

# Perspectives on collaborations between CAMS Policy Service and FAIRMODE

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Atmosphere Monitoring



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# Rationale CAMS/FAIRMODE Collaboration

- There is a mutual interest of CAMS and FAIRMODE in developing air quality modelling uptake in Europe for public information and regulatory applications (AAQD)
  - Develop relevant modelling tools and products to address the needs of air quality competent authorities
  - Robust and transparent methodologies, accompanied by adequate QA/QC procedures
- This is a common responsibility in FAIRMODE and CAMS for which we need the expertise and feedback of both the modelling community and potential users



## Overview of current topics

- Modelling Guidance/Nomenclature
- Evaluation and Quality Control
- Use of modelling for the reporting
- Joint exercises
  - Discounting the natural contribution for PM exceedances
  - Source apportionment intercomparison



- Interactive visit of the [documentation of the CAMS Policy website](#)



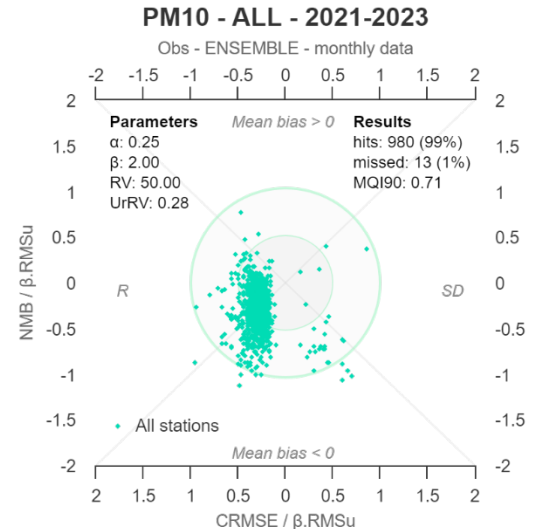
The screenshot shows the 'Documentation' page of the CAMS Policy website. The page header includes the logos for the European Union, Copernicus, and the Atmosphere Monitoring Service. A navigation menu lists 'Policy Support', 'Daily Source Attribution', 'Yearly Air Pollution Analysis', 'Reports', 'Workshops', 'Documentation', and 'FAQ'. The main content area is titled 'Documentation' and contains two featured sections:

- Air Control Toolbox:** Describes a flexible framework for exploring emission reduction strategies. It includes a thumbnail image of a map and a 'Online Documentation' button.
- Source Allocation Products:** Explains how these products help identify the origin of exceedances of air quality limit values. It includes a thumbnail image of a pie chart and a 'Online Documentation' button.

At the bottom of the page, there is a link for 'Overview of available guidance'.



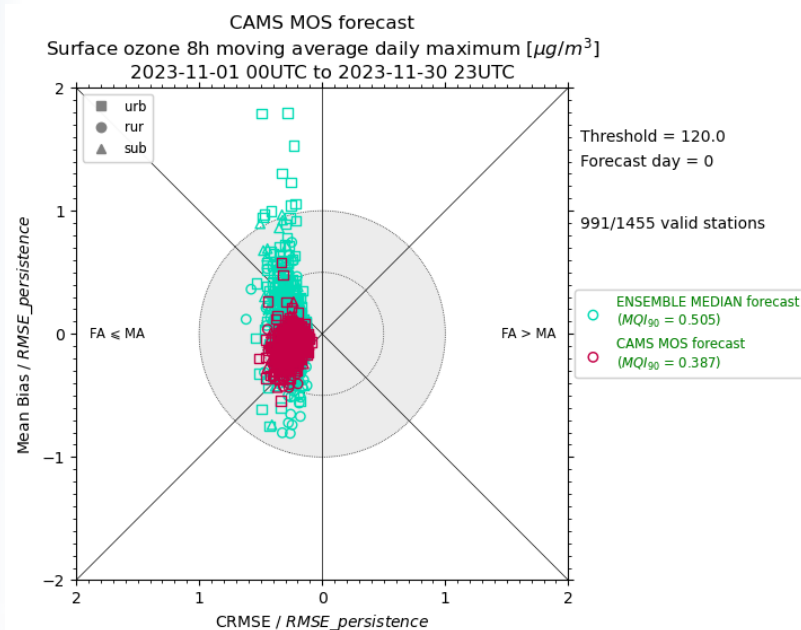
- CAMS2\_83 shows **target plots** (forecast and assessment), **summary reports**, and **performance diagrams** in its quarterly and annual reports, *fully developed*
  - <https://atmosphere.copernicus.eu/regional-services>
- Target plots and summary reports are also shown on the [AeroVal web interface](#), *under development*
  - NO<sub>2</sub> and ozone plots are still based on daily means (instead of hourly means and MDA8), to be fixed soon!



Courtesy Michael Gauss, MetNo, Lead  
of CAMS2\_83 Regional EQC Service



- New: Evaluation of the new ‘MOS’ product
  - ‘CAMS regional air quality optimized forecasts at observational sites’



Both the ENSEMBLE (green) and the new ‘MOS’ product (red) are evaluated against the same stations, i.e. the stations where MOS is available.

