AIR QUALITY DATA STORY

Navotas Landfill Fire

Officials called it “under control”. The air disagreed.

Engr. Ethel G. Garcia
Regional Account Manager – SEA & Oceania

https://www.clarity.io/data-stories/navotas-landfill-fire

The incident

1. **7:56 PM, April 10, 2026**

   Fire ignites at the Navotas Sanitary Landfill, a 40-hectare closed facility on an island in Navotas City.

2. **Left without formal closure**

   The site's operator withdrew before completing required closure procedures, leaving the landfill unmanaged.

3. **“Under control” by April 12**

   The Bureau of Fire Protection declared the surface fire contained — but landfill fires can keep burning underground, out of sight, long after visible flames disappear.

4. **85+ sensors kept watching**

   The Breathe Metro Manila network recorded PM2.5 continuously across the metro throughout the incident and its aftermath.

Source: Clarity data story, ACRI / Breathe Metro Manila

THE BASELINE

What the air looked like before the fire

22 µg/m³

a typical day at the Navotas station

Rated GOOD on the Philippine AQI

A typical day

Across the eight monitored cities, PM2.5 sat between 18 and 25 µg/m³, the range the Philippine AQI rates as Good to Fair. AQI is the air quality index, a scale that turns pollutant readings into plain categories.

On an elevated backdrop

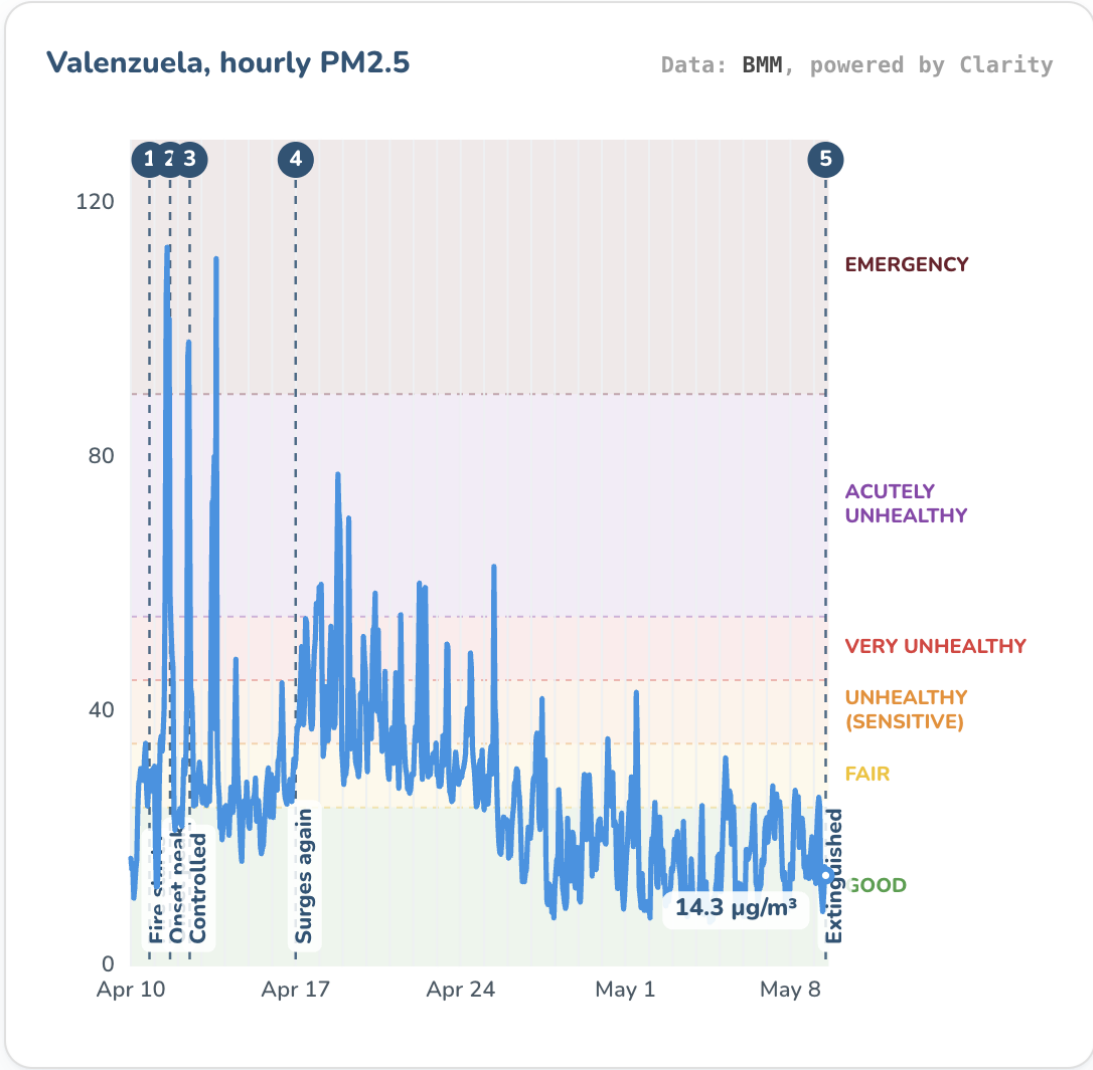
Metro Manila already runs well above the World Health Organization annual guideline of 5 µg/m³. The fire landed on top of a city that was not starting from clean air.

