EEA geospatial data catalogue

High Resolution Snow and Ice Monitoring: River and Lake Ice Extent (raster 20m)

The Copernicus River and Lake Ice Extent (RLIE) products provide pixel-based information about ice presence on rivers and lakes. There are several RLIE products available for the entire EEA38 and the United Kingdom, depending on their data source. RLIE S1 and RLIE S2 are generated in near real-time based on observations from the Sentinel-1 and the Sentinel-2 constellations respectively while RLIE S1+S2 is a delayed-time product derived from the previous products - an RLIE S2 for a given day is enriched with RLIE S1 of the same day.

All RLIE products are distributed in raster files covering an area of 110 km by 110 km with a pixel size of 60 m by 60 m in UTM/WGS84 projection, which corresponds to the Sentinel-2 L1C product tile. They inform of the presence of snow-covered or snow-free ice on the various water bodies described by the EU-HYDRO river and lake network database. Each product is composed of three separate files corresponding to the different layers of the product, and another metadata file.

The RLIE products are part of the products of the pan-European High-Resolution Snow & Ice service (HR-S&I), which are provided at high spatial resolution (20 m x 20 m and 60 m x 60 m), from the Sentinel-2 and Sentinel-1 constellations data from September 1, 2016 onwards.

You can read more about the RLIE product here: https://land.copernicus.eu/en/products/water-bodies/high-resolution-river-and-lake-ice-extent .

Simple

Date (Creation)	2020-07-07
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No information provided.

Maintenance and update frequency	Continual
GEMET - INSPIRE themes, version 1.0	• Land cover
Keywords	
Continents, countries, sea regions of the world.	• EEA38 (from 2020) • United Kingdom
Keywords	
GEMET	• monitoring • ice

	• climate change impact • land cover • landscape alteration • river • lake
Spatial scope	• European
EEA topics	• Land use
Temporal resolution	• Five days
EEA Management Plan	• 2020 3.6.7
Access constraints	Other restrictions
Other constraints	no limitations to public access
Use constraints	Other restrictions
Other constraints	Access to data is based on a principle of full, open and free access as established by the Copernicus data and information policy Regulation (EU) No 1159/2013 of 12 July 2013. This regulation establishes registration and licensing conditions for GMES/Copernicus users. Free, full and open access to this data set is made on the conditions that: 1. When distributing or communicating Copernicus dedicated data and Copernicus service information to the public, users shall inform the public of the source of that data and information. 2. Users shall make sure not to convey the impression to the public that the user's activities are officially endorsed by the Union. 3. Where that data or information has been adapted or modified, the user shall clearly state this. 4. The data remain the sole property of the European Union. Any information and data produced in the framework of the action shall be the sole property of the European Union. Any communication and publication by the beneficiary shall acknowledge that the data were produced “with funding by the European Union”.
Aggregate Datasetindentifier	801dc3ca-339d-4e27-9a18-08b6934efe34
Association Type	Cross reference
Spatial representation type	Grid
Distance	20 20 m
Language of dataset	English
Character set	UTF8
Topic category	• Environment • Imagery base maps earth cover • Climatology, meteorology, atmosphere
Begin date	2016-09-01

66.00	N	34.00	S	44.00	E	-26.00	W

Coordinate reference system identifier	EPSG:32625
Coordinate reference system identifier	EPSG:32626
Coordinate reference system identifier	EPSG:32627
Coordinate reference system identifier	EPSG:32628
Coordinate reference system identifier	EPSG:32629
Coordinate reference system identifier	EPSG:32630
Coordinate reference system identifier	EPSG:32631
Coordinate reference system identifier	EPSG:32632
Coordinate reference system identifier	EPSG:32633
Coordinate reference system identifier	EPSG:32634
Coordinate reference system identifier	EPSG:32635
Coordinate reference system identifier	EPSG:32636
Coordinate reference system identifier	EPSG:32637
Coordinate reference system identifier	EPSG:32638
Distribution format	• GeoTIFF (1.0)

OnLine resource

Protocol	Linkage	Name
WWW:LINK-1.0-http--link	https://cryo.land.copernicus.eu/finder/	Cryo portal
OGC:WMS	https://cryo.land.copernicus.eu/wms/RLIE?service=WMS&request=GetCapabilities&version=1.3.0	
WWW:LINK-1.0-http--link	https://cryo.land.copernicus.eu/resto/api/collections/HRSI/search.json	REST API
WWW:LINK-1.0-http--link	https://www.wekeo.eu	WEKEO portal
WWW:LINK-1.0-http--link	https://land.copernicus.eu/en/technical-library/hrsi-ice-pum/@@download/file	Product user manual
WWW:LINK-1.0-http--link	https://land.copernicus.eu/en/technical-library/hrsi-ice-atbd/@@download/file	Algorithm theoretical basis document for RLIE based on Sentinel-2
WWW:LINK-1.0-http--link	https://land.copernicus.eu/en/technical-library/hrsi-ice-s1-atbd/@@download/file	Algorithm theoretical basis

			document for RLIE based on Sentinel-1 and Sentinel-2
	WWW:LINK-1.0-http--link	https://wekeo-broker.apps.mercator.dpi.wekeo.eu/databroker/ui/	HDA API (Harmonized Data Access (WEkEO)
	WWW:LINK-1.0-http--link	https://land.copernicus.eu/en/products/water-bodies/high-resolution-river-and-lake-ice-extent#download	Download (requires authentication)

