

# Surfer Data Contouring & Mapping



## Professional Applications

- ▶ Plotting Groundwater Elevation Data to Display Gradients and Flow Direction
- ▶ Contouring the Extent of Groundwater and Soil Contamination
- ▶ Developing Vector Maps to Describe Direction and Magnitude of Data Points
- ▶ Creating Surface Maps/Contours for Use in Groundwater Flow Models

## Product Overview

Surfer is a popular software package used for analyzing, interpolating, and mapping multi-variate data sets. Surfer is used in a wide variety of applications including:

- ▶ Geology
- ▶ Geography
- ▶ Agriculture
- ▶ Meteorology
- ▶ Hydrology

## Data Input Formats

Surfer includes a full-featured worksheet for creating, opening, editing, and saving data files. Data files can be up to 1 billion rows (limited by memory)! You can use the Windows Clipboard functions to cut, copy, and paste data within the Surfer worksheet or between applications helping to reduce tedious hours manually entering the data.

- ▶ Import files in DAT, TXT, SLK, XLS, WKx, WRx, CSV, BNA, or BLN formats
- ▶ Calculate data statistics
- ▶ Perform data transformations using advanced mathematical functions
- ▶ Sort data (primary/secondary columns)
- ▶ Save your data in XLS, SLK, CSV, TXT, DAT, BLN, and BNA file formats
- ▶ Print your worksheet

## Data Interpolation & Gridding

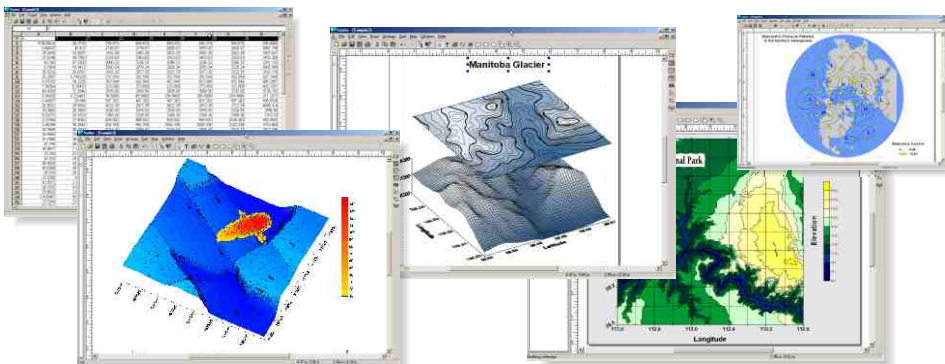
The gridding methods included with Surfer allow you to produce accurate contour, wireframe, vector, image, and shaded relief maps from your X,Y,Z data. Up to 1 billion X,Y,Z data points can be randomly dispersed over the map area, and Surfer's gridding routines will interpolate your data onto a user-specified grid containing up to 100 million nodes.

Surfer gridding methods include:

- ▶ Inverse Distance
- ▶ Kriging
- ▶ Minimum Curvature
- ▶ Polynomial Regression
- ▶ Triangulation
- ▶ Nearest Neighbor
- ▶ Shepard's Method
- ▶ Radial Basis Functions
- ▶ Natural Neighbor

Gridding data can be a challenging and time consuming task, sometimes producing results that fall outside the norm. Fortunately, Surfer has the tools to cross-validate your data set and judge the suitability of the gridding method used.

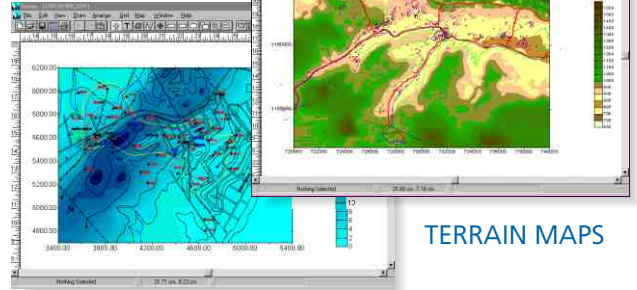
Finally, you can generate a report of the gridding statistics and parameters including ANOVA regression statistics to help support your methodology.



3D SURFACE MAPS

CONTOUR MAPS

## CONTOURING & COLOR SHADING



TERRAIN MAPS

## Visualization & Plotting

Surfer visualization capabilities give you full control over all mapping parameters allowing you to produce dazzling displays of your data sets. Plot types include:

- ▶ Contour Maps
- ▶ 3D Surface Maps
- ▶ Vector Maps
- ▶ Image Maps
- ▶ Shaded Relief Maps
- ▶ Post Maps
- ▶ Base Maps
- ▶ Map Overlays
- ▶ 3D Wireframe Maps

## Graphical Controls

- ▶ Automatic or user-defined color contour intervals, lines, and ranges
- ▶ Full control over contour label format, font, frequency, placement, and spacing
- ▶ Regulate smoothing of contour lines
- ▶ Add color scale or distance scale bars
- ▶ Full control over axis tick labels, tick spacing, grid lines and titles
- ▶ Overlay base, vector, shaded relief, image, or post maps on contour maps
- ▶ Drape contour maps over 3D surfaces for dramatic displays
- ▶ Post data on contour, vector, surface, or base maps
- ▶ Export contours in 3D, DXF format

**Documentation:** Surfer includes a comprehensive User's Manual and example data sets to get you started fast!

**System Requirements:** PC Pentium, 100MHz, 32 Mb RAM, SVGA monitor

### Pricing

Surfer.....	US\$ <b>575<sup>00</sup></b>
Single-User License	
Grapher .....	US\$ <b>295<sup>00</sup></b>
Single-User License	
Didger .....	US\$ <b>325<sup>00</sup></b>
Single-User License	

Package discounts available when purchasing combinations of Surfer, Grapher, or Didger. Please call us for a quote.