

INERIS

Norwegian
Meteorological
Institute

TNO innovation
for life



The Copernicus Atmosphere Monitoring Service

Developing linkages with FAIRMODE

Atmosphere Monitoring



Copernicus EU



Copernicus EU



Copernicus EU

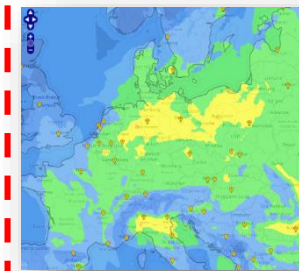


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Atmosphere
Monitoring

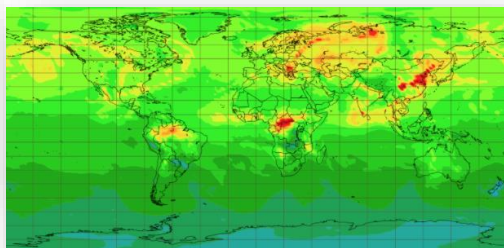
CAMS: COPERNICUS ATMOSPHERE MONITORING SERVICE



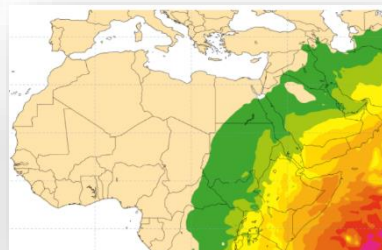
*European Air
Quality and
products in
support of
policy users*



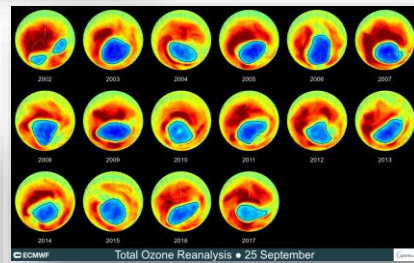
*Emissions and
surface fluxes*



Global analyses, forecasts and reanalyses



*Solar radiation
and UV index*



Ozone layer

Direct access to main daily global products at
<http://atmosphere.copernicus.eu/charts/cams>

*New one in
progress!!*

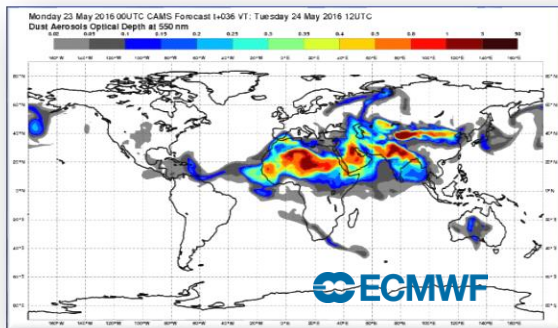
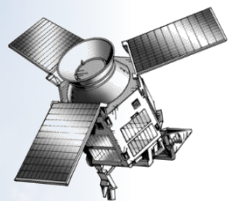




CAMS MAIN SERVICE CHAIN

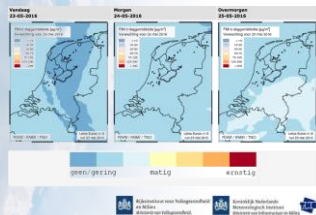
Atmosphere
Monitoring

Space Agencies



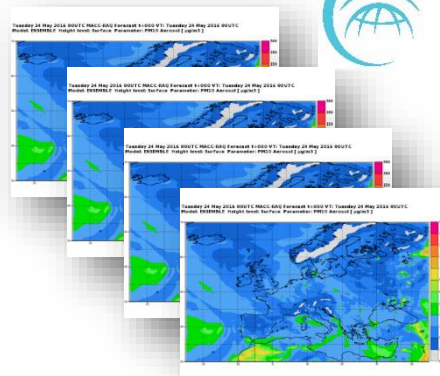
ECMWF Integrated Forecasting System (IFS)

In-situ observations



Users:
Env. Agencies
Academia
SMEs
Citizens
...

