EEA geospatial data catalogue

Land Surface Temperature 2021-present (raster 5 km), global, hourly - version 2

Land Surface Temperature (LST) is the radiative skin temperature over land. LST plays an important role in the physics of land surface as it is involved in the processes of energy and water exchange with the atmosphere. LST is useful for the scientific community, namely for those dealing with meteorological and climate models. Accurate values of LST are also of special interest in a wide range of areas related to land surface processes, including meteorology, hydrology, agrometeorology, climatology and environmental studies.

The data are available at global scale in the spatial resolution of about 5 km and covers the period from January 2021 onwards with this version 2.0.

Simple

Identification info

Date (Creation)	2021-01-18
Date (Publication)	2021-01-18
Edition	2.0
Edition date	2021-01-18T00:00:00
Citation identifier	clms_r_32662_5_km_lst-hourly-global_p_2021-now_v2_r00
Citation identifier	clms_global_lst_5km_v2_hourly

Title	Instituto Português do Mar e da Atmosfera
Date (Publication)	2021-01-18

Identifier

Code	10.2909/45a5c6e5-f142-4e66-8017-fa9161c2768b
Other citation details	https://land.copernicus.eu/en/products/temperature-and-reflectance/hourly-land-surface-temperature-global-v2-0-5km
Purpose	This product is first designed to fit the requirements of the Global Land component of Land Service of GMES-Copernicus. It can be also useful for all applications related to the environment monitoring.
Credit	LST products were generated by the land service of Copernicus, the Earth Observation programme of the European Commission. The research leading to the current version of the product has received funding from various European Commission Research and Technical Development programs. The algorithm was originally developed in the framework of the FP7/Geoland2. The LST product is the property of IPMA/Portugal under copyright Copernicus It is generated from the MTSAT, GOES and MSG data provided by Eumetsat.

Point of contact

Organisation	Individual	Electronic mail address	Website	Role
European Commission			https://commission.europa.eu	Owner
Copernicus Land Monitoring Service		copernicus@eea.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		copernicus@eea.europa.eu		Point of contact

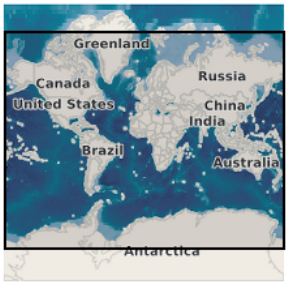
	https://land.copernicus.eu/en/contact-service-helpdesk
Spatial representation type	Grid

Spatial resolution

Spatial resolution	0.04464 deg

Extent

80.00	N	-80.00	S	180.00	E	-180.00	W



Extent

Temporal extent

Time period	Instantaneous observation timeslot 2021-01-18T00:30:00Z
Maintenance and update frequency	As needed
mmi:updateScope	Series

Resource format

Title	NetCDF
Alternate title	Network Common Data Form
Date	
Edition	4
EEA topics	• Land use
Spatial scope	• Global
Continents, countries, sea regions of the world.	• World
GEMET - INSPIRE themes version 1.0	• Orthoimagery
GEMET - Concepts version 3.0	• solar radiation

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
Additional Information	https://land.copernicus.eu/en/products/temperature-and-reflectance/hourly-land-surface-temperature-global-v2-0-5km

Distribution Information

Distribution format	• netCDF
Fees	Free
Ordering instructions	Products can be downloaded online via HTTP or can be received through EUMETCast satellite reception in Europe and Africa.
OnLine resource	INSPIRE WMTS
OnLine resource	Global Land product download service
Units of distribution	Per product
OnLine resource	

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/temperature-and-reflectance/hourly-land-surface-temperature-global-v2-0-5km
Pass	1

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	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	See the referenced specification
Pass	1

Resource lineage

Statement	The objective of the LST product is to increase the area coverage of the LST product currently distributed by the Eumetsat Satellite Application Facility (SAF) on Land Surface Analysis (LSA). The LSA SAF generates, archives and disseminates LST from SEVIRI (onboard MSG) with a 15-minute frequency, at the original satellite spatial resolution. A near global product is obtained by merging SEVIRI- with GOES- and HIMAWARI-based LST produced with an hourly frequency. For more detailed information consult the Product User Manual.
Hierarchy level	Dataset

Spatial representation info

Number of dimensions	2
Dimension name	Row
Dimension size	3584
Resolution	0.04464
Dimension name	Column
Dimension size	8064
Resolution	0.04464
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:32662

Maintenance and update frequency	As needed

Metadata

Metadata identifier	45a5c6e5-f142-4e66-8017-fa9161c2768b
Language	English
Character encoding	UTF8

Contact

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

Type of resource

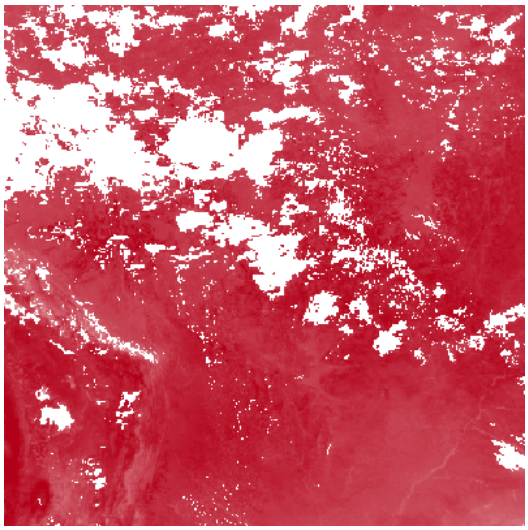
Resource type	Dataset

Metadata linkage	https://sdi.eea.europa.eu/geonetwork/srv/api/records/45a5c6e5-f142-4e66-8017-fa9161c2768b
Date info (Creation)	2024-12-17T06:50:32.561198Z
Date info (Revision)	2025-10-09T10:47:46.601387Z

Metadata standard

Title	ISO 19115/19139
Edition	1.0

Overviews



Land Surface Temperature with diurnal cycle

Provided by