

***Mission Status Report 151***

***Reference Period: 16-31 Jan. 2024***

***Mission Status***

Overall

* The mission, in Phase E2 (Operations Phase) since 24th April 2018, has reached routine operations capacity at the beginning of March 2019.

Operational Products availability and access

* Level 1B Radiance/Irradiance, Level 2 Methane, Tropospheric Ozone (Offline); Aerosol Absorbing Index, Aerosol Layer Height, Carbon Monoxide, Cloud, Formaldehyde, Nitrogen Dioxide, Ozone Profile, Sulphur Dioxide, and Total Ozone products (Offline and Near Real Time) are available to the public via the Copernicus Data Space Ecosystem - <https://dataspace.copernicus.eu/>.

Platform

* All platform subsystems performed nominally.

TROPOMI Payload

* The TROPOMI instrument continues measuring in nominal operations baseline with a 360 orbit repeat cycle and since 6th August 2019 with a spatial resolution of about 5.5 km along-track and 3.5 km across-track.

Ground Segment

* The status of both Flight Operations Segment (FOS) and Payload Data Ground Segment (PDGS) has been nominal. Routine scheduling, acquisition, processing, and dissemination tasks were performed without major anomalies.
* A Ground segment issue impacted the production of L1B and L2 data on January 25th from 14:55 to 18:16 (orbits 32563 to 32565) causing a data gap in the near real time data stream.

Level 1B / Level 2 processors

* During 2024 the PDGS processors will undergo two major updates:
  + Sulphur Dioxide COBRA algorithm implementation: The COBRA algorithm, based on a covariance-based retrieval approach, will allow for better Sulphur Dioxide detection of anthropogenic emissions.
  + C++ implementation of the new cloud filter in the Methane algorithm: The C++ implementation will improve both memory utilisation and runtime efficiency.

Cal/Val Activities

* The routine validation activities continued nominally for all products.

PAL Activities

* Six pre-operational products (Aerosol Optical Thickness, Bromine Monoxide, Glyoxal, Sun-Induced Fluorescence, Water Vapour, and a Sulphur Dioxide product using the new Covariance-Based Retrieval Algorithm (COBRA)) are being provided to the public via <https://data-portal.s5p-pal.com>.

***Outlook***

* The next PDGS upgrade, version 2.17.0, is scheduled for release in May/June 2024.

*Report prepared by the ESA Sentinel-5 Precursor Team*