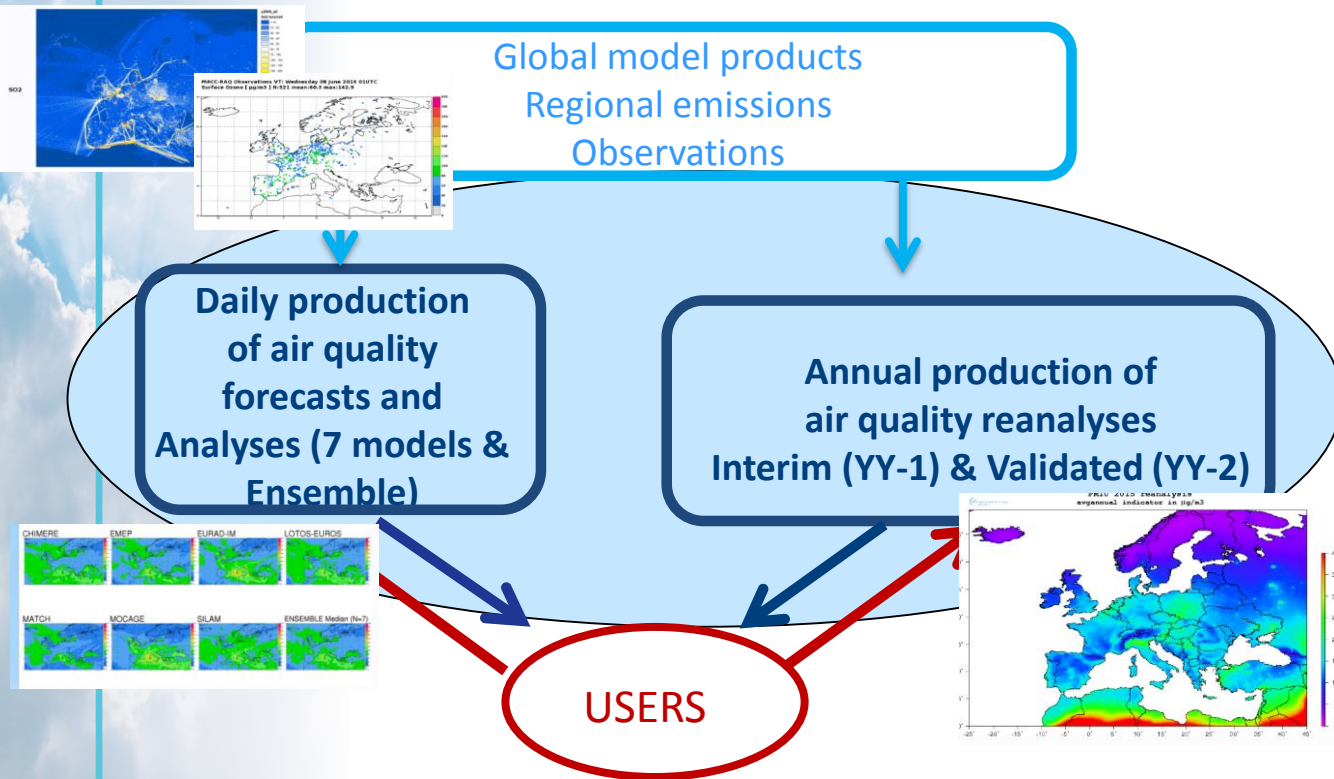
Regional multi-model
ensemble (lead:
Météo-France)
Policy Products
(lead: INERIS)





Atmosphere
Monitoring

The Regional CAMS services for Europe



7 operational models



CHIMERE (INERIS)



EMEP (MET Norway)



EURAD-IM (RIUUK)



LOTOS-EUROS (KNMI/TNO)



MATCH (SMHI)



SILAM (FMI)



MOCAGE (Meteo-France)

3 models under development



AQUM (Met Office)



DEHM (Aarhus Univ.)



GEM-AQ (Warsaw Univ.)

