

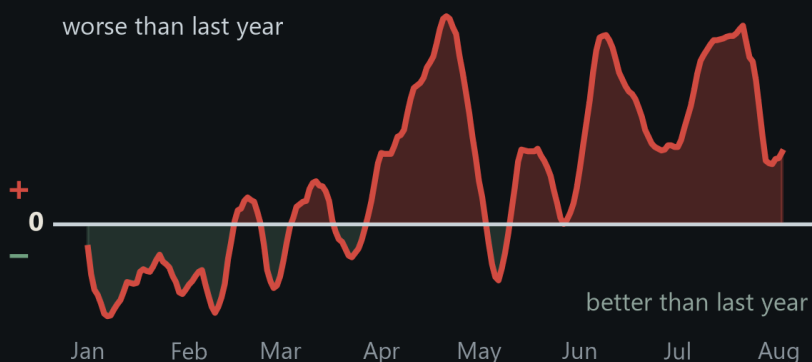
A SUBMISSION TO THE DEPARTMENT-RELATED PARLIAMENTARY
STANDING COMMITTEE ON SCIENCE AND TECHNOLOGY, ENVIRONMENT,
FORESTS AND CLIMATE CHANGE

19x

the World Health Organization guideline, in the year the Government called a record

Delhi's 2025 annual PM_{2.5} was about 96 micrograms per cubic metre. The guideline is 5. The celebrated fall does not survive weather correction. Once the weather is removed, the change cannot be told apart from no change at all.

PM₁₀ in 2026 against the same days of 2025, weather removed



Delhi's own PM₁₀ in 2026, against the same days of 2025, with the weather removed. Above the line means worse than last year.

286 / 365

**DAYS WORSE THAN
'SATISFACTORY'**

in 2025, the year the Government
called its best.

67

**CONSECUTIVE DAYS,
WEATHER REMOVED**

PM₁₀ above the same days of last
year, since 30 May 2026.

0 / 3

**ATTRIBUTION TESTS
PASSED**

no policy is credited with a real cut
in what Delhi breathes.

Delhi's air remains a public-health emergency

5 August 2026 · the evidence behind the 2025
'record', and the record since

Ex. Union Cabinet Minister,
Housing and Urban Poverty Alleviation, Govt. of India
Former MoS (Independent Charge)
Sports & Youth Affairs, Govt of India
Former MoS Home Affairs, Govt. of India
Former MoS Urban Development, Govt. of India



Former Speaker Delhi Assembly
Former Cabinet Minister Govt. of NCT, Delhi
Power, Transport & Tourism

Ajay Maken

Member of Parliament

Member - Department - Related Parliamentary Standing Committee on Home Affairs (Govt. of India)
Member, Consultative Committee for the ministry of Housing and Urban Affairs (Govt. of India)

A message from Ajay Maken, Member of Parliament

Delhi's air remains a public-health emergency: a synopsis of the submission that follows.

Clean air is a fundamental right, not a privilege. This submission holds that right up against the official claim that Delhi's air improved in 2025.

On 31 December 2025 the Commission for Air Quality Management announced a "record" and a "marked improvement". **Our team examined the underlying data independently**, on the Government's own monitoring record, with the weather removed by machine-learning models trained on years of hourly readings. A kind winter must not be mistaken for good policy. What we found is set out below, and in full in the pages that follow.

One thing is not in dispute. **Every published figure reproduces**. The index of 201, the fine-particle figure of 96 micrograms, the count of 79 clean-air days: all of them check out, to within about three micrograms. This submission says so on its own pages. The disagreement is about what those figures mean.

Nine findings, in brief.

1. Even in its best year, Delhi breathed air about **nineteen times** the World Health Organization guideline, and **286 of its 365 days** were worse than "Satisfactory".
2. **The celebrated fall does not survive weather correction**. Once the weather is removed, the change cannot be told apart from no change at all.
3. **The headline rests on one freak month**. January 2024, the month 2025 is measured against, was the stillest January in eight years.
4. **The GRAP season shows nothing**. July to December did not improve on any basis, and October to December was worse.
5. **December 2025 was the most polluted December on our corrected record**. Still winds explain only about half of that spike.
6. **Nitrogen dioxide worsened, and none of it is weather**. Correction makes the rise larger, not smaller.
7. **Cities with none of Delhi's policies improved just as much**. Lucknow, Kanpur and Jaipur moved the same way in the same year.
8. **Three pre-registered tests credit no policy** with a real cut in the pollution Delhi actually breathes.
9. **Since the claim, the air has got worse**. Weather removed, Delhi's own coarse-particle pollution has run above the same days of last year for **67 consecutive days**, and on 143 of the 216 days measured this year.

What we ask is simple. Measure honestly, in micrograms against the guideline and the national standards, on a fixed set of stations, with the weather removed and the uncertainty stated. Then act on what the measurement shows, in all twelve months and not only under emergency curbs in November.

We place this evidence before the Committee and the Government not to score a point. We place it because the people of Delhi, and above all their children, deserve to know the truth about the air they breathe.

(Ajay Maken), Member of Parliament, Rajya Sabha

5 August 2026

What this submission holds, page by page

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One finding per page, checkable at a glance

Four things to know before the first number.

What de-weathering means

Rain and wind wash or carry pollution away. Calm weather traps it. A model removes that effect from the numbers. What remains is the city's own pollution. That is why a kind winter cannot be presented as a clean-air policy, and why a monsoon cannot either.

What a residual is

One day's level minus the same days of last year. Above zero means worse than last year. It is a difference, never a level.

What the margin is

The band inside which a figure is too close to call. Where a change sits inside its margin, this submission says so, and rests no claim on it. That rule is applied whether the result helps this argument or hurts it.

Why a sign count carries the weight

Counting how many days, months or stations moved the wrong way does not depend on a margin at all. A single day can be argued about. Sixty-seven days in a row cannot.

HOW EVERY PAGE IS BUILT

Each page states one finding. The amber tab names the data and the exact window. The banner states the finding. Under every chart sit three zones: what to read, what to be careful of, and the dated source. The dark band at the foot restates the page's sharpest fact.

THE RULES THIS SUBMISSION BINDS ITSELF WITH

The headline always states the worse of the observed and corrected figures, never the flattering one. The same quantity is never quoted from two sources. A change whose range spans zero is too close to call, whether it helps this argument or hurts it. Ozone is excluded from every claim, in either direction, because it can rise when traffic emissions fall. Where the Government's figure reproduces, this submission says so.

Every page also carries its own dated source line. The sources page at the end supplements those; it does not replace them.

What the Government said, in its own words

Two official documents carry the Government’s improvement message. This submission tests what they say. The words below are reproduced exactly, with their page numbers, so the Committee can check them against the originals.

“...a record 79 days during 2025 with the AQI of 100 or below... the average AQI for 2025 has been the lowest in last 7 years since 2018, barring COVID-2020... the year 2025 has thus witnessed the lowest ever average values for PM2.5 and PM10 concentrations, barring 2020.”

PIB release 2210305, 31 December 2025, pages 1 and 3

“Absolutely still / very low speed wind conditions... led to an abnormally high monthly average AQI of 351.”

PIB release 2210305, 31 December 2025, page 4

“Air quality will see further gradual but marked improvement, year on year.”

PIB release 2210305, 31 December 2025, page 7

“Efforts... have helped to increase the number of good to moderate (AQI<200) days.”

CAQM Annual Report 2024-25, page 61 of the PDF, printed page 50

THE ANNUAL REPORT’S OWN TABLE, REPRODUCED

The Annual Report runs to about a hundred pages. Its only quantitative air-quality content is one comparative table, on page 61. That table is the exhibit against the claim it is printed beside. It contains no 2025 figure at all.

Year	Average AQI	PM2.5, micrograms	PM10, micrograms
2022	209	98	211
2023	204	100	205
2024	209	104	212

Read the PM2.5 column downward: 98, then 100, then 105. The Commission’s own report shows fine-particle pollution rising for three straight years, on the same page that credits its efforts with an improvement.

READING

Reading: the four claims this submission tests, quoted exactly, with the page of the document each one sits on. Nothing here is paraphrased.

CAUTION

Caution: the press release scopes its 2025 PM2.5 figure as ‘till 29 December’. We checked that truncation and it is immaterial, worth about 1.6 AQI points in December. No argument here rests on it.

