Mean Annual Sea Surface Temperature 2009-2013 (2015)

Description: This dataset shows the global distribution of mean annual sea surface temperature, averaged for the period from 2009 to 2013. It was created using remotely-sensed images from NASA's (National Aeronautics and Space Administration) Ocean Color database (http://oceancolor.gsfc.nasa.gov).


Temporal range: 2009-2013
Geographical range: Global
Supplementary information: Sea surface temperature is given in degrees Celsius.
Purpose of creation: Sea surface temperature is a climatic descriptor and it is controlled by other climatic variables such as air temperature, and ocean and wind currents. Sea surface temperature is a key factor affecting biodiversity patterns as the majority of organisms respond to the temperature of their immediate environment.

Creation methodology: Information on the origins and calculations of the MODIS Aqua data can be accessed at Ocean Color Web (http://oceancolor.gsfc.nasa.gov/cms/data/aqua). UNEP-WCMC obtained Aqua MODIS daily sea surface temperature data in HDF format from the Ocean Color website (http://oceancolor.gsfc.nasa.gov/cgi/l3). The HDF data were converted to ArcGIS rasters using Marine Geospatial Ecology Tools (MGET), and units were converted into degrees Celsius using the raster calculator tool (ESRI ArcMap). The composite layer for years 2009 through 2013 was then created using the mosaic function in ArcMap, to calculate mean sea surface temperature across all layers.

Version: 1.0 (May 2015)
Data lineage: Environment descriptor

Dataset ID: WCMC-035

Keywords: marine, coastal, high seas, sea surface temperature, SST

Similar datasets: WCMC-022

Limitations: This dataset is subject to algorithm uncertainties and assumptions. It is only representative of the period 2009 to 2013, and not of current sea surface temperature estimates or seasonal variations.

Maintenance frequency: Data are not being updated.

Main access/use constraint: Creative Commons Attribution 3.0 Unported (CC BY 3.0). See http://creativecommons.org/licenses/by/3.0/ for details. Free to (1) copy/distribute/transmit the work, (2) adapt the work, and (3) make commercial use of the work.

Other access/use constraints: None

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Data format(s): Layer package (ESRI, .lpk), Raster (ESRI Grid)

Distribution format(s): Layer package (ESRI, .lpk), Raster (ESRI Grid)

Dataset size (uncompressed): 107 Mb

Webpage and/or download: http://data.unep-wcmc.org/datasets/36

Other webpage: http://oceancolor.gsfc.nasa.gov/cgi/l3

Web map service: http://ec2-54-204-216-109.compute-1.amazonaws.com:6080/arcgis/rest/services/marine/WCMC_035_MeanSeaSurfaceTemperature2015/MapServer

Factsheet: http://wcmc.io/environment-descriptors

Resolution, scale: 0.08333 dd
West bounding: -180.0
South bounding: -90.0
Metadata standard: UNEP-WCMC Specific

Reference system: WGS 1984
East bounding: 180.0
North bounding: 90.0
Date of metadata: 22/06/2015