

Copernicus Australasia Regional Data Hub

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Program

Copernicus

Resource type

Data service

Published Date

01/07/2021



View the [original metadata page](#) for the most up-to-date information on this product.

Basics

Background

The Copernicus Australasia Regional Data Hub, in support of the [European Copernicus Programme](#), provides free, open, trusted and reliable access to Sentinel satellite data for Australasia, South-East Asia, the South Pacific, the Indian Ocean and the Australian Antarctic Territory.

Sponsored by Australian government organisations, the Hub supports programs which are reliant on Sentinel imagery, including: Geoscience Australia's Digital Earth Australia program; monitoring land management activities and providing landcover information in New South Wales and Queensland; Western Australia's LandMonitor and FireWatch programs and many CSIRO research programs.

What this product offers

The Copernicus Hub provides a:

- unique and valuable resource for Sentinel-1, -2, -3 and 5P mission products, from the beginning of the mission to the current date within 12 hours of satellite overpass
- sovereign copy with data provenance, ensuring ongoing security and data supply
- cost-effective way to sync and share petabytes of Sentinel products from Europe

It enables the use and delivery of:

- Sentinel products by and for other government agencies served directly and indirectly by the partners and

industry users

- Sentinel products by and for the benefit of other countries in our region
- a range of remote sensing products actively used in strategic and tactical public and private organisation decision making

Applications

Globally, Sentinel imagery is used to address six thematic areas comprising atmosphere, marine environment, land, climate change, emergency management and security.

In our region, the Hub provides imagery to support a wide range of applications that continue to grow. Examples include:

- methodologies to monitor ground deformation and subsidence
- measuring natural water flows in river catchments
- monitoring water quality in both coastal and inland waters
- monitoring vegetation changes in support of legislative and regulatory requirements
- modelling land condition of catchments that drain into or could impact on sensitive natural assets such as Australia's Great Barrier Reef
- responding to and recovering from natural disasters
- monitoring, detecting and characterising land, water and infrastructure changes over time
- contributing to climate impact research and studies.

Having a dedicated Hub has influenced acquisition of a greater density and coverage of Sentinel imagery over our region. This will continue to grow with new missions coming on line and new applications demonstrating the extraction of crucial information from this rich source of open data.

Publications

[Resources & Publications](#)

Access

Data access

Link to data	Sentinel Australasia Regional Access (SARA)
Web services	NCI THREDDS
CMI RESTful node ID	648
NCI project code	fj7
Access constraints	<p>The Hub is open to everyone, particularly those who are interested in Earth observation products for:</p> <ul style="list-style-type: none">• analysis• building applications and services• extracting information• visual references <p>SARA is the Hub's main access point, to access the data via this portal users will be asked to register. User registration is used to report on usage statistics to ESA, EUMETSAT and the Hub's data management team and to communicate with users on service and system matters.</p>
Security classification	Unclassified

Access notes

Sentinel Australasia Regional Access (SARA)

[SARA](#) is the main access point to the Hub's Sentinel-1, -2 and -3 data. The interface provides an intuitive map-based data search, download capability and a Python Application Program Interface (API) for advanced user interaction. Sentinel-5P data is only available via the [NCI THREDDS](#) server at this stage.

The data is supplied in the European Space Agency (ESA)'s SENTINEL-SAFE format in zip archives whilst Sentinel-5P data is provided in NetCDF format. The files are organised in a simple directory structure, which divides the data files spatially and temporally. Each zip file also contains the product metadata. Note that you must register with SARA before

data can be downloaded.

If you are a registered NCI user, you can also access the Hub data through the [NCI THREDDS](#) server and file system.

For more information, see [Copernicus Data Access](#) page.

Details

Technical information

[Copernicus Australasia Training Material \[PDF 11.7 MB\]](#)

Accuracy and limitations

All Sentinel products available from the Copernicus Australasia Regional Data Hub are provided to users as they are received from European Space Agency (ESA) and EUMETSAT.

Quality assurance

Below are ESA's quality information for:

Sentinel-1

- SAR [quality control](#)

Sentinel-2

- MSI [data product quality reports](#)
- POD instruments and products [quality control](#)

Sentinel-3

- SLSTR instrument [quality reporting](#)
- SRAL [quality information](#) and [quality control](#)
- OLCI [data extraction, quality checks](#)
 - ocean products [quality and Science Flags](#)

Please check [ESA](#) website for updated quality documents.

Software

ESA's Science Toolbox Exploitation Platform

ESA provides open source [toolboxes](#) for visualisation, analysis and processing of the Sentinel data.

See [Science Toolbox Exploitation Platform](#).

Processing

Lineage

Sentinel imagery from the Copernicus Australasia Regional Data Hub comes from Europe's Copernicus Programme. The European Union's legislator, the European Commission granted Australia (represented by Geoscience Australia) access to this open data via a Cooperation Arrangement. The European Space Agency (ESA) and the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT) that builds and launches the Sentinel satellites facilitates access to these products via technical arrangements with Geoscience Australia.

The consortium formed by Geoscience Australia, the New South Wales Department of Planning, Industry and Environment, Queensland Department of Environment and Science, Western Australian Land Information Authority (Landgate) and the Commonwealth Scientific Industrial Research Organisation (CSIRO) continues to invest and operate the Copernicus Australasia Regional Data Hub.

All products available from the Copernicus Australasia Regional Data Hub are supplied as they are received, so in ESA's SENTINEL-SAFE format in zip archives whilst Sentinel-5P data is provided in NetCDF format only. The files are organised in a simple directory structure, which divides the data files spatially and temporally. Each zip file also contains the product metadata.

All products are physically located at the National Computational Infrastructure (NCI) and Pawsey and are available primarily via the [Sentinel Australasia Regional Access](#) (SARA) portal. For other access points see [Access](#) for further details.

Schema / spatial extent

Copernicus Australasia Regional Data Hub

Update frequency	hourly
Temporal extent	2014-04-03 15:03:04 – 2030-07-20 15:03:04
Coordinate reference system	

Media

Credits

Owner

Commonwealth of Australia (Geoscience Australia)

License

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