



Report on the Task Force on Modelling and measurement activity

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Main activities in 2010

- Consolidation of the EMEP field campaigns datasets (2008-2009) and first experiments for their operational use (source apportionment issues)
- Pilot studies on heavy metals launched on the basis of partnerships with 6 volunteer countries
- New modelling project ("Eurodelta3") focused on model intercomparison and model evaluation against high resolution observation datasets
- Annual meeting held in Larnaca, Cyprus (May 2010)
- Joint meeting with TF EIP in Larnaca (May 2010)
- Technical workshop in Ispra (November 2009)

TFEIP/TFMM joint meeting

- **Wood Burning - and other uncertain PM sources**
- **Uncertainties in Emission Estimates and Measurement**
- **Metals- Emissions and Models**
- **Short-term Fluctuations in Emissions**
- **Emission Maps from different sources**
 - There is a clear need for reliable emission maps for modeling.
 - Initiatives like those borne by the GMES atmospheric services (MACC/TNO emission inventory) must be considered carefully.
 - To ensure consistency between the modeling results used by policy makers, emission datasets must be consistent and cooperation with other projects should be enhanced.

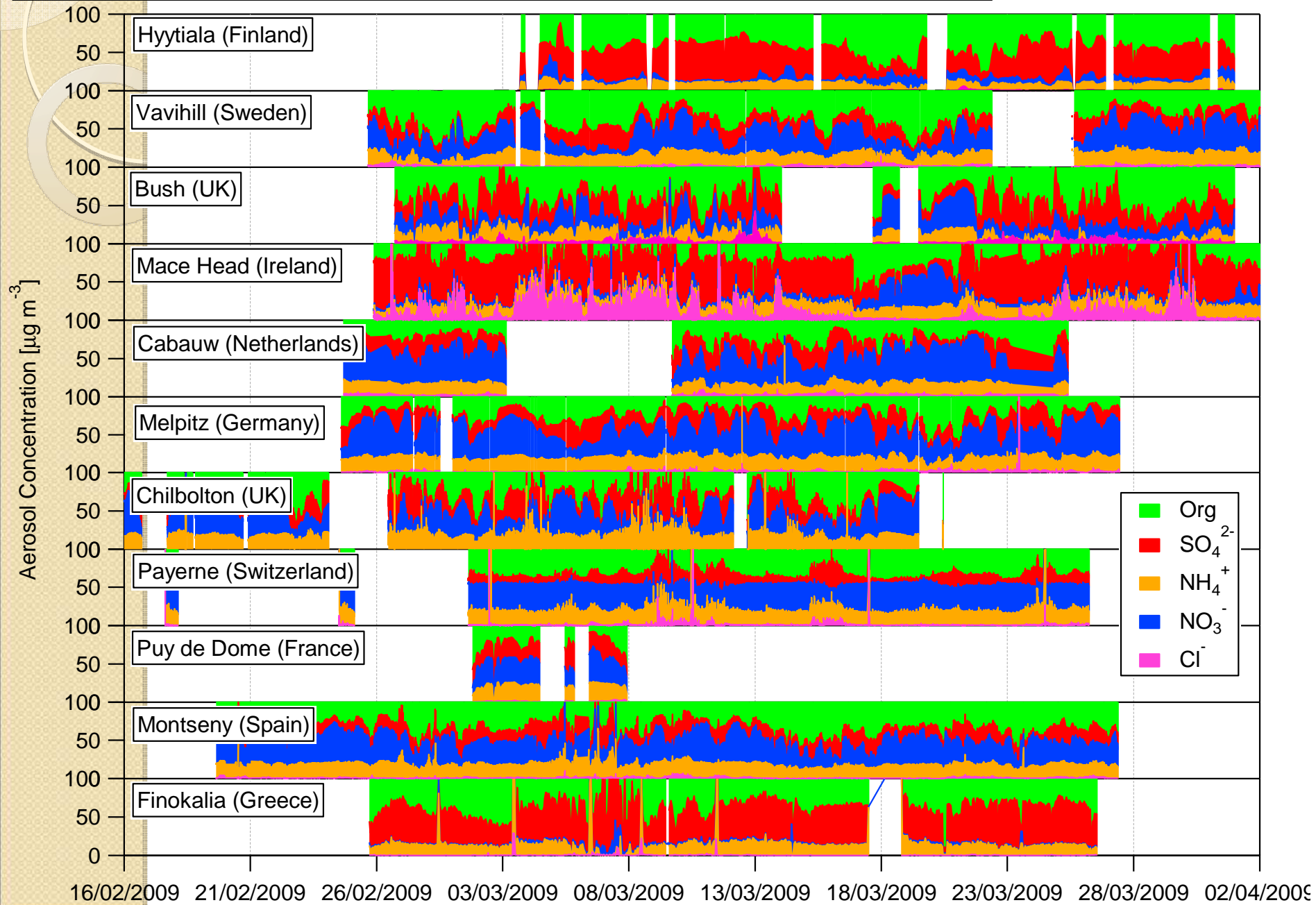


Field measurement campaigns within the EMEP monitoring strategy

- Under the coordination of CCC : support to the involved teams, consistency of the chemical analysis process, compilation of observation data, QA/QC, database
- Successful experiment resulting in a unique set of data characterizing aerosol in Europe
- Contribution to the development of methodologies and protocols
- High involvement of national experts and good cooperation with research projects (EUCAARI, EUSAAR)
- All the data processed will be made available in 2010
- Several publications foreseen
- More work is now expected from the Parties and the modellers for the interpretation and use of these data (e.g. model evaluation)

