

Table S1. Summary of BC studies conducted in Delhi in last Decade (2011-2020).

S. No.	Measurement site	Measurement period	Mean M_{BC} ($\mu\text{g m}^{-3}$)	Instrument used	Reference
1	IITM	2011	6.7 \pm 5	AE-31	(Tiwari et al., 2013)
2	IITM	January 2011 – May 2012	7.0 \pm 5	AE-31	(Srivastava et al., 2014)
3	IITM	September 2010 – August 2012	7 \pm 5	AE-31	(Tiwari et al., 2014)
4	IITM	January – December 2012	7.9 \pm 5.1	AE-31	(Bisht et al., 2015)
5	7 Stations	December 2013 - February 2014	8.0 \pm 3.1	AE-31	(Tyagi et al., 2017)
6	LBN, IIT	Winter 2014-15 & Summer 2015, Summer 2015	19.3 \pm 8.22 & 3.99 \pm 2.66, 3.89 \pm 3.34	AE-51	(Pant et al., 2017)
7	IMD	December 2015 - February 2016	24.4 \pm 12.2	AE-33	(Dumka et al., 2018)
8	JNU	September – December 2015 April - September 2016	15.12 6.13	AE-42	(Sharma et al., 2018)
9	IITM	December 2015 – February 2016	30.3 \pm 12 (370nm) 24.1 \pm 5 (880nm)	AE-33	(Bisht et al., 2016)
10	NS	2016 - 2017	11.26 (2016) 14.20 (2017)	AE-33	(Tyagi et al., 2020)

11	IMD	2016 - 2018	13.57±8.4	AE-33	(Kumar et al., 2020)
12	IIT	August-November 2020	12.6 ± 8.2	AE-33	(Goel et al., 2021)
13	NPL	September 2019 – August 2020	5.02±4.40	COSMOS	Current study

Abbreviations used are: IITM = Indian Institute of Tropical Meteorology, LBN = Laxmi Bai Nagar, IIT=Indian Institute of Technology, IMD = Indian Meteorological Department, JNU = Jawaharlal Nehru University, NS = Not Specified

