



AIR PO CALY PSE IV

& NATIONAL AMBIENT AIR QUALITY MONITORING PROGRAMME (NAMP)

ASSESSMENT OF
AIR POLLUTION
IN INDIAN CITIES

GREENPEACE
ग्रीनपीस

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**Airpocalypse IV: Assessment of
Air Pollution in Indian Cities
& National Ambient Air Quality Monitoring
Programme (NAMP)**

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NATION**

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India announced the first ever National Clean Air Programme for the country in 2019 aimed towards reducing the hazardous pollution levels across cities

EXECUTIVE SUMMARY

The announcement of the NCAP and series of events which took place to reach that point had already started a spiral of discussions and actions across the country towards ways of tackling hazardous air pollution levels. In 2019, all of the cities identified as non-attainment under NCAP drafted the city clean air action plans which are available in public domain. More and more air quality monitoring stations (both manual and continuous) have been added over the past few years, increasing the data availability to policymakers and general public, but the total number of air quality monitoring stations still remains far from ideally required for a country with such huge population as India.

The public debate, media mentions, judicial interventions, administrative actions as well as political discussions increased and air pollution became an issue which most of the citizens in the country at-least know a little about. In 2019, first time ever:

- 1. Leading political parties mentioned air pollution as a public health crisis in their manifestos for general election.**
- 2. Hazardous air pollution levels led to a state/UT government declaring it a public health emergency.**
- 3. Air pollution was discussed at length in Indian parliament under article 377 on 19th November 2019 for around 3 hours and was continued later in the next parliament sitting.**

The year also saw multiple agencies claiming drastic improvements to the tune of 25% in Delhi's air quality while others also presented a fact based counter argument and proved that although Delhi saw air quality improvements but they were very marginal. Different datasets represented a different story and no representative combination of data matched the claims of 25% air quality improvement.

Increasing number of CAAQMS coupled with air quality early warning systems similar to the one started by Ministry of Earth Sciences for Delhi in October 2018¹ will also help people know the prevalent air quality at different locations helping them to take precautions based on health advisories issued by the government as well as in reducing exposure to high pollution levels. This will prove helpful till more systematic measures across all sectors ranging from power generation, industries, transport, biomass burning, waste management and construction sectors etc. are able to reduce the emissions and pollution levels effectively giving us clean air to breathe.

Against this background, this report Airpocalypse IV now highlights that:

- 1. Out of 287 cities (with stations having more than 52 days monitoring data) more than 80% (231) cities/towns had PM₁₀ levels exceeding the 60 µg/m³ limits for PM₁₀ prescribed under National Ambient Air Quality Standards (NAAQS) by CPCB, implying that all these cities/towns belong to the non-attainment list. This is more than double the original 102 non-attainment cities initially identified by the MoEF&CC in 2015.**
- 2. Based on 2018 data there are 116 more cities/towns which should be included in the non-attainment category apart from the ones already considered by MoEF&CC under NCAP and by CPCB as per submission in NGT.**
- 3. Based on 2018 annual data West Bengal, Punjab, Maharashtra, Uttar Pradesh and Orissa respectively had 36, 21, 21, 20 and 15 number of non-attainment cities whereas NCAP and CPCB list submitted to NGT in August 2019 collectively only mentions 7, 9, 18, 15 and 7 non-attainment cities respectively for the states. This still leaves major parts of these geographies where air quality is not being monitored, otherwise most of those would have also come under the non-attainment list.**

¹ <https://pib.gov.in/newsite/PrintRelease.aspx?relid=184201>

INTRODUCTION

“Airpocalypse III” report released in January 2019, assessed the likely air quality in 2024 across the country if reduction in pollution levels equivalent to the upper limit (30%) stipulated under NCAP are achieved.

In April 2018 the MoEF&CC released a draft national plan to curb air pollution levels, and after eight months of waiting, on 10th January 2019 it was released in the final form.

This report is the fourth version in the series of Airpocalypse reports published annually by Greenpeace India since January 2017, when the first version was released. The report tracks the pollution levels recorded by CPCB through its network of stations under NAMP (National Ambient Air Quality Monitoring Programme). Most of the stations installed under NAMP are manual stations and there is a lag between data monitoring and reporting. The lag varies from a few days to months. Also, the frequency of data availability varies from state to state, few provide daily data whereas others only provide monthly averaged data.

Although over the last few years increasing presence of CAAQMS (Continuous Ambient Air Quality Monitoring Stations) made data available to the public in near real time with minimum lag and has been helpful in avoiding high pollution exposure by taking precautions or avoiding travel to such areas during the high pollution episodes.

In January 2017, Greenpeace India published the first version of this report titled as “Airpocalypse”, to show with hard data that air pollution is a growing national problem and it needs to be addressed with utmost seriousness at a countrywide level and not only in Delhi or the National Capital Region as had been the case until recently. The report also identified major sources of pollution in different parts of the country based on past research and available data, and suggested solutions for the air pollution crisis at the all-India level, with an emphasis on the short-term, more immediate solutions based on the extent, degree and levels of pollution afflicting specific regions².

The second version of the report “Airpocalypse II” released in January 2018 highlighted the urgency of the rising health crisis caused by hazardous air pollution levels across the country. It had updated data for the year 2016 for approximately 158 cities. Wherever data was not available for 2016, older data from 2015 was used to assess where cities stood in terms of air quality. This report had annual PM₁₀ levels for 280 cities and towns across the country as compared to the 168 cities in the earlier version. The data showed that 228 cities (more than 80% of the cities/town where Air Quality Monitoring data was available), were not complying with the annual permissible concentration of 60 µg/m³ which was prescribed by the Central Pollution Control Board (CPCB) under the National Ambient Air Quality Standards (NAAQS) for PM₁₀ and none of the cities were found to adhere to the standard set by the World Health Organization (WHO) at 20 µg/m³. The report highlighted that out of the 630 million Indians covered by the data, 550 million lived in areas exceeding national standard for PM₁₀ which includes 47 million children under the age of 5.

