Delhi Air Quality Daily Report

28 July 2026 · Analysis window: 10 AM 27th July to 10 AM 28th July · Compared with last year: avg of 21st Jul to 4th Aug 2025 (same +/-7 days), matched stations

Delhi's average AQI today is **83 (Satisfactory)**, -3 points vs last year. **+9 points of that survive weather correction**: the part the city's own pollution produced.

"मौसम हटाने पर भी दिल्ली की हवा लगातार 59 दिन से पिछले साल से बदतर है। एक दिन भी राहत नहीं। यह टिकाऊ प्रदूषण है, मौसम नहीं।"

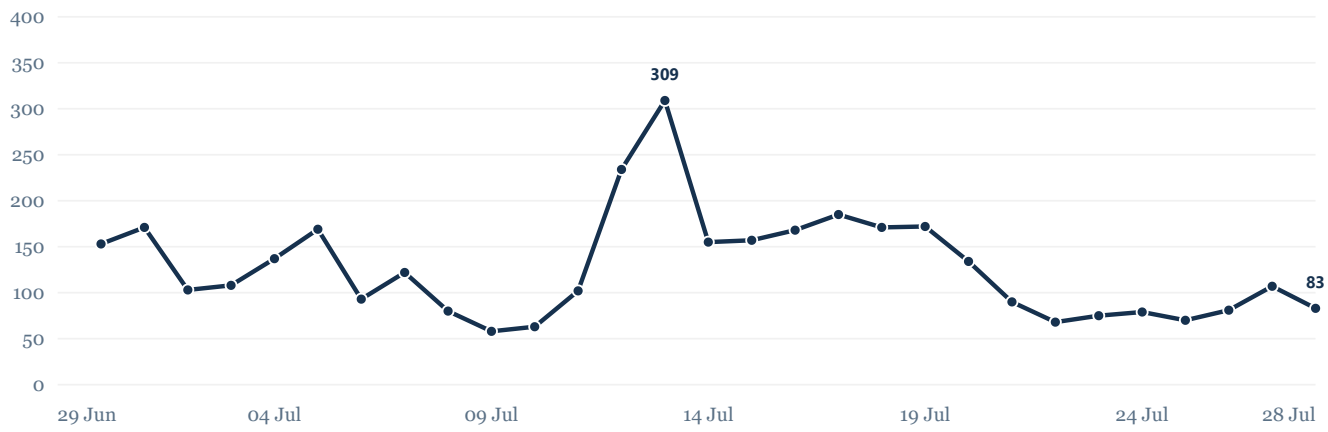
83
City average AQI (CPCB): **Satisfactory**

87
Weather-corrected AQI (the level the city's own pollution justifies)

+9
AQI points vs last year **after weather correction**: the real change

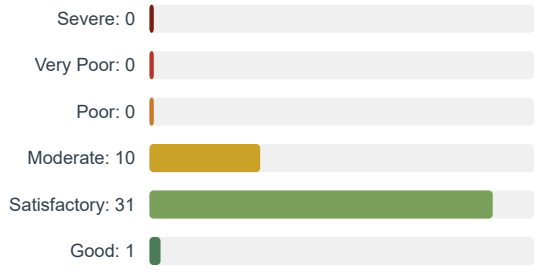
82
AQI where most people live (population-weighted), close to the plain average

1 · The last 30 days



Dashed grey = days where no city AQI could be formed (1 of 30 days). On those days the particle monitors reported normally, but the gas channels the AQI also depends on were down, and the index cannot be computed without them.

Stations by air-quality category (count of stations, today)



How to read this report

The **weather-corrected** number removes rain, wind and mixing effects using a model trained on five years of hourly data. It shows what the city's own emissions justify. A gap between the two numbers is the weather's contribution, in either direction.

2 · Station detail

The observed worst station today is **Pusa** (AQI 170, Moderate, driven by Ozone). Observed peaks on a single day can be weather-driven; the weather-corrected hotspot below is the sturdier fact.

> **Against the world standard:** even after removing the weather's help, Delhi's fine-particle level (PM2.5) is **34 micrograms per cubic metre (µg/m³), which is 2.3× the WHO safe limit of 15**. The worst weather-corrected hotspot is **Wazirpur** at 49 µg/m³, which is **3.3× the WHO limit**.

> **How widespread:** after weather correction, **29 of 29** comparable stations are worse than last year; the typical station is 9 index points higher. This is a city-wide rise, not a few bad spots.

