

ISC-AERMOD View

Gaussian Plume Air Dispersion Models

Model Descriptions

AERMOD

The AMS/EPA Regulatory Model (AERMOD) is the next generation air dispersion model based on planetary boundary layer theory. AERMOD contains essentially the same options as ISCST3 with few exceptions.

AERMOD fully incorporates the PRIME building downwash algorithms, advanced depositional parameters, local terrain effects, and advanced meteorological turbulence calculations.

ISCST3

ISCST3 (Industrial Source Complex Model) is a steady-state Gaussian plume model used to assess pollutant concentrations from a wide variety of sources associated with an industrial complex.

The ISCST3 model accounts for:

- ▶ Settling and dry deposition of particles
- ▶ Building downwash
- ▶ Point, area, line, open pit, flare, and volume sources
- ▶ Flat and complex terrain

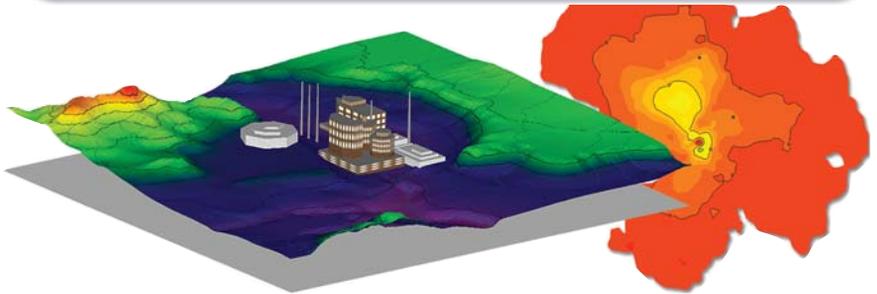
ISC-PRIME

ISCST3 with the Plume Rise Enhancements (PRIME) model incorporates two important features:

- ▶ Enhanced plume dispersion coefficients due to the building turbulent wake.
- ▶ Reduced plume rise caused by a combination of descending streamlines in the lee of the building and the increased entrainment in its wake.

Leading Air Dispersion Models Under One Interface

ISC-AERMOD View is a complete and powerful air dispersion modeling package which seamlessly incorporates the popular U.S. EPA models into one interface: AERMOD, ISCST3, and ISC-PRIME. These models are used extensively to assess pollution concentration and deposition from a wide variety of sources.



ISC-AERMOD View Tools

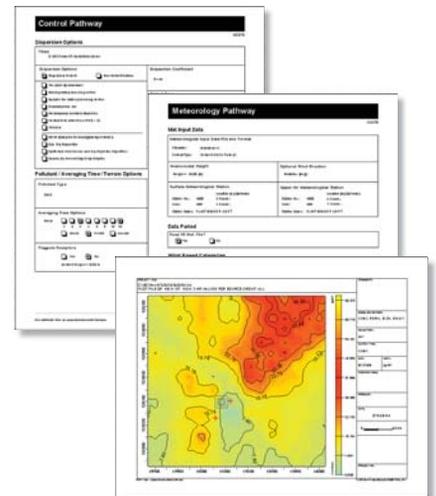
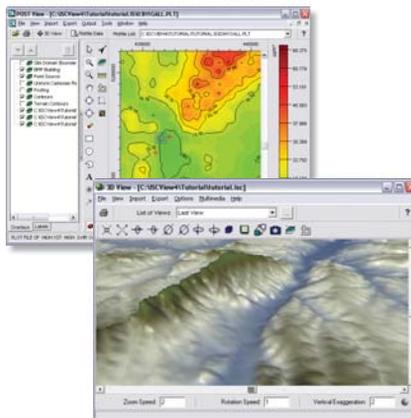
ISC-AERMOD View provides all the tools you need to get your air quality analysis done on time, including:

- ▶ Easy and intuitive graphical interface
- ▶ Data entry in Metric and English units
- ▶ Imports a variety of base map formats
- ▶ Supports the major digital terrain formats
- ▶ Powerful 3D visualization
- ▶ Building downwash analysis
- ▶ Meteorological pre-processing
- ▶ Automatic contouring of results
- ▶ Rapid model comparisons
- ▶ Report-ready output

Impressive Report-Ready Output

ISC-AERMOD View lets you impress with integrated report generation.

