



Evaluation of numerical models used to simulate atmospheric pollution near roadways.

A. Wroblewski (1), F. Tognet (2), L. Malherbe (2), V. Riffault (1), and L. Rouïl (2)

(1) Ecole des Mines de Douai / LCSQA, Département Chimie et Environnement, 941 rue Charles Bourseul, BP 10838, 59508 Douai cedex, France, (2) INERIS / LCSQA, Direction des Risques Chroniques, Parc Technologique ALATA, BP 2, 60550, Verneuil-en-Halatte, France

Population exposure to traffic-related pollution has been increasingly investigated during those last years. To get information about short and long term atmospheric concentrations along major roads, both measurement campaigns and modelling studies based on various numerical tools have been carried out.

This study was mainly aimed towards local actors involved in air quality monitoring. Its objective was to gather experimental data and develop reference methodologies which can help them to evaluate the available models and optimize their use. All information will be made accessible through an Internet database.

A comprehensive inventory of monitoring campaigns conducted in France and Europe was first undertaken. Considering available data for modelling purposes, a large panel of sites covering different configurations was selected (canyon streets, crossroads, open roads...). Then common tools (CALINE, OSPM, ADMS Urban, SIRANE, STREET) were applied to some of those cases to ensure that the proposed data and methodologies were consistent. Those simulations also provide examples of comparison between model output and measurements. The first results concerning NO₂ concentrations in three canyon streets instrumented for the European TRAPOS project will be presented.

This project is carried out within the framework of the French Central Laboratory for Air Quality Monitoring (LCSQA).