Source: Clarity data story, ACRI / Breathe Metro Manila

IGNITION

The evening curve began to climb

1. **7:56 PM, April 10, 2026**
2. **Overnight into April 11**
3. **April 12, declared “controlled”**
4. **Air pollution surges again, 4 days after “controlled”**
5. **Fire officially extinguished on May 10**

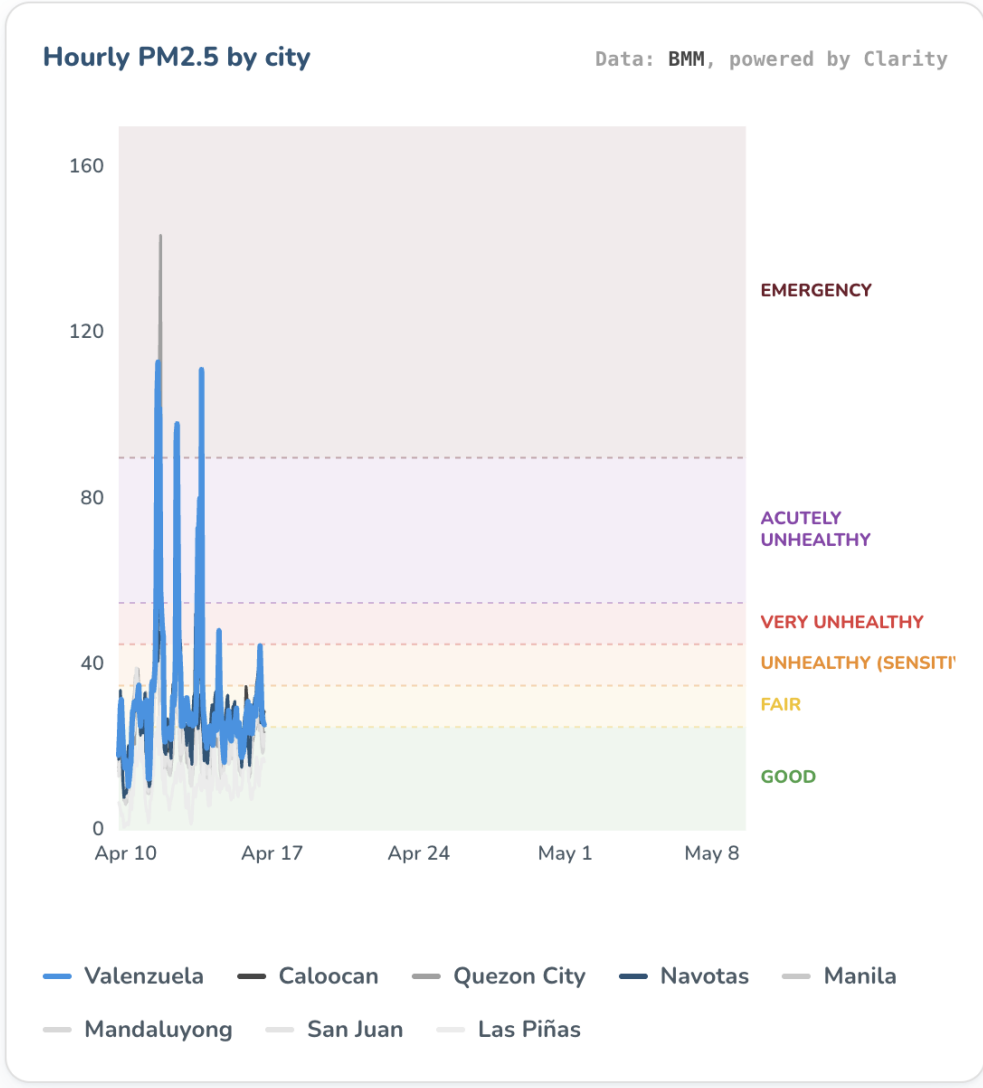


THE PEAK

How high, where and what it means

1 Every city rose

As the plume spread, PM2.5 climbed across all eight monitored cities.

