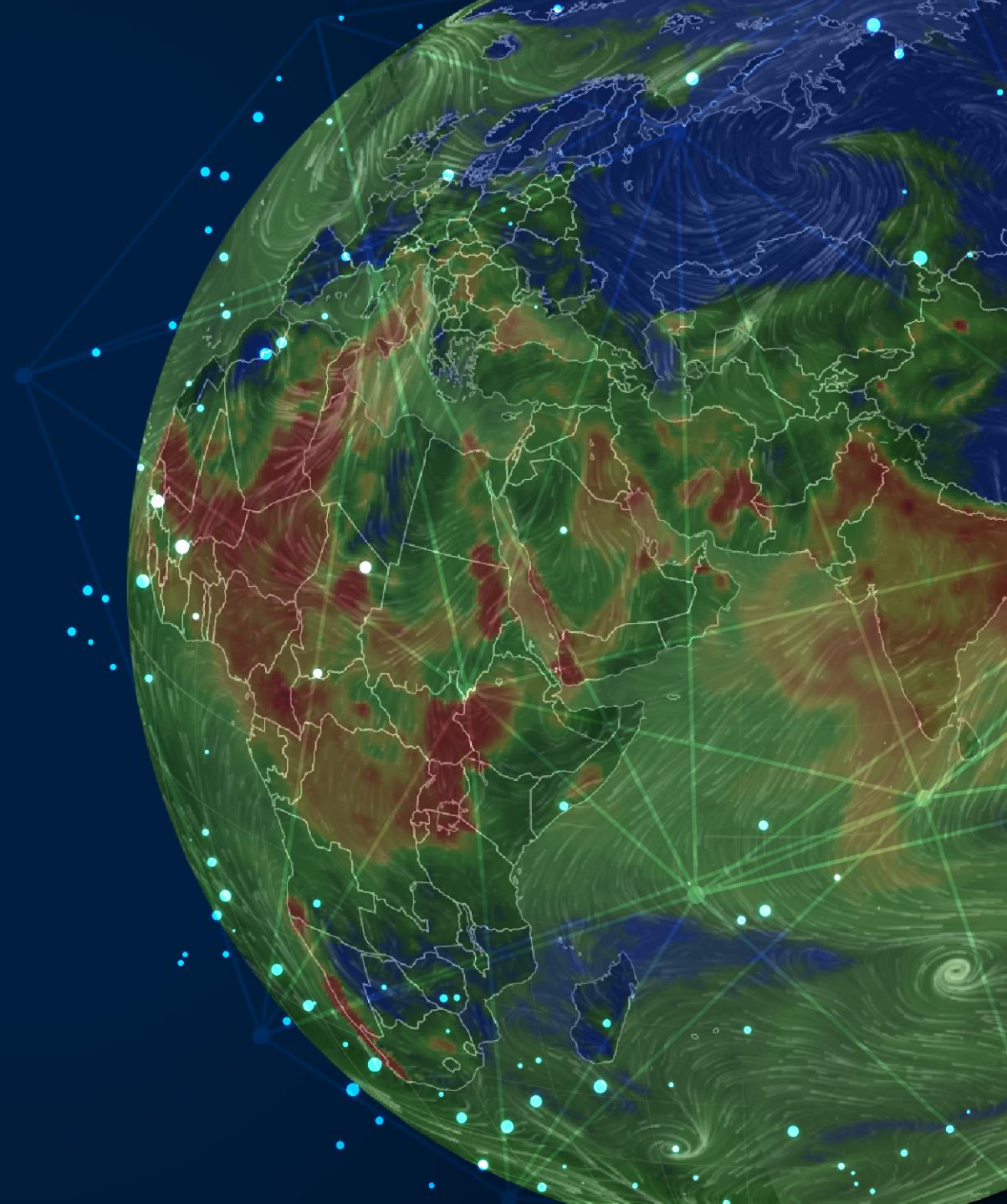


Democratizing Air Quality Data: Bridging Data Gaps in Low and Middle-Income Countries with Low Cost Sensors

