JRC Dataset

GMIS - MODIS-TERRA Monthly anomalies sea surface temperature (4km) in degree-C

Description:

Monthly anomalies sea surface temperature (in degree-C at 4km resolution) derived from the MODIS-TERRA sensor (Satellite remote sensing Ocean color data): Sea surface temperature is the temperature of the water close to the sea surface. SST is a standard product from satellite-based thermal infra-red sensors, and optical sensors complemented with infrared bands.

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How to cite:

Melin, Frederic(2013): GMIS - MODIS-TERRA Monthly anomalies sea surface temperature (4km) in degree-C. European Commission, Joint Research Centre (JRC) [Dataset] PID: http://data.europa.eu/89h/8310c08f-f5e8-4506-8a85-7f57d6e5fc75

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 temperature anomalies, sea water protection

Related resources:

Data access

GMIS - Download access (GMIS_T_ANO_SST)

Direct NetCDF download

http://gmis.jrc.ec.europa.eu/satellite/4km/anomalies/

Additional information:

Last Modified: 2013-06-11

Issue date: 2013-08-29

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

Temporal coverage: From: 2000-02-01 – To: 2018-04-30

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/8310c08f-f5e8-4506-8a85-7f57d6e5fc75

Geographic information:

Lineage: General information: Monthly anomalies sea surface temperature (SST) in deg. Celsius (degree-C) derived from MODIS-Terra sensor (http://oceancolor.gsfc.nasa.gov) Processing information: Sea surface temperature (SST) is derived from MODIS-Terra multi-band measurements using the NASA software package SeaDAS 6.4 and a nonlinear SST (NLSST) algorithm originally described in Walton et al. 1998, using the brightness temperature at wavebands between 10 and 12 µm. Temporal characteristics: The product consists of standard monthly mean sea surface temperature derived from night-time products (NSST) at 4km resolution. Data time series started in February 2000 and is regularly updated most recent years. Description of observation methods/instruments: MODIS-Terra sensor passively collects radiations emitted from the sea surface at a number of wavebands ranging from 0.4 to 14.4 µm, i.e. from the visible to thermal infrared. The strength of infrared radiations emitted by the

ocean surface is a function of the temperature, i.e. the higher the temperature, the greater the radiant energy from the sea surface. SST is thus retrieved after correcting the water-surface emitted signal from the contribution due to the atmosphere. The processing includes a cloud screening procedure to avoid cloud temperature contaminated pixels. Quality/accuracy/calibration information: The satellite-derived SST product represents the 'skin temperature', that is the temperature of the top millimeters of the ocean surface. Comparisons with field measurements of bulk and skin temperature resulted in an absolute uncertainty of <0.2K. References: CC Walton et al. 1998. The development and operational application of non-linear algorithms for the measurements of sea surface temperatures with the NOAA polar-orbiting environmental satellites. J. Geophys. Res. 103 (C12): 27999-28012.

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

Coordinate Reference System: ETRS89