Hierarchy level	Dataset

Conformance result

Date (Publication)	2010-12-08
Explanation	See the referenced specification

Statement	The Sentinel-2 L1C product is converted into L2A using the MAJA processor, which performs atmospheric correction and provides an accurate cloud mask. A supervised classification method using multi-spectral indices is performed on L2A images. Pixels are assigned to one of the following classes: (1) open water, (2) snow-covered or snow-free ice and (3) other features (mainly vegetation and bare soil). The quality assessment report (QAR) can be accessed here: https://land.copernicus.eu/en/technical-library/hrsi-ice-qar/@@download/file .

Metadata

File identifier	8aef5abd-3146-4b38-a869-afb9a97c037e XML
Metadata language	English
Character set	UTF8
Hierarchy level	Dataset
Date stamp	2024-02-06T16:46:26.078Z
Metadata standard name	ISO 19115/19139
Metadata standard version	1.0

Metadata author

Organisation name	Individual name	Electronic mail address	Website	Role
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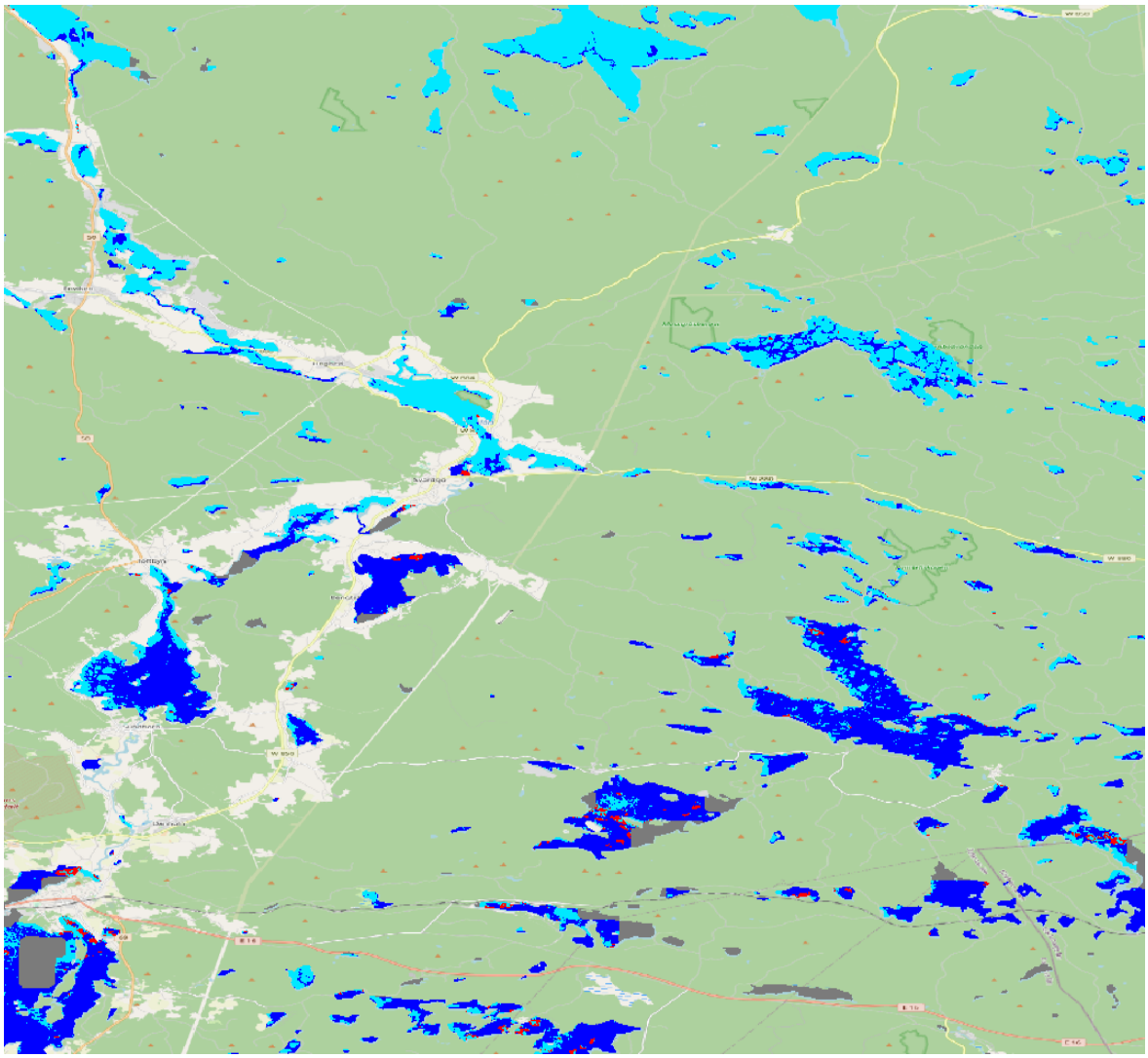
Overviews



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