JRC Dataset

GMIS - SeaWiFS Monthly mean sea surface Chlorophyll-a concentration (4km) in mg.m^-3

Description:

Monthly mean sea surface Chlorophyll-a concentration (in mg.m^-3 (log10) at 4km resolution) derived from the SeaWiFS sensor (Satellite remote sensing Ocean color data): Chlorophyll is a photosynthetic pigment commonly present in all phytoplankton species. It is used as a proxy for phytoplankton biomass. Chlorophyll concentration is a standard product from satellite-based optical sensors, usually retrieved from empirical algorithms using reflectance ratios at two or more wavebands.

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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, satellite observations, sea surface Chlorophyll-a concentration, sea water protection

Related resources:

Data access

GMIS - Download access (GMIS_S_CHLA)

Direct NetCDF download

https://jeodpp.jrc.ec.europa.eu/ftp/public/JRC-OpenData/GMIS/satellite/9km/

Additional information:

Last Modified: 2013-06-11

Issue date: 2013-08-29

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

Temporal coverage: From: 1997-09-01 – To: 2010-12-31

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/db1832e7-4b14-48eb-9d07-f2cd4090c299

Geographic information:

Lineage: General information: Monthly mean sea surface Chlorophyll-a concentration in mg.m^-3 (log10 scalling) derived from the SeaWiFS sensor. Processing information: Chlorophyll-a data is processed using NASA SeaDAS 6.4 software and the standard OC3M algorithm for chla. Temporal characteristics: This product consists of standard monthly mean sea surface chlorophyll-a concentrations (L3 product) at 9km resolution (projection: Equidistant cylindrical Grid mapping: equirectangular). Description of observation methods/instruments: The remote sensing of 'Ocean Color' 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. After removing the atmospheric contribution, the water leaving radiance recorded at a given time and wavelength by the satellite

reflects the optical properties of the water which, in turn, mirrors a specific structure and biogeochemical composition of the marine waters. Accordingly, the satellite-derived reflectance at the air-sea interface can be related to the concentration of an optically-significant constituent (e.g. chlorophyll). The retrieval of chlorophyll from SeaWiFS for case 1 waters (optically dominated by phytoplankton and associated products) uses a 4th order polynomial algorithm (O'Reilly et al. 2000). Quality/accuracy/calibration information: The 'standard' algorithm proposed by space agencies to process data from their sensors has a nominal accuracy of ~35% in the retrieval of surface chlorophyll in case 1 waters. References: J. E. O'Reilly and co-authors, SeaWiFS Postlaunch Calibration and Validation Analyses, Part 3. NASA Tech. Memo. 2000-206892, Vol. 11, S.B. Hooker and E.R. Firestone, Eds., NASA Goddard Space Flight Center, Greenbelt, Maryland, 9-23. 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