

Supplementary material

Table S1: Delhi AQMS site description

long	lat	location	station name	micro-environment
77.09996	28.556198	Airport(T3)	Palam	Airport + Passenger traffic
77.19	28.54	IIT Delhi	IIT-D	Residential + Dumpground
77.22165	28.589602	Lodhi Road	IMDL	City Green Area +Residential
77.12677	28.48264	Ayanagar	IMDA	Urbanizing Suburban background
77.17	28.64	Pusa	NPL	City reserved forest/agricultural
77.35991	28.625053	Noida	NCMRWF	Industrial -Upwind Entry
77.20037	28.721246	Dhirpur	CVR	Rapidly urbanizing green area
77.27447	28.550975	Mathura Road	CRR1	Heavy Traffic junction
77.2115	28.687764	Delhi University	DU	Mixed-Traffic+Residential
77.14891	28.423547	Gurugram	NISEG	Upwind and background station

High Fire Activity Period (HFAP)

A high fire activity period (HFAP) is defined based on MODIS fire counts to study the influence of this fire episode on the air quality over study region. HFAP is defined when three days running mean of MODIS fire counts exceeds the median fire counts during the study period (Kumar et al., 2011; Bhardwaj et al., 2018; Yarragunta et al., 2020) .

Bhardwaj Piyush , Manish Naja, Maheswar Rupakheti, Aurelia Lupascu, Andrea Mues, Arnico Kumar Panday, Rajesh Kumar, Khadak Singh Mahata, Shyam Lal, Harish C. Chandola, M. G. L. (2018). Variations in surface ozone and carbon monoxide in the Kathmandu Valley and surrounding broader regions during SusKat-ABC field campaign: Role of local and regional sources. *Atmospheric Chemistry and Physics*, 18(16), 11949–11971. <https://doi.org/10.5194/acp-18-11949-2018>

Kumar, R., Naja, M., Satheesh, S. K., Ojha, N., Joshi, H., Sarangi, T., Pant, P., Dumka, U. C., Hegde, P., & Venkataramani, S. (2011). Influences of the springtime northern Indian biomass burning over the central Himalayas. *Journal of Geophysical Research: Atmospheres*, 116(D19), 302. <https://doi.org/10.1029/2010JD015509>

Yarragunta, Y., Srivastava, S., Mitra, D., & Chandola, H. C. H. C. (2020). Influence of forest fire episodes on the distribution of gaseous air pollutants over Uttarakhand, India. *GIScience and Remote Sensing*, 57(2), 190–206. <https://doi.org/10.1080/15481603.2020.1712100>