

Interactive
Comment

Interactive comment on “Impact of the vertical emission profiles on ground-level gas-phase pollution simulated from the EMEP emissions over Europe” by S. Mailler et al.

Anonymous Referee #1

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General comments.

This paper clearly shows the importance of using the correct vertical distribution of emissions. This paper is an important contribution to this subject, by systematically performing a number of model runs with the WRF-CHIMERE model using different emission heights, including a recently developed -as far as possible- realistic distribution. The paper is written in a clear way, the structure makes the different steps and results easy to follow and understand

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Specific comments.

The use of a relatively coarse horizontal grid resolution with a rather refined vertical resolution seems to be not optimal, furthermore while more refined emission data than by EMEP are available with the MACC-TNO emission data base. The improvement in model performance going from the default EMEP vertical distribution to the more realistic Bieser distribution is attributed to the improved vertical distribution only. However, this assumes that the quantity of the emissions is basically correct, which does not have to be the case

Technical comments

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