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# SURFER<sup>®</sup> 10

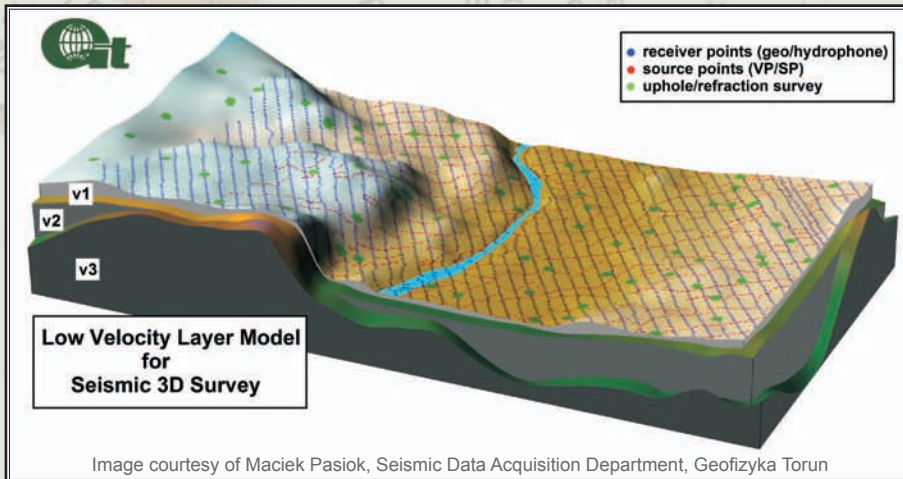
THE INDUSTRY STANDARD IN  
MAPPING SOLUTIONS

GOLDEN SOFTWARE, INC.

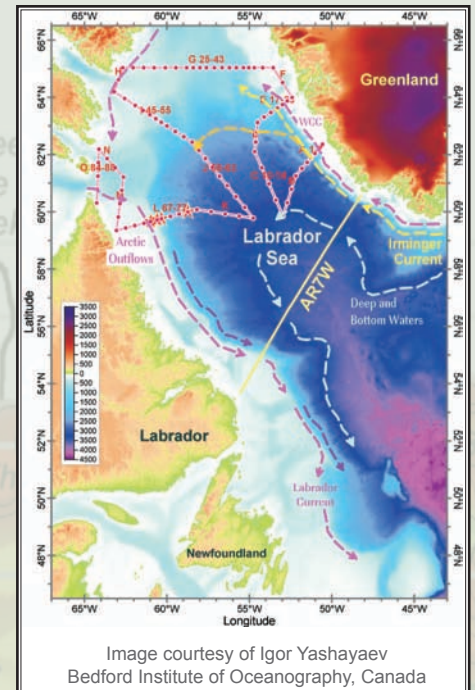
## Exceeding Expectations

**Surfer** is the most powerful, flexible, and easy-to-use contouring and 3D surface mapping package available. **Surfer** easily and accurately transforms your data into spectacularly colorful contour, surface, base, wireframe, shaded relief, image, post, and vector maps in minutes! And best of all, **Surfer** is affordable!

Since 1984, over 100,000 scientists and engineers worldwide have discovered **Surfer's** power and simplicity. **Surfer's** outstanding gridding and contouring capabilities have made **Surfer** the software of choice for working with irregularly spaced XYZ data. Over the years, **Surfer** users have included hydrologists, engineers, geologists, archeologists, oceanographers, biologists, foresters, geophysicists, medical researchers, climatologists, and more! Anyone wanting to visualize their data with striking clarity and accuracy will benefit from **Surfer's** powerful features!



