

sentinel-1

→ RADAR VISION FOR COPERNICUS

Mission Status Report 170

Reference Period: 22 August – 28 August 2017

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. Starting on 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 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
- The use of the EDRS-A service by Sentinel-1A and Sentinel-1B is on-going as part of the routine operations, allowing to further increase the overall mission capacity
- **Sentinel-1B was unavailable between 25 August at 23:29 UTC and 26 August 2017 at 09:18 UTC, due to a SAR anomaly. No data were generated during this period.**
- **Sentinel-1 data have been used to characterise the Md 4.0 earthquake that occurred in Ischia (Italy) on 21 August 2017, showing a land subsidence of up to 4 cm as explained here (in Italian):** <https://www.cnr.it/en/press-release/7630/i-satelliti-europei-ed-italiani-misurano-lo-spostamento-del-suolo-avvenuto-a-ischia-a-seguito-del-terremoto>
- **Additional acquisitions have been planned with both Sentinel-1A and Sentinel-1B in response to the activations from the Copernicus Emergency Management Service and from the International Charter Space and Major Disasters, related to the Hurricane Harvey in Texas, USA**
- 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
- 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 24 August 2017, a total of 97,276 users have self-registered on the Sentinels Scientific Data Hub; 9.7 million Sentinel-1 product download have been made by users, corresponding to about 12 PB of data. 1.7 million Sentinel-1 products are available on-line for download, representing about 2.6 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