² “Directions Issued to SPCBs under section 18 (1)(b) of Air (Prevention and Control of Pollution) Act, 1981 regarding prevention & control of air pollution in non attainment cities and towns in the year 2016” at <http://cpcb.nic.in/directions-spcb-18-1-b/>

Data presented by the earlier Airpocalypse reports as well as numerous other reports by Central and State Pollution Control Boards, IITs and other research institutes, together with widespread campaigning, research and mobilisation by civil society organisations, academia, medical professionals and government officials raised the level of debate and urgency in 2018. The demand grew for a concrete solution to pollution through the formulation of a National Clean Air Action Plan at the national and regional level with time bound pollution reduction targets and a sectoral approach to achieve breathable air quality across the country. In April 2018 the MoEF&CC released a draft national plan to curb air pollution levels, and after eight months of waiting, on 10th January 2019 it was released in the final form.

In the third version, called "Airpocalypse-III" analysed updated annual data for the year 2017 for cities/towns across the country to find out the spread and intensity of the air pollution crisis. 2017 is also the NCAP base year

for the pollution reduction targets of 20-30% across 102 cities. The report looked at whether the number of non-attainment cities as identified by CPCB/MoEF&CC reflects current realities or if the situation has changed since 2015 when 102 cities were first identified as non-attainment. The report also assessed the likely air quality in 2024 across the country if reduction in pollution levels equivalent to the upper limit (30%) stipulated under NCAP are achieved.

The current version of the report "Airpocalypse-IV" analyses and discusses the data compiled by CPCB from NAMP network collecting air quality data for 745 stations across the country in 2018³. The current report also compared the 2018 annual data to the NAAQS and cities notified as non-attainment under NCAP. The report also highlights specific actions to be taken by Governments and public in order to move towards Clean air Nation and breathable air quality throughout the country.

³ <https://cpcb.nic.in/displaypdf.php?id=bWFudWFsLW1vbml0b3JpbmVvTG9jYXRpb25iZGF0YV8yMDE4LnBkZg==>

As on 17th December 2019, the network consists of 793 operating stations covering 344 cities/towns in 28 states and 7 Union Territories of the country. Greenpeace India analysed the data for PM₁₀ levels for these NAMP stations spread across the country (because the data for PM_{2.5} was limited to very few cities and places, it would not have been enough to see the extent of the spread of pollution levels across the country) from CPCB. The annual data was made available by CPCB on their website for the year 2013 to 2018.

There are lots of challenges with respect to relying on government data on air quality due to various factors, the primary one being that the majority of the measurements are taken manually, raising questions about the quality of the data and human error in monitoring. The other factor is the location of monitoring stations and data collection from them in the case of far flung and remote areas. The stations often become dysfunctional for long periods of time making the average values somewhat skewed. To avoid major biases due to this factor, only the stations with data availability for more than 52 days (50% of the prescribed 104 reading under NAMP), but even then if the station was out of monitoring during cleaner or polluted months, that might still lead to biases. Industrial clusters like Korba in Chhattisgarh and Cuddalore in Tamil Nadu show low PM₁₀ levels possibly because of such factors.

Although the data is definitely sufficient to prove that air quality is poor across the country in almost all states by the government's own readings and to prove the need to expand real time air quality monitoring, it will be necessary to use satellite data to complement and validate ground measurements; and to establish an independent regulator to ascertain data quality and to standardise the readings across the country.

National Ambient Air Quality Monitoring Programme (NAMP)

National Ambient Air Quality Monitoring Programme (NAMP) by Central Pollution Control Board monitors three major air pollutants viz., Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO₂) and Particulate Matter size equal to or less than 10 micron (PM₁₀) along with metrological parameters, across the country.

INFERENCE AND ANALYSIS

According to Pant et al., 2018⁴ India was expected to have a total of 3000 stations established in Class I (population of one million or more) and II (population of 50,000 to 99,999) cities and towns by 2022⁵. Although the data availability through NAMP which covered 342 operating stations in 127 cities/towns across the 26 states and 4 Union Territories of the country in 2016 has more than doubled in past three years and now (As on 17th December 2019)⁵ India has installed 793 stations in 344 cities/towns across 28 states and 7 Union Territories, but is still far from where it is expected to be and lags far behind, compared to other regions such as the United States, Europe and China etc.

In the year 2018, National Ambient Air Quality Monitoring Programme (NAMP) recorded data across 302 cities having 745 stations across 28 states and 7 union territories in India. Under the programme the monitoring of pollutants was carried out for 24 hours (4-hourly sampling for gaseous pollutants and 8-hourly sampling for particulate matter) with a frequency of twice a week, to have one hundred and four (104) observations in a year. In 2018 a total of:

- 1. 699 stations across 287 cities recorded data for 52 or more days in year 2018 (50% of the stipulated observations in a calendar year).**
- 2. 631 stations across 264 cities recorded data for more than 78 days (75% of the stipulated observations in a calendar year).**
- 3. 510 stations across 225 cities were able to record data for more than 93 days (90% of the stipulated observations in a calendar year).**
- 4. 299 stations across 145 cities were able to record data for 104 or more days in 2018 (equal or more than the stipulated observations in a calendar year) compared to 224 stations across 109 cities/towns in 2017.**

Stations with minimum 50% data recorded compared to the stipulated 104 observations in a year are considered in the analysis of prevailing pollution levels and ranking the cities for the current report.