- ▶ Summarize your modeling input in professionally designed reports
- ▶ Custom 3D views of your project site and/or modeling results can also be generated in professional report format
- ▶ Customize information to be included
- ▶ Print from ISC-AERMOD View or save your report to file



Digital Terrain Data

ISC-AERMOD View supports a wide variety of digital elevation terrain data formats. Quick import of terrain elevations will save you time and avoid costly hand-made errors.

- ▶ USGS DEM
- ▶ GTOPO30 DEM
- ▶ U.K. DTM
- ▶ U.K. NTF
- ▶ XYZ Files
- ▶ CDED 1-degree
- ▶ AutoCAD DXF

Import multiple DEMs and ISC-AERMOD View will automatically combine each area and zone for your project.

Complete support for AERMAP is also included, making terrain processing for your AERMOD project a snap!

Terrain grid files for deposition analysis can be automatically created from digital terrain files.

Building Downwash

Buildings can radically influence the dispersion of pollutants. ISC-AERMOD View provides all the necessary tools to effectively and quickly complete your building downwash analysis.

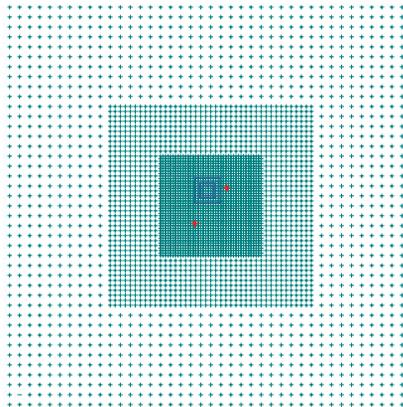
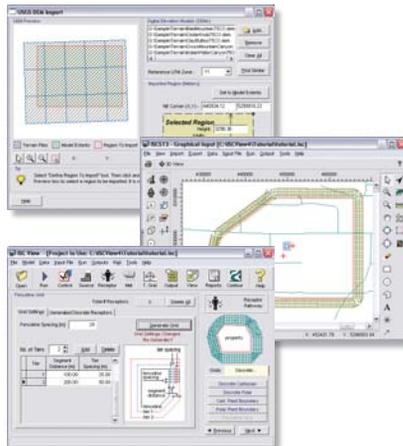
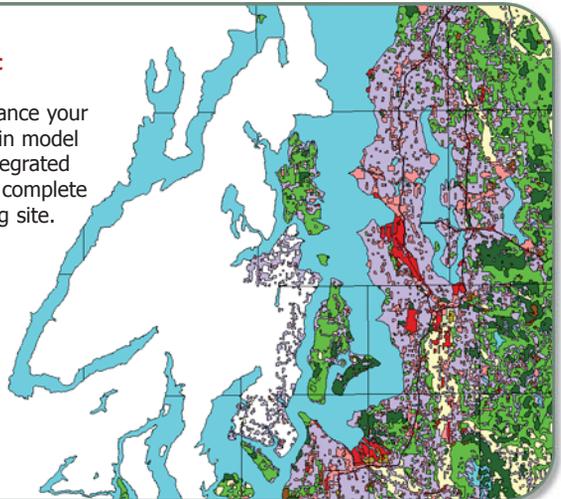
With easy import of building coordinates from AutoCAD base maps and options to digitize buildings, your downwash analysis can be performed quickly.



Extensive Map Support

Import base maps to enhance your modeling project and aid in model results interpretation. Integrated GIS technology gives you complete control over your modeling site.

- ▶ Bitmap
- ▶ USGS DLG
- ▶ USGS LULC
- ▶ AutoCAD DXF
- ▶ ESRI Shapefile
- ▶ JPEG
- ▶ TIFF/GeoTIFF
- ▶ MrSID



Graphical Input

Avoid the hassle and errors of entering locations by hand from paper maps. Specify sources and receptors graphically. After defining an object graphically you automatically have access to the related text mode window in which you can further modify parameters.

Automatically eliminate receptors inside the facility property line.