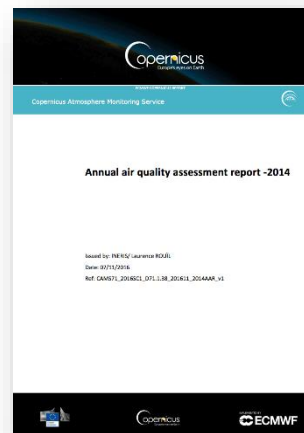


ANNUAL ASSESSMENT REPORTS



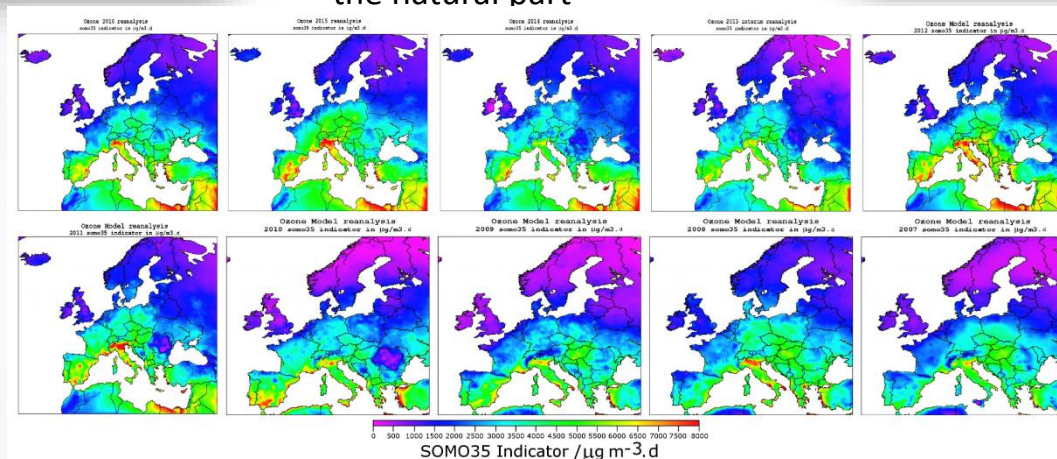
Reports on the European **annual interim reanalysis** (based on observations in an interim stage of validation)

- Focus on episodes for ozone
- Analysis to qualify the relative influence of various sources including the natural part



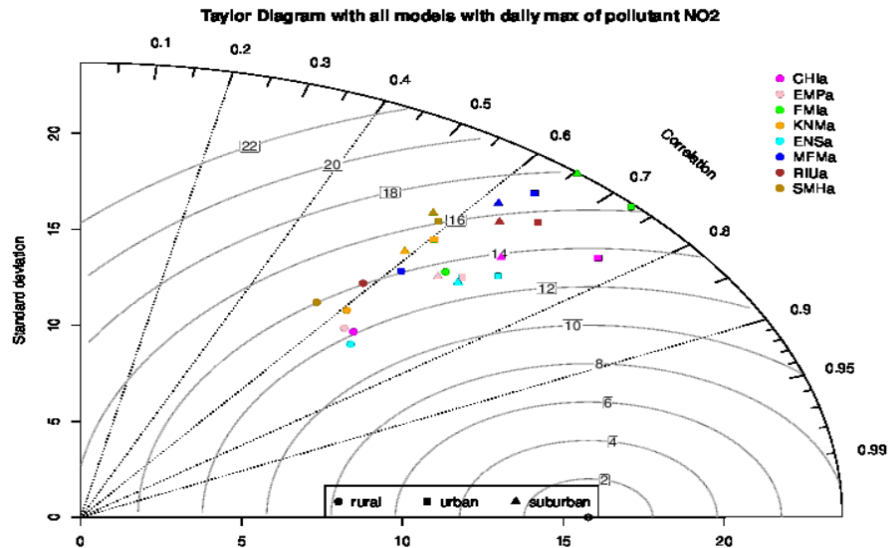
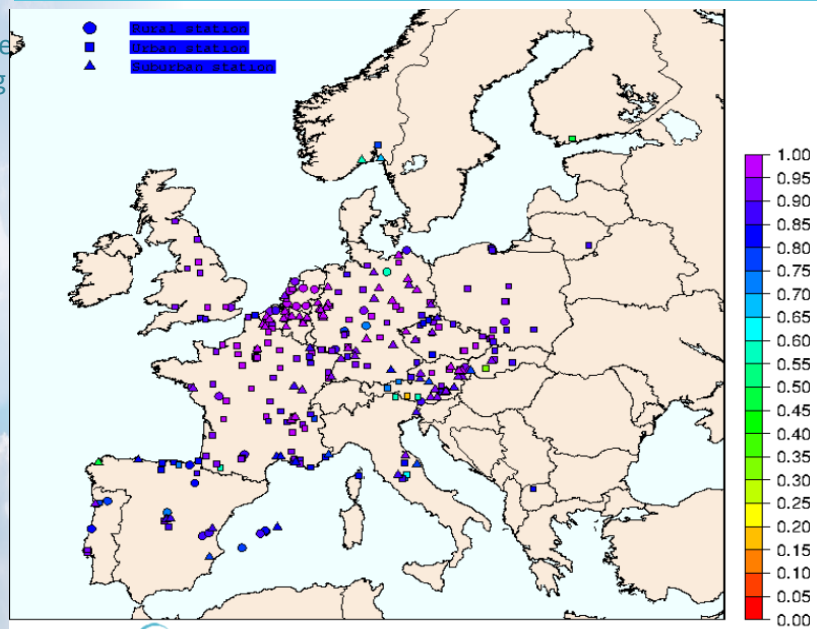
Reports on the European **annual reanalysis** (based on validated observations)

