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ADMS 5 NEWS

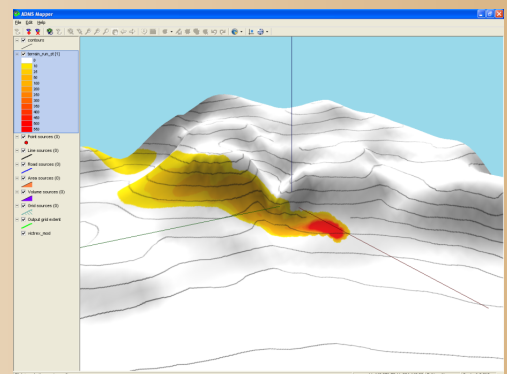
ADMS 5 User Group Meeting

The annual ADMS 5 User Group Meeting was held in November 2013 at the Assembly Rooms in Newcastle. CERC would like to thank the guest speakers who gave presentations about their use of ADMS 5, Stuart McGowan (Golder Associates) and Antony Saunders (United Utilities). Other presentations included discussions of modelling techniques for flare sources, dioxin assessments and the use of AERMOD via ADMS. All the presentations from the 2013 User Group Meeting are available to download from the [User Area](#) on the CERC website.

The 2014 ADMS 5 User Group Meeting will be held in the Bull Hotel Peterborough on 19th November. Please [contact CERC](#) if there is a topic you would like to be covered at the meeting or if you would be willing to give a presentation.

CERC's Mapper "provides stunning GIS capability"

TatukGIS, the GIS company, have [praised](#) CERC's Mapper as providing "stunning GIS capability". The mapping tool originally released with ADMS has now been significantly improved, with the latest version included with the latest releases of ADMS-Urban, ADMS-Roads and ADMS-Airport. The new version can display a 3-D view of your model input, including the terrain and buildings. Each map layer shows additional properties on an item-by-item basis. This allows you to colour-shade roads, for example, by traffic flow or emission rates. It is also possible to add a basemap from a web mapping service (WMS), for example OpenStreetMap. The Mapper has been developed by CERC using the TatukGIS Developer Kernel. The Mapper will be updated in the next release of ADMS 5, expected to occur by the end of 2014.



New version of AERMOD and AERMET

The US EPA has just released version 14134 of AERMOD and AERMET. CERC are currently examining these versions and are planning to include them in the next release of ADMS 5. Please [contact CERC](#) if you have an urgent requirement to run these versions of AERMOD and AERMET.

Plume visibility validation data

CERC are planning to make further modifications to the ADMS 5 plume visibility module for the next release. If any users have or know of any measured data on visible plumes which could assist with model validation, or examples of modelling scenarios of particular interest, please [get in touch](#) with CERC.

System requirements

CERC now supports the use of ADMS 5 on the Windows 8.1 operating system. From the next release of ADMS 5, CERC will no longer support its use on the Windows XP and Vista operating systems, and it may be incompatible with Windows XP.

From the next release of ADMS 5, only the following versions of third-party visualisation software packages will be supported by CERC:

- Surfer 10 onwards
- ArcGIS 10 onwards
- MapInfo 11 onwards

The tool to visualise your input in Surfer has been superseded by our own ADMS Mapper, and so it is likely that the Visualise in Surfer option will be removed from the Utilities menu in the next release of ADMS 5. Contour-plotting of results in Surfer will still be available.

CERC MODEL NEWS

Remember users with valid support can always access the latest modelling advice and downloads at the CERC website [User Area](#).

Release of ADMS-Puff

We are pleased to announce the release of our new model, [ADMS-Puff](#), in early April 2014. ADMS-Puff is a Lagrangian puff model for dense gas releases. Effects of complex terrain and spatially-varying meteorology can be modelled. Output concentrations, flammability limits, and instantaneous and time-integrated health limits can be calculated by the model. For more details please [contact CERC](#).