Out of 288 cities having one or more stations with more than 52 days of ambient air quality monitoring under NAMP for the year 2018:

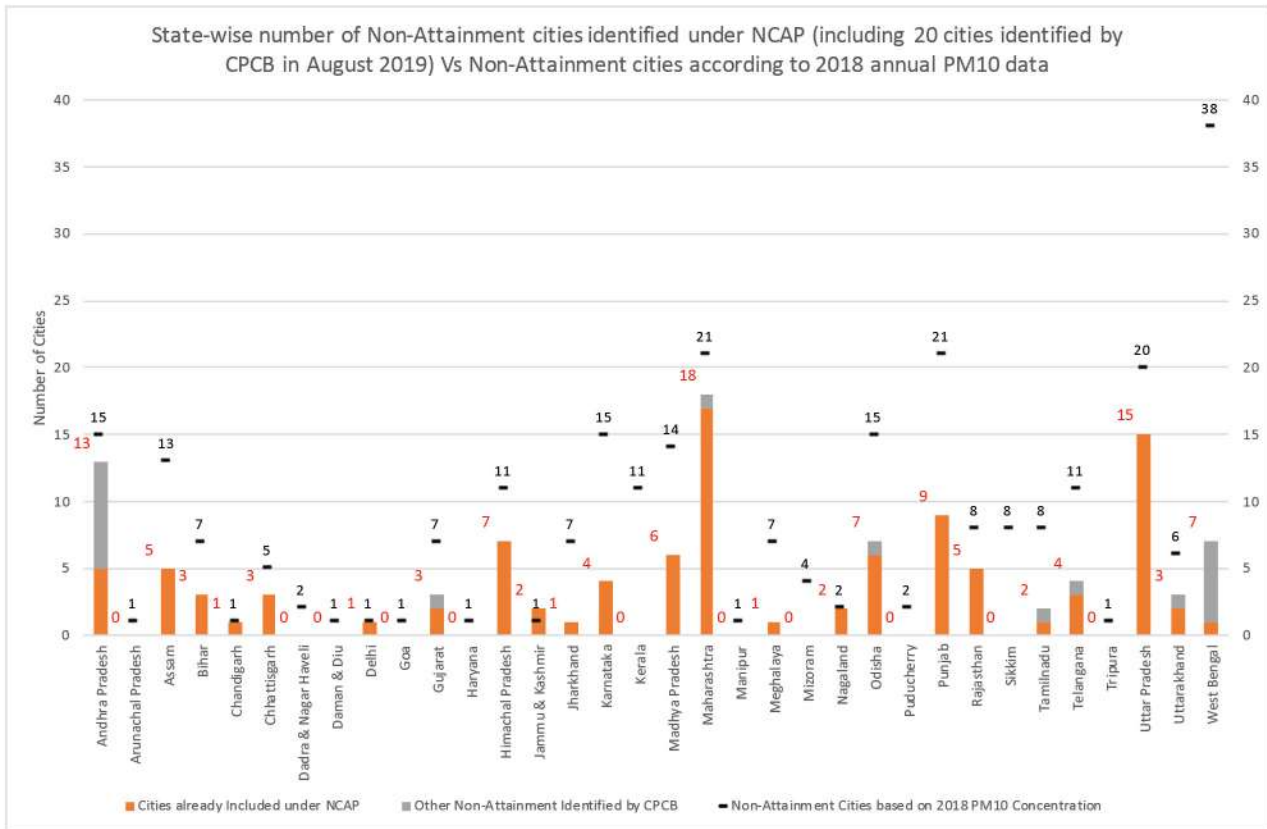
- 1. More than 80% (231) cities/towns had PM₁₀ levels exceeding the 60 µg/m³ limits for PM₁₀ prescribed under National Ambient Air Quality Standards (NAAQS) by CPCB, implying that all these cities/towns belong to the non-attainment list.**
- 2. Just one city/town (Lunglei, Mizoram) had PM₁₀ levels under World Health Organization (WHO) prescribed level of 20 µg/m³ leaving all other cities with higher pollution levels than the WHO annual standard for PM₁₀.**
- 3. 140 cities/towns had PM₁₀ levels beyond 90 µg/m³.**

In January 2019, MoEF&CC, released the first ever National Clean Air Programme for India. Under the programme the cities are expected to reduce air pollution levels by 20-30% by 2024 from 2017 levels.

The following table represents the number of non-attainment cities included as part of NCAP along with 20 more cities which have been identified as non-attainment by Central Pollution Control Board (CPCB) in August 2019 but have not been included under NCAP till now as per a recent question answered by Honorable Minister for Environment Forest and Climate Change in the last parliament session (December 2019). The figure also represents state-wise number of cities which are non-attainment as per 2018 annual average PM₁₀ concentration (based on NAMP stations with more than 52 readings in 2018) but are not included in NCAP till now.

⁴ <http://www.urbanemissions.info/wp-content/uploads/docs/2018-10-AQAH-India-Air-Monitoring-Review.pdf>

⁵ https://cpcb.nic.in/uploads/Stations_NAMP.pdf



All 102 cities included under NCAP till now have submitted city levels clean air action plans all of which have been approved by CPCB for ground implementation⁶, but almost none of these action plans till now have a definite overall percentage reduction target for 2024; interim targets for pollution reduction, i.e., half yearly or annual; sectoral emission load reduction targets; fossil fuel, i.e., diesel and coal consumption caps and reduction targets etc.; also, the current version of the city levels action plans are too centric to activities taking place within city boundaries and give very less emphasis on the regional and air-shed approach for air quality control. All these missing aspects in the NCAP and city levels clean air action plans restricts the current versions in achieving real air quality improvements.

⁶ <https://cpcb.nic.in/approved-city-action-plans/>

Government's Initiative

The National Clean Air Programme (NCAP) in its current form and ambition is only a good first step on a long journey. For the first step to be meaningful it must be followed by other measures and several lacunae must be addressed. These include:

