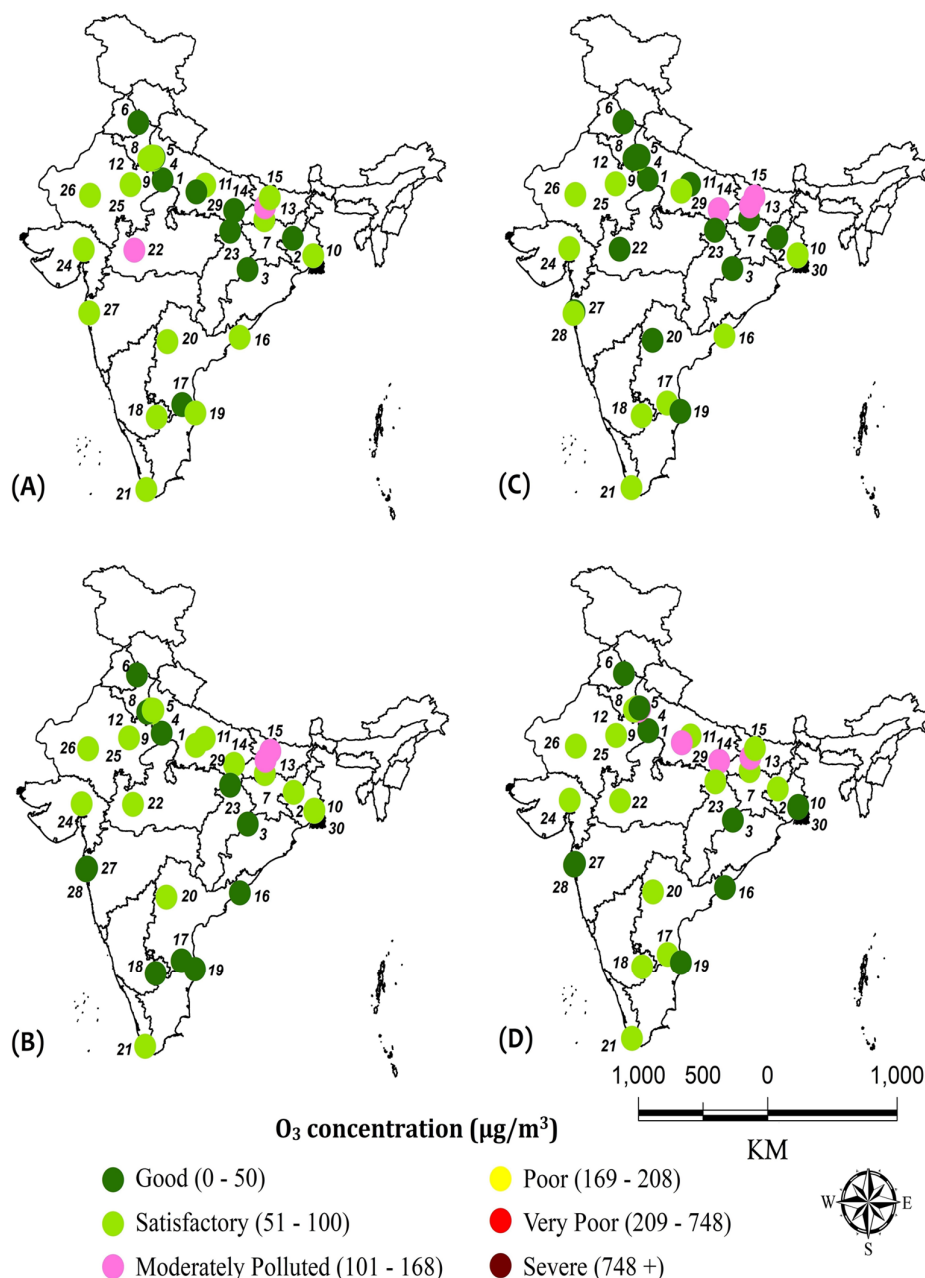


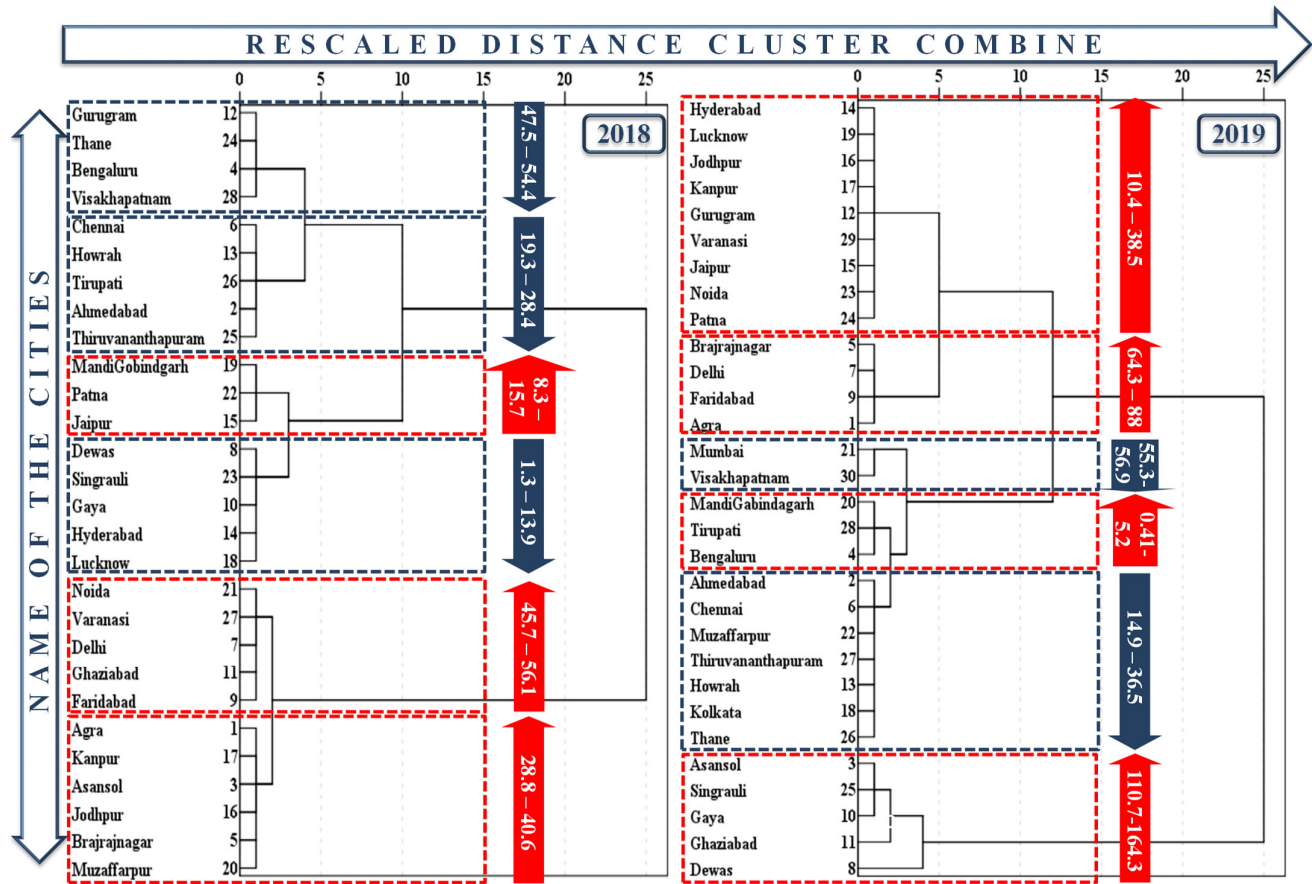
## Supplementary Materials:

Sujit Das , Abhijit Sarkar , Usha Mina, Senjuti Nandy, Md Najmus Saadat, Ganesh Kumar Agrawal and Randeep Rakwal



\*\* The concentration range of ozone has adopted from the breakpoints ozone (8 h.) in Indian National Air Quality Index.

