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Impact of atmospheric dynamics and photochemistry on the interannual variability of NO_2 column over Europe based on GEM-AQ model simulation

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A 3 year (2008-2010) air quality simulation over Europe was undertaken. The GEM-AQ chemical weather model with EMEP emission was run on a global variable resolution grid centered over Europe with spacing of $\sim$15 km (0.125^ox 0.125^o) in the core. Modelled NO_2 column was evaluated against SCIAMACHY and OMI observations on a monthly basis. Interannual variability of tropospheric NO_2 column over Central Europe has been described in Szymankiewicz *et al. (*2014).

We will enhance this study with the impact of modelled meteorological variability on the calculated NO_2 column. Modelled monthly mean wind speed and direction as well as monthly total radiation sum and near surface ozone concentrations will be analyzed for the period 2008-2010. We will focus on the interpretation of the interannual variation of NO_2 column in the context of atmospheric dynamics and photochemistry.