

sentinel-1

Mission Status Report 174

Reference Period: 19 September – 25 September 2017

→ RADAR VISION FOR COPERNICUS

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 have been released and 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 contribution of Sentinel-1 to CMEMS is presented at the Copernicus Marine Week taking place from 25 to 29 September in Brussels
- 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
- The use of the EDRS-A service by Sentinel-1A and Sentinel-1B is on-going as part of the routine operations
- 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
- **A set of Collision Avoidance Manoeuvres have been executed on Sentinel-1A on 22 September to reduce the risk of collision with an object, potentially occurring at 12:44 UTC**
- 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 Level-2 OCN products is on-going (geophysical validation of the Radial Surface Velocity component)
- 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 21 September 2017, a total of 101,484 users have self-registered on the Sentinels Scientific Data Hub; 10 million Sentinel-1 product download have been made by users, corresponding to about 12.8 PB of data. 1.75 million Sentinel-1 products are available on-line for download, representing about 2.7 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

