Exploration of Atmospheric Compositions by TROPOMI on Sentinel-5P

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Since its launch in October 2017, the Sentinel-5 Precursor (Sentinel-5P), one of the European Commission’s new Copernicus family – Sentinels, has continuously proven to be successful, enhanced, and upgraded to its predecessor missions. The sole payload on Sentinel-5P is the TROPOspheric Monitoring Instrument (TROPOMI), which is a nadir-viewing 108 degree Field-of-View push-broom grating hyperspectral spectrometer, covering the wavelength of ultraviolet-visible (270 nm to 495 nm), near infrared (675 nm to 775 nm), and shortwave infrared (2305 nm - 2385 nm). Sentinel-5P is currently providing measurements of total column ozone, tropospheric nitrogen dioxide and formaldehyde, sulfur dioxide, methane, carbon monoxide, aerosol index and cloud at very high spatial resolutions. Ozone vertical profile products are scheduled to become available in April 2020. In addition, S5P/TROPOMI spectral design provides the possibility of developing other atmospheric composition products such as BrO, aerosol optical depth, sun-induced fluorescence, etc."

The NASA Goddard Earth Sciences Data and Information Services Center (GES DISC) is one of the 12 Distributed Active Archive Centers (DAACs) within NASA’s Earth Observing System Data and Information System (EOSDIS). The GES DISC archives and supports over a thousand data collections in the Focus Areas of Atmospheric Composition, Water & Energy Cycles, and Climate Variability. Under the End User License Agreement between NASA, European Space Agency (ESA) and European Commission (Copernicus Programme), GES DISC is curating S5P/TROPOMI Level-1B and Level-2 products and providing information services through enhanced tools and services that offer convenient solutions for complex Earth science data and applications. This presentation will demonstrate up-to-date TROPOMI products and their applications, as well as various efficient yet straightforward methods to access, visualize and subset TROPOMI data at GES DISC.