Dear colleagues,

Reading the paper by Werner et al. I notice that the reference or BASE simulation setting refers to the emission profile used in LOTOS-EUROS. I am afraid this is not the case in reality. There appears to be confusion about the temporal profiles used in LOTOS-EUROS for ammonia emissions from agriculture which is probably based on a copy paste error in an old report referred to in this paper. The report provides a constant diurnal cycle in agricultural emissions but we this is not according to our specifications in the model. The error in the 2005 report is not present in any of the more recent reference guides on LOTOS-EUROS (available on the website). I regret to see this unfortunate situation.

There are two sets of profiles used at TNO. The first is a set of functions delivered along with e.g. AQMEII and EURODELTA projects. This set refers back to data used in the early stages of EURODELTA and CITYDELTA and derives largely from the GENESIS –project. These are the profiles as for instance used in AQMEII and shown in van Damme et al. (2014). This version includes a diurnal cycle of the emissions ranging between 0.6 at night and 1.7 during the day. Spring time emissions starts to be increased in February. As the Danish team has participated in EURODELTA and AQMEII I would have expected that these profiles would have been used as a starting point.

In LOTOS-EUROS we normally use a seasonal variability as described in Schaap et al. (2004), which was assumed before European model intercomparisons such as EURODELTA and CITYDELTA even started. This function has most emissions in March and April and a lower contrast during the seasons. It uses the same diurnal as above. It has been reported in several other publications (e.g. Banzhaf et al., 2013). This is the profile we define as STATIC in our efforts to improve the ammonia emission variability (Hendriks et al., 2015).

In any case, we never use emission profiles without a significant diurnal cycle as seems to be the case in the BASE simulation by Werner et al.. In a sensitivity study to the diurnal cycle by Schaap et al. (2003, p 106) the largest impact is observed for winter, with much higher concentrations when neglecting the diurnal cycle.

We would like to ask the authors to contact us directly next time they use our settings as a reference. We would be happy to contribute and make sure the correct and latest information is used.

Yours, Martijn Schaap

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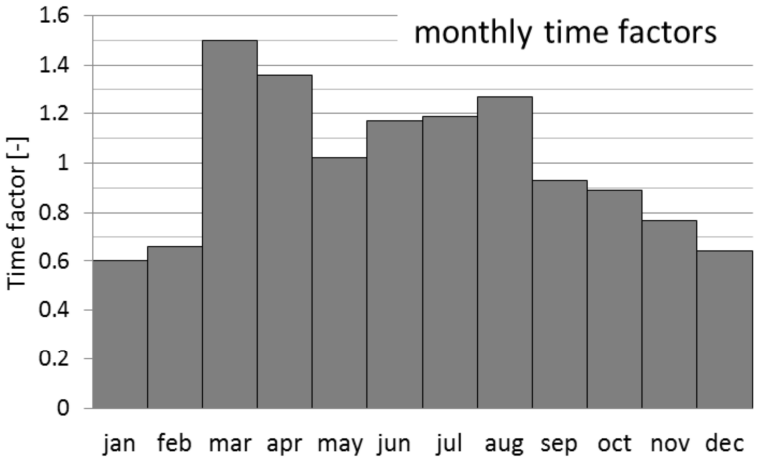
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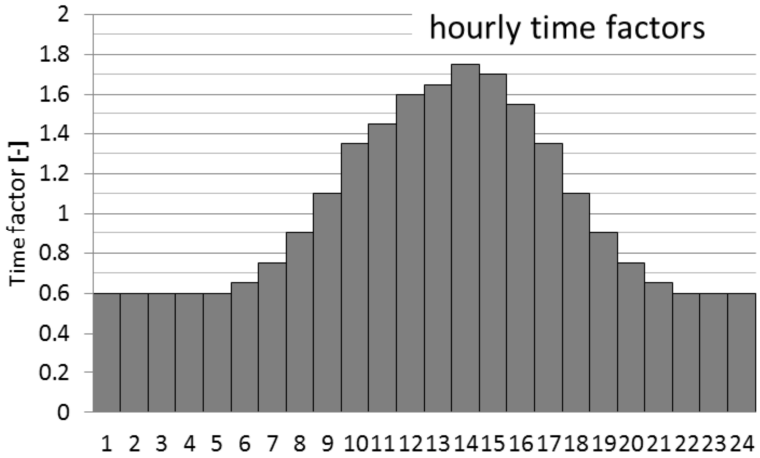
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