

## Mission Status Report 388

Reference Period: 4 January 2022 – 10 January 2022

# sentinel-1

→ RADAR VISION FOR COPERNICUS

### Mission status

- The Copernicus Sentinel-1A routine operations are on-going.
- **A major anomaly on the Sentinel-1B satellite occurred on 23 December 2021, see:**  
<https://sentinels.copernicus.eu/web/sentinel/-/copernicus-sentinel-1b-anomaly-updat-2/>  
**Strong efforts have been and are still being deployed by the ESA and industry teams to analyse the issue and try to reactivate the satellite operations. Apart from a specific issue related to a power sub-system unit, the satellite is under control, the thermal control is properly working and the regular orbit control maneuvers are routinely performed. Updated information will be published on the Sentinel Online news.**
- **Despite the difficult situation in Europe due to the COVID-19, efforts are being made to ensure the continuity of the Sentinel-1A mission operations**
- The Copernicus Sentinel-1 observation scenario supports the systematic coverage of Copernicus Services areas of interest, of European land and coastal waters, of global tectonic/volcanic areas, as well as of other areas worldwide for various applications. The observation plan also includes a regular mapping of all land areas worldwide.
- World maps providing a high level description of the Sentinel-1 constellation observation scenario, in terms of SAR modes, polarisation, observation geometry, revisit and coverage frequency are available at:  
<https://sentinels.copernicus.eu/web/sentinel/missions/sentinel-1/observation-scenario>
- The detailed observation plan in the form of instrument acquisition segments, for both Sentinel-1A and Sentinel-1B is published at:  
<https://sentinels.copernicus.eu/web/sentinel/missions/sentinel-1/observation-scenario/acquisition-segments>
- **Specific actions were performed to make available Sentinel-1A imagery (from regular observations part of the baseline plan) in the frame of the call 854 from the International Charter Space and Major Disasters on 7 January 2022, related to volcanic eruption in Galapagos Islands**
- **Specific Sentinel-1A observations were planned over ocean and coastal waters to support the monitoring of the tropical cyclone Tiffany (South Pacific Ocean, near Australia)**
- The Sentinel-1A spacecraft is in a stable state, operating in Nominal Mission Mode (NMM). The Flight Operations Segment (FOS) ensuring the monitoring, control and commanding of the satellites is operating nominally. Orbit control manoeuvres are performed once a week
- The use of the EDRS-A service by Sentinel-1A is on-going as part of the routine operations
- Ground Segment operations have continued smoothly as part of the on-going Payload Data Ground Segment (PDGS) service operations, the transfer to the cloud has been finalised for all production related activities and data flows were modified to use public internet
- Sentinel-1 production is successfully performed on the cloud since 23 February 2021 in line with the new ground segment architecture and interfaces. The legacy PDGS PAC and PDMC centres have been decommissioned end of March 2021
- X-Band data acquisitions are routinely performed over Matera, Svalbard, Maspalomas and Neustrelitz X-band core stations. The acquired data are circulated within the PDGS, systematically processed to Level-0 and Level-1 products and archived
- Wave Mode data are regularly acquired over open oceans, systematically processed to Level-2 OCN products and made available. Sentinel-1 IW and EW Level-2 OCN products over regional ocean areas are available on the Data Hubs. The operations of the systematic generation and distribution of Sentinel-1 level-2 OCN products derived from IW, EW and SM modes over seas at global level is on-going since 15 November 2017 (relevant for the Wind component - OWI). The operational qualification of the Level-2 the OCN Radial Surface Velocity (RVL) component is on-going.
- **By 6 January 2022, a total of 563,773 users have self-registered on the Sentinels OpenAccess data Hub; 37,7 million Sentinel-1 product download have been made by users, representing 46 PB of data. 7.45 million Sentinel-1 products are available on-line for download, representing 12 PB of data. Statistics of last 24 hours are available in real time at the Open Data Hub home page:**  
<https://scihub.copernicus.eu>

### Outlook

- Continuation of Sentinel-1A routine operations
- Sentinel-1B anomaly investigations and further attempts to reactivate the satellite operations