Worst stations today (observed CPCB AQI): top 8 of 42 reporting

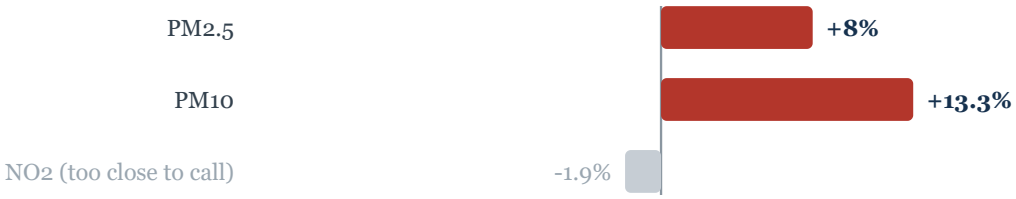
Station	AQI	Category	Main pollutant
Pusa	170	Moderate	Ozone
Wazirpur	150	Moderate	PM10
IGI Airport (T3)	130	Moderate	Ozone
Alipur	123	Moderate	PM10
Dwarka-Sector 8	122	Moderate	PM10
Jawaharlal Nehru Stadium	116	Moderate	CO
Anand Vihar	114	Moderate	PM10
North Campus	106	Moderate	Ozone

Station AQI = CPCB bulletin method (the worst pollutant sub-index at each station). Full station list in the day's data file.

3 · Weather or policy? The attribution

Observed change vs last year: -3 AQI points. After weather correction the real, policy-relevant change is **+9 points**: pollution the city itself produced.

Real (weather-corrected) change vs last year, by pollutant



Bars right of the line = genuinely worse than last year after weather correction; left = genuinely better. Same-station comparison, ±7-day 2025 baseline.

The weather evidence

Weather driver	Last year (same weeks)	Today	Fairness check
Rain	4.4 mm	3.7 mm	last year was unusual for the season, so we don't lean on this one
Wind speed	5.8 km/h	11.3 km/h	last year was unusual for the season, so we don't lean on this one
Mixing height	509.6 m	567.3 m	last year was unusual for the season, so we don't lean on this one
Inversion	1.9 °C	no data	typical, a fair comparison
Temperature	29.9 °C	30.4 °C	typical, a fair comparison

“Fairness check” compares last year's baseline weather with the 2021 to 2024 history for these same calendar days; a comparison is never built on a freak baseline.

> **Honesty box:** On days it has never seen, the weather-correction model explains about 38% of the variation, so we treat its outputs as estimates, not exact points. The weather-corrected year-on-year change for fine particles is measured to within roughly ±1 percentage points of sampling error, before model uncertainty. Gas data carries documented unit-inconsistency (peer-reviewed international research, 2025); we lead on the reliable PM2.5/PM10. Percentages compare the same stations in both years; single-day observed spikes are never used as the headline.

4 · Weather's share vs the city's own pollution in 2026 so far

This is the most important picture in the report: it separates **how much of Delhi's change in pollution was the weather** from **how much was the city's own doing** (its traffic, dust, burning and industry).

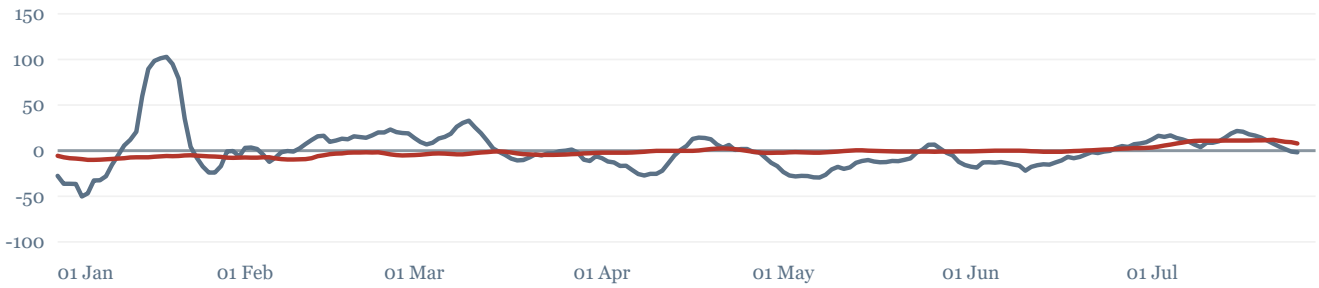
What the two lines are. Both are **residuals**: this year's level minus the average of the same ±7 days last year, in µg/m³. The weather our model removes is wind, rain, temperature and mixing height, so what the **red line** leaves behind is the city's own emissions. Every chart carries its own key, directly under its heading.

