



Air Quality Expert Services



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Finnish Meteorological Institute – Best air quality experts at your service

Comprehensive air quality know-how

The Finnish Meteorological Institute provides the best air quality experts and first-rate air quality expert services. Contact us when you need air quality measurements, air quality assessments and follow-up plans, dispersion models for emissions, or laboratory services. We also provide air quality expert services and consulting for customers abroad.

Air quality measurement services

The Finnish Meteorological Institute offers comprehensive solutions for air quality monitoring. The Institute has 40 years' experience of air quality measurements and air quality assessments. More than 80 air quality experts work at the Institute. Our services cover the entire range of air quality measurements: from site selection to the monitoring of results, quality assurance and reporting.

The Finnish Meteorological Institute's laboratories take air and rain samples for analysing the atmospheric pollutants, test the reliability of air quality measurements, and produce services for the calibration and comparison needs of air quality measurers.

Air quality measurement services:

- plans for measuring and monitoring air quality
- installation of the measuring station, instruments and the data collection system
- monitoring of results and quality assurance
- maintenance of equipment
- calibrations traced to the national air quality reference laboratory
- editing, analysis and reporting of measurement results
- real-time presentation of results online



We use continuously operating analysers for monitoring the concentrations of air impurities regulated by means of recommendations and limits (SO₂, NO_x, NO₂, PM₁₀, PM_{2.5}, TRS, CO, O₃). Our laboratories analyse the metal and hydrocarbon concentrations of outdoor air from the particle samples collected. Using methods meeting the quality requirements of the EU Directives on air quality, we measure impurity concentrations in outdoor air, for instance, in urban and traffic environments and in areas affected by emissions from industry, mining and waste handling. For interpreting the results, we also monitor meteorological conditions, such as wind direction and speed, in the area.

Dispersion models

Dispersion models are used to estimate the dispersion of emissions and their changes during the dispersion, the concentrations of pollutants in outside air, and the amounts of deposits. Dispersion models can be used both to estimate the impacts of an individual emission source on air quality and to assess the air quality of an entire city. The Finnish Meteorological Institute has been developing tools for dispersion modelling for about 40 years. These models are applied every year to many different types of air quality assessment projects.

For example, dispersion models can be used to support traffic planning, town city planning or environmental impact assessment. Dispersion models help to determine how various emission sources affect total concentrations or to predict the impacts of various planning alternatives on air quality.

Consultancy and training

The Finnish Meteorological Institute also provides varied consultancy and training services on air quality both in Finland and abroad. In international development and training projects, we offer technical training on topics,

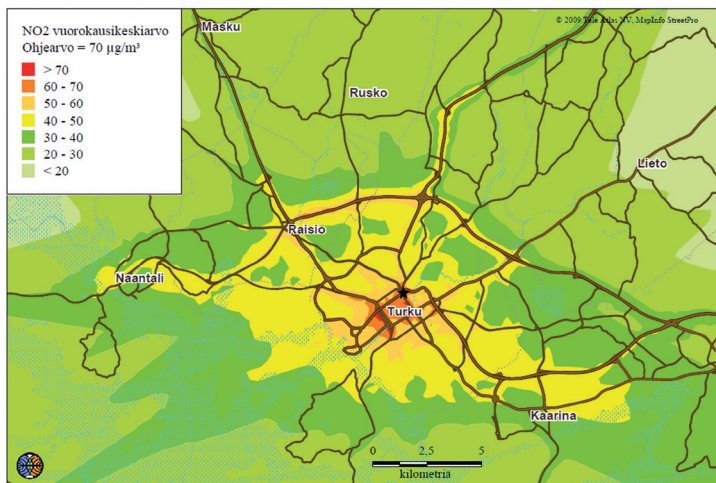
Dispersion models can be used, for example, to estimate the concentrations of pollutants from traffic.



The instruments in use can measure the concentrations of all atmospheric pollutants regulated by means of recommendations and limits.

such as measurement instruments, quality management and data processing.

We draw up recommendations on the use of measurements and other methods for assessing air quality, and we improve systems for air quality monitoring. We also give recommendations for the development of national legislation and administration in air protection.



Our dispersion models can be applied in various circumstances. We have models for emissions from sources such as:

- transport
- energy generation and industrial facilities
- waste handling and waste centres
- waste water treatment
- ports and shipping
- odours from animal production units
- chemical accidents and fires



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