SOURCE

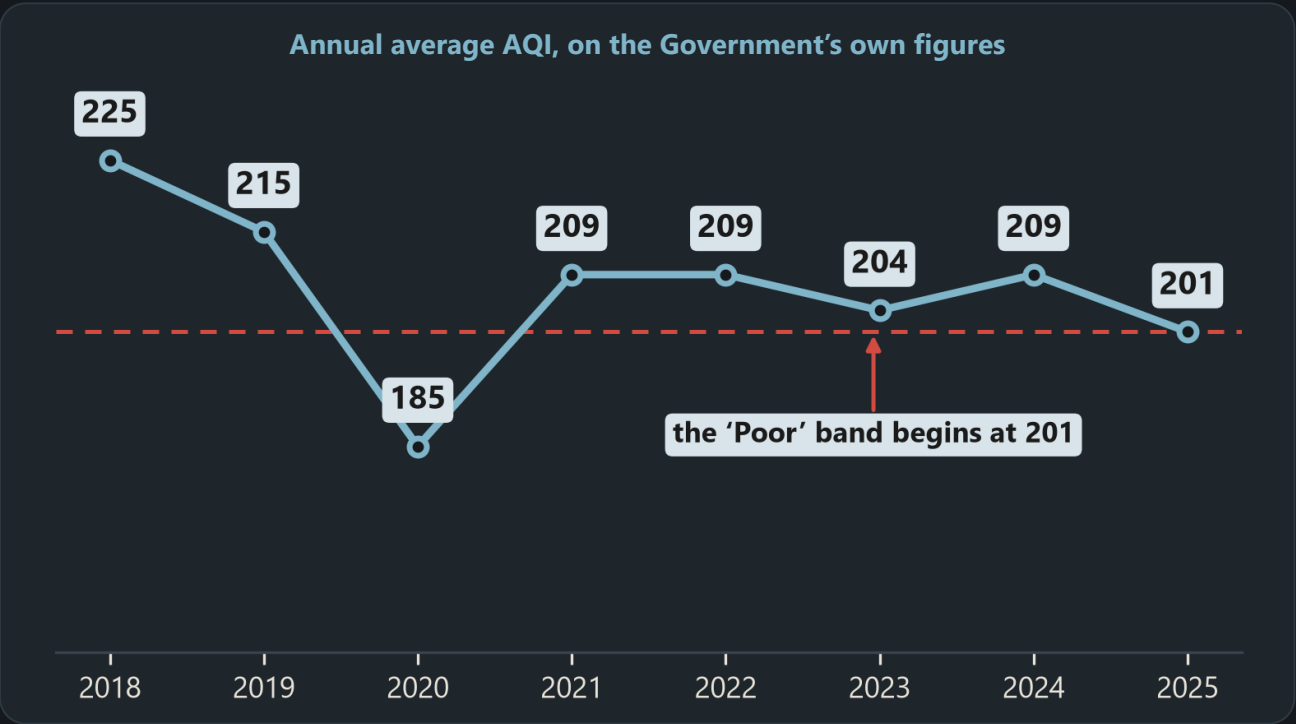
Press Information Bureau release 2210305, ‘2025, Air Quality Perspective in Delhi’, 31 December 2025, pages 1, 3, 4 and 7; CAQM Annual Report 2024-25, page 61 of the PDF, printed page 50. Tier 1, the Government’s own documents.

THE POINT

The Annual Report has one quantitative table in a hundred pages, and that table shows PM2.5 rising for three straight years.

The Government's own eight-year series

Year	Average AQI	PM2.5	PM10	Good to Satisfactory	Severe or worse
2018	225	113	241	53	20
2019	215	107	217	61	24
2020	185	94	180	100	15
2021	209	105	211	73	24
2022	209	98	211	68	6
2023	204	100	205	61	15
2024	209	104	212	66	17
2025	201	96	197	79	8



- READING**

Reading: the press release table, reproduced in full. The chart draws the annual average AQI row of that same table. Every figure is the Government's.
- CAUTION**

Caution: 2020 was the COVID lockdown year and is not a fair comparator. The AQI scale is capped at 500 and each pollutant sub-index is capped too, so a flat index can hide air getting worse at the top end.
- SOURCE**

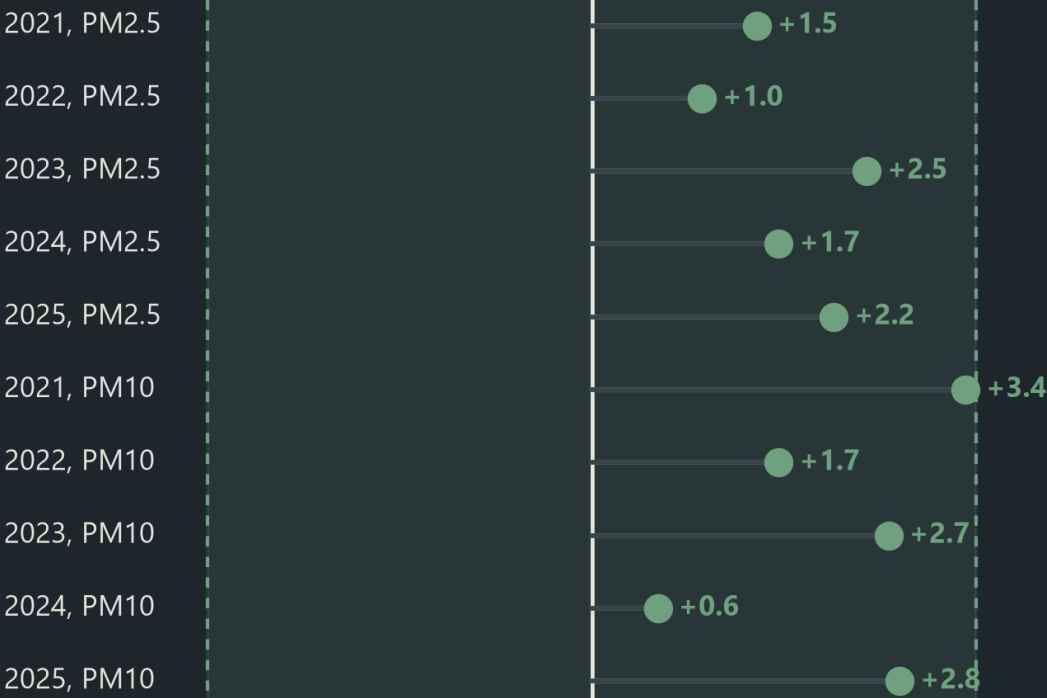
Press Information Bureau release 2210305, '2025, Air Quality Perspective in Delhi', 31 December 2025, pages 1, 3, 4 and 7; CAQM Annual Report 2024-25, page 61 of the PDF, printed page 50. Tier 1, the Government's own documents.

THE POINT
Read the AQI row: 209, 209, 204, 209, then 201. Four flat years, then one lower reading. That is not a trend.

We checked the numbers first. They are genuine

Year	AQI, official	AQI, ours	PM2.5, official	PM2.5, ours	Gap	PM10, official	PM10, ours	Gap
2021	209	209	105	106.5	+1.5	211	214.4	+3.4
2022	209	209	98	99.0	+1.0	211	212.7	+1.7
2023	204	204	100	102.5	+2.5	205	207.7	+2.7
2024	209	209	104	105.7	+1.7	212	212.6	+0.6
2025	201	206	96	98.2	+2.2	197	199.8	+2.8

Our figure minus the official figure, micrograms per cubic metre
the agreement band we set in advance



READING Reading: the official annual figures beside our own independent computation from raw station data. The bars draw the gap. Every gap is under 3.5 micrograms.

CAUTION Caution: our independently computed city AQI runs about 5 to 6 points above the official series in 2025, a known difference in method. We therefore treat the official AQI and its category counts as authoritative throughout.

SOURCE CPCB station data downloaded through the Centre for Research on Energy and Clean Air, hourly, 2021 to 5 August 2026. Tier 1, the regulator’s own monitors. A station-day counts on 16 valid hours of 24.

THE POINT

The Government’s arithmetic is correct. The dispute is about what the arithmetic means, not about whether it is right.

Even the best year on record is an emergency

96

MICROGRAMS OF PM2.5
Delhi's 2025 annual mean.

19x

THE WHO GUIDELINE
The guideline is 5.

201

AVERAGE AQI, 2025
The 'Poor' band.

Days of the year that were Good to Satisfactory, and the rest



READING

Reading: the three headline figures for 2025, and the year split into the days the Government counts as clean and the days it does not. The green block is the counted days.

CAUTION

Caution: 40 micrograms is India's own annual standard and 5 is the WHO guideline. Delhi's 2025 figure is about 2.4 times the national standard. Weighted by where people live it is higher still, about 101.

SOURCE

Press Information Bureau release 2210305, '2025, Air Quality Perspective in Delhi', 31 December 2025, pages 1, 3, 4 and 7; CAQM Annual Report 2024-25, page 61 of the PDF, printed page 50. Tier 1, the Government's own documents.

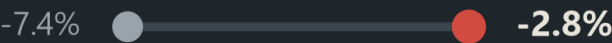
THE POINT

In its best year, Delhi breathed air worse than 'Satisfactory' on 286 days of 365. That is 78 per cent of the year.

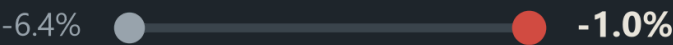
The headline does not survive weather correction

Change from 2024 to 2025, per cent, before and after correction

PM2.5, 38 stations



PM10, 37 stations



The observed fall is a direct measurement and we do not dispute it. The question is what produced it. Two independent engines were trained on the same data: a random forest and a boosted-regression-tree model. Both were given weather only, never the pollution history, so nothing about past pollution can leak into the answer. Both put the corrected change between about 2 and 3 points of zero. The method’s own band on an annual change is 2 to 3 points. A figure that small, inside a band that wide, is not a result. It cannot be told apart from no change at all.

