



## Mission Status Report 412

## Reference Period: 30 August 2022 – 12 September 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 satellite has been declared by ESA and the European Commission. The full archive of Sentinel-1B data is maintained and is accessible to users. 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 890 on 30 August 2022, related to floods in Pakistan
  - · Call 891 on 2 September 2022, related to floods in the republic of Korea
  - · Call 892 on 5 September 2022, related to floods in Russia
  - · Call 893 on 6 September 2022, related to earthquake in China
  - · Call 894 on 12 September 2022, related to flood in South Africa
- Specific Sentinel-1A observations were planned to support the monitoring over ocean of the tropical cyclones Danielle (Atlantic Ocean), Kay (Eastern Pacific Ocean), Earl (Western Atlantic Ocean) and 14W (Western 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.
- Collision avoidance manoeuvres were executed on Sentinel-1A to reduce the risk of collision with an
  unknown object, potentially occurring on 31 August 2022 at 15:48 UTC. The time of closest approach
  passed without incident. More details at:
  <a href="https://sentinels.copernicus.eu/web/sentinel/-/copernicus-sentinel-1a-collision-avoidance-manoeuvres-for-a-collision-risk-on-31-august-2022/1.1">https://sentinels.copernicus.eu/web/sentinel/-/copernicus-sentinel-1a-collision-avoidance-manoeuvres-for-a-collision-risk-on-31-august-2022/1.1</a>
- From 9 September 2022 onwards, a new predicted orbital product (AUX\_PREORB) of the Sentinel-1 mission is available to external users through the Copernicus Sentinels POD Data Hub. See details at: <a href="https://sentinels.copernicus.eu/web/sentinel/-/availability-of-predicted-orbital-products-for-sentinel-1-mission/1.3">https://sentinels.copernicus.eu/web/sentinel/-/availability-of-predicted-orbital-products-for-sentinel-1-mission/1.3</a>
- Sentinel-1A was unavailable between 23:01:45 UTC on 8 September 2022 and 08:02:56 UTC on 9 September 2022, due to a SAR antenna anomaly, most probably due to environmental effects. No data were generated during this period.
- 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 8 September 2022, a total of 654,763 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 12.8 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