- 1. The NCAP is not notified under any Act (Environment Protection Act or Air Act) and is only being seen as a guiding document. To make the NCAP effective in achieving breathable air quality across the country, the air quality targets and specific measures identified in the document must be given a proper legal status. The experience of the GRAP (Graded Response Action Plan), CAP (Comprehensive Action Plan) for Delhi and Emission standards for coal based power plants show that implementation is a key challenge. The NCAP should be given stringent provisions making it legally binding on both authorities and polluters to cut down on pollution.**
- 2. Crucially, the current ambition levels under NCAP (20-30% air pollution reduction by 2024) will not lead to breathable air quality in the country, as the pollution levels across much of the country are so high that even a 30% reduction will still leave levels above the NAAQS, not to mention the WHO standards.**
- 3. The NCAP being a dynamic document must set specific city-wise pollution reduction targets rather than just providing a tentative window of 20-30% reduction across the board by 2024.**
- 4. NCAP should also express the ambition to move to NAAQS in a time bound manner first and then should have a timeline to move towards the WHO guidelines. Tentative percent reduction targets over the next 5 years are insufficient without a longer term timeline to achieve breathable air quality and attain the health benefits of reducing pollution levels below NAAQS and WHO standards. Minor reductions from current hazardous levels might not be able us achieve great health benefits because concentrations even as low as 10 $\mu\text{g}/\text{m}^3$ for PM_{10} and 6 $\mu\text{g}/\text{m}^3$ for $\text{PM}_{2.5}$ impacts human health⁷.**
- 5. There should be interim milestones/targets for half yearly and annual progress tracking so that we don't just take stock of the progress in 2024 and will not be in a position to do anything if air pollution levels are not falling as required. Absence of interim targets/milestones has led to non-compliance of emission standards for coal based power plants where they have already missed two deadlines given to them over past four years, we should learn from those failures.**
- 6. To achieve the air quality goals, much stronger sectoral policies and targets will be needed on the national and state level. Pollution across the country originates from the same key sectors – industry and power plants, household fuels, waste burning, crop burning and transport – with variance in proportions. Furthermore, much of the pollution levels in the identified non-attainment cities originates from outside the city limits. The obvious question which arises is, “What is the use of conducting 102 source apportionment studies for non-attainment cities if there are no sectoral targets and policies for emission reductions?”**
- 7. With regard to sectoral targets, the NCAP has not incorporated any learning from the New Delhi experience: having conducted various recent source apportionment studies, Delhi had the basis to include sectoral pollution/emission reduction targets as well as very specific pollution reduction targets.**

The Government must prioritise transparency, accountability and stringency in the actions proposed under NCAP while strengthening it over the next few months. Inclusion of legal provisions and sectoral targets is key to implementation and effectiveness of air pollution reduction plans. NCAP should be treated as a dynamic document that can be improved into a stronger instrument to achieve the dream of blue skies and clean air across India.

⁷ “The theoretical minimum risk exposure level for ambient particulate matter and household air pollution was defined as a population-weighted mean $\text{PM}_{2.5}$ between 2.4 and 5.9 $\mu\text{g}/\text{m}^3$, except for the attribution of cataract to household air pollution for which the theoretical minimum risk exposure level was defined as no exposure to solid fuel use for cooking.” GBD 2017 Risk Factor Collaborators. Global, regional, and national comparative risk assessment of 84 behavioural, environmental and occupational, and metabolic risks or clusters of risks for 195 countries and territories, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *Lancet* 2018; 392: 1923–94.

People's Initiative

Public participation is critical in the fight against air pollution. Making our voices heard in the corridors of power, letting our leaders know that the status quo is unacceptable and that we as a nation want clean air as this is essential to achieving progress and healthy lives. The devastating toll that air pollution is taking on the quality of life of just about every section of society, but in particular children and the elderly ensures that inaction is not an option. The right to clean air is in fact the right to life and political parties and governments must be queried on their plans to deliver clean air for India.

In addition, our own choices for electricity and transportation and our advocacy for clean options on these fronts will play a major role in managing pollution levels in many parts of the country:

- 1. Supporting rooftop solar and other forms of decentralised renewable energy solutions that reduce the demand for coal-based electricity.**
- 2. Increased usage of public transport, cycling and walking.**
- 3. Using energy efficient appliances and reducing household energy usage.**
- 4. Waste minimisation, segregation and recycling, which will reduce burning of waste in streets as well as at landfills, along with energy reductions and saving in transporting huge quantities of waste.**
- 5. Most importantly, the citizens while making sure their lifestyle and activities move towards minimum pollution footprint, should make sure that they unite and demand their right to breathe clean air.**
- 6. As most citizens live in areas where air pollution is a severe threat to personal health, using and promoting the use of personal protection measures – air purifiers and certified face masks (N95 or FFP2 standard) helps reduce damage to personal health, while increasing the visibility and recognition of the issue.**

ANNEXURE - I

Historical PM10 Concentration in cities/towns with air quality monitoring under NAMP Programme since 2013

