

BREEZE 3D ANALYST

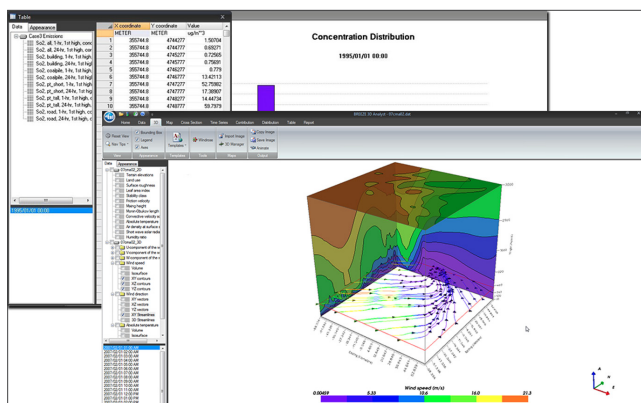


BREEZE 3D ANALYST

Powerful Post-Processor and Visualization Tool

BREEZE 3D Analyst is a powerful post-processor that enables you to analyze and visualize meteorological and terrain data as well as concentration data in multiple formats to help you better understand, interpret, and summarize your modeling results. Graphical display options include but are not limited to time series, 2D and 3D contour plots, and 3D isosurface and plane views, and the software also enables users to accomplish post-processing tasks such as adding/subtracting the results of two model runs or adding background concentrations. Animated movies can also be created for display in presentations and users can export results to Google Earth™ and Golden Software's Surfer®, among many other formats. From taking a quick look at modeling results to performing a detailed source contribution analysis to generating customized graphics for a report, 3D Analyst helps you get the most out of your model results with the least time and effort.

BREEZE 3D Analyst is included for free with the purchase of BREEZE AERMOD, CALPUFF, and Incident Analyst. It is also available for purchase as three stand-alone versions: one for gridded meteorological data, one for dispersion model data, and one for terrain data. Additional data types can be programmed into the application on request.



Product Features Results Visualization

- ▶ Import, visualize, and post-process data from AERMOD, CALMET, CALPUFF, Incident Analyst, and other BREEZE software
- ▶ View results in 3D, 2D, as a time series, and in a tabular format

- ▶ Overlay results on basemaps (using basemaps downloaded automatically within the software interface or basemaps imported yourself)
- ▶ Customize graphics easily, choose from: scale bars, map overlays, high-value markers, and contour color scales
- ▶ Visualize contribution of each source to overall concentration with Contribution view
- ▶ Automatically calculate and plot the radius from a source to a threshold concentration
- ▶ Sort data in spreadsheet format with Table view
- ▶ Generate gridded contours and calculate the associated area
- ▶ Import DWG/DXF files from AutoCAD

3D Tools

- ▶ Visualize plumes and wind vectors in 3D for a new level of understanding
- ▶ View 3D isosurfaces and color-filled volumes
- ▶ View horizontal and vertical cross-sections
- ▶ Rotate, zoom, and pan to view results from every angle

Export Options

- ▶ Export results as images (.jpg, .png, .bmp, .gif, .tif)
- ▶ Export animations (.avi) to see results as a function of time
- ▶ Export results as GIS shapefiles
- ▶ Plot results in Google Earth™ (.kmz), Surfer®, or Scalable Vector Graphics (SVG) formats
- ▶ Produce line, bar, and pie charts from results
- ▶ Save data to an Excel file or a text file with user-customized format
- ▶ Save the Appearance settings for the model result graphics, including the settings for Contour Levels
- ▶ Save data and project templates under the BREEZE Application button
- ▶ Plot receptors into Google Earth and display the concentrations at each receptor

Post-Processing Tools

- ▶ Compute averages, percentile values, and high values
- ▶ Calculate data transformations (e.g. multiply by or add a constant)
- ▶ Find all values that exceed a specified threshold
- ▶ Merge (add, multiply, etc.) or combine together multiple data files
- ▶ Automate common workflows with Data Flowchart utility
- ▶ Conduct source contribution analyses with Contribution tools

Seamless Integration

BREEZE 3D Analyst is the post-processing program for BREEZE AERMOD, CALPUFF, and Incident Analyst, and will be included in your purchase of these programs. In just one click you can import your results, save a report figure, combine with an earlier run, or export to Google Earth. In addition, all of the map images, AutoCAD files, and shapefiles you loaded into a BREEZE modeling application will carry over to BREEZE 3D Analyst.

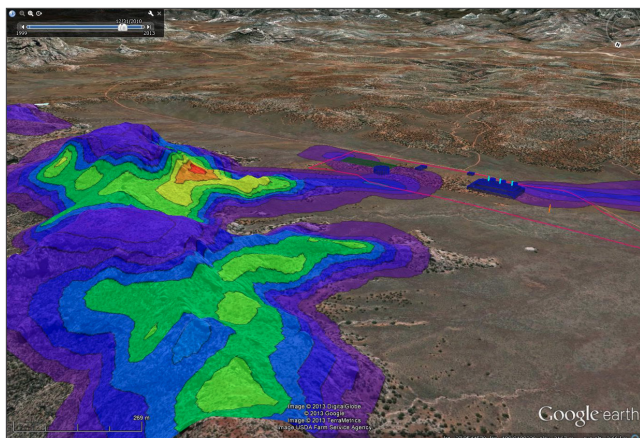
BREEZE 3D Analyst can read numerous data types: model results from BREEZE AERMOD, ISC, CALPUFF, and Incident Analyst (toxic, fire, and explosion models), .DEM-format terrain data, and Data for CALPUFF and CALMET, to name a few.

