

EMEP MSC-W Model Training Course

24-26 April, 2013

at met.no, Oslo, Norway

The EMEP Meteorological Synthesizing Center West and the Division for Climate Modelling and Air Pollution (KL) at the Norwegian Meteorological Institute (met.no) 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.no. 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 both 2011 and Autumn 2012. 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.no's meeting facilities only a limited number of participants can be hosted and preference will be given on a first come first served basis. As no funding is available, 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

EMEP MSC-W Model Training Course
24-26 April, 2013
at met.no, Oslo, Norway
Room: VIA, CIENS Building
Forskningsparken

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AGENDA
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24-04-2012 / Start 13:00 / Basics

- 13:00-13:10 Welcome (Michael Schulz)
- 13:10- 13:40 Philosophy, Concepts, Principles of the model (David Simpson)
- 13:40-14:10 Introduction to the EMEP MSC-W model, structure of the model, input data needed for the run, model outputs (Svetlana Tsyro)
- 14:10-14:40 Emission (Agnes Nyiri)
- 14:40-15:00 Discussion

- **15:00 -15:30 Coffee break**

- 15:30-16:00 Meteorological input data (Anna Benedictow)
- 16:00-16:30 Computational requirements (Peter Wind)
- 16:30-17:00 Introduction to simple exercises to run the model (Semeena Valiyaveetil)
- 17:00-17:30 Questions and Discussion

25-04-2012 / Advanced Model Usage

- 09:30-10:00 Gas phase chemistry, SOA module, chemistry module choices, mass balance checks (David Simpson)
- 10:00-10:30 Aerosol and nitrogen chemistry (Svetlana Tsyro)

- **10:30-10:45 Coffee Break**

- 10:45-11:15 Grid flexibility, Resolution, Timestep, Advection (Peter Wind)
- 11:15-11:45 Overview on tools, nco, cdo, ncview, NCL, GrADS, FERRET (Semeena Valiyaveetil)
- 11:45-12:00 Questions and Discussion

- **12:00-13:00 Lunch Break**

Afternoon:

- 13:00-13:30 Adding species to model and output (Birthe Marie Steensen)
- 13:30-14:00 Treatment of Plume rise in EMEP MSC-W Model (Mathias Karl)
- 14:00-14:30 WRF-EMEP interface (Massimo Vieno)
- 14:30-15:00 Exercises continued. (Semeena Valiyaveetil)

- **15:00-15:30 Coffee Break**

- 15:30-16:00 Unsolved Problems / Fields for cooperation (David Simpson)
- 16:00-16:30 Questions and Discussion

Leave from met.no for dinner at 18:30. Tram 18 to 'St. Halvard plass/ Oslo Ladegård'

Dinner at: 19:00

Dinner in Oslo at “**Oslospiseforretning**” (<http://www.oslo-spiseforretning.no/>)

Oslo Spiseforretning AS
Oslogate 15
(hjørnet Oslogate - Bispegaten)
0192 OSLO
Norge

26-04-2012 / Data Products

- 09:00-09:30 Overview EMEP products, concentrations, deposition (Jan Eiof Jonson)
- 09:30-10:00 EMEP data on the web, SR Tables, national reports (Michael Gauss)

- **10:00 – 10:30 Coffee Break**

- 10:30-11:00 IT infrastructure at met.no for EMEP, HTAP, AeroCom (Jan Griesfeller)
- 11:00-11:30 Verification/Quality of EMEP products (Michael Schulz)

- 11:30-12:00 Questions and Discussion

End ca 12:30

Lunch can be taken in the canteen in the CIENS building

Travel instructions

The Training Course will take place at:

Meeting room:

VIA, CIENS Building

The Oslo Innovation Center (Forskningsparken)

Gaustadalléen 21

0349 Oslo

Phone: +47 22 96 33 06

Fax: +47 22 96 33 80

From Oslo Airport Gardemoen to met.no

- **Taxi.** The price is about 600 NOK (max 4 persons) to take a taxi from Gardermoen. Traveltime is ca. 50 minutes (60 km from Oslo City Center).
- **Airport Express Bus.** Take the Airport Express Bus to "Gaustad, Rikshospitalet" station and from there walk directly to Forskningsparken (see map 1). Take the bus from "NOR-WAY Bussekspress" line no. F3 (direction Bekkestua).
Webpage for timetable and prices: <http://flybussekspressen.no/>
- **Airport Express Train.** The quickest way of coming to *Oslo Centralisation (Oslo S)* or to *Nationaltheatret railway station* is to use the Airport Express Train. Travel time is about 20 minutes. From both stations you can take a taxi to Gaustadallen 21. Price is ca 150 NOK and travel time is about 20 minutes. You can also use public communication as tram (trikk) or subway (t-bane) from *Oslo S* and subway from *Nationaltheatret* (see below)
Webpage for timetable and prices: <http://www.flytoget.no/eng/>
- **Local train.** You can also use local train from Gardermoen to Oslo S. The trip takes longer time, but is cheaper.
Webpage for timetable and prices: http://www.nsb.no/?lang=en_US

Local Travel in Oslo

You can take metro (T-bane) or tram (trikk) from Oslo city to reach Forskningsparken.

You can also plan your trip with the starting point and destination point on the following website.

<http://ruter.no/en/>

pdf files of the local Metro and Tram network maps are attached. The 'location.png' is the location map of Forskningsparken building. If you are following the 'blue' walking path in the map, the building on the left side of point 'B' is the Forskningsparken building.