Christi Chester Schroeder, Ph.D.
Air Quality Science Manager

ASIC Riverside
May 2, 2024



About IQAir

30,000+

Air quality monitoring monitors

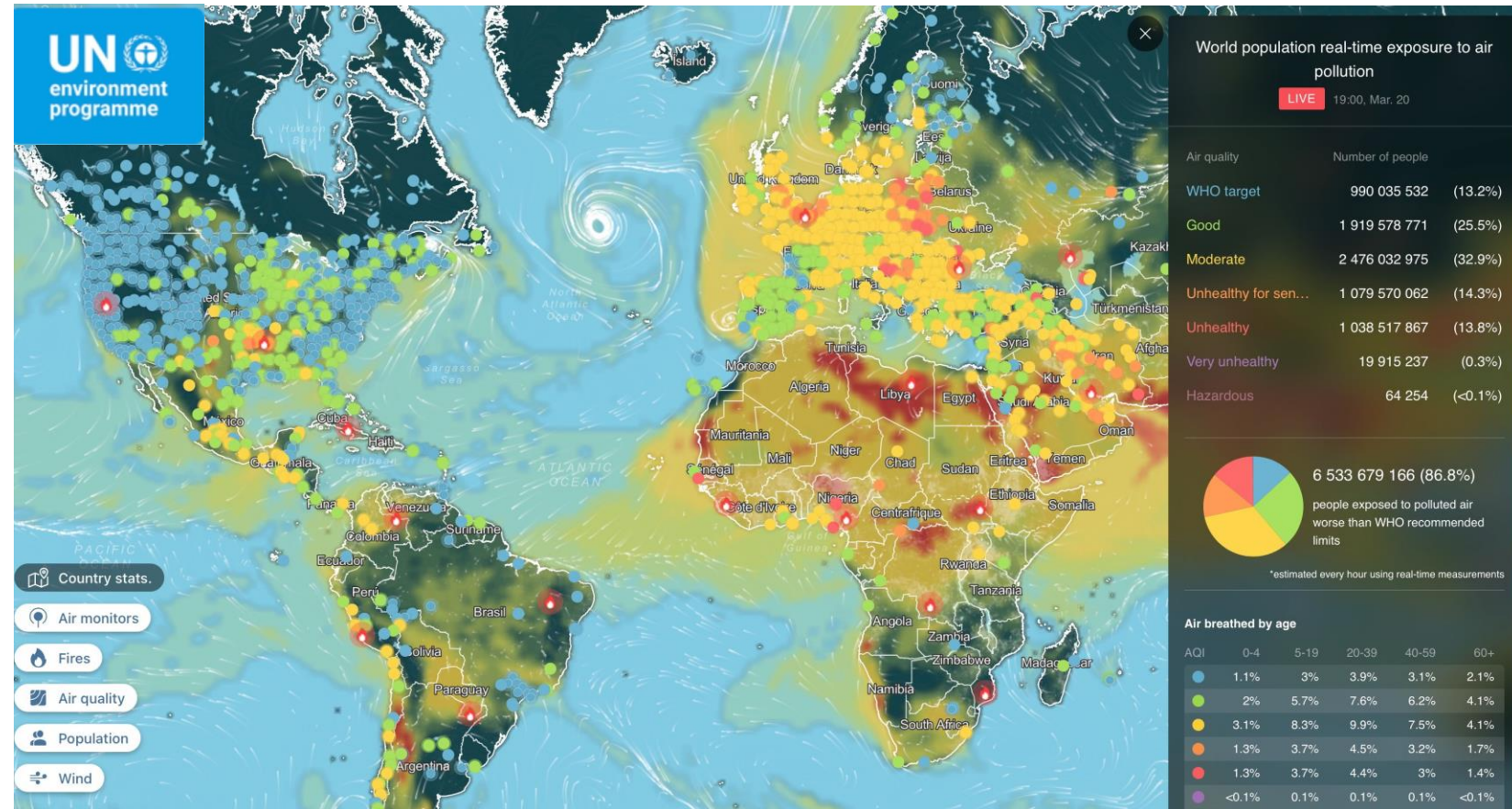
15,000+

global cities

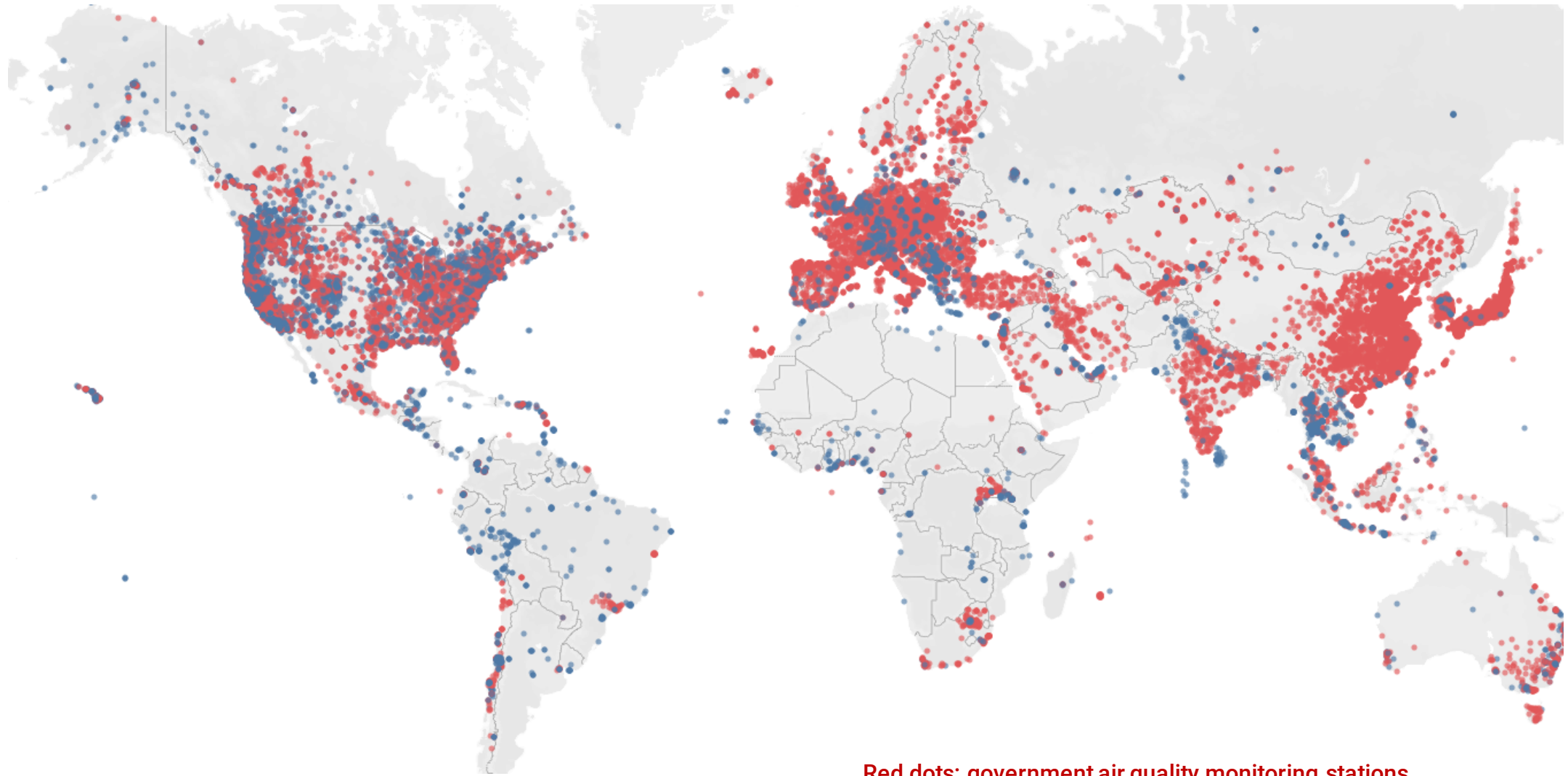
140+

countries, regions, territories

- Mission: improve air quality through information, collaboration, and technology
- Largest public source of air quality data
- Sensor agnostic platform
- Free access to real-time air quality data and information
- Measure to inform, inform to act



