

**Seminar on Physics and Chemistry  
of the Atmosphere  
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**The Copernicus Atmosphere Monitoring Service (CAMS):  
Overview and examples, with focus on the CAMS  
reanalysis and the assimilation of volcanic SO<sub>2</sub>**

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**Abstract**

The Copernicus Atmosphere Monitoring Service (CAMS), operated by the European Centre for Medium-Range Weather Forecasts (ECMWF) on behalf of the European Commission, provides daily analyses and 5-day forecasts of atmospheric composition in near-real time (NRT) as well as a reanalysis of atmospheric composition going back to 2003.

The CAMS global service combines a state-of-the-art transport and chemistry model with satellite data from various sensors to provide global daily analyses and 5-day forecasts of 3-dimensional fields of atmospheric composition including ozone, carbon monoxide, nitrogen dioxide, sulphur dioxide, methane and aerosols. More information about CAMS can be found on <http://www.copernicus-atmosphere.eu> and CAMS data are freely available from <https://atmosphere.copernicus.eu/data>. In this talk I will give an overview of the various areas covered by CAMS and then present in more detail work carried out with the global CAMS system, including (1) the CAMS reanalysis and how it can be used to assess the stratospheric polar ozone anomalies seen in the Antarctic in 2019 and 2020 as well as in the Arctic in spring 2020, and (2) challenges we face when trying to assimilate volcanic SO<sub>2</sub> retrievals.