

sentinel-1

→ RADAR VISION FOR COPERNICUS

Mission Status Report 193

Reference Period: 13 February 2018 – 19 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.
- **Further specific acquisitions have been planned to support the call from the International Charter Space and Major Disasters related to floods in Bolivia**
- **Following the magnitude-6.4 earthquake that occurred in north-eastern Taiwan on 6 February 2018, the additional acquisitions in both ascending and descending geometry performed with Sentinel-1B (in complement to the already Sentinel-1A planned acquisitions), allowed experts in Taiwan to quickly elaborate ground deformation maps based on interferometry at 6 days with Sentinel-1A and Sentinel-1B**
- The use of the EDRS-A service by Sentinel-1A and -1B is on-going as part of the routine operations
- **A close approach of an Iridium 33 fragmentation debris for a potential collision with Sentinel-1A on 19 February 2018 at 09:46 was monitored over several days, but did not finally result in the need to execute Sentinel-1A 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
- 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 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 15 February 2018, a total of 130,023 users have self-registered on the Sentinels Scientific Data Hub; 12.8 million Sentinel-1 product download have been made by users, corresponding to 16.8 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