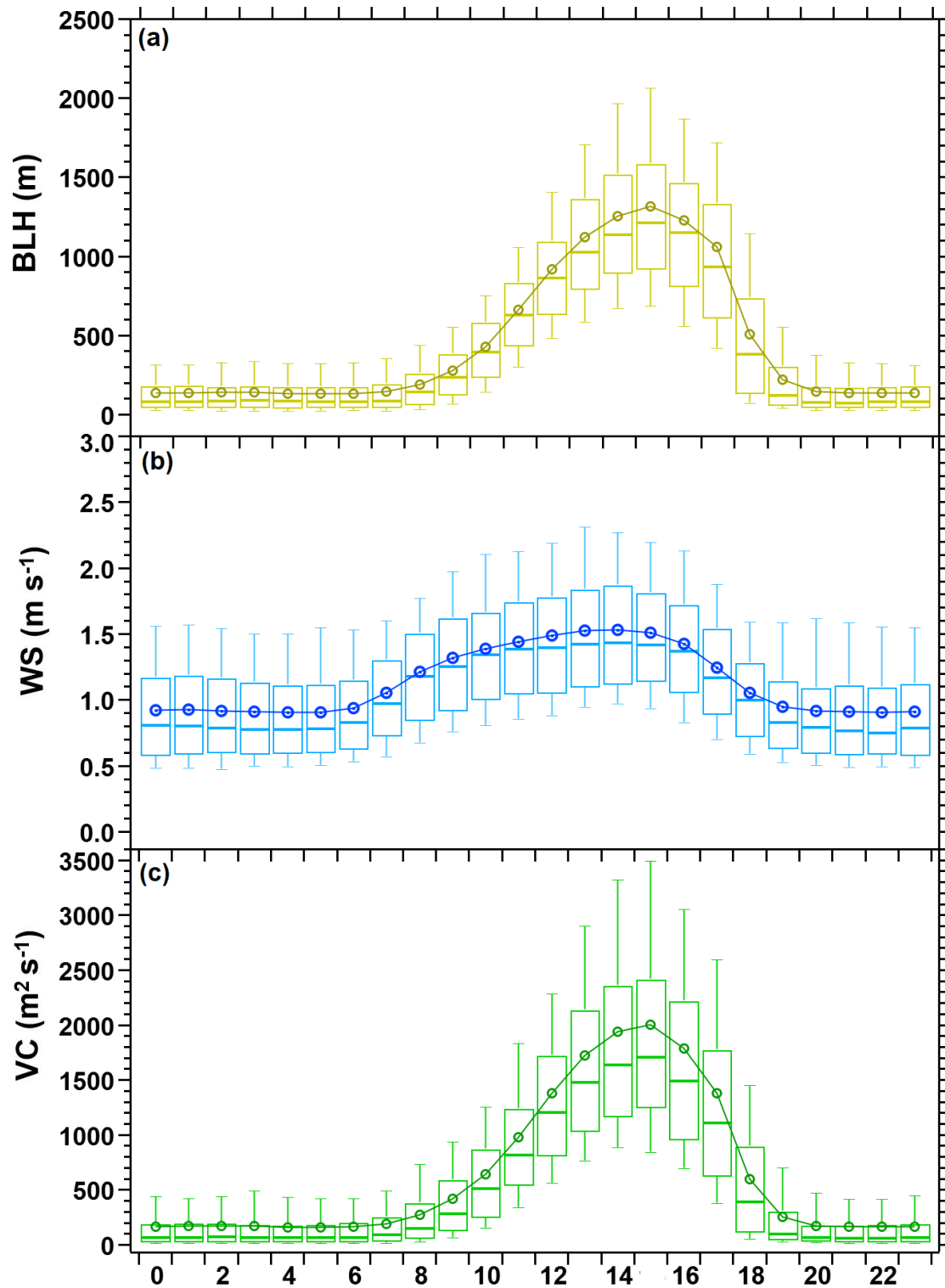


Fig. S1. Diurnal variation of boundary layer height (BLH) (a), wind speed (WS) (b) and ventilation coefficient (VC) (c) over Delhi

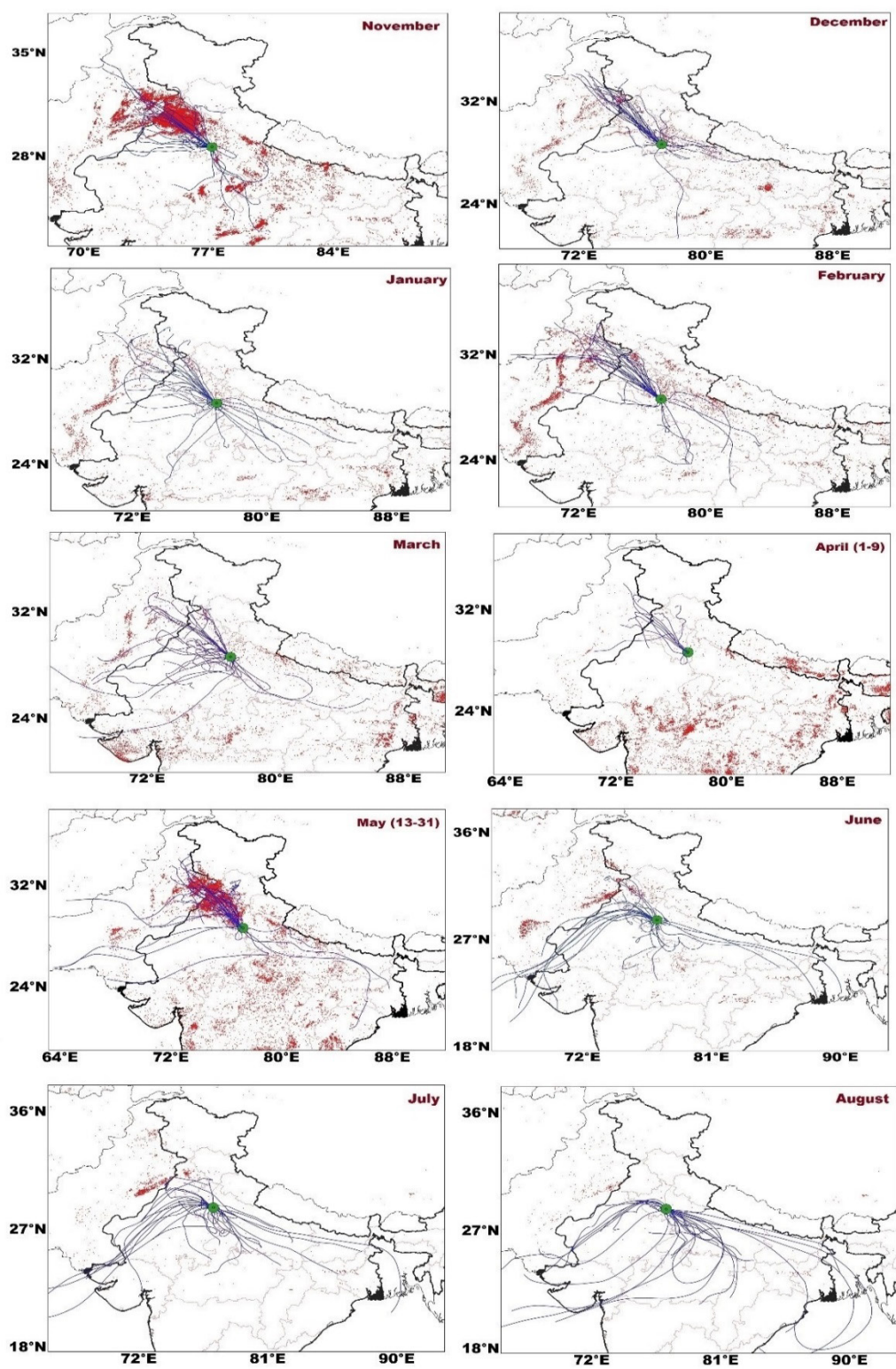


Fig. S2. Maps showing air mass back trajectories and fire spots in nearby areas for the different months of observation period.

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