

***Mission Status Report 154***

***Reference Period: 01-15 Mar. 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

* Orbit Control Manoeuvre (OCM) activities were executed on:
	+ March 7th between 17:15 and 19:00 (orbits 33160 to 33164), causing a temperature increase of the SWIR detector, SWIR grating and UVN detector.
	+ March 13th between 17:15 and 19:00(orbits 33246 to 33249), causing a temperature decrease of the SWIR grating, and a temperature increase of the SWIR detector and UVN detector.

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.
* As a consequence of the OCM of March 7th, some data show quality degradation:
	+ The Formaldehyde product shows stripes over American continent (33161-33163).
	+ The Carbon Monoxide and Methane products contain data gaps for the orbits 33161-33163.

Level 1B / Level 2 processors

* During 2024 the Sentinel-5P PDGS processors will undergo two major updates:
1. The Sulphur Dioxide product will be upgraded/improved by the Covariance-Based Retrieval Algorithm (COBRA) algorithm implementation allowing for better Sulphur Dioxide detection of anthropogenic emissions.
2. The currently implemented new cloud filter in the Methane retrieval algorithm will be ported from Python to C++ to improve 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 during June 2024.

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