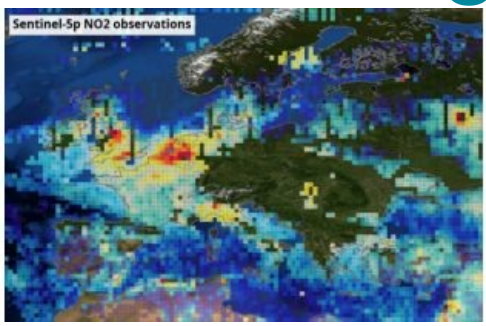
Sentinel-5P Atmospheric Data Processing Begins



Sentinel-5P data open to the public, and Copernicus Atmosphere Monitoring Service (CAMS) has begun processing with detailed forecasts anticipated later in 2018.

The Sentinels are a fleet of satellites central to Europe's Earth-observation programme, Copernicus, addressing six main thematic areas: atmosphere, climate change, marine environment, emergency management, land and security.

Atmospheric monitoring mission Sentinel-5P, the precursor to Sentinel-5, has just graduated from its official commissioning and validation phase, within which preliminary data was evaluated and instruments were calibrated. Early data was compared with the CAMS forecasting system, which allowed detection and solving of 'teething' issues.

TROPOMI (Tropospheric Monitoring Instrument) gathers data that will be used to investigate air quality in much more detail than ever before, and will locate where significant emissions are taking place and what their impact is on atmospheric concentrations of key pollutants. This will help to better mitigate air quality problems and provide better air quality forecasts, with the data intended to inform policymakers and environmental agencies.

Sentinel-5P and TROPOMI are now producing valuable data that is being analysed and incorporated into CAMS forecasts for the first time. CAMS already uses data from a range of European, American and Japanese satellites, but Sentinel-5P offers better accuracy and higher resolution.

"At present, the data is only included passively in the CAMS system - differences between the forecast model and the TROPOMI observations are calculated routinely, but the data does not yet influence the CAMS forecasts. Assessing the TROPOMI data in this way gives valuable feedback about its quality," said CAMS Senior Scientist Antje Inness.

"We have been using preliminary Sentinel-5P data in the CAMS global system. Early impressions are excellent and we expect that Sentinel-5P will soon become one of the most important data sources underpinning the quality of CAMS information products," said Richard Engelen, Deputy Head of CAMS. "Anybody can access the Sentinel-5P data, but it is complex and has to be processed before it is useful for addressing specific questions. CAMS does this processing so that the data user doesn't have to, by combining Sentinel-5P data with observations from other satellite instruments to provide combined datasets as well as forecasts for the next few days."

In the future, the geostationary Sentinel-4 and polar-orbiting Sentinel-5 will monitor the composition of the atmosphere. Until then, Sentinel-5P will play a key role in monitoring and tracking air pollution.

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