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The annual ADMS 4/5 User Group Meeting took place in November 2012 at the ss Great Britain in Bristol. CERC would like to thank the external speakers who gave presentations about their work using ADMS 4: David Gallacher (Guy's and St Thomas' NHS Foundation Trust), Alan McDonald (SEPA) and Victoria Booth (E.On). All the presentations from the 2012 ADMS 4 User Group Meeting, which also include overviews of the ADMS 5 release and modelling tips, are available to download from the user area of the CERC website at <http://www.cerc.co.uk/user-area/downloads.html>.

**Carbon Trust Project**

CERC have recently been contracted by the Carbon Trust to investigate how wind turbine effects can be included in mesoscale meteorological models. This work involves characterisation of wind farms using the ADMS wind farm wake options and integration into mesoscale models. CERC is working on this project with researchers from the Hong Kong University of Science and Technology who are running the WRF meteorological model.

**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>.*

**ADMS 5 released**

ADMS 5.0 was released in November, with the main improvements including decreased run times, an option to calculate maximum daily concentrations, links to run the main AERMOD options using ADMS input files and the addition of in-built contour plot facilities to the ADMS Mapper. A new utility to edit additional input (.aai) files was also included in the release, please refer to the Modelling Tips section for more information. For full details of the model changes, please refer to the *What's New in ADMS 5* document. All users with current ADMS support contracts should have received the ADMS 5 upgrade.

## ADMS 5 patch release

A patch update to the ADMS 5 model will be released in spring 2013. This will include the full wind turbine modelling option functionality, a link to a newer AERMOD version, the option to use the AERMET pre-processor for meteorological data and an extended source import utility, able to import data for all source types from text files into an .apl file.

## Emergency release model ADMS-STAR released

CERC have recently released ADMS-STAR; a new model for the analysis of short-term accidental releases. ADMS-STAR uses a Lagrangian puff methodology to model the fate of explosive or finite duration releases to atmosphere. ADMS-STAR can use temporally and spatially varying meteorological data from the WRF model and can also account for the impact of complex terrain. ADMS-STAR calculates instantaneous air concentration and accumulated wet and dry deposition for radiological or chemical emissions. More information can be obtained from our website here: <http://www.cerc.co.uk/environmental-software/ADMS-STAR-model.html>.

## System requirements update

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: MapInfo version 10 onwards is supported with ADMS 5.
- ArcGIS: From the next major release, only ArcGIS 10 onwards will be supported with ADMS 5.
- Surfer: Support for Surfer 8 and 9 will be discontinued in a future release. Note that current limitations within Surfer 8 mean that not all features in CERC utilities function, e.g. true vector plots are not supported in the vector plotter with Surfer 8.

## MODELLING TIPS

### Using ADMS 4.2 and ADMS 5.0 on the same machine

It is possible to run ADMS 4.2 and ADMS 5.0 on the same machine, for example if needed to complete a project, by following these steps:

1. Copy the whole ADMS 4.2 installation directory to another location on the machine.
2. Uninstall ADMS 4.2 (this should remove the original installation directory but not affect the copy).
3. Install ADMS 5.0.

Shortcuts to ADMS 4.2 will need to be recreated to point to the copied directory.

### Additional (.aai) file editor

ADMS 5 includes a user-friendly editor for .aai files, which can be accessed via the 'Edit' button on the Setup screen. Model options such as combining flues into stacks, temperature and humidity output and switching off plume depletion from deposition, can be chosen by double-clicking on their descriptions in the tree on the left-hand side of the screen. Values for the required parameters can then be entered in the right-hand side of the screen. ADMS 4.2 .aai files will need to be upgraded manually before loading into the editor – please refer to the *What's New in ADMS 5* document for instructions.





## Using the AERMOD link

ADMS 5 includes the facility to run the main AERMOD options using ADMS input files. At present this option is only set up for group output, not single source. If the concentrations for an individual source are of interest, a group should be created containing only that source. The AERMOD link is incompatible with .asp files, and so the path to any previously used .asp file should be deleted from the interface before running AERMOD.

## Interpreting plume visibility results

The plume visibility module in ADMS 5 has undergone significant development, which in some cases may lead to longer visible plumes than were predicted by ADMS 4.2. In order to evaluate the most significant visible plume lengths, users could consider:

- excluding visible plumes from non-daylight hours, which can be identified by met lines with zero values of K (incoming solar radiation) in the output section of the .mop file; and/or
- discounting visible plumes when the ambient humidity in the .met file is very high, for example when it is greater than 99%, as in this case the plume may be merging into low cloud.

The forthcoming ADMS 5 patch release will include a new .aai file option to specify the threshold of ambient relative humidity (at plume height) above which the plume is not considered to be visible. The reported visible plume length will also be limited to the length of the continuous visible plume nearest the source.



## PRODUCTS AND SERVICES

### Training

CERC continues to carry out standard and customised ADMS courses to a varied client base. Training is given at the CERC offices in Cambridge and at client sites in the UK, as well as overseas.

If you are interested in any of our training options, please email us at [training@cerc.co.uk](mailto:training@cerc.co.uk).

### Consultancy service

For information about our consultancy services, please visit [www.cerc.co.uk/environmental-consultancy.html](http://www.cerc.co.uk/environmental-consultancy.html)

### Software solutions

For information about our custom-made software solutions, please visit [www.cerc.co.uk/environmental-research.html](http://www.cerc.co.uk/environmental-research.html)

### 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](mailto: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