**Figure S1.** Spatio-temporal variation in O<sub>3</sub> concentration for 30 selected Indian cities. **A** =17<sup>th</sup> January to 24<sup>th</sup> March, 2018; **B** =25<sup>th</sup> March - 31<sup>st</sup> May, 2018; **C** = 17<sup>th</sup> January to 24<sup>th</sup> March, 2019; **D** = 25<sup>th</sup> March - 31<sup>st</sup> May, 2019 [ 1. Agra 2. Asansol 3. Brajrajnagar 4. Delhi 5. Faridabad 6. Mandi Gobindgarh 7. Gaya 8. Ghaziabad 9. Gurugram 10. Howrah 11. Lucknow 12. Noida 13. Patna 14. Varanasi 15. Muzaffarpur 16. Visakhapatnam 17. Tirupati 18. Bengaluru 19. Chennai 20. Hyderabad 21. Thiruvananthapuram 22. Dewas 23. Singrauli 24. Ahmedabad 25. Jaipur 26. Jodhpur 27. Thane 28. Mumbai 29. Kanpur 30. Kolkata].



**Figure S2.** Clustering cities based on the percentage change in mean O<sub>3</sub> concentration during 25<sup>th</sup> March - 31<sup>st</sup> May, as compared to 17<sup>th</sup> January to 24<sup>th</sup> March in the years 2018, 2019 for 30 selected Indian cities. [Clustering cities with red and blue colour boxes show increasing and decreasing O<sub>3</sub> concentrations].

**Table S1.** Multiple linear regression with co-efficient of determination (R<sup>2</sup>) and significance level (*p* values) in O<sub>3</sub> (y) v/s. benzene, toluene, ethylbenzene, xylene, NO<sub>2</sub>, AT, RH, and WS.

Sl. No.	City	Equations	<i>p</i> -values									
			R <sup>2</sup>	Benzene	Toluene	Ethylbenzene	Xylene	NO <sub>2</sub>	AT	RH	WS	
1	Agra	$y = 105.425 - (3.708 * B) + (2.815 * T) - (14.860 * X) - (1.577 * NO_2) + (0.809 * AT) - (0.794 * RH) - (0.371 * WS)$	0.739	0.689	0.506	NA	0.28	0.0	0.0	0.0	0.8	
2	Ahmedabad	$y = 23.708 - (0.311 * B) + (0.579 * T) - (7.021 * Eth-B) - (3.515 * X) - (0.816 * NO_2) + (2.861 * AT) - (0.379 * RH) + (1.328 * WS)$	0.493	0.862	0.165	0.884	0.16	0.0	<0.0	0.0	0.1	
3	Asansol	$y = 48.143 + (0.108 * B) + (1.695 * T) + (55.507 * Eth-B) - (0.0636 * NO_2) - (0.0970 * AT) - (0.395 * RH) - (0.426 * WS)$	0.78	0.881	0.706	0.152	NA	0.6	0.7	<0.0	0.0	
4	Bengaluru	$y = 53.785 + (2.445 * B) + (1.500 * T) - (6.254 * Eth-B) + (0.0190 * NO_2) - (0.2370 * AT) - (0.242 * RH) + (1.193 * WS)$	0.552	0.827	<0.001	0.83	NA	0.9	0.7	0.0	0.8	
5	Brajrajnagar	$y = 61.325 - (20.144 * B) + (6.419 * T) - (126.558 * Eth-B) + (1.767 * AT) - (0.563 * RH) + (5.815 * WS)$	0.511	0.576	0.605	0.278	NA	<0.001	0.0	0.0	0.3	
6	Chennai	$y = -184.894 - (0.0752 * B) - (1.995 * T) + (21.563 * Eth-B) + (0.300 * NO_2) + (6.898 * AT) + (0.148 * RH) - (2.162 * WS)$	0.336	0.860	0.015	0.597	NA	0.4	<0.001	0.4	0.1	
7	Delhi	$y = 27.611 - (3.952 * B) + (1.039 * T) - (0.407 * Eth-B) - (5.025 * X) + (0.434 * NO_2) + (1.692 * AT) - (0.427 * RH) - (4.098 * WS)$	0.615	0.040	0.268	0.653	0.11	0.5	0.0	0.0	0.2	
8	Dewas	$y = 52.021 - (44.964 * B) - (2.938 * T) + (84.059 * Eth-B) + (2.746 * NO_2) +$	0.50	0.005	0.002	0.042	NA	0.0	0.0	0.0	<0.0	

