Supplement of Atmos. Chem. Phys., 26, 16173–16202, 2026
https://doi.org/10.5194/acp-26-16173-2026-supplement
© Author(s) 2026. CC BY 4.0 License.



Atmospheric Chemistry and Physics
Open Access
EGU

Supplement of

Mineral dust concentration controlling convective cirrus structure and persistence: a large-eddy simulation study with observational constraints

Kasper Juurikkala et al.

Correspondence to: Kasper Juurikkala (kasper.juurikkala@fmi.fi) and Christina J. Williamson (christina.williamson@fmi.fi)

The copyright of individual parts of the supplement might differ from the article licence.

S1 Supplementary figures

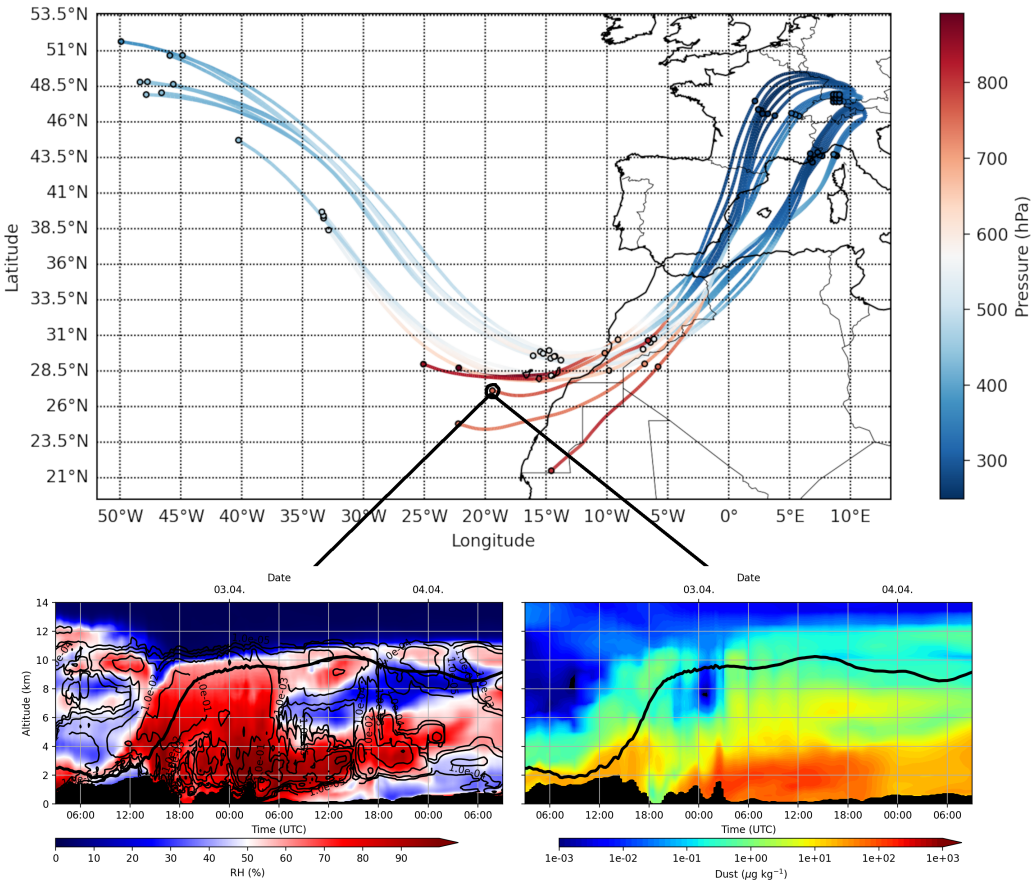


Figure S1. Back trajectories using LAGRANTO initialized at 47.7°N and 8.9°E from 250 and 300-hPa levels to 72 hours prior from 09:00 UTC 4 April. Circles correspond to 12:00 hour mark along the trajectory. Lower panels show single parcel trajectory starting 54 hours backwards from 09:00 UTC on 4 April. Lower left panel represents relative humidity over water (RH) with black contour lines showing the total cloud water content (magnitude interval in mg m^{-3}) and lower right panel represents the dust total mass from CAMS reanalysis for column located at parcel trajectory drawn with blue solid line.

