Supplement of

Occurrence and growth of sub-50 nm aerosol particles in the Amazonian boundary layer

Franco et al.

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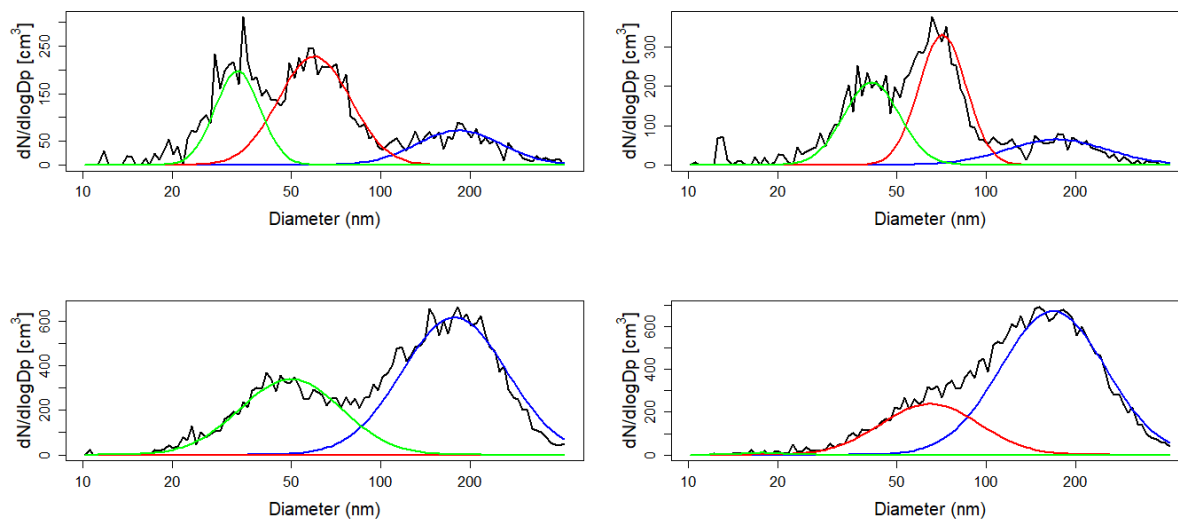
Figure S1. Examples of multi-modal log-normal fits obtained by the automatic algorithm. Sub-50 nm size particle mode (green) is defined as $10 \leq D_p \leq 50$, Aitken mode (red) is defined as $50 \leq D_p \leq 100$ and accumulation mode (blue) is defined as $100 \leq D_p \leq 400$.
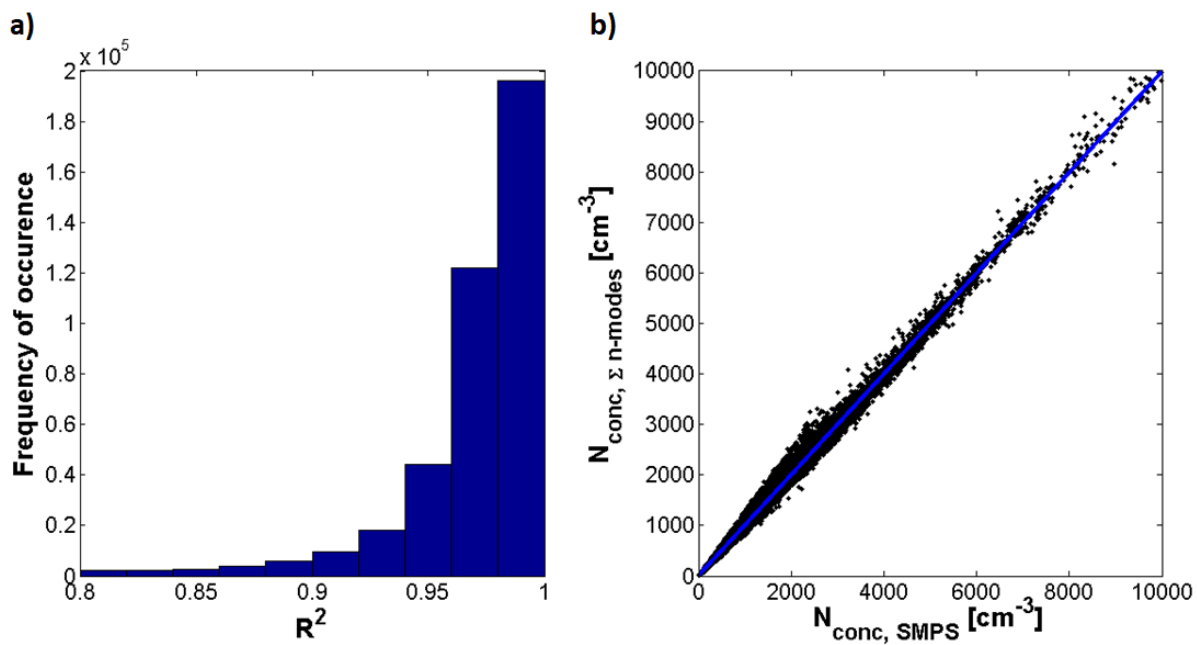
Figure S2. a) Histogram of the R^2 resulted from the multi-modal log-normal fits, considering only the data with $R^2 > 0.8$. The average R^2 is 0.97. b) Linear fit of integrated $N_{conc,SMPS}$ and estimated $N_{conc,\sum n-modes}$, with $R^2 = 0.997$.
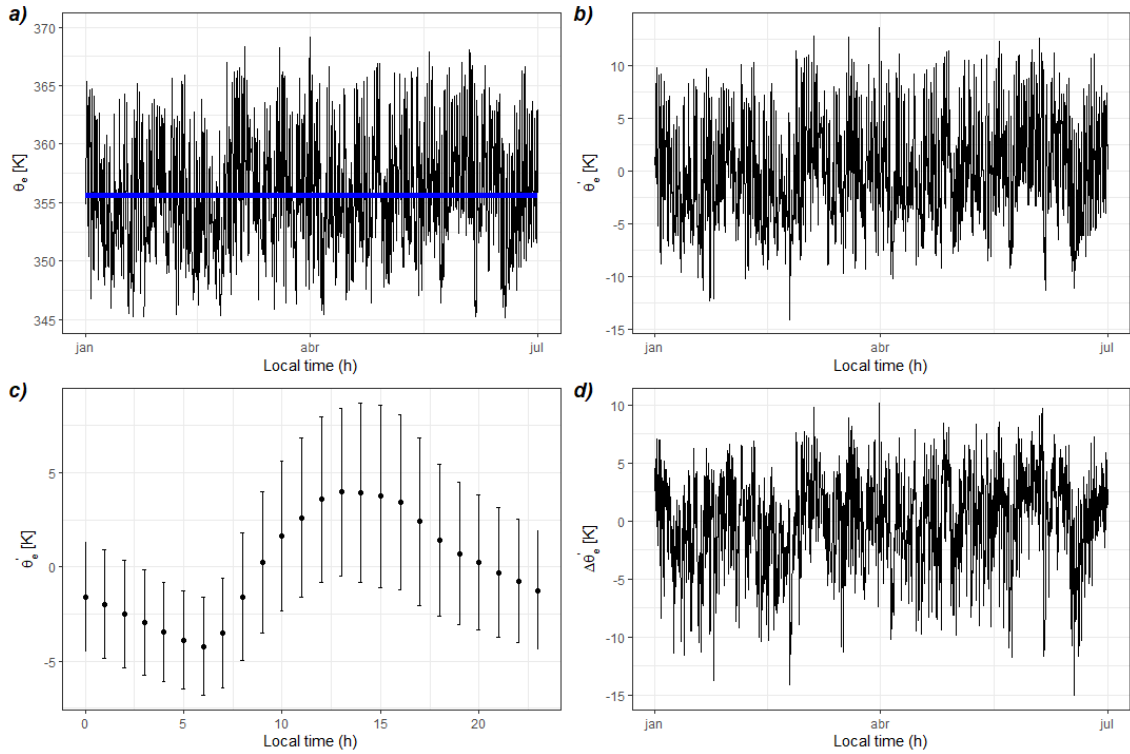
Figure S3. Illustration of the procedure to obtain the anomaly of the equivalent potential temperature $\Delta\theta_e'$ at a particular season. For didactic purposes, it was selected the wet season of 2018. a) The