



# TFMM contribution to trend studies in air pollution

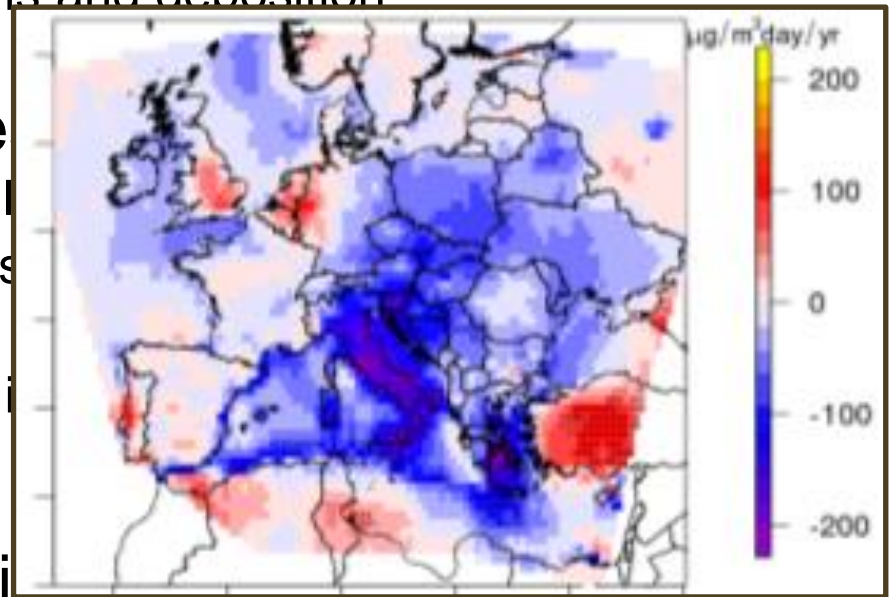
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# Rationale

- Good time to assess trends when enough material is available :
  - Long term time series of observations
  - Maturity of models
  - Need to get indicators to evaluate the impact of the Protocoles (and emission reductions) on air pollutant concentrations, deposition and their effects
- Contribution to the CLRTAP assessment report (2016)
- Special session at the last TFMM meeting (Bologna, April 2014) with presentation of trends results by the EMEP Centres and by National experts. Experts from the GAW and ACTRIS networks attended as well
  - More than 12 national presentations
  - Presentations from the EEA, ACTRIS, and GAW
  - Extensive results from the MSC-W, MSC-E and CCC

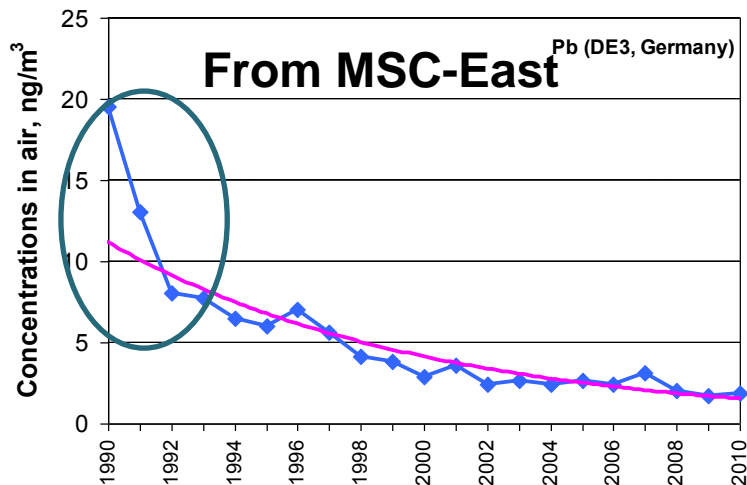
# Main issues to be discussed

- The reference period (20 years?) and the time resolution
- Pollutants and metrics:
  - Prioritize the considered substances (pollutants from the GP, HM and POPs will be considered)
  - Air pollutant concentrations and deposition
- For observations: site countries/Europe average
  - network representativeness
  - spatial clustering
  - consistent sites selection in trend period
- For modelling : mapping