Why it matters. A calm, still year makes the air look worse and a windy, wet year makes it look better; neither is anyone's policy, so raw numbers flatter or punish a government for the sky's luck. The red line is the accountability signal: it answers "did the city's own pollution actually go up or down?" The **vertical gap between the lines is the weather's estimated share** of the change. When the red line sits *above* the blue, the weather was *helping* and hiding a real worsening; when it sits below, the weather was making a genuine improvement look worse than it was.

What de-weathering is pointing to here. Read the red line's shape across the year: where it climbs, the city's own pollution rose regardless of the weather. That is the part policy is responsible for.

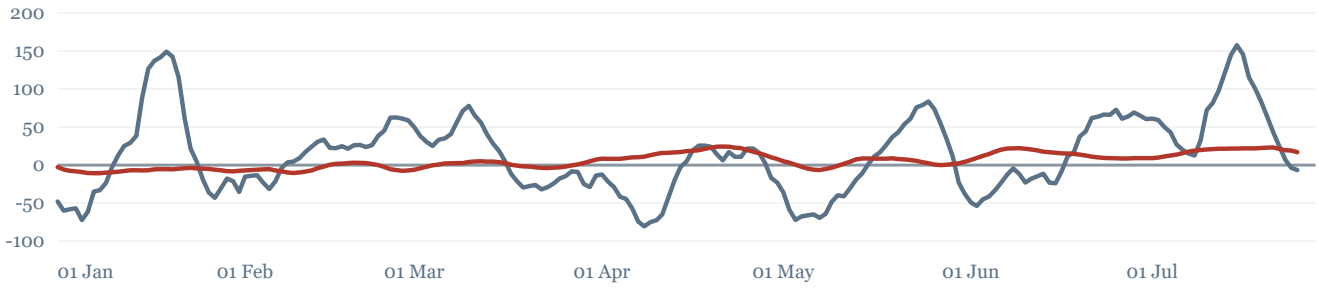
PM2.5 residual: this year minus the same days last year (µg/m³, 7-day average)

■ Blue: the observed actual residual, weather included. ■ Red: the de-weathered residual, weather removed.
Above the zero line, pollution was higher than last year; below the zero line, it was lower.



PM10 residual: this year minus the same days last year (µg/m³, 7-day average)

■ Blue: the observed actual residual, weather included. ■ Red: the de-weathered residual, weather removed.
Above the zero line, pollution was higher than last year; below the zero line, it was lower.



This chart is per pollutant in µg/m³ and is **retrospective** (recomputed now with our current model); the report's headline is today's city AQI in index points, on the model as it stood today. The quantities, windows and engines differ, so the newest point here need not equal the headline.

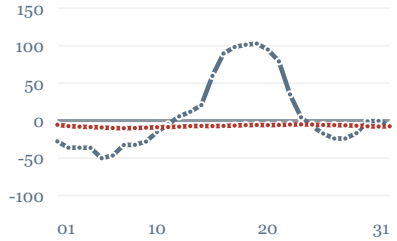
'Last year' is the average of the same ±7 days in 2025 (a 15-day average, not a single day). This year view is a **retrospective re-estimate**: every 2026 day was recomputed now with our current weather-correction model (trained through 2026-07-24). These are **not** the figures we published on those days. One consistent model removes week-to-week refit jumps so the whole year reads on one basis; the trade-off is that early-2026 points use a model that also saw later-2026 data (a look-ahead re-estimate, fine for a descriptive year view but not a forecast). Where a day's archived figure differs, the archived figure is the one published that day: 10 July was published at about 37 µg/m³ PM2.5 de-weathered on that day's model; this retrospective line puts it near 44. The red line is a model estimate (typical margin ≈±10 µg/m³ PM2.5 / ±15 µg/m³ PM10 on these weekly averages), so the gap between the lines is an estimate too. Additionally smoothed with a 7-day centered average (needs ≥3 reconstructed days; 208 days existed, 208 usable after the full-network floor).

5 · PM2.5 residual, month by month (2026): this year's level minus the same days last year, in µg/m³

■ Blue: the observed actual residual, weather included. ■ Red: the de-weathered residual, weather removed.

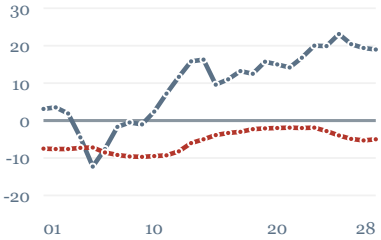
Above the zero line, pollution was higher than last year; below the zero line, it was lower.

