

Air Quality Forecast

VAISALA

Product Spotlight

Hyperlocal visualization, modeling and actionable insights to empower city decision-makers

As urbanization grows and cities become more complex, managing air pollution has become a significant challenge. City agencies and other decision-makers need accurate, highly localized air quality data – but weather conditions, urban landscapes and other factors make measurements a moving target. Now there's a better way to see exact air quality conditions, determine pollution locations and movement, and provide timely information to all stakeholders.



Key benefits

An advanced numerical model based on 20 years of scientific research is leveraged for exceptional accuracy.

The hourly air quality index (AQI) and the most critical air pollutants (NO₂, SO₂, O₃, CO, PM_{2.5} and PM₁₀) are shown for any chosen location, in both graphical form and as a dynamic map.

Combine multiple datasets and information sources via modern data fusion.

Air quality conditions are defined with weather conditions, street canyons and topography in mind for unrivaled specificity.

Get near real-time information on urban air quality with a resolution down to 15m for hourly concentrations of top pollutants.

Vaisala Air Quality Forecast integrates with either existing reference station data or local Vaisala observation technology.

Why Vaisala?

As the global leader in weather and environmental measurements, Vaisala empowers businesses and community leaders to build resilience to climate change and extreme weather events. Our 85+ years of expertise is grounded in science, innovation and our unwavering commitment to constantly evolving.

We boldly demonstrate that a culture of resilience and a connection to nature can create new ways of smarter, resilient living. We are champions for smarter, safer and more sustainable urban communities.

Vaisala Air Quality Forecast, part of our Xweather family of subscription based products, empowers community leaders to improve air quality and protect citizens. This end-to-end solution combines modern dispersion modeling techniques, data fusion algorithms and statistical approaches. Coupled with the regional chemical transport model, local air monitoring network, and multiple meteorological data sources, the result is a comprehensive, exceptionally accurate picture of local air quality conditions – now and over the next three days. In addition, when paired with the Vaisala AQT560 compact air quality sensor, it delivers even more enhanced accuracy and localization.

High-resolution forecasting and map visualizations illustrate pollution hot spots and peak times to support air quality monitoring and management. This is a powerful asset for issuing warnings of poor air quality episodes and hot spots to vulnerable groups, enhancing quality of life.

Steps to decrease air pollution and protect citizens don't have to be a guessing game, because the data provides insights on which emission mitigation measures work best. The solution also supports United Nations Sustainability Development Goals and the European Union Ambient Air Quality Directive.

Applications

- Distribute air quality information to different stakeholders
- Disseminate air quality information and issue alerts to the public
- Launch and improve air quality monitoring and management programs
- Integrate with intelligent traffic management / smart city solutions
- Determine which air quality reduction actions are the most effective
- Plan city infrastructure to maximize public health and well-being
- Increase local efforts to support sustainability development goals and the European Union Ambient Air Quality Directive

