Mission Status Report 331

Reference Period: 10 November 2020 – 16 November 2020

sentinel-1

→ RADAR VISION FOR COPERNICUS

Mission status

- The Copernicus Sentinel-1A and Sentinel-1B routine operations are on-going.
- **Despite the critical situation in Europe due to the COVID-19, efforts are being made to ensure the continuity of the Sentinel-1 mission operations**
- **A Sentinel-1 Satellite In-Orbit Performance technical meeting took place on 10-11 November 2020. It confirmed the good health of both satellites.**
- The Copernicus 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
- **Sentinel-1 imagery was used in support of the Rapid Mapping activation EMSR481 from the Copernicus Emergency Management Service (CEMS), related to floods in Honduras due to the tropical cyclone Eta. Flood maps based on a Sentinel-1 imagery are available at: https://emergency.copernicus.eu/mapping/list-of-components/EMSR481**
- **Specific Sentinel-1 observations were planned and actions performed (NRT data provision from already planned acquisition) in response to the call 789 from the International Charter Space and Major Disasters, related to floods in the Philippines due to the Typhoon Vamco. Flood maps based on a Sentinel-1 imagery are available at: https://disasterscharter.org/web/guest/activations/-/article/flood-large-in-philippines-activation-686-**
- **Specific Sentinel-1 observations were planned over seas and coastal areas to support the monitoring of the tropical cyclones Vamco (Western Pacific basin, Philippines / Vietnam) and Iota (North Atlantic basin, Central America)**
- 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
- Operations are performed regularly at the Processing and Archiving Centres. All other PDGS operational services (i.e. Mission Performance, Precise Orbit Determination, Wide Area Network) are operating nominally
- 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 operations 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 is on-going since 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.
- **By 12th November 2020, a total of 398,386 users have self-registered on the Sentinels Open Access data Hub; 30 million Sentinel-1 product download have been made by users, representing 38 PB of data. 5.9 million Sentinel-1 products are available on-line for download, representing 9.5 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

Report prepared by the ESA Sentinel-1 Team