January · scale ±110



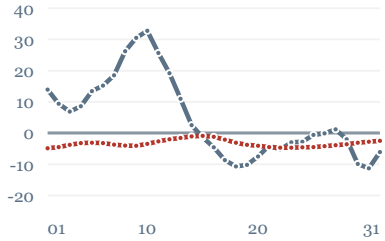
within the ±11 µg/m³ margin, but ran lower than last year on 31 of 31 days (stations 41)

February · scale ±30



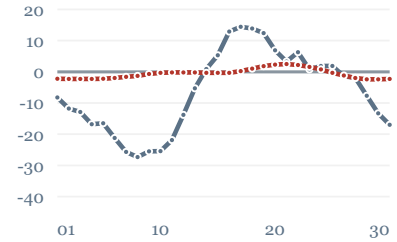
within the ±11 µg/m³ margin, but ran lower than last year on 26 of 28 days (stations 41 to 44)

March · scale ±40



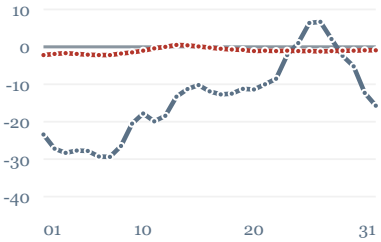
about level with last year, within the ±10 µg/m³ model margin (stations 46 to 47)

April · scale ±30



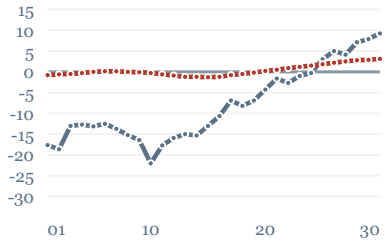
about level with last year, within the ±10 µg/m³ model margin (stations 46 to 47)

May · scale ±30



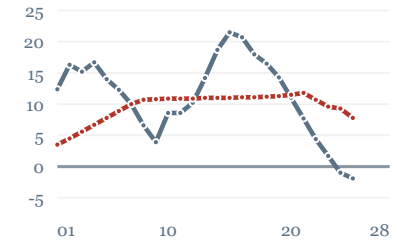
about level with last year, within the ±10 µg/m³ model margin (stations 47 to 54)

June · scale ±30



about level with last year, within the ±10 µg/m³ model margin (stations 52 to 54)

July · scale ±30



within the ±10 µg/m³ margin, but ran higher than last year so far on 27 of 27 days (stations 46 to 54)

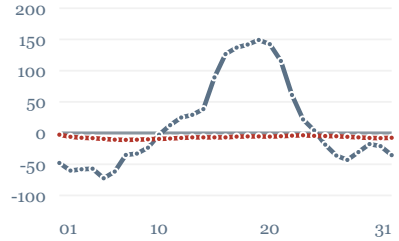
Each small chart is one calendar month; the 7-day average is centered and continuous, so a month's first and last few days blend into the neighbouring months. Blue = the observed actual residual, red = the city's own (de-weathered) residual, both against the same ±7 days in 2025; above the zero line is worse than last year, below it is better. The current month's last three days are not shown until they can be centered (a centered average needs three days either side).

6 · PM10 residual, month by month (2026): this year's level minus the same days last year, in µg/m³

■ Blue: the observed actual residual, weather included. ■ Red: the de-weathered residual, weather removed.

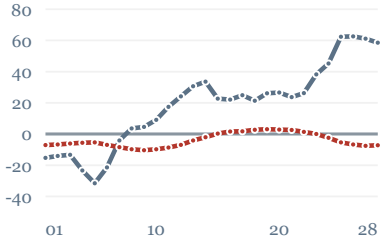
Above the zero line, pollution was higher than last year; below the zero line, it was lower.

January · scale ±150



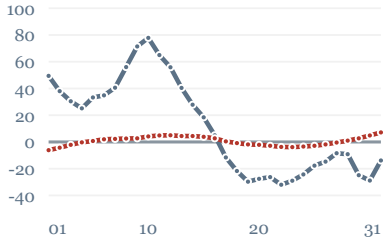
about level with last year, within the ±17 µg/m³ model margin (stations 40)

February · scale ±70



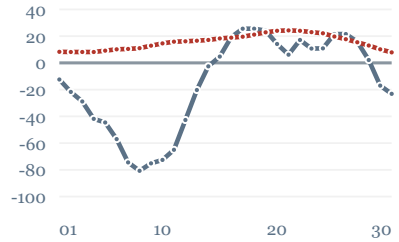
about level with last year, within the ±17 µg/m³ model margin (stations 40 to 43)