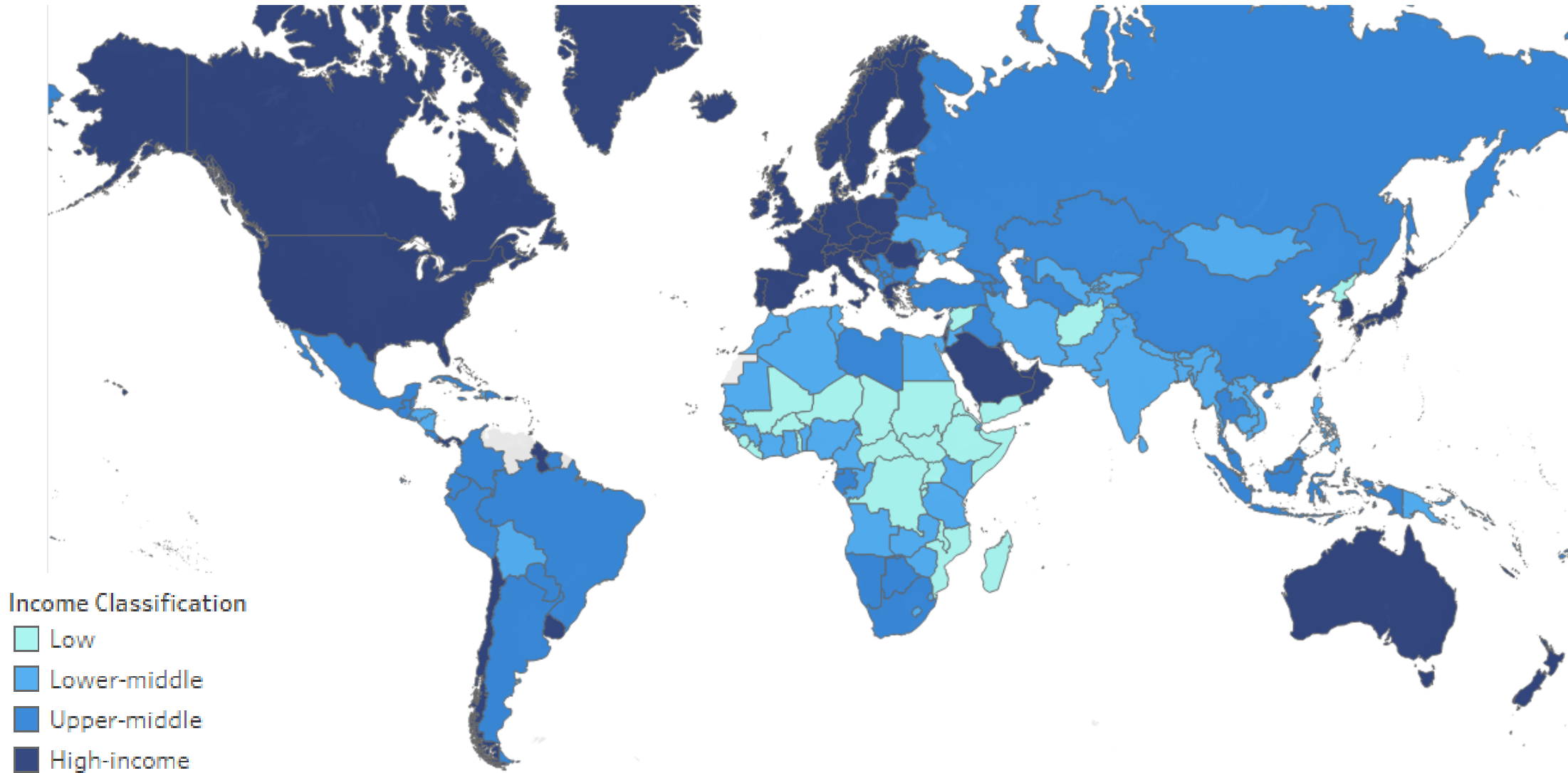
Global Air Quality Data Sources



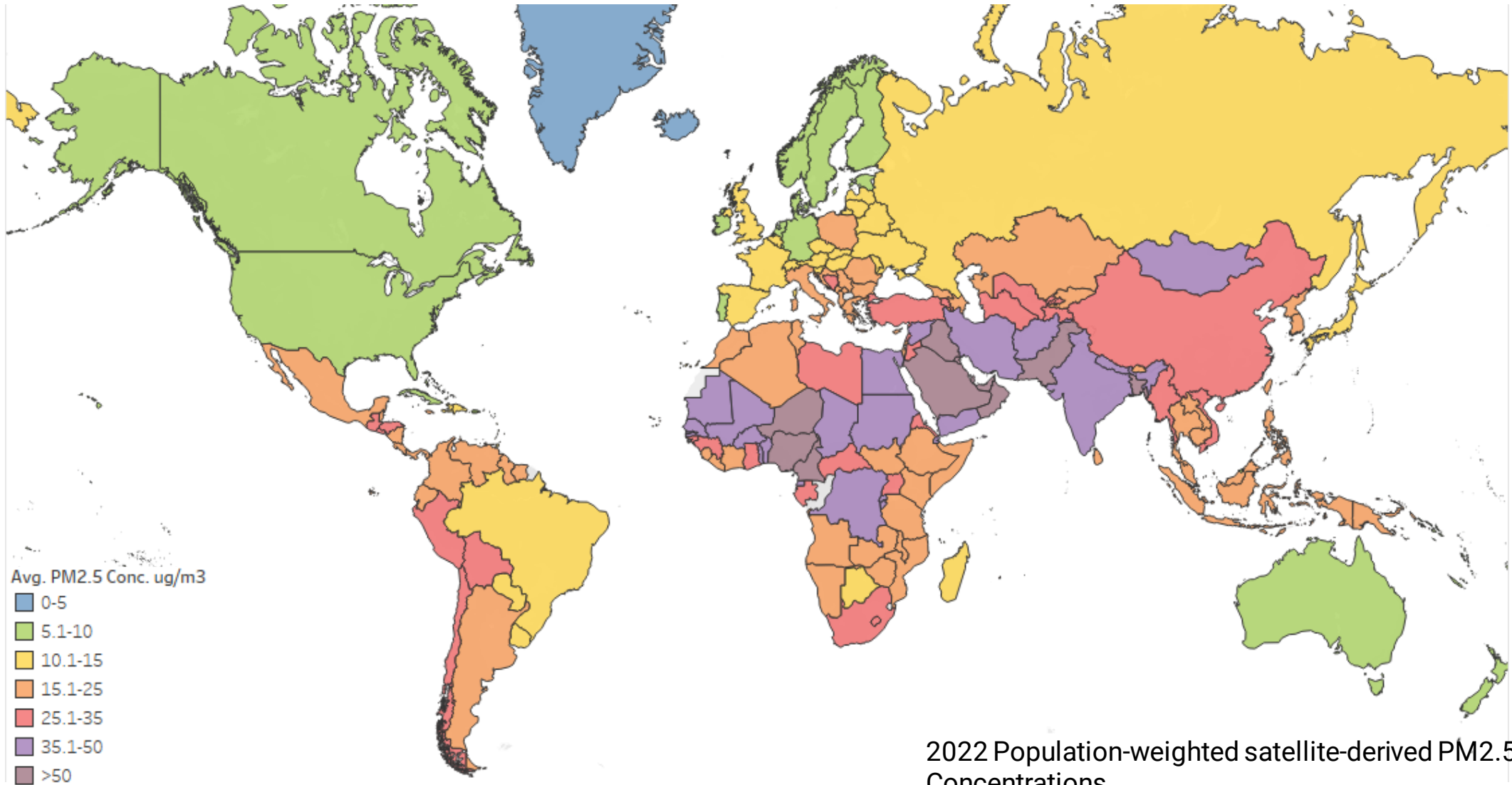
Red dots: government air quality monitoring stations

Blue dots: independently operated air quality sensors

Low- and Middle- Income Countries



Most in need, least resourced



2022 Population-weighted satellite-derived PM_{2.5} Concentrations

A. van Donkelaar et al. (2021), Monthly Global Estimates of Fine Particulate Matter, Environ. Sci. Technol.

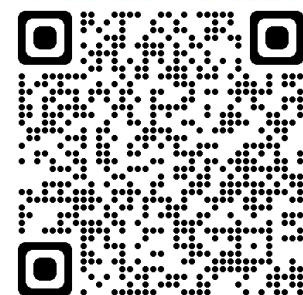
Latin America: Aires Nuevos Project

Project background

- Community network
- 115 LCS in 8 countries
- Goal: mitigate air pollution exposure in early childhood

Community engagement

- Educating local stakeholders
- Lack of Spanish language AQ training materials



Latin America: Aires Nuevos Project

Logistics

- **Lima, Peru:** Supplemental support from local government
- **Chile:** Pushback from local air quality municipal employees and community members

Funding

- NGO resource/focus allocation

1st

Air Quality Monitoring Network with a focus on childhood in Peru



+ 10,000

Children benefited from the project

+ 600

Caregivers (teachers, doctors, parents) benefited

6

Public spaces transformed based on air quality data

64%

increased coverage of the city's air quality monitoring

492 m²

of plantations of local species in the surroundings of the intervened spaces

1803 m²

of safe and accessible routes implemented to prevent dust lifting

622.5 m²

of murals on facades with photocatalytic paint that reduces air pollution levels

+45 %

improvement of air quality in the intervened spaces



* It should be noted that calm zones and / or safe routes were created, 70 playgrounds, rest and low-cost green areas were installed, community participation was promoted, etc.

