EEA geospatial data catalogue

Imperviousness Density 2018 (raster 10 m), Europe, 3-yearly, Aug. 2020

The High Resolution Layer on Imperviousness Density 2018 is a thematic product showing the sealing density in the range from 0-100% for the period 2018 (including data from 2017-2019) for the EEA-38 area and the United Kingdom. The production of the high resolution imperviousness layers is coordinated by EEA in the frame of the EU Copernicus programme.

The high resolution imperviousness products capture the percentage and change of soil sealing. Built-up areas are characterized by the substitution of the original (semi-) natural land cover or water surface with an artificial, often impervious cover. These artificial surfaces are usually maintained over long periods of time. A series of high resolution imperviousness datasets (for the 2006, 2009, 2012, 2015 and 2018 reference years) with all artificially sealed areas was produced using automatic derivation based on calibrated Normalized Difference Vegetation Index (NDVI). This series of imperviousness layers constitutes the main status layers. They are per-pixel estimates of impermeable cover of soil (soil sealing) and are mapped as the degree of imperviousness (0-100%). Imperviousness change layers were produced as a difference between the reference years (2006-2009, 2009-2012, 2012-2015, 2015-2018 and additionally 2006-2012, to fully match the CORINE Land Cover production cycle) and are presented 1) as degree of imperviousness change (-100% -- +100%), in 20m and 100m pixel size, and 2) a classified (categorical) 20m change product.

Data is provided as 10 meter rasters (fully conformant with the EEA reference grid) in 100 x 100 km tiles grouped according to the EEA38 countries and the United Kingdom.

Simple

Identification info

Date (Creation)	2020-08-18
Date (Publication)	2020-08-18
Edition	01.00
Citation identifier	copernicus_r_3035_10_m_imd-2018_p_2017-2018_v01_r00
Citation identifier	DAT-14-en

Identifier

Code	10.2909/3bf542bd-eebd-4d73-b53c-a0243f2ed862

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 Environment Agency		sdi@eea.europa.eu	http://www.eea.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	10 m

Topic category	• Environment • Imagery base maps earth cover

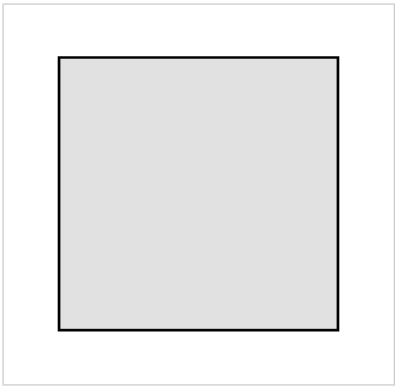
Extent

Temporal extent

Time period	2017-01-01 2018-12-31

Extent

71.16	N	27.64	S	44.81	E	-31.28	W



Maintenance and update frequency	Continual
GEMET - INSPIRE themes, version 1.0	• Land cover • Land use
Continents, countries, sea regions of the world.	• EEA38 (from 2020) • United Kingdom
GEMET	• land cover • urban area • sealing • soil surface sealing • built-up area • land use • built environment • landscape alteration
Spatial scope	• European
EEA Management Plan	• 2018 3.6.1
EEA topics	• Buildings and construction • Land use • Soil

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	• GeoTIFF
OnLine resource	Product Information & Technical Documentation
OnLine resource	https://doi.org/10.2909/3bf542bd-eebd-4d73-b53c-a0243f2ed862
OnLine resource	CLMS Website Download (requires authentication)
OnLine resource	https://image.discomap.eea.europa.eu/arcgis/rest/services/GioLandPublic/HRL_ImperviousnessDensity_2018/ImageServer
OnLine resource	https://image.discomap.eea.europa.eu/arcgis/services/GioLandPublic/HRL_ImperviousnessDensity_2018/ImageServer/WMSServer?request=GetCapabilities&service=WMS

Data quality info

Hierarchy level	Dataset

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

Resource lineage

Statement	Quality assurance follows the ISO9000 standards for Quality Management and comprises of dedicated procedures of on-going quality checks (QA breakpoints) during implementation of the production chain, in order to keep persistent control over the various stages of production, assure fitness-for-purpose of the end-products and that all quality requirements are fulfilled. Priority will be given to the target thematic accuracies to be achieved by each product, as well as to the issues of product consistency (spatial, thematic, temporal) and homogeneity. Quality Assessment: The quality assessment has been performed according to INSPIRE Data Specifications. The data quality elements considered are: Completeness, Logical Consistency, Thematic Accuracy, Temporal quality and

	Usability. Each of them (excl. the Thematic Accuracy hereafter) forms a section in the QA/QC Procedures.
Hierarchy level	Dataset