March · scale ±80



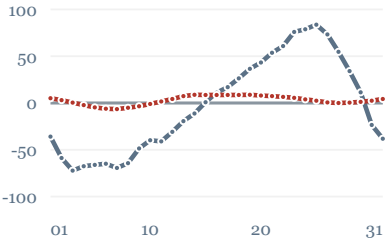
about level with last year, within the ±16 µg/m³ model margin (stations 45 to 46)

April · scale ±90



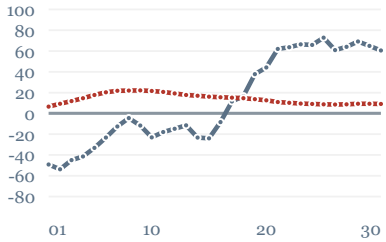
within the ±16 µg/m³ margin, but ran higher than last year on 30 of 30 days (stations 45 to 46)

May · scale ±90



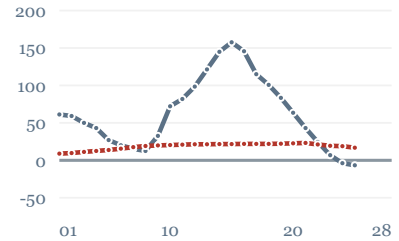
about level with last year, within the ±15 µg/m³ model margin (stations 45 to 53)

June · scale ±80



within the ±15 µg/m³ margin, but ran higher than last year on 30 of 30 days (stations 51 to 53)

July · scale ±160



the city's own pollution averaged about +18 µg/m³ above last year so far, which clears the ±15 model margin (stations 45 to 53)

Each small chart is one calendar month; the 7-day average is centered and continuous, so a month's first and last few days blend into the neighbouring months. Blue = the observed actual residual, red = the city's own (de-weathered) residual, both against the same ±7 days in 2025; above the zero line is worse than last year, below it is better. The current month's last three days are not shown until they can be centered (a centered average needs three days either side).

Annexure A · Every reporting station

All 42 stations that reported in today's window, worst first. Station AQI = CPCB bulletin method (the worst pollutant sub-index at the station).

#	Station	AQI	Category	Main pollutant
1	Pusa	170	Moderate	Ozone
2	Wazirpur	150	Moderate	PM10
3	IGI Airport (T3)	130	Moderate	Ozone
4	Alipur	123	Moderate	PM10
5	Dwarka-Sector 8	122	Moderate	PM10
6	Jawaharlal Nehru Stadium	116	Moderate	CO
7	Anand Vihar	114	Moderate	PM10
8	North Campus	106	Moderate	Ozone
9	IIT Delhi	104	Moderate	PM10
10	Nehru Nagar	102	Moderate	CO
11	Rohini	99	Satisfactory	PM10
12	Mundka	97	Satisfactory	PM10
13	Sirifort	91	Satisfactory	PM10
14	Ashok Vihar	90	Satisfactory	PM10
15	Pusa	84	Satisfactory	PM10
16	Burari Crossing	82	Satisfactory	Ozone
17	Chandni Chowk	82	Satisfactory	PM10
18	Najafgarh	77	Satisfactory	CO
19	JNU	77	Satisfactory	PM10
20	CRRI Mathura Road	74	Satisfactory	PM10
21	Bawana	74	Satisfactory	PM10
22	NSUT Jaffarpur	74	Satisfactory	CO
23	Commonwealth Sports Complex	74	Satisfactory	Ozone
24	Narela	72	Satisfactory	PM10
25	Sonia Vihar	72	Satisfactory	PM10
26	Mandir Marg	71	Satisfactory	CO

Annexure A · Every reporting station (continued)

#	Station	AQI	Category	Main pollutant
27	R K Puram	70	Satisfactory	PM10
28	ITO	68	Satisfactory	CO
29	Aya Nagar	67	Satisfactory	Ozone
30	Vivek Vihar	67	Satisfactory	PM10
31	IMD Lodhi Road	66	Satisfactory	Ozone
32	Punjabi Bagh	66	Satisfactory	PM10
33	Sri Aurobindo Marg	65	Satisfactory	PM10
34	Okhla Phase-2	64	Satisfactory	PM10
35	Cantonment Area	59	Satisfactory	PM10
36	DTU	58	Satisfactory	PM10
37	IGNOU_Maidan Garhi	58	Satisfactory	PM10
38	IHBAS	56	Satisfactory	PM10
39	Patparganj	56	Satisfactory	PM10
40	Shadipur	54	Satisfactory	CO
41	Dr. Karni Singh Shooting Range	54	Satisfactory	PM10
42	Major Dhyan Chand National Stadium	48	Good	PM10

Annexure B · Pollutant-by-pollutant (all seven)

Every pollutant we track is listed below, observed AND weather-corrected. That includes the ones we deliberately never build claims on, so the reader sees the whole picture and the rules we bind ourselves with.

