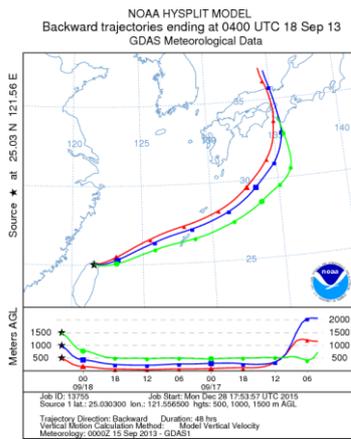
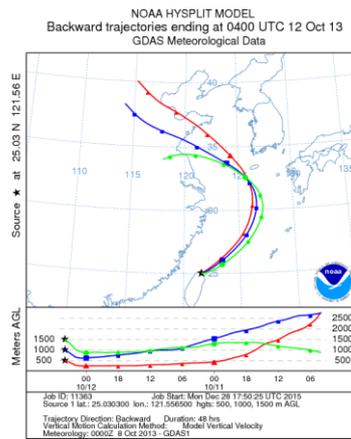


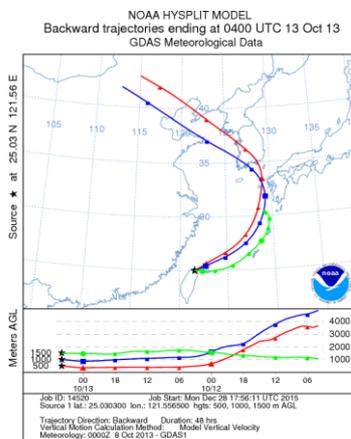
(a) Background (9/18–9/19, 2013)



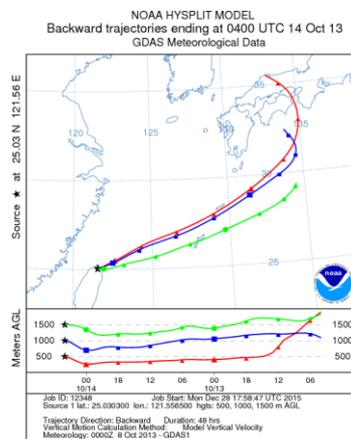
(b) During (10/12–10/13, 2013)



(c) After (10/13–10/14, 2013)

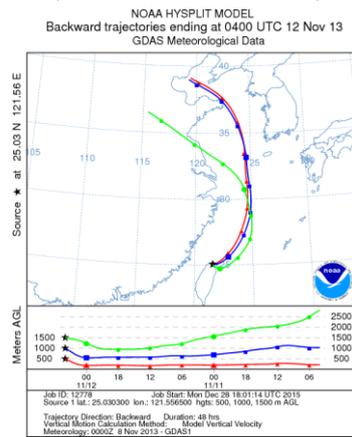


(d) After (10/14–10/15, 2013)

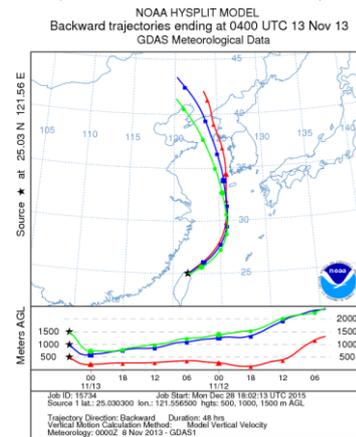


**Figure S1.** Analysis of 48-h backward trajectories by using the HYSPLIT model on background days (a) and on days during (b, c) and after (d) the FP1. Three starting altitudes, 500, 1000, and 1500 m, were applied to the model.

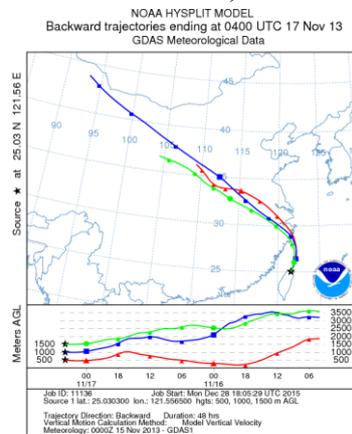
(a) Background (11/12 – 11/13, 2013)



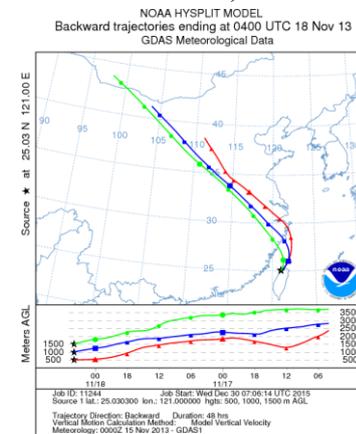
(b) Background (11/13 – 11/14, 2013)