Reference System Information

Reference System Information

Code	EPSG:3035
Maintenance and update frequency	

Metadata

Metadata identifier	3bf542bd-eebd-4d73-b53c-a0243f2ed862
Language	English
Character encoding	UTF8

Contact

Organisation	Individual	Electronic mail address	Website	Role
European Environment Agency		sdi@eea.europa.eu		Point of contact

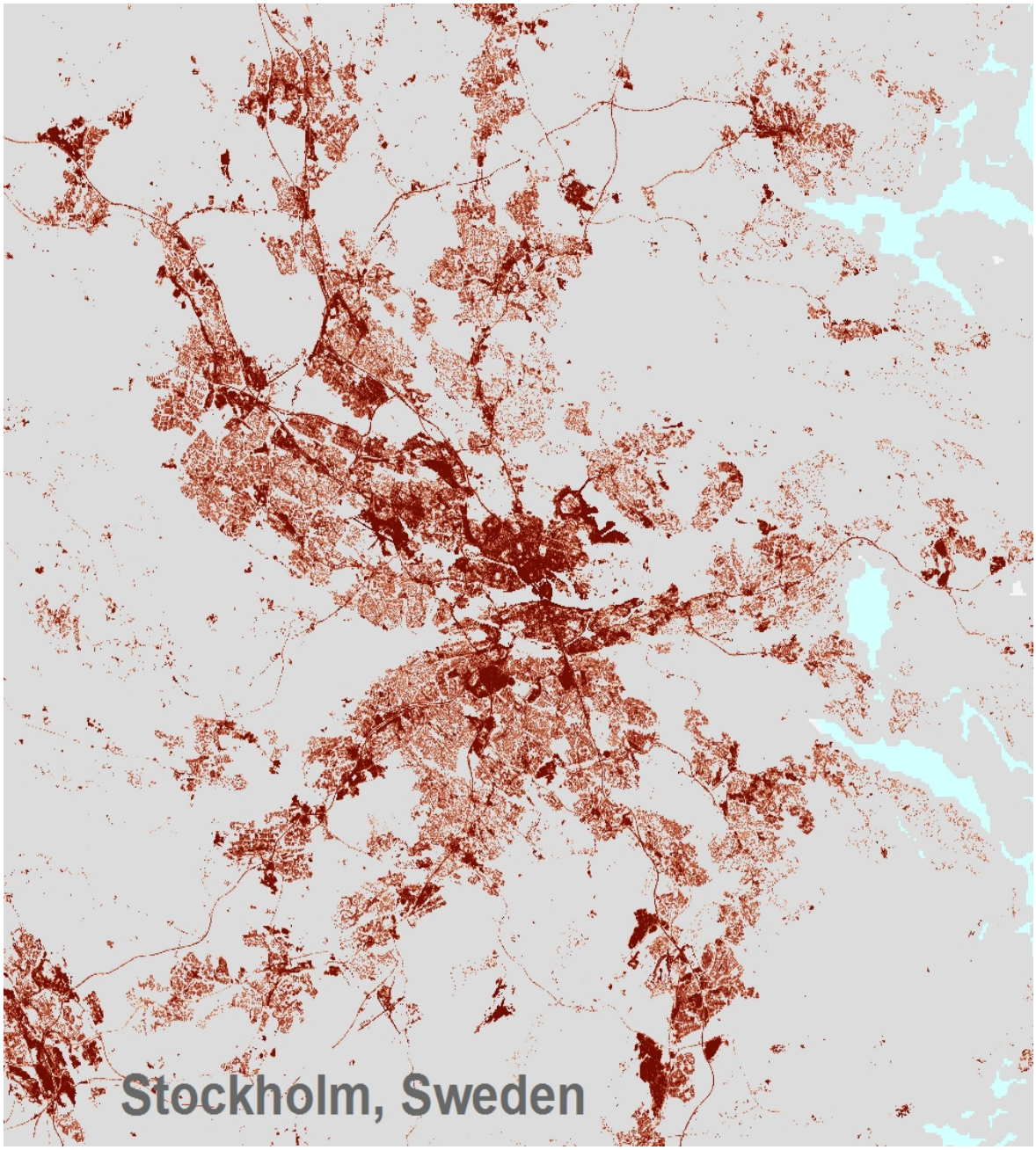
Type of resource

Resource type	Dataset
Metadata linkage	https://doi.org/10.2909/3bf542bd-eebd-4d73-b53c-a0243f2ed862
Date info (Creation)	2020-10-21T07:12:55Z
Date info (Revision)	2025-10-09T10:45:57.97122Z

Metadata standard

Title	ISO 19115/19139
Edition	1.0

Overviews



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