

Post-Diwali pollution levels higher for 8 out of 11 capital cities in 2023 as compared to 2022

November 13, 2023: Unseasonal rain ahead of Diwali made the high pollution levels of several capital cities such as Delhi, Mumbai and Chennai dip just ahead of the festival. But the Supreme Court's firecracker ban was flouted in many places, and air pollution started to spike on the night of November 12th, and touched hazardous levels in quite a few places.

[NCAP Tracker](#) analysed PM 2.5 (fine particulate matter) data for 11 capital cities, viz. **Bengaluru, Bhopal, Chandigarh, Chennai, Delhi, Gandhinagar, Hyderabad, Lucknow, Mumbai and Patna**, for the day before Diwali, the day of Diwali and the day after Diwali (till 12 pm) for the years 2022 and 2023. The data was sourced from the Continuous Ambient Air Quality Monitoring Stations (CAAQMS) of the [Central Pollution Control Board](#) (CPCB).

Key Highlights:

1. On November 11, 2023 – **a day before Diwali this year** – eight of the 11 capital cities analysed, viz. Bengaluru, Bhopal, Chandigarh, Chennai, Delhi, Hyderabad, Lucknow and Mumbai, had **lower** PM 2.5 levels as compared to October 23, 2022, **the day before Diwali last year**. For the same days, Gandhinagar, Kolkata and Patna had levels that were **higher** in 2023 than in 2022.
2. On November 12, 2023, that is, **Diwali day**, only three cities – Bengaluru, Delhi and Gandhinagar – had PM 2.5 levels **lower** than those on Diwali in **2022**, that is, on October 24.
3. PM 2.5 levels on this Diwali and for the 12 hours after (till noon on November 13) were **above the Central Pollution Control Board's (CPCB) [daily average 'good' limit of 30 ug/m3](#) in all the cities that were analysed**.
4. Among the 11 cities, the **highest average** PM 2.5 level on the day of Diwali 2023 was observed in Patna. At **206.1 ug/m3**, the level is over 13 times more than the WHO's daily safe limit of 15 ug/m3.
5. On November 13 (from midnight to 12 pm), **Delhi recorded the highest** PM 2.5 average of **300.9 ug/m3** among all the cities analysed.
6. **Bengaluru recorded lower PM 2.5 averages in 2023 as compared to 2022** for the day before Diwali, Diwali day *and* the day after Diwali.
7. Among the 11 cities, the **highest spike** (recorded at 15-minute intervals) was seen in **Delhi**. It was at **999.5 ug/m3 at Pusa** on November 13 at 1:30 am. Several other capital cities also saw

extremely high PM 2.5 levels on this year's Diwali and the following day (November 13), from midnight to 12 pm. Please find more detailed data for the cities [here](#).

Average PM 2.5 Levels in 11 capital cities before, on and after Diwali in 2022 and 2023

City	2022			2023		
	Oct 23 (Diwali-1)	Oct 24 (Diwali)	Oct 25 (Diwali+1)	Nov 11 (Diwali-1)	Nov 12 (Diwali)	Nov 13 (Diwali+1)
	Daily average PM 2.5 levels in ug/m3					
Bengaluru	50.9	81.9	81.4	43.9	63.5	79.3
Bhopal	71.3	109.9	148.6	69.5	144.5	202.6
Chandigarh	64.2	83.9	92.3	58.5	118.8	121.8
Chennai	79.5	117.8	89.3	60.3	148.6	93.4
Delhi	129.6	180.9	166	93.1	143.8	300.9
Gandhinagar	48.1	89.6	126.7	60.2	53.2	91.1
Hyderabad	43.7	74.4	65.1	42.6	74.6	66
Kolkata	40.6	18.3	26.5	125.9	120.2	106.1
Lucknow	70.0	93.6	125.2	52.2	105.3	141.4
Mumbai	56.5	69.6	107.0	49.6	85.8	99.7
Patna	80.1	102.4	75.7	203.5	206.1	201.7
Note: Data for all days is from 12 am to 11:59 pm						
Source: Central Pollution Control Board						

