European Meteorological Society

**Introduction to the Weather Research and Forecasting (WRF) model
Training Workshop, 11 September 2016, Trieste: 9:00 – 18:00**

Gert-Jan Steeneveld (Wageningen Univ.), Hugo Hartmann (MeteoGroup), Peter Kalverla (Wageningen Univ.)

Detailed plan for the workshop:

09:00 – Opening

A short introduction in the structure and goals of the workshop, the lecturers, and of the participants expected learning outcomes.

09:15 - 10:30 Lecture 1: "An introduction to the WRF modelling frame work" (G.J. Steeneveld)

This lecture provides a brief history of the WRF model and a summary of the widely used applications. The lecture proceeds with an instruction of the steps to follow to run WRF, i.e. pre-processing (domain setup, boundary conditions, land-use etc), model configuration (settings for physical processes), and model execution. Guidance will be provided in how to perform basic sensitivity studies.

Finally, an overview of the available WRF branches is discussed, i.e. on top of the reference WRF version, dedicated WRF permutations for single-column studies, as well as for polar and hurricane studies and for atmospheric chemistry.

10:30 - 10:45 Coffee break

10:45 - 12:45 Model set-up and running of case studies

In this part of the workshop, participants will go through the steps if setting up, configuring and running WRF themselves. Four case studies on different spatial and temporal scales will be prepared, and participant will be allocated to case study closest to his/her interest in research or applications. The case study will cover:

- Synoptic scale: storm Xavier over the North Sea in December 2013
- A hurricane Emily (2005) in the Caribbean
- Boundary-layer scale: A sea breeze at the Dutch coast and comparison with Cabauw tower observations
- An Adriatic bora event from 2012

Participants will run the cases individually but analyse them in groups.

12:45 - 13:45 Lunch

13:45 - 14:15 Lecture 2: "WRF applications in MeteoGroup" (Hugo Hartmann)

After lunch, a short overview of the WRF applications at MeteoGroup will be presented.

14:15 - 15:30 Analysis model results - part 1

Participants will be guided into the postprocessing of the WRF model results, i.e. how to create basic plots for basic meteorological variables and vertical strcuture, and dedicated plots for specific applications. With these tools, the model results will be analysed.

15:30 - 15:45 Coffee break

15:45 - 17:00 Analysis model results - part 2

Participants will continue to analyse model results, and will make a small powerpoint presentation about the results.

17:00 - 18:00 Presentation by each group on the results

A short presentation will be given by a representative of each group such that all groups will benefit from what was learnt from all cases.

18:00 Closing