (± 30 minutes) passage of MERIS and SeaWiFS respectively.

Due to highly variable cloud cover, sensor and satellite operations, etc. the match between the satellite data and field observations are limited to 3-5 days. For MERIS data we are still lacking access to data from several possible match-ups. One available cloud free scene has been analysed. For MERIS the Off-shore Algal1, CoastalAlgal1 and CoastalTSM algorithm the match with field samples seems to be within specifications. The Algal2 product for coastal waters seems to be overestimated by a factor of 3. In order to provide conclusive analysis additional data included MERIS FR data are required.

The unique potential of multi-sensor synergies in simultaneous mapping by the Envisat sensors MERIS FR, AATSR and ASAR have a large unexplored potential for the first time being synoptically available with the Envisat satellite.