



Copernicus for Scientists



What data?

The Sentinels are a family of Earth Observation missions specifically designed for the operational needs of the European Commission Copernicus programme. In addition, Sentinels data products are also very useful for Earth Sciences.

Sentinel-1 is a Synthetic Aperture Radar (SAR) and its data is very valuable for the observation and study of: sea ice, winds and waves, forest, agriculture, soil moisture, land surface movements, etc.

Sentinel-2 is a Multi Spectral Imager (MSI) whose data will benefit the observation and study of: land use, land cover, coastal conditions, etc.

Sentinel-3 includes three main instruments: a radar altimeter, an Ocean and Land Color Instrument (OLCI) and a Sea and Land Surface Temperature Radiometer (SLSTR). Its data products address almost all domains of Earth Sciences.

Sentinel-4 and Sentinel-5 are in preparation and will be missions dedicated to the atmosphere composition.

The Copernicus programme also provides *in situ* data for scientific research. *In situ* data is very valuable indispensable for the calibration and validation of space-based information and they are assimilated into models. *In situ* data also contribute information that cannot be provided by space sources only.

The European Environment Agency (EEA) is responsible for the coordination of the Copernicus *in situ* component. In collaboration with the Copernicus Monitoring Services and data providers, the EEA focuses on three main areas: establishing and maintaining an overview across all Copernicus services of *in situ* data requirements and challenges, raising awareness regarding the *in situ* component, and improving access to selected critical data sets.

What for?

With Copernicus data, researchers and scientists can:

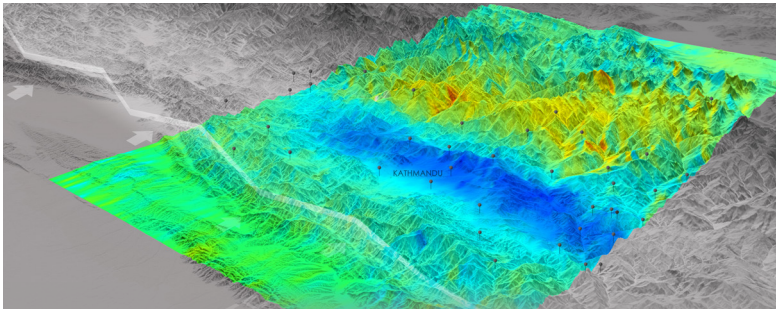
- validate or improve their own models with comprehensive and qualified data.

- analyse observations on regional or global scales and continuous time series.
- compare different sources of measurements.

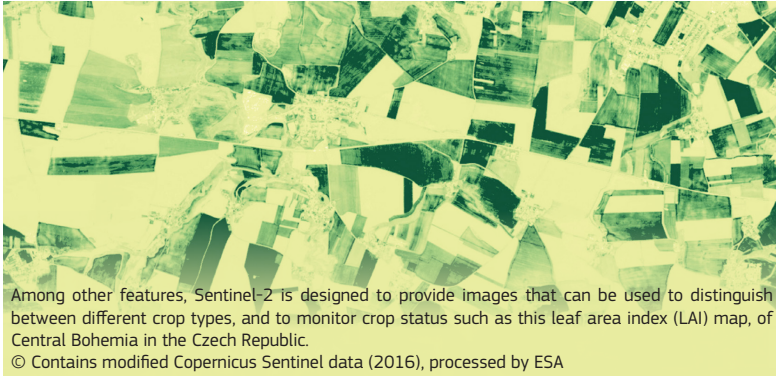
Where?

- Copernicus Sentinel Scientific Data Hub: scihub.copernicus.eu
- Copernicus mission information is available on the Sentinels Online portal: sentinels.copernicus.eu
- User Guide: scihub.copernicus.eu/userguide
- Copernicus in situ data information: www.copernicus.eu/main/insitu

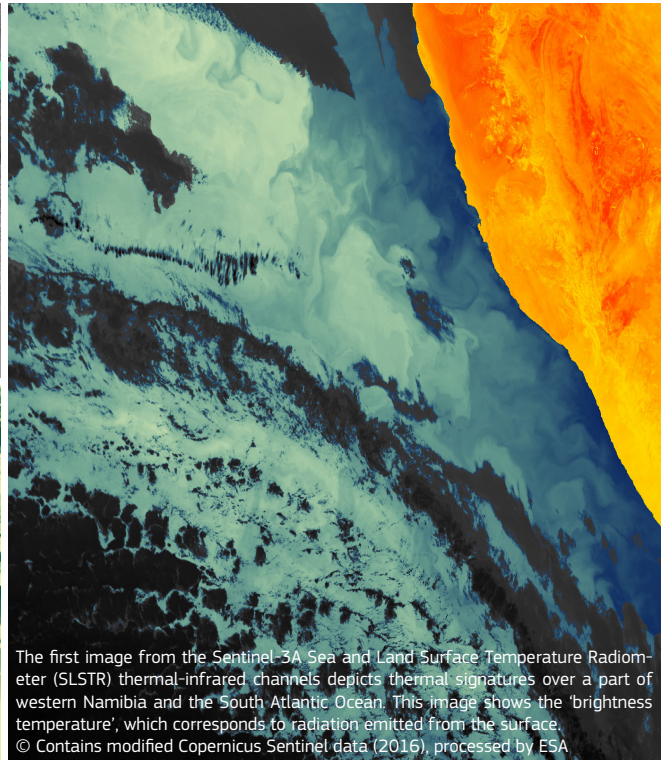
- Copernicus Atmosphere Monitoring Service: atmosphere.copernicus.eu
- Copernicus Ocean Monitoring Service: marine.copernicus.eu
- Copernicus Land Monitoring Service: land.copernicus.eu
- Copernicus Climate Change Service: climate.copernicus.eu



Representation of the area where the land uplifted and sank from the 7.8-magnitude earthquake that struck Nepal on 25 April 2015.
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Among other features, Sentinel-2 is designed to provide images that can be used to distinguish between different crop types, and to monitor crop status such as this leaf area index (LAI) map, of Central Bohemia in the Czech Republic.
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The first image from the Sentinel-3A Sea and Land Surface Temperature Radiometer (SLSTR) thermal-infrared channels depicts thermal signatures over a part of western Namibia and the South Atlantic Ocean. This image shows the 'brightness temperature', which corresponds to radiation emitted from the surface.
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