Supporting Information: Contribution of fluorescent primary biological aerosol particles to low-level Arctic cloud residuals

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Table S0. Data availability. Data availability (whole year, summer and winter seasons) of cloud events and sampled hours. These are subdivided for cloud events and sampled hours where the multiparameter bioaerosol spectrometer (MBS), temperature sensor (T), Cloudnet, isotope and Cloudnet+isotope data were available.

|	Total	MBS	T	Cloudnet	Isotope	Cloudnet + isotope
Cloud events (all)	209	209	195	141	90	84
Sampled hours (all)	812	812	778	654	407	391
Cloud events (Summer)	156	156	142	93	42	41
Sampled hours (Summer)	612	612	578	470	241	241
Cloud events (Winter)	53	53	53	48	48	43
Sampled hours (Winter)	200	200	200	185	166	150
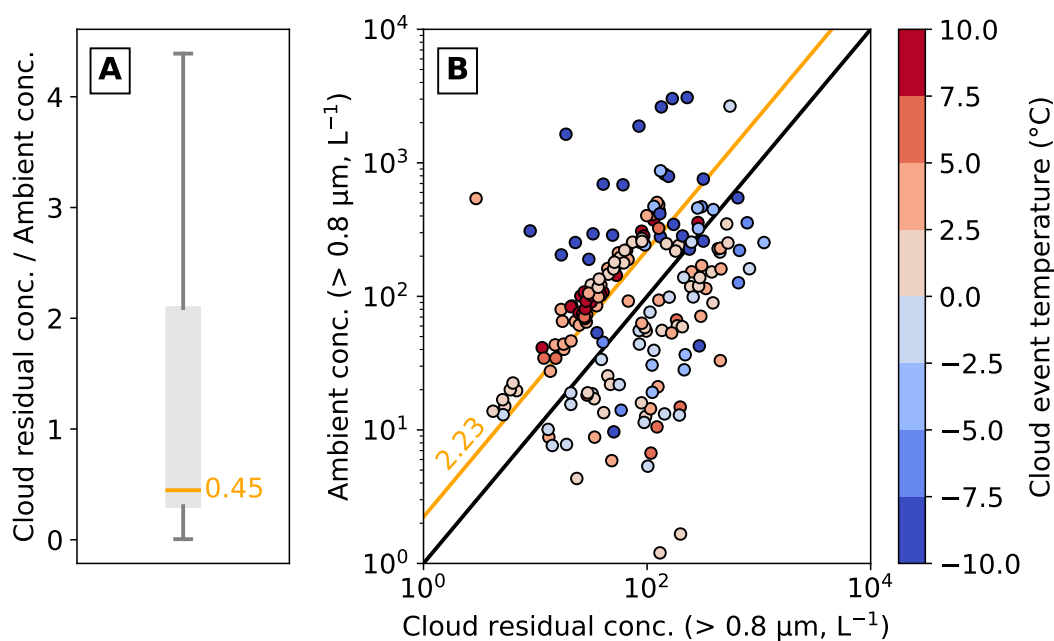
Figure S1. Comparison between ambient and cloud residual coarse mode particles. a) A box plot of the ratio between cloud residual and ambient coarse mode aerosol. Median is shown in orange (0.45). b) All cloud event cases are classified by temperature (color) and ambient/cloud residual coarse mode aerosol. Black diagonal line is a 1x1 line, and orange line is the median ratio between ambient aerosol and cloud residual.