Pollutant	Today (obs, µg/m³*)	Today (weather-corr.)	Obs. change vs last yr	Weather-corr. change [range]	Model skill	Role in our claims
PM2.5	28.5	34.5	-2.8%	+8% [+7.3 to +9.2]	38%	Claims-eligible
PM10	74.5	87.4	-6.8%	+13.3% [+12.5 to +14.1]	37%	Claims-eligible
NO2	23.2	27	-7.2%	-1.9% [-11.1 to +9.9]	24%	Claims-eligible
NOx	18.1	22.3	-13.8%	-0.9% [-9.8 to +12.1] (not usable for claims)	35%	Observed context only
SO2	9.8	9.2	+6.6%	-6% [-15.3 to +6.7] (not usable for claims)	9%	Observed context only
CO	1079.2	1015.7	+23.6%	+7.7% [-0.1 to +21.6] (not usable for claims)	21%	Observed context only
Ozone	36.1	32.3	-14.6%	-1% [-3.7 to +1.6] (not usable for claims)	36%	Observed only, never a claim

*Concentrations are µg/m³, except NOx, which the monitors report in ppb. CO is µg/m³ too, not mg/m³. “Model skill” = share of variation the weather model explains on days it has never seen (honest, out-of-sample). Ranges are the model's sampling ranges; a range spanning zero means “too close to call”.

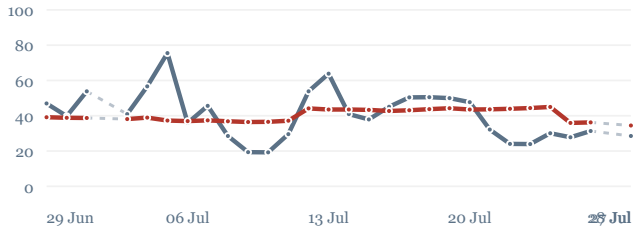
PM2.5: weather-corrected claims allowed (model skill adequate) · **PM10:** weather-corrected claims allowed (model skill adequate) · **NO2:** direction reliable (same stations + units both years); absolute levels carry the units caveat · **NOx:** not part of CPCB's AQI, and the weather model is weak here, so we report observed facts only · **SO2:** the weather model is too weak to separate weather from policy, so we report observed facts only · **CO:** the weather model is too weak to separate weather from policy, so we report observed facts only · **Ozone:** rising ozone chemically signals falling traffic NO2 (standing rule: excluded so it can never be spun as 'transport improved')

Above the world standard today: PM2.5: 40 of 42 stations above the WHO daily limit as observed; even after weather correction, 42 of 42 remain above it. **PM10:** 41 of 42 stations above the WHO daily limit as observed; even after weather correction, 42 of 42 remain above it. (Weather-model matched panel.)

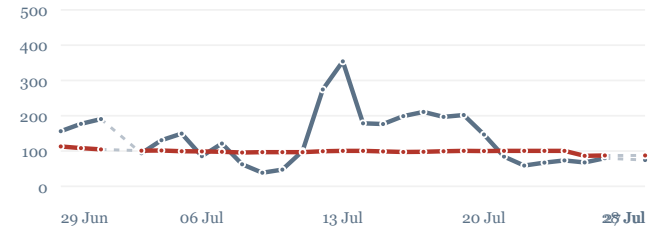
Annexure C · 30-day trends: levels, not residuals

These are levels, not residuals. These lines plot the actual daily concentration, so there is no zero line to read: higher on the chart means more pollution that day. **Blue** = the observed actual level, weather included. **Red** = the de-weathered level, which is what the city's own emissions justify once the weather is taken out. Dashed pale bridges = days without a model run. µg/m³ (NOx in ppb); 24h city means to 10 AM, except CO and Ozone, which are 8-hour maxima.