Basis	PM2.5, 2024 to 2025	PM10, 2024 to 2025
Random forest	-2.8%	-1.0%
Boosted regression trees	-2.1%	-1.0%
The method’s own band	2 to 3 points	2 to 3 points
What the monitors recorded	-7.4%	-6.4%

WHAT THE COMMITTEE SHOULD TAKE FROM THIS

There is no demonstrable real improvement in Delhi’s fine-particle pollution in 2025. The published 7.4 per cent measures the weather the air was sampled in, not a cleaner city.

READING	Reading: the pale bar is the change the monitors recorded. The red bar is the same change after a model removes the weather’s hand. Correction takes almost all of it away on both particle sizes.
CAUTION	Caution: the corrected figure is a model estimate, not a measurement. Its band is about 2 to 3 percentage points on an annual change, which is as large as the estimate itself. That is precisely why we call it no demonstrable change and not a small improvement.
SOURCE	Our own de-weathering, adjudicated generation B, 13 June 2026: random forest and boosted regression trees on ERA5 and Open-Meteo hourly weather, 2021 to 2026, with CPCB station data via CREA. Stated as our computation, and reproducible.

THE POINT

The 7.4 per cent the Government published does not survive once the air is corrected for the weather it was measured in.

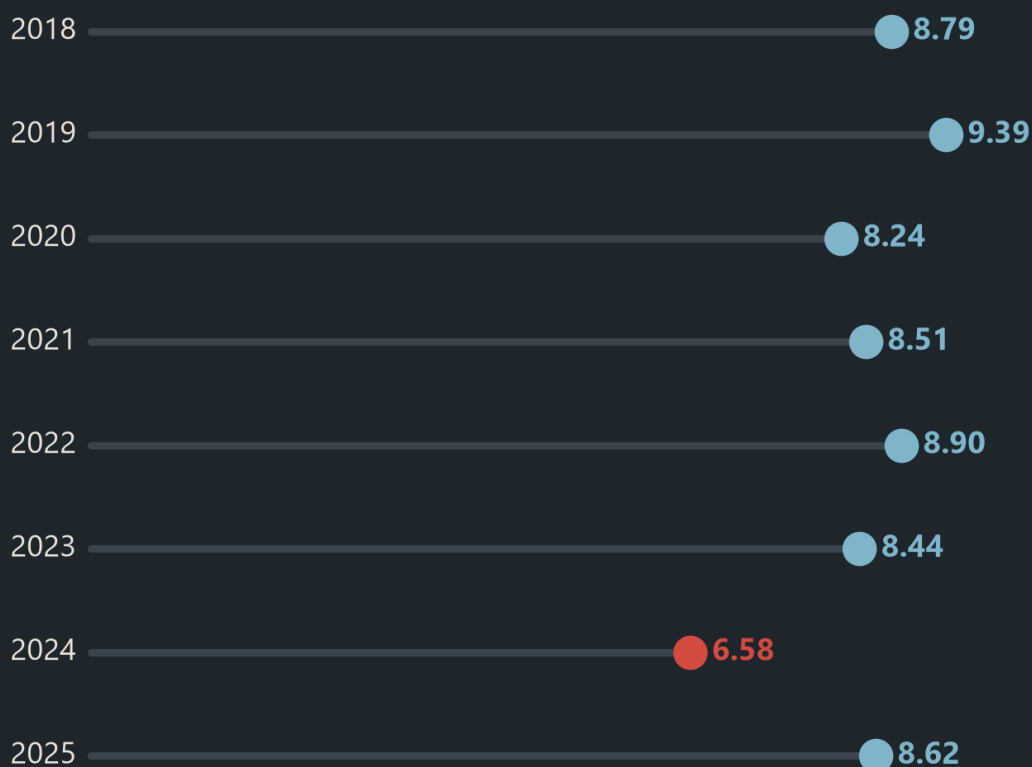
The base year was a freak, and the record shows it

The strongest evidence on this point needs no model at all. It is in the raw weather record. The year 2025 is measured against 2024. January 2024 was the stillest January in at least eight years. Its average wind was 6.58 kilometres per hour. Every other January since 2018 ran between 8.24 and 9.39. It had seventeen near-calm days, against three to nine in the other years, and a single day of rain. January 2025 was an ordinary month. A large part of the celebrated annual fall is simply that one trapped, windless month unwinding.

WHY AN ANNUAL AVERAGE HIDES THIS

The annual median wind for the two years is almost identical. The January extreme sits in the tail, where a yearly

Average January wind speed, kilometres per hour, by year



READING

Reading: each bar is one January's average wind speed. The red bar is January 2024, the month the celebrated 2025 figure is measured against. It is the stillest of the eight.

CAUTION

Caution: this is observed weather, not a model output. It is presented as evidence about the base year, not as a full explanation of the annual change.

SOURCE

Our own de-weathering, adjudicated generation B, 13 June 2026: random forest and boosted regression trees on ERA5 and Open-Meteo hourly weather, 2021 to 2026, with CPCB station data via CREA. Stated as our computation, and reproducible.

THE POINT

The Government's headline rests on one freak-stagnant month sitting in its base year.

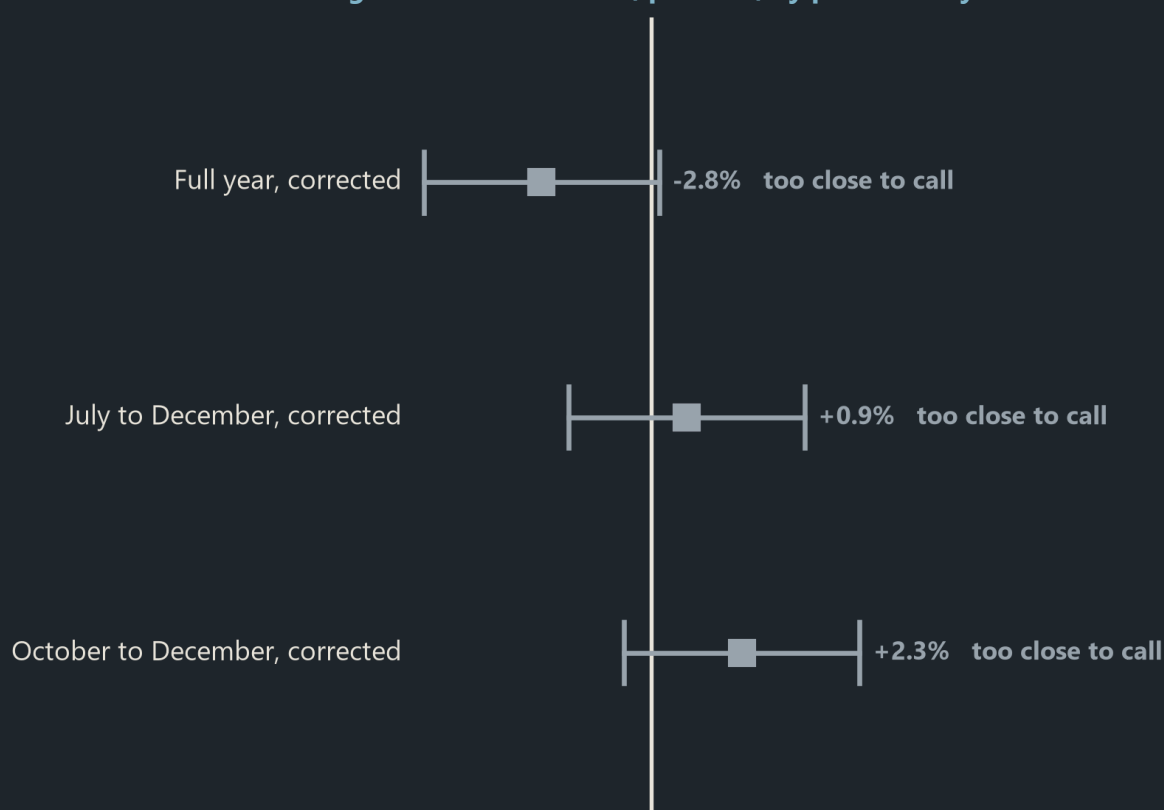
The whole of the fall sits outside the GRAP season

If policy were driving the improvement, it should show up in the second half of the year. That is when Delhi's pollution peaks. It is also when the Graded Response Action Plan and the Commission's directions are in force. It does not show up there at all.

THE SEASON THE WHOLE APPARATUS EXISTS FOR

July to December got slightly worse, by 1.2 per cent observed and about 1 per cent corrected. October to December, the peak enforcement window, was worse again. The entire observed annual decline sits in January to June 2025, the half dominated by that freak January base month.

PM2.5 change from 2024 to 2025, per cent, by part of the year



READING

Reading: the same comparison run over three windows. A bar above zero means the air got worse. Only the full-year bar falls, and correction removes most of that.

CAUTION

Caution: the January-to-June half cannot be fully de-weathered, because of a gap in the boundary-layer weather record for the first half of 2024. We say so rather than filling the gap with an assumption.

SOURCE

Our own de-weathering, adjudicated generation B, 13 June 2026: random forest and boosted regression trees on ERA5 and Open-Meteo hourly weather, 2021 to 2026, with CPCB station data via CREA. Stated as our computation, and reproducible.