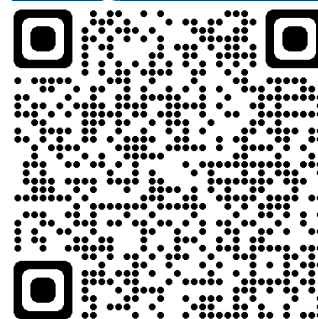
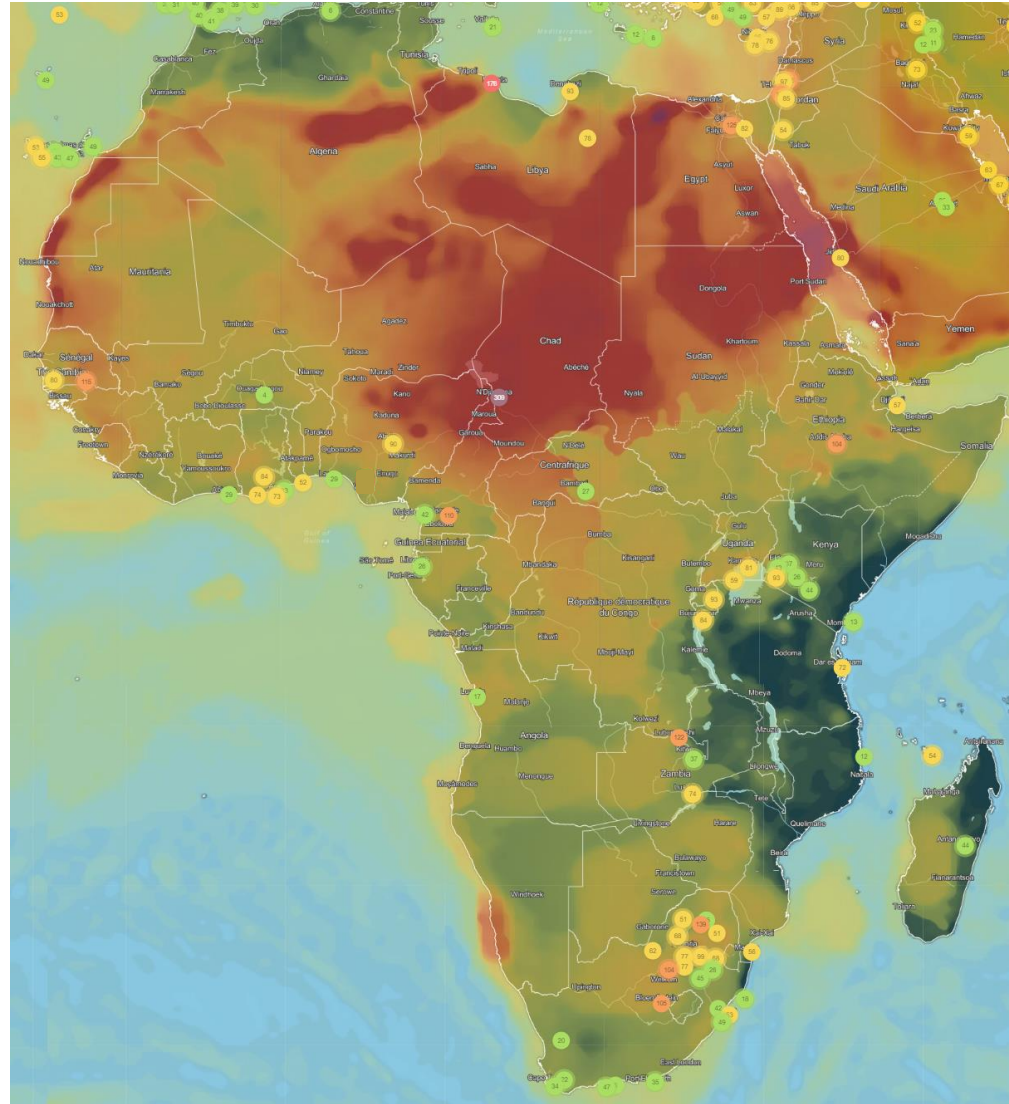
Africa: IQAir Foundation Global Outreach Program

Project background

- LCS donations
- Goal: expand access to real-time AQ data, increase transparency and awareness