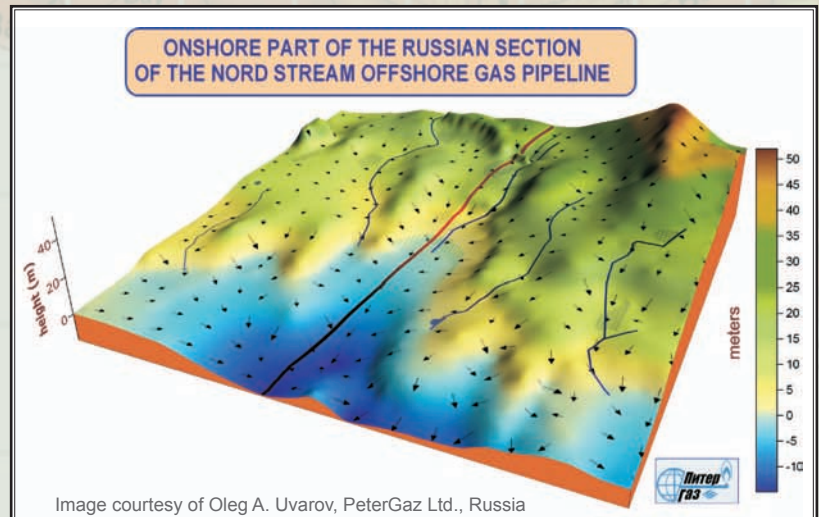
Combining multiple surface and post maps is an excellent way to compare 3D surfaces and visualize data locations.



Effortlessly produce vivid and stunning maps to display an array of data!

## Powerful Mapping

The possibilities are limited only by your imagination! Customize your maps so they look their best! Each of **Surfer's** ten map types has numerous editing options to enhance its appearance. Change line colors and thicknesses, edit point shapes, sizes, and colors, or add gradient color fills and color scale bars. Contour maps allow you to manipulate contour line intervals, thickness, color, and labeling. For shaded relief maps and 3D surface maps, quickly change the lighting angle for a realistic appearance. Assign a coordinate system for each map layer and specify the coordinate system for your map to display. Create maps with multitudes of information by including scale bars, legends, and labels. These are just some of the endless options **Surfer** offers to easily create the most colorful, descriptive, and understandable maps – ready for publication!



Options for creating informative maps are endless! The smallest details are easy to apply and modify with **Surfer's** extensive customization abilities!

## Extreme Data Manipulation

**Surfer** lets you massage your data in many ways to achieve the exact output you want. **Surfer** includes a full-featured worksheet for creating, opening, editing, and saving data files. Data files can be up to one billion rows and columns! You can cut, copy, and paste data within the **Surfer** worksheet or between applications, and you can use **Surfer's** find or find/replace commands to search for and replace data. Sort your data on a specified column, transform data with equations, filter data with specified rules, and calculate statistics on your data! You can also assign a projection to your data and reproject the coordinates to a new projection or coordinate system!

Background image courtesy of Doug Kancler, Underwater Technologies, Inc.

## Automation

Create your own scripts to automate repetitive tasks! Don't spend time doing the same process over and over again – write a script to simplify your life! Operations performed interactively can be controlled using an automation-compatible programming language such as Visual Basic, C++, or Perl. **Surfer** includes Scriptor, a built-in Visual Basic compatible programming environment that lets you write, edit, debug, and run scripts. Why do more work than you need when you have **Surfer** working for you!

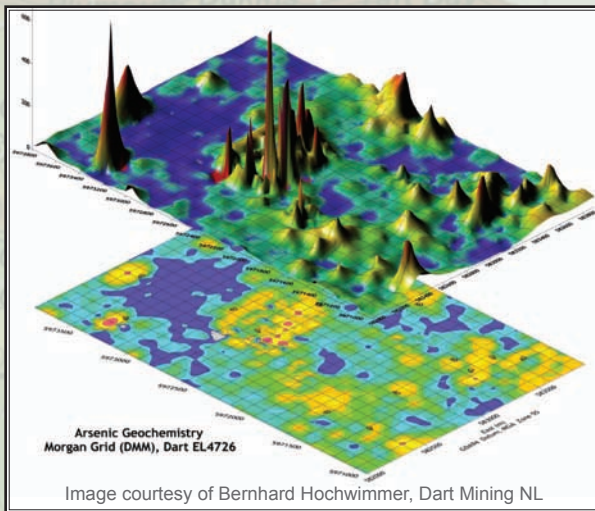


Image courtesy of Bernhard Hochwimmer, Dart Mining NL

Your data has never looked so good! **Surfer's** endless display options allow you to create your project exactly the way you want with a few simple clicks.

