

Mission Status Report 418

Reference Period: 22 November 2022 – 21 December 2022

Mission status

sentinel-1

→ RADAR VISION FOR COPERNICUS

- The Copernicus Sentinel-1A routine operations are on-going.
- The end of mission of the Copernicus Sentinel-1B satellite has been declared by ESA and the European Commission. The full archive of Sentinel-1B data is maintained and is accessible to users. See details at:
 - https://www.esa.int/Applications/Observing_the_Earth/Copernicus/Sentinel-1/Mission_ends_for_Copernicus_Sentinel-1B_satellite
 - <https://www.copernicus.eu/en/news/news/mission-ends-copernicus-sentinel-1b-satellite>
 - <https://sentinels.copernicus.eu/web/sentinel/-/end-of-mission-of-the-copernicus-sentinel-1b-satellite/1.4>
- Sentinel-1A observations were used in the frame of the call 911 from the International Charter Space and Major Disasters on 22/11/2022 related to Earthquakes in Indonesia. See an example of data exploitation at:
https://disasterscharter.org/image/journal/article.jpg?img_id=17758182&t=1669973315854
- Specific actions were performed (extension of Sentinel-1A planned acquisitions) in response to the Charter call 913 on 05/12/2022 related to Volcanic eruptions in Indonesia
- A specific Sentinel-1A observation pass were planned to support the monitoring over ocean (on 22/12/2022) of the tropical cyclones Darian, in the Indian Ocean
- The detailed observation plan in the form of Sentinel-1A instrument acquisition segments is published at:
<https://sentinels.copernicus.eu/web/sentinel/missions/sentinel-1/observation-scenario/acquisition-segments>
- 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.
- A collision risk between Sentinel-1A and Rubin-2 (2002-058A) potentially occurring on 21/12/2022 at 04:41 UTC, was closely monitored over several days, but the execution of collision avoidance manoeuvres was finally not necessary. The time of closest approach passed without incident.
- The use of the EDRS-A service by Sentinel-1A is on-going as part of the routine operations
- The new Copernicus Data Access Service was successfully kicked-off on 16 December 2022. More information at:
<https://sentinels.copernicus.eu/web/sentinel/-/new-data-access-service-kicked-off-on-16-december-2022>
- 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
- 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 24/11/2022, a total of 688,703 users have self-registered on the Sentinels OpenAccess data Hub; 41 million Sentinel-1 product download have been made by users, representing 51 PB of data. 8 million Sentinel-1 products are available on-line for download, representing nearly 13 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
- Preparation of Sentinel-1B disposal plan

