

EARTH OBSERVATION SYMPOSIUM (B1)
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ISOTROP: AN OSSE TO STUDY THE IMPACT OF SENTINEL-4 AND SENTINEL-5
OBSERVATIONS ON AIR QUALITY DATA ASSIMILATION SYSTEMS**Abstract**

The ISOTROP project is an OSSE (Observing System Simulation Experiment) funded by ESA, in which the ISOTROP acronym stands for 'Impact of Space borne Observations on Tropospheric Composition Analysis and Forecast'. The objective of ISOTROP is to quantify the impact of Sentinel-4 (GEO) and Sentinel-5 (LEO) measurements of ozone, CO, NO₂ and HCHO to better constrain pollutant concentrations and precursor emissions that influence air quality.

The project is based on a cross-OSSE approach, which involves two independent air quality models. Each model generates the 'Nature Run' for the other model, which are used subsequently in two linked OSSE studies. The models involved are MOCAGE, and the air quality model LOTOS-EUROS combined with the global TM5 chemistry-transport model. The work uses state-of-the-art synthetic observations and their error characteristics, derived by the teams of KNMI and FMI, both of which are involved in the retrieval algorithm development of TROPOMI (the precursor of ESA's Sentinel-5).

The work has started in June 2012, and we will describe the approach, the objectives and first results.