Tropomi on board the Sentinel 5 Precursor (S5P) was successfully launched on 13 October 2017 at 11:27 CEST/09:27 UTC. The TROPOspheric Monitoring Instrument (TROPOMI) is the satellite instrument on board of the Copernicus Sentinel-5 Precursor satellite. The Sentinel-5 Precursor (S5P) is the first of the atmospheric composition Sentinels, to be launched in 2017 for a mission of seven years. The TROPOMI instrument was launched from Plesetsk, Russia in Siberia and shortly thereafter successful contact was made with S5P.

Sentinel-5 Precursor is the first mission of the Copernicus Programme dedicated to monitoring air pollution. The objective of TROPOMI is to provide accurate and timely observations of key atmospheric species, for services on air quality, climate, and the ozone layer. The TROPOMI daily global observations will be used for improving air quality forecasts as well as for monitoring the concentrations of atmospheric constituents.

Its instrument is an ultraviolet, visible, near and short-wavelength nfrared spectrometer called Tropomi. The satellite operates in an 824 km Sun-synchronous orbit with a Local Time of Ascending Node of 13:30 hours. Tropomi (TROPOspheric Monitoring Instrument) is a spectrometer sensing ultraviolet (UV), visible (VIS), near (NIR) and short-wavelength infrared (SWIR) to monitor ozone, methane, formaldehyde, aerosol, carbon monoxide, NO2 and SO2 in the atmosphere. It extends the capabilities of the OMI from the Aura satellite and the SCIAMACHY instrument from Envisat.

Tropomi is taking measurements every second covering an area of approximately 2600 km wide and 7 km long in a resolution of 7 x 7 km. Light is separated into different wavelengths using grating spectrometers and then measured with four different detectors for respective spectral bands. The UV spectrometer has a spectral range of 270-320 nm, the visible light spectrometer has a range of 310-500 nm, NIR has a range of 675-775 nm, and SWIR has a range of 2305-2385 nm.

Data are provided for Level 1B and Level 2 products. Currently only the Level 2 Products are supported. File name convention is:

S5P_OFFL_L2__”PRODUCT”____20200804T120348_20200804T134517_14558_01_010302_20200809T082112.nc

For “PRODUCT”, substitute:

- CO
- HCHO
- CH4
- NO2
- SO2

Table 1: Components of an S5P product file name. Components are separated by underscores, except for the file extension at the end, which is separated by a period. Character indices start counting at 0, the end-index is a Python style index, it lists the first character not in the block.

Start	End	Length	Meaning
0	3	3	Mission name, always “S5P”
4	8	4	Processing stream, one of “NRTI” (near real-time), “OFFL” (offline) or “RPRO” (reprocessing)
9	19	10	Product identifier, as listed in table 1
20	35	15	Start of granule in UTC as “YYYYMMDD**T**HHMMSS”. The “T” is a fixed character.
36	51	15	End of the granulein UTC as “YYYYMMDD**T**HHMMSS”. The “T” is a fixed character.
52	57	5	Orbit number
58	60	2	Collection number
61	67	6	Processor version number as “MMmmpp”, with “MM” the major version number, “mm” the minor version number, and “pp” the patch level.
68	83	15	The time of processing for this granule in UTC as “YYYYMMDD**T**HHMMSS”. The “T” is a fixed character.
84	86	2	The file name extension. All Sentinel 5 precursor files are netCDF-4 files and use the extension “nc”

Further information is available at: http://www.tropomi.eu/.