Mission Status Report 244

Reference Period: 26 February 2019 – 4 March 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 cyclones Pola (in South Pacific Ocean) and Haleh (in Indian Ocean)**
- **Sentinel-1B was unavailable from 27 February 2019 at 23:21:26 UTC to 28 February 2019 at 15:13:19 UTC, due to a SAR anomaly. No data were generated during this period.**
- 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 operational qualification of the Level-2 the OCN Radial Surface Velocity (RVL) component is on-going
- **A test campaign for optimized SAR Wave Mode beam 2 configuration on Copernicus Sentinel-1A has started on 28 February 2019 (at around 09:36 UTC) and is planned to be continued until 12 March 2019. The objective is to improve the performance of the Wave Mode beam 2, in particular the related Signal to Noise Ratio – See more information at: https://sentinels.copernicus.eu/web/sentinel/news/-/asset_publisher/xR9e/content/sentinel-1-wave-mode-2-optimisation-on-28-february-2019**
- 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 28th February 2019, a total of 218,568 users have self-registered on the Sentinels Open Access data Hub; 18.9 million Sentinel-1 product download have been made by users, representing 24 PB of data. 3.6 million Sentinel-1 products are available on-line for download, representing 5.7 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
- **Completion of the Sentinel-1A test campaign for optimized SAR Wave Mode beam 2 configuration – see above**

Report prepared by the ESA Sentinel-1 Team