S.No.	State	City	PM10 Conc_2018	PM10 Conc_2017	PM10 Conc_2016	PM10 Conc_2015	PM10 Conc_2014	PM10 Conc_2013	No. of Monitoring Stations (2018)	Included under NCAP (Y/N)	Other Non-Attainment Identified by CPCB
1	Jharkhand	Jharia	322	295	280	231	237	193	1	N	
2	Jharkhand	Dhanbad	264	238	226	168	166	157	3	Y	
3	Uttar Pradesh	Noida	264	216	176	154	136	142	2	Y	
4	Uttar Pradesh	Ghaziabad	245	281	236	260	242	285	2	Y	
5	Gujarat	Ahmedabad	236	120	108	89	85	84	9	Y	
6	Uttar Pradesh	Bareilly	233	195	253	241	239	232	2	Y	
7	Uttar Pradesh	Allahabad	231	140	195	242	250	235	5	Y	
8	Uttar Pradesh	Moradabad	227	217	196	169	201	160	2	Y	
9	Uttar Pradesh	Firozabad	226	220	223	195	146	246	3	Y	
10	Delhi	Delhi	225	240	276	220	217	218	9	Y	
11	Uttar Pradesh	Gajraula	225	207	193	177	179	137	2	Y	
12	Rajasthan	Jodhpur	223	180	168	152	190	176	9	Y	
13	Uttar Pradesh	Gorakhpur	218	186	154	139	N/A	N/A	3	N	
14	Uttar Pradesh	Lucknow	217	246	214	169	174	192	8	Y	
15	Uttarakhand	Dehradun	217	248	241	188	165	158	3	N	Y
16	Uttar Pradesh	Khurja	214	209	216	167	158	163	2	Y	
17	Uttar Pradesh	Kanpur	210	224	217	196	200	201	9	Y	
18	Uttar Pradesh	Agra	209	185	198	186	178	192	6	Y	
19	Bihar	Patna	208	157	212	204	178	N/A	2	Y	
20	Gujarat	Rajkot	203	107	93	84	82	87	2	N	
21	Rajasthan	Bharatpur	201	163	159	N/A	N/A	N/A	3	N	
22	Uttar Pradesh	Varanasi	201	215	N/A	145	140	145	2	Y	
23	Uttar Pradesh	Anpara	191	154	132	137	131	133	2	Y	
24	Gujarat	Vadodara	188	108	93	87	87	88	5	N	Y
25	Uttar Pradesh	Saharanpur	183	174	218	N/A	N/A	N/A	2	N	
26	Rajasthan	Alwar	183	134	144	180	240	268	3	Y	
27	West Bengal	Howrah	179	110	119	123	111	187	4	N	Y
28	Punjab	Amritsar	177	197	235	185	190	181	2	Y	
29	Uttar Pradesh	Meerut	177	153	158	N/A	155	135	2	N	
30	Gujarat	Surat	176	106	92	88	89	88	3	Y	
31	Rajasthan	Bhiwadi	174	200	264	N/A	N/A	N/A	3	N	
32	Gujarat	Vapi	171	114	105	88	93	94	2	N	
33	Meghalaya	Byrnihat	166	174	175	122	136	122	1	Y	
34	Rajasthan	Jaipur	165	177	199	171	150	161	9	Y	
35	Jammu & Kashmir	Jammu	164	149	131	125	123	118	3	Y	
36	Himachal Pradesh	Baddi	164	172	90	102	109	118	3	Y	
37	Maharashtra	Mumbai	162	151	119	106	102	132	2	Y	
38	Punjab	Ludhiana	156	162	139	139	146	204	5	Y	
39	West Bengal	Krishnanagar	160	93	N/A	N/A	N/A	N/A	1	N	
40	Uttar Pradesh	Mathura	153	154	171	N/A	N/A	N/A	2	N	
41	Punjab	Jalandhar	153	223	186	151	144	164	4	Y	
42	Rajasthan	Kota	152	131	110	133	127	123	6	Y	
43	Maharashtra	Dombivli	151	176	127	101	134	91	2	N	
44	Maharashtra	Chandrapur	149	146	111	102	129	131	6	Y	
45	Rajasthan	Chittorgarh	149	N/A	N/A	N/A	N/A	N/A	3	N	
46	Gujarat	Anklesvar	149	108	104	88	89	86	2	N	
47	Himachal Pradesh	Nalagarh	148	147	108	89	109	110	1	Y	
48	West Bengal	Baharampur	147	109	N/A	N/A	N/A	N/A	1	N	
49	Rajasthan	Udaipur	147	125	137	156	112	142	3	Y	
50	West Bengal	Raniganj	147	163	217	114	134	163	3	N	Y
51	West Bengal	Asansol	146	163	211	97	85	160	3	N	Y
52	Maharashtra	Badlapur	144	159	125	105	122	84	1	Y	
53	West Bengal	Ranaghat	143	103	N/A	N/A	N/A	N/A	1	N	
54	Uttar Pradesh	Raebareilly	141	141	141	157	160	177	3	Y	
55	West Bengal	Durgapur	141	155	196	101	102	160	4	N	Y
56	Haryana	Hissar	140	220	N/A	N/A	N/A	132	1	N	
57	West Bengal	Kolkata	140	118	113	104	117	182	23	Y	
58	Bihar	Muzaffarpur	139	167	N/A	N/A	N/A	N/A	1	Y	
59	Gujarat	Jamnagar	137	104	92	84	85	90	1	N	
60	Jharkhand	Sindri	136	158	143	75	100	121	1	N	
61	West Bengal	Kharagpur	136	N/A	N/A	N/A	N/A	N/A	1	N	
62	Punjab	Khanna	135	139	114	122	161	183	2	Y	
63	Madhya Pradesh	Bhopal	135	93	89	158	159	222	7	Y	
64	Nagaland	Dimapur	135	138	122	122	129	101	2	Y	
65	Punjab	Ajnaia	134	N/A	N/A	N/A	N/A	N/A	1	N	
66	Madhya Pradesh	Gwalior	134	110	96	125	144	197	2	Y	
67	Punjab	Samrala	133	N/A	N/A	N/A	N/A	N/A	1	N	
68	Uttarakhand	Rishikesh	133	128	119	121	122	113	1	Y	
69	Punjab	Jagraon	132	N/A	N/A	N/A	N/A	N/A	2	N	
70	Uttar Pradesh	Unnao	132	125	120	120	74	114	2	N	
71	Jharkhand	Jamshedpur	129	131	136	134	N/A	135	2	N	
72	Jharkhand	Parkeela Kharsawa	128	131	143	142	N/A	N/A	1	N	
73	Uttarakhand	Haldwani	126	129	128	138	149	144	1	N	
74	Uttarakhand	Haridwar	125	106	129	123	127	119	1	N	
75	Gujarat	Dadra & Nagar Haveli	125	111	37	89	N/A	44	2	N	

