Mission Status Report 133

Reference Period: 15 November 2016 – 21 November 2016

sentinel-1

→ RADAR VISION FOR COPERNICUS

Mission status

- The Sentinel-1A and Sentinel-1B routine operations are on-going
- Sentinel-1B routine operations have started on 26 September, with data accessible from the same hubs as data from Sentinel-1A
- The 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 specific areas worldwide for various applications. The observation plan also includes a regular mapping of all land areas worldwide, with a frequency largely increased with Sentinel-1B in operations. Starting on 26 September 2016, the Sentinel-1 observation plan is implemented with the combined use of Sentinel-1A and Sentinel-1B
- World maps 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 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

  See additional information here.
- The operational use of Sentinel-1 data by the Copernicus Marine Environment Monitoring Service 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 contributed to excellent scientific results related to the understanding of the 7.8 magnitude earthquake that occurred in New Zealand on 13 November 2016
- The EDRS-A - Sentinel-1A user commissioning has been completed. The start of service is planned on 23 November 2016, primarily focusing on an end-to-end operational service validation
- 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
- Collision avoidance orbital manoeuvres were performed on 17 November with Sentinel-1B to reduce the risk of collision with a debris
- 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 17 November 2016, a total of 54,277 users have self-registered on the Sentinels Scientific Data Hub; 5,913,072 product download have been made by users, corresponding to about 6.7 PB of data. More than 857,000 Sentinel-1 products are available on-line for download, representing more than 1 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
- Start of EDRS-A service use by Sentinel-1A

Report prepared by the ESA Sentinel-1 Team