Supplement of

Impact of grid spacing, convective parameterization and cloud microphysics in ICON simulations of a warm conveyor belt

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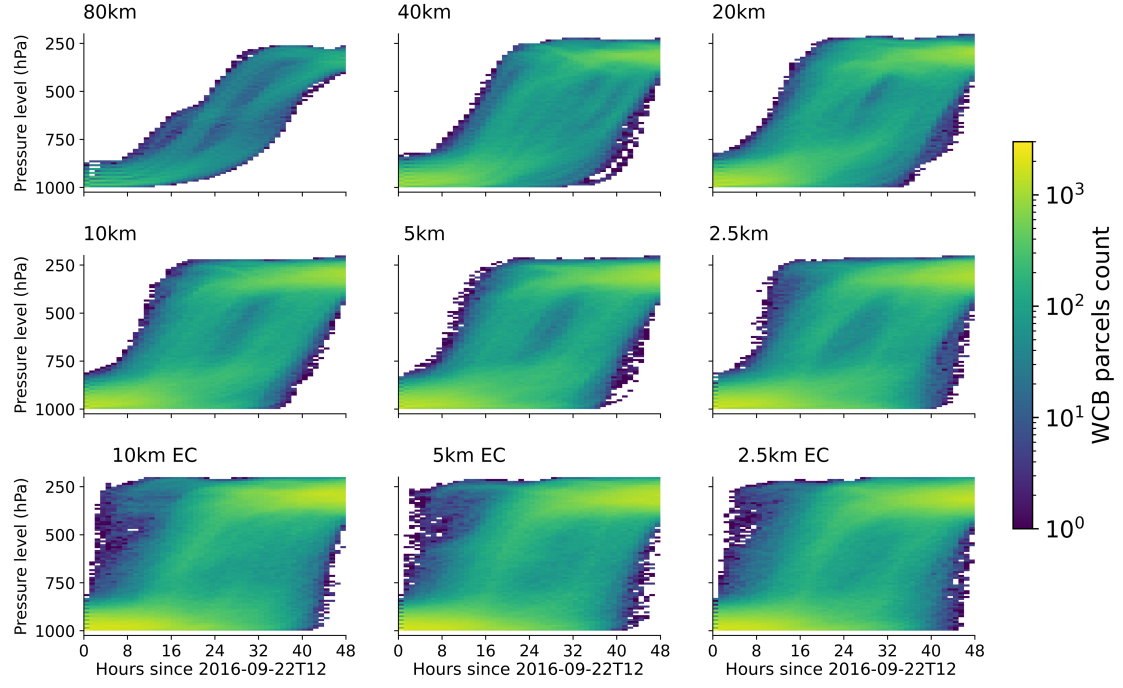
Figure S1: Histograms of the location of WCB air parcels as a function of time. The colour indicates the number of WCB parcels per time-pressure bin. The bin width is 1 h and 10 hPa. The figure shows simulations with one-moment cloud microphysics.
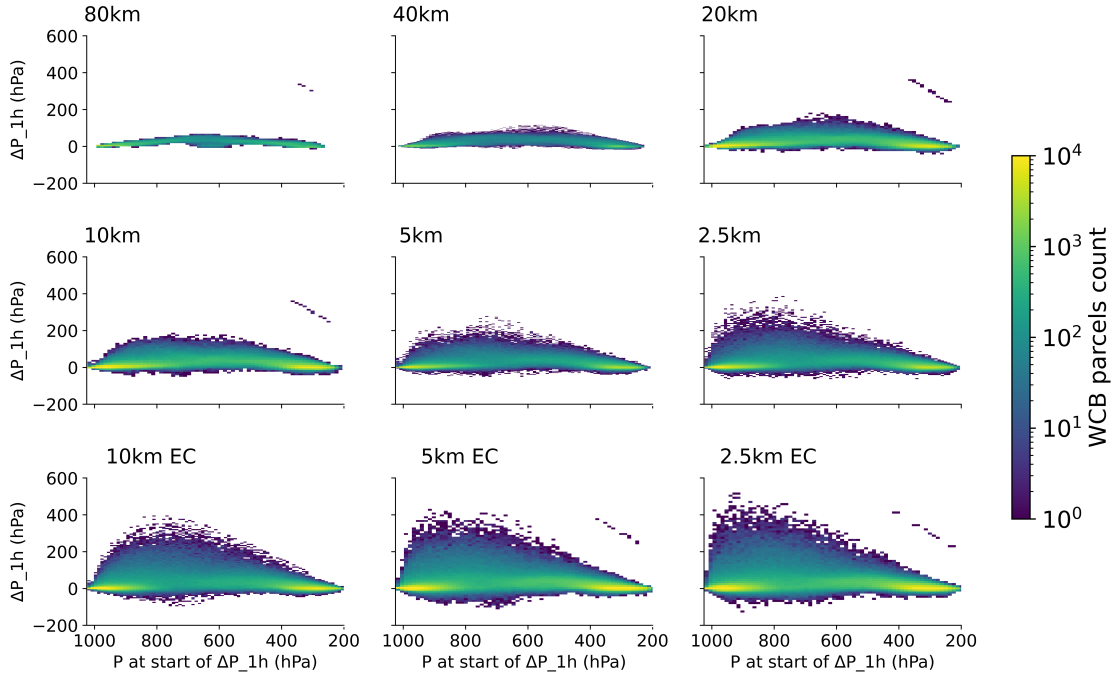
Figure S2: Histograms of pressure change of WCB air parcels over 1-hour periods, ΔP_1h, as a function of their pressure location. $\Delta P\_1h(t)$ is calculated as $P(t + 1h) - P(t)$. The bin width is $10\,\mathrm{hPa}$. The figure shows simulations with one-moment cloud microphysics.
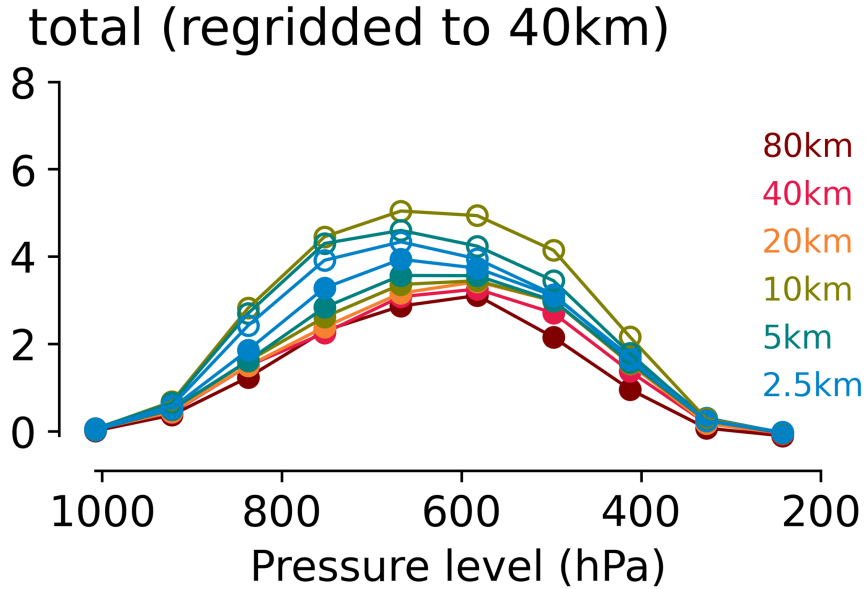

Figure S3: Total diabatic heating rate in $\mathrm{K \cdot hour^{-1}}$ along pressure levels for different grid spacings calculated as mean over all WCB trajectories. Different from Fig. 8a; the simulation data was conservatively interpolated to a common $40\,\mathrm{km}$ grid before the analysis. The lines with filled and empty markers represent simulations with parametrized and explicit convection respectively. The figure shows simulations with one-moment cloud microphysics.