

# New Black Sea SMOS-derived Colored Detrital Matter (CDM) product

We are pleased to announce the publication of the **experimental Colored Detrital Matter (CDM) derived** from the regional **SMOS Sea Surface Salinity (SSS)** products for the **Black Sea** produced at BEC. This new experimental CDM product, specific for the Danube mouth, has been created under the funded ESA project *ITT Earth Observation data for Science and Innovation in the Black Sea (E04SIBS)* (contract 4000127237/19/I-EF).

This experimental data set is based on a preliminary study on the connection between SSS and CDM in the Danube mouth. This connection is caused by the capability of SSS to track the proportion of fresh water contributed by the river. Satellite biogeochemical variables are generally derived from data acquired in the visible range of the spectrum, and thus they are hampered by the presence of clouds. This is a significant issue in a basin that has a 40-50% of average cloud coverage in spring and summer seasons and between 10-20% in winter. For that reason, finding an empirical relation between satellite biogeochemical variables and microwave, that despite its limited resolution is an all-weather variable, has an important added value.



Comparison of reconstructed CDM from SMOS SSS for the Black Region (left) and observed CDM from optical sensors (right) for the period January – February 2019. The observed CDM fields have been previously filtered and remapped to the L4 SMOS SSS grid.

Despite there is still much room for improvement, we found a strong functional relation between SSS and CDM during the winter and spring seasons. For this reason, the experimental SMOS-derived L4 CDM product comprises the winter and spring

seasons for the period 2011-2019 and has daily temporal resolution and is given in a 0.05 x 0.0505 degrees grid.

More information about the preliminary results on the empirical relation between SSS and CDM, the retrieval procedure, and its validation can be found in the BEC SMOS-derived CDM Black Sea Product Description [BEC\\_PD\\_CDM\\_Black\\_L4.pdf](#). Please, do not hesitate to contact us in case you have any questions or comment at [smos-bec@icm.csic.es](mailto:smos-bec@icm.csic.es). Your feedback is most welcome!