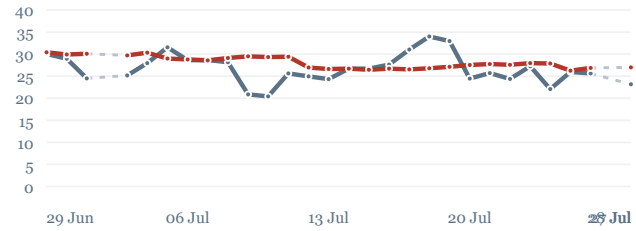
PM2.5 · daily level, not a residual



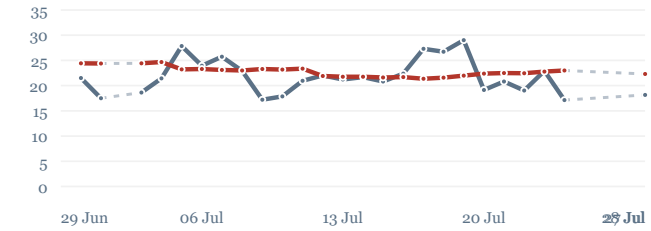
PM10 · daily level, not a residual



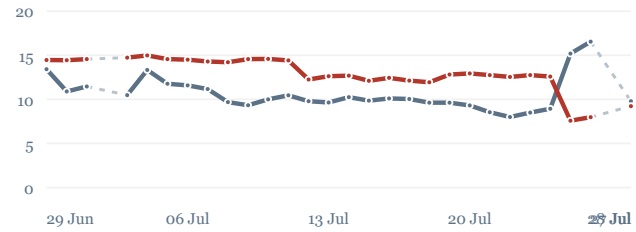
NO2 · daily level, not a residual



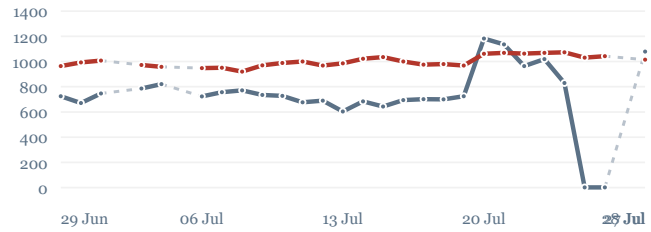
NOx · daily level, not a residual



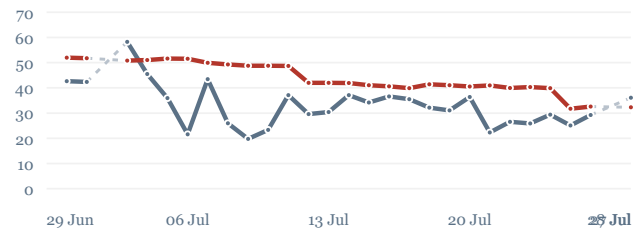
SO2 · daily level, not a residual



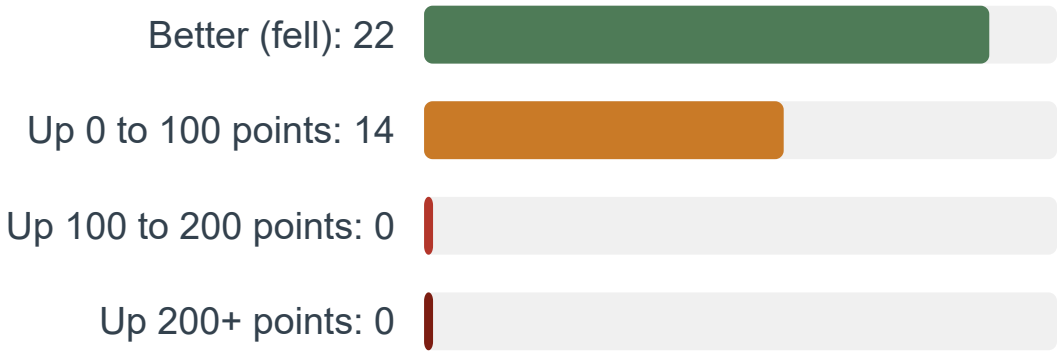
CO · daily level, not a residual



Ozone · daily level, not a residual



How the 36 matched stations moved vs last year (AQI points)



Annexure D · The weather evidence, in full

Each driver's value today, in last year's baseline window, and against the 2021 to 2024 normal for these same calendar days. “z” measures how unusual last year's baseline was (beyond ±1.5 = unusual → we don't rest comparisons on that driver).