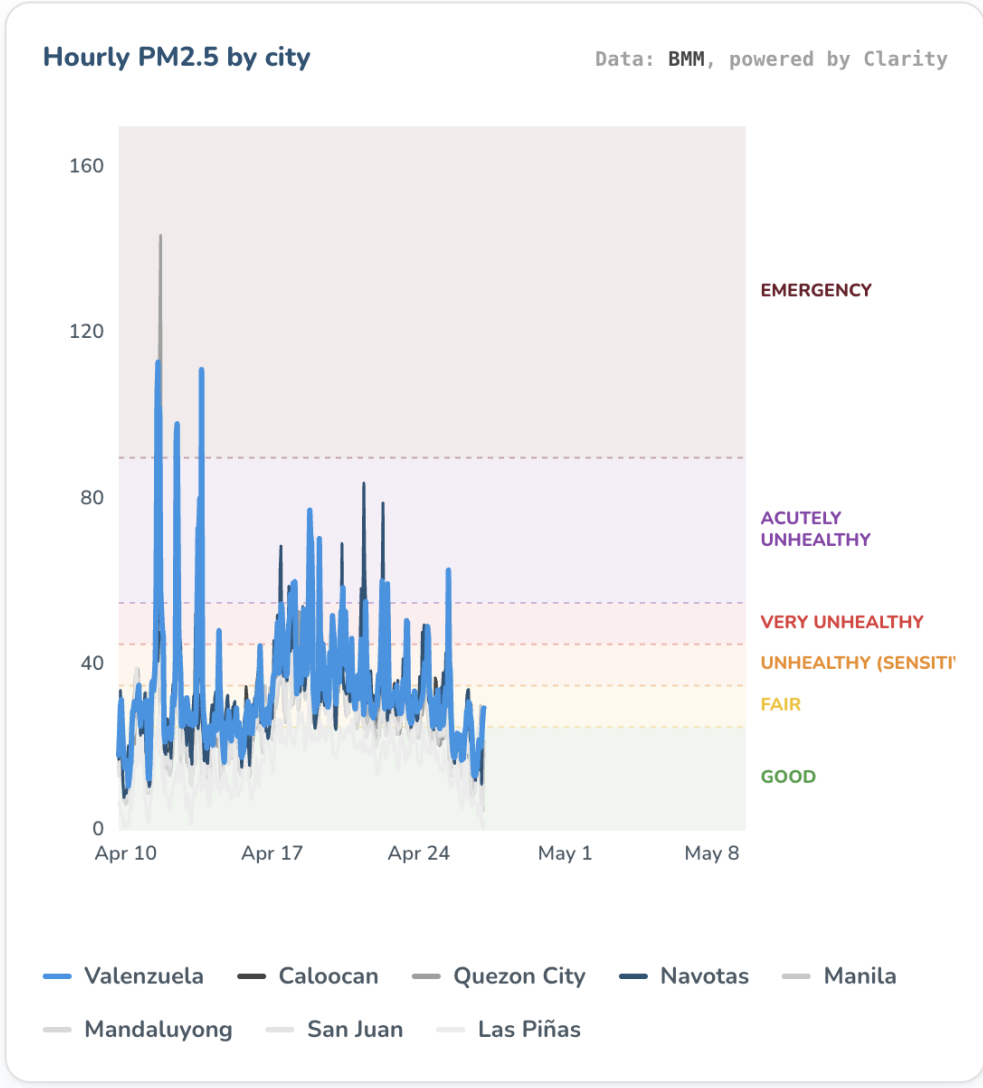


THE PEAK

How high, where and what it means

2 The north took the brunt

Valenzuela and Caloocan, closest to the fire and most directly downwind, crossed into the Unhealthy range, while southern cities stayed in Fair.

