JRC Dataset

GMIS - SeaWiFS Monthly climatology absorption coefficient due to phytoplankton at 443nm (9km) in m^-1

Description:

Absorption Coefficient of Phytoplankton at 443nm (aph in m^-1 at 9km resolution): The absorption coefficient aph represents the fraction of incident light absorbed by phytoplankton organisms. It is an index of variability of the phytoplankton biomass in marine and coastal turbid waters.

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How to cite:

Melin, Frederic(2013): GMIS - SeaWiFS Monthly climatology absorption coefficient due to phytoplankton at 443nm (9km) in m^-1. European Commission, Joint Research Centre (JRC) [Dataset] PID: http://data.europa.eu/89h/95ca9aba-b4ea-414c-a9c6-c886b1d04f3e

Keywords:

Environmental monitoring facilities, GIS digital format, Oceanographic geographical features, Protected sites, absorption coefficient due to phytoplankton climatology, climate change, coastal environment, environmental data, marine environment, marine monitoring, ocean color, satellite observations, sea water protection

Related resources:

Data access

GMIS - Download access (GMIS_S_APH)

Direct NetCDF download

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

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/95ca9aba-b4ea-414c-a9c6-c886b1d04f3e

Geographic information:

Lineage: General information: Monthly climatology absorption coefficient due to phytoplankton at 443nm in m^-1 derived from the SeaWiFS sensor. Processing information: aph(443) data is processed using SeaDAS 6.4 software and the QAA algorithm (Lee et al., 2002). Temporal characteristics: This dataset consists of standard mapped image Monthly climatology sea surface layer aph(443) 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 aph(443). 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 confirming to the COARDS-CF conventions and delivered through FTP, OpenDAP and Live Access Server (work in progress). 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