

High Resolution Snow and Ice Monitoring: SAR Wet Snow (raster 60m)

The Copernicus SAR Wet Snow (SWS) product is generated in near real-time for the entire EEA38 and the United Kingdom, based on radar satellite data from the Sentinel-1 constellation. The product provides binary information on the wet snow extent and the snow free or patchy snow or dry snow extent in high mountain areas with a spatial resolution of 60 m x 60 m.

The SWS product is 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 input L1C product tile. It is available in several mountainous regions in Iceland, the Pyrenees, the Alps, Eastern Türkiye and Scandinavia. Each product is composed of two separate GeoTIFF files corresponding to the different layers of the product, and a metadata file. The WSM (Wet Snow classification in high Mountainous areas) layer provides the wet snow extent derived from S1 Level 1 GRD data over high mountainous areas, and the QCWSM (Quality) layer provides the per-pixel accuracy information associated with the WSM layer for all pixels with detected snow areas.

The SWS is one 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 SWS product here: <https://land.copernicus.eu/en/products/snow/high-resolution-sar-wet-snow> .

Simple

Date (Creation)	2021-09-01			
Date (Publication)	2021-09-01			
Edition	01.00			
Citation identifier	copernicus_r_utm-wgs84_60_m_hrsi-sws_p_2016-now_v01_r00			
Citation identifier	DAT-244-en			
Point of contact	Organisation name	Individual name	Electronic mail address	Website Role
	European Environment Agency		copernicus@eea.europa.eu	https://land.copernicus.eu Distributor
	European Environment Agency		copernicus@eea.europa.eu	https://land.copernicus.eu Custodian
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Point of contact

No information provided.

Maintenance and update frequency	Continual
GEMET - INSPIRE themes, version 1.0	<ul style="list-style-type: none"> Land cover
Keywords	
Continents, countries, sea regions of the world.	<ul style="list-style-type: none"> EEA38 (from 2020) United Kingdom
Keywords	
GEMET	<ul style="list-style-type: none"> landscape alteration

	<ul style="list-style-type: none"> • ice • monitoring • land use • land cover • snow • climate change impact
Spatial scope	<ul style="list-style-type: none"> • European
EEA topics	<ul style="list-style-type: none"> • Land use
Temporal resolution	<ul style="list-style-type: none"> • Six days
EEA Management Plan	<ul style="list-style-type: none"> • 2020 3.6.7
Access constraints	Other restrictions
Other constraints	no limitations to public access
Use constraints	Other restrictions
Other constraints	<p>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.</p> <p>Free, full and open access to this data set is made on the conditions that:</p> <ol style="list-style-type: none"> 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".
Spatial representation type	Grid
Distance	60 60 m
Language of dataset	English
Character set	UTF8
Topic category	<ul style="list-style-type: none"> • Environment • Imagery base maps earth cover • Climatology, meteorology, atmosphere



Begin date	2016-09-01		
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		
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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	<ul style="list-style-type: none"> • GeoTIFF () 		
OnLine resource	Protocol WWW:LINK-1.0-http--link WWW:LINK-1.0-http--link WWW:LINK-1.0-http--link OGC:WMS WWW:LINK-1.0-http--link WWW:LINK-1.0-http--link	Linkage https://cryo.land.copernicus.eu/finder/ https://www.wekeo.eu/ https://cryo.land.copernicus.eu/resto/api/collections/HRSI/search.json https://cryo.land.copernicus.eu/wms/SWS?service=WMS&request=GetCapabilities&version=1.3.0 https://land.copernicus.eu/en/technical-library/hrsi-snow-pum/@_@download/file https://land.copernicus.eu/en/technical-library/hrsi-snow-s1-atbd/@_@download/file	Name Cryo portal WEKEO portal REST API Product user manual Algorithm Theoretical Basis Document

	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/snow/high-resolution-sar-wet-snow#download	Download (requires authentication)
Hierarchy level	Dataset		

Conformance result

Date (Publication)	2010-12-08
Explanation	See the referenced specification
Statement	<p>The algorithm for SWS retrieval is fully described in the Algorithm Theoretical Basis Document:</p> <p>https://land.copernicus.eu/en/technical-library/hrsi-snow-s1-atbd/@@download/file. Its validation is described https://land.copernicus.eu/en/technical-library/hrsi-snow-qar-s1-s2/@@download/file.</p>

Metadata

File identifier	47ac5988-e647-4481-9479-ccee7c2cd9b9 XML										
Metadata language	English										
Character set	UTF8										
Hierarchy level	Dataset										
Date stamp	2024-02-06T16:46:10.047Z										
Metadata standard name	ISO 19115/19139										
Metadata standard version	1.0										
Metadata author	<table border="1"> <thead> <tr> <th>Organisation name</th> <th>Individual name</th> <th>Electronic mail address</th> <th>Website Role</th> </tr> </thead> <tbody> <tr> <td>European Environment Agency</td> <td></td> <td>sdi@eea.europa.eu</td> <td>Point of contact</td> </tr> </tbody> </table>	Organisation name	Individual name	Electronic mail address	Website Role	European Environment Agency		sdi@eea.europa.eu	Point of contact		
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Overviews

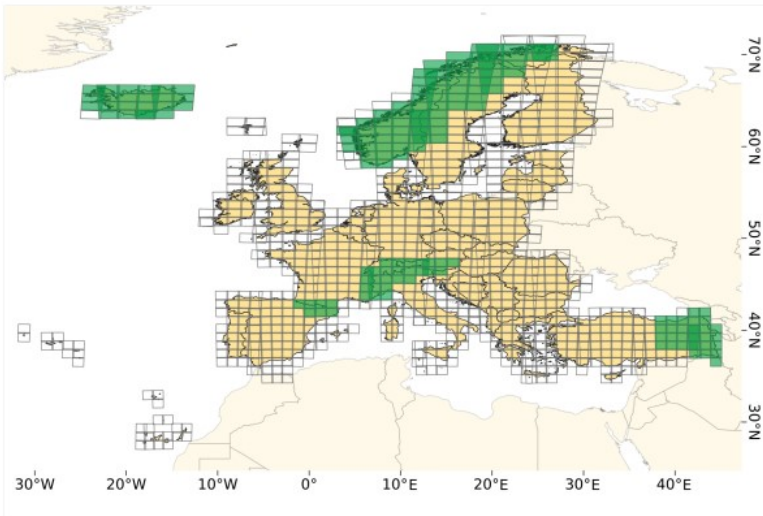


Figure 4. S2 tiles over the EEA39 domain with tiles selected for the SWS product generation highlighted in green colour.

Provided by

