Mission Status Report 226

Reference Period: 9 October 2018 – 15 October 2018

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.
- 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
- The operational use of Sentinel-1 data by the Copernicus Marine Environment Monitoring Service (CMEMS) for sea-ice, iceberg and swell 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.
- **Specific actions were implemented (NRT data provision from already planned acquisitions) in support of the activation EMSR324 from the Copernicus Emergency Management Service (CEMS) related to floods in Aude, France, on 15 October 2018. See an example of flood delineation map, based on Sentinel-1 imagery, at: http://emergency.copernicus.eu/mapping/system/files/components/EMSR324_04LESPIGNAN_01DELINEATION_MAP_v1_100dpi.jpg**
- **Specific Sentinel-1 planning and actions have been implemented to support the activation EMSR322 from CEMS (and from the International Charter Space & Major Disasters) related to floods due to Hurricane Michael over the coast of Florida, Alabama and Georgia**
- **Specific Sentinel-1 planning and actions have been implemented to support the activation EMSR321 from CEMS related to floods in Honduras and Nicaragua. See an example of flood delineation map, based on Sentinel-1 imagery, at:**

  http://emergency.copernicus.eu/mapping/system/files/components/EMSR321_04MOJARAS_01DELINEATION_MAP_v1_100dpi.jpg
- **Specific Sentinel-1 acquisitions have been planned to support the monitoring of the following hurricanes over seas / oceans: Luban (near Gulf of Aden), Leslie (middle of the Atlantic, heading towards Portugal)**
- 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
- 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 the Level-2 the OCN Radial Surface Velocity (RVL) component is on-going
- 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 11th October 2018, a total of 184,591 users have self-registered on the Sentinels Scientific Data Hub; 16.7 million Sentinel-1 product download have been made by users, exceeding 21 PB of data. 3 million Sentinel-1 products are available on-line for download, representing nearly 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