Feb/Mar 2009 - Relative Composition

With Courtesy of CEH





Next EMEP field campaigns

- 2012: an « interesting » year considering other national or research initiatives -> 2011/2012 or 2012/2013
- Next field campaign focused on aerosol issues but should include :
 - Other typologies for measurement sites : urban
 - Longer periods (mini-AMS?)
 - Measurements of gaseous and aerosol species at the same location
- Use of the previous campaigns results to design the next ones.
 - Source apportionment analysis?
 - Investigation in some "unexplored" locations ?
 - Black carbon?
 - Modelling results and needs for model evaluation



Implementation of the revised EMEP monitoring strategy

- CCC reported on the implementation of the updated EMEP monitoring strategy by the Parties. Main issues :
 - It takes some time to change national priorities, and awareness of the CLRTAP requirements may be limited from some decision makers' point of view.
 - Consequently some countries perform a lot of measurements which are not closely linked to EMEP; interaction with other monitoring programs (GAW) and with other European regulatory monitoring processes (the Air Quality Directive especially) is essential.
 - On the other side the great interest for the EMEP program from non-official contributors (the research community) is remarkable and can bring added-value.



Heavy metal pilot studies

- Under the coordination of MSC-East : setting-up of the experiments and work plans, compilation and interpretation of data, model runs, close cooperation with national experts
- Successful initiative with 6 volunteer countries involved (status and expectations presented during the TFMM meeting)
- « Specific » work plans should be established through **bilateral consultations**, regarding the various situations (data, requirements, available man power...)
- First results expected by end 2011- 2012
- Main issues :
 - Improvement of EMEP and national models and data (emissions)
 - Dialogue between communities
 - Evaluation of the model performance
 - Advances in the field of heavy metal impact evaluation



In-kind contribution of Ukraine

- Presentation of the activity developed in Ukraine on emission, measurement and modelling issues for heavy metals
- It has been acknowledged that this activity is relevant for the EMEP programme, and fits to what was expected from the Party.



Modelling project : EURODELTA3 (with support from the JRC)

With MSC-West : A new step in the EMEP model evaluation process

1. EMEP FIELD CAMPAIGNS (ED-FC): "Scientific issue"

- Fine spatial resolution, 3D, High Res. Emissions & other input datasets
- Comparison with the field campaigns of:
 - 2006: 01/06 - 30/06
 - 2007: 08/01 - 04/02
 - 2008: 17/09 - 15/10
 - 2009: 25/02 – 26/03

2. RETROSPECTIVE ANALYSIS (ED-RA): "Policy Issue"

- Capacity of current models to reproduce monitored changes in air quality
- Trend analysis: from 2006 → 1999 → 1990
AQMEII → ED I → Gothenburg Protocol



Participants and work plan

- ED I Participants

- Met.No (EMEP)
- SMHI (MATCH, S)
- TNO (LOTOS, NL)
- INERIS (CHIMERE, F)
- FUB (RCG, DE)

- Expressions of interest

- ERSE (CAMx, I)
- U. Brescia (TCAM, I)
- VITO (Bel-EUROS, BE)
- PSI (CAMx, CG)
- U. Madrid (CMAQ, SP)

- 2010

- Preparation/formatting of Field Campaigns data for all years
- Preparation of the datasets for the retrospective analyses
- Preparation of all required input data (meteo - emissions - monitoring) for all years


- 2011

- Launch of ED-FC for all available years
- Sensitivity simulations: meteorology, Biogenic compounds & spatial resolution



TFMM Work plan for 2011

- Build-up the appropriate framework for the implementation of the revised monitoring strategy
- Contribute to the analysis and promotion of the EMEP field measurement campaigns; encourage utilisation of their results, in collaboration with CCC; invite Parties to use relevant data for national air quality assessments and analyses;
- Contribute to the development of a framework and a workplan for the next EMEP field campaigns (2012-2013): draft plan to be presented to the EMEP SB in 2011
- Provide guidance for the implementation of the six pilot studies on heavy metal pollution assessment

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- Organize and coordinate the EURODELTA follow-up modelling exercise with the assistance of the Joint Research Center (JRC) of the European Union
 - Contribute to the ongoing European Union (EU) modelling initiatives (e.g. European Consortium for Modelling of Air Pollution and Climate Strategies (EC4MACS), the EEA Forum for Air Pollution Modelling (FAIRMODE) and the Air Quality Model Evaluation International Initiative (AQMEII));
 - Consider options and opportunities for enhancing the visibility and promotion of the TFMM work (e.g. by means of newsletters, conferences)



Upcoming meetings

- Eurodelta Meeting : 8th October, Paris
- TFMM annual meeting : 11-13 May 2011 in Zurich (Switzerland) hosted by EMPA (Swiss Federal laboratories for Material science and Technology)