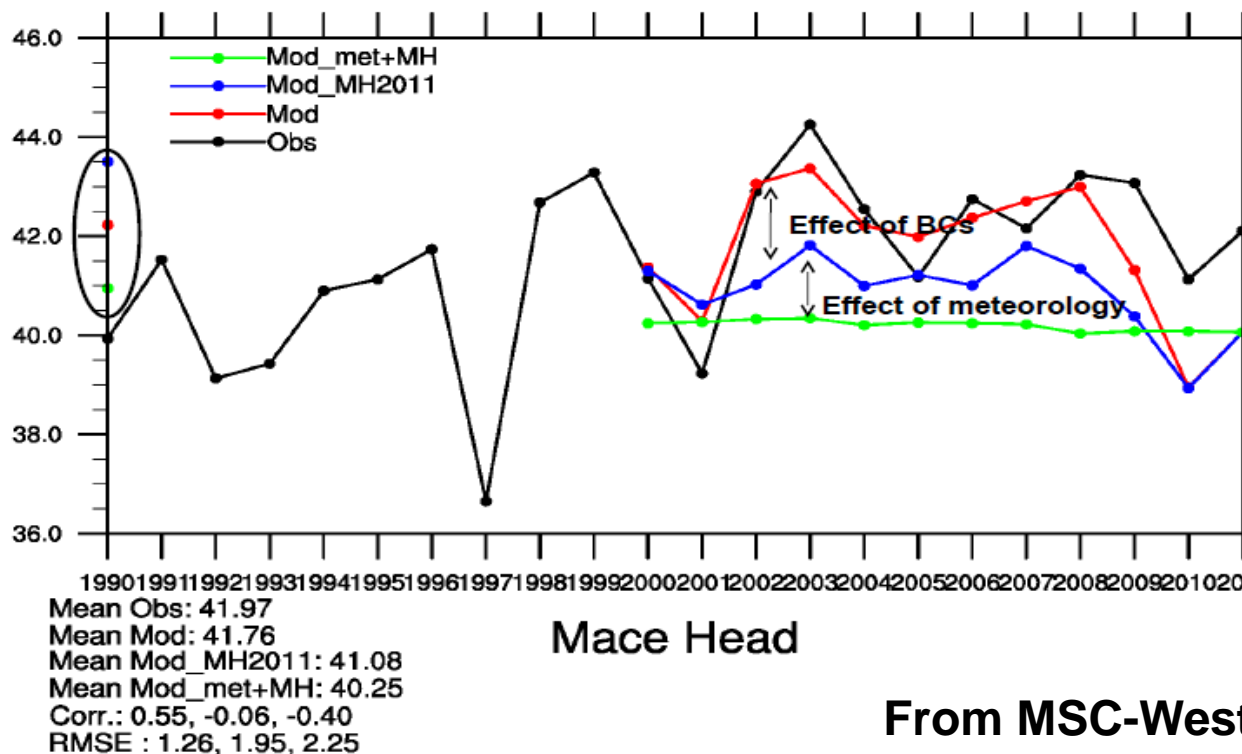


# Methodological is

- How to calculate trends : various methods
  - Define reference methods that suit the data, considering their experience and the quality of the datasets
- Quality of the datasets :
  - Quality checking (QA/QC in measurements and modelling results)
  - Completeness
  - Data filtering
- How to deal with uncertainties
  - Meteorological
  - Seasonal
- Modelling
  - Representativeness
  - Input data
  - Boundary conditions
  - Computational



## Ozone daily max



From MSC-West

# Expected results

- A common framework and contributions from the EMEP centers and from the national experts
  - Transboundary air pollution and insights related to urban scale
- Link with effects : ecosystems and population exposure
  - Close cooperation with the WGE should be established if possible for methodological issues, at least to draw conclusions
- Link with emissions
  - Comparison with trends in emissions
- Link with other work within EMEP
  - Eurodelta3 – retrospective analysis (1990-2008)
  - TF HTAP, especially to investigate the issue on boundary conditions.

# Proposal for the Work plan

- 17-18 November 2014 : TFMM workshop to set-up the project : EMEP centres, national experts, experts from WGE and from EURODELTA
- December 2014 : document with agreements on the methodologies, data used, deliverables, etc ...
- April 2015 : TFMM meeting : discussion on the results delivered
- In-between : exchanges with WGE, TFEIP, TFIAM, TFHTAP  
Joint workshop ?
- December 2015 : TFMM report and contribution to the assessment report