Development of FLOWSTAR-Energy model

A new model, FLOWSTAR-Energy, is currently under development. FLOWSTAR-Energy can be used to calculate the air flow over complex terrain and to calculate the effect of wind turbines and wind farms on a flow field. The model can be used to investigate the productivity of individual wind turbines and whole wind farms (onshore or offshore), taking into account energy losses due to wake effects. If you would like to know more, please [contact CERC](#).



Cloud based simulation of air quality over cities

CERC is involved in an experiment in the EU FORTISSIMO project on cloud computing. This experiment involves running ADMS-Urban on a cloud computing system to model air quality over cities. To learn more about CERC's involvement, please see details of [FORTISSIMO experiment 410](#).

ADMS 5 MODELLING TIPS

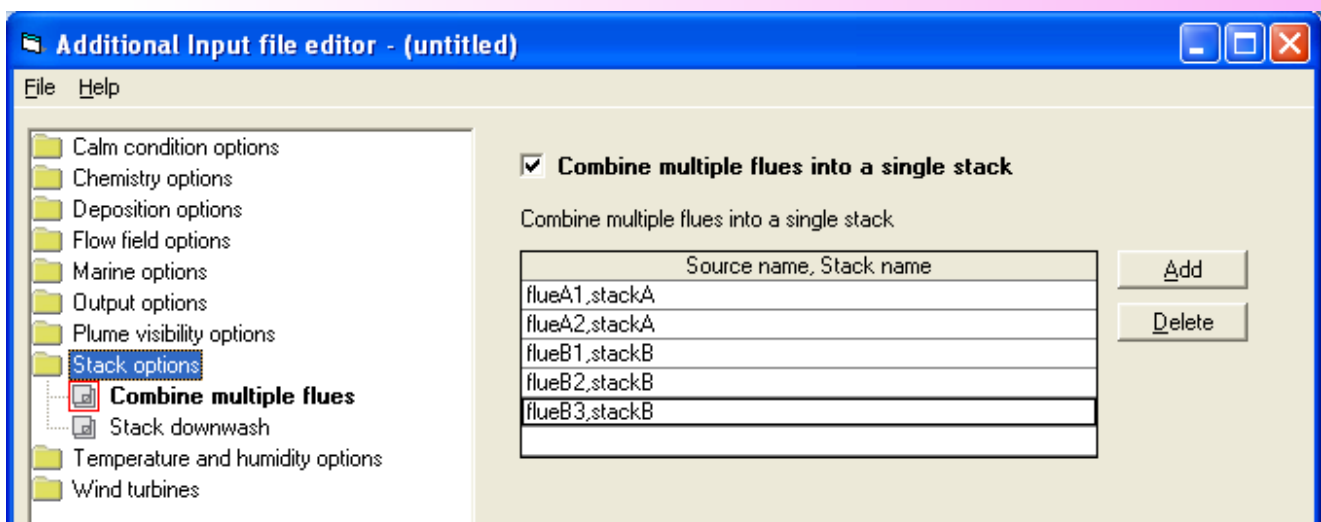
Modelling heavy metal emissions from waste incinerators

The UK Environment Agency has issued [guidance](#) concerning the modelling of heavy metal emissions from waste incinerators. The appendices of the guidance document contain measured emissions rates for individual heavy metals. Note that in ADMS 5 heavy metal emissions may be modelled as either particulate or gaseous, provided that no chemistry or deposition effects are required.

