PROVIDING UNIVERSAL ACCESS TO AIR QUALITY DATA TO EMPOWER A GLOBAL COMMUNITY OF CHANGEMAKERS IN SOLVING AIR INEQUALITY

Colleen Marciel F. Rosales, Russ Biggs, Gabe Fosse, Chris Hagerbaumer
colleen@openaq.org • explore.openaq.org

OpenAQ is a nonprofit organization that aggregates and harmonizes real-time air quality data and provides universal and open access to air quality data and tools.

COMMUNITY AMBASSADOR PROGRAM

2023 OpenAQ Community Ambassador Program
Global leadership program targeted to AQ advocates in LMICs that are committed to utilizing open data to spur clean air action in their communities

Ikromjon Mamadov — Khujand, Tajikistan
Nurzhan Chunueva — Bishkek, Kyrgyzstan
Alexandru Luchian — Cluj-Napoca, Romania
Rebeca Monroy-Torres — Guanajuato, Mexico
Thanasak Thumbuntu — Bangkok, Thailand
Luciano Lamaita — Saladillo, Argentina
Theresa Igwe — Calabar, Nigeria
Malkia Abuga — Nairobi, Kenya
Abid Omar — Karachi, Pakistan
Jihan Fauziah Hamdi — Jakarta, Indonesia

Together with OpenAQ, these ambassadors commit to advocating for data transparency and contribute to collective action against air pollution.
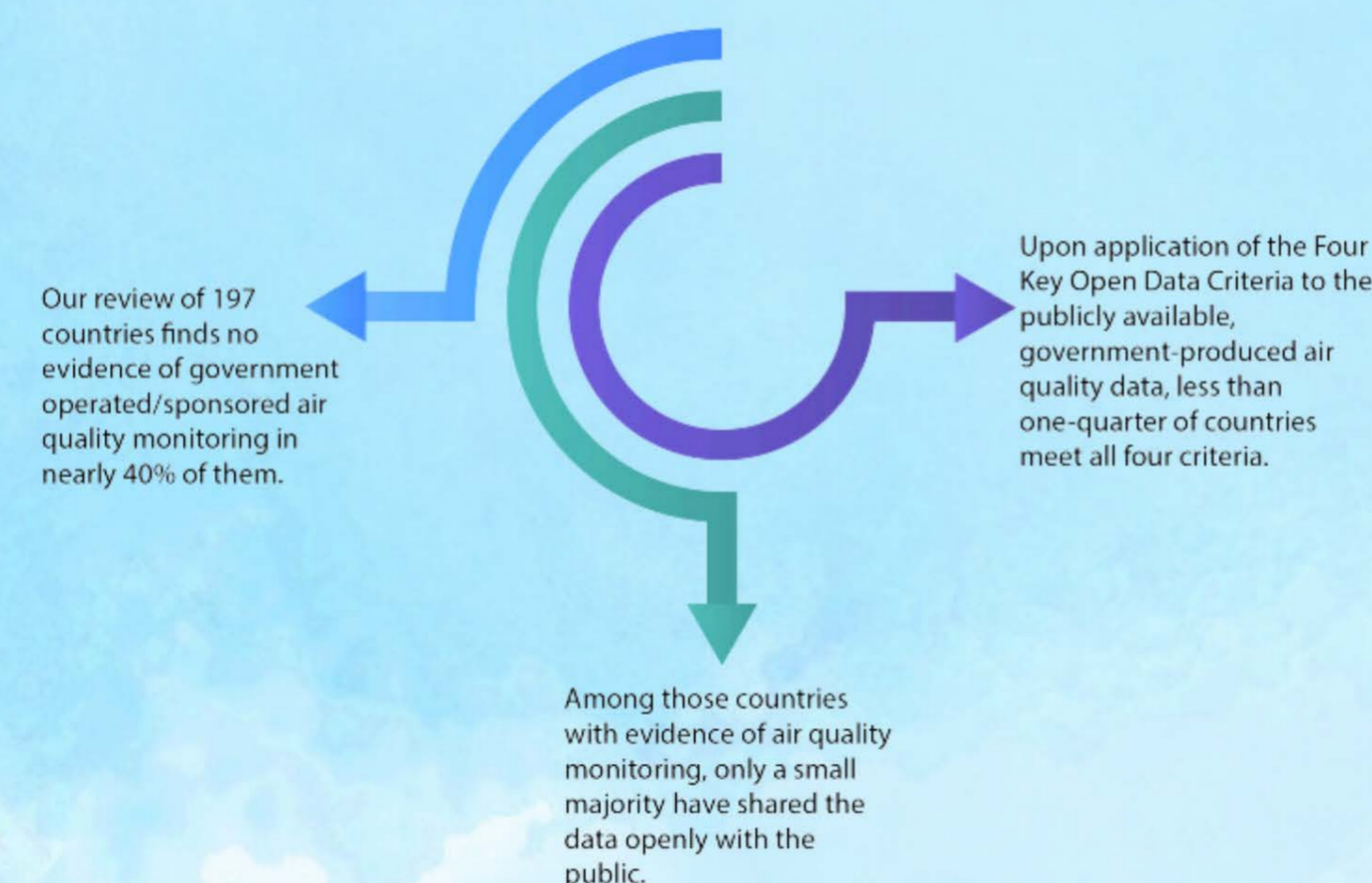
Besides receiving training from the OpenAQ team on the current technology and tools for air quality data analysis, such as the OpenAQ Explorer and API, the Community Ambassadors will learn about the fundamentals of air pollution monitoring, atmospheric chemistry, air pollution and health, and open data principles. They have opportunities to interact with the wide network of air quality researchers and advocates within the OpenAQ community.

