



### Mission Status Report 411

## Reference Period: 05 August 2022 – 29 August 2022

### Mission status

# sentinel-1

### → RADAR VISION FOR COPERNICUS

- The Copernicus Sentinel-1A routine operations are on-going.
- The end of mission of the Copernicus Sentinel-1B has been announced by ESA and the European Commission. See details at:
  - https://www.esa.int/Applications/Observing the Earth/Copernicus/Sentinel-1/Mission ends for Copernicus Sentinel-1B satellite
  - https://www.copernicus.eu/en/news/news/mission-ends-copernicus-sentinel-1b-satellite
  - https://sentinels.copernicus.eu/web/sentinel/-/end-of-mission-of-the-copernicus-sentinel-1b-satellite/1.4
- Specific Sentinel-1A observations were planned and/or actions performed (NRT data provision / product notification for existing planned acquisitions) in response to the following calls from the International Charter Space and Major Disasters:
  - · Call 881 on 19 August 2022, related to floods in Russia
  - Call 883 on 22 August 2022, related to floods in Sudan
  - · Call 888 on 23 August 2022, related to wild fires in Russia
  - · Call 890 on 30 August 2022, related to floods in Pakistan
- Specific Sentinel-1A observations were planned to support the monitoring over ocean of the tropical cyclones Tokage (11W), Ma-On (10W) and Hinnamnor (all three in West Pacific Ocean)
- The detailed observation plan in the form of Sentinel-1A instrument acquisition segments is published at:
- https://sentinels.copernicus.eu/web/sentinel/missions/sentinel-1/observation-scenario/acquisition-segments
- The Sentinel-1A spacecraft is 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.
- Sentinel-1A was unavailable between 23:20 UTC on 23 August 2022 and 08:33 UTC on 24 August 2022, due
  to a SAR antenna anomaly, most probably due to environmental effects. No data were generated
  during this period.
- Collision avoidance manoeuvres were executed on Sentinel-1B to reduce the risk of collision with a Fengyun 1C debris (1999), potentially occurring on 5 August 2022 at 04:30 UTC. The time of closest approach passed without incident.
- A collision risk between Sentinel-1A and a Cosmos-2251 fragmentation debris (1993), potentially occurring on 25 August 2022 at 10:48 UTC, was closely monitored, but no execution of Collision Avoidance Maneuvers (CAM) was finally necessary. The time of closest approach passed without incident.
- The use of the EDRS-A service by Sentinel-1A is on-going as part of the routine operations
- Ground Segment operations have continued smoothly as part of the on-going Payload Data Ground Segment (PDGS) service operations, the transfer to the cloud has been finalised for all production related activities and data flows were modified to use public internet
- Sentinel-1 production is successfully performed on the cloud since 23 February 2021 in line with the new ground segment architecture and interfaces
- X-Band data acquisitions are routinely performed over Matera, Svalbard, Maspalomas and Neustrelitz X-band core stations. The acquired data are circulated within the 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 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 25 August 2022, a total of 649,875 users have self-registered on the Sentinels OpenAccess data Hub; 40 million Sentinel-1 product download have been made by users, representing nearly 50 PB of data. 7.9 million Sentinel-1 products are available on-line for download, representing 12.7 PB of data. Statistics of last 24 hours are available in real time at the Open Data Hub home page: <a href="https://scihub.copernicus.eu">https://scihub.copernicus.eu</a>

#### Outlook

- Continuation of Sentinel-1A routine operations
- Preparation of Sentinel-1B disposal plan

