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CERC NEWS

ADMS-Urban and Roads User Group Meeting

The ADMS-Urban and Roads User Group Meeting was held at the ss Great Britain in Bristol on 28th November. Guest speakers included Mark Chapman from Bureau Veritas, who presented work on modelling motorway emissions using a lane-by-lane approach; Agnieszka Bartocha from Atmoterm in Poland, who described the use of ADMS-Urban in Polish cities; and Dave Trew from the London Borough of Lewisham, who spoke about practical applications of ADMS-Urban in local air quality management. A range of presentations on model developments, modelling tips and CERC projects were also given by CERC staff. The presentations are now available to download from the user-area of our website: <http://www.cerc.co.uk/user-area/downloads.html>

Air quality forecasting

The London airTEXT forecasting service operated by CERC was substantially enhanced for the 2012 Olympics. Forecasts of air pollution, UV, pollen and temperature are now provided on the web (www.airtext.info) and by smartphone apps, and forecasts of air pollution are broadcast by Facebook, Twitter, SMS, voicemail and by email. The developments to airTEXT in 2012 were supported by the Mayor of London, TfL, Defra, LOCOG, the Health Protection Agency and the EC through the PASODOBLE project. CERC's forecasting system was also adopted by Barcelona and Beijing in 2012.

airTEXT Cold weather alert service in Islington

A cold weather alert service is being piloted this winter by Islington Council using *airTEXT*. The service is designed to help those suffering from Chronic Obstructive Pulmonary Disease (COPD) to take practical measures to prepare for cold weather and to take simple steps during cold weather to reduce any harmful effects.

The Islington cold weather alert service sends FREE alert messages to a landline or mobile phone and the alerts are based on the [Met Office's Cold Weather Alerts](http://www.metoffice.gov.uk/forecast/uk/health/alerts) which form part of the Department of Health's cold Weather Plan for England 2012 (www.dh.gov.uk/health/2012/10/cwp-2012/).

The pilot service was developed at Islington Council by a partnership between the Council's [air quality management](#), public health and [seasonal health and advice](#) teams, and by [CERC](#) who operate the *airTEXT* air quality alert service. It was jointly funded by the [Department of Health's Warm Homes Healthy People Fund for 2012/13](#) and Islington Council's public health team, part of [NHS North Central London](#). The service operates through to the end of March 2013.

MODEL NEWS

Remember you can always access the latest model news, downloads and modelling advice at the CERC website User Area: <http://www.cerc.co.uk/software-support/user-area.php>.

Upgrade to ADMS-Urban, ADMS-Roads and ADMS-Airport now available with the new EFT (version 5.1.3 and 5.2c)

The Emission Factor Toolkit (EFT) versions 5.1.3 and 5.2c include updated NO_x emission factors and new fleet data predictions. The standard emission factors from this tool have been included in the version 3.1.4 upgrade to ADMS-Urban and ADMS-Roads. Please note that the difference between EFT version 5.1.3 and EFT version 5.2c is that the latter version of the tool includes additional 'Advanced options'. Bureau Veritas have confirmed that the EFT emission factors calculated in 'Basic Operation' mode are the same in both versions; it is these factors that are included in the ADMS models.

All ADMS-Urban and ADMS-Roads users with current support contracts should have received this upgrade.

ADMS-Urban and ADMS-Roads version 3.2 coming soon

ADMS-Urban and ADMS-Roads version 3.2 will be released later this year. Model developments will include changes to speed up model runs and an option to take account of the time history of emissions within a plume which impact on concentrations when there are large changes in emissions from one hour to next (e.g road emissions at the beginning of peak periods). A link to the ADMS-Mapper will also be included. This is a utility which can be used for viewing, editing or adding sources, buildings and receptor points in the model run. The ADMS-Mapper can also be used to make contour plots of concentrations from the model output.

Longer-term development plans for ADMS-Urban and ADMS-Roads include improvements to the street canyon model; the facility to model the impacts of cuttings, embankments, tunnels and flyovers; and modifications to improve estimates of emission factors, such as allowing for the effect of diurnal variations in traffic speed on emissions.



Changes to operating systems and third-party software support

Please note that the following changes have been made to the support CERC provides for use of our software with various operating systems and third-party software.

