

DATA SHEET

MapInfo® Vertical Mapper™

for Spatial Visibility and Analysis

GAIN DEEPER LOCATION INSIGHT USING GRID-BASED ANALYTICS



Summary

Break free from boundaries!

MapInfo Vertical Mapper adds comprehensive raster grid creation, visualization and analysis capabilities to MapInfo Professional.

Using continuous surface grid-based data opens up MapInfo Professional to vastly increased power and flexibility in a wide variety analytical tasks.

Benefits

- Create continuous surface and point density map representations from your data.
- Convert aerial photos or other images to grid-based data for analysis.
- Perform grid-based visualization and analysis tasks including grid querying, predictive analysis, and site modelling.
- Tight integration with MapInfo Professional combines the best of both raster grid and vector analysis capabilities.

OVERVIEW

Grids represent data that vary continuously from one location to another, such as elevation, temperature or even demographics, such as average income. Grids can be used to condense large numbers of point objects into a continuous surface representation of the data that is easy to analyze. By analyzing data in a grid format, users can easily view constantly changing data variables in relation to location by thematically mapping the data with color or relief shading, or by layering and comparing the data mathematically with other grid themes to determine unique or hidden relationships.

MapInfo Vertical Mapper provides robust grid generation, display and analysis capabilities.

Use MapInfo Vertical Mapper to:

- Create 3D topographical maps to better understand how developments such as industrial parks or landfills will impact the surrounding neighbors.
- Determine intervisibility between points or calculate the total viewable area (a Viewshed) from a given location while doing elevation analysis.

INTRODUCING VERTICAL MAPPER

Enjoy access from our familiar MapBasic® programming language to automate repeatable tasks and processes. Some 66 sample applications provide a fast, easy start to apply MapInfo Vertical Mapper functionality in your everyday work.

With support for our latest native file format (.tab) enhancements, users will appreciate the expanded capabilities of the new MapInfo Vertical Mapper file access library, including:

- Access to very large geographic objects with tens of millions of nodes
- Time and Date field type support
- Access to all MapInfo Professional® supported datums and projections

ADDITIONAL NEW FEATURES:

- The ability to convert a raster image picture into a data grid file for analysis. For example an aerial photo can be analyzed to determine the areas impacted by flooding or the total area of green space.
- The supported raster data formats include Bitmap, JPEG, GIF, ECW, JPEG 2000, portable Network Graphics, Geo TIFF/Tagged Image Format, Multi-resolution Seamless Image Database.
- Windows® 7 operating system support
- Simplified installation and deployment options

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- Compare coverage maps to forecast and model network capacity, such as channel, frequency use and bandwidth utilization for communications firms.
- Generate soil chemistry maps from samples for natural resource exploration.
- Relate elevation from a terrain model to a set of households or buildings in an insurance company to understand portfolio risks from flooding.
- Correlate and analyze several large data sets spatially. For example, average household income and high blood lead levels or cell phone signal strength and population density.

Break free from Boundaries

MapInfo Vertical Mapper has a wide range of analytical tools that allow you to reveal trends in data that are free of the influence of arbitrary region boundaries. Grid-based analysis does not rely on aggregation of data into existing boundaries which are often designed for specific administrative or political purposes and may not be well suited to data analysis. Another asset is the software's unique prediction capabilities, whereby you can specify a test location, and MapInfo Vertical Mapper will identify areas with statistically similar attributes. This means complex tasks such as analyzing a number of the demographic and geographic variables used to locate a new retail outlet are reduced to a few mouse clicks. Derive new insight by turning your data investment into compelling, meaningful information to give your business the upper hand.

Create Grids

Creating grids (a grid is a continuous surface representation of your data) with MapInfo Vertical Mapper is easy. The software includes a full suite of standard methods to build grids

from your data. Easy-to-use wizards help novice users achieve meaningful answers while experienced mappers can adjust advanced settings to obtain more sophisticated results.

MapInfo Vertical Mapper includes six grid algorithms:

- Triangulated Irregular Network (TIN) with smoothing
- Inverse weighted distance function
- Natural Neighbor
- Rectangular (Bilinear) interpolation
- Kriging
- Custom Point Estimation (a user customizable grid creation method)

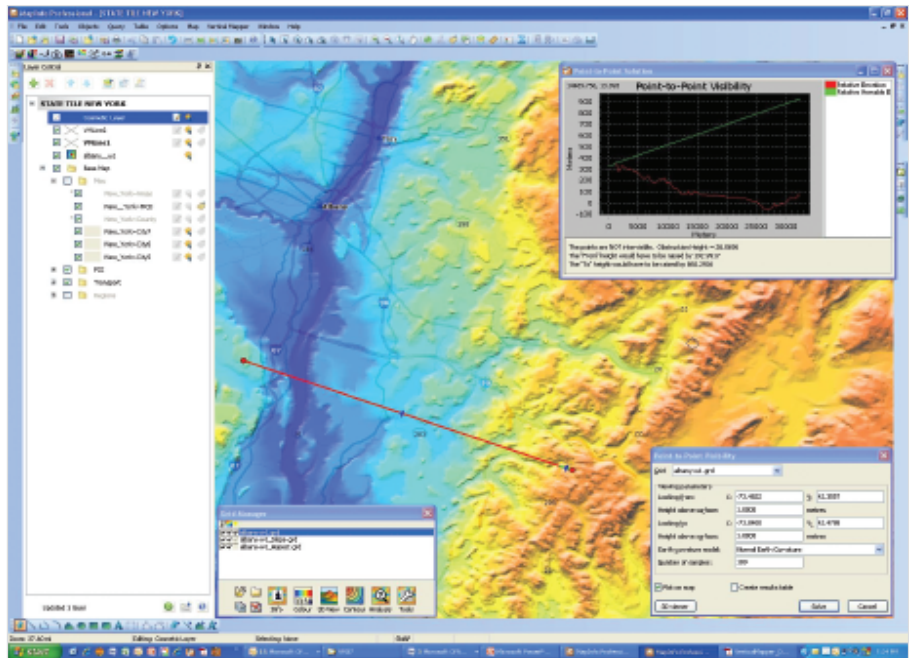
Also, standard aerial and satellite images can be converted into grids for analysis.

