



Supplement of

Ice-nucleating particles in a coastal tropical site

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Supplemental Material

MOUDI stage	Size range (µm)
1	>10.0
2	5.6 – 10.0
3	3.2 – 5.6
4	1.8 – 3.2
5	1.0 – 1.8
6	0.56 – 1.0
7	0.32 - 0.56
8	0.18 – 0.32

 Table S1. Particle size range for each MOUDI stage.

Table S2. *p*-values resulting from the correlation of the average chemical composition with the average [INP] per sample at -15 °C, -20 °C, -25 °C, and -30 °C. Bold red text highlights the values below 0.05 for each temperature.

Temp./Element	Na	Mg	AI	Si	Р	S	CI	К	Ca	Ti	Mn	Fe	Cu	Zn
-15 °C	0.80	0.02	0.61	0.47	0.84	0.82	0.64	0.80	0.62	0.39	0.05	0.27	0.76	0.33
-20 °C	0.42	0.80	0.14	6E-4	0.34	0.24	0.31	0.01	0.03	0.42	0.12	0.01	0.22	0.32
-25 °C	0.08	0.99	0.24	0.14	0.30	0.13	0.82	0.17	1E-4	0.66	0.17	0.11	0.44	0.65
-30 °C	0.09	0.95	0.03	0.01	0.13	0.07	0.92	0.03	4E-3	0.81	0.23	3E-3	0.65	0.76



Figure S1. Example of activation curves for the blanks (homogeneous freezing) and ambient particles (heterogeneous freezing).



Figure S2. Examples of the Hysplit back-trajectories for 72h on a A) "normal" day, B) cold front A, and C) cold front B.



Figure S3. NOAA surface maps showing the arrival and passage of left) cold front A, and right) cold front B.



Figure S4. Examples of the 24 h average aerosol number size distributions before (January 26 to 28), during (January 29 and 30) and after (January 31 and February 01) the passage of a cold air mass. The uncertainty bars are examples of the standard deviation at each size bin.



Figure S5. Pie charts with the contribution of different elements to the total aerosol mass for A) cold front A, B) cold front B, and C-E) before and after cold front B. Cu and Zn are not shown given that their contribution to the total mass is below 0.5 %



Figure S6. INP concentrations as a function of temperature for each individual sample/stage obtained from the activation scans. The activations scans are separated by aerosol particle size with blue, dark yellow, red, black, dark green and light green representing an specific particle size range.



Figure S7. Daily profile of the Top) bacteria, and Bottom) fungal concentration (cfu m⁻³) between January 22 and 23, 2017.



Figure S8. Time series of the Top) wind direction vs. bacteria concentration, and Bottom) wind direction vs. fungal concentration between January 21 and 31. Each X-axis tick corresponds to 6:00 a.m. local time.



B. Fungal propagule

Figure S9. A) Gram bacteria staining analysis for the whole sampling period and, B) Identification of the Fungal propagules for the whole sampling period.