S.No.	State	City	PM10 Conc_2018	PM10 Conc_2017	PM10 Conc_2016	PM10 Conc_2015	PM10 Conc_2014	PM10 Conc_2013	No. of Monitoring Stations (2018)	Included under NCAP (Y/N)	Other Non-Attainment Identified by CPCB
76	Maharashtra	Ulhasnagar	123	150	118	107	107	75	2	Y	
77	Jharkhand	Ranchi	122	142	196	220	197	177	1	N	
78	Punjab	Garshankar	122	N/A	N/A	N/A	N/A	N/A	1	N	
79	Odisha	Paradeep	121	106	112	108	90	56	3	N	
80	Punjab	Gobindgarh	121	136	124	129	135	165	3	Y	
81	Madhya Pradesh	Jabalpur	119	74	71	91	73	69	2	N	
82	Uttarakhand	Rudrapur	119	126	142	125	139	156	1	N	
83	Bihar	Darbhanga	118	72	N/A	N/A	N/A	N/A	1	N	
84	Odisha	Kalinga Nagar	118	122	115	98	93	80	2	N	Y
85	Odisha	Rourkela	116	122	N/A	100	82	97	5	Y	
86	Assam	Tezpur	115	108	68	90	71	120	1	N	
87	West Bengal	Rishra	114	91	N/A	N/A	N/A	N/A	1	N	
88	Odisha	Cuttack	114	87	81	81	93	83	3	Y	
89	Punjab	Jalalabad	112	N/A	N/A	N/A	N/A	N/A	1	N	
90	Assam	Guwahati	112	106	105	97	88	141	6	Y	
91	Madhya Pradesh	Singrauli	112	109	83	90	N/A	N/A	3	N	
92	Punjab	Muktsar	111	N/A	N/A	N/A	N/A	N/A	1	N	
93	Odisha	Talcher	111	96	105	136	125	110	2	Y	
94	Tamilnadu	Trichy	110	86	95	85	84	87	5	N	Y
95	Punjab	Malerkotla	110	N/A	N/A	N/A	N/A	N/A	1	N	
96	Punjab	Batala	110	N/A	N/A	N/A	N/A	N/A	2	N	
97	West Bengal	Chinsura	109	83	N/A	N/A	N/A	N/A	1	N	
98	West Bengal	Barrackpore	108	90	106	113	103	166	3	N	Y
99	Bihar	Begusarai	108	126	N/A	N/A	N/A	N/A	1	N	
100	Punjab	Bathinda	108	131	121	158	122	130	1	N	
101	Odisha	Jharsuguda	108	90	87	N/A	112	N/A	2	N	
102	Maharashtra	Thane	107	125	122	117	109	110	3	N	Y
103	Punjab	Tapa	106	N/A	N/A	N/A	N/A	N/A	1	N	
104	Telangana	Kothur	106	80	78	106	N/A	N/A	1	N	
105	West Bengal	Tamluk	106	N/A	N/A	N/A	N/A	N/A	1	N	
106	Maharashtra	Pune	106	102	107	99	92	87	3	Y	
107	Punjab	Patiala	106	102	106	110	104	108	3	Y	
108	Madhya Pradesh	Satna	105	80	71	125	163	N/A	2	N	
109	Telangana	Hyderabad	105	103	98	91	91	81	10	Y	
110	Uttarakhand	Kashipur	105	111	126	107	121	151	1	Y	
111	Nagaland	Kohima	105	114	90	94	91	85	2	Y	
112	Telangana	Ramagundam	104	76	69	67	55	84	1	N	
113	West Bengal	Barasat	104	103	N/A	N/A	N/A	N/A	1	N	
114	Maharashtra	Amravati	104	106	100	108	107	88	3	Y	
115	Maharashtra	Nagpur	104	102	118	90	103	97	7	Y	
116	Himachal Pradesh	Kala Amb	104	119	129	119	139	144	2	Y	
117	Punjab	Sangrur	104	95	90	100	88	97	2	N	
118	Maharashtra	Jalna	103	101	110	118	137	122	2	Y	
119	Chandigarh	Chandigarh	102	109	105	86	91	102	5	Y	
120	Meghalaya	Umiam	102	110	108	84	N/A	N/A	1	N	
121	Tamilnadu	Tuticorin	102	132	175	91	83	77	3	Y	
122	Daman & Diu	Daman	101	106	34	83	N/A	44	3	N	
123	Odisha	Angul	101	95	97	103	116	107	2	Y	
124	West Bengal	Dankuni	100	77	N/A	N/A	N/A	N/A	1	N	
125	Odisha	Bonaigarh	99	N/A	N/A	N/A	N/A	N/A	1	N	
126	Odisha	Bhubneshwar	99	91	105	81	90	87	6	Y	
127	West Bengal	Haldia	99	97	103	87	136	146	4	N	Y
128	Telangana	Karimnagar	98	72	60	64	61	65	1	N	
129	Assam	Nalbari	97	95	108	120	76	140	1	Y	
130	West Bengal	Tribeni	97	79	N/A	N/A	N/A	N/A	1	N	
131	Assam	Nagaon	96	75	111	137	100	132	1	Y	
132	Uttar Pradesh	Jhansi	96	113	116	119	106	101	2	Y	
133	West Bengal	Uluberia	95	79	N/A	N/A	N/A	N/A	1	N	
134	Maharashtra	Latur	95	81	81	79	91	97	3	Y	
135	Punjab	Dera Bassi	95	93	98	96	113	129	2	Y	
136	West Bengal	Sankrail	94	78	88	N/A	N/A	N/A	4	N	
137	West Bengal	Ghatal	92	N/A	N/A	N/A	N/A	N/A	1	N	
138	Punjab	Naya Nangal	91	91	91	84	85	86	2	Y	
139	Madhya Pradesh	Amlai	91	82	73	64	N/A	N/A	2	N	
140	Madhya Pradesh	Katni	91	86	69	N/A	N/A	N/A	2	N	
141	Maharashtra	Kolhapur	90	90	96	98	99	113	3	Y	
142	Karnataka	Raichur	90	92	83	92	112	79	1	N	
143	Karnataka	Bengaluru	90	89	103	119	139	110	8	Y	
144	Madhya Pradesh	Prithampur	90	85	93	120	N/A	N/A	2	N	
145	Odisha	Puri	90	78	99	94	63	64	2	N	
146	Bihar	Gaya	89	N/A	N/A	N/A	N/A	N/A	1	Y	
147	Karnataka	Belgaum	89	95	112	64	76	74	1	N	
148	West Bengal	Kalyani	89	85	N/A	N/A	N/A	N/A	1	N	
149	Madhya Pradesh	Indore	88	80	95	97	143	154	3	Y	
150	Uttarakhand	Naharlagun	88	76	N/A	70	64	N/A	1	N	
151	Bihar	Rajgir	88	84	N/A	N/A	N/A	N/A	1	N	
152	Bihar	Sasaram	88	87	N/A	N/A	N/A	N/A	1	N	
153	Punjab	Sirhind	88	N/A	N/A	N/A	N/A	N/A	1	N	