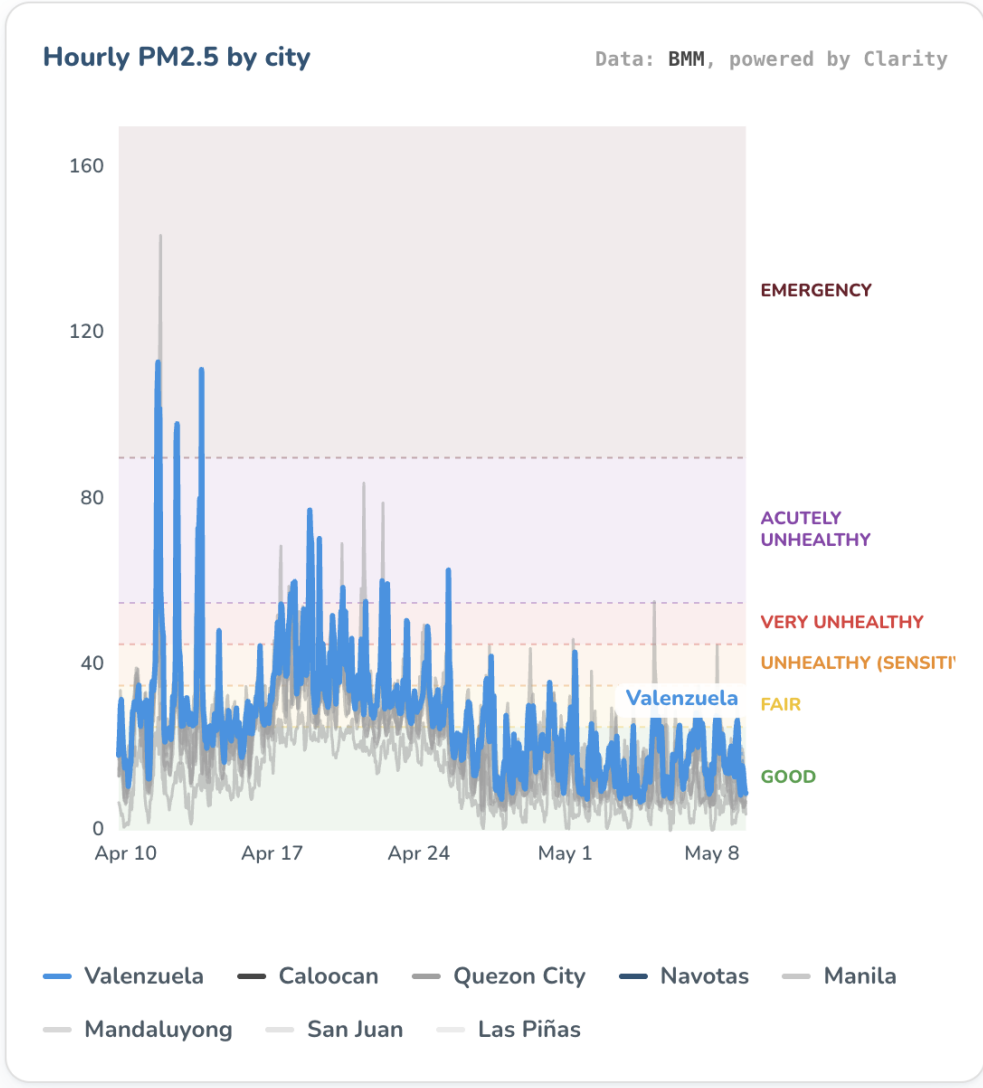


THE PEAK

How high, where and what it means

3 Valenzuela led throughout

Valenzuela recorded the highest readings of any city through the event, peaking near **49 µg/m³** as a daily average and far higher in single hours during the afternoon plume.

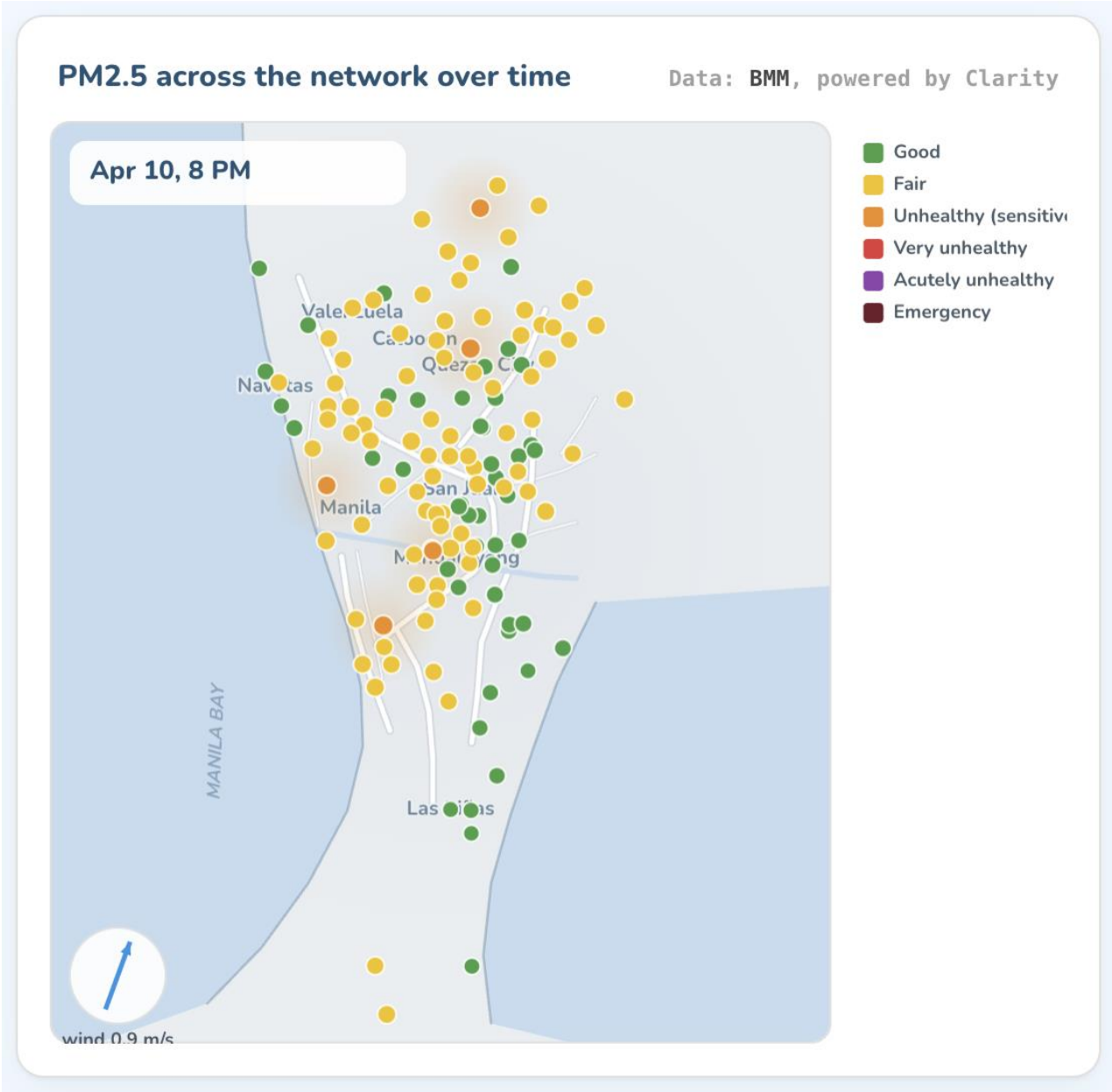


THE DRIFT

Where the pollution went

1 A clean evening

On the night of April 10, most of the metro is still in **GOOD/FAIR** category.