		$(2.068 * AT) - (0.0995 * RH) - (6.659 * WS)$	76			09	39	06	001
9	Faridabad	$y = 133.249 + (3.394 * B) - (0.0522 * T) + (0.117 * Eth-B) - (2.448 * X) + (0.0595 * NO_2) - (1.164 * AT) - (1.098 * RH) + (0.602 * WS)$	50.576	0.0120.996	0.944	0.34	0.9	0.2	<0. 0.8
						0	5	7	001 9
10	Gaya	$y = 166.038 - (13.446 * B) + (5.774 * T) + (67.747 * Eth-B) - (19.315 * X) + (2.3280 * NO_2) - (1.833 * AT) - (0.591 * RH) - (9.186 * WS)$	06	0.0330.329	0.222	0.49	<0.	0.0	0.0 0.0
						0	001	61	08 27
11	Ghaziabad	$y = 9.114 + (6.824 * B) - (5.090 * T) + (8.715 * X) + (4.017 * NO_2) + (0.719 * AT) - (0.736 * RH) + (1.855 * WS)$	0.799	0.2240.005	NA	0.25	<0.	0.5	0.0 0.5
						8	001	31	33 97
12	Gurugram	$y = 57.348 + (4.456 * B) + (1.049 * T) - (3.289 * Eth-B) - (0.517 * X) + (1.628 * NO_2) + (0.983 * AT) - (0.236 * RH) - (3.843 * WS)$	0.557	0.0060.688	<0.001	0.64	0.0	0.1	0.2 0.5
						7	01	21	5 81
13	Howrah	$y = 120.223 - (2.412 * B) + (0.577 * T) - (36.786 * Eth-B) + (66.365 * X) + (1.280 * NO_2) - (1.021 * AT) - (0.701 * RH) - (5.885 * WS)$	0.549	0.59 0.544	0.177	0.38	0.3	0.3	<0. 0.1
						6	24	0.3	001 8
14	Hyderabad	$y = 25.941 + (2.184 * B) - (0.0927 * T) + (0.0371 * X) + (0.233 * NO_2) + (0.752 * AT) - (0.432 * RH) - (0.347 * WS)$	0.377	0.3210.010	NA	0.93	0.1	0.0	0.0 0.8
						9	85	62	01 11
15	Jaipur	$y = 97.170 + (9.600 * B) - (0.343 * T) - (28.593 * Eth-B) + (1.184 * NO_2) - (0.895 * AT) - (0.349 * RH) - (4.625 * WS)$	0.498	0.0030.253	0.23	NA	0.1	0.3	0.0 0.3
						91	0.3	0.2	0.4
16	Jodhpur	$y = 88.555 + (18.120 * T) - (0.356 * NO_2) + (1.040 * AT) - (1.474 * RH) - (1.304 * WS)$	0.239	NA 0.592	NA	NA	0.4	0.0	<0. 0.8
						11	93	001	31
17	Kanpur	$y = 40.066 - (65.902 * B) + (3.379 * T) - (0.148 * NO_2) + (1.266 * AT) - (0.283 * RH) + (0.0590 * WS)$	0.622	0.6120.744	NA	NA	0.7	0.2	0.3 0.9
						32	11	65	83
18	Kolkata	$y = 31.982 + (0.347 * B) + (1.771 * T) - (4.843 * Eth-B) - (1.205 * X) + (3.373 * NO_2) + (0.912 * AT) - (0.608 * RH) - (3.123 * WS)$	0.812	0.9130.428	0.663	0.67	0.0	0.4	0.0 0.2
						8	04	1	09 5
19	Lucknow	$y = 23.481 - (0.324 * B) + (0.0681 * T) + (1.556 * X) - (1.479 * NO_2) + (1.178 * AT) - (0.137 * RH) + (0.703 * WS)$	0.394	0.0080.814	NA	0.07	0.0	0.0	0.2 0.8
						5	02	5	8 4