## Superior Gridding

**Surfer** provides more gridding methods and more control over gridding parameters than any other software package on the market. **Surfer** will quickly interpolate irregularly or regularly spaced data into a useful, functional map. Use **Surfer's** default settings or choose from twelve different gridding methods. Each gridding method provides complete control over an abundant number of gridding parameters to generate the most accurate map possible to best represent your data. Creating high-precision maps has never been so easy!

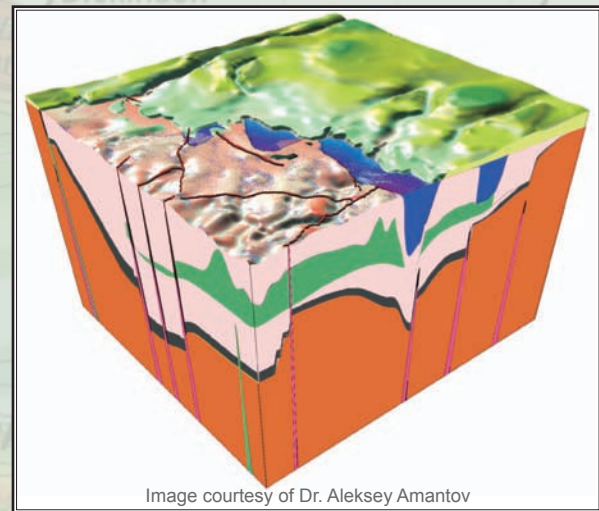


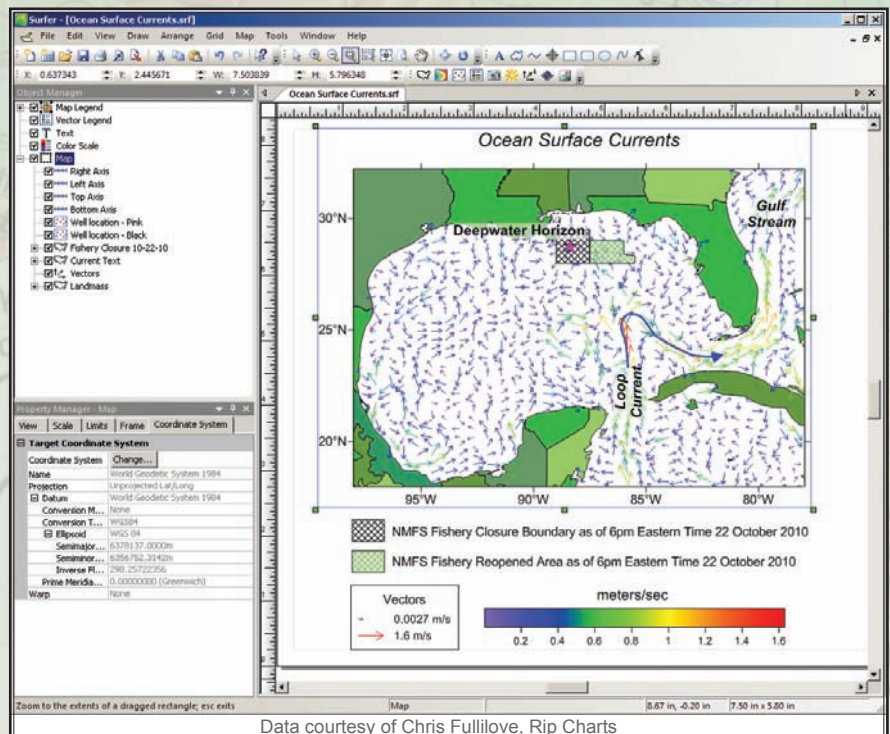
Image courtesy of Dr. Aleksey Amantov

Surface maps display your data as rendered 3D surfaces. Overlay surface maps to generate informative block diagrams.

