



Development of correction factors for NO₂ EMEP emission fluxes using the GEM-AQ model simulations and satellite observations from OMI and SCIAMACHY.

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A simple method for correcting NO₂ emissions that employs an air quality model results and satellite observations from OMI and SCIAMACHY will be presented.

A 3 year (2008-2010) air quality model simulation over Europe was undertaken. The GEM-AQ model using EMEP emissions was run on a global variable resolution grid centered over Europe with spacing of ~15 km (0.125°x 0.125°) in the core. Monthly mean NO₂ tropospheric columns were calculated using hourly model results.

Monthly averaged NO₂ tropospheric columns for the 2008-2010 were compared with OMI and SCIAMACHY tropospheric products. This simple method based on differences between model and satellite data allowed to define regions with systematic over and underestimations of the modelled NO₂ columns.

Results from this work allow for the development of emission correction factors that can be applied to NO₂ emissions fluxes for individual SNAP sectors. The GEM-AQ model simulations were done for 2011 using adjusted emission fluxes. Monthly averaged tropospheric columns were compared with available satellite products for 2011.