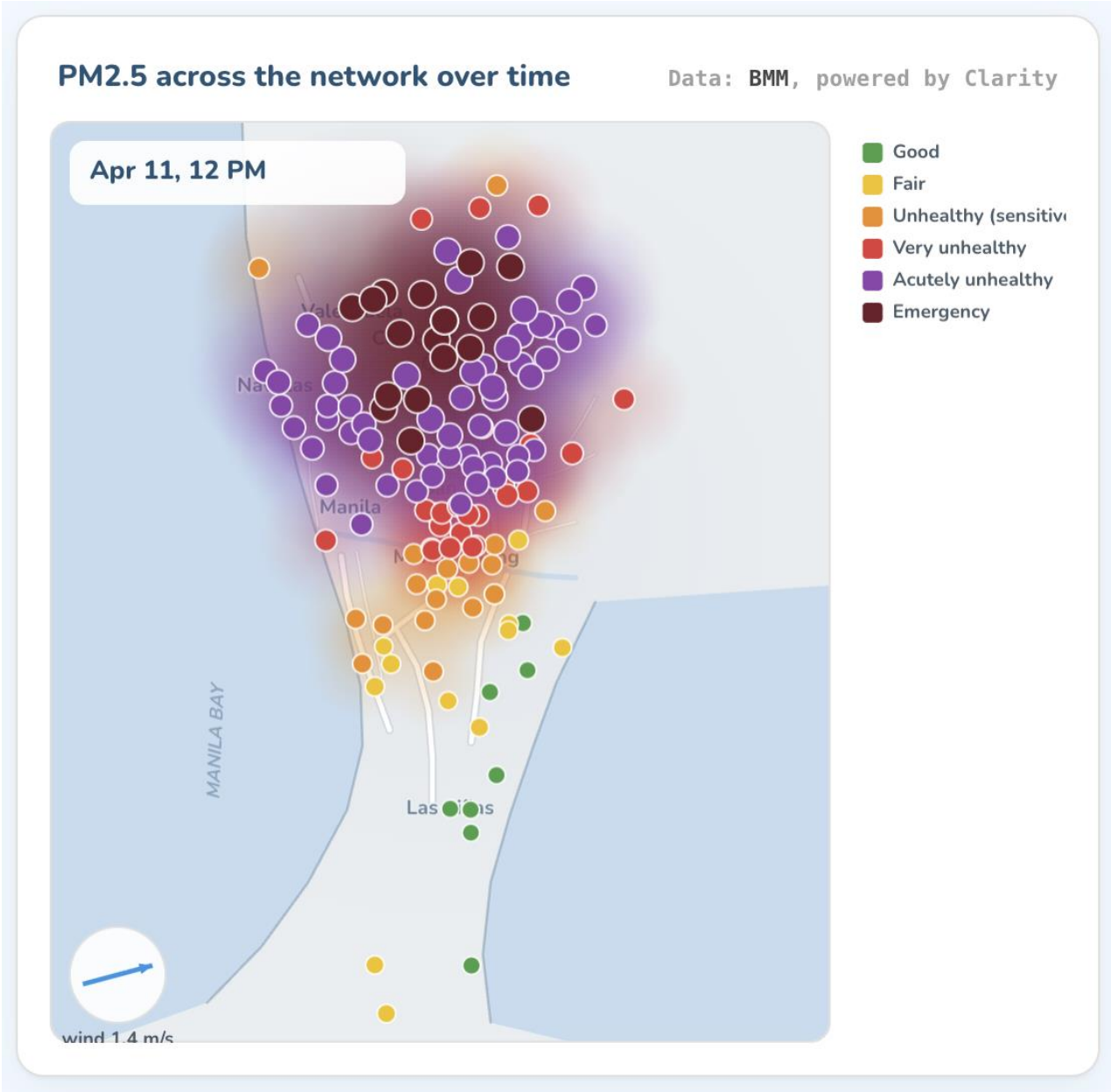


THE DRIFT

Where the pollution went

2 The plume forms

Through April 11 the smoke concentrated over Valenzuela, Caloocan and Quezon City. The wind vector shows the prevailing flow that carried it.

