
Interactive
Comment

Interactive comment on “Online coupled meteorology and chemistry models: history, current status, and outlook” by Y. Zhang

B. Langmann

baerbel.langmann@zmaw.de

Received and published: 27 March 2008

As already written by the two anonymous reviewers and J. Fast, I agree that a review paper is useful to document the state of the art in a particular topic of science, in this case the topic deals with on-line coupled meteorological and chemical models. However, for review papers the demands and requirements are slightly different from ‘usual’ research papers. I expect from a review paper a neutral and exhaustive report, which is often impossible. So it is for the topic chosen here. Nowadays, published articles about on-line coupled models are that numerous that it is hard to have a real overview. Therefore I would like to draw the attention of the author to another on-line coupled regional scale atmosphere-chemistry model called REMO in earlier times and later REMOTE (<http://www.mpimet.mpg.de/en/wissenschaft/modelle/remote.html>

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper



Interactive
Comment

- web-page not updated since three years), which has been developed at the end of the last century, years before the WRF model. The first paper documenting this model tool is Langmann (2000). Applications in a global to mesoscale model chain are described in Langmann et al. (2003). There are different trace species modules available: a photochemical module (RADMII), stable water isotopes have been studied (Sturm et al., 2005, 2007), carbon dioxide (e.g. Karstens et al., 2006) and recently an aerosol microphysical module has been implemented in addition to the photochemical one (Langmann et al., 2008). A study on the second indirect aerosol effect is described in Langmann (2007). The model is flexible to be applied all over the world: many applications focus on Europe (e.g. Langmann, 2000; Marmer and Langmann, 2005; Marmer et al., 2007a, b; O'Dowd et al., 2008), some studies on Indonesia (Langmann and Heil, 2004; Langmann, 2007). Meanwhile the model is applied in Indonesia, China, Germany, UK and Ireland, where it is further developed to study a variety of scientific questions.

- Karstens, U., M. Gloor, M. Heimann and C. Roedenbeck, Insights from simulations with high-resolution transport and process models on sampling of the atmosphere for constraining mid-latitude land carbon sinks, *J. Geophys. Res.* 111, D12301, doi:10.1029/2005JD006278, 2006.

- Langmann, B., Numerical modelling of regional scale transport and photochemistry directly together with meteorological processes, *Atmos. Environ.* 34, 3585-3598, 2000.

- Langmann, B., S. E. Bauer and I. Bey, The influence of the global photochemical composition of the troposphere on European summer smog, Part I: Application of a global to mesoscale model chain, *J. Geophys. Res.*, 108 (D4), 4146, doi: 10.1029/2002JD002072, 2003.

- Langmann, B. and A. Heil, Release and dispersion of vegetation and peat fire emissions in the atmosphere over Indonesia 1997/1998, *Atmos. Chem. Phys.* 4, 2145-2160, 2004.

[Full Screen / Esc](#)

[Printer-friendly Version](#)

[Interactive Discussion](#)

[Discussion Paper](#)



Interactive
Comment

- Langmann, B., A model study of the smoke-haze influence on clouds and warm precipitation formation in Indonesia 1997/1998, *Atmos. Environ.* 41, 6838-6852, doi:10.1016/j.atmosenv.2007.04.050, 2007.
- Langmann, B., S. Varghese, E. Marmer, E. Vignati, J. Wilson, P. Stier and C. O'Dowd, Aerosol distribution over Europe: A model evaluation study with detailed aerosol microphysics, *Atmos. Chem. Phys.* 8, 1591-1607, 2008.
- Marmer, E. and B. Langmann, Impact of ship emissions on the Mediterranean summertime pollution and climate: A regional model study, *Atmos. Environ.* 39, 4659-5669, 2005.
- Marmer, E., B. Langmann, K. Hungershöfer and T. Trautmann, Regional aerosol modelling Part II: Inter-annual variability of aerosol direct radiative forcing over Europe, *J. Geophys. Res.* 112, D23S16, doi:10.129/2006JD008040, 2007a.
- Marmer, E. and B. Langmann, Aerosol modelling over Europe Part I: Inter-annual variability of aerosol distribution, *J. Geophys. Res.* 112, D23S15, doi:10.129/2006JD008113, 2007b.
- O'Dowd, C., B. Langmann, S. Varghese, C. Scannell, D. Ceburnis and M. C. Facchini, A combined organic-inorganic sea-spray source function, *Geophys. Res. Lett.* 35, L01801, doi:10.1029/2007GL030331, 2008.
- Sturm, K., G. Hoffmann, B. Langmann and W. Stichler, Simulation of delta 18O in precipitation by the regional circulation model REMOiso, *Hydrological Processes* 19, 3425-3444, doi:10.1002/hyp.5978, 2005.
- Sturm, K., G. Hoffmann and B. Langmann, Climatology of stable water isotopes in South America: Comparing general to regional circulation models, *J. Clim.* 20, 3730-3750, doi:10.1175/JCLI4194.1, 2007.

Interactive comment on *Atmos. Chem. Phys. Discuss.*, 8, 1833, 2008.

[Full Screen / Esc](#)

[Printer-friendly Version](#)

[Interactive Discussion](#)

[Discussion Paper](#)

