Regional transport of aerosols from Northern India and its impact on boundary layer dynamics and air quality over Chennai, a coastal megacity in Southern India.

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Supplementary Tables

Supplementary Table ST 1. Details of the sample available for the present study from various instruments between December and March during 2015-2024. The RTE and clear days are segregated between 2015-2024; however, CALIPSO products are available between 2015-2023 and MPL is during 2018 and 2023

Instrument	Data Availability (Days)	
	RTE	Clear
MODIS	119	70
CALIPSO	39 (Passes)	27 (Passes)
MPL	10	6
Radiosonde	115 (Chennai) 71 (Karaikal)	59 (Chennai) 33 (Karaikal)
$PM_{2.5}$	117	54
AWS	72	40
MERRA2	119	70

Supplementary Figures

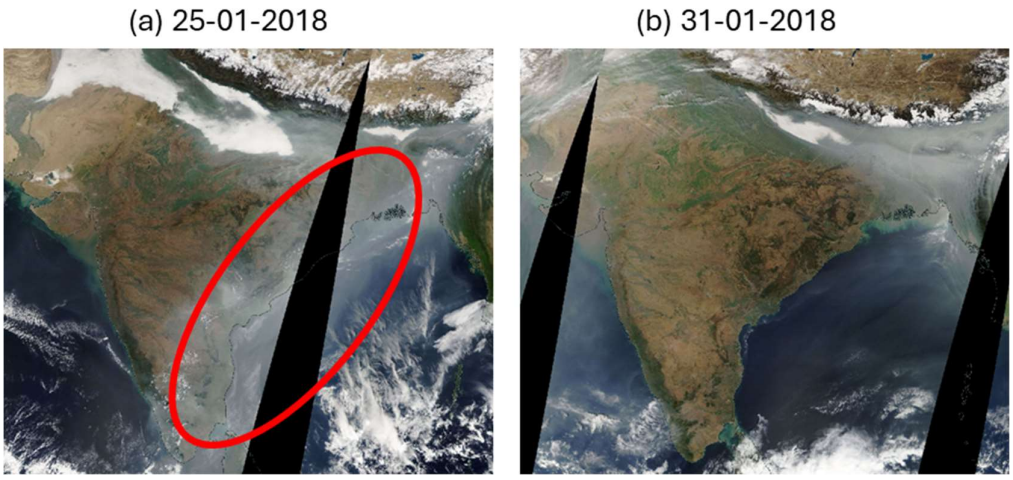

Figure S1. (a) A typical example of the aerosol transport occurrence from north India towards south observed from MODIS corrected reflectance (True Color) on 25-01-2018. The red circle denotes the transport and region of interest of RTE events. (b) A typical clear sky observation (31-01-2018).

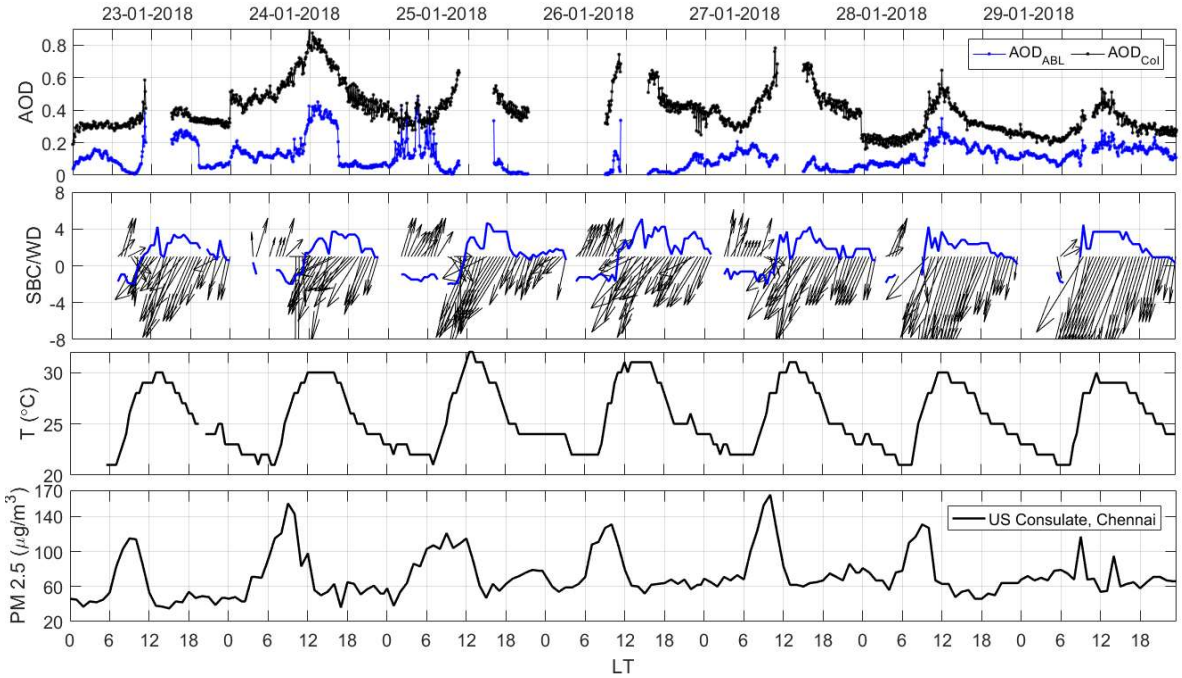

Fig. S2 Temporal variation of (a) AOD derived from MPL shown separately for the column (black) and within ABL (blue), (b) wind parameters and sea breeze component, (c) surface temperature and (d) PM 2.5 variation during 23-29 January 2018.

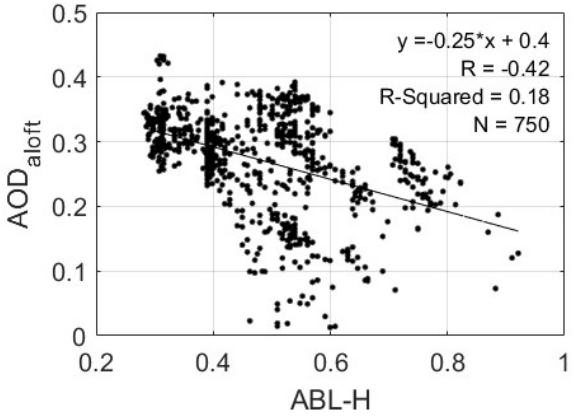

Figure S3. Scatter plot between ABL-H and AOD_{aloft} (integrated extinction above ABL-H).