- Focus on air quality indicators as set in the air quality Directives or relevant for impact studies.
- Consistent with the EEA air quality report





Assessments and forecasts



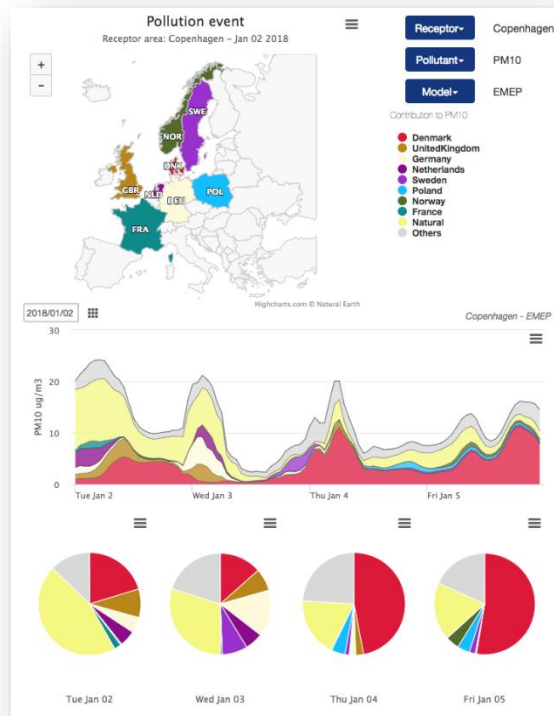
- Valuable inputs for nested modelling chains
- A lot of experience on forecasting system that could be proposed in a cooperative framework
- **Planned in 2018-2019** : evaluation of the analyses and re-analyses with respect with to the Fairmode MQO