## Versatility

**Surfer** includes extensive customization options for complete control over the final display of your map. Overlay or stack maps to generate the most informative report. Scale, tilt, and rotate your maps for the best data presentation possible. Detail maps by adding text, symbols, polylines, and polygons. With **Surfer's** object manager and property manager, all of the objects on the page are logically organized and are readily accessible for editing. No other mapping software makes maps as easy to create and as customizable as **Surfer**!

# Now is the time to buy Surfer 10!



Data courtesy of Chris Fullilove, Rip Charts

Present your data at its best! Create one of ten different colorful map types and organize all of your maps and objects with the easy-to-use object manager and property manager!

# Surfer® Features

## User Friendly

- Easy-to-learn, modern Windows user interface
- Download free updates automatically
- Print to any Windows compatible device
- Copy and paste into other applications
- Select, edit, show, or hide all components in an easy-to-use hierarchical tree view
- Edit all map and plot features and see the changes immediately
- Detailed and informative reports
- Customize toolbars, appearance, menus, keyboard shortcuts, and window layouts
- Use mouse wheel to zoom in/out
- Reload data for all maps with a single command

## General Features

- 32-bit and 64-bit installation
- Define custom colors, fill patterns, and line styles
- Define axis attributes including titles, grid lines, tick marks, and tick spacing for all map types
- Independent scaling for X, Y, and Z (if applicable) dimensions
- Rotate and 3D tilt all map types and images, using either orthographic or perspective projections
- Display map scale bars for all map types
- Stack and add most combinations of maps
- Display XYZ coordinates in status bar for selected map or layer
- Full-spectrum color transparency for fills and images
- Overlay maps by dragging map layers
- Save and load color spectrum files
- Set the projection for all maps
- Interactively retrieve XYZ coordinates from any map
- Extract and save data files from post or classed post maps
- Extract and save grid files

## Contour Maps

- Custom or automatic contour intervals
- Control contour label frequency and spacing
- Apply color and fill patterns
- Save and load contour level properties
- Add color scale legends
- Display fault lines with custom line styles
- Export contours in 3D DXF, XYZ TXT, and 3D SHP format

## 3D Wireframe Maps

- Apply custom or automatic color zones
- Display lines of constant X, Y, and Z
- Use custom or automatic Z levels

## Surface Maps

- Control the color, lighting, mesh, base, and overlay blending
- Effortlessly layer external images

## Post Maps

- Post proportional or fixed size symbols
- Add labels from a data file
- Specify the position, label, symbol, and rotation angle for each posted point
- Post all points, specify beginning and ending rows, or post every nth point from a worksheet column
- Save and load classes for classed post maps
- Create a classed post map legend
- Move individual labels on post map with the mouse

## Image Maps

- Create continuous solid color image maps
- Interpolate pixels for a smooth image

## Vector Maps

- Create vector maps from one or two grid files
- Define symbol style, color, and frequency
- Vector symbol color may be based on vector magnitude or the values of an arbitrary grid
- Display color scale and vector scaling legends
- Scale the arrow shaft length, head length, and symbol width based on minimum and maximum data values
- Control vector orientation, symbol origin, and choose from linear, logarithmic, or square root scaling methods

## Shaded Relief Maps

- Control light position angles
- Set relief parameters such as gradient and shading methods
- Specify how colors are mapped to the reflectance and specify the color for missing data

## Base Maps

- Import base maps in several formats: AN1, AN2, BLN, BMP, BNA, BW, DCM, DIC, DDF, DLG, DXF, E00, ECW, EMF, GIF, GSB, GSI, JPEG, JPG, LGO, LGS, MIF, PCX, PLT, PLY, PNG, PNM/PPM/PGM/PBM, RAS, RGB, RGBA, SHP, SID, SUN, TGA, TIF, TIFF, VTK, WMF, X, and XIMG
- Efficiently and effectively access and edit all map components
- Edit line, fill, text, and symbol attributes
- Calculate length and area for polylines and polygons in base maps
- Specify the real world coordinates for images
- Import georeferenced image files in their real world coordinates