Combining sources into stacks

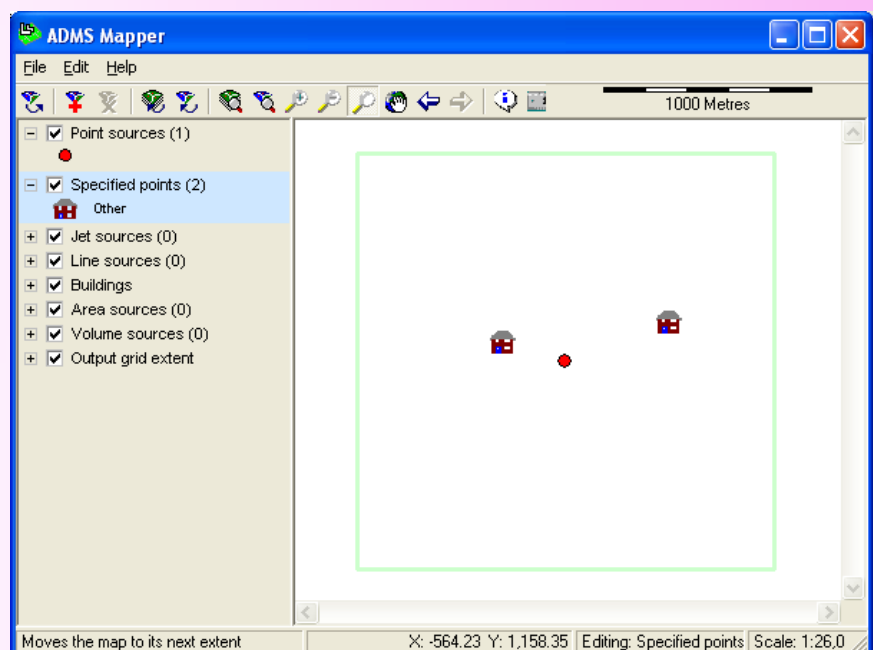
The ADMS 5 modelling option to combine sources into stacks takes into account the buoyancy interactions of sources which are very close together, for example different flues within the same chimney. The Environment Agency's Air Quality Modelling Advice Unit (AQMAU) has advised CERC that sources should only be combined into stacks if the distance between the sources is less than three times the diameter of the smallest source in the group and they have similar efflux velocity and temperature values.

To use the option to combine sources, select the 'Combine multiple flues' option from the 'Stack options' folder in the Additional Input file editor, and list each of the source names with the associated stack name, as shown in the screenshot below. The use of this option may cause concentration levels to increase or decrease, depending on the details of the component source properties and the interaction of the resulting plume(s) with buildings.



Mapper point symbol choice

It is possible to change the symbols used for point sources or output points in the ADMS Mapper to an image of your choice, for example an image of a house could be used to represent receptors in a residential area. To use an image, double click on the layer name in the legend on the left hand side of the mapper window, and on the resulting 'Vector' screen select the 'Marker' tab. Click in the 'Symbol' box and browse to the file containing the desired image using the File... button. Choose whether the background of the image should be transparent using the checkbox. A simple example is shown on the right.



Getting gridded output for every hour

ADMS 5 can be set up to produce long-term or short-term output. Long-term output files contain a single set of output data; for example, the average concentration over all lines of meteorological data. On the other hand, short-term output gives data at each output point for each meteorological condition, but the gridded output is limited to 24 lines of meteorological data to stop the output file becoming too large. However, there are two options to generate data at each grid point for each meteorological condition without limiting the data to the first 24 lines only. One is to use the */LongOP* flag so the data is written to the *.gst file; the other is the comprehensive output option. To generate the comprehensive output, set up a long-term run and select the **Comprehensive output file** option on the output screen. The data will be stored in a netCDF file. The data can then be viewed in the Comprehensive Output File Processor. This utility can be used for extensive analysis of the output data. For example, the processor can be used to

- calculate average pollutant concentrations for any averaging period
- display the maximum concentrations that occurred at each grid point
- display the time at which the maximum concentrations occurred
- determine the percentage of meteorological lines that led to an exceedence of an air quality standard
- provide details of any exceedences of air quality standards, such as the length of time of the longest continuous exceedence.

Further details can be found in the user guide and in the ADMS Comprehensive Output File Processor User Guide, which is located in the */Documents* folder of your model install directory.

Reminder about GIS links

Remember that the GIS links should be uninstalled and reinstalled at the same time as a model upgrade in order for them to function properly. For detailed instructions please see the ArcGIS Link and MapInfo Link user guides in the */Documents* folder in your model install directory.

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 our website: <http://www.cerc.co.uk/software-support/training.html>

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 service

For our consultancy services, please see www.cerc.co.uk/environmental-consultancy.html or [contact CERC](#).

Software solutions

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