mean seasonal θ_e (blue line) is obtained from the time series of θ_e. b) Time series of θ_e detrended by its seasonal mean (θ_e'). c) The mean diurnal cycle of θ_e'. d) Time series of $\Delta\theta_e'$, which represents the variations of θ_e at a specific time of the day at a particular season.
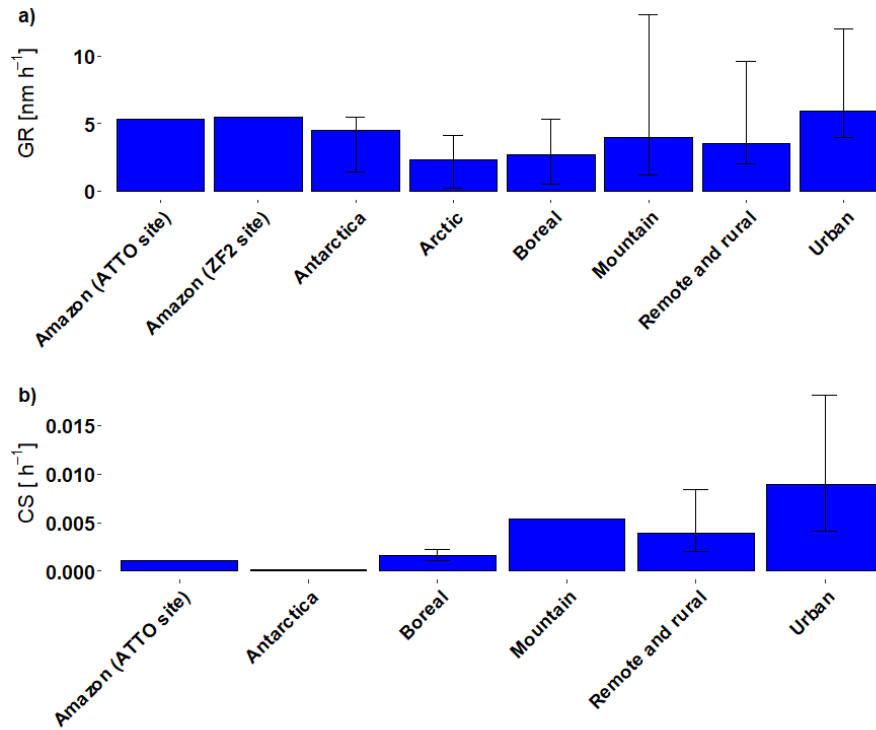
Figure S4. Comparative analysis of a) GR and b) CS at different site conditions. The error bars and the median data regarding the sites different from the Amazon sites denotes the 5th and 95th percentiles of the median GR values obtained from different studies compiled by Kerminen et al. (2018) in its supplementary tables (available online at https://iopscience.iop.org/article/10.1088/1748-9326/aadf3c/data). For the amazonian sites, it was chosen to present only the medians of GR, since the GR percentiles obtained in the studies are regarding to the different types of growth events analyzed, and not to different sites. In figure b, the missing sites did not present CS results in their respective papers.