

sentinel-1

→ RADAR VISION FOR COPERNICUS

Mission Status Report 178

Reference Period: 17 October – 23 October 2017

Mission status

- The Sentinel-1A and Sentinel-1B routine operations are on-going
- The 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, with a coverage frequency largely increased with Sentinel-1B in operations. Since 26 September 2016, the Sentinel-1 observation plan is implemented with the combined use of Sentinel-1A and Sentinel-1B
- Updated world maps as of May 2017 providing a high level description of the overall 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 and iceberg 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
- **Sentinel-1 imagery has been used for the activation EMSR0251 from the Copernicus Emergency Management Service, related to floods in Norway. See details at: <http://emergency.copernicus.eu/mapping/list-of-components/EMSR251>**
- The use of the EDRS-A service by Sentinel-1A and Sentinel-1B is on-going as part of the routine operations
- **Sentinel-1A will be unavailable on 25 October 2017 from 08:25 UTC to 10:20 UTC. This activity will finalise the on-board maintenance of the radar instrument, which was successfully performed on 17 October. No SAR data will be acquired 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
- 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
- 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 19 October 2017, a total of 106,406 users have self-registered on the Sentinels Scientific Data Hub; 10.6 million Sentinel-1 product download have been made by users, corresponding to more than 13 PB of data. 1.83 million Sentinel-1 products are available on-line for download, representing nearly 3 PB of data. Statistics of last 24 hours are available in real time at the Data Hub home page: <https://scihub.copernicus.eu>**

Outlook

- Continuation of Sentinel-1 constellation routine operations
- **Planned unavailability of Sentinel-1A SAR for less than 2 hours on 25 October 2017, due to a planned maintenance on the SAR (see details above)**
- Gradual implementation of the generation and distribution of Sentinel-1 level-2 OCN products derived from IW, EW and SM modes over seas at global level