Receptors (unlimited)

- ▶ Cartesian Grids
- ▶ Polar Grids
- ▶ Discrete Cartesian Receptors
- ▶ Discrete Polar Receptors
- ▶ Cartesian Plant Boundary
- ▶ Polar Plant Boundary
- ▶ Fenceline Grid
- ▶ Multi-Tier Grid (Risk Grid)
- ▶ Flagpole Receptors

Sources (unlimited)

- ▶ Point
- ▶ Area (square, rectangular, circular, polygon)
- ▶ Volume
- ▶ Open Pit
- ▶ Flare
- ▶ Line

ISC-AERMOD View

Professional Visualization & Advanced Tools to Boost Your Productivity

High-Impact 3D Visualization

ISC-AERMOD View features powerful 3D visualization tools unlike other software that requires you to purchase yet another software package just to view plain, static 3D plots. Nothing communicates your modeling better than images, and ISC-AERMOD View provides powerful, dynamic 3D tools built right into its interface.

Understand the effects of topography by displaying your model results with 3D terrain. Make your final report clear and concise by visualizing all your data.

Complete visualization of your imported terrain is just a click away! Click the 3D Terrain icon and your project is transformed into a fully customizable 3D view using your terrain elevation data. Zoom, rotate, and save views in true 3D.

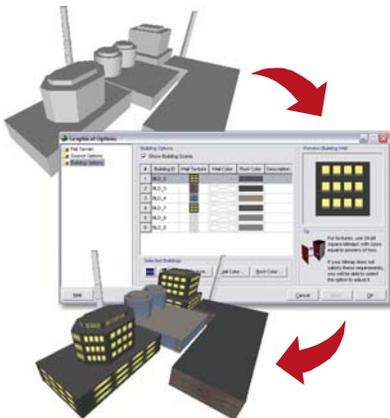
Apply terrain contours to your 2D site view for professional maps, or change to 3D views with a single click. View your site and surrounding terrain in true 3D. Sources and buildings appear in context with your site terrain.

Custom Textures

Apply custom textures to buildings to further increase building realism - say goodbye to bland polygons!

Clear and realistic communication is essential and your model should make an impression.

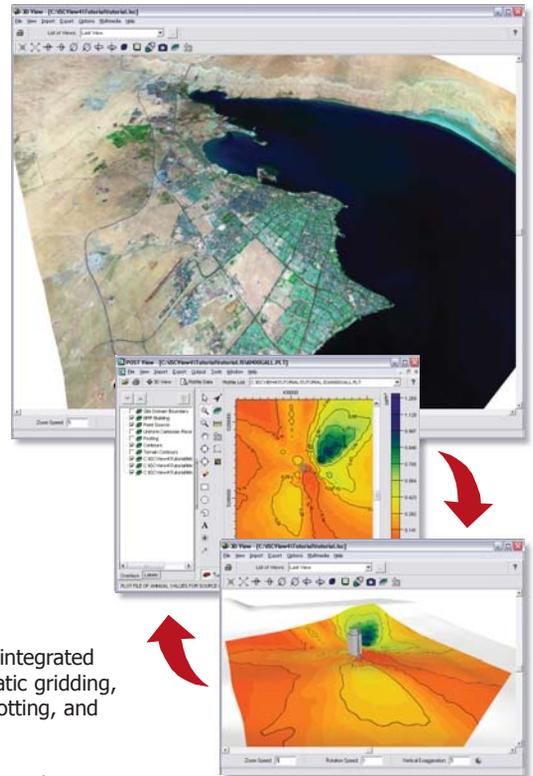
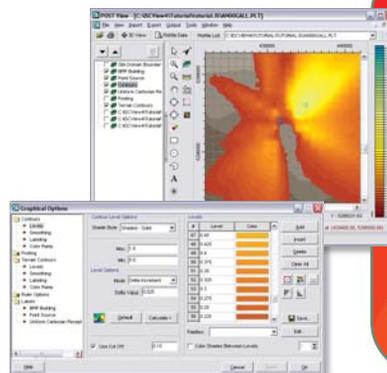
Real-time lighting effects, true-color shading and textures bring your site to life like no other package can!



Integrated Contouring

ISC-AERMOD View features integrated post-processing with automatic gridding, blanking, shaded contour plotting, and posting of your results.

