JRC Dataset

GMIS - VIIRS Monthly mean particulate backscattering coefficient at 443nm (9km) in m^-1

Description:

Particulate matter (particulate backscatter coefficient at 443nm, bbp in m^-1 at 9km resolution): The backscatter coefficient bbp represents the fraction of incident light that is scattered backward from its original path by particulate material in the water. The backscattering coefficient gives a good indication of the concentration of suspended organic and inorganic particles (e.g. sediments) in the water.

Contributors:

- Melin, Frederic frederic.melin@ec.europa.eu

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Keywords:

Environmental monitoring facilities, GIS digital format, Oceanographic geographical features, Protected sites, climate change, coastal environment, environmental data, marine environment, marine monitoring, ocean color, particulate backscattering coefficient, satellite observations, sea water protection

Related resources:

Data access

GMIS - Download access (GMIS_V_BBP)

Direct NetCDF download

http://gmis.jrc.ec.europa.eu/satellite/9km/

Additional information:

Last Modified: 2018-04-24

Issue date: 2018-04-27

Landing page: http://gmis.jrc.ec.europa.eu/

Temporal coverage: From: 2012-01-01 – To: 2017-12-31

Language: English

Data theme(s): Environment

EuroVoc domain(s): 36 SCIENCE; 52 ENVIRONMENT

EuroVoc concept(s): environmental monitoring; ocean; oceanography; protected area

Identifier: http://data.europa.eu/89h/cae2f489-2a05-4cd5-8d79-ee7b4ecf830f

Geographic information:

Lineage: General information: Monthly mean particulate backscattering coefficient at 443nm in m^-1 derived from the VIIRS sensor. Processing information: bbp data is reprocessed using SeaDAS 7.4 software and the QAA algorithm (Lee et al., 2002). Temporal characteristics: This dataset consists of standard monthly mean sea surface layer bbp maps at 9km resolution (L3 product). Description of observation methods/instruments: The remote sensing of 'Ocean Colour' represents a measure of the spectral variations in the light leaving the water surface, subsequently interpreted in terms of concentrations of optically-significant constituents in the water. The electromagnetic signal collected by the sensor on-board the satellite is largely determined by photons that have never reached the water surface, but have been backscattered within the atmosphere through multiple interactions between gas molecules and aerosols. After removing the atmospheric contribution, the water leaving

radiance recorded at a given time by the satellite reflects the optical properties of the water which, in turn, mirrors a specific structure and biogeochemical composition of the marine waters. The satellite-derived reflectance at the air-sea interface is related to inherent optical properties of the water constituents including as bbp. Quality/accuracy/calibration information: The calculation is based on a semi-analytical bio-optical algorithm. More details as well as validation results are given in Lee et al. (2002), IOCCG (2006) or Melin et al. (2007). References: Lee, Z.-P., Carder, K.L., Arnone, R.: Deriving inherent optical properties from water color: A multiband quasi-analytical algorithm for optically deep waters. Appl. Opt., 41, 5755-5772, 2002. IOOCG Report 5: Remote sensing of inherent optical properties: Fundamentals, tests of algorithms, and applications, Eds. Z.-P. Lee, 126pp., 2006. Mélin,F., Zibordi, G., Berthon, J.-F.: Assessment of satellite ocean color products at a coastal site. Remote Sens. Environ., 110, 192-215, 2007. Other contextual information: The product is stored in NetCDF data and available for download.

Geographic bounding box: 90.0° N, 180.0° E, -90.0° S, -180.0° W

Coordinate Reference System: ETRS89