# openaq

## Open Data ➤ Cleaner Air ➤ Healthier Communities

OpenAQ aggregates and harmonizes open air quality data from across the globe onto an open-source data platform so that anyone concerned about air quality has unfettered access to the data they need to analyze, communicate and advocate for clean air.
By providing universal access to air quality data, OpenAQ empowers a global community of changemakers to solve air inequality.

### Why Air Quality

99% of us are breathing polluted air, the leading environmental cause of death, cutting lives short by an average of 2.2 years worldwide. Air pollution impacts our health in many ways, starting when we're in the womb. The burden is unequal, with some people being far more vulnerable and some breathing far more polluted air.

### Why Open Data

Open data (digital data that can be freely used, reused, and redistributed by anyone, anytime, anywhere) democratizes data access, enables collaboration around key social challenges, allows public oversight of government activities, supports innovative ways to raise awareness, and leads to more equitable solutions.

## Why OpenAQ

OpenAQ provides foundational data infrastructure. We were the first to aggregate ground-level ambient air quality data on an open-source platform, making it findable, accessible, interoperable and reusable. To achieve the best platform possible, we develop our technology with the following core values:

- Open: Anyone can access the data for free.
- Open-Source: We believe in transparency. You can see the underlying code.
- Comprehensive: We continually seek new sources of data to build a complete map.
- Accessible: We build tools for a variety of users.
- Trustworthy: The data on our platform comes directly from the source.
- Resilient: We work toward a reliable platform that provides the information users need.

## Who We Serve

scientists/researchers/analysts • community advocates • journalists/communicators/educators • governments • entrepreneurs • and more!

**openaq.org • linktr.ee/openaq • @openaq • info@openaq.org**
OpenAQ is a US-based environmental tech nonprofit with tax-exempt 501(c)(3) status.

# FAQs

- **What is OpenAQ?**

OpenAQ is the world's first open, real-time and historical air quality platform, aggregating government-measured and research-grade data, as well as air sensor (a.k.a, "low-cost" sensor) data–entirely open-source. Ours is the only air quality data platform that meets all four of the following criteria: aggregating disparate data sources at the station level, making data freely available programmatically on a fine temporal level, keeping underlying data-fetching software fully open, and sharing data in physical units rather than as an air quality index.

- **Who may use the OpenAQ platform?**

Anyone who cares about air quality and climate change: researchers/analysts, journalists/ storytellers, community-based organizations, app developers, and more!

- **What data are stored on the OpenAQ Platform?**

OpenAQ primarily aggregates PM2.5, PM10, SO2, NO2, CO, O3 and BC measurement data. For a limited set of locations, we have data for PM1, PM4, CO2, NO, NOx, CH4 & UFP. We will soon add meteorological parameters: RH & T.

- **How can the OpenAQ Platform be accessed?**

OpenAQ provides a REST API for programmatic access of the entire data set. Bulk data downloads are also available via Amazon Web Services S3 object storage downloads. OpenAQ also provides an interactive web application for browsing and searching the database from a graphical user interface.

- **What types of data does your repository accept?**

OpenAQ accepts ambient air quality data measurements from ground-level stations. Data must be 'raw' and reported in physical concentrations on their originating site. Data cannot be shared in an 'Air Quality Index' or equivalent format. Data must be at the 'station-level,' associable with geographic coordinates, not aggregated into a higher (e.g., city) level. Data should be from measurements averaged between 10 minutes and 24 hours.

- **What licenses does your repository support?**

OpenAQ supports a variety of licenses for source data. For research data, OpenAQ prefers CC BY 4.0 licensed data.

- **Can you help a scientist get their data and metadata archived?**

Generally, programmatic access to data is preferred to ingest data into the OpenAQ system. Contact info@openaq.org to discuss how to add your data to the OpenAQ platform.

- **Do you provide training on how to use your platform?**

Links to our training resources can be found in: linktr.ee/openaq. Contact us if you would like to host an OpenAQ training (due to limited capacity, we prioritize larger, mission-aligned projects).

- **Who supports you?**

OpenAQ relies on a combination of non-profit and private foundation grants, government grants, and individual donations. Major funders include AWS, Clean Air Fund, PagerDuty, NASA and USAID.