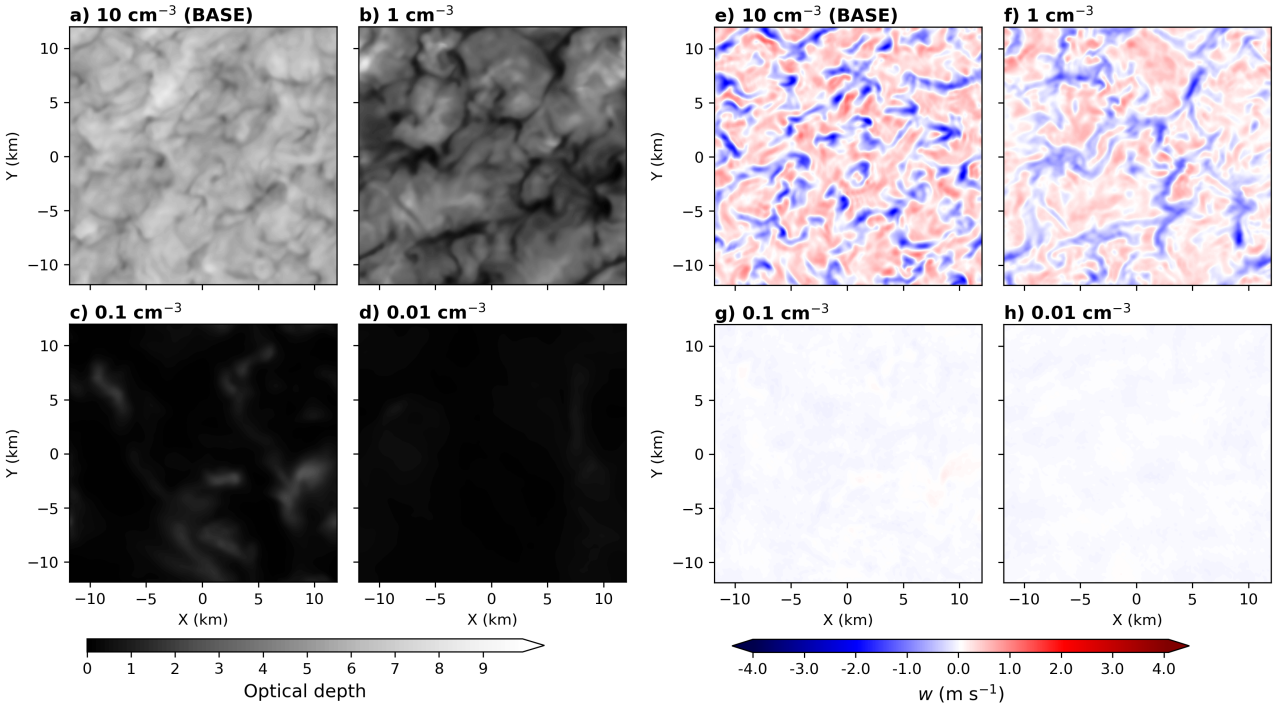


Figure S2. Optical depth for cirrus for varied N_D (a-d) and vertical velocity inside CONV layer (e-h) at the last model time step corresponding to 09:00 UTC.

