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Reference Period: 24 May 2016 – 30 May 2016

sentinel-1

→ RADAR VISION FOR COPERNICUS

Mission status

- The Sentinel-1A routine operations are on-going
- Sentinel-1B has been launched on 25 April 2016, the Commissioning Phase is on-going – see next page
- Sentinel-1A data can be accessed from: https://sentinels.copernicus.eu
- The observation scenario supports the systematic coverage of a first set 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 regular mapping of all land areas worldwide. An overview of the observation scenario is available at: https://sentinels.copernicus.eu/web/sentinel/missions/sentinel-1/observation-scenario
- The detailed observation plan in the form of instrument acquisition segments is published at: https://sentinels.copernicus.eu/web/sentinel/missions/sentinel-1/observation-scenario/acquisition-segments
- The operational use of Sentinel-1A data by the Copernicus Marine Environment Monitoring Service for sea-ice and iceberg monitoring activities is on-going
- The European Maritime Safety Agency (EMSA) has introduced in the CleanSeaNet service the use of Sentinel-1 imagery in quasi-real time. Preliminary operations with first EMSA local stations are on-going
- Specific operations and satellite tasking have been performed to support the activations from the Copernicus Emergency Management Service and from the International Charter on Space and Major Disasters related to large floods in Bangladesh and Sri Lanka, due to the cyclone Roanu. More information at: http://www.esa.int/Our_Activities/Observing_the_Earth/Copernicus/Sentinel-1/Sentinel-1_helping_Cyclone_Roanu_relief
- 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 satellite is operating nominally. Orbit control manoeuvres are performed once a week
- The 3rd In-Orbit Performance Review took place on 18-19 May 2016, confirming the good health of the Sentinel-1A satellite
- 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 Scientific Data Hub. 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
- Since 21 July 2015, 100% of the IW and SM data over land are systematically produced to level 1 SLC. SLC production has being extended to all data at global level, i.e. acquired over seas and sea-ice as well
- By 26 May 2016, a total of 35,023 users have self-registered on the Sentinels Scientific Data Hub; 4,404,769 product download have been made by users, corresponding to 4.98 PB of data. At the time of publishing this report, more than 546,000 Sentinel-1A products are available on-line for download, representing 699 TB of data. Statistics of last 24 hours are available in real time at the Data Hub home page (https://scihub.copernicus.eu).
- The overall operations mission performance is nominal

Outlook

- Start of EDRS-A - Sentinel-1A user commissioning
- Continuation of Sentinel-1A routine mission operations

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Sentinel-1B Commissioning Phase

- Sentinel-1B was launched on 25 April 2016 from Kourou, French Guiana
- The Launch and Early Orbit Phase (LEOP) was successfully completed on 28 April. All deployments were successfully performed during the first 10 hours after launch (i.e. SAR antenna and solar panels) and initial checks of the various Platform and Payload sub-systems were successfully executed
- The SAR payload was activated on 28 April, the first data takes were acquired at 05:37 UTC, only 56 hours after lift-off, and downloaded at the Matera station few minutes later. These data were immediately processed by the Payload Data Ground Segment
- The first Sentinel-1B images were published on 28 April, less than three days after lift-off. See more information at: http://www.esa.int/Our_Activities/Observing_the_Earth/Copernicus/Sentinel-1/Sentinel-1B_delivers
- The satellite Commissioning Phase started on 29 April. All equipment and sub-systems are nominal and running on the prime units
- The commissioning of the Propulsion subsystem and the characterisation of the propulsion thrusters has been completed and the orbital manoeuvre strategy to reach the reference orbit has been consolidated. The Commissioning of the Attitude and Orbit Control System (AOCS) is on-going
- The satellite is planned to reach its orbital location by mid-June 2016, synchronised with Sentinel-1A at 180 deg. in the same orbital plane
- Detailed tests, characterisation and calibration activities will be pursued during the Commissioning Phase
- The SAR calibration and characterisation activities will start mid June once the required orbital location is reached. In advance, the SAR thermal characterisation measurement campaign has been completed and the SAR performance verification activities have commenced

Outlook

- Continuation of the Sentinel-1B Commissioning Phase
- Continuation of orbital manoeuvres to reach the nominal orbit
- Completion of the Commissioning of the Platform Sub-systems
- Continuation of SAR performance verification activities