BREEZE® AERMOD FOR REFINED MODELING

AERMOD is U.S. EPA approved for most regulatory air dispersion modeling. AERMOD's scientific improvements include:

- Advanced meteorological preprocessor to compute site-specific planetary boundary layer (PBL) parameters
- Enhanced treatment of plume rise and plume penetration for elevated inversions
- Improved computation of vertical profiles of wind, turbulence, and temperature

The AERMOD system includes AERMET, a meteorological preprocessor that computes boundary layer and other necessary parameters, and AERMAP, a terrain preprocessor that simplifies the computation of receptor elevations.

Trinity's *BREEZE* AERMOD/ISC GIS Pro features a fully-integrated geographic information system (GIS). This GIS system allows for the integration of diverse geographic data including AutoCAD DXF files, ESRI Shapefiles, MapInfo Tab files, DEM terrain files, and other geo-referenced data.

Familiar Look, Powerful New Functionality

BREEZE AERMOD version 6.0 is the most radical *BREEZE* update ever. Although it retains the intuitive *BREEZE* look and feel, it includes many improvements requested by users and many all new productivity enhancements.

The *BREEZE* interface now features these valuable enhancements:
- **Tabbed Interface** allows you to keep the various data display options open on your computer but view them individually, use the associated display tools, and toggle layers for display (multi-pane view still available).
- **Data Explorer** redesigned to allow users to interact with common spreadsheet programs, sort data, change model object IDs, drill down into the data entry form, filter objects by data types, and change units.
- **Warning/Errors** display view identifies problematic data and allows you to quickly access the form containing the parameter in question.
- *BREEZE* **News** allows users to retrieve important product news from the *BREEZE* Web site if connected to the Internet.

BREEZE AERMOD version 6.0 also includes a variety of tools to speed model run set-up, facilitate file management, and improve results display.

- **Variable Density Object Array** tool allows users to generate receptors, buildings, and sources quickly and uniformly.
- Source ID filters make it easier than ever to define **source groups** for certain conditions (e.g., to apply emissions factors) or for inclusion in a modeling scenario.
- **Model object colors** can be user-selected for sources, buildings, and receptors.
- **Scenario Templates** help new or infrequent modelers to view only the model options applicable to specific types of modeling studies such as concentrations, particle deposition, gas deposition, or NO_2.
- **File management** is improved with standardized and automatically assigned file names and directory paths. A new compressed file that contains most input and output files, including meteorological data files, can be easily emailed to others.

Once the modeling run has been set up, *BREEZE* helps users to choose among executable versions and utilitize powerful postprocessing options.

- Users can choose from the **latest regulatory version** of AERMOD or older versions of the model for analyses.
- *BREEZE* Analyst **post-processing utility** performs contouring; displays DEM files and model results in spreadsheet, 2D, and 3D views; and calculates percentiles and running averages.
- Identify and **download images** from the Internet and associate them with your 2D Map and 3D display views. *BREEZE* AERMOD GIS Pro will automatically identify the center or southwest corner of your modeling domain and give you the option to download height maps, topographic maps, and aerial maps.
- Illustrate local meteorological conditions with an integrated **Metview** that can be used to create windroses for multiple meteorological data files or seasons within a single file can be displayed simultaneously in a multi-pane view.
- Utilize standard **HTML reports** including model options, sources, model results, maximum concentrations, and error and warning messages. Customized reports are also available from the *BREEZE* team.
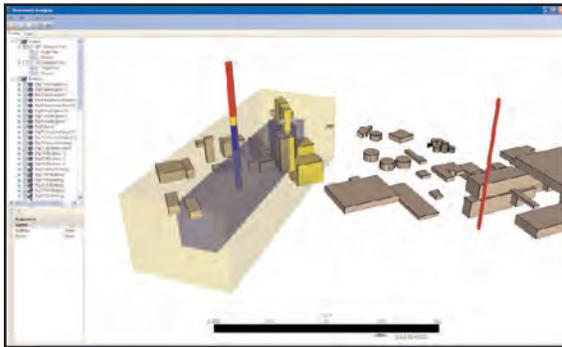
The new BPIP Structural Analysis Tools depicts the zone of influence around obstructions to wind flow (e.g., buildings).

The *BREEZE* team has provided users with help on every aspect of the AERMOD product. A comprehensive online help file, extensive context-sensitive help, and online documentation including operating instructions, sample applications, and technical appendices are provided. In addition, our expert technical staff are also available to answer questions and troubleshoot modeling issues.

Power Processing Version

A new parallel version of AERMOD allows users to take advantage of multi-core CPUs, significantly reducing model runtimes. **Parallel AERMOD** can also be used to create a cluster of computers that process the same model scenario, effectively reducing model runtimes as a function of the number of computers clustered.

BREEZE 3D Analyst

BREEZE 3D Analyst is a powerful post-processor that enables you to analyze and visualize data in time series, contour plots, and 3D isosurface and plane views; and to visualize the intersection/union of two data sets. It is useful for analyzing meteorological, terrain, and concentration data. Animated movies can be created for display in presentations and it is compatible with Google Earth ™ and Golden Software's Surfer®.

The 3D Analyst comes in two versions, one for meteorological, terrain, and modeling data from continuous release dispersion models and one for modeling data from hazards models. Additional gridded data types can be programmed into the application on request. Its capabilities include:

- View data in 3D surface, 2D plane, tabular, and as a function of time
- Perform integrated data contouring
- Perform population analyses with census data for user-defined threshold levels or for auto-generated concentration levels
- Slice a 3D view to identify data trends and anomalies
- Display data while simultaneously interacting with it
- Increase understanding of complex data sets and the interrelationships of multiple parameters
- Customize object properties to display data as desired
- Copy snapshots of each display window and paste to other applications
- Extract subsets of X, Y, Z formatted data to view and analyze
- Merge multiple data sets together and simultaneously perform various operations (scale and translate) on the merged data
- Plot data to Surfer, VTK (Visualization Tool Kit for 3D rectilinear file format), and Google Earth applications
- Animate 2D and 3D displays and present results in Flash (.SWF) or .AVI movies
- Display reports of basic statistics for each parameter within a data set
- Copy and paste tabular data to spreadsheets

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(972) 661-8881 ■ Fax: (972) 385-9203
breeze-software.com
WorldGeoData.com
breeze@trinityconsultants.com   06/16/08