Contents

Latest model release: version 5.2.4, Aug 2018

News

Upcoming releases

CERC developers are working hard on the next versions of the ADMS family of models. Due for release this year are ADMS 6 and an updated edition of ADMS-Urban & ADMS-Roads.

ADMS 6 will be a major release of our 'industrial' model with an upgraded Mapper commensurate with that in ADMS-Urban. The most significant model development will be advances in the modelling of buildings. These will include a new option for automatically selecting the main building, which will be source and met line dependent, improvements to the modelling of plumes that impact the upwind face of the effective building, and the ability to easily view the effective building(s) in the Mapper for a range of different wind directions. The release will also include many minor improvements.

The ADMS-Urban & ADMS-Roads release will include the option to model elevated roads and also improvements to licence management. We will keep you informed about the status of these releases.

ADMS 5 User Group meetings

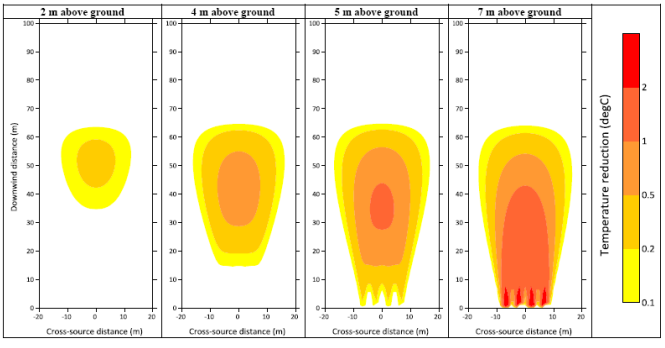
The 2020 ADMS User Group Meetings held on 18 and 19 November were a first for CERC as they moved online due to COVID-19 restrictions. There was still the usual mix of talks containing news, tips and case studies. Special thanks to guest speakers Melody Horan from Miller Goodall, Ruth Calderwood from the City of London, Yves Verlinden from ERM and Erica Powell from Arup.

The presentations are available to download from the CERC website User Area.

The 2021 User Group Meetings will take place on 24 and 25 November and will be held online due to the ongoing uncertainty around the COVID-19 situation. Registration is open now.

Modelling the temperature impact of cold plumes

In this novel study CERC was commissioned to carry out an assessment of the impact of plumes of cold air from an array of Air Source Heat Pumps (ASHPs) on the surrounding air temperature. In work commissioned by Sustainable Energy Ltd, the CERC consultancy team used both ADMS 5 and the dense gas dispersion model GASTAR to carry out modelling of the transport and mixing of the plumes of cold air. The ADMS 5 and GASTAR results generally agreed well; in both cases, temperature reductions were modest near the ground and decreased to near background values within tens of metres downstream.



Plots of temperature reduction at various heights above ground level, stable conditions

Training Information

Upcoming training courses

Our training courses focus on giving users the knowledge and expertise to efficiently apply CERC software to real-life air quality problems.

CERC holds regular online courses; these have been extremely successful.

Course	Oct 21	Feb 22	Mar 22
ADMS 5	19 - 20	1 - 2	15 - 16

Courses can also be customised to particular user requirements.

For more information on specific courses and dates and prices, visit the CERC website https://www.cerc.co.uk/training or contact CERC.

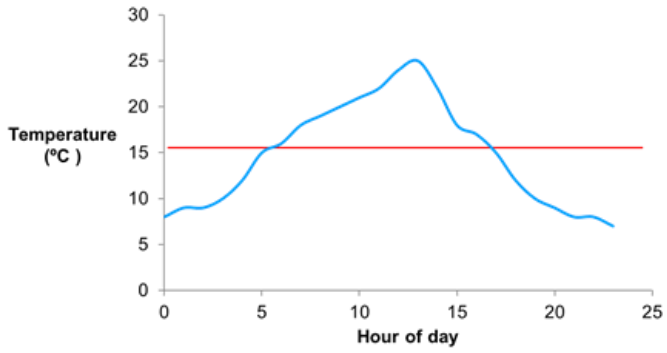
Discount on CERC training courses

A 20% discount applies to scheduled CERC training courses, if purchased at the same time as a software annual licence or support renewal. This discount also applies to one-day refresher courses. Training must be booked within 12 months of purchase.

Modelling Tips

Setting source temperature to ambient

If the source temperature is closely related to the ambient temperature, rather than being fixed at exit, it is possible to allow for this in ADMS. There are two slightly different approaches.



1) If the source temperature corresponds to precisely to the ambient temperature, the source temperature can be set to 'Ambient' in the model interface. This sets the temperature to be equal to the temperature in the *.met* file.
2) It is also possible to set a temperature that is offset from the ambient temperature by a fixed amount. This can be done using a .var file, specifying the 'ambient' parameter and applying a value for the source temperature relative to the ambient temperature; e.g. '5°C' indicates a source temperature that is 5 °C above the temperature in the *.met* file.

Modelling buildings explicitly and implicitly

In ADMS, the effects of buildings on point source dispersion can be modelled either explicitly using the Buildings module or implicitly using an increased surface roughness.

For sources close to an isolated building (or small set of buildings), it is advisable to model the buildings explicitly and use a lower surface roughness that is appropriate to the wider surrounding area.

For more complex sites with many buildings, it is advisable not to model all buildings explicitly but only include those that are likely to have the most significant impact on dispersion - typically the nearest and/or largest buildings - and use an increased surface roughness to compensate for the buildings that are not explicitly modelled.

Products and Services

CERC has been developing world-leading air dispersion and complex flow modelling solutions since 1985. Our consultancy team was established to apply our expertise to a wide variety of applications for a diverse client base.

Other software solutions

ADMS-Roads and Roads-Extra

Local scale air quality modelling including road and industrial sources

GASTAR

Modelling emergency releases of dense gases

ADMS-Urban

Urban scale modelling including roads, industrial and diffuse sources

FLOWSTAR-Energy

Modelling wind energy and airflow at high spatial resolution for wind farm planning and other airflow-related applications

ADMS-Airport

Urban scale modelling with detailed treatment of aircraft emissions

ADMS-STAR

Short-term accidental release modelling

For custom-made software solutions, visit https://www.cerc.co.uk/research or email CERC.

Consultancy services

Our consultancy services include:

- Air quality assessments, e.g. odours, LAQM, planning and permitting
- Specialised modelling, e.g. dioxins, accidental releases, wind energy
- Compilation of emissions inventories and forecasting for large urban areas
- Project support and review services
- Research related to complex atmospheric flows and air quality

For more details, visit https://www.cerc.co.uk/consultancy or email CERC.

Contacting the helpdesk

The CERC helpdesk is available to provide model support. Contact us:

- From the ADMS 5 interface, select Help, Email CERC
- Email help@cerc.co.uk