

Breathing in unhealthy air

The WHO recently updated its air pollution guideline limits from the standards set in 2005. The average 24-hour concentration of PM_{2.5}* has been revised downwards to 15 μm^3 from 25 μm^3 . In India, according to the National Ambient Air Quality Standards (NAAQS), last revised in 2009, the average daily PM_{2.5} limit is much higher at 60 μm^3 . In 2021, in a majority of the Indian cities, pollution levels exceeded the WHO's 2005 limits on most days. The number of cities which flout the guideline limits increases further if the WHO's current standards are considered. Worryingly, deaths attributable to higher pollution levels are increasing in India.

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Average daily PM_{2.5} levels were more than NAAQS for over half of 2021 in Delhi



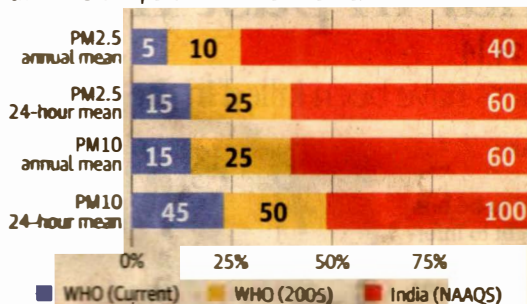
In Chennai and Hyderabad the pollution levels were below the new WHO standards for most of 2021



Deaths due to PM_{2.5} exposure in India have risen significantly in the past decade, while decreasing in other BRICS nations

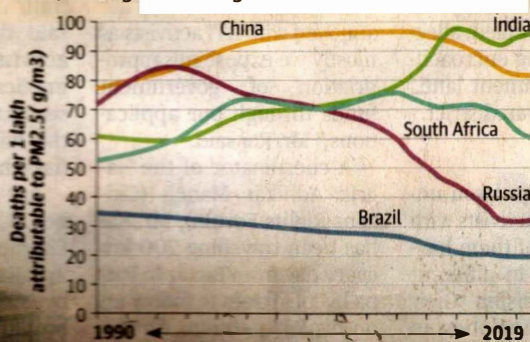
New standards

While the WHO's latest global air pollution standard allows for an average of only 15 μm^3 of PM_{2.5} concentration in a 24-hour period, India's permissible limit is 60 μm^3 . A look at how other parameters set by the WHO compare with Indian standards



Rising fatalities

The chart depicts the number of deaths, standardised according to age, recorded due to PM_{2.5} exposure per one lakh people in BRICS countries between 1990 and 2019. Such deaths are rising only in India among the five nations. As many as 95.6 deaths per one lakh people were recorded in India due to PM_{2.5} exposure in 2019, the highest among the countries shown



Air quality in cities

The table shows the % of days on which the average daily PM_{2.5} levels was ≤ 15 (new WHO limit), >15 but ≤ 25 , >25 but ≤ 60 and over the NAAQS limit (>60). Daily pollution data between Jan. 1, 2021 and Sep. 27, 2021 were considered. In 2021, Delhi's ITO station recorded an average daily PM_{2.5} concentration of more than 60 g/m³ on 68% of the days, while only 2.2% of such days were observed at Velachery in Chennai

Station	≤ 15	>15 but ≤ 25	>25 but ≤ 60	>60
ITO, Delhi	0.0	1.7	30.3	68.1
Anand Vihar, Delhi	0.0	0.8	32.5	66.8
Dwarka, Sector 8, Delhi	0.0	7.0	45.0	48.0
Vikas Sadan, Gurugram	0.4	3.3	49.1	47.2
Shikarpur, Patna	1.1	17.7	36.9	44.3
Gomti Nagar, Lucknow	4.5	17.1	46.8	31.6
Bidhannagar, Kolkata	11.6	19.0	39.9	29.5
Kunjaban, Agartala	33.5	14.5	22.7	29.4
Adarsh Nagar, Jaipur	4.4	9.6	62.2	23.7
Maninagar, Ahmedabad	0.0	5.5	70.9	23.6
PWD Junction, Kohima	29.4	19.8	32.9	17.9
PA Univ, Ludhiana	1.9	10.0	70.5	17.7
Talcher	9.4	18.0	56.9	15.7
TT Nagar, Bhopal	10.3	32.5	47.2	10.0
Vyttila, Kochi	27.7	29.9	32.5	10.0
Central Univ, Hyderabad	43.3	10.4	38.2	8.2
Sikulpuikawn, Aizawl	59.9	10.3	21.8	8.0
Colaba, Mumbai	16.2	28.7	47.7	7.4
Kurichi, Coimbatore	0.0	6.9	86.2	6.9
Velachery, Chennai	53.9	14.4	29.5	2.2
Silk Board, Bengaluru	34.7	23.6	40.2	1.6
Karve Road, Pune	22.1	26.4	50.0	1.4
Lumpyngngad, Shillong	67.3	14.2	17.9	0.6
Thiruvananthapuram	11.2	49.0	39.4	0.4

*particulate matter with diameter less than 2.5 microns
Source: WHO, NAAQS, CPCB, State of Global Air

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