Driver	Last year (same weeks)	Today	2021 to 2024 normal	z	Verdict
Rain	4.4 mm	3.7 mm	9.7	-2.35	unusual last year, so not leaned on
Wind speed	5.8 km/h	11.3 km/h	8.9	-3.05	unusual last year, so not leaned on
Mixing height	509.6 m	567.3 m	441.2	1.82	unusual last year, so not leaned on
Inversion	1.9 °C	no data	2.7	-0.98	typical and fair
Temperature	29.9 °C	30.4 °C	29.1	0.76	typical and fair
Wind direction	S (194 deg)	SE (137 deg)	156	1.17	typical and fair

Weather: ERA5/Open-Meteo hourly, aggregated over the same 24h-to-10AM window as the air data. Inversion: Safdarjung soundings (when current).

Annexure E · How this report is made

Where the numbers come from

Air readings come from the Central Pollution Control Board's station network in Delhi, of which 42 stations reported in today's window (24 hours ending 10 AM). A station's AQI is the CPCB bulletin method: the worst single-pollutant sub-index at that station.

How we compare with last year, and why the window is 15 days

“Last year” is never a single day: it is the average of the same date ±7 days of 2025 (15 days), using only stations present in both years (36 matched today). There is a firm reason for the window. Delhi's day-to-day air is driven by weather systems (passing western disturbances, stagnant high-pressure spells and the mixing they control) that come and go every three to seven days; a 15-day window spans two to three of those cycles, so no single storm, calm night or shower can define “normal”. Because neighbouring days are correlated, the 15 days act like about seven independent readings, enough to cut the baseline's one-day noise roughly two-and-a-half-fold, while staying narrow enough to stay inside the same pollution season (a month-long window would blur the sharp changes at the monsoon's arrival and the late-autumn crop-burning surge). A single-date comparison would be more sensitive to one day's weather, not less, so the window is deliberately the harder-to-game choice: the same “anomaly from normal” method used for a temperature “departure from normal”. One honest limit: festival and crop-burning emissions are real pollution and stay in the numbers by design, so where a moving festival like Diwali falls at different calendar positions across the two years, its spike can sit inside one year's window and not the other's. Comparisons for October and November therefore carry that caveat.

What “population-weighted” means: the technical detail

Delhi's monitors are not spread evenly over its people: the leafy centre has many stations covering few residents, while single outer-Delhi stations stand for lakhs. A plain average therefore over-hears the well-monitored centre. The population-weighted figure fixes this: the city is divided into zones, one per station. Each zone is the part of Delhi closest to that station (a Voronoi map of the 39 active monitors, clipped to the NCT boundary). Each zone's population is estimated from the 70 Assembly Constituencies: the 2025 electoral rolls (≈15.61 million electors, from ECI turnout data) scaled by one ratio to the official 2025 NCT population projection (20.94 million, Registrar General of India), split by area where an AC straddles zones. A station's weight is its zone's share of Delhi's population; each day the weights of the stations that actually reported are re-scaled to sum to one, and the city figure is the weight-multiplied average. Honest limits: residents without voter registration (informal settlements) are under-counted by the elector scaling; stations added after March 2026 (e.g. JNU, Talkatora Garden) are not yet in the zone map, so they count in the plain average but not the weighted one; and no weighting can fix roadside-vs-residential siting or a monitor's own calibration.

Annexure E · How this report is made (continued)

What “weather-corrected” means

A machine-learning model (random forest), trained on five years of hourly data, learns how wind, rain, temperature and mixing height move pollution. Subtracting that effect shows what the city's own emissions justify. Honesty: on days it has never seen, the model explains about 38% of the variation, so we treat outputs as estimates, quote ranges, and never claim precision the model doesn't have.

The fairness check

Before we cite any weather driver, last year's baseline weather is compared with the 2021 to 2024 history for the same calendar days. If last year was freakish for that driver, we don't build an argument on it. That holds in either direction.

The rules we bind ourselves with

The headline always states the WORSE of the observed and weather-corrected numbers (never the flattering one). One number, one engine: the same quantity is never quoted from two sources. A change whose range spans zero is “too close to call”, whether it helps us or hurts us. Gas levels are never the basis of a claim (documented unit inconsistencies); gas directions may be cited when statistically clear. Ozone is the exception: it rises when traffic emissions fall, and is therefore permanently excluded from our claims.

Words used

AQI: the air-quality index, which runs from 0 to 500, where higher is worse (0 to 50 is ‘Good’, 301 to 400 is ‘Very Poor’, and over 400 is ‘Severe’). µg/m³: micrograms per cubic metre, the weight of pollutant in each cubic metre of air. Range: the span within which the true value very likely lies.

Report auto-generated daily from the same data files as the video, so the two can never disagree. Reviewed by the design panel on 13 July 2026.