Recent developments and application of TREX (TRansport-EXchange) model

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An Eulerian photochemical reaction-transport model and a detailed dry deposition model have been coupled to develop the TREX (TRansport-EXchange) model at Eötvös Loránd University, Budapest. The modelling activity tends to estimate both the transport and the deposition processes of continuous air pollution and accidental release over a Central European grid. For the calculations, the meteorological input fields are obtained from ALADIN meso-scale numerical weather prediction model. Up to now, the TREX model have been applied to estimate the effective ozone load over different vegetation and some case studies related to a supposed accidental release have also been investigated. In this study, current status of the TREX model, especially new, more detailed parameterizations are described with some results of a wide-ranging sensitivity analysis. Model applications have been carried out for a one-month period (July, 1998). The following results of model calculation are presented here: (1) spatial and temporal variation of sensible and latent heat fluxes as well as stomatal ozone flux over Hungary; (2) transport of passive tracers from a point source (accidental release).