THE POINT

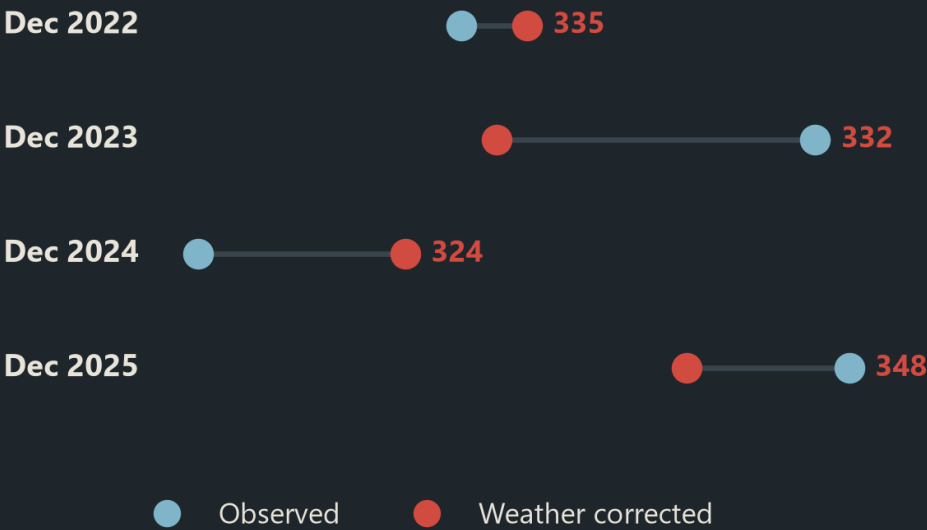
The season the entire enforcement apparatus exists for shows no improvement on any basis.

December 2025: the weather alibi, tested

The press release blames December 2025 on still winds. That is the tell. If bad weather excuses a bad month, then good weather must discount a good year. Applied consistently, the same test reverses the Government’s own story. December 2025 was the highest weather-corrected December outright, at 348 against a next highest of 335. Of the roughly 56-point observed jump over December 2024, about 24 points survive correction. Still winds explain about half of the month the Government blamed entirely on the weather.

December	Observed city AQI	Weather corrected	Change on the year before, corrected
Dec 2022	329.0	334.6	no prior year
Dec 2023	359.2	332.0	-2.6
Dec 2024	306.5	324.2	-7.8
Dec 2025	362.1	348.2	+24.0

December city AQI, observed and weather corrected



- READING**

Reading: each December carries two dots on one scale. The pale dot is what the monitors recorded. The red dot is the same month after the weather is removed, and the bar between them is the weather’s share. The corrected dot is highest in 2025, which is the opposite of a weather excuse.
- CAUTION**

Caution: on the observed basis December 2025 ties with December 2023 rather than beating it outright. The honest wording is ‘together with December 2023, the most polluted December since at least 2021’, and that is the wording we use.
- SOURCE**

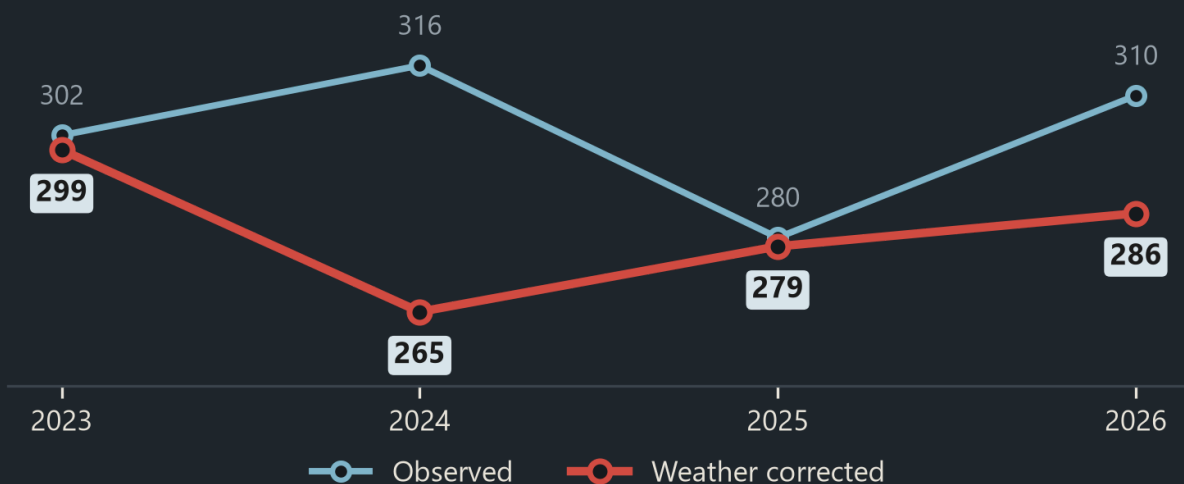
Seasonal city AQI on the CPCB 2014 sub-index formula, fixed panel, computed 13 June 2026 from CPCB station data via CREA, 2021 to 2026.

THE POINT
The weather cannot be banked when it helps and blamed when it hurts. Half of December 2025 was a real worsening.

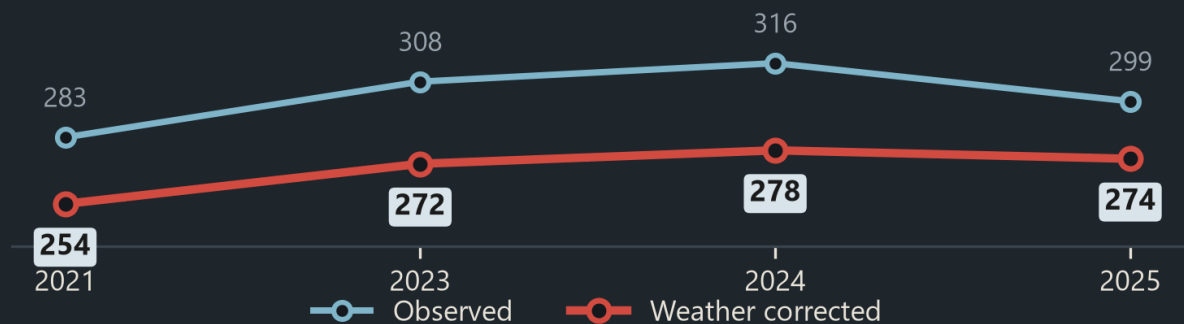
Season by season, there is no progress where it counts

A season holds the calendar fixed, so it is the fairest unit for judging a clean-air policy. Winter 2025-26 is the first full winter after the claim. Observed, it was 29 AQI points worse than the winter before. Corrected, it did not improve either. The crop-burning season is no better than it was in 2021.

Winter, December to February, city AQI by season year



Post-monsoon, October and November, city AQI by season year



READING

Reading: each season year is labelled by the year it ends in, so winter 2026 is December 2025 with January and February 2026. The red line is the corrected value, which is the one that speaks to policy.

CAUTION

Caution: winter 2021 and post-monsoon 2022 are left off these charts on purpose. The first covers 58 days rather than 90, and the second is missing most of its gas record, so neither is like-for-like. Any single corrected seasonal value carries a band of several AQI points.

SOURCE

Seasonal city AQI on the CPCB 2014 sub-index formula, fixed panel, computed 13 June 2026 from CPCB station data via CREA, 2021 to 2026.

THE POINT

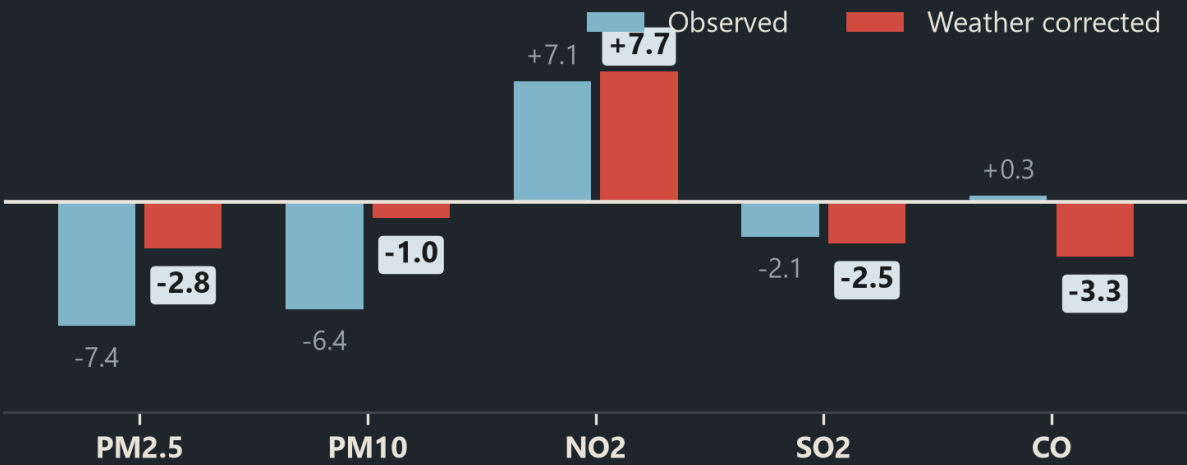
Winter 2025-26 was 29 points worse than the winter before. The crop-burning season is no better than it was in 2021.

