Air Quality Data: Central Asia

A regional snapshot derived from the OpenAQ report, Open Air Quality Data: The Global Landscape 2024
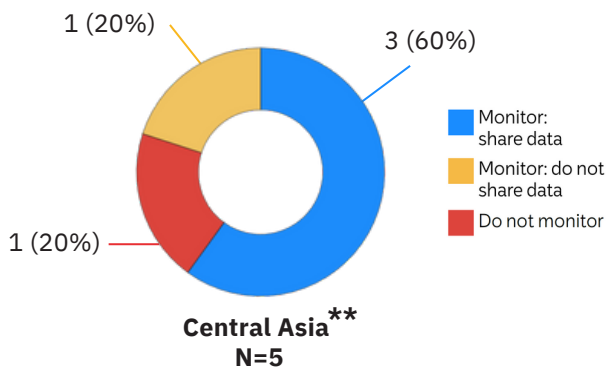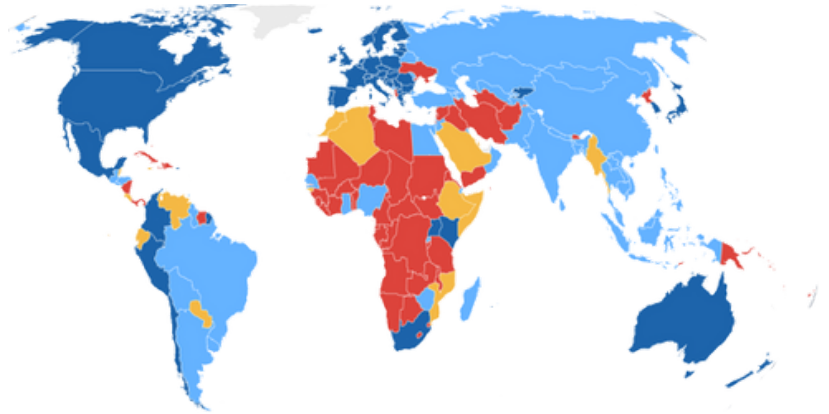
The Importance of Air Quality Monitoring & Data Transparency

Air pollution is the #8 leading risk factor for death and #9 leading risk factor for disability-adjusted life years (DALY) in Europe and Central Asia combined. (State of Global Air, 2024*)

Measuring and tracking air pollution levels is critical to understanding and developing solutions to poor air quality. Governments that make air quality data open, easily accessible and freely available can leverage public, private and civil society expertise to build effective and durable approaches to solving the air pollution crisis.

OpenAQ Examined:

1. Which countries are (and are not) actively monitoring air quality on a continuous basis?

2. To what extent are countries that are monitoring sharing the data they generate with the public?

1 (20%)   3 (60%)

■ Monitor: share data
■ Monitor: do not share data
■ Do not monitor

1 (20%)

Central Asia**
N=5

Regional classification for countries according to the World Bank

Monitoring & Data Sharing Status

We found evidence that 80% [N=4] of the 5 countries in this region are generating air quality data on a regular basis and 20% [N=1] are not. Turkmenistan, the only country without a national-level air quality monitoring, has a population of 6.5 million.

60% [N=3] are publicly sharing the data they generate, and 20% [N=1] are not. *[Note that Kazakhstan shares air quality data only with people located within their geographical boundary.]*

Only Kyrgyzstan is sharing their data in a fully open, transparent manner.

Criteria for Fully Open Data

⬡ in physical units (an AQI alone does not

⬡ suffice) with station-specific geographic

⬡ coordinates at a daily or sub-daily frequency

⬡ in a format that is machine-readable.

Changes to Monitoring & Data Sharing Since 2022

Kyrgyzstan began monitoring and sharing their data in a fully open manner. Tajikistan has been monitoring since the last report in 2022, and began sharing their air quality data as of 2024.

* Based on 2021 data. "Air pollution" includes ambient $PM_{2.5}$, ambient ozone and household air pollution.

Barriers

The most significant barrier to establishing a regular air quality monitoring program is resource constraints, such as a lack of financial resources and/or technical expertise. Governments must procure, operate and maintain the monitoring equipment; centralize and manage the data they produce (either building their own custom data management system or relying on private air sensor manufacturer platforms; analyze and use the data to inform actions; share the data; and communicate effectively.

Governments may not recognize the benefits of full data transparency: Open data increases public trust and cross-sectoral collaboration, leading to more innovative and evidence-based clean air solutions.

Opportunities

- Leveraging international expertise and partnerships can help overcome resource constraints.
- A global, stakeholder-led project is underway to develop an open-source data management system that governments can tailor to their needs.

Bright Spots

Inter-country and local government monitoring efforts, as well as monitoring projects by non-governmental organizations (academic institutions, community-based organizations, civic groups and citizen scientists), are increasing. For example, the Air Quality Central Asia platform supports monitoring in Kazakhstan, Kyrgyzstan, Uzbekistan and Tajikistan.

Recommendations

- All countries should measure air quality and share the data they generate in a fully transparent and accessible manner.

- Funders, such as development banks and philanthropies, should support less-resourced governments in their monitoring and data sharing efforts.

About OpenAQ

OpenAQ is the world's first and largest open-source, open-access database of outdoor air quality measurements, built to ensure everyone has unfettered access to the data they need to analyze, communicate and advocate for clean air.

Read the full report here:
link.openaq.org/2024GlobalLandscape

Access the full tally of countries here: link.openaq.org/2024-ReportWorksheet

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