Logistics

- Infrastructure constraints
- Import and customs
- Bureaucracy



Africa: IQAir Foundation Global Outreach Program

Logistics

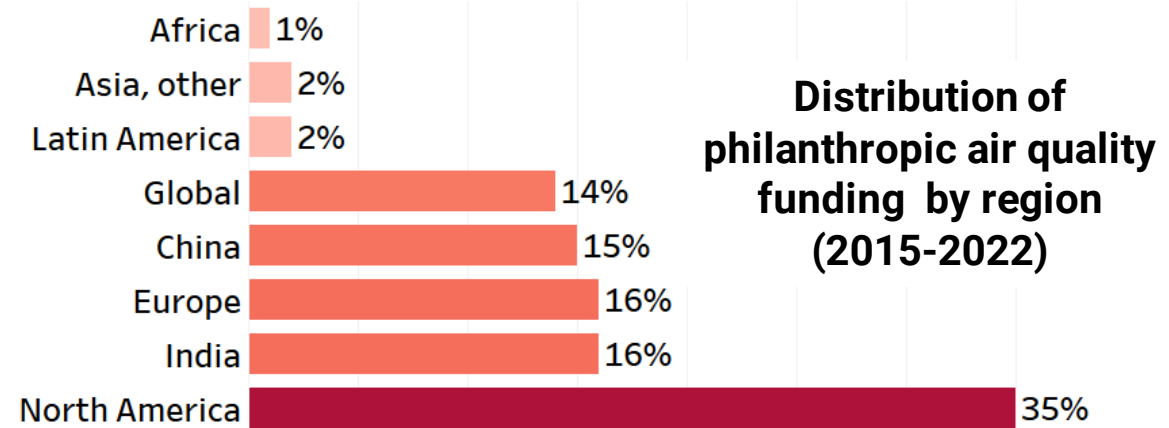
- Lack of local calibration reference source

Funding

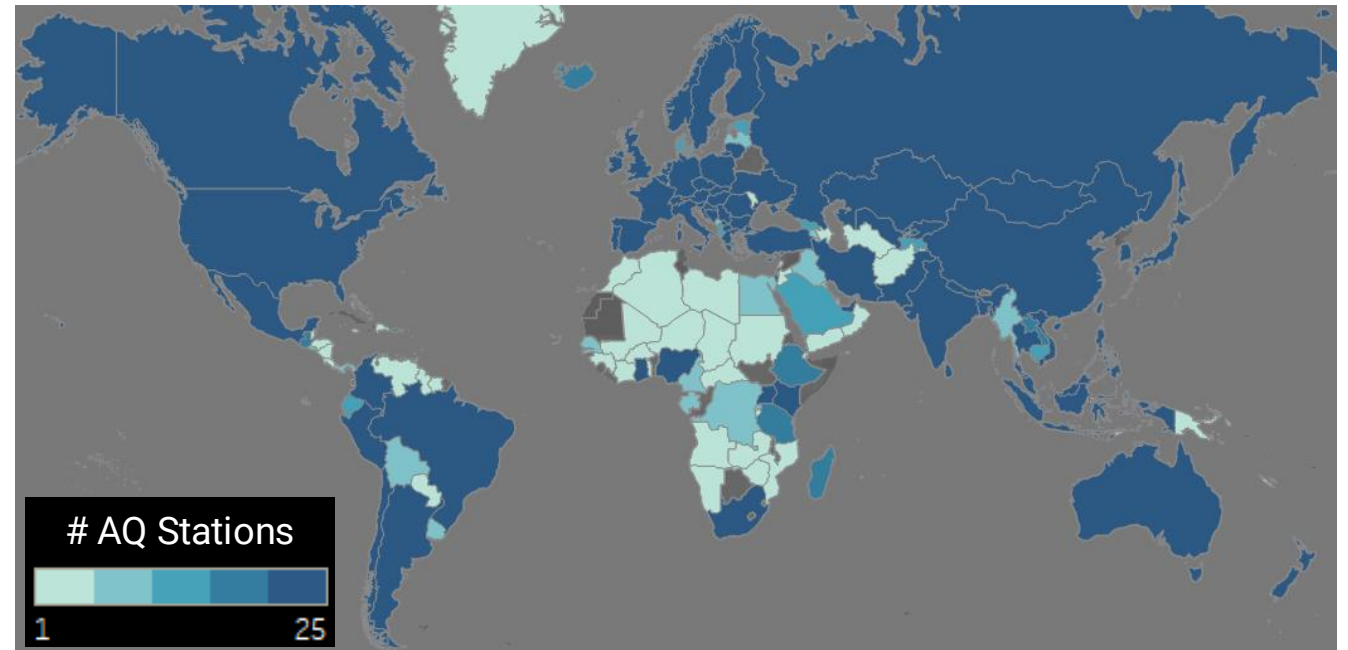
- Taxation and duties
- Project funding

Community engagement

- Local partners



Philanthropic Foundation Funding for Clean Air Report, Clean Air Fund (2024)