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154	Himachal Pradesh	Paonta Sahib	88	84	102	117	129	120	2	Y	
155	Karnataka	Tumkuru	87	125	136	134	117	N/A	1	N	
156	West Bengal	Bardhaman	87	N/A	N/A	N/A	N/A	N/A	1	N	
157	Maharashtra	Pimpri-Chinchwad	86	82	105	102	93	86	1	N	
158	Odisha	Balasore	86	83	85	82	87	88	3	Y	
159	Maharashtra	Nashik	85	81	85	78	72	85	4	Y	
160	Odisha	Sambalpur	85	82	79	77	55	51	1	N	
161	Telangana	Warangal	85	70	70	58	52	50	2	N	
162	Chhattisgarh	Bhillai	84	97	108	109	108	106	4	Y	
163	Himachal Pradesh	Sunder Nagar	84	73	92	83	87	78	2	Y	
164	Maharashtra	Sangli	84	76	83	77	100	76	3	Y	
165	West Bengal	Rampurhat	84	92	N/A	N/A	N/A	N/A	1	N	
166	Tamilnadu	Madurai	83	67	76	64	46	41	3	N	
167	Telangana	Khammam	83	55	55	60	67	63	2	N	
168	Madhya Pradesh	Ujjain	83	75	90	93	97	79	4	Y	
169	Madhya Pradesh	Chhindwara	83	65	80	85	N/A	N/A	2	N	
170	West Bengal	Medinipur	82	N/A	N/A	N/A	N/A	N/A	1	N	
171	Telangana	Sangareddy	81	79	70	70	N/A	N/A	3	N	Y
172	Karnataka	Kolar	81	68	62	75	67	47	1	N	
173	West Bengal	Suri	81	92	N/A	N/A	N/A	N/A	1	N	
174	Punjab	Dera Baba	81	90	89	77	68	76	1	Y	
175	Telangana	Patancheru	81	78	78	85	95	91	1	Y	
176	Andhra Pradesh	Vijaywada	81	99	102	110	100	104	6	Y	
177	West Bengal	Jhargram	80	N/A	N/A	N/A	N/A	N/A	1	N	
178	Odisha	Konark	79	94	95	88	70	63	1	N	
179	Tamilnadu	Chennai	78	62	63	54	57	73	11	N	
180	West Bengal	Bolpur	78	92	N/A	N/A	N/A	N/A	1	N	
181	Andhra Pradesh	Vishakhapatnam	77	73	77	61	64	68	8	Y	
182	West Bengal	Bankura	77	92	N/A	N/A	N/A	N/A	1	N	
183	Karnataka	Bijapur	76	94	93	99	150	N/A	1	N	
184	Madhya Pradesh	Sagar	76	70	79	103	161	156	2	Y	
185	Tripura	Agartala	76	62	N/A	N/A	N/A	N/A	2	N	
186	Karnataka	Hubli-Dharwad	75	79	84	75	91	96	2	Y	
187	Jharkhand	Barajamda	75	N/A	N/A	N/A	N/A	N/A	1	N	
188	West Bengal	Purulia	74	N/A	N/A	N/A	N/A	N/A	1	N	
189	Maharashtra	Jaigaon	74	77	103	108	116	131	3	Y	
190	Maharashtra	Akola	72	127	126	128	135	133	3	Y	
191	Andhra Pradesh	Kakinada	72	66	64	62	56	59	3	N	
192	Assam	Sibsagar	72	81	75	71	90	121	2	Y	
193	Andhra Pradesh	Rajahmundry	72	65	64	62	64	68	1	N	Y
194	West Bengal	Balurghat	72	46	N/A	N/A	N/A	N/A	1	N	
195	West Bengal	Siliguri	72	59	N/A	N/A	N/A	N/A	1	N	
196	Andhra Pradesh	Srikakulam	72	70	71	73	69	76	3	N	Y
197	Andhra Pradesh	Anantapur	71	78	85	88	76	70	4	N	Y
198	Maharashtra	Solapur	71	64	74	75	76	83	2	Y	
199	Assam	Darangun	71	69	71	69	70	98	1	N	
200	Maharashtra	Navi Mumbai	71	105	118	125	151	135	6	Y	
201	Maharashtra	Aurangabad	70	83	92	83	85	84	3	Y	
202	Andhra & Nagar Hav	Baldevi	70	N/A	N/A	N/A	N/A	N/A	1	N	
203	Manipur	Imphal	70	29	29	N/A	N/A	N/A	1	N	
204	Andhra Pradesh	Eluru	70	74	70	77	121	115	2	N	Y
205	Maharashtra	Bhiwandi	69	68	66	N/A	N/A	N/A	3	N	
206	Telangana	Adilabad	69	65	63	N/A	67	61	1	N	
207	West Bengal	Malda	69	62	N/A	N/A	N/A	N/A	1	N	
208	Madhya Pradesh	Dewas	68	75	89	90	93	101	3	Y	
209	Himachal Pradesh	Manali	68	44	52	47	40	48	2	N	
210	Sikkim	Rangpo	68	53	54	N/A	N/A	N/A	1	N	
211	Goa	Goa	68	70	68	54	55	53	16	N	
212	Andhra Pradesh	Chittoor	68	69	62	67	65	51	2	N	Y
213	Himachal Pradesh	Una	67	66	70	81	77	93	2	N	
214	West Bengal	Raigunj	67	N/A	N/A	N/A	N/A	N/A	1	N	
215	Andhra Pradesh	Kurnool	66	82	69	82	77	76	4	Y	
216	Chhattisgarh	Raipur	65	103	148	189	329	305	2	Y	
217	Andhra Pradesh	Ongole	65	65	65	67	63	64	1	N	Y
218	Andhra Pradesh	Vizianagaram	65	72	85	74	69	63	3	N	Y
219	Karnataka	Bagalkote	65	54	59	N/A	N/A	N/A	1	N	
220	West Bengal	Alipurdwar	65	N/A	N/A	N/A	N/A	N/A	1	N	
221	Andhra Pradesh	Nellore	65	65	66	66	63	62	2	Y	
222	Odisha	Berhampur	64	61	58	54	72	75	1	N	
223	West Bengal	Jaipalguri	64	53	N/A	N/A	N/A	N/A	1	N	
224	Andhra Pradesh	Kadapa	64	74	68	70	78	70	3	N	Y
225	West Bengal	Coochbehar	64	57	N/A	N/A	N/A	N/A	2	N	
226	Himachal Pradesh	Parwanoo	63	65	70	61	67	69	2	Y	
227	Odisha	Rayagada	63	58	59	50	52	50	2	N	
228	Himachal Pradesh	Damtal	63	63	85	106	97	87	2	Y	
229	Madhya Pradesh	Nagda	62	71	64	56	69	105	3	N	
230	Chhattisgarh	Raigarh	62	80	N/A	N/A	N/A	N/A	2	N	
231	Assam	North Lakhimpur	61	N/A	N/A	N/A	N/A	N/A	1	N	