As OpenAQ Community Ambassadors, these individuals serve as facilitators of open data and air quality monitoring in their locales. To jumpstart this, they received air sensors — many thanks to the generosity and support of our partners Clarity, AirGradient, and ATMO.

OPEN AIR QUALITY DATA: GLOBAL LANDSCAPE REPORT

Open Air Quality Data: The Global Landscape

OpenAQ publishes the only global assessment of whether and how national governments are producing and sharing air quality data with the public. Our most recent assessment found that at least one billion people are living where their national government doesn't monitor air quality and that less than one-quarter of the world's countries provide open access to maximally useful air quality data.

Our review of 197 countries finds no evidence of government operated/sponsored air quality monitoring in nearly 40% of them.

Upon application of the Four Key Open Data Criteria to the publicly available, government-produced air quality data, less than one-quarter of countries meet all four criteria.

Among those countries with evidence of air quality monitoring, only a small majority have shared the data openly with the public.
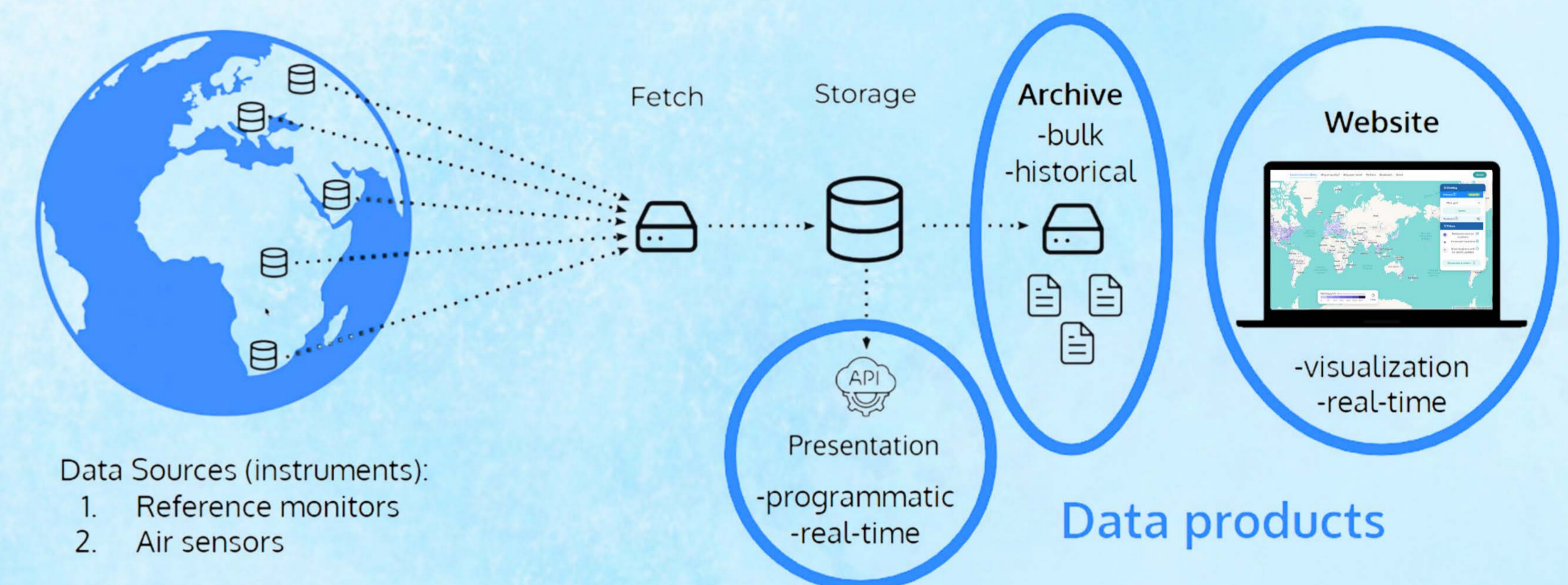
With the help of the Latin America Early Career Earth System Scientists Network (LAECESS), the report has been translated to Spanish and Portuguese for wider readability.

Download the English, Spanish and Portuguese versions at:
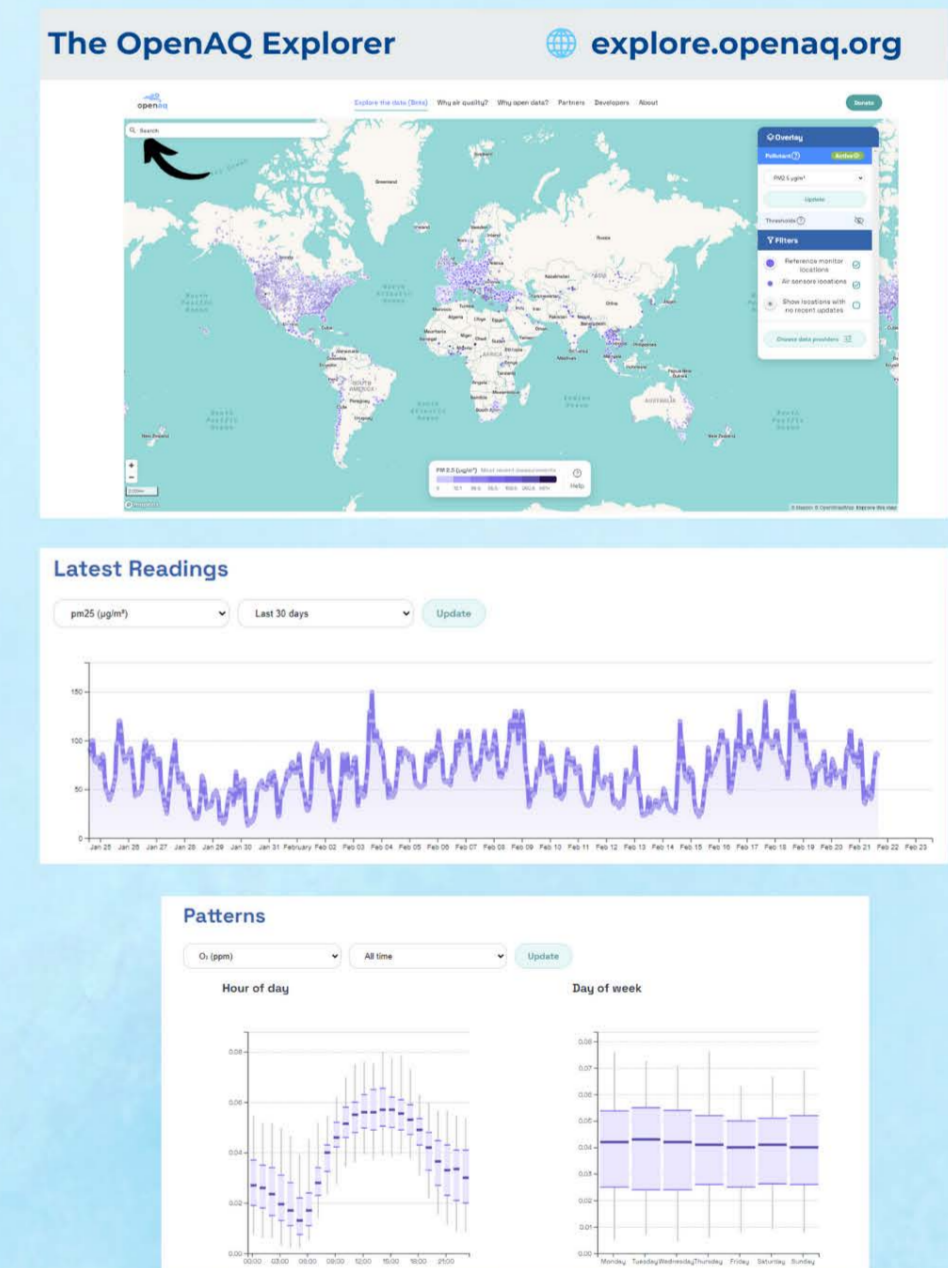openaq.org/about/initiatives/publications/