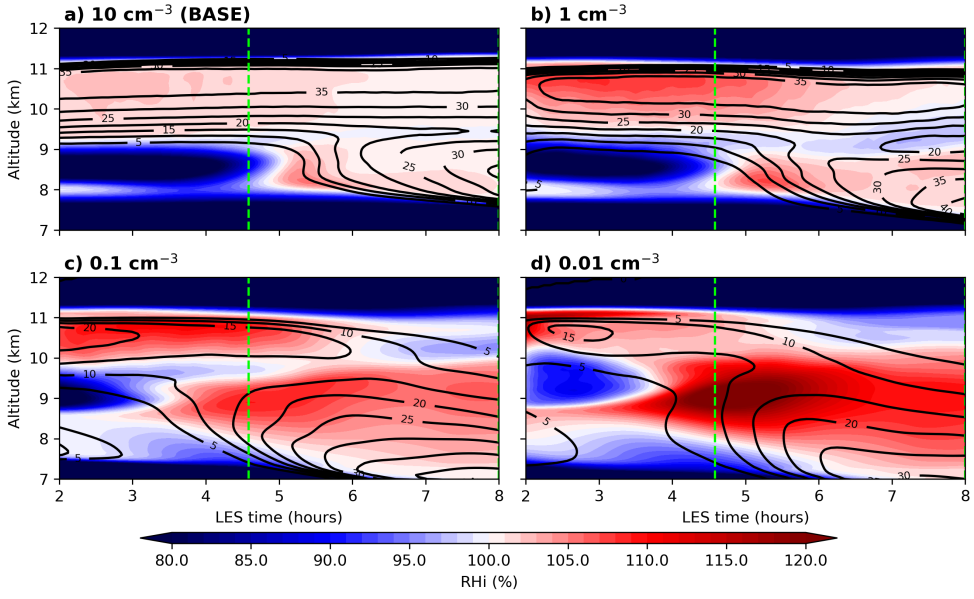


Figure S3. IWC temporal evolution within the model domain for varied N_D.

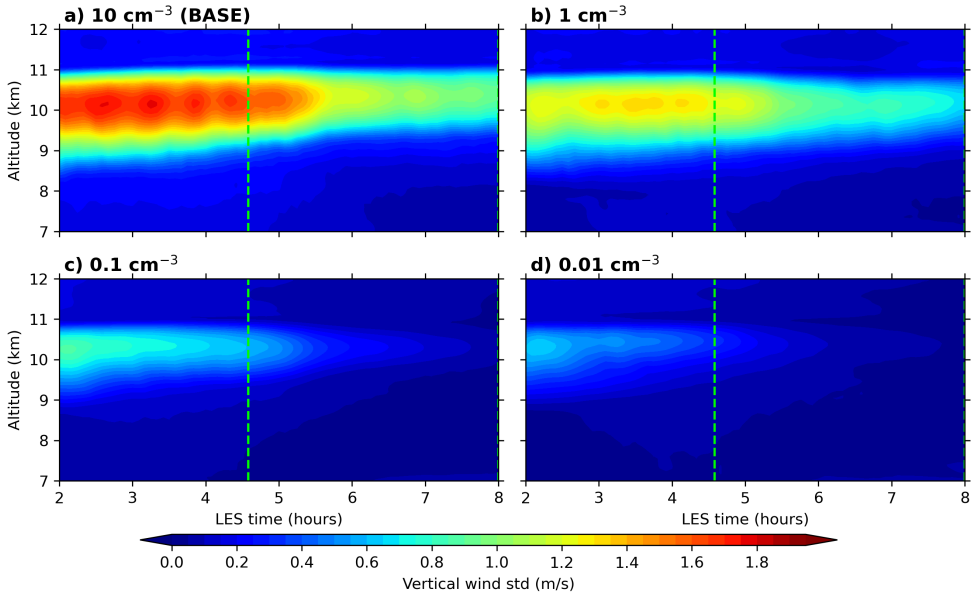


Figure S4. Vertical wind velocity standard deviation temporal evolution within the model domain for varied N_D.

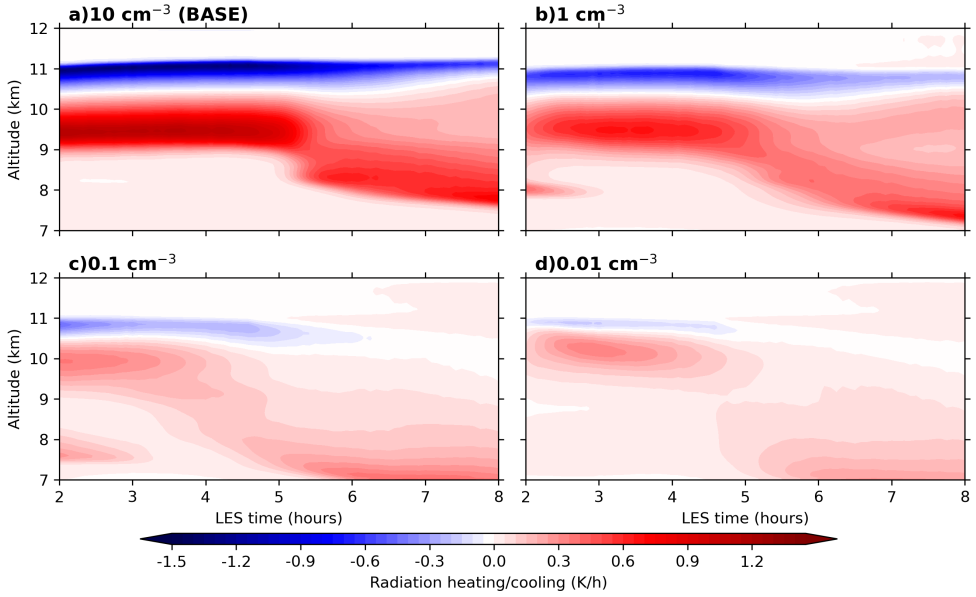


Figure S5. Net radiation heating rate temporal evolution within the model domain for varied N_D.

