

Mission Status Report 262

Reference Period: 2 July 2019 – 8 July 2019

sentinel-1

→ RADAR VISION FOR COPERNICUS

Mission status

- 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.
- **Specific Sentinel-1 acquisitions have been planned to support the monitoring of the tropical cyclone Barbara (Eastern Pacific Ocean)**
- **Sentinel-1B was unavailable on 2 July 2019 from 04:42 to 08:06 UTC, due to a SAR antenna anomaly. No data were generated during this period.**
- **Following the Sentinel-1 products publication delay that started on 27 June 2019, due to an infrastructure maintenance on 26 and 27 June 2019 and a network incident on 28 June, the nominal product publication timeliness was restored on 5 July 2019 on all Data Hub Services.**
- **The Sentinel-1A Optical Communication Payload (OCP) was unavailable between 5 July 2019 at 20:25 UTC and 6 July 2019 at 11:40 UTC. Six Sentinel-1A data download links through the European Data Relay Satellite System (EDRS) could not be executed. SAR acquisitions taking place slightly before and during this period may have been affected.**
- **Collision avoidance manoeuvres were executed on Sentinel-1B to reduce the risk of collision with an unknown object, which was calculated to potentially occur at 00:35 UTC on 8 July 2019. Four Sentinel-1B data download links through EDRS had to be cancelled due to these orbit manoeuvres, and took place between 7 July at 19:55 UTC and 8 July at 07:00 UTC. SAR acquisitions taking place slightly before and during this period may have been affected.**
- 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 4 July 2019, a total of 253,342 users have self-registered on the Sentinels Open Access data Hub; 20.6 million Sentinel-1 product download have been made by users, representing 26 PB of data. 4 million Sentinel-1 products are available on-line for download, representing 6.5 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
Report prepared by the ESA Sentinel-1 Team