Nitrogen dioxide worsened, and none of it is weather

The pollutant the announcement did not lead with tells its own story. Nitrogen dioxide is the marker of vehicles and combustion. It rose 7.1 per cent on the monitors. Removing the weather makes the rise larger, not smaller, at 7.7 per cent. So none of that worsening is the weather. It is the one clean, unarguable deterioration in the year the Government celebrates.

Pollutant	2024	2025	Observed change	After correction	What it means
PM2.5	106.1	98.3	-7.4%	inside +/-2 to 3 points of zero	No demonstrable real change
PM10	213.3	199.7	-6.4%	inside +/-1 to 2 points of zero	No demonstrable real change
NO2	42.0	44.9	+7.1%	+7.7%	Worsened, and none of it is weather
SO2	15.1	14.8	-2.1%	inside +/-2 to 3 points of zero	No demonstrable real change
CO, 8h max	1808	1813	+0.3%	inside +/-3 points of zero	Essentially flat

Change from 2024 to 2025, per cent, observed and corrected



READING

Reading: every pollutant we track, with the observed change beside the corrected one. Only nitrogen dioxide moves clearly, and it moves the wrong way. Where a corrected figure sits inside its own band, the table says so instead of quoting a number.

CAUTION

Caution: carbon monoxide runs on a small monitoring panel and is never headlined here. Ground-level ozone is excluded from every claim in this submission, because it can rise when traffic emissions fall, so no argument may rest on it in either direction.

SOURCE

Our own de-weathering, adjudicated generation B, 13 June 2026: random forest and boosted regression trees on ERA5 and Open-Meteo hourly weather, 2021 to 2026, with CPCB station data via CREA. Stated as our computation, and reproducible.

THE POINT

The weather argument cuts both ways. It cannot be banked on particles and ignored on the gas that comes from traffic.

Did any policy work? Two of the three tests

01 Test one: a break at the policy dates.

We looked for a sudden improvement in the corrected daily series at each major GRAP date. This is a regression-discontinuity-in-time design, and it was locked before the results were seen. No improvement break is detectable at any policy date. The one signal the test flagged, Stage III on 11 November 2025, has the wrong sign for policy credit. It is an artefact of how GRAP works: the stage was invoked because the index had already crossed 425 that morning. Across 150 placebo dates in earlier years, 21.3 per cent produced a larger swing, so the signal sits inside ordinary noise.

02 Test three: the stubble fires.

Counted fire detections over Punjab and Haryana fell 17.4 per cent, from 30,976 to 25,577 pixels, and the season ran about six to nine days earlier. Delhi’s corrected October and November air was essentially flat, moving from 277.6 to 273.9. The statistical link between fires and Delhi’s air did not weaken. Fire counts are a detection index, not a measure of smoke: the satellite-measured burnt area was flat, at 19.17 against 19.14 lakh hectares.

03 The one Delhi-specific satellite signal, and why it is not a win.

Satellite readings show the nitrogen-dioxide column over the Delhi core falling faster than the surrounding ring, 7.7 per cent against 2.6 per cent. That is consistent with Delhi-specific traffic and electrification measures, though it is not proof of them. But it concerns the column above the city. At street level, in the same period, nitrogen dioxide rose. A faster-falling column over a city whose surface gas got worse is a trade-off, not a clean-air result.

Test	What was measured	Result
Break at the policy dates	the corrected daily series at each GRAP date	No detectable break
Counted stubble fires	30,976 fire pixels against 25,577, a fall of 17.4%	Burnt area flat, Delhi flat
Satellite nitrogen dioxide	Delhi core -7.7% against the ring -2.6%	A trade-off, not a win

READING

Reading: two pre-registered attribution tests, and the one satellite signal that does point to Delhi. Each is stated with the reason it does not carry the weight the Government puts on it.

CAUTION

Caution: the policy-break test is low-powered, because the corrected daily series is highly persistent. It can rule out a detectable break. It cannot settle attribution on its own, and we do not claim that it does.

SOURCE

Sentinel-5P TROPOMI and MODIS active-fire products, European Space Agency and NASA, read through Google Earth Engine, 2019 to 2025. Tier 1 as data; the regime classification is our own computation, verified 12 June 2026.

THE POINT

A fall in counted fires is not a fall in smoke. The burnt area did not move at all.

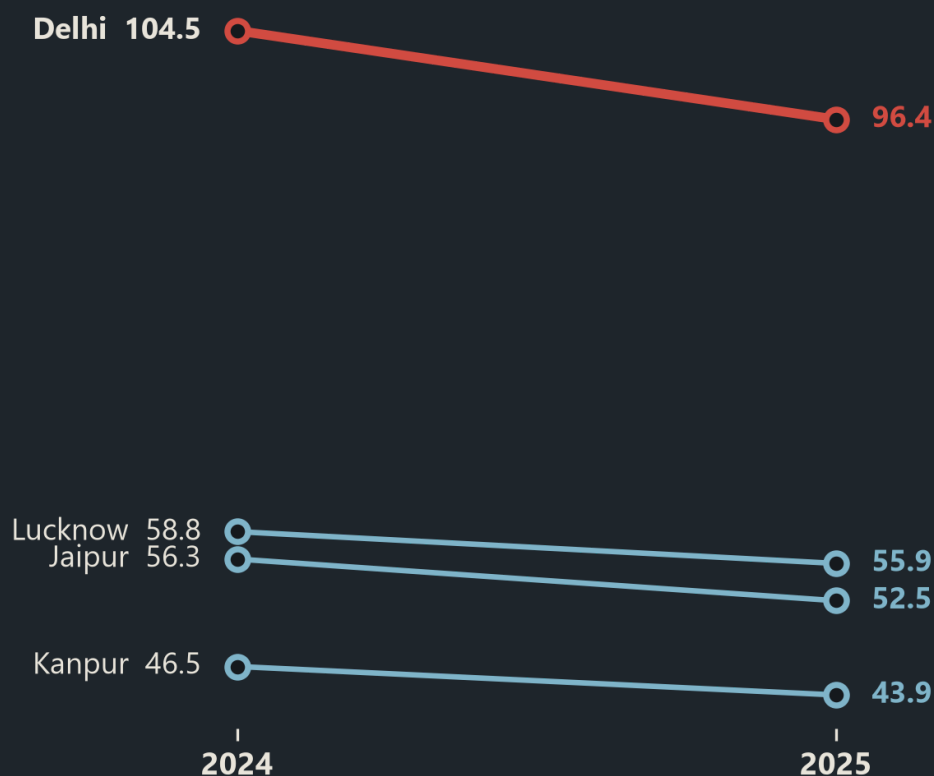
Cities with none of Delhi's policies improved just as much

This is the most direct test of all, and it needs no model. We measured four other cities on the Indo-Gangetic plain, using the identical public process. Three of them are drawn here, and the caution says why the fourth is left out. None of them has any of Delhi's machinery. No Graded Response Action Plan, no Commission directions, no electric-bus fleet, no end-of-life-vehicle ban. Their air moved the same way Delhi's did. Lucknow fell 4.9 per cent, Kanpur 5.5 per cent and Jaipur 6.8 per cent. Delhi, run through the same process, came to 7.8 per cent. That is barely 1 to 3 points beyond a regional pattern shared by cities that did none of what Delhi did.

TWO UNRELATED METHODS, ONE ANSWER

The gap left over is the same size as Delhi's own corrected change, which is itself indistinguishable from zero.

Annual PM2.5, micrograms per cubic metre, 2024 and 2025



READING

Reading: each line is one city's own 2024 level joined to its 2025 level. Delhi is drawn in red. The comparison is between the slopes, not the heights: Delhi's air is far dirtier, and its move is barely different.

CAUTION

Caution: this test is observed only and is not weather-corrected. City monitoring networks differ. Patna fell 26.8 per cent but sits on a multi-year slide where a network change cannot be excluded, so it is left out and no conclusion rests on it.

SOURCE

CPCB station data downloaded through the Centre for Research on Energy and Clean Air, hourly, 2021 to 5 August 2026. Tier 1, the regulator's own monitors. A station-day counts on 16 valid hours of 24.

THE POINT

Whatever moved Delhi's air in 2025 also moved Lucknow, Kanpur and Jaipur. It was not a Delhi policy.

Since the claim, 67 days in a row worse than last year

67

CONSECUTIVE DAYS
PM10 above last year since 30
May.

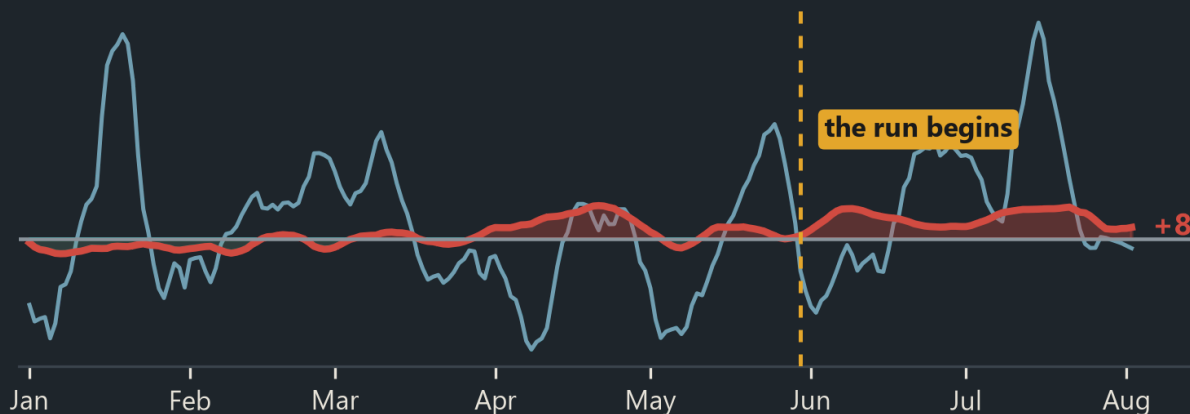
143 / 216

DAYS WORSE THIS YEAR
PM10, of all days measured.