Maximum PM 2.5 Levels in 11 capital cities before, on and after Diwali in 2022

City	2022		
	Oct 23 (Diwali-1)	Oct 24 (Diwali)	Oct 25 (Diwali+1)
Bengaluru	118	658	554
	Silk Board	Silk Board	Bapuji Nagar
Bhopal	191	730	939
	Paryavaran Parisar	Paryavaran Parisar	Paryavaran Parisar
Chandigarh	96.1	644	593
	Sector 53	Sector 22	Sector 53
Chennai	637	941.4	851.6
	Perungudi	Manali Village	Alandur Bus Depot
Delhi	370	964.8	986
	Jahangirpuri	IGI Airport (T3)	Patparganj
Gandhinagar	106.23	382.1	848.8
	Sector 10	Sector 10	Sector 10
Hyderabad	87	884.56	857.9
	IDA Pashamylaram	Kokapet	New Malakpet
Kolkata	87.5	60.3	110
	Ballygunge	Rabindra Bharati University	Rabindra Bharati University
Lucknow	157.3	833.9	325.9
	Talkatora District Industries Center	Kukrail Picnic Spot-1	Kukrail Picnic Spot-1
Mumbai	415.6	525.2	594.4
	Kandivali East	Chakala, Andheri East	Chakala, Andheri East
Patna	199.3	602.9	202.2
	DRM Office Danapur	DRM Office Danapur	Rajbansi Nagar

Source: Central Pollution Control Board

Maximum PM 2.5 Levels in 11 capital cities before, on and after Diwali in 2023

City	2023			
	Nov 11 (Diwali-1)	Nov 12 (Diwali)	Nov 13 (Diwali+1)	Time (Nov 13)
Bengaluru	127.3	325	188.4	01:00
	Shivapura_Peenya	Jayanagar 5th Block	RVCE-Mailasandra	
Bhopal	181	935	973	01:45
	Paryavaran Parisar	Paryavaran Parisar	Idgah Hills	
Chandigarh	150	923	529	01:45
	Sector 22	Sector 22	Sector 53	
Chennai	192.7	960.1	482	00:00
	Alandur Bus Depot	Manali	Velachery Res. Area	
Delhi	245	998.9	999.5	01:30
	Shadipur	North Campus DU	Pusa Delhi IMD	
Gandhinagar	312.9	356.3	536	01:30
	GIFT City - IITM	Sector 10	Sector 10	
Hyderabad	174.1	518.8	715.5	00:15
	Kokapet	Ramachandrapuram	New Malakpet	
Kolkata	213.57	467.8	589.3	01:15
	Bidhannagar	Fort William	Fort William	
Lucknow	153.1	595.24	697	00:00
	Lalbaugh	Lalbagh	Lalbagh	
Mumbai	197	805.6	841.6	00:00
	Vile Parle West	Chembur	Kherwadi, Bandra East	
Patna	530.9	941.2	902.9	01:15
	Samanpura	Muradpur	Govt. High School Shikarpur	

Source: Central Pollution Control Board

Note: November 13 spikes have been calculated till 12 pm

Quotes

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Already poor average PM 2.5 levels crossed limits due to unstopped burning of firecrackers not just in Delhi but in many cities across the country. Our data shows that the widespread bursting of crackers took away gains that were made due to the rains, thereby also bringing any useful impact of regulation down to its knees for at least a 2-3 day period till the hazardous levels settle.

A Supreme Court ban in Delhi NCR was flouted fully and shows that a different approach where the centre and state must work together is needed. We also need to think of solutions to those unwilling to move in their mindset - making sure that the cracker industry itself is phased out over the next 2-3 years rather than making it a drastic shutdown. Stemming supply is the only way to asphyxiate demand in this case.

In other countries, those responsible for heavily polluting sources have been put behind bars. The meteoric rise of PM 2.5 levels during the last two days in a city like Mumbai shows firecrackers revelry

has taken over. While these are spikes that last only for a few hours or days, such high levels of air pollution add up to the exposure burden on human health, which is already high in Indian cities. Delhi and other major cities must not continue to bear the burden of public health in the name of hollow support for traditions. Instead, we can look at examples like Ayodhya, which broke a world record in lightning-up lamps. Or could there be community fireworks for those who want?

About NCAP Tracker

[NCAP Tracker](#) is a joint project by [Climate Trends](#) and [Respirer Living Sciences](#) to create an online hub for the latest updates on India's clean air policy, the National Clean Air Programme (NCAP). It is designed to track India's progress in achieving the now-revised 2026 clean air targets set under the NCAP. The NCAP Tracker enables this by compiling and evaluating various kinds of air quality data and closely tracking the effectiveness of the clean air policy. The tracker compiles and analyses information on air quality and budget allocation that is publicly available or provided by the Government of India.

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