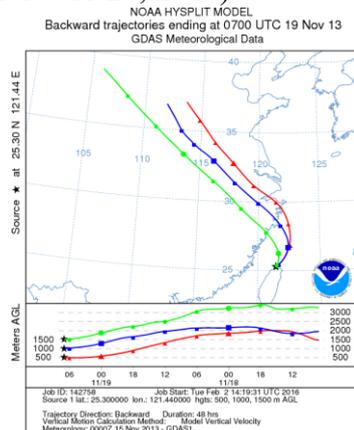
(c) During (11/17–11/18, 2013)



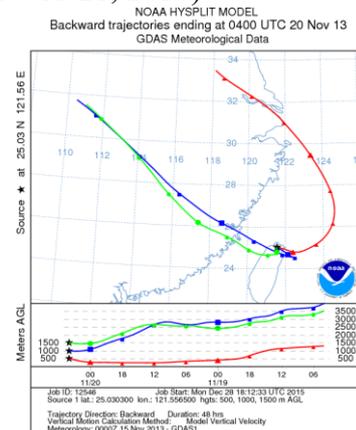
(d) During (11/18–11/19, 2013)



(e) After (11/19–11/20, 2013)



(f) After (11/20–11/21, 2013)



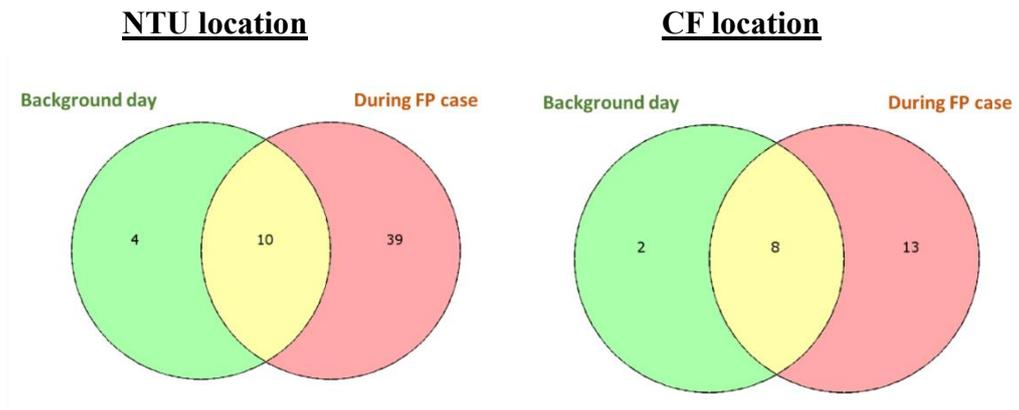
**Figure S2.** Analysis of 48-h backward trajectories by using the HYSPLIT model on background days (a, b) and on days during (c, d) and after (e, f) an ADS. Three starting altitudes, 500, 1000, and 1500 m, were applied to the model.

**Table S1** Numbers of 16S clusters and OTUs for ADS and FP events in 2013

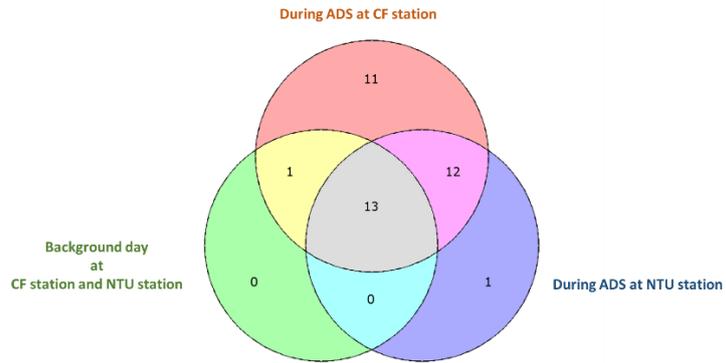
LRTs	Date	Location	Sampling period	No. of raw clusters	No. of clusters after quality control <sup>1</sup>	% of raw clusters removed	No. of OTUs
ADS	17 – 19 November	CF	Background <sup>2</sup>	733,868	722,108	1.60	161,437
			During	853,014	837,687	1.80	154,058
			After	771,386	757,873	1.75	178,750
		NTU	Background	1,059,122	1,039,612	1.71	202,647
			During	652,533	640,320	2.15	173,203
			After	436,603	427,551	2.20	145,424
FP	12 – 13 October	CF	Background	899,343	883,938	1.84	214,565
			During	871,274	852,525	1.87	147,114
			After	1,014,968	992,608	2.07	137,215
		NTU	Background	855,307	840,748	1.70	241,958
			During	1,021,300	1,003,747	1.72	249,607
			After	1,103,421	1,074,876	2.59	95,610

<sup>1</sup> Raw cluster reads passing quality filters.

<sup>2</sup> Air samples collected in the second week of each month during our study period. No FP or ADS events occurred on background days



**Figure S3.** Venn diagrams comparing the strain numbers of *Bacillus* on background days and during the FP1 (frontal pollution 1) at CF and NTU.



**Figure S4.** Venn diagrams comparing the strain numbers of *Clostridium* on background days and during an Asian dust storm (ADS).