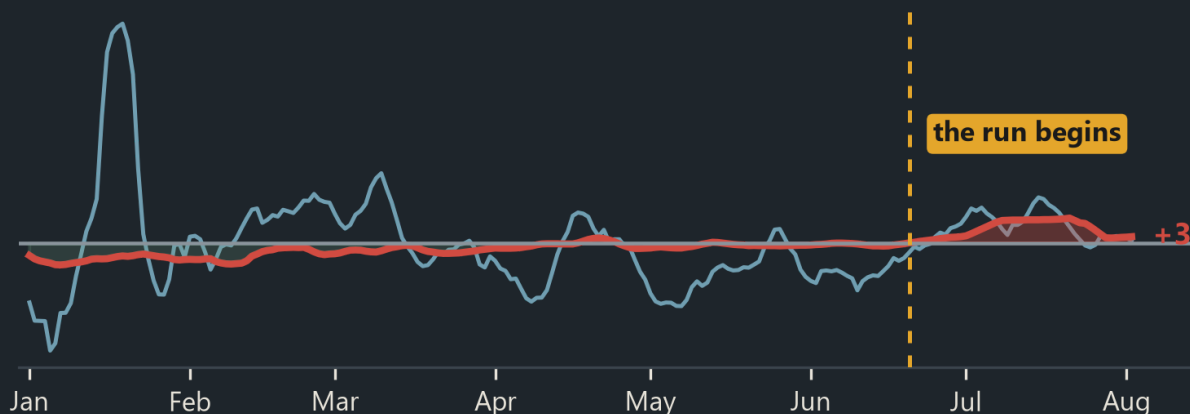
+14.7

AVERAGE EXCESS
Micrograms, over the run.

PM10: this year against the same days of last year, 2026



PM2.5: this year against the same days of last year, 2026



READING

Reading: the pale line is the raw difference against the same days of last year. The red line is that difference after the weather is removed. Above the zero line means worse than last year. Both lines are a seven-day average.

CAUTION

Caution: the last three days cannot be centred in a seven-day average and are suppressed. Days with fewer than 30 reporting stations are dropped, leaving 216 usable. The model is refit weekly and was trained through 1 August 2026.

SOURCE

Daily de-weathering pipeline, `dw_multipollutant_daily`, computed 5 August 2026; CPCB station feed of the same date; weather ERA5 and Open-Meteo. Models refit weekly, trained through 1 August 2026.

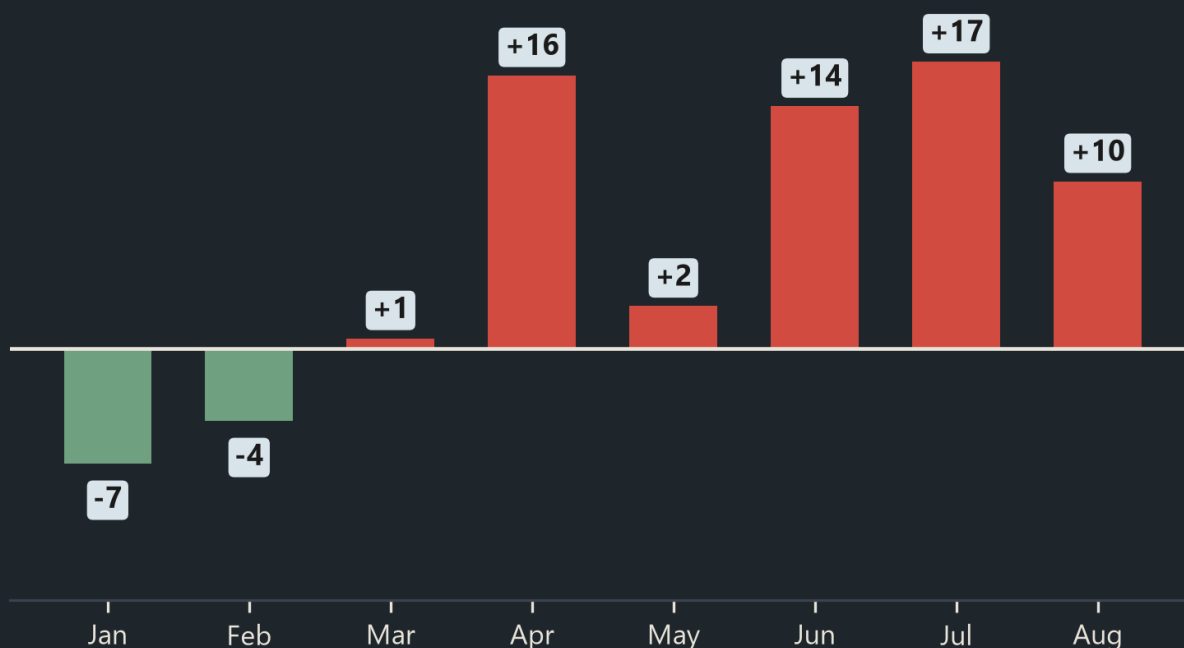
THE POINT

A sign count does not depend on a margin. PM10 has sat above last year on 143 of 216 measured days, and on the last 67 without a break.

Month by month, 2026 has been worse than 2025



PM10, monthly mean difference against last year, weather removed



READING

Reading: each tile is one month's average difference from the same days of last year, weather removed, in micrograms. Red is worse than last year, green is better, grey is too close to call. The chart is the same figures in order.

CAUTION

Caution: the margin quoted on each tile divides an hourly model error by a station count, and our own statistical reviewers have criticised that construction in both directions. It is printed, never leaned on. The sign counts do not depend on it.

SOURCE

Daily de-weathering pipeline, `dw_multipollutant_daily`, computed 5 August 2026; CPCB station feed of the same date; weather ERA5 and Open-Meteo. Models refit weekly, trained through 1 August 2026.

THE POINT

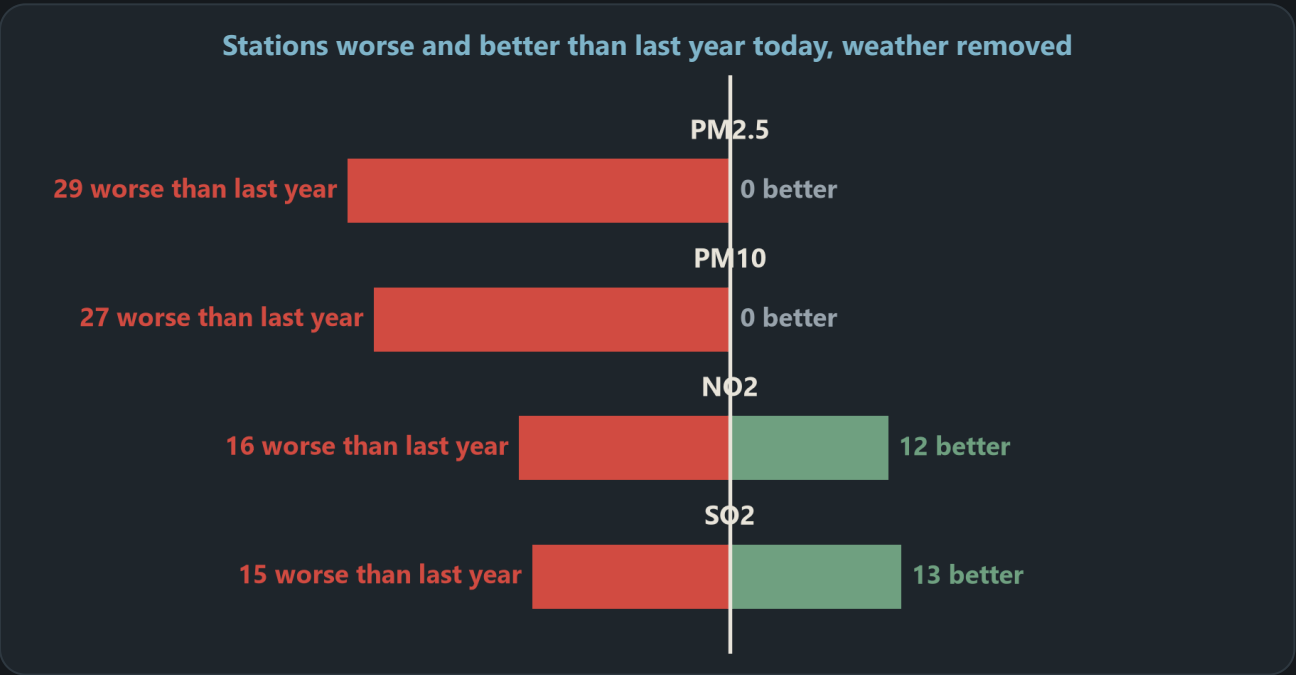
PM10 sat above last year in 6 of the 8 months measured so far, and below in 2.

