EEA geospatial data catalogue

Soil Water Index 2007-present (raster 12.5 km), global, 10-daily - version 3

The Soil Water Index 10 day product (SWI10) averages the daily SWI product over 10 days. It is produced on every 10th, 20th and last of each Month.

Simple

Identification info

Date (Creation)	2017-01-01
Date (Publication)	2017-01-01
Edition	Version 3
Edition date	2017-01-01T00:00:00
Citation identifier	clms_r_4326_12.5_km_swi-10daily-global_p_2007-now_v3_r00
Citation identifier	clms_global_swi_12.5km_v3_10daily
Title	ZAMG
Date (Publication)	2017-01-01

Identifier

Code	10.2909/6fda150f-5c38-4c7a-bddf-b327d07137bd
Other citation details	https://land.copernicus.eu/en/products/soil-moisture/10-daily-soil-water-index-global-v3-0-12-5-km
Purpose	This product is first designed to fit the requirements of the Global component of the Copernicus Land service. It can be also useful for all applications related to environment monitoring.
Credit	The research leading to these results has received funding from the European Community's Seventh Framework Program (FP7/2007-2013) and is maintained through the Copernicus European Earth monitoring program, more particularly through the Global component of the Copernicus Land service. This product is the joint property of the Technical University of Wien and ZAMG under copyright Copernicus. It has been generated from Metop/ASCAT surface soil moisture data distributed by Eumetsat.

Point of contact

Organisation	Individual	Electronic mail address	Website	Role
European Commission			https://commission.europa.eu	Owner
Copernicus Land Monitoring Service		JRC-Copernicus-Land@ec.europa.eu	https://land.copernicus.eu	Custodian
European Commission's Joint Research Centre			https://joint-research-centre.ec.europa.eu/	Publisher
Copernicus Land Monitoring Service helpdesk		JRC-Copernicus-Land@ec.europa.eu	https://land.copernicus.eu/en/contact-service-helpdesk	Point of contact

Spatial representation type	Grid

Spatial resolution

Spatial resolution	0.1 deg

Topic category	• Biota • Farming • Environment • Geoscientific information

Extent

90.00	N	-90.00	S	180.00	E	-180.00	W

Extent

Temporal extent

Time period	10-day composite daily 2007-01-01T00:00:01Z
Maintenance and update frequency	As needed
mmi:updateScope	Series

Resource format

Title	HDF
Alternate title	Hierarchical Data Format
Date	
Edition	5
EEA topics	• Agriculture and food • Water • Soil
Spatial scope	• Global
Continents, countries, sea regions of the world.	• World
GEMET - INSPIRE themes, version 1.0	• Soil • Habitats and biotopes
GEMET	• soil • agriculture • geophysical environment • natural dynamics • natural areas, landscape, ecosystems
Theme	• biogeophysical • soil water index • soil moisture
Place	• global
Temporal	• decadal

	• decadal composite

Resource constraints

Access constraints	Other restrictions
Other constraints	no limitations to public access

Resource constraints

Use constraints	Other restrictions
Other constraints	The Copernicus component is governed by Regulation (EU) No 2021/696 of the European Parliament and of the Council of 28 April 2021 establishing the Union Space Programme and the European Union Agency for the Space Programme and repealing Regulations (EU) No 912/2010, (EU) No 1285/2013 and (EU) No 377/2014 and Decision No 541/2014/EU. Within the Copernicus component, a portfolio of land monitoring activities has been delegated by the European Union to the European Environment Agency (EEA) and the DG Joint Research Centre of the European Commission. The Copernicus land monitoring products and services are made available on a principle of full, open and free access, as established by the Commission Delegated Regulation (EU) No 1159/2013 of 12 July 2013. Free, full and open access to the products and services of the Copernicus Land Monitoring Service is made on the conditions that: 1. When distributing or communicating Copernicus Land Monitoring Service products and services (data, software scripts, web services, user and methodological documentation and similar) to the public, users shall inform the public of the source of these products and services. 2. Where the Copernicus Land Monitoring Service products and services have been adapted or modified by the user, the user shall clearly state this. 3. Users shall make sure not to convey the impression to the public that the user's activities are officially endorsed by the European Union.
Language	English
Character encoding	UTF8

Distribution Information

Distribution format	• netCDF
Fees	Free
Ordering instructions	Products can be downloaded on-line via HTTP.
OnLine resource	
OnLine resource	OGC WMTS
OnLine resource	Copernicus Data Space Ecosystem download services
Units of distribution	Per product
OnLine resource	Copernicus Browser