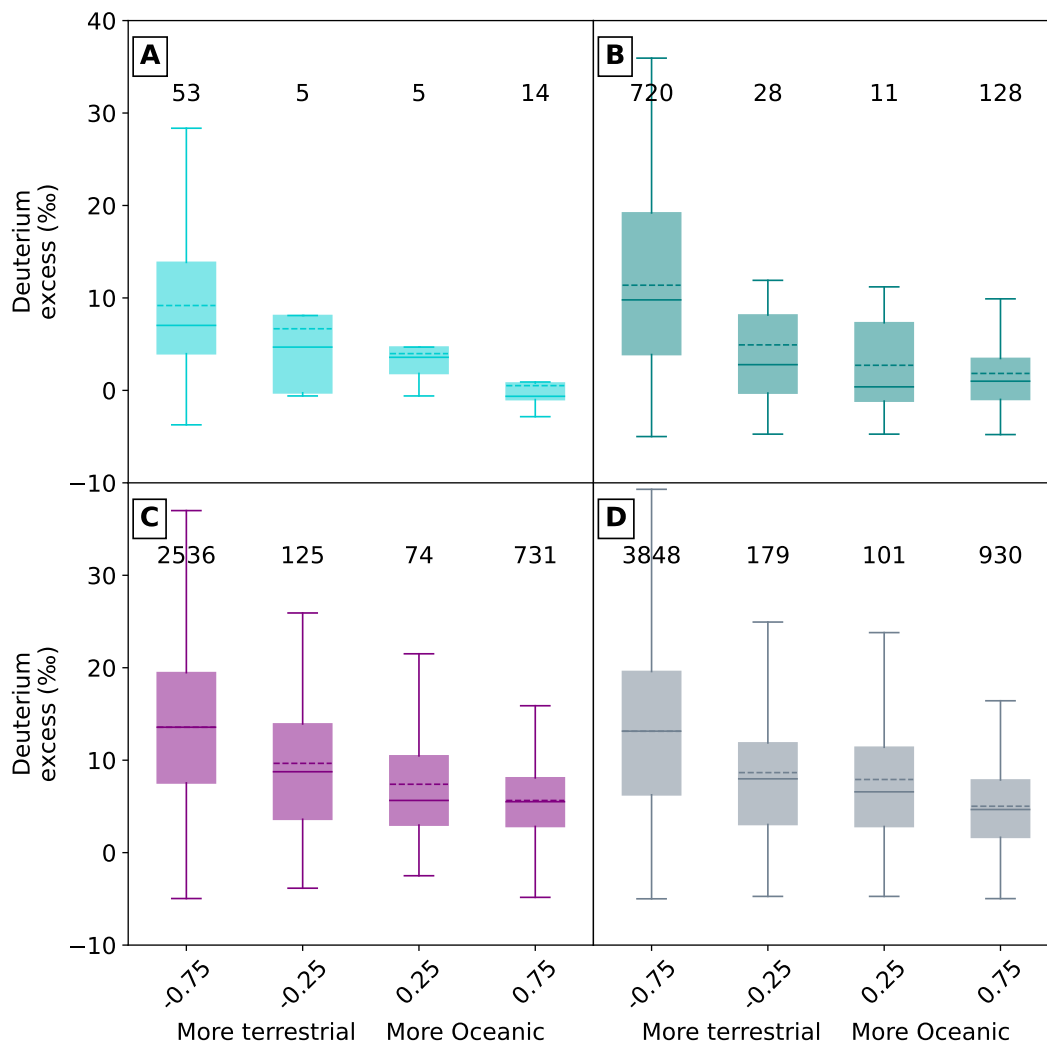
Figure S2. Deuterium excess as a function of trajectory type. Trajectory type (-1 fully terrestrial to 1 fully oceanic) and its deuterium excess for A) cloud cases, B) hours with visibility below 1000 meters, C) hours with visibility above 5000 meters and D) all data. Numbers represent number of points per box.
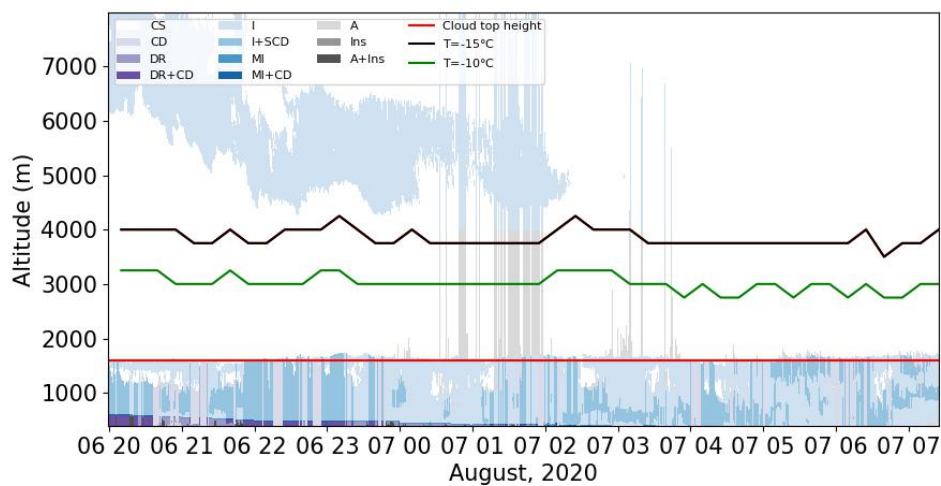
Figure S3. Full cloudnet profile for mixed phase cloud case. Cloudnet profile along with assigned cloud top height and temperature curves for -15 °C and -10 °C.
