



Mission Status Report 176

Reference Period: September 2021

sentinel-2

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Mission Status

- A set of products upgrades is being prepared as further described in the Outlook section below.
- Despite the situation due to the COVID-19 pandemic, Sentinel-2 mission operations remained nominal.
- The mission is sensing systematically all land and water areas indicated [here](#), and the detailed mission acquisition plans are regularly published [here](#)
- An ad-hoc acquisition campaign is performing till March 2022 an extended coverage of the Seychelles for supporting scientific studies aiming at better estimating the carbon stock in seagrass soils.
- Level-1C (top-of-atmosphere reflectance) and Level-2A (surface reflectance) products are available on [Copernicus Open Access Hub](#) and on [Data and Information Access Service \(DIAS\) platforms](#).
- The Copernicus Sentinel Data Access Annual Report 2020 has been published and it is available [here](#).
- Information on data quality is available in two reports, one for [L1C products](#) and one for [L2A products](#).
- Since 23 August, the geometric refinement of products has been extended worldwide, improving the multi-temporal registration and absolute geolocation accuracies of Level-1C and Level-2A products. Further details available [here](#).
- Some Data Hub anomalies and outages impacted the availability of the data access during the period. Please refer to the [news](#) page for the list of the single events.
- The following articles related to Sentinel-2 were published during the reporting period:
 - [California continues to burn](#)
 - [New platform for sharing Copernicus Sentinel resources](#)
- Sentinel-2 videos and images have been published and are available [here](#).
- Sentinel-2 remained in 2020 as the top European mission in terms of scientific peer-reviewed publications (1200 during 2020) and data volume distributed to users.

Outlook

- Upgrade of the processing baseline for both Level-1C and Level-2A featuring several improvements in the algorithms and modifying elements of the products format. The change is planned on 26 October and further details are available [here](#).
Regarding Level-1C products, the following evolutions will be included:
 - Correction of the radiometric bias between Sentinel-2A and Sentinel-2B;
 - Provision of Level-1C quality masks in raster format;
 - Addition of ECMWF (European Centre for Medium-Range Weather Forecasts) parameters;
 - Addition of CAMS (Copernicus Atmosphere Monitoring Service) parameters;
 - Addition of Level-1C snow/ice mask;
 - Provision of negative radiometric values (implementing an offset);
 - Addition of a DOI (Digital Object Identifier).
- Regarding the Sentinel-2 Level-2A products, the first five above-mentioned evolutions are directly inherited from Level-1C product and additional evolutions include:
 - Provision of negative radiometric values (implementing an offset);
 - Provision of Band 01 sampled at 20 m spatial resolution;
 - Addition of Level-2A Quality Indicators;
 - Aerosol correction using CAMS auxiliary data;
 - Improvement of clouds and cloud shadows detection;
 - Improvement of the topographic and casted shadows;
 - Improvement of the bright target classification over coastal areas;
 - Addition of a DOI.