The worsening is at every monitor, not at a few

A city average can be argued about. A station count cannot. Today the de-weathering was run station by station against the same days of last year. On both particle sizes, every single station that could be compared came out worse. Not most of them. All of them.

This matters because it removes the last available defence. A worsening driven by one or two bad monitors could be an instrument fault. A worsening at every monitor in the network is the city.

Pollutant	Stations compared	Median change, corrected	Stations worse	Stations better
PM2.5	29	+9.0%	29	0
PM10	27	+12.0%	27	0
NO2	28	+6.3%	16	12
SO2	28	+2.5%	15	13



READING	Reading: each pollutant’s stations split either side of the centre rule, counted by direction of travel against the same days of last year, after the weather is removed. On both particle sizes the right-hand side is empty, and that is the finding.
CAUTION	Caution: this is one day’s station-level comparison and a single day is weather before it is policy. It is shown because breadth is a different kind of evidence from level. The gases are listed for completeness and carry no claim here.
SOURCE	Daily de-weathering pipeline, dw_multipollutant_daily, computed 5 August 2026; CPCB station feed of the same date; weather ERA5 and Open-Meteo. Models refit weekly, trained through 1 August 2026.

THE POINT

Every PM2.5 station and every PM10 station that could be compared today was worse than last year once the weather was removed.

It is still an emergency, on the day this was written

42 / 42

STATIONS OVER THE WHO LIMIT
PM2.5, corrected, 24-hour limit.

40 / 40

STATIONS OVER THE WHO LIMIT
PM10, corrected, 24-hour limit.

+8.8

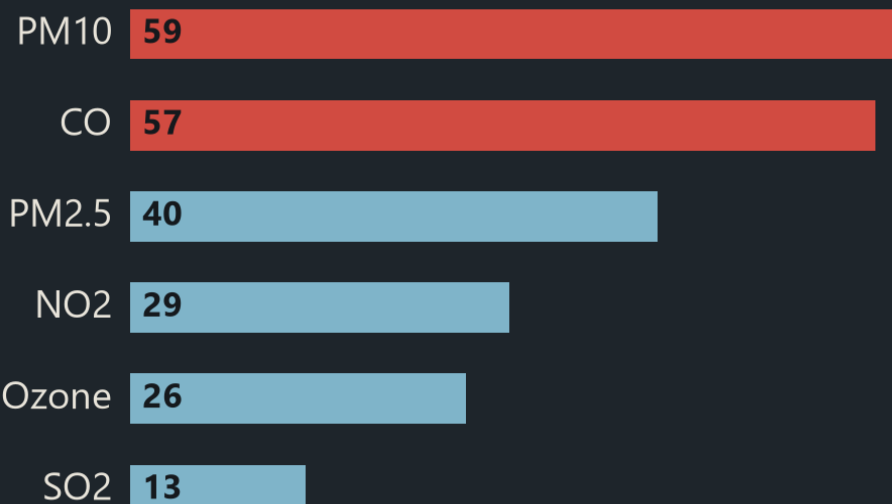
POINTS WORSE THAN LAST YEAR
The index, corrected for weather.

This submission is not history. It is written on a monsoon-washed August day, the cleanest part of Delhi's year. The raw index reads 70, in the 'Satisfactory' band. Corrected for the weather, the same day is worse than the same day last year. Every station reporting fine particles was above the World Health Organization's 24-hour limit, after correction. So was every station reporting coarse particles.

AN AVERAGE IS NOT AN EXPERIENCE

While the city average read 'Satisfactory', Anand Vihar read 151, in the 'Moderate' band, on PM10. A city average buries the neighbourhood that is actually breathing the worst air.

City mean sub-index by pollutant today, higher is worse



READING

Reading: the day this submission was prepared, on the regulator's own station feed. The bars show which pollutant is driving the index today, on the CPCB sub-index scale.

CAUTION

Caution: the window is 24 hours to 10 a.m., which is the window our correction pipeline uses. It is not the published calendar-day index, so this page's figure and a midnight figure will differ. The two are never mixed.

SOURCE

Daily de-weathering pipeline, `dw_multipollutant_daily`, computed 5 August 2026; CPCB station feed of the same date; weather ERA5 and Open-Meteo. Models refit weekly, trained through 1 August 2026.

THE POINT

In the cleanest month of Delhi's year, not one monitoring station met the WHO limit for fine particles once the weather was removed.

The human cost, and the company Delhi keeps

10 years

OF LIFE EXPECTANCY

Lost to sustained exposure at Delhi's levels.

8 years

AS THE WORLD'S WORST

Delhi has been the most polluted capital since 2018.

The numbers in this submission are abstract until they are set against a body. The Air Quality Life Index is a standard public-health measure. At Delhi's levels it implies that sustained exposure costs a resident roughly ten years of life expectancy. The documented consequences are stunted lung development in children, heart disease, stroke and premature death.

FOR SCALE

Delhi's winter fine-particle level runs around 163 micrograms. Beijing's winter level runs around 29. India's own annual standard is 40, and the WHO guideline is 5. Every winter of inaction is paid for in years of life.

PM2.5 in micrograms per cubic metre, against the benchmarks



READING

Reading: Delhi's pollution set against the benchmarks that matter, on one scale. The green bar is the level the World Health Organization considers safe to breathe.

CAUTION

Caution: the life-expectancy figure is an epidemiological estimate for sustained exposure at these levels, not a measurement of any individual. The Beijing and winter figures are indicative seasonal levels, quoted for scale.

SOURCE

Air Quality Life Index, Energy Policy Institute at the University of Chicago, 2025 edition; IQAir World Air Quality Report 2025 for the capital-city ranking; national standard, CPCB NAAQS 2009. Tier 1 published sources.

THE POINT

Delhi has been the world's most polluted capital for eight years running.

The verdict on the 2025 claim

The claims and the evidence, set side by side. Each row is a statement the Government made, and what this submission finds when that statement is tested against the Government’s own measurements.

What the Government said	What the data show
“Marked improvement in air quality”	Does not survive weather correction. The change cannot be told apart from zero.
“Lowest AQI and PM in 7 years, barring COVID”	True as arithmetic. Still ‘Poor’ at AQI 201, and about 19 times the WHO guideline.
“Record clean-air days”	79 days of 365 were Good to Satisfactory. That leaves 286 days, 78 per cent, worse.
December’s spike blamed on still winds	Half-true at best. About 24 AQI points of real worsening remain.
Efforts “helped to improve the general air quality”	Unproven. Three independent tests credit no policy with a real cut.
“Further gradual but marked improvement, year on year”	Contradicted by the record since. See the 2026 pages.

THE HONEST HEADLINE FOR PARLIAMENT

The Government’s numbers are accurate. They describe a year whose improvement was delivered by the weather. Once the weather is removed, the celebrated fall cannot be told apart from no change at all. Much of it is one freak-stagnant January unwinding. The GRAP season itself shows no improvement after five seasons. Nitrogen dioxide worsened in real terms. The year ended with the most polluted weather-corrected December on record. And in the eight months since, the city’s own pollution has run above last year almost without a break.

The claim describes the weather Delhi was lucky with. It does not describe a city that is getting cleaner.

READING	Reading: each row pairs one official statement with the finding that tests it. Where a claim is arithmetically true, this submission says so.
CAUTION	Caution: conceding what reproduces is deliberate. The Government’s published figures are genuine, and an attack on them would not survive. The disagreement is about meaning, and about the multi-year story the figures are used to tell.
SOURCE	Adjudicated findings record, 13 June 2026, and the published methodology and findings report of 24 July 2026, both prepared by the office of Ajay Maken from the sources above.

THE POINT

Delhi has not turned the corner. The wind turned it for a season.

What we ask of the Committee and the Ministry

01 **Report the truth, in micrograms.**

Direct that Delhi-NCR air quality be reported annually as population-weighted PM2.5 against the WHO guideline and the national standards, with confidence intervals. Not as good-air-day counts, and not as a single index capped at 500, which cannot rise once the air is already very bad.

02 **Compare like with like, and remove the weather.**

Require CAQM to publish year-on-year trends on a fixed set of stations present in both years, de-weathered, with stated uncertainty. Publish the corrected series beside the raw one, daily. A kind winter must never again read as policy.

03 **Set binding, time-bound targets.**

A statutory trajectory to the national standards by a fixed year, and to the WHO interim targets thereafter. Annual milestones, and accountability for a missed year.

04 **Confront the pollution from vehicles and combustion.**

Nitrogen dioxide rose 7.7 per cent in real terms in the year the Government celebrates. That needs a transport and combustion plan, not only a dust plan.

05 **Act all twelve months, not only under GRAP.**

The GRAP season itself shows no improvement across five seasons. Source-level action on transport, power, industry and construction must run year round.

06 **Answer the run of days on the floor of the House.**

Which source cut, and which enforcement action, is supposed to have worked? The Committee should ask CAQM to name it, and to show the measurement.

07 **Order an independent annual audit.**

A public audit of Delhi-NCR air quality, covering data, methods and progress, laid before this Committee each year.

