

ADMS-Screen 3

The Advanced Stack Height Screening Tool

ADMS-Screen 3: C:\PROGRA~1\ADMS3\EXAMPLES\CHIMNEY.SPL

File Results Limits Help

Data Graphics

Title
Project Name: Example data file: 50m chimney emitting SO2 and NO2

Source Data

| | |
|-----------------------------------|----|
| Height of source above ground (m) | 50 |
| Internal diameter of source (m) | 1 |
| Temperature of emission (°C) | 15 |

Outflow

Volume flow rate (m³/s)

Vertical velocity (m/s)

Emissions Data

| Pollutant | Emission Rate (g/s) | Output Units |
|------------------------|---------------------|--------------|
| Nitrogen Dioxide (NO2) | 5 | µg/m³ |
| Sulphur Dioxide (SO2) | 9 | µg/m³ |
| Particulates (PM10) | 0 | µg/m³ |
| Carbon Monoxide (CO) | 0 | µg/m³ |
| Benzene (C6H6) | 0 | µg/m³ |
| 1,3 Butadiene (C4H6) | 0 | µg/m³ |
| Nitrogen Oxides (NOx) | 0 | µg/m³ |
| Lead (Pb) | 0 | µg/m³ |
| User Defined | 0 | µg/m³ |

Source Location

Northern England

Surface roughness (m)

Building Building

Output

Maximum downstream distance (m)

Short Term Long term

Air Quality Standards

EU AQS

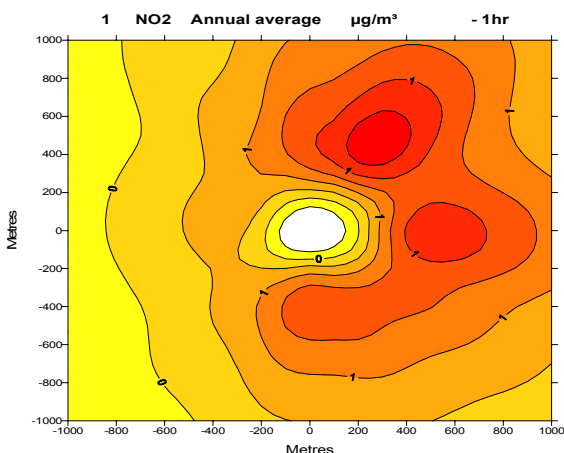
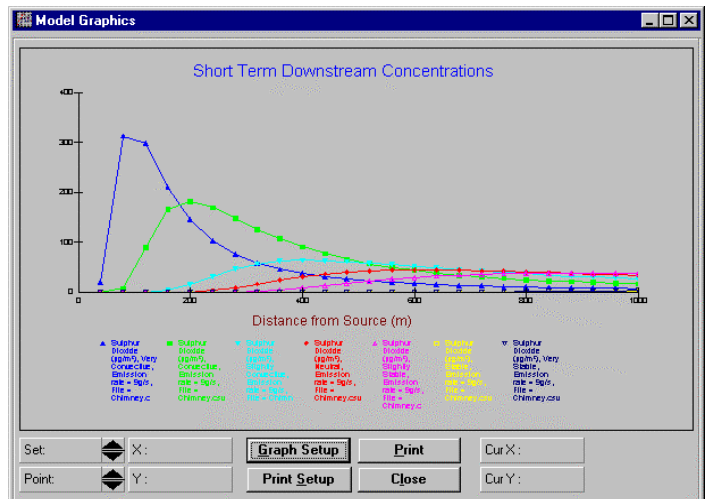
General Perc1 Perc2

Add a title or comment for this data file Min: 0 chars Max: 80 chars

- ◆ Models dispersion from single stack
- ◆ Option to include building effects
- ◆ Rapid first assessment of stack heights
- ◆ Comparison with AQS and EU air quality standards
- ◆ Use to indicate whether further modelling is required

New Interface

- ◆ ADMS-Screen 3 uses the ADMS 3 dispersion code
- ◆ Line plotting facility
- ◆ Optional link to Surfer for contour plotting



Contour output using the link to Surfer

Integral line plotting facility

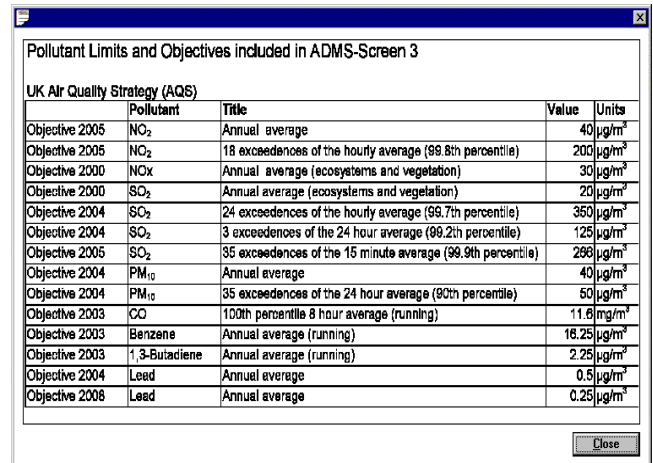
CERC
Environmental
Software

ADMS-Screen 3 Features

ADMS-Screen 3 models dispersion from a single stack to calculate ground level concentrations, providing rapid assessments of stack height.