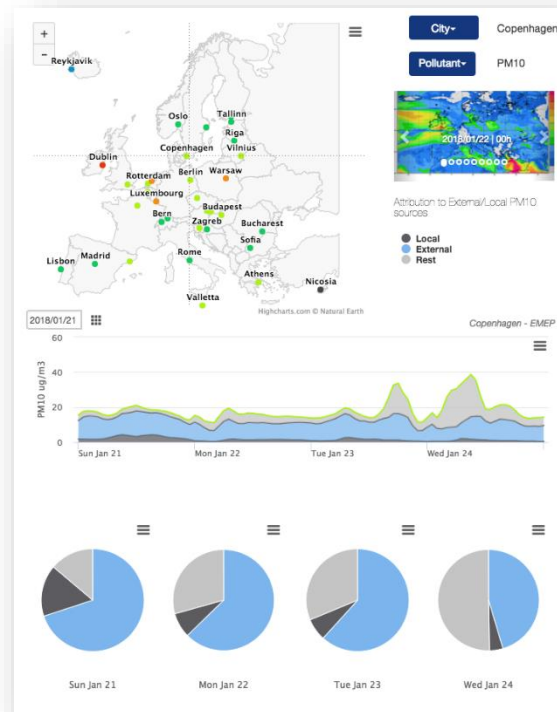
Atmosphere
Monitoring

POLICY PRODUCTS: S/R CALCULATIONS

Country S/R calculations on demand (case of acute transboundary pollution)



Regional S/R calculations Daily forecasts





POLICY PRODUCTS: "GREEN SCENARIOS"

Atmosphere
Monitoring

Control Scenarios

Forecasts

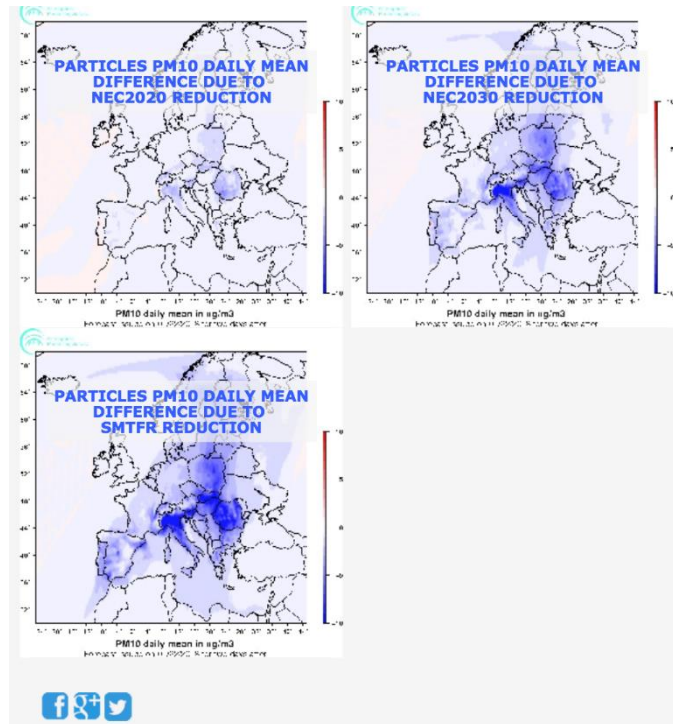
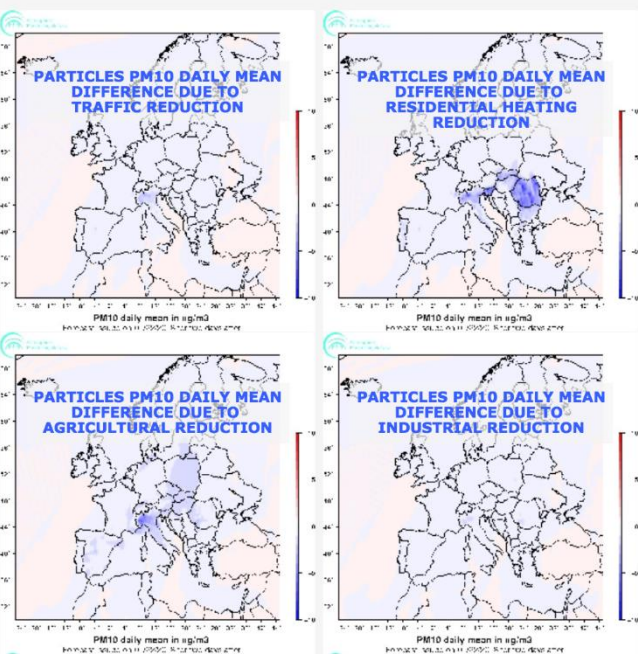
Emission scenario impacts

Pollutant -

Particles PM10

Day -

D+2



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