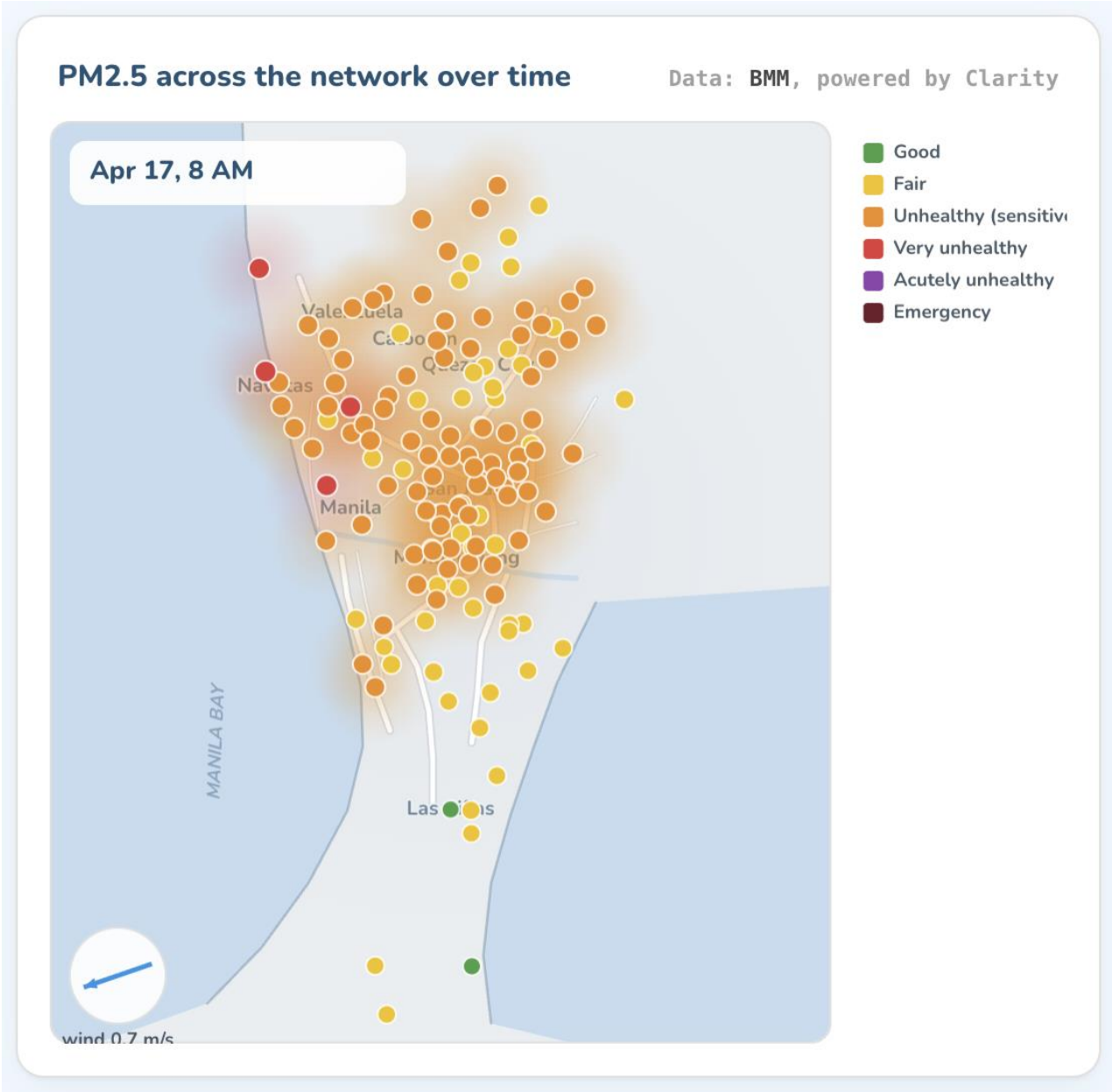


THE DRIFT

Where the pollution went

3 It did not stay put

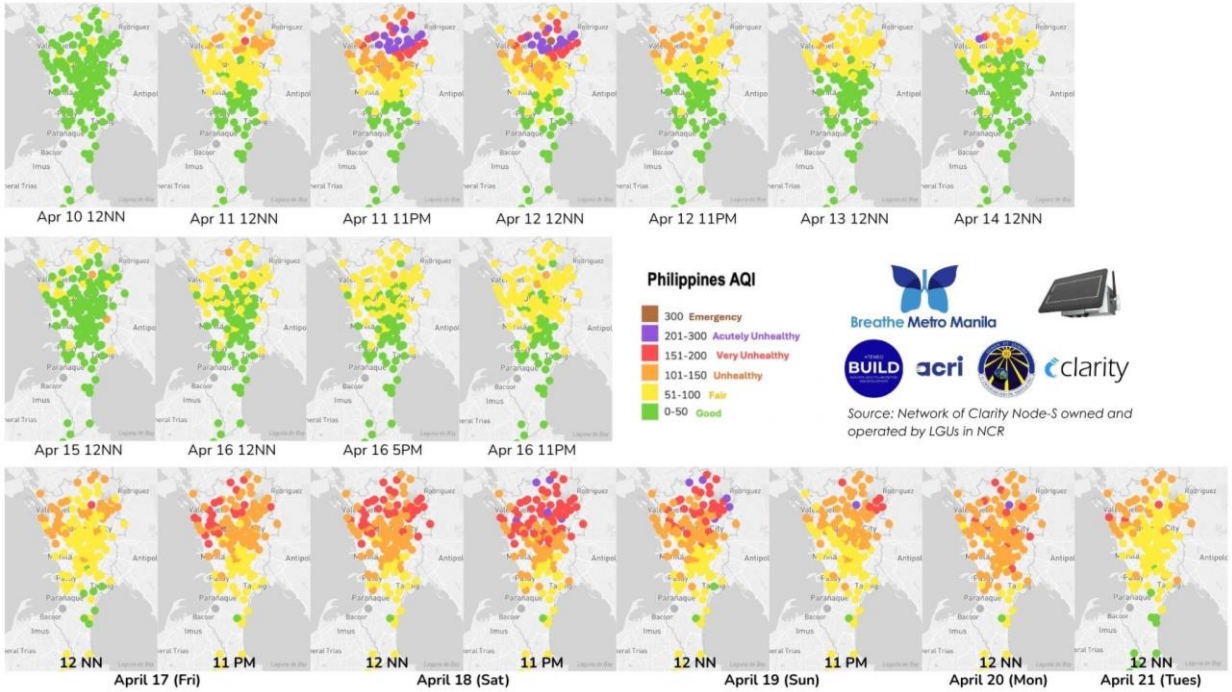
Reported haze reached Bulacan and Bataan, beyond the network's edge, so the full footprint is wider than these sensors can show.

