The Copernicus Atmosphere Monitoring Service

Regional air quality
Outline

- CAMS (incomplete intro)
- Regional AQ
- Data access
- Downstream services – examples
  - Riga AirText
  - PASYFO
- Arctic Fires 2018
- Conclusions
CAMS: Adding value to observations

CAMS adds value to today’s observations, providing consistent information anywhere in Europe (and the rest of the world).

CAMS forecasts allow you to anticipate the situation of tomorrow.
Transforming observations into user-driven services.
Daily forecasts of global atmospheric pollution are produced using detailed emission inventories and actual emission estimates from wildfires and biomass burning.
The ensemble median based on 7 AQ models outperforms any individual model and provides an uncertainty estimate.

- Same emissions
- Same boundary conditions
- Same meteorology
- Use of regulatory air quality observations
Vali dated forecasts

- Daily evaluation against ~1000 stations over Europe
- Maps, scores, Taylor diagrams, etc..
CAMS provides detailed information about how its products are produced and what the quality is.
CAMS policy tools
Support for policy makers dealing with pollution episodes
http://policy.atmosphere.copernicus.eu/
Accessing the Products

The CAMS catalogue is the main interface to all data sets

http://atmosphere.copernicus.eu/catalogue

Policy products

The CAMS Policy Portal provides an overview of the information and services available that could be of interest for policy makers. Information, products and tools are intended to identify how different sources have contributed to any exceedance of air quality limits and to help in the design of policies to prevent incidents of severe air pollution.
CAMS provides big data with the corresponding technical and scientific expertise to support expert users. In doing so, we allow the CAMS information to reach millions of users in and outside Europe.

https://download.regional.atmosphere.copernicus.eu/services/CAMS50?token=__M0bChV6QsoOFqHz31VRqnpr4GhWPtcpaRy3oeZjBNSg__&grid=0.1&model=ENSEMBLE&package=ANALYSIS_CO_SURFACE&time=-24H-1H&referencetime=2017-10-10T00:00:00Z&format=NETCDF&licence=yes
Example of AQ service using CAMS data

Free air pollution, UV, pollen and temperature forecasts

Local forecast models need information on how much pollution flows into and out of the domain to provide an accurate service. This is provided by CAMS European air quality forecasts.
Example of AQ service using CAMS data

The aim of PASYFO is to provide a high-resolution regional system for predicting the personal allergy symptoms of pollen-sensitive people using personalised sensitivity information.

CAMS European pollen forecasts are used to provide the up-to-date information on pollen for the European domain.
CAMS continuously monitors fire emissions and the transport of smoke (aerosols and chemical species) over long distances. Fire emission in North America and Siberia can affect visibility and air quality in Europe.

The output is also validated against independent observations.
Higher than average fire activity in the Arctic Circle this year compared to 2003-2017.

Mainly in Siberia (Yakutia) but also in Alaska and the European Arctic, including northern Sweden and Finland.

Estimated fire emissions form input to CAMS global and regional forecasts.
To summarize

Atmosphere Monitoring Service

atmosphere.copernicus.eu

User-driven

Free and unrestricted data access

Making observations more meaningful to you

Provide information for past, present and future