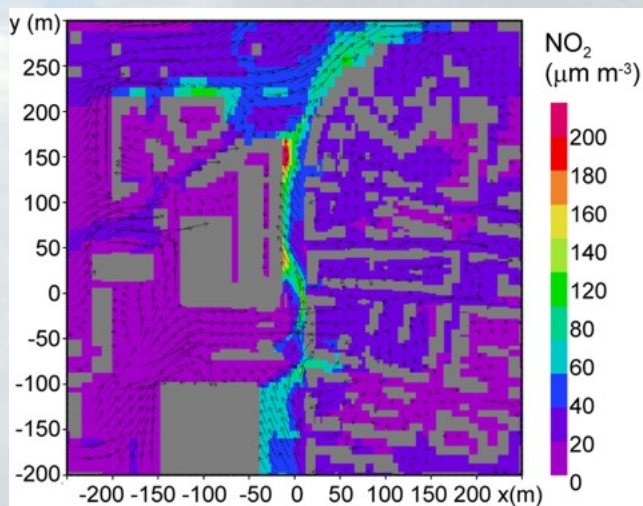


## EXPECTATIONS

It is to be expected that the very existence of a widely accepted European standard for quality assurance in the field of micro-scale meteorological models in combination with the provision of suitable validation data will significantly improve **'the culture' within which such models are developed and applied.**

Model developers from all over Europe will find step-by-step guidance on how to demonstrate that their models are fit for a particular purpose. Data sets obtained from extensive **experiments will be made accessible and more widely exploited.**

Relevant expertise available within the member states will be brought together and combined to **develop a consensus for appropriate model use and model improvement.**



Velocity and concentration field as predicted by a model

**COST 732**  
started February 16, 2005  
and will end March 28, 2009

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European Cooperation  
in the Field of Scientific and  
Technical Research

## COST Action 732

Quality Assurance  
and Improvement of  
Micro-Scale  
Meteorological Models



ESF provides the COST  
Office through an EC contract



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RTD Framework programme

## OBJECTIVE

The main objective of the Action is to **improve and assure the quality of micro-scale meteorological models** that are applied for predicting flow and transport processes in urban or industrial environments.

## MOTIVATION

The **increasing use of micro-scale meteorological models** is paralleled by a growing public awareness that **the majority of these models have never been the subject of rigorous evaluation and quality assurance**. Consequently, there is a lack of confidence in the modelled results.

To cast doubt on the results is perfectly justified, as was shown by systematic studies in which **applications of the same model by different modellers to a given problem and applications of different models by either the same or different modellers to the same problem revealed significant differences**.

Nevertheless, these models are used in the preparation of decisions with profound economic and political consequences.

The **reason** that most of the models lack quality assurance is not due to insufficient efforts spent by the model developers, it is mainly caused by

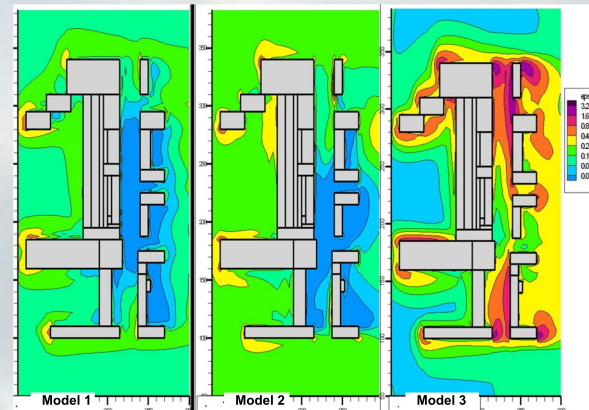
- the **lack of a generally accepted quality assurance procedure** for such models, and
- the **lack of data sets** that are quality checked and generally accepted as a standard for model validation purposes.



Field experiments



Wind tunnel experiments



Application of 3 models to the same problem

## INTENTIONS

In particular it is intended

- to develop a **coherent and structured quality assurance procedure** for these type of models, which gives clear guidance to developers and users as how to assure their quality and their proper application,
- to provide a systematically compiled set of appropriate and sufficiently detailed **data for model validation work** in a convenient and generally accessible form,
- to invite scientists and users from all participating states to apply the procedure and to **prove its serviceability**,
- to **build a consensus** within the community of micro-scale model developers and users regarding the usefulness of the procedure,
- to stimulate a widespread application of the procedure and the preparation of quality assurance protocols which **prove the 'fitness for purpose'** of all micro-scale meteorological models participating in this activity,
- to contribute to the proper use of models by **disseminating information** on the range of applicability, the potential and the limitations of such models,
- to **identify the current weaknesses** of the models and data bases, to give recommendations for focussed experimental programmes in order to **improve the data base** and
- to give recommendations for the **improvement of present models** and, if necessary, for new **model parameterisations** or even new model developments.