

1 **Supplemental Information for:**

2 **Size distribution and temporal variation of biological aerosol particles in the**
3 **Amazon rainforest characterized by microscopy and real-time UV-APS**
4 **fluorescence techniques during AMAZE-08**

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26 **S1.1 Filter period definition**

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28	<u>Sample #</u>	<u>Focus Period</u>	<u>Date/Time Range (LT)</u>
29	M30	High Dust	29 Feb 13:58 – 1 Mar 13:50
30	M02	High Dust	1 Mar 13:53 – 2 Mar 17:15
31	M07	High Dust	7 Mar 16:05 – 8 Mar 16:00
32	M04	Low Dust	3 Mar 17:17 – 5 Mar 10:05
33	M08	Low Dust	8 Mar 16:15 – 9 Mar 15:53
34	M12	Low Dust	12 Mar 14:38 – 14 Mar 14:30

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36 Filter M02 was nominally within the High Dust focus period, but was not included here, because
37 the temporal overlap between filter period and available UV-APS data was poor. Times are
38 listed as local time (LT).

39 **Plots:**

40 **Figure S1.** Comparison of particle size distributions for two individual samples (**A**: M04 and **B**: M08) from three
41 techniques. Each panel: **(top)** lactophenol cotton blue fungal stain, **(middle)** counts from SEM analysis, **(bottom)**
42 UV-APS. Colored areas are stacked plots. Middle panel: regions of solid color indicate uncoated particles, diagonal
43 bars indicate particles coated with organic material.

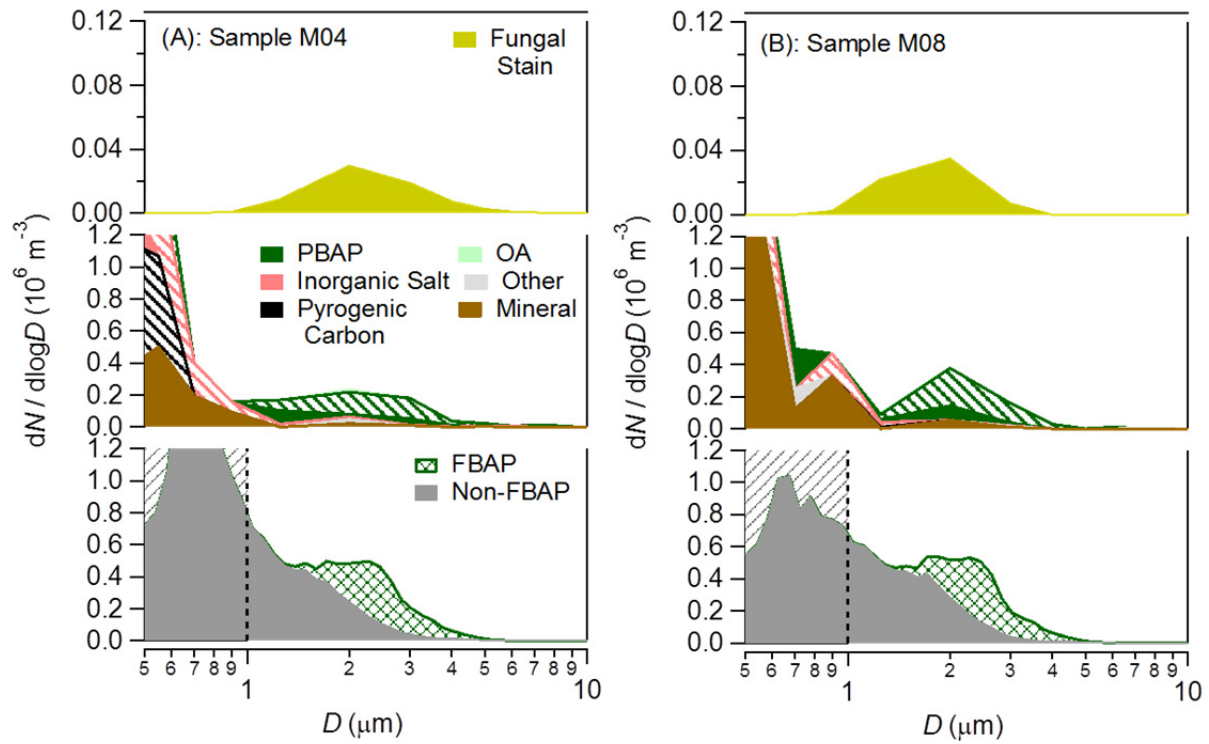
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45 **Figure S2.** Diurnal cycles of FBAP and total particle concentrations for measurement campaign, contrasted to Fig. 8
46 showing data only from low dust period. Number and mass integrated 1-20 μm . **(A)** total number, **(B)** FBAP
47 number, **(C)** total mass, **(D)** FBAP mass. Time of day shown as LT. Black line is the same in panels **(A)** and **(B)**
48 and **(C)** and **(D)**, showing relative number and mass contribution, respectively, from fluorescent biological particles.
49 Mass is unit-normalized.