Dados abertos de qualidade do ar: O Cenário Global

Datos Abiertos de la Calidad del Aire: Panorama Mundial

HOW WE DO IT

Fetch — Storage — Archive (-bulk, -historical) — Website (-visualization, -real-time)

Presentation (-programmatic, -real-time)

Data products

Data Sources (instruments):
1. Reference monitors
2. Air sensors

NUMBERS

44 billion data points
56,000 locations
153 countries

POLLUTANTS REPORTED

PM$_{2.5}$
PM$_{10}$

Sulfur Dioxide (SO$_2$)
Nitrogen Dioxide (NO$_2$)

Carbon Monoxide (CO)
Black Carbon (BC)
Ozone (O$_3$)

EXPLORER TOOL

Explore the massive collection of data available on the OpenAQ platform. The OpenAQ Explorer provides easy-to-use data visualization and data downloads.

We built OpenAQ Explorer to equip users of all abilities with tools to use the data platform to understand air quality in their community. It opens the door to individuals and organizations around the world who 1) want to browse the data before delving deeper; 2) want to divert the time and effort to advocacy; and/or 3) don't have the technical skills to use an API.

COMMAND LINE INTERFACE (CLI)

```
openaq measurements list 2178 --from 2023-09-06 --limit 5 --mini
PARAMETER    DATETIME_LOCAL             DATETIME_UTC              PERIOD       VALUE
pm25 µg/m³   2023-09-05T18:00:00-06:00  2023-09-06T01:00:00Z     01:00:00       1.9
o3 ppm       2023-09-05T18:00:00-06:00  2023-09-06T01:00:00Z     01:00:00     0.047
no2 ppm      2023-09-05T18:00:00-06:00  2023-09-06T01:00:00Z     01:00:00    0.0006
so2 ppm      2023-09-05T18:00:00-06:00  2023-09-06T01:00:00Z     01:00:00         0
pm10 µg/m³   2023-09-05T18:00:00-06:00  2023-09-06T01:00:00Z     01:00:00        11
```

Access the OpenAQ API directly from your terminal. The OpenAQ CLI makes common data fetching tasks easy so you can focus on analysis.

Scan the QR code to watch our Explorer Walkthrough
Check out real-time air quality data at explore.openaq.org
Learn more at openaq.org
Join our dev discussions at bit.ly/JoinOpenAQSlack
Connect with us at info@openaq.org