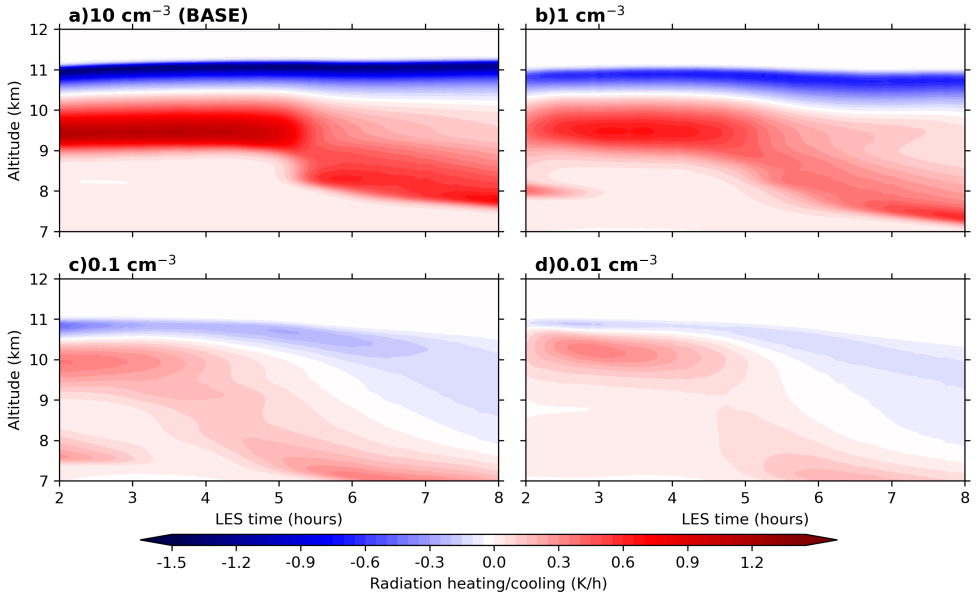


Figure S6. LW heating rate temporal evolution within the model domain for varied N_D.

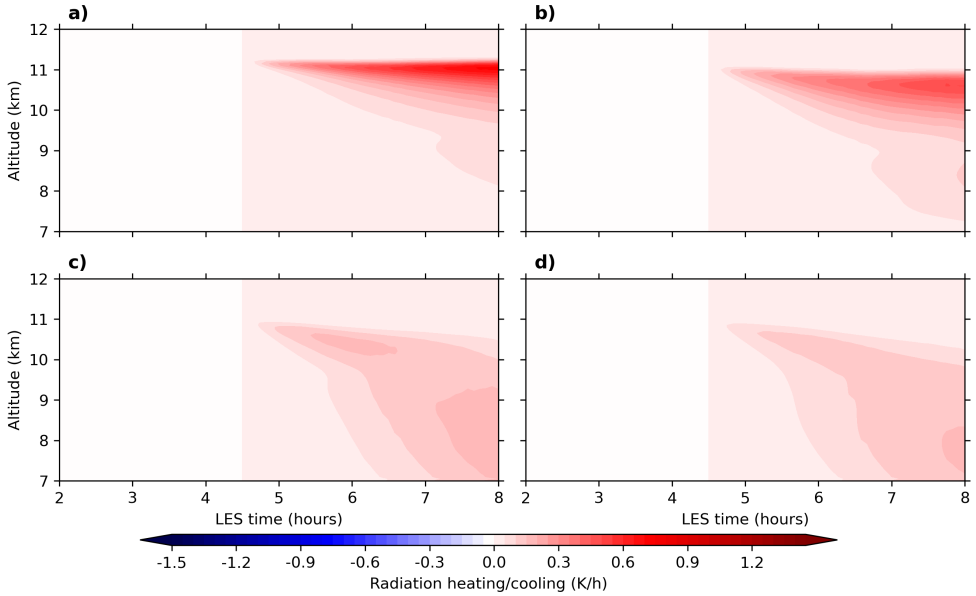


Figure S7. SW heating rate temporal evolution within the model domain for varied N_D.