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232	Andhra Pradesh	Tirupati	60	63	59	62	N/A	44	2	N	
233	Himachal Pradesh	Shimla	60	59	64	69	51	49	1	N	
234	Telangana	Nizamabad	60	62	63	N/A	62	56	1	N	
235	Telangana	Nalgonda	60	60	62	76	94	72	2	Y	
236	Chhattisgarh	Korba	59	58	58	66	64	72	2	Y	
237	Karnataka	Mangalore	57	75	40	36	32	32	1	N	
238	Tamilnadu	Salem	57	52	51	54	63	62	1	N	
239	Kerala	Kochi	57	51	48	41	68	76	7	N	
240	Assam	Golaghat	56	56	83	124	63	101	1	N	
241	Assam	Tinsukia	56	70	80	119	57	99	3	N	
242	Sikkim	Singtam	56	51	44	N/A	N/A	N/A	1	N	
243	Andhra Pradesh	Guntur	55	69	88	100	79	75	2	Y	
244	Karnataka	Gulbarga	55	54	N/A	95	77	88	1	Y	
245	Assam	Bongaigaon	55	59	56	46	51	45	2	N	
246	Kerala	Kozhikode	55	47	51	49	46	48	2	N	
247	Assam	Dibrugarh	54	58	81	109	44	99	1	N	
248	Assam	Margherita	54	60	76	115	55	77	1	N	
249	Tamilnadu	Coimbatore	54	49	59	47	49	56	3	N	
250	Karnataka	Chitradurga	53	46	41	47	38	29	1	N	
251	Karnataka	Mysore	53	55	49	57	57	58	1	N	
252	Tamilnadu	Cuddalore	52	51	48	57	62	49	3	N	
253	Sikkim	Gangtok	52	40	28	N/A	N/A	N/A	2	N	
254	Tamilnadu	Mettur	52	42	53	49	53	58	2	N	
255	Kerala	Alappuzha	50	58	43	45	77	48	2	N	
256	Mizoram	Aizawl	50	52	60	44	43	49	5	N	
257	Assam	Silchar	50	49	58	72	80	135	2	Y	
258	Kerala	Thiruvananthapuram	49	49	53	55	51	54	4	N	
259	Kerala	Kollam	47	43	46	47	35	36	2	N	
260	Kerala	Kottayam	45	50	54	60	61	71	2	N	
261	Karnataka	Devanagere	44	50	54	51	51	67	2	Y	
262	Karnataka	Shimoga	44	36	42	36	42	51	1	N	
263	Kerala	Palakkad	44	44	41	47	39	39	1	N	
264	Puducherry	Puducherry	43	41	40	35	42	43	3	N	
265	Meghalaya	Khliehriat	43	44	47	36	42	36	1	N	
266	Chhattisgarh	Bilaspur	42	75	97	99	101	115	1	N	
267	Kerala	Thissur	41	56	54	48	55	46	1	N	
268	Puducherry	Karaikal	40	43	38	35	35	N/A	3	N	
269	Himachal Pradesh	Dharamshala	39	36	42	37	32	N/A	2	N	
270	Meghalaya	Shillong	38	39	56	60	64	65	4	N	
271	West Bengal	Darjeeling	36	56	N/A	N/A	N/A	N/A	1	N	
272	West Bengal	Kalimpong	36	N/A	N/A	N/A	N/A	N/A	1	N	
273	Meghalaya	Tura	35	38	31	30	38	38	1	N	
274	Kerala	Wayanad	34	43	39	37	36	42	1	N	
275	Sikkim	Pelling	34	22	20	N/A	N/A	N/A	1	N	
276	Karnataka	Hassan	33	31	26	25	25	26	1	N	
277	Kerala	Malapuram	31	32	37	44	43	37	1	N	
278	Kerala	Pathanamthitta	31	28	26	25	22	24	1	N	
279	Meghalaya	Nongstoin	31	36	33	26	28	24	1	N	
280	Sikkim	Chungthang	29	23	26	N/A	N/A	N/A	1	N	
281	Sikkim	Mangan	28	28	20	N/A	N/A	N/A	1	N	
282	Sikkim	Namchi	27	24	23	N/A	N/A	N/A	1	N	
283	Sikkim	Ravangla	27	23	22	N/A	N/A	N/A	1	N	
284	Mizoram	Champhai	27	25	30	34	46	58	2	N	
285	Mizoram	Kolasib	24	30	30	34	36	42	2	N	
286	Meghalaya	Dawki	23	28	35	36	44	42	1	N	
287	Mizoram	Lunglei	11	25	33	43	48	47	2	N	



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