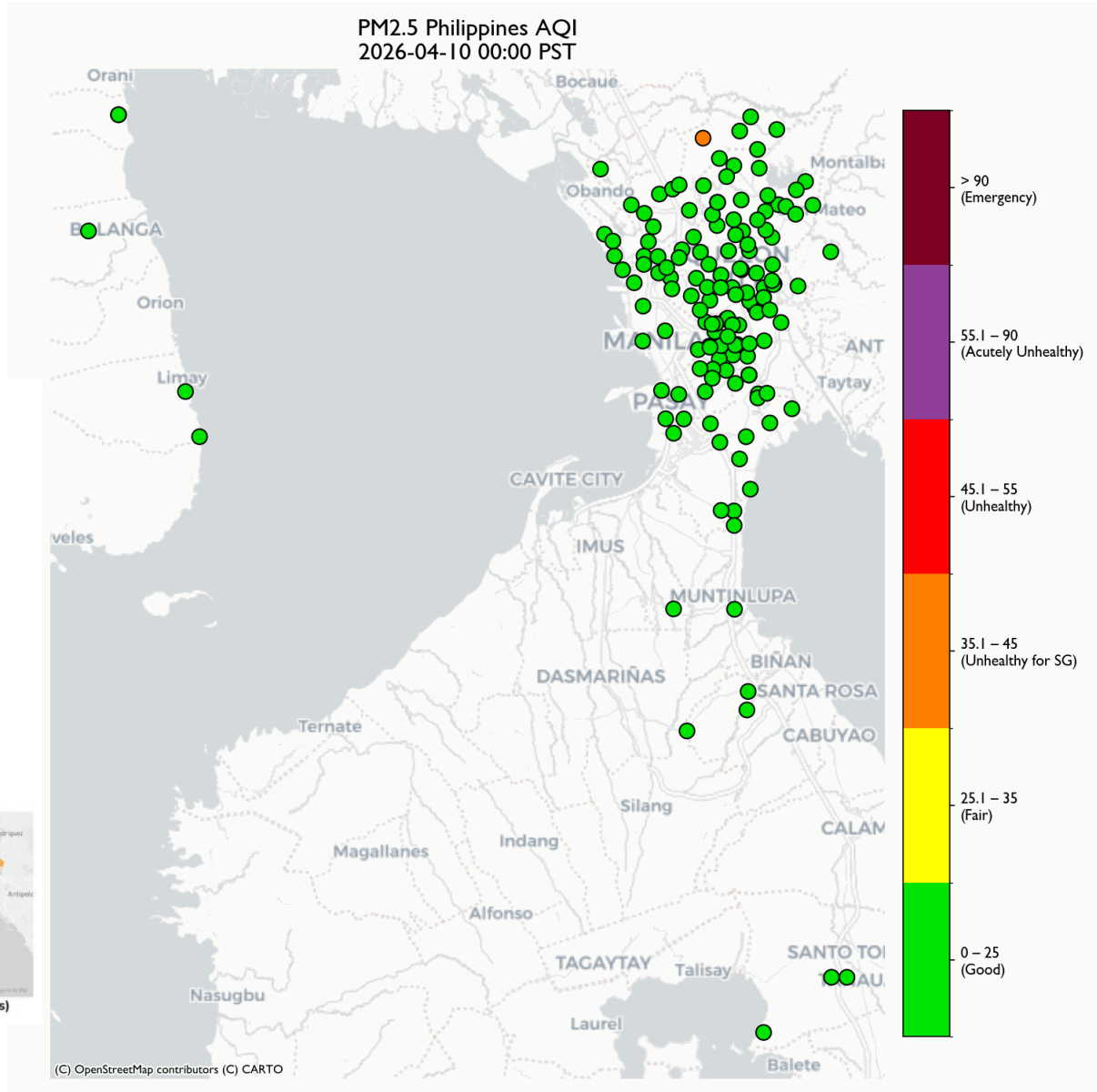


THE DRIFT

Where the pollution went

4 Air pollution doesn't stop at city limits





Source: Clarity data story, ACRI / Breathe Metro Manila

clarity

PM2.5 is only part of the picture

A “moderate” PM2.5 reading after a landfill fire does not mean the air is safe.

1

Carbon monoxide

Produced by smoldering, underground waste combustion — not captured by optical PM sensors.

2

Volatile organic compounds

Released as plastics and mixed waste burn; associated with respiratory irritation.