Powerful Results Analysis Capabilities

Graphical Results

BREEZE 3D Analyst provides many ways to graphically display results, including 2D and 3D plots (all overlaid on your map images and/or terrain data), pie charts showing which sources contribute the most to high concentrations, and animations showing how a plume evolves over time. Whatever your results, one of 3D Analyst's many visualization options will help you better understand, explain, and summarize your findings. Users also have a wide range of customization options within 3D Analyst, and the results can be exported to a number of external programs, including Google Earth (.kmz files), Surfer, GIS utilities (shapefiles), and scalable vector graphics (SVG) files. Furthermore, with its ability to plot 3D meteorological fields and wind vectors, 3D Analyst also makes it easier than ever to understand and evaluate meteorological data such as CALMET output.

With options including 2D and 3D contour plots, charts, and the ability to export of results to Google Earth and GIS software, BREEZE 3D Analyst's graphical results give your data clarity and power.



- ▶ **Export Results Conveniently:** 3D Analyst works with the software you already use, allowing you to do more with your results.
- ▶ **Customize Everything:** Adjust the color scale and opacity of your result contours, increase the font size on your legend, add a scale bar, or pull in an extra background map to overlay your results on. Then save your color scale so you can use it on your next project.

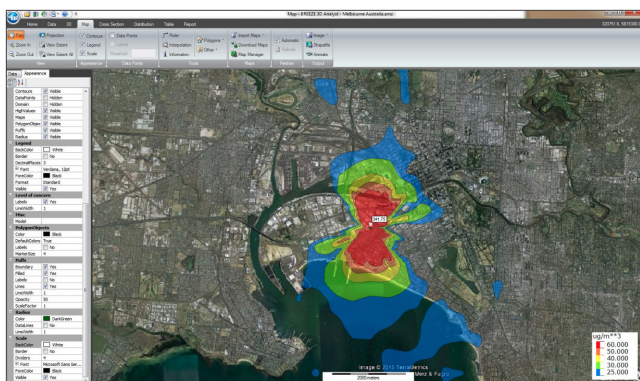
Post-Processing Tools

Need to add a background concentration to all of your results, or multiply everything by a factor to test a new emissions scenario? A few clicks in 3D Analyst will save you from having to re-run your model, and you will immediately see your changes reflected in the graphs, maps, and animations produced by the program. 3D Analyst also makes it easy to combine data files. Whether you need to add together the results from six different sources, pull results from five years of modeling into one file, or calculate an emissions increment by subtracting one model run from another, 3D Analyst can do it in seconds.

In addition to its graphical capabilities, BREEZE 3D Analyst provides many powerful tools for post-processing data and results, including but not limited to the ability to:

- ▶ Extract percentile values (e.g. 99th, 98th) from your data and display them in graphical or tabular forms
- ▶ Compute rolling averages and averages over non-standard time periods
- ▶ Create an exceedance plot showing where and how frequently a threshold value was exceeded
- ▶ Add a background concentration to results
- ▶ Multiply existing results by an emission factor to test a new emissions scenario
- ▶ Combine data files
- ▶ And more!

BREEZE 3D Analyst can do all of this in a matter of seconds, saving users time and money. These intuitive tools allow users to pull out exactly the information they need to understand the situation, comply with regulatory standards, and make the right decision.



Standalone Editions

BREEZE 3D Analyst is the post-processing program for BREEZE AERMOD, CALPUFF, and Incident Analyst, and will be included in your purchase of these programs. For those who do not need these modeling programs but rather just want to purchase BREEZE 3D Analyst alone to analyze their data files, there are three BREEZE 3D Analyst standalone editions you can choose from: 3D Analyst Met, 3D Analyst Results, and 3D Analyst Ultimate. (Note: BREEZE 3D Analyst Ultimate is included with the purchase of BREEZE AERMOD, Incident Analyst, and CALPUFF.)

3D Analyst Met

The BREEZE 3D Analyst Met stand-alone package includes enhanced features and new functions to analyze complex meteorological datasets.