20	Mandi Gobindgarh	$y = 48.682 - (7.631 * B) - (0.291 * T) + (3.443 * Eth-B) - (0.191 * NO_2) + (0.397 * AT) - (0.460 * RH) - (0.651 * WS)$	0.66	0.4990.955	0.729	NA	0.5	0.3	<0. 0.6
						83	77	001	12
21	Mumbai	$y = 186.385 + (0.0331 * B) + (0.265 * T) - (0.0125 * Eth-B) + (0.281 * NO_2) - (2.781 * AT) - (1.059 * RH) - (5.010 * WS)$	0.603	0.8410.084	0.879	NA	0.3	0.0	<0. 0.2
						32	02	001	8
22	Muzaffarpur	$y = -303.352 - (1.146 * B) + (0.210 * T) + (18.150 * NO_2) - (0.587 * AT) - (0.651 * RH) - (3.297 * WS)$	0.142	0.0130.954	NA	NA	0.2	0.8	0.3 0.3
						97	45	07	93
23	Noida	$y = -21.895 - (20.722 * B) + (3.223 * T) + (2.184 * NO_2) + (2.094 * AT) - (0.618 * RH) + (3.458 * WS)$	0.669	0.0140.439	NA	NA	0.5	0.0	0.0 0.2
						09	07	07	65
24	Patna	$y = 22.537 + (3.693 * B) - (0.292 * T) - (2.737 * Eth-B) + (12.175 * X) - (0.243 * NO_2) + (0.882 * AT) + (0.0486 * RH) - (6.656 * WS)$	0.503	0.4550.685	0.038	0.02	0.2	0.4	0.8 0.3
						1	28	70	80 75
25	Singrauli	$y = 236.576 - (0.751 * NO_2) - (2.546 * AT) - (0.675 * RH) - (13.906 * WS)$	0.322	NA NA NA	NA	NA	<0.	0.0	0.0 0.1
						001	59	56	86
26	Thane	$y = 6.549 - (1.772 * B) + (0.0243 * T) - (0.198 * NO_2) + (1.992 * AT) - (0.585 * RH) + (1.806 * WS)$	0.119	0.27 0.828	NA	NA	0.8	0.5	0.1 0.3
						08	92	19	4
27	Thiruvananthapuram	$y = -127.529 + (7.851 * B) + (13.903 * T) - (0.459 * NO_2) + (4.148 * AT) + (0.547 * RH) - (2.017 * WS)$	0.454	0.8930.869	NA	NA	0.2	0.0	<0. 0.2
						81	01	001	7
28	Tirupati	$y = 62.847 - (0.977 * B) - (0.896 * T) - (5.640 * X) + (1.635 * NO_2) + (0.894 * AT) - (0.686 * RH) - (3.047 * WS)$	0.278	0.8660.046	NA	0.73	0.1	0.0	0.0 0.4
						2	38	31	09 90
29	Varanasi	$y = 300.983 - (11.653 * B) + (11.427 * T) - (17.668 * X) - (5.076 * NO_2) - (1.106 * AT) + (0.489 * RH) - (8.897 * WS)$	0.158	0.3480.134	NA	0.01	0.0	0.5	0.6 0.2
						5	4	22	56
30	Visakhapatnam	$y = -18.034 + (11.981 * B) + (0.639 * T) - (4.650 * X) - (0.656 * NO_2) + (2.273 * AT) - (0.612 * RH) - (0.0751 * WS)$	0.489	<0.00 0.445	NA	0.17	0.0	0.1	0.1 0.9
						6	24	3	32 8

# *p*-value = 0.001 – 0.05 (Significant); *p*-value > 0.05 (Not significant) # B = Benzene; T= Toluene; E = Ethylbenzene; X = Xylene; NO<sub>2</sub> = Nitrogen dioxide; AT = Ambient temperature; RH = Relative humidity; WS = Wind speed. # NA = Data not present.