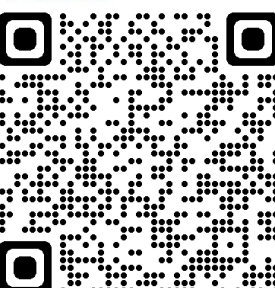
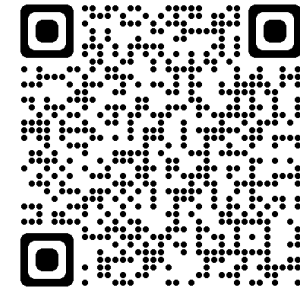
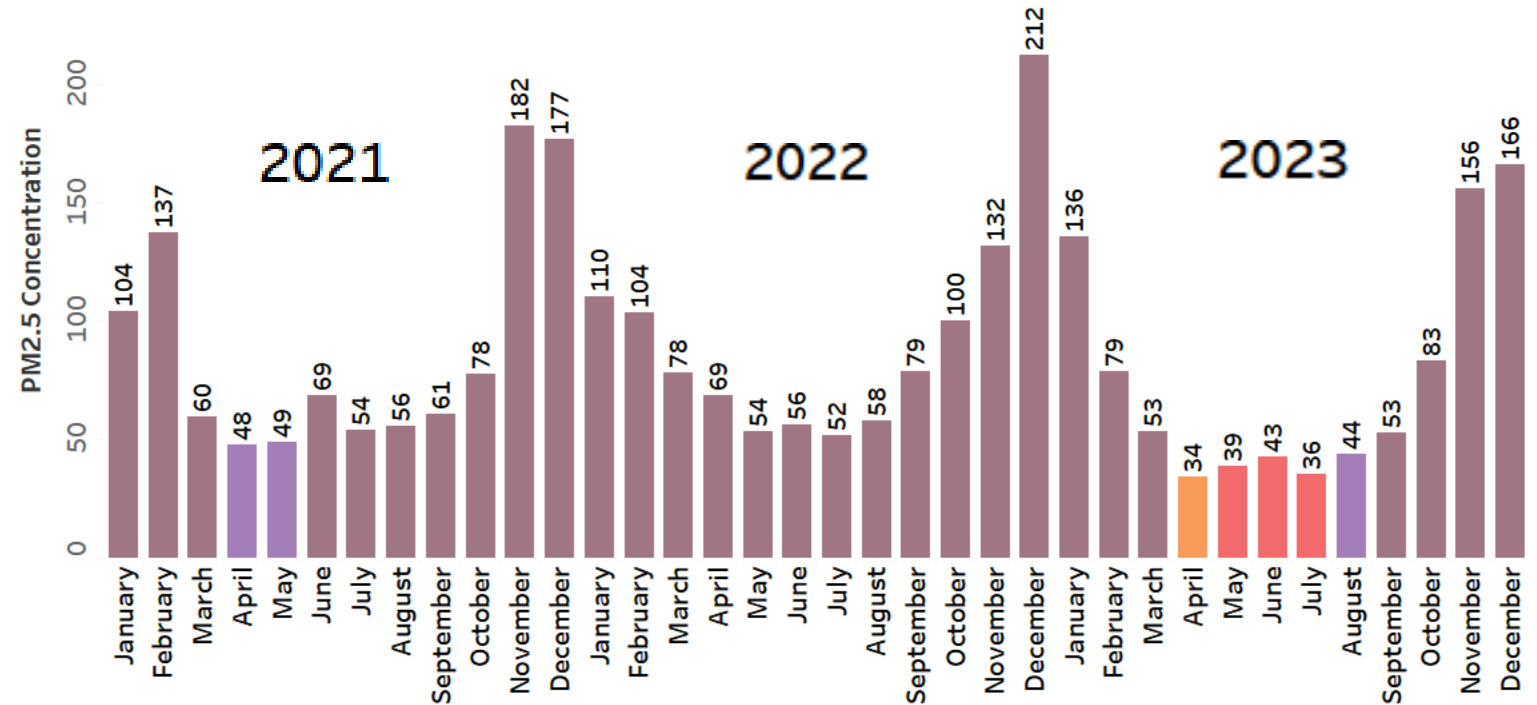
Pakistan: Real-time AQ Monitoring Network in Peshawar

Project background

- Joint project with PCAA, SEED, and Bank of Khyber to install network of real-time AQ monitors in Peshawar, Pakistan

Logistics

- Lack of local calibration reference source

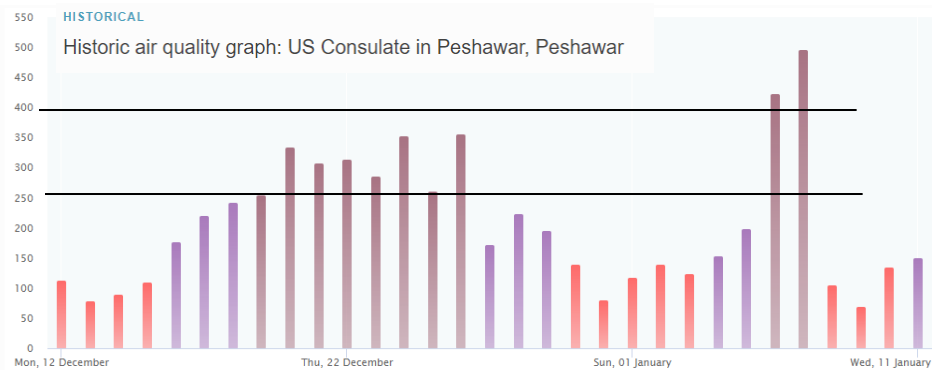
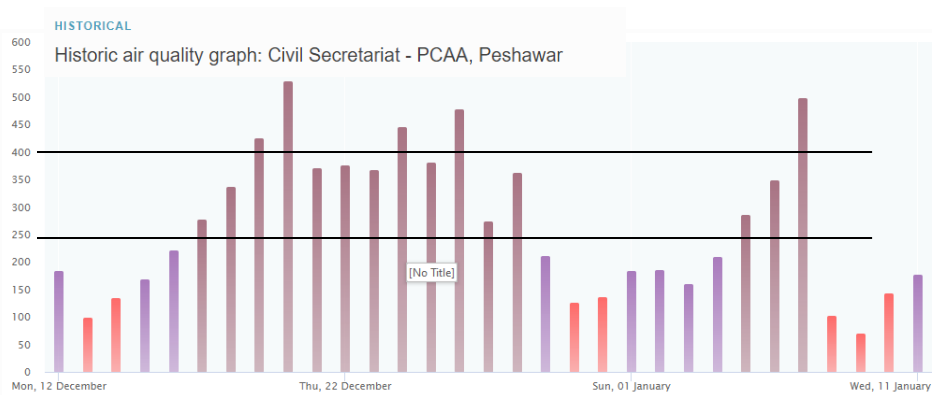


