



EuMetChem: Review of current status and European framework of online integrated meteorology-chemistry modelling

A. Baklanov (1), S. Joffre (2), H. Schlunzen (3), P. Suppan (4), M. Gauss (5), Ch. Seigneur (6), D. Brunner (7), and the COST ES1004 Team

(1) Danish Meteorological Institute, Meteorological Research, Copenhagen, Denmark (alb@dmu.dk, +45 391 57460), (2) Finnish Meteorological Institute, (3) Meteorologisches Institut, KlimaCampus, Universität Hamburg, (4) Karlsruhe Institute of Technology (KIT), Institute for Meteorology and Climate Research, (5) Norwegian Meteorological Institute, (6) CERE, École des Ponts ParisTech, (7) Empa, Swiss Federal Laboratories for Materials Science and Technology

Although atmospheric chemical transport (ACT) models can be coupled to numerical weather prediction (NWP) models either off-line or on-line at present, a scientific perspective of chemical weather forecasting (CWF) would argue for an eventual migration from off-line modelling (where the ACT model is run after the NWP model is completed) to on-line modelling, allowing coupling and integration of the physical and the chemical components of CWF systems.

The COST Action ES1004 EuMetChem: 'European framework for on-line integrated air quality and meteorology modelling' (2011-2015) (web-site: <http://eumetchem.info>) is focusing on a new generation of on-line integrated ACT and Meteorology (NWP-CLIM) modelling with two-way interactions between different atmospheric processes including chemistry (both gases and aerosols), clouds, radiation, boundary layer, emissions, meteorology and climate. The overall objective of the Action is to set up a multi-disciplinary forum for on-line integrated air quality/meteorology modelling and elaboration of the European strategy for a new-generation integrated ACT/NWP-CLIM modelling capability/ framework.

The first task of EuMetChem was a review of the current status of on-line integrated meteorology-chemistry modelling in Europe. This presentation is giving an overview of existing 17 online coupled regional models and building a framework of online integrated meteorology-chemistry modelling in Europe.