Data quality info

Hierarchy level	Dataset

Report

Result

Title	Validation results conform CEOS LPV guidelines
Date (Publication)	2010-12-01
Explanation	https://land.copernicus.eu/en/products/soil-moisture/10-daily-soil-water-index-global-v3-0-12-5-km
Pass	true

Report

Result

Title	COMMISSION REGULATION (EU) No 1089/2010 of 23 November 2010 implementing Directive 2007/2/EC of the European Parliament and of the Council as regards interoperability of spatial data sets and services
Date (Publication)	2010-12-08
Explanation	This data set is conformant with the INSPIRE Implementing Rules for the interoperability of spatial data sets and services
Pass	true

Report

Result

Title	INSPIRE Data Specification on orthoimagery - Guidelines
Date (Publication)	2010-04-26
Explanation	See the referenced specification
Pass	true

Resource lineage

Statement	The SWI10 day product is based on the SWI product which was originally developed at Vienna University of Technology (TU Wien) and later improved by other research groups. It uses an infiltration model describing the relation between surface soil moisture and profile soil moisture as a function of time. The algorithm is based on a two-layer water balance model to estimate profile soil moisture from SSM retrieved from scatterometer data. The remotely sensed topsoil represents the first layer and the second layer extends downwards from the bottom of the surface layer. In this model, the water content of the reservoir layer is described in terms of an Index, which is controlled only by the past soil moisture conditions in the surface layer in a way that the influence of measurements decreases by increasing the time. The SWI processing algorithm uses near-real-time ASCAT-25km SSM product as input to generate daily global SWI images. Therefore a computational adaption of SWI algorithm has been made based on a recursive formulation. In this method, a gain factor is introduced that relates the past SWI measurements to the current measurements. SWI images are calculated for eight different T values (1, 5, 10, 15, 20, 40, 60, 100) together with the respective quality flags. The SWI quality flag is a parameter related to the number of available SSM measurements used for calculation of SWI at time t. It is calculated also by using a recursive formulation and expressed in percentage after normalization. The SWI10 algorithm averages the SWI data in the time domain producing three products per month. One per decad, meaning days 1-10, 11-20 and 21 to the end of the month. Only valid observations are used during the averaging and the percent of valid observations per grid point and averaging period is given in the product.
Hierarchy level	Dataset

Spatial representation info

Number of dimensions	2
Dimension name	Row
Dimension size	1800

Resolution	0.1
Dimension name	Column
Dimension size	3600
Resolution	0.1
Cell geometry	Area
Transformation parameter availability	false
Check point availability	true
Check point description	Upperleft corner tiepoint
Description	Upperleft corner tiepoint
Identifier	upperLeftTiePoint
Name	Tie Point in upper left corner
Pixel orientation code	

Reference System Information

Reference System Information

Code	EPSG:4326

Maintenance and update frequency	As needed

Metadata

Metadata identifier	6fda150f-5c38-4c7a-bddf-b327d07137bd
Language	English
Character encoding	UTF8

Contact

Organisation	Individual	Electronic mail address	Website	Role
Copernicus Land Monitoring Service		JRC-Copernicus-Land@ec.europa.eu	https://land.copernicus.eu	Point of contact

Type of resource

Resource type	Dataset

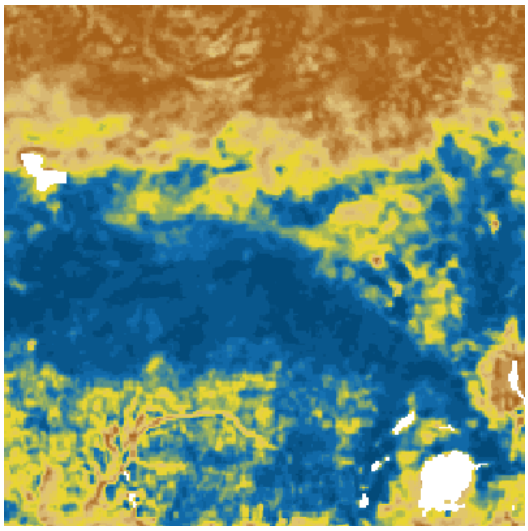
Metadata linkage	https://sdi.eea.europa.eu/geonetwork/srv/api/records/6fda150f-5c38-4c7a-bddf-b327d07137bd
Date info (Creation)	2024-12-17T06:50:28.440798Z
Date info (Revision)	2025-10-09T10:56:53.777545Z

Metadata standard

Title	ISO 19115/19139

Edition	1.0

Overviews



SWI.png

Provided by