CERC

ADMS 5 News

Winter 2014-15

ADMS 5 NEWS

ADMS 5 User Group Meeting 2014

The annual ADMS 5 User Group Meeting was held in November 2014 at the Bull Hotel in Peterborough, with a record attendance of over 50 model users from the UK and Europe. CERC would like to thank the guest speakers who gave presentations about their use of ADMS 5: Steve Smith (AS Modelling & Data), Graeme Outridge (BIOGEN), Chuansen Ren (URS), Chris Hazell-Marshall (ERM) and Karunakar Nagula (RSK). Other presentations included discussions of modelling techniques for emergency releases, complex industrial sites and a preview of new features which will be included in the ADMS 5.1 Mapper. All the presentations from the 2014 User Group Meeting are now available to download from the User Area on the CERC website.

ADMS 5.1

CERC are currently working on ADMS version 5.1, which is expected to be released in the spring. The main improved features of ADMS 5.1 are: changes to the criteria for whether plumes are visible; a more advanced version of the ADMS Mapper with additional functions; increases in the number of output points which can be included in a run; and a facility to both import and export sources, buildings and pollutants to and from the ADMS interface via .csv files.

A pre-release ADMS 5.1 model version containing the changes to plume visibility has been made available for the purpose of plume visibility modelling studies only. Please contact CERC if you require a copy of this version.

CERC NEWS

Remember you can always access the latest CERC model news, downloads and modelling advice at the CERC website [User Area](). *You can now also follow CERC news via* [RSS](), [facebook]() , [Twitter]() *and* [LinkedIn.]()

Custom developments

Users with complex modelling requirements are reminded that CERC can provide customised developments of ADMS 5. Recent examples include implementing specialist chemistry schemes and linking the model to user-specific input data formats. Please [contact CERC]() to discuss any model developments which you may require.

Special licences

Users are also reminded that special licences are available for an additional fee, for example to allow the inclusion of more sources in a model run. If this is of interest, please [contact CERC]() for further details.

ADMS-Urban 3.4 and ADMS-Urban RML released

ADMS-Urban version 3.4 was released in October 2014. This new release includes: improvements to the Comprehensive Output File Processor; increases in the numbers of sources and output points which can be defined in the interface; an option to model a spatial subset of one or more source types from a larger model file; and an extension to the .fac file format to allow the use of a separate time-varying emissions profile for each day of the week.

The new product ADMS-Urban Regional Model Link (ADMS-Urban RML) was also released in October 2014. This is an innovative automated system for nesting ADMS-Urban in a regional air quality model such as CMAQ, CAMx or EMEP4UK, using meteorological data from the meso-scale WRF model, in order to combine both regional and local pollutant transport and chemistry effects. To learn more about the system, please visit the [ADMS-Urban RML]() web page.

ADMS 5 MODELLING TIPS

Finding the maximum off-site concentration

The maximum off-site concentration can be found by setting up gridded output in ADMS 5 and running the model. The gridded output file can then be loaded into a GIS program (ArcGIS or MapInfo) using the **Import ADMS Output** tool on the ADMS GIS link. The **Clip Points by Boundary** tool can then be used on the resulting set of points, to cut down the grid points to those either within or outside a specified boundary polygon. The **Report Max Values** tool will then allow the maximum concentration in the reduced set of output points to be displayed and copied for pasting into other programs.

Modelling multiple stack heights using groups

The assessment of concentrations from multiple stack heights can be carried out by creating and running duplicate .apls with modified stack heights. Alternatively, the sources with different stack heights can all be included in a single .apl, with a separate group defined for each stack. The output from each group can be processed to compare the effects of each stack height.

PM$_{10}$ and dust modelling

The US Environmental Protection Agency AP 42 "Compilation of Air Pollutant Emission Factors" documents contain expressions for emissions of fugitive particulates, such as those from unpaved roads or material handling, including dependencies on meteorological conditions, which may be of use in calculating emissions of PM$_{10}$ and dust for modelling large industrial sites.

If the distribution of particulate emissions between size and density categories is known, then these can be defined in the ADMS 5 pollutant palette to allow the model to calculate more detailed deposition characteristics than with a single size and density definition.

Chemistry with complex meteorological data

If you are using the ADMS 5 chemistry model with meteorological input data containing all three of the parameters 1/LMO (recipLMO), boundary layer height and incoming solar radiation, it is possible to have lines of meteorological data which are valid for dispersion but not for chemistry calculations. In this case, the long-term statistics of concentrations and deposition may not be calculated correctly by ADMS 5. Modifying the input meteorological data so that all parameters are invalid for lines where one parameter is missing or invalid will enable the model to calculate long-term averages correctly. This issue will be fixed for the ADMS 5.1 release.

PRODUCTS AND SERVICES

Training

ADMS 5 training courses are run throughout the year at CERC in Cambridge. To find out more about our training courses please visit the Training page on our website.

Customised training courses are also available to provide training tailored to your organisation's exact requirements. CERC recently provided customised training for four delegates from the Tianjin Environment Monitoring Centre, which included training on urban air quality modelling and air pollution forecasting and a visit to an automatic air pollution monitoring site.

We are always looking for new topics for our training courses. If there is anything you would like to be covered, please let us know.

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/consultancy or contact CERC.

Software solutions

For custom-made software solutions, please see www.cerc.co.uk/research or contact CERC.

HELPDESK

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

•From the ADMS 5 interface: Select Help, Email CERC.
•Email: help@cerc.co.uk
•Phone: +44 (0)1223 357773 ask for the Helpdesk between 09:30 and 17:00 hours
•Fax + 44 (0)1223 357492