sentinel-2

→ DATA ACCESS AND PRODUCTS

Sentinel-2 is a wide-swath, high-resolution, multi-spectral imaging mission. Its optical instrument samples in 13 spectral bands: four bands at 10 metres, six bands at 20 metres and three bands at 60 metres spatial resolution.

Dedicated to Europe's Copernicus programme, the mission supports operational applications primarily for land services, including the monitoring of vegetation, soil and water cover, as well as the observation of inland waterways and coastal areas. Sentinel-2 will complement mission such as SPOT or Landsat.

Coverage

The mission is based on a constellation of two identical satellites, Sentinel-2A and Sentinel-2B, launched separately. Each satellite has a swath width of 290 km to provide systematic coverage over the following areas:

- all continental land surfaces (including inland waters) between latitudes 84ºN and 56ºS
- all coastal waters up to at least 20 km from the shore
- all islands greater than 100 km^2
- all EU islands
- the Mediterranean Sea
- all closed seas (e.g. Caspian Sea).

Observation Scenario

The Sentinel-2 observation scenario implements a pre-defined observation plan, and is focused on delivering the observation requirements for the Copernicus services.

The Sentinel High-Level Operations Plan can be found at:
https://sentinel.esa.int/web/sentinel/missions/sentinel-2/observation-scenario

Data Access

Sentinel data products are made available systematically and free of charge to all data users including the general public, scientific and commercial users.

Sentinel-2 products will be in Sentinel Standard Archive Format for Europe (SAFE) format, including image data in JPEG2000 format, quality indicators, auxiliary data and metadata.

More information can be found at:
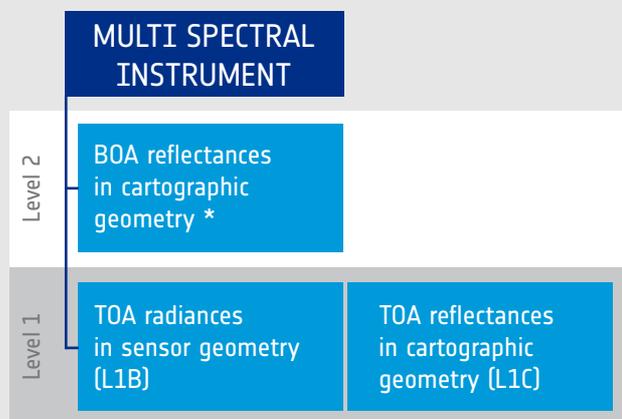https://sentinel.esa.int/web/sentinel/sentinel-data-access

This colour composite uses data from RapidEye to simulate 10 m resolution imagery as would be delivered by Sentinel-2. The image shows a detailed view of the city of Zurich and Lake Zurich in Switzerland. © Blackbridge

User Products

The Multispectral Imager (MSI) undertakes systematic acquisition in a single observation mode.

The two Level-1 products provided to users are delivered in granules (a granule is the minimum indivisible partition of a product) containing as set of user-selectable spectral bands. All granules intersecting/touching the Region of Interest (ROI) defined by the User are contained in the delivered products.

MULTI SPECTRAL INSTRUMENT

Level 2	BOA reflectances in cartographic geometry *	
Level 1	TOA radiances in sensor geometry (L1B)	TOA reflectances in cartographic geometry (L1C)

Level-1B: Top-of-atmosphere (TOA) radiances in sensor geometry. One granule represents the sub-image one of the 12 detectors in the across track direction (25 km), and contains a given number of lines along track (approximately 23 km). Each Level-1B granule has a data volume of approximately 27MB.

Level-1C: Top of atmosphere (TOA) reflectances in fixed cartographic geometry (combined UTM projection and WGS84 geodetic system). Level-1C images are a set of tiles of 100 km2 and approximately 500MB, and contains applied radiometric and geometric corrections (including orthorectification and spatial registration).

* This product is currently made available at the user's side via a Sentinel-2 ESA toolbox [https://sentinel.esa.int/web/sentinel/toolboxes/sentinel-2]. The possibility of making a standard core product systematically available from the Sentinels Core Ground Segment is currently being

Tools

The Sentinel-2 Toolbox can be used for the visualisation and analysis of products.

More information can be found at:

https://sentinel.esa.int/web/sentinel/toolboxes/sentinel-2

The Sentinel Online Handbook

The **Sentinel-2 Mission Guide** is an overview of the mission, its objectives, the satellite, its payload, the ground segment, generated data products and related news.
https://sentinel.esa.int/web/sentinel/missions/sentinel-2

Further Information
For Copernicus User support, please contact **EOSupport@Copernicus.esa.int**

The **Sentinel-2 User Guide** provides a high-level description of the instruments, coverage and acquisition, and available product levels.
https://sentinel.esa.int/web/sentinel/user-guides/sentinel-2-msi

The **Sentinel-2 Technical Guide** provides a point of engagement for ESA and technical users who have previous experience of similar Earth observation missions, and possess in-depth understanding of data manipulation and management.
https://sentinel.esa.int/web/sentinel/sentinel-2-msi-wiki