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Estimation of ozone deposition with TREX (TRansport-Exchange) model

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During the last few years, in spite of the rigid emission reduction of ozone precursor compounds, the ozone concentration still has high values in Central Europe. These elevated concentrations can be harmful to agricultural and natural vegetation. Description of damage caused by ozone, the flux from the atmosphere to the different surfaces is a more appropriate measure than concentration itself. To estimate the spatial and temporal variability of both near surface ozone concentration and deposition flux are calculated by the so-called TREX (TRansport-EXchange) model. The model domain covers Central-Europe including Hungary, which was located at the centre of the domain and covered by a high resolution (2.5 x 2.5 km) grid. The dry deposition velocity and both total and stomatal fluxes of ozone were calculated based on the aerodynamic, quasi-laminar boundary layer and canopy resistance for 11 different vegetation types over Hungary. Calculations for a summer period with an extended sensitivity analysis are presented in this study.