READING

Reading: seven specific directions the Committee may wish to give. Each is drawn from a finding in this submission, and each is capable of being audited.

CAUTION

Caution: these are recommendations, not findings. They follow from the evidence in this submission, but they are matters of policy judgement for the Committee and the Ministry, and they should be read as such.

SOURCE

Recommendations of Ajay Maken, Member of Parliament, drawn from the findings of this submission, 5 August 2026.

THE POINT

Delhi's residents do not need another press release. They need clean air, measured honestly.

How this was done, and how careful it is

This submission rests on the Government’s own measurements. They are examined transparently, so that anyone may check the work.

What was computed	How much
Pollutants modelled	7
Station-hours of ground data	9,734,329
Monitoring stations, per pollutant	39 to 55
Years of ground data	6, from 2021
Hours of matched weather data	47,736
Modelling engines	2, forest and boosted trees
Decision trees in the final models	40,600
Model fits performed	182
Continuous compute time	about 4.3 hours
Trained models retained on disk	14, about 83 GB

HOW WELL THE CORRECTION MODELS FIT

On data they were trained on, the daily models explain 74 per cent of the variation in PM10 and 78 per cent in PM2.5. On days they have never seen, the honest figure is lower: 36 and 38 per cent. We quote the lower number.

01 Where the numbers come from

Every figure is built from public data. Hourly readings come from the official monitoring network, through the Centre for Research on Energy and Clean Air. Weather comes from the Copernicus ERA5 reanalysis. Nothing relies on a private feed.

02 Like-for-like stations

Every year-on-year comparison uses only the monitors operating in both years. Adding or dropping a monitor moves a city average on its own, and manufactures a change that is not real.

03 What removing the weather means

A windy week scatters pollution and the monitors read low. A still week traps it and they read high. The city may have emitted the same amount on both. We trained models on years of hourly records, then replayed every day under ordinary weather. What is left is the part the weather cannot explain.

04 Why two engines, not one

A random forest and a boosted-tree model were fitted separately for each pollutant and station, on weather only. Neither was given the pollution history, so nothing about past pollution can leak into the answer. Where the two agree, we report the finding. Where they disagree, we report the disagreement.

05 Honest about uncertainty

An annual corrected change carries a band of about 2 to 3 percentage points. A single corrected month carries 5 to 16 AQI points. So we publish no single-month corrected figure as a headline, and every point estimate is labelled an estimate.

READING

Reading: the method in plain English on the right, and the size of the computation on the left. The scale is given because an analysis that contradicts an official one invites the fair question of how rigorous it is.

CAUTION

Caution: the correction models explain about 38 per cent of day-to-day variation on days they have never seen. That is why every corrected figure here is treated as an estimate, and why sign counts, which do not depend on a margin, carry the load-bearing findings.

SOURCE

Our own de-weathering, adjudicated generation B, 13 June 2026: random forest and boosted regression trees on ERA5 and Open-Meteo hourly weather, 2021 to 2026, with CPCB station data via CREA. Stated as our computation, and reproducible.

THE POINT

Nearly ten million station-hours, each matched to that hour’s weather, taught two separate families of models what weather does to each pollutant.

What this analysis can say, and what it cannot

01 **Observed and weather-corrected are different quantities.**

An observed figure is a direct measurement. A weather-corrected figure is a model's estimate of the emissions-driven part. We label every one.

02 **Weather-corrected figures carry a band.**

About 2 to 3 percentage points on an annual change, and 5 to 16 AQI points on a single month. We publish no single-month corrected figure as a headline claim.

03 **The comparator-city test is observed only.**

It is not weather-corrected. City networks differ. The Patna figure carries a network-change flag and supports nothing here.

04 **Fire counts are a detection index, not emissions.**

MODIS counts are not comparable with VIIRS counts, nor with the Government's own figure. The burnt area was flat.

05 **The policy-break test is low-powered.**

It can rule out a detectable break. It cannot settle attribution on its own.

06 **Attribution is framed as consistent with, never as proof of.**

No specific policy can yet be credited or blamed for a real change in Delhi's particulate air on these designs.

07 **There are coverage limits inside the period.**

The 2021 winter window is partial, and 2022 lacks a full gas record. We make no all-pollutant claim for 2022's seasons, and carbon monoxide is never a headline.

08 **Ozone is excluded from every claim here.**

Ground-level ozone can rise when traffic emissions fall. We therefore rest no argument on it, in either direction.

READING

Reading: the limits of this work, stated as plainly as its findings. Honest science states its own boundaries.

CAUTION

Caution: this page is not a disclaimer. Each limit here has already been applied to the findings, which is why several possible arguments do not appear in this submission at all.

SOURCE

Limitations register maintained with the adjudicated findings record, 13 June 2026, and reviewed on 5 August 2026.

THE POINT

What survives every one of these limits is the sign count. A sign does not depend on a margin.

Every figure traces to a dated feed

- 1 Press Information Bureau release 2210305, '2025, Air Quality Perspective in Delhi', 31 December 2025, pages 1, 3, 4 and 7; CAQM Annual Report 2024-25, page 61 of the PDF, printed page 50. Tier 1, the Government's own documents.
- 2 CPCB station data downloaded through the Centre for Research on Energy and Clean Air, hourly, 2021 to 5 August 2026. Tier 1, the regulator's own monitors. A station-day counts on 16 valid hours of 24.
- 3 Weather: Copernicus ERA5 reanalysis, hourly, obtained through Open-Meteo and Google Earth Engine, 2021 to 2026. Wind speed and direction, precipitation, boundary-layer height and temperature, with their lags. Tier 1 as data, dated in the feed.
- 4 Our own de-weathering, adjudicated generation B, 13 June 2026: random forest and boosted regression trees on ERA5 and Open-Meteo hourly weather, 2021 to 2026, with CPCB station data via CREA. Stated as our computation, and reproducible.
- 5 Daily de-weathering pipeline, dw_multipollutant_daily, computed 5 August 2026; CPCB station feed of the same date; weather ERA5 and Open-Meteo. Models refit weekly, trained through 1 August 2026.
- 6 Seasonal city AQI on the CPCB 2014 sub-index formula, fixed panel, computed 13 June 2026 from CPCB station data via CREA, 2021 to 2026.
- 7 Sentinel-5P TROPOMI and MODIS active-fire products, European Space Agency and NASA, read through Google Earth Engine, 2019 to 2025. Tier 1 as data; the regime classification is our own computation, verified 12 June 2026.
- 8 Comparator cities: daily city averages for Lucknow, Kanpur, Jaipur and Patna, on the identical public process used for Delhi, 2024 to 2025. Observed only, never weather-corrected.
- 9 Health and global context: Air Quality Life Index, Energy Policy Institute at the University of Chicago; IQAir World Air Quality Report 2025; CPCB National Ambient Air Quality Standards 2009; WHO global air quality guidelines 2021.
- 10 Adjudicated findings record, 13 June 2026, and the published methodology and findings report of 24 July 2026, both prepared by the office of Ajay Maken from the sources above.

Every page also carries its own source line. This page supplements those, it does not replace them.

How we know

Every number in this submission is the Government's own measurement, read through one method. The method is set out here in full, because a finding nobody can check is not evidence.



What de-weathering is

A windy week scatters pollution and the monitors read low. A still week traps it and they read high. The city may have emitted exactly the same amount on both. De-weathering asks the fairer question: what would this day have read under ordinary weather?

Two engines, and why two

A random forest grows hundreds of decision trees on random slices of the data and averages them. A boosted regression tree, or BRT, builds its trees in sequence, each one correcting the last. They fail in different ways. Fitting both is how a finding is told apart from an artefact of one method.

Weather only, never pollution history

Both engines see wind speed and direction, rainfall, temperature, and how high the air is mixing, with their lags. Neither is given yesterday's pollution. A model that knows the pollution history predicts today from yesterday and learns almost nothing about weather. The attribution would collapse.

What a residual is

One day's level minus the same days of last year. Above zero is worse than last year. It is a difference, never a level. The whole 2026 argument is a residual: the red line on the front cover has not returned below its own zero since 30 May.

Why last year is fifteen days, not one

Delhi's air is driven by weather systems that arrive and leave every three to seven days. A single matched date could catch a storm in one year and a calm night in the other. So each day is set against the same date plus or minus seven days of the year before, on the stations reporting in both. Those fifteen correlated days behave like about seven independent readings, which cuts the baseline's noise roughly two and a half fold.

Why a sign count is the strongest thing here

A magnitude depends on the model's margin. A sign does not. Counting how many days, months or stations moved the wrong way survives every argument about how large the correction is. That is why this submission leads on sixty-seven consecutive days and not on the micrograms behind them.

What the correction cannot do

On days it has never seen, the model explains about 38 per cent of the variation in PM2.5 and 36 per cent in PM10. Every corrected figure here is therefore an estimate, given as a range. A change whose range spans zero is called too close to call, whether that helps this argument or hurts it.

Every figure traces to a dated feed, and every page inside carries its own source line. Ground readings are the regulator's own monitors, through the Centre for Research on Energy and Clean Air. Weather is the Copernicus ERA5 reanalysis. The de-weathering is our own computation and is reproducible from the held code and data.