

Mission Status Report 256

Reference Period: 21 May 2019 – 27 May 2019

sentinel-1

→ RADAR VISION FOR COPERNICUS

Mission status

- The Sentinel-1 Yearly Mission Review took place on 24 May 2019. Overall, the mission status is in a very good shape. Feedback on the exploitation of Sentinel-1 data received from the Copernicus services invited at the review was overall very positive.
- The Copernicus Sentinel-1A and Sentinel-1B routine operations are on-going
- 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>
- The operational use of Sentinel-1 data by the Copernicus Marine Environment Monitoring Service (CMEMS) for sea-ice, iceberg and swell monitoring activities is on-going
- The European Maritime Safety Agency (EMSA) operationally uses Sentinel-1 imagery in quasi-real time in the CleanSeaNet services; operations with EMSA service providers local stations are on-going.
- **Additional specific observations were planned in response to the call 701 from the International Charter Space and Major Disasters on 26th May 2019, related to the M 8.0 earthquake in Peru**
- **Sentinel-1A was unavailable from 24 May 2019 at 17:37 UTC to 25 May 2019 at 12:34 UTC, due to a SAR anomaly. No data were generated during this period.**
- **A close approach of an Iridium 33 fragmentation debris for a potential collision with Sentinel-1B on 27 May 2019 at 16:14 UTC was carefully monitored over several days (with the preparation of relevant manoeuvres), but did not finally result in the need to execute Sentinel-1B collision avoidance manoeuvres**
- Both Sentinel-1A and -1B spacecraft are 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 and -1B is on-going as part of the routine operations
- X-Band data acquisitions are routinely performed over Matera, Svalbard and Maspalomas X-band core stations. The acquired data are circulated within the Payload Data Ground Segment (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.
- Operations are performed regularly at the Processing and Archiving Centres (DLR-PAC and UK-PAC). All other PDGS operational services (i.e. Mission Performance, Precise Orbit Determination, Wide Area Network) are operating nominally
- **By 23rd May 2019, a total of 242,753 users have self-registered on the Sentinels Open Access data Hub; 19.9 million Sentinel-1 product download have been made by users, representing 25.5 PB of data. 3.9 million Sentinel-1 products are available on-line for download, representing 6.2 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-1 constellation routine operations