## Grid Utilities

- Interactively edit nodes in the grid node editor
- Blank specified regions of the grid
- Compute grid volumes, surface areas, cross sections, and residuals
- Use spline smoothing utilities
- Convert grids from one format into any other format
- Combine multiple grid files to form a single grid file
- Filter grids using many pre-defined filters or define your own filter
- Perform any math operation on any number of grid files
- Obtain information about a grid file, including minimum and maximum values and statistics
- Assign a coordinate system to a grid, and save the information to an external file
- Apply calculus functions to grid files, such as taking the first or second order directional derivatives, using terrain modeling, applying differential and integral operations, or applying Fourier and spectral analyses
- Open grid files in these formats: ADF, AIG, AGR, AM, AN1, AN2, ASC, ASI, BIL, BIN, BIP, BMP, BSQ, BW, COL, CPS, CPS-3, DAT, DCM, DDF, DEM, DIC, DOS, DT?, ECW, ERS, FLD, FLT, GGF, GIF, GRD, GXF, HDF, HDR, IMG, INFO, JPEG, JPG, LAT, PCX, PNG, PNM/PPM/PGM/PBM, RAS, RAW, RGB, RGBA, RST, SID, STK, SUN, TGA, TIF, TIFF, VTK, X, XIMG, XYZ, ZMAP, ZYC, ZYCORN, and ?10g
- Save grid files in these formats: ADF, AGR, AIG, AM, ASC, BIL, BIN, BIP, BSQ, COL, DAT, DEM, ERS, FLD, FLT, GGF, GRD, GXF, HDF, IMG, LAT, RAW, and VTK

## Gridding Methods

- Specify faults and breaklines during gridding
- Create grids with up to 32,767 nodes in either direction
- Choose between twelve different gridding methods, including Kriging
- Apply a generic data exclusion filter for eliminating unwanted data
- Use powerful duplicate data resolution techniques
- Use Cross Validate to assess the quality of the selected gridding method
- Create custom variogram models
- Generate a report of the gridding statistics and parameters
- Apply anisotropy ratios and angles for most gridding methods
- Generate grids from a user specified function of two variables

## Variograms

- Display both the experimental variogram and the variogram model
- Specify the estimator type as a variogram, standardized variogram, auto covariance, or auto correlation
- Specify twelve different variogram model components
- Combine multiple variogram components into complex nested models
- Use the AutoFit feature to define the parameters of selected components
- Customize the variogram to display symbols, variance, and number of pairs for each lag
- Export the experimental variogram data for plotting in other graphing programs

## ActiveX Automation

- Automate repetitive tasks with scripts
- Use Visual Basic, C++, Perl, or any ActiveX Automation compatible programming language
- Includes Scripter, a VB compatible scripting program to automate Surfer

## Drawing Tools

- Drawing tools include text, lines, arrows, curved lines, polygons, rectangles, ellipses, and symbols
- Rotate, move, scale, and color all components of a map
- Combine or break apart groups of items
- Align any map component horizontally and vertically
- Math text system supports superscripts, subscripts, math and Greek symbols
- Use the reshape tool to edit areas and curves

## Worksheet

- Import data formats include: ACCDB, BLN, BNA, CSV, DAT, DBF, MDB, SLK, TXT, WKX, WRX, XLS, and XLSX
- Import data from any database directly into the Surfer worksheet
- Data file size up to one billion rows and columns
- Calculate data statistics
- Sort data based on columns
- Transform data using user defined or built-in equations
- Apply spatial filters
- Find/Replace in worksheet
- Convert the coordinate system for data directly in the worksheet
- Assign a coordinate system to data, and save the information to an external file
- Save your data in these formats: BLN, BNA, CSV, DAT, SLK, TXT, and XLS

