

1 **Supplemental Information for:**

2 **Biological aerosol particle concentrations and size distributions measured in**
3 **pristine tropical rainforest air during AMAZE-08**

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25 **S1.1 Filter period definition**

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27	<u>Sample #</u>	<u>Focus Period</u>	<u>Date/Time Range (UTC)</u>
28	M30	High Dust	29 Feb 17:58 – 1 Mar 17:50
29	M02	High Dust	1 Mar 17:53 – 2 Mar 21:15
30	M07	High Dust	7 Mar 20:05 – 8 Mar 20:00
31	M04	Low Dust	3 Mar 21:17 – 5 Mar 14:05
32	M08	Low Dust	8 Mar 20:15 – 9 Mar 19:53
33	M12	Low Dust	12 Mar 18:38 – 14 Mar 18:30

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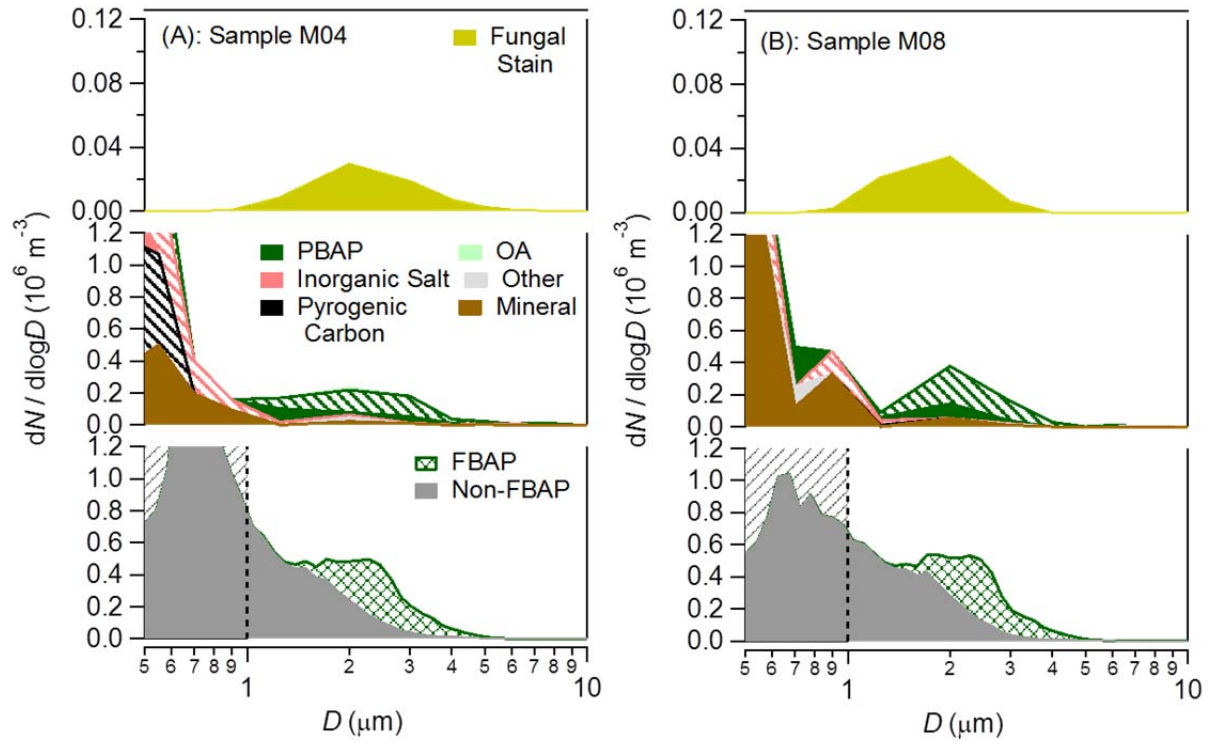
35 Filter M02 was nominally within the High Dust focus period, but was not included here, because
36 the temporal overlap between filter period and available UV-APS data was poor.

