Revised: 8-10-2021

NOAA Satellite and Information Service Metop Second Generation Product Processing and Archive (Metop-SG PPA)

Background:
The Metop Second Generation Product Processing and Archive (Metop-SG PPA) is a NOAA ground system effort to receive, process, and provide NOAA's users the data and derived products from the EUMETSAT Polar System Second Generation (EPS-SG) program. Metop-SG PPA aims to provide continuity of observation for the future Joint Polar System (JPS). NOAA is partnering with EUMETSAT to establish and operate a JPS composed of Metop-SG satellites, NOAA's JPSS satellites, and shared ground system and services. The data from Metop-SG will complement the data from the NOAA Polar orbiting JPSS 2, 3, and 4 satellites.

The Metop-SG series of satellites will provide improved environmental observations over the baseline that was established with earlier EUMETSAT satellites, Metop A, B, and C. The EPS-SG mission is composed of two series of spacecraft, Metop-SG A and B. The mission is planned to launch in a series of three satellites of each type.

Project Objective:
The Metop-SG PPA mission objective is to become better stewards of the environment and reduce catastrophic losses due to natural hazards. The project will provide continuous long-term datasets in support of meteorological and environmental forecasting and global climate monitoring.

Impact:
Metop-SG PPA will exploit new data and products derived from the advanced instruments on Metop-SG satellites and fill gaps in NOAA observational requirements based on new products derived from advanced instrumentation. Metop-SG PPA will archive and disseminate desired products for the NOAA user community, enable NOAA's National Weather Service (NWS) to improve forecasts, and detect, monitor, and issue timely warnings of natural hazard events.

Project-at-a-Glance
Metop-SG PPA

Project Time Frame: 2019-2026
Key NOAA Partners: EUMETSAT

Data: Atmospheric temperature and moisture profiles, high quality imagery, land surface properties, sea surface properties, bending angle profiles in the troposphere and stratosphere, cloud and precipitation products, Ice cloud products, ocean surface wind vectors, aerosols, total column ozone, ozone nadir profiles, oceanographic and meteorological data collection from in-situ platforms

Latency: Provide Near Real Time (NRT) products to operational users within their timeliness requirements.

EUMETSAT Links:
EUMETSAT Website

Metop Second Generation

Project Details:
The scope of this project is to develop, test, integrate, transition to operations, and sustain the data and products required to fulfill NOAA's responsibilities in accordance with the JPS Agreement. The sustainment of these services will entail algorithm development and validation for the generation of continuity products. To accomplish these tasks, the project will ingest the EPS-SG data and process the data to generate, distribute, and archive products. Metop-SG PPA will be implemented in the NESDIS Compute Cloud environment. The NESDIS Common Cloud Framework (NCCF) will provide end-to-end ground service capabilities required to support the Metop-SG PPA implementation.

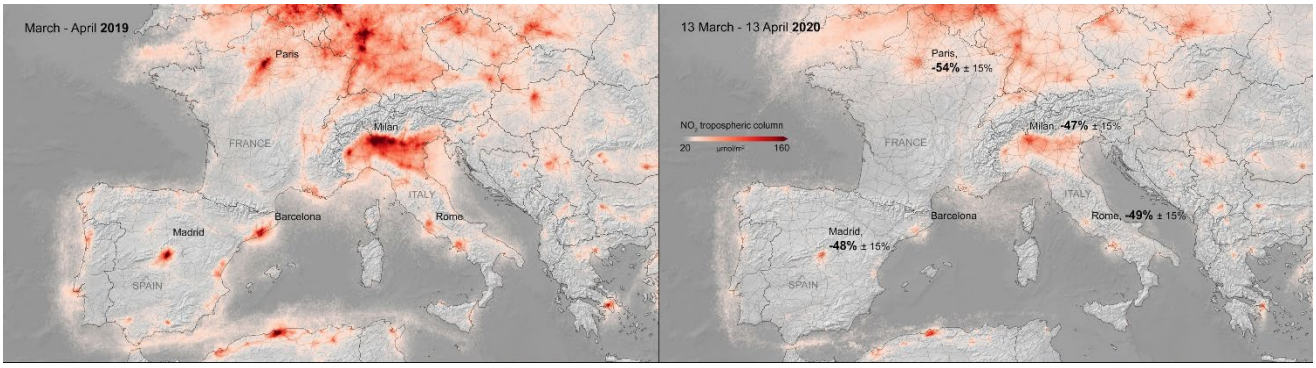

Figure 2 Nitrogen dioxide concentrations over Europe based on Sentinel-5P data (Image credit ESA)