

EMEP MSC-W Model Training Course

October 13-14/2015

at MET, Oslo, Norway

The EMEP Meteorological Synthesizing Center West and the Division for Climate Modelling and Air Pollution (KL) at the Norwegian Meteorological Institute (MET) are organising a three day training course on the EMEP model and associated data products. The objective of the course is to make new as well as experienced users well acquainted with the EMEP MSC-W model architecture. Special emphasis will be put on recommendations to handle the output and understanding standard data products from EMEP MSC-W. It is intended to also allow for discussion of joint model development with users of the model and EMEP MSC-W data products. PhD students, Postdocs and scientists working at research institutes or universities are encouraged to apply. Working knowledge in a Unix environment is necessary. Prior knowledge of installing and running EMEP model will be an advantage.

The EMEP MSC-W chemical transport model is one of the key tools used for European air pollution policy assessments. The [Convention on Long-range Transboundary Air Pollution \(LRTAP\)](#), signed in 1979, established a broad framework for co-operative action on reducing the impact of air pollution and sets up a process for negotiating concrete measures to control emissions of air pollutants through legally binding protocols. The EMEP programme (Co-operative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe) is regularly providing governments and subsidiary bodies under the LRTAP Convention with qualified scientific information to support the development and further evaluation of the international protocols on emission reductions negotiated within the Convention.

The EMEP MSC-W model is used to simulate acidification, eutrophication, ground level ozone, particulate matter, photo-oxidants and both inorganic and organic aerosols. The model is developed and managed by the Division for Climate Modelling and Air Pollution at MET. The model is regularly updated and research versions are tested by the model development team. It was first made an open source model in 2008 and updated in 2011, Autumn 2012, Spring 2013 and 2014. All input data needed for basic European-scale model calculations for one year are available online.

The training course aims to address both beginners as well as experienced modellers. It will introduce new users to the model - running the model, choosing between different outputs - and explain how to use it in an efficient way. The course will cover topics of preparing input data and introduce users to tools for analysing model output. Most of EMEP MSC-W model products are available on the EMEP web site (www.emep.int), and this course will explain how to access the data and understand them. Exercises will be handed out and explained during the course and can be done any time after the course with support from EMEP MSC-W.

We recommend those who are interested to register as early as possible. Because the workshop will be held within MET's meeting facilities and only a limited number of participants can be hosted. Preference will be given on a first come first served basis. Unfortunately MET cannot provide with any financial assistance and thus participants are responsible for hotel accommodation and travel.

Please register by sending an email to Semeena Valiyaveetil <semeenav@met.no>

For registration PLEASE provide short info on your

- == professional background , contact details
- == motivation
- == suggestions for topics which should be covered

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AGENDA
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Day 1/ Start 09:30 / Basics

- 09:30-09:40 Welcome (Hilde Fagreli)
- 09:40- 10:10 Philosophy, Concepts, Principles of the model (David Simpson)
- 10:10-10:30 Introduction to the EMEP MSC-W model, structure of the model, input data needed for the run, model outputs (Svetlana Tsyro)
- 10:30-11:00 Computational requirements, Grid flexibility, Resolution, Timestep, Advection (Peter Wind)

10:40 - 11:00 Coffee break

- 11:00-11:30 Emission (Agnes Nyiri)
- 11:30-12:00 Meteorological input data (Anna Benedictow)

12:00 13:00 Lunch break

- |13:00 14:30 Exercises (Make a Base run, Selection of input and output files, selection of output variables etc..)

14:30 – 14:45 Coffee break

- 14:45 16:00 Exercises and discussion (Visualisation of the results)

Dinner at: 19:00

Dinner in Oslo

Day 2 / Advanced Model Usage

- 09:00-09:30 AOD Parameterisation in EMEP (Svetlana)
- 09:30-10:00 MAFOR the new dynamic aerosol module (Mathias Karl)
- 10:00 -10:30 WRF Meteorology with EMEP MSC-W Model (Massimo Vieno)

10:30 – 10:45 Coffee break

- 10:45-11:30 Gas phase chemistry, SOA module, chemistry module choices, mass balance checks (David Simpson)
- 11:30-12:00 SR Calculations, Sites and Sondes output (Semeena)
- 12:00-13:00 **Lunch Break**

Afternoon:

- 13:00-14:30 Exercises (SR, Nested runs, Switching to MAFOR module)

14:30 – 14:45 Coffee break

- 14:45-16:00 Exercises (WRF Meteorology with EMEP MSC-W model)

Lunch can be taken in the canteen of MET