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Operational air quality forecasts with ALADIN and CAMx for Austria

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The operational regional weather prediction model ALADIN-AUSTRIA of the Central Institute for Meteorology and Geodynamics (ZAMG) is used to force a forecast system for tropospheric ozone over Europe. The operational ozone forecasts have been run since summer 2005 in cooperation with the University of Natural Resources and Applied Life Sciences in Vienna (BOKU).

ALADIN provides 48-hourly weather forecasts twice a day. The meteorological fields are combined with the results from an emission model and are used as input data for the simulation. The chemistry mechanism SAPRC99 is used.

A two grid nesting is used with a coarse grid over Europe and a finer grid for the core area covering Austria where a spatial resolution of 9.6 km is achieved. The meteorological fields have a temporal resolution of 1 hour.

Usually, high ozone concentrations occur in the vicinity of Vienna. Results of the operational runs during the summers 2005 and 2006 are presented. This comprises comparisons of model forecasts of about 40 air-quality stations in the north-eastern part of Austria during the summer periods. Selected periods with exceedences of the alarm threshold are investigated in more detail.