

Mission Status Report 217

Reference Period: 31 July 2018 – 6 August 2018

sentinel-1

→ 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.
- 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 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.
- **Specific Sentinel-1 acquisitions have been planned to support the monitoring of the following hurricanes or typhoons: Hector (Pacific Ocean, near Hawaii), Shanshan (North Pacific Ocean, near Japan), Ileana (Pacific Ocean, near Mexico) and John (Pacific Ocean, near Mexico)**
- **Regarding the recent M6.4 earthquake in Lombok, Indonesia, acquisitions by both Sentinel-1A and Sentinel-1B in both ascending and descending passes are already included in the standard plan, allowing InSAR at 6 days in both geometries**
- **Collision avoidance manoeuvres were executed on Sentinel-1B on 5 August 2018 to reduce the risk of collision with an unknown object, potentially occurring at 09:33 UTC on 5 August. Seven data download links through EDRS had to be cancelled due to these manoeuvres; SAR acquisitions planned to be taken few hours before and after this event, and planned to be downlinked through EDRS, were affected.**
- 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
- 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 2nd August 2018, a total of 168,690 users have self-registered on the Sentinels Scientific Data Hub; 15.6 million Sentinel-1 product download have been made by users, corresponding to 20,5 PB of data. 2.8 million Sentinel-1 products are available on-line for download, representing 4.5 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