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51 **Figure S3.** Diurnal patterns of three meteorological variables (downward solar flux, air temperature and relative
52 humidity) compared to integrated number concentration of coarse FBAP ($N_{F,c}$). Axes of temperature and solar flux
53 are reversed to show overlap of all parameters. Times are shown as LT.

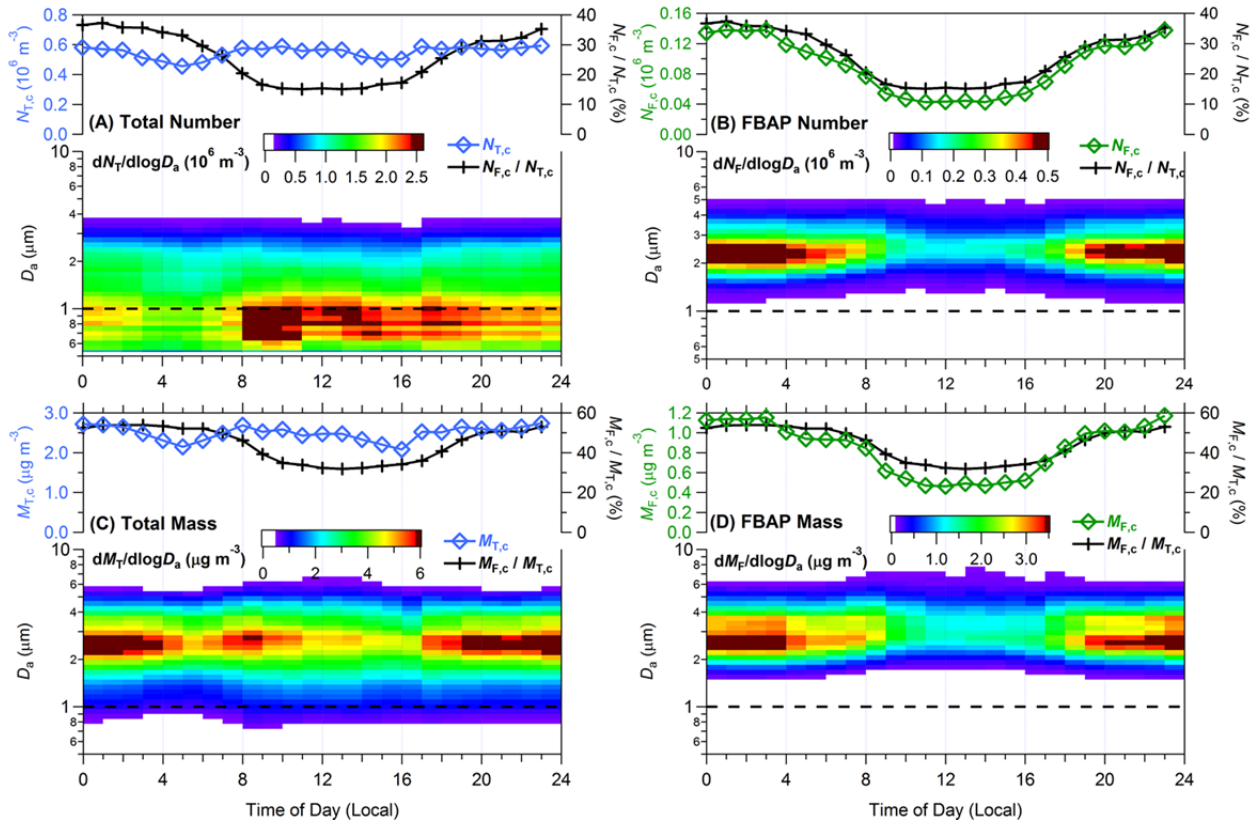
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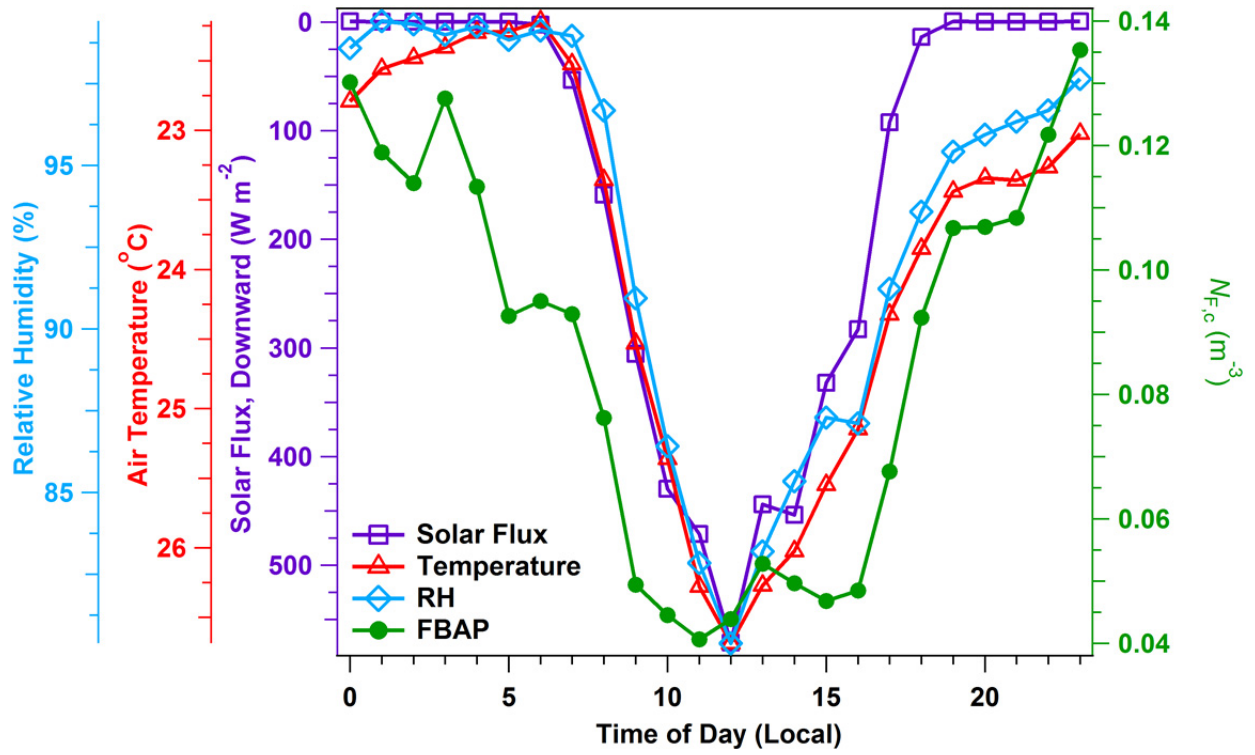
56 **Figure S1.**

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59 Figure S2.



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61 Figure S3.