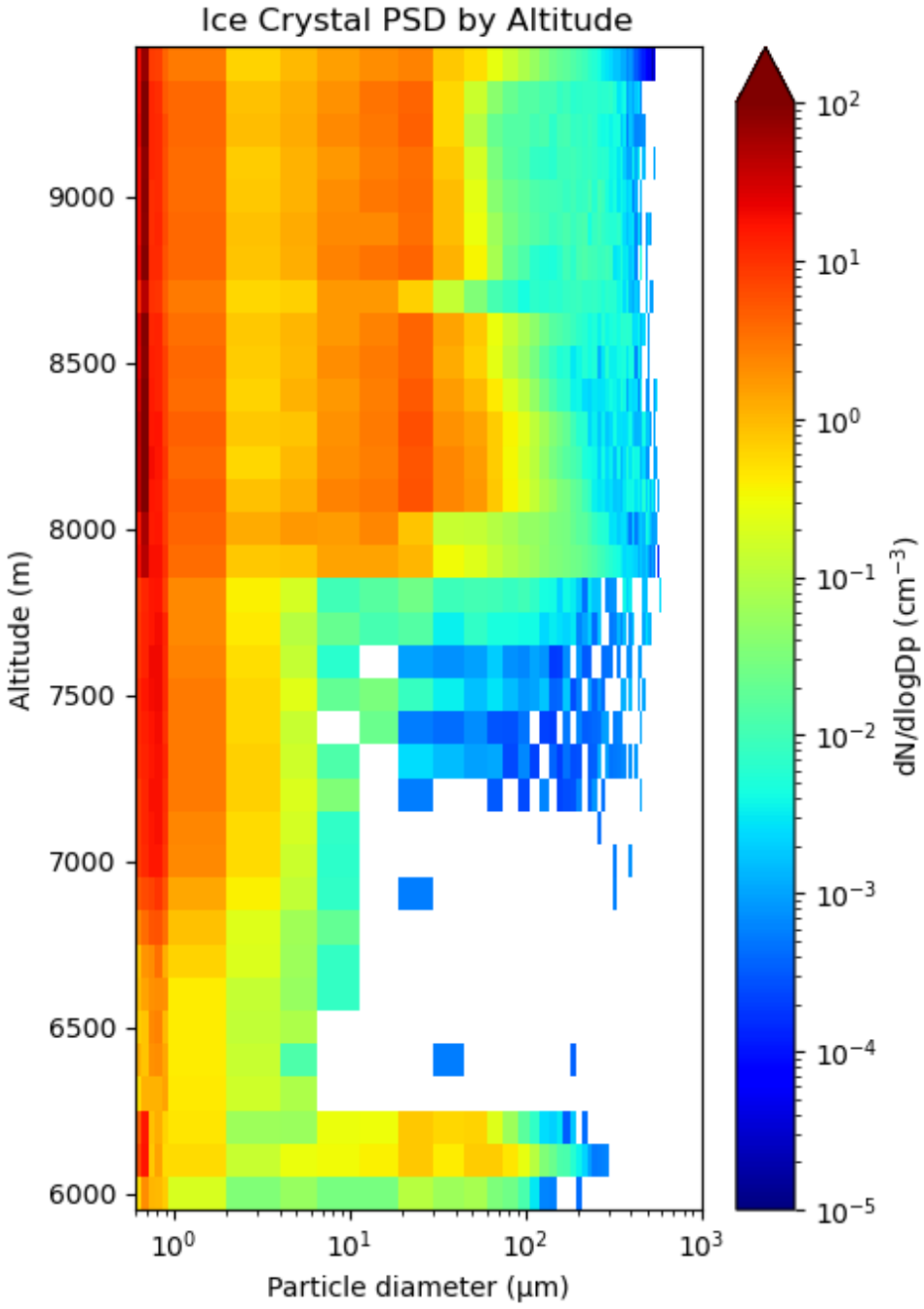


Figure S8. Ice crystals particle size distribution vertical profile measured with NIXE-CAPS during vertical ascent around 09:00 UTC.