- Operating Systems: Microsoft mainstream support for Windows XP and Windows Vista operating systems has ended. Windows XP mainstream support ended in 2009, and extended support will end in 2014. Windows Vista mainstream support ended in 2012, and extended support will end in 2017. Consequently CERC support for use of our software on these operating systems will be discontinued in a future release.
- MapInfo: From the next release, only MapInfo 10 onwards will be supported with ADMS-Urban and ADMS-Roads.
- ArcGIS: From the next major release, only ArcGIS 10 onwards will supported with ADMS-Urban and ADMS-Roads.
- Surfer: Support for Surfer 8 and 9 will be discontinued in a future release. Note that current limitations within Surfer 8 mean not all features in CERC utilities function.

MODELLING TIPS

Correctly specifying road width for street canyons

When modelling a road as a street canyon, the road width specified must be the building-to-building distance. This is opposed to the case where a road is not a street canyon, when the width must be the kerb-to-kerb distance. This is especially important when modelling roadside receptors in street canyons – if the incorrect distance is used then a receptor may incorrectly be deemed to be outside of the street canyon, and this may have a large effect on the modelled concentrations at the receptor location.

Primary NO₂ emissions

The new emission factors toolkit does not include emission factors for primary NO₂. In ADMS-Urban and ADMS-Roads, where no emissions of NO₂ are specified for a source, it is assumed that 10% of NO_x is in the form of NO₂. As there are no primary NO₂ factors in the toolkit, this default assumption will be made when running ADMS-Urban or ADMS-Roads. The default is no longer accurate for traffic emissions, however, because trends show that the amount of primary NO₂ is increasing. This default will be changed in the next release. Note that it is possible to change the fraction of primary NO₂ used in ADMS-Urban and ADMS-Roads model runs. This is explained in help note 78, *Changing the primary NO₂ fraction of NO_x emissions (f-NO₂) from traffic*, which is available from the user area of our website: <http://www.cerc.co.uk/user-area/helpdesk-notes.html>

Time in ADMS-Urban and ADMS-Roads

The times given in the model interface and in meteorology files (*.met*), background files (*.bgd*) and time-varying files (*.fac* and *.hfc*) should be in local solar time (LST), as opposed to clock time. Local solar time is the time in Coordinated Universal Time (UTC), i.e. GMT, corrected for the longitude. For example, in the UK local solar time is identical to GMT.



Creating batch files for ADMS-Roads

It is often useful to be able to run several files consecutively without opening each *.upl* file in the interface and clicking on the **Run!** menu option. This can be done by using a batch file. A batch file is a plain text file with the extension *.bat*, containing DOS commands. The user guides explain how to write batch files, but the syntax given in Section 6.5.1 of the ADMS-Roads User Guide is incorrect. The correct syntax is:

```
<model path name> <file path name> /e2 /ADMSRoads
```

where

<model path name> is the full path of the ADMS-Roads executable file;

<file path name> is the full path name of the *.upl* file you wish to run, enclosed in inverted commas (“”);

/e2 is an option to cancel the prompt window at the end of the run; and

/ADMSRoads is the command that is required for the model to run.

PRODUCTS AND SERVICES

Training

ADMS-Urban and ADMS-Roads training courses are run throughout the year at CERC in Cambridge. To find out more about our training courses please visit our website: <http://www.cerc.co.uk/software-support/training.html>

If you use multiple ADMS models, you will find it very helpful to attend separate training courses for each model. The training courses are quite different because of the various applications and use of individual models.

Customised training courses are also available to provide training tailored to your organisation's exact requirements.

If you are interested in any of our training options please email us at training@cerc.co.uk

Consultancy services

For our consultancy services, please see www.cerc.co.uk/environmental-consultancy.html

Software solutions

For custom-made software solutions, please see www.cerc.co.uk/environmental-research.html



HELPDESK

You can access the CERC helpdesk in a number of ways:

- From the ADMS-Urban or ADMS-Roads interfaces: Select Help, Email CERC.
- Email: help@cerc.co.uk
- Phone: +44 (0)1223 357773 and ask for the Helpdesk between 09:30 and 17:00 hours.
- Fax: + 44 (0)1223 357492