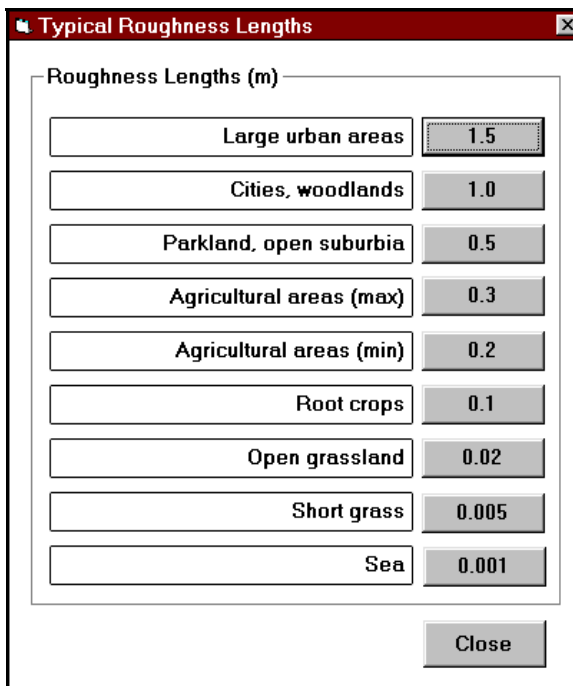
Prepared meteorological data sets are supplied with the model covering different regions of the UK.

The model is supplied on CD with a manual and on-line help for the air quality standards and surface roughness parameter.



| UK Air Quality Strategy (AQS) | | | | |
|-------------------------------|------------------|---|-------|-------------------|
| Objective | Pollutant | Title | Value | Units |
| Objective 2005 | NO ₂ | Annual average | 40 | µg/m ³ |
| Objective 2005 | NO ₂ | 18 exceedences of the hourly average (99.8th percentile) | 200 | µg/m ³ |
| Objective 2000 | NO _x | Annual average (ecosystems and vegetation) | 30 | µg/m ³ |
| Objective 2000 | SO ₂ | Annual average (ecosystems and vegetation) | 20 | µg/m ³ |
| Objective 2004 | SO ₂ | 24 exceedences of the hourly average (99.7th percentile) | 350 | µg/m ³ |
| Objective 2004 | SO ₂ | 3 exceedences of the 24 hour average (99.2th percentile) | 125 | µg/m ³ |
| Objective 2005 | SO ₂ | 35 exceedences of the 15 minute average (99.9th percentile) | 298 | µg/m ³ |
| Objective 2004 | PM ₁₀ | Annual average | 40 | µg/m ³ |
| Objective 2004 | PM ₁₀ | 35 exceedences of the 24 hour average (90th percentile) | 50 | µg/m ³ |
| Objective 2003 | CO | 100th percentile 8 hour average (running) | 11.6 | mg/m ³ |
| Objective 2003 | Benzene | Annual average (running) | 18.25 | µg/m ³ |
| Objective 2003 | 1,3-Butadiene | Annual average (running) | 2.25 | µg/m ³ |
| Objective 2004 | Lead | Annual average | 0.5 | µg/m ³ |
| Objective 2006 | Lead | Annual average | 0.25 | µg/m ³ |

On-line listing of AQS and EU air quality standards considered



| Roughness Lengths (m) | |
|--------------------------|-------|
| Large urban areas | 1.5 |
| Cities, woodlands | 1.0 |
| Parkland, open suburbia | 0.5 |
| Agricultural areas (max) | 0.3 |
| Agricultural areas (min) | 0.2 |
| Root crops | 0.1 |
| Open grassland | 0.02 |
| Short grass | 0.005 |
| Sea | 0.001 |

On-line help for determining surface roughness

ADMS-Screen 3 calculates concentrations of the National Air Quality Strategy (AQS) pollutants for comparison with AQS objectives and indicative levels and EU limits. It also calculates short term concentrations for a range of meteorological, long term concentrations and two percentiles of a user-specified pollutant.



ADMS-Screen is now available
Ideal for Local Authorities, industry and regulators

CERC

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