In addition, MapInfo Vertical Mapper includes point density and modelling options for:

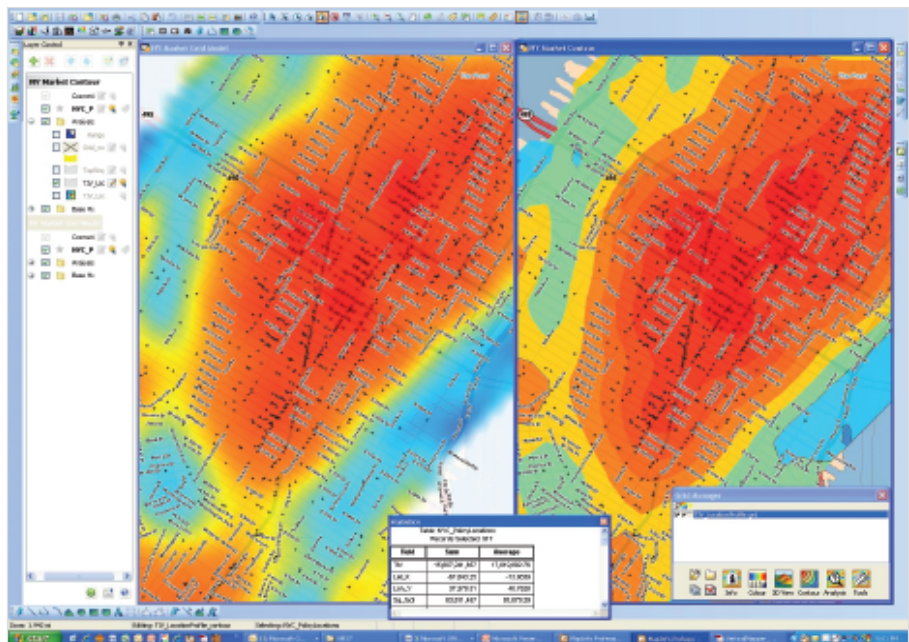
- **Location Profiler** — computes and averages the distance to a series of points from anywhere within a map area
- **Trade Area Analysis** — for single or multiple areas
- **Point density calculation** — flexible options for representing a set of points as a continuous surface for analysis.

Display Grids

Visualize trends in spatial information easily. MapInfo Vertical Mapper grid color settings define data variations and dynamic 3D rendering tools let you bring data to life. View multiple grids within the same scene, apply drapes to any open grid, and determine the degree of transparency for both grids and drape files. MapInfo Vertical Mapper gives you a wealth of display options to generate impressive and intelligent data representations.



Combine several layers to perform line of sight analysis for planning communications services or other analysis. In this example, a layer representing ground elevation and a second layer containing tower or building height are combined for line of sight analysis.



The grid on the left was created from point information and has been turned into polygons for analysis (see the map on the right). The point data used to build a grid can represent a wide variety of information including insurance policies, customers, demographics, measurements, drive test data and more. With MapInfo Vertical Mapper, the best of both worlds, from grid-based analysis and vector-based analysis is possible.

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Analyze Grids

Enter a whole new world of geographic analysis made possible through grid technology. Whether you need to query and compare multiple layers of information, use mathematical expressions to derive new information from your existing grids, or perform terrain related analysis, MapInfo Vertical Mapper has robust spatial analysis capabilities that help you gain new insight from your data.

- Convert grid data to region objects to perform location analysis.
- Combine several continuous layers to determine the best line of sight locations for planning and analysis

Some functions you can apply to your grid data are:

- Overlaying one grid on another and applying a mathematical function (e.g. Subtract one grid with elevations from one data to a grid of the same area after land has been removed to calculate the volume of soil removed)
- Calculate and slope (steepness) and aspect (directional facing) for terrain for use in a variety of analytical applications.

- Show cross sections of terrain. For example, the change in elevation experienced in a section of a motorway or pipeline
- Gaining a 3D perspective view of the terrain with optional overlay of imagery
- Performing natural neighbor (Voronoi) analysis to understand categorical data such as soil type
- Profiling related data for identifying groups if customers, health incidents, traffic accidents or other points.

When you need to calculate point density, two methods are available:

- **Square area**—points totalled for each square of a grid
- **Smoothing**—density expressed as a normalized value between zero and one. MapInfo Vertical Mapper's custom point estimation feature allows you to specify the calculation of points within a radius, including sum, minimum, maximum, average and more.

MapInfo Vertical Mapper also supports the creation and manipulation of classified grids (GRC data), including the modification and merging of class structures.

VISIT WWW.PBINSIGHT.COM/VERTICALMAPPER FOR MORE INFORMATION.

SPECIFICATIONS

Supported Operating Systems

- Windows® 7
- Windows® Vista
- Windows® XP
- Windows® 2008 Server
- Windows® 2008 Server with Citrix® XenApp