

sentinel-1

→ RADAR VISION FOR COPERNICUS

Mission Status Report 191

Reference Period: 30 January 2018 – 5 February 2018

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.
- World maps as of May 2017 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 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 further substantially used by the Copernicus Emergency Management Service for the activation [EMSR265](#) related to major floods in France. During the reporting period, the affected areas could be monitored several times, thanks to the repeat coverage provided by the Sentinel-1 satellites with ascending and descending passes, as well as with the contribution of Copernicus Contributing Missions. [Here is an example](#) of flood delineation maps of Elbeuf derived from Sentinel-1 imagery acquired on 5 Feb 2018, with a Sentinel-2 image in background.**
- **Specific support (NRT data delivery of already planned observations) has been provided for the activation [EMSR268](#) from the Copernicus Emergency Management Service for floods in Latvia**
- **Additional acquisitions have been planned for February 2018 on Sentinel-1B over the Agung volcano in Bali, in complement to the already Sentinel-1A planned acquisitions**
- **Specific acquisitions have been planned to support the call from the International Charter Space and Major Disasters related to floods in Argentina**
- The use of the EDRS-A service by Sentinel-1A and Sentinel-1B is on-going as part of the routine operations
- **Sentinel-1A was unavailable on 2 February 2018 from 14:27 to 16:14 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
- 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 implementation 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 has been completed on 15 November (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 1st February 2018, a total of 126,978 users have self-registered on the Sentinels Scientific Data Hub; 12.5 million Sentinel-1 product download have been made by users, corresponding to 16 PB of data. 2.2 million Sentinel-1 products are available on-line for download, representing about 3.5 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