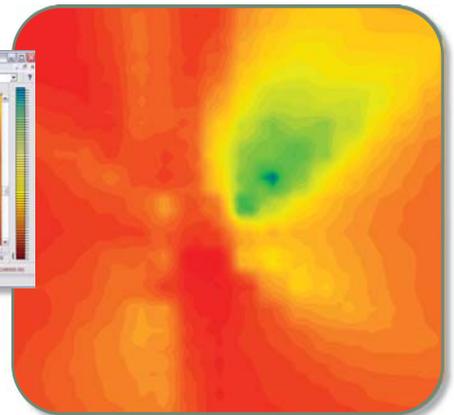
- ▶ Customize contour levels, color shading, transparency, contour labels, fonts, and more.
- ▶ Multiple levels of transparency
- ▶ True color palette
- ▶ Save and edit any palette
- ▶ Extensive terrain contouring options
- ▶ Color ramp customization



Seamless 2D to 3D

Export Options

- ▶ ESRI Shapefiles
- ▶ Bitmaps
- ▶ Enhanced Metafiles

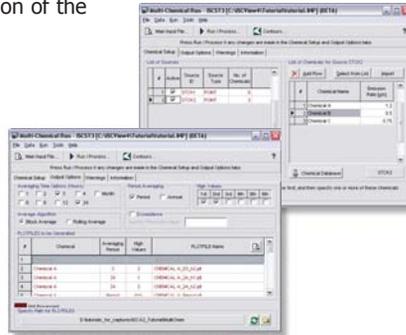


Multiple Chemicals

The Multi-Chemical Run utility will boost your productivity drastically when analyzing the contributions of each pollutant from sources emitting multiple chemicals.

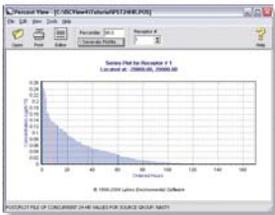
Simply specify the pollutants emitted by each source, define emission rates, and click Run. The Multi-Chemical Run utility takes care of the rest, reducing your model run time to a fraction of the time it would take traditionally.

- ▶ Unlimited sources
- ▶ Unlimited receptors
- ▶ Unlimited pollutants (>1000)
- ▶ Block averages
- ▶ Rolling averages
- ▶ Chemical-specific plotfiles



Percent View

Percent View takes the hassle out of performing modeling runs that require percentiles or rolling averages. Run the model and have these calculations automatically computed.



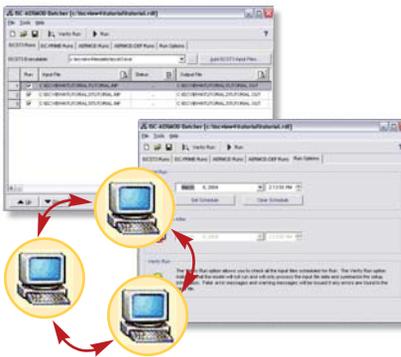
Risk Assessment Projects

Customized air modeling support for leading risk assessment protocols, the U.S. EPA - OSW Human Health Risk Assessment Protocol, and the U.S. EPA - OSW Screening Level Ecological Risk Assessment Protocol. Simply select "Risk Mode" to model in accordance with these guidelines.

Quickly generate the files required for ACE2588 risk assessment model.

ISC-AERMOD Batcher

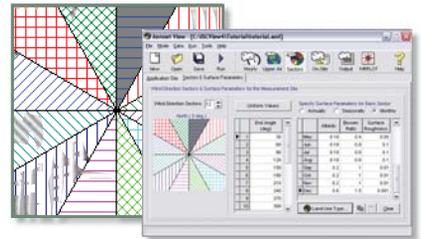
The ISC-AERMOD Batcher is designed to let you easily perform multiple modeling runs. Simply specify the input files for the projects you wish to run, click Run and ISC-AERMOD Batcher will run all your projects. This is ideal for large modeling runs, which is often required for risk assessment projects.



Meteorological Tools

Aermet View

Aermet View is the meteorological pre-processor that guides you through easy steps to prepare your on-site and off-site meteorological data for use with AERMOD.



Rammet View

Rammet View is the meteorological pre-processor that prepares data for use with the ISCST3 and ISC-PRIME models.

Rammet View includes a set of tools which allow conversion of your own met data into the required format.



WRPLOT View

Wind rose plots, frequency tables, and graphs can be generated automatically from surface data files in SCRAM, CD144, HUSWO, TD-3505, CARB, and SAMSON formats or from ISC and AERMET pre-processed met data files. Import from Excel is also supported.