Product Features:

- ▶ Includes ability to open CALMET, 3D data, .ARL, ASCII, and binary files to analyze the data
- ▶ Offers a user-friendly and intuitive interface that is designed according to Microsoft standards

3D Analyst Results

- ▶ BREEZE 3D Analyst Results gives users the ability to open file types primarily related to enhancing visualization of modeling results rather than analyzing meteorological data (Met edition)

Product Features:

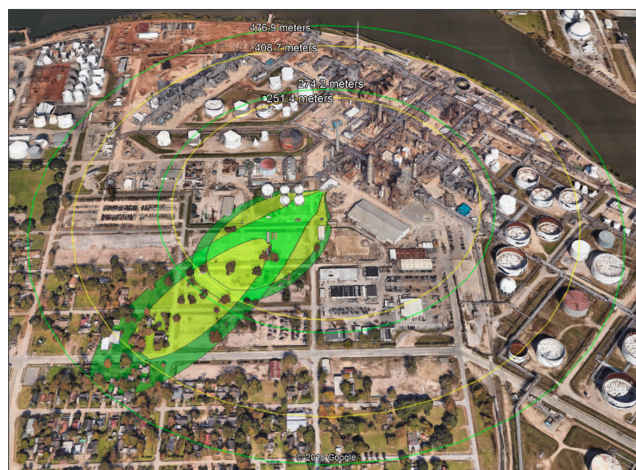
- ▶ Includes ability to open plot, 3D.dat, raw, CALPUFF, HYSPLIT, CAMX, ASCII, H3D, and AERMOD files, among many other file types for use in their modeling projects
- ▶ Incorporates a post-processing utility for hourly NO₂ and SO₂ results

3D Analyst Ultimate

The BREEZE 3D Analyst Ultimate package includes the Met and Results modules, thereby combining the features included in these stand-alone products to result in a more powerful and flexible product.

Product Features:

- ▶ Includes ability to import, visualize, and post-process data and/or results from AERMOD, CALMET, CALPUFF, Incident Analyst, and other BREEZE software
- ▶ Computes averages, percentile values, and high values
- ▶ Displays results in 3D and 2D formats, as well as in time series and tabular formats
- ▶ Allows users to customize graphics easily by specifying scale bars, map overlays, high-value markers, contour color scales, and more
- ▶ Ability to Plot results in Google Earth (.kmz), Surfer, or Scalable Vector Graphics (SVG) formats



Supported Input File Formats and Functionalities

Supported Input File Formats	Included with BREEZE AERMOD/ISC Pro	Included with BREEZE AERMOD/ISC Pro Plus	Included with BREEZE CALPUFF	Met Module	Results Module	Geo Module
Meteorological Data						
CALMET				●		
ARL				●		
MEDOC				●		
3D.dat				●		
MM5				●		
Model Results Data						
CALPUFF			●		●	
SCIPUFF					●	
HYSPLIT					●	
CAMx					●	
AERMOD	●	●			●	
ISCST3	●	●			●	
Puff Data						
CALPUFF					●	
SCIPUFF					●	
HYSPLIT					●	
Terrain Data						
1 Degree DEM	●	●	●			●
7.5 Minute DEM	●	●	●			●
DTED Level 1			●			●

Functionalities	Included with BREEZE AERMOD/ISC Pro	Included with BREEZE AERMOD/ISC Pro Plus	Included with BREEZE CALPUFF	Met Module	Results Module	Geo Module
Display Contours of Concentration Results	●	●	●			
Customize Contour Levels and Colors	●	●	●			
Overlay Concentration Contours on a Basemap	●	●	●			
Plot to Surfer	●	●	●	●	●	●
Plot to Google Earth	●	●	●	●	●	●
Plot to Shapefile		●		●	●	●
Plot to Scalable Vector Graphics		●		●	●	●
Extract Data for Averages	●	●	●	●	●	●
Extract Data for Percentiles	●	●	●	●	●	●
Extract Data for Highs	●	●	●	●	●	●
Create a Cross Section Chart of Results	●	●	●			
Merge Data		●		●	●	●
Export Data		●		●	●	●
Distribution Tab ¹		●				
Contribution Tab ²		●				
Animate Results		●				
Combine Multiple Post-Processed POST files into a Single File		●				
Create a Data Flowchart		●				

1 To determine distribution of each source over a given time period

2 To determine what each source contributed to a given total pollutant concentration over a given time period

Pricing and What's Included

The prices below are for the purchase of a single license. We offer a multiple license discount if you purchase multiple licenses within the same transaction. Additionally, if you don't expect to use the software long-term, we offer 1-, 3-, 6-, and 9-month leasing options. Contact us at breeze@trinityconsultants.com or +1 972.661.8881 for lease pricing details.

3D Analyst Met

Price: \$3,295 USD

What's Included?

- ▶ A perpetual license of the software
- ▶ One free year of technical support and maintenance (upgrades) for the registered user

3D Analyst Results

Price: \$1,095 USD

What's Included?

- ▶ A perpetual license of the software
- ▶ One free year of technical support and maintenance (upgrades) for the registered user

3D Analyst Ultimate

Price: \$4,390 USD

What's Included?

- ▶ A perpetual license of the software
- ▶ One free year of technical support and maintenance (upgrades) for the registered user

Related Products and Services

- ▶ [BREEZE AERMOD](#)
- ▶ [BREEZE CALPUFF](#)
- ▶ [BREEZE Incident Analyst](#)
- ▶ [Data for AERMOD and AERMET](#)
- ▶ [Data for CALPUFF and CALMET](#)
- ▶ [Specialized Consulting](#)

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