3

Dioxins and furans

A potential byproduct where plastics are involved, and among the most persistent, hardest-to-monitor toxics.

4

Sensor limits in extreme events

High humidity and unusual particle types — both plausible in a landfill fire — can affect optical sensor performance.

Source: Clarity data story, ACRI / Breathe Metro Manila,

A response that pulled in national, local, and independent players

Emergency response & suppression

Health & public safety

Environmental oversight & accountability

Legislative action & independent monitoring

Source: Clarity data story, ACRI / Breathe Metro Manila

The response reached beyond government

Private companies and two foreign governments joined the effort

Private sector

San Miguel Aerocity · construction & shipping firms

Japan: technical expertise

JICA · Japan Disaster Relief Team · Embassy of Japan

United States: technical assistance

U.S. expert teams

Source: Clarity data story, ACRI / Breathe Metro Manila

Independent data confirmed the turn

NO_2 by satellite

PhilSA

Daily Sentinel-2C satellite monitoring showed nitrogen dioxide — a smoke marker — fall below pre-fire (April 6) levels for two consecutive days by April 28, consistent with ground PM measurements from EMB NCR and Central Luzon.

2 consecutive days below pre-fire NO_2 levels (as of April 28–29)

PM2.5 on the ground

DENR

A month after ignition, every monitored area across Metro Manila logged “Good” AQI for PM2.5. Valenzuela topped the list at 46, still within the “Good” band; most stations read well below that.

All monitored areas: “Good” AQI by May 10, 2026

Source: Clarity data story, ACRI / Breathe Metro Manila

Why this matters

An acute event on a chronic burden

Metro Manila's ambient PM2.5 already runs well above the WHO annual guideline. The fire added an acute spike on top of that baseline, concentrated in the district that already carries the highest year-round load.

Continuous, granular monitoring caught what a single check-in would have missed

The worst readings of the week came four days after the fire was declared under control, not during the blaze itself. A monitoring network built for hour-by-hour, neighborhood-by-neighborhood resolution is what surfaced that pattern.

Recovery needs to be verified, not assumed

“Under control” from the fire department did not mean air quality had recovered. Ground sensors and satellite data together confirmed the actual timeline back to normal.

Source: Clarity data story, ACRI / Breathe Metro Manila, DENR, DOH, DPWH, BFP, PhilSA, PNA, Inquirer

Five weeks later, the same gap resurfaced

May 23–24, 2026 — Tondo, Binondo, and Intramuros, Manila

1. **~3:00 PM, May 23** — A residential fire hits Tondo, Manila, reaching the fourth alarm.

2. **Same afternoon** — A separate blaze at the Parola Compound in Binondo escalates to Task Force Charlie — ultimately displacing 2,134 families (7,123 residents) and destroying over 1,200 structures. It became the Manila blaze that drew international headlines that weekend.

3. **8:39 PM, May 23** — A third, unrelated fire ignites in Intramuros, a few kilometers away.

4. **Overnight into May 24** — Smoke from three concurrent, separately-ignited fires blankets Manila's oldest, most densely populated district at once.

54.9 µg/m³

peak PM2.5, correlated across 4 monitoring sites

The spike began the afternoon of May 23 and continued into the next morning, as three separate ignitions burned within hours of each other across three adjoining neighborhoods.

Why hyper-local resolution matters:

A single district-level station would have recorded one blurred signal — not which block was burning, or when each neighborhood faced its worst air. Four correlated sites is what let the pattern be told apart.

Source: Clarity data story, ACRI / Breathe Metro Manila

clarity

What LGUs can do before the next fire

Measures grounded in the gaps this incident exposed

1

Audit closure & contingency plans before operators exit

PhilEco withdrew its closure plan with no LGU follow-through. DENR now mandates contingency plans nationwide — LGUs can enforce this locally through permits.

2

Close monitoring gaps in high-risk districts first

Sensor density was thinnest in northern Metro Manila, exactly where the fire hit hardest. Prioritize coverage where vulnerability is highest.

3

Formalize private & foreign assistance channels

Equipment came from DPWH, SMAI, and private firms; expertise came from Japan and the US — all arranged reactively. Standing agreements would cut the mobilization lag next time.

What LGUs can do during the next fire

Measures grounded in the gaps this incident exposed

4

Set advisory triggers on sensor data, not incident status

"Under control" on April 12 did not mean safe air — the worst readings came days later. Advisories should follow real-time AQI.

5

Maintain cross-boundary evacuation protocols

Evacuations spanned Navotas and neighboring Obando, Bulacan. Pre-agreed protocols avoid ad hoc coordination mid-crisis.

6

Stand up a unified incident command from hour one

This response involved BFP, DPWH, DENR, DOH, PNP, and two LGUs. Naming that structure in advance beats assembling it reactively.

"'Under control' told us the flames were out. Continuous data told us when the air actually was."

Check the air you breathe daily: Open the Breathe Metro Manila monitoring map as faithfully as you check PAGASA for weather status.

LIVE

MAP

Clarity offers CARE kit trials to Philippine LGUs, with site assessment and proposal support for LDRRMF programming.
For details, please contact us at **ethel@clarity.io**