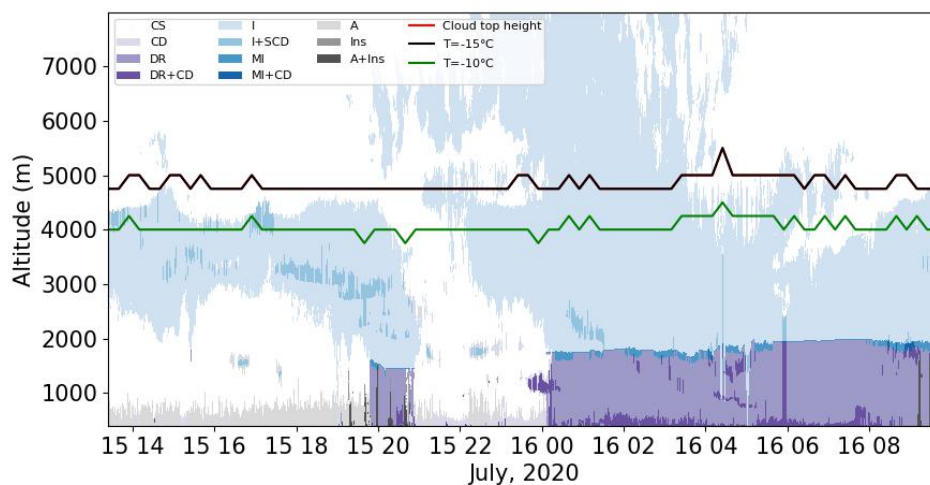
Figure S4. Full cloudnet profile for liquid droplet cloud case. Cloudnet profile along temperature curves for -15 °C and -10 °C.
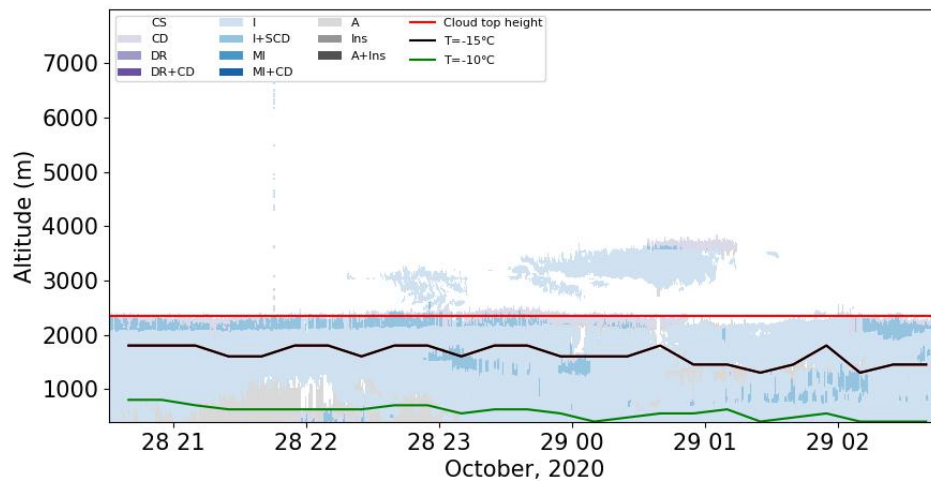
Figure S5. Full cloudnet profile for ice cloud case. Cloudnet profile along with assigned cloud top height and temperature curves for -15 °C and -10 °C.