37 **Plots:**

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

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

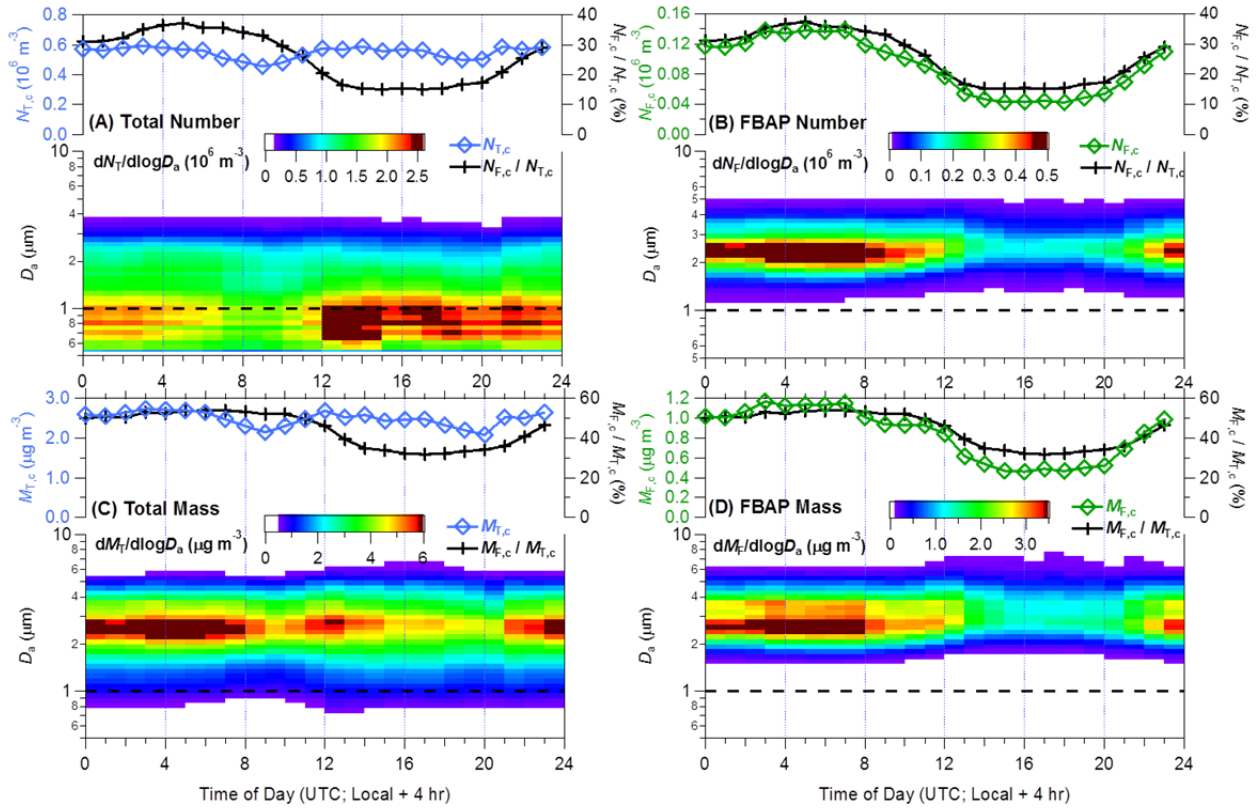
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49 **Figure S3.** Diurnal patterns of three meteorological variables (downward solar flux, air temperature and relative
50 humidity) compared to integrated number concentration of coarse FBAP ($N_{F,c}$). Axes of temperature and solar flux
51 are reversed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



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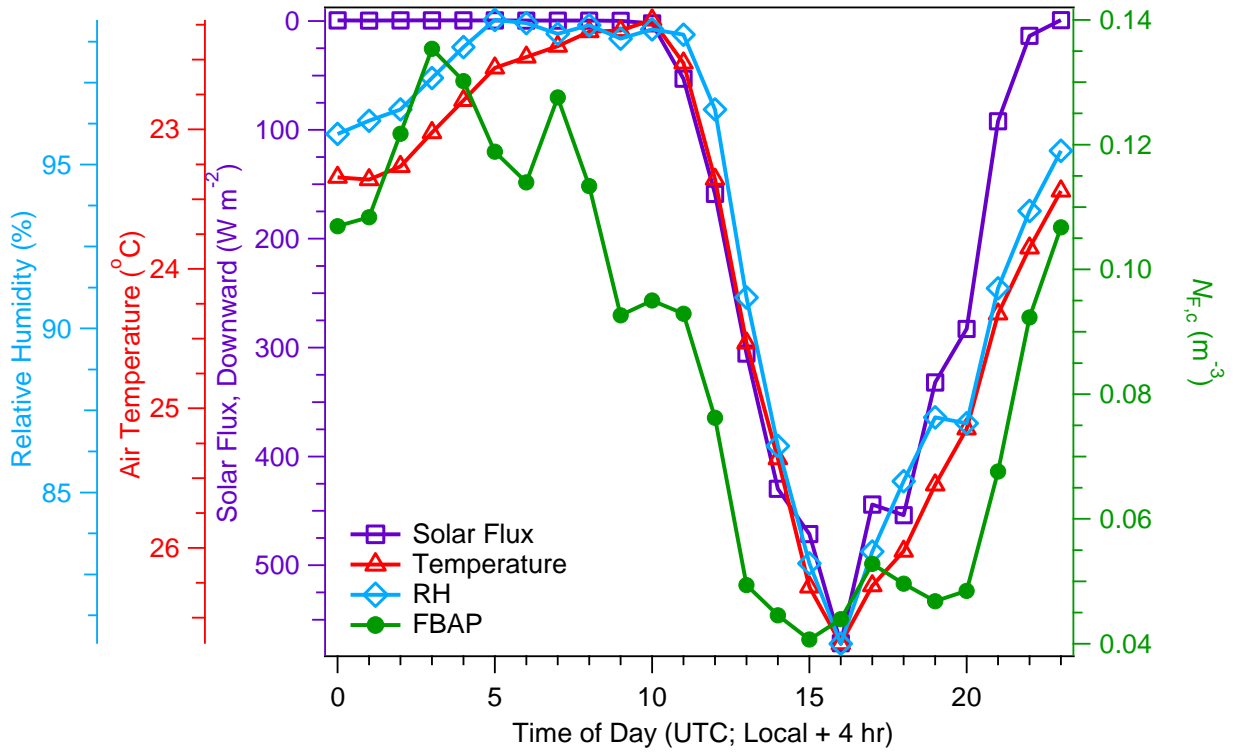
54 **Figure S1.**

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57 **Figure S2.**



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59 **Figure S3.**