*Figure produced by V. Petiot / Météo France*

Courtesy Michael Gauss, MetNo, Lead  
of CAMS2\_83 Regional EQC Service





# Use of modelling for the reporting

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## Modelling applications for implementation of AAQD

- « Background » air pollution in a downscaling/nested framework (Europe/Country/City)
  - Data available on ADS
  - Need for on-demand mapping service?
- Natural burden (dust, wildfires, sea salt)
  - Methodology to discount PM<sub>10</sub> exceedances
  - Need for quality assured EU-level service to map natural PM concentrations ?
- Transboundary contributions (coll. LRTAP)
- Plans and Programmes
  - Source apportionment (methods and data)
  - Need for background modelling ? for use in nested models for short term actions and long term perspective (e.g. CH<sub>4</sub>, Clean Air Outlook) => Digital Twins
- All these item regard both quantitative (numerical data) and qualitative (reports, maps) information

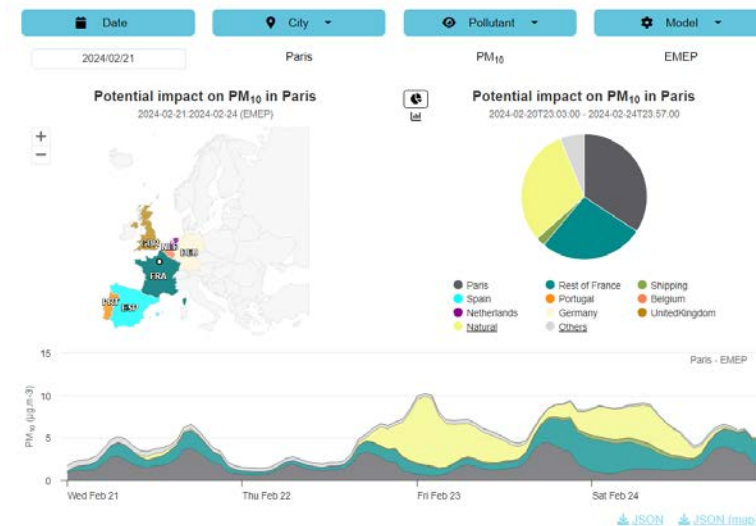
Welcome to the Atmosphere Data Store

Dive into this wealth of information about the Earth's past, present and future Atmosphere.

It is freely available and functions as a one-stop shop to explore Atmosphere data. [Register for free](#) to obtain access to the ADS.

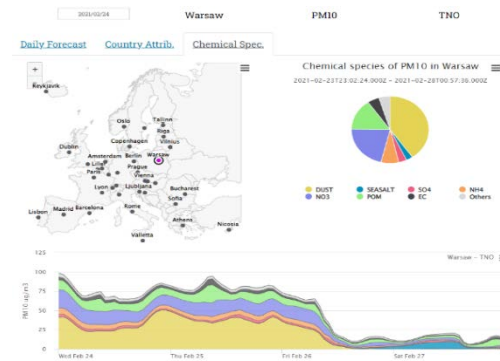
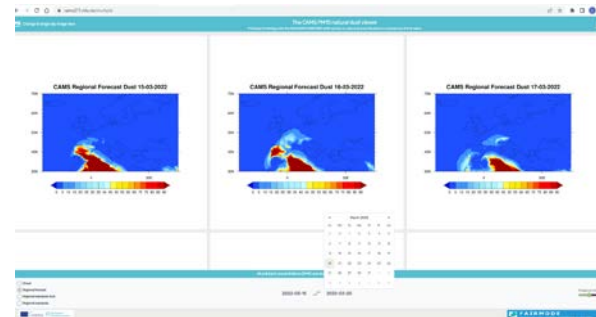
We are constantly improving the services and adding new datasets. For latest announcements, watch the posts on the [CAMS forum](#).

Enter search term(s)  All





- Discounting the natural contribution for PM exceedances
  - See FAIRMODE/WG8 presentation 27/2 15:30CET
  - On-demand material made available for the experiment
  
- Source apportionment intercomparison
  - See FAIRMODE/WG1 presentation 27/2 09:00CET
  - Now welcoming requests to prepare accompanying on-demand material





# FAIRMODE

## CAMS Policy Support

AAQD  
Modelling applications

AQ Planning



AQ Forecast

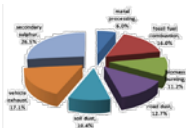


AQ Model quality



Source & emissions

Source appt.

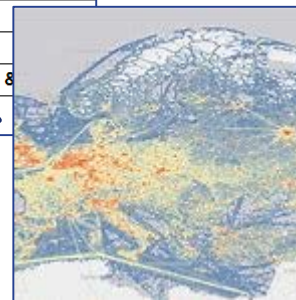
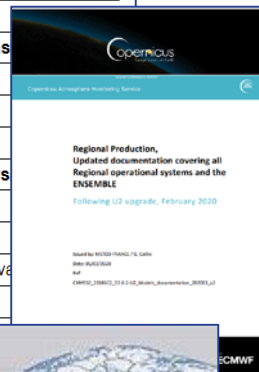


## Benchmarking

QAQC	WG2, WG3	↔	EQC (C82, C83)
Dust	WG8	↔	C40, C71
Emissions	WG7	↔	C61
Comp Map	WG2	↔	NCP, C40 (IRA/VRA)
Data Fusion	WG6	↔	NCP, C40 (IRA/VRA)
Src. App.	WG1	↔	C71
Planning	WG5, WG9	↔	C71
Forecast Info		...	C40
Short Plans	WG5, WG9	...	
Microscale	WG4	...	

## Guidance & recommendations

- Home
- Mitigation Scenarios
  - Air Control Toolbox
  - Policy scenarios
- Daily Air Pollution Forecast
  - Local/Long-range
  - From countries
  - Chemical speciation
- Yearly Air Pollution Analysis
  - Source regions
  - Chemical speciation
  - Comparison with observations
- Air Quality Indicators
- Reports
- Workshops
- Documentation & FAQs



Regional products & EQC

Emissions