

Mission Status Report 225

Reference Period: 2 October 2018 – 8 October 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, iceberg and swell 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.
- **Additional acquisitions are being scheduled with both satellites, in both viewing geometry, in relation to the M5.9 earthquake that occurred in Haiti, on 7 October 2018**
- **Specific Sentinel-1 acquisitions have been planned to support the monitoring of the following hurricanes or typhoons: Kong-Rey (near Philippines, heading northward in between Taiwan and South Japan), Walaka (West of Hawaii), Sergio (East Pacific, near Mexico), Leslie (middle of the Atlantic) and Michael (Gulf of Mexico)**
- **The systematic coverage of Europe / European waters allowed to detect and will help monitoring the oil spill due to the collision of two merchant ships on Sunday 7 October 2018, north of the French island of Corsica. See the first image at: http://www.esa.int/spaceinimages/Images/2018/10/Mediterranean_slick**
- **A close approach of a CBERS-1 debris for a potential collision with Sentinel-1B on 8 October 2018 at 15:07 UTC was carefully monitored over several days, but did not finally result in the need to execute Sentinel-1B 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
- 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 4th October 2018, a total of 182,878 users have self-registered on the Sentinels Scientific Data Hub; 16.6 million Sentinel-1 product download have been made by users, exceeding 21 PB of data. 3 million Sentinel-1 products are available on-line for download, representing 4.9 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