Pakistan: Real-time AQ Monitoring Network in Peshawar

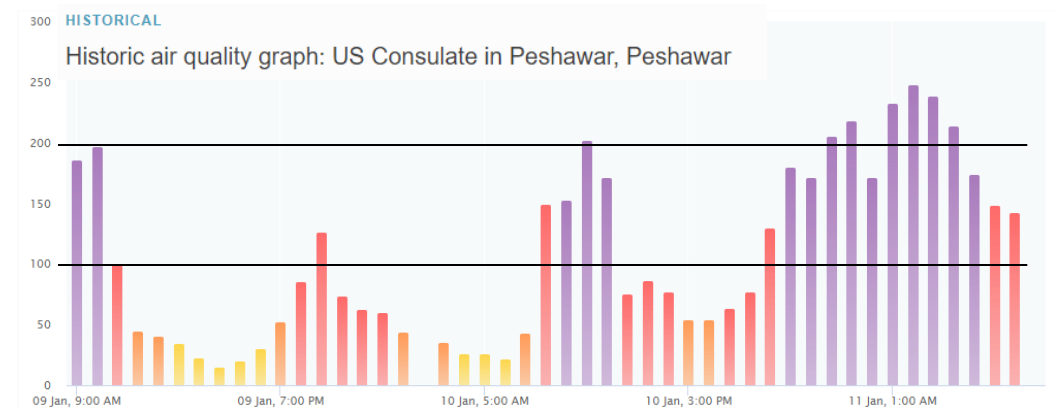
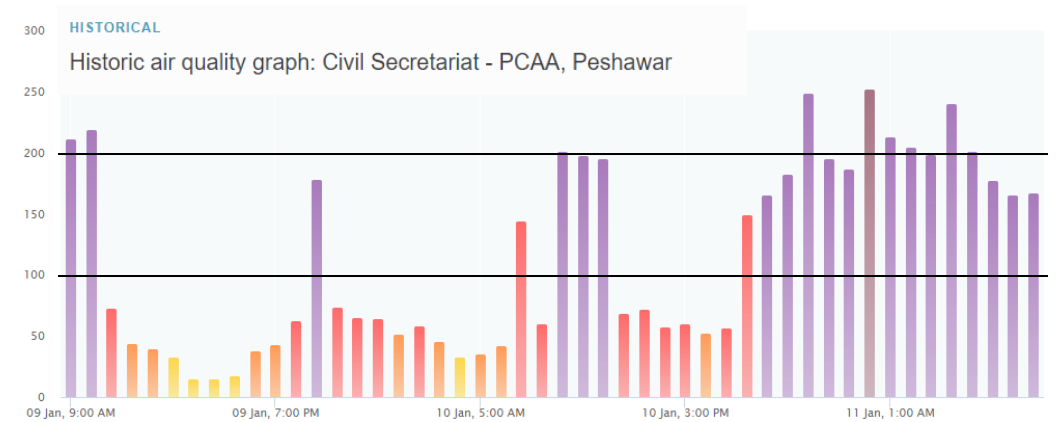
Community engagement

- Education
- Trust building

Pre-correction



Post-correction



Governments

Companies

Individuals



Community Groups



**We strive to
empower the global
community by
democratizing data
and information that
drives conversations
around air quality**

Researchers

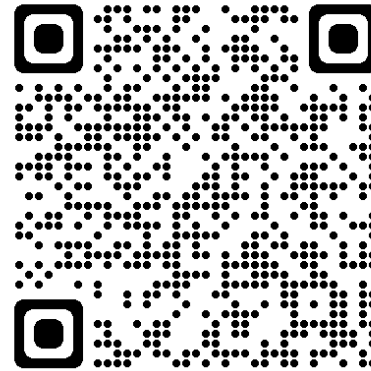
Thank you for your time!

Dr. Christi Chester
Schroeder

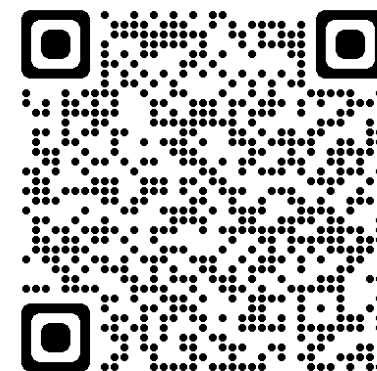
*Air Quality Science Manager,
IQAir North America*
christi.schroeder@iqair.com



AirVisual App



AQ Monitors



IQAir Dashboard

