



Wind and temperature analyses based on ALADIN forecasts, station data and boundary layer profiling for local to regional scale air pollution assessment

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The observation-based analysis and forecasting system INCA, developed in the Central Institute for Meteorology and Geodynamics (ZAMG) is used to create the meteorological input for dispersion modeling in the local to regional scale.

INCA (Integrated Nowcasting through Comprehensive Analysis) is an observation-based analysis and forecasting system (+ 6 hours). ALADIN forecasts are used as first guess fields and down-scaled to 1 km resolution (operationally) taking into account high resolution terrain data and on-line available meteorological measurements.

For air pollution assessment studies in the local and regional scale, the 3-dimensional INCA wind and temperature fields are improved by using additional station observations as well as radiosoundings or boundary layer profiles from remote sensing measurements (RASS). Advantages of this approach and problems with the combination of the different observational data are discussed.

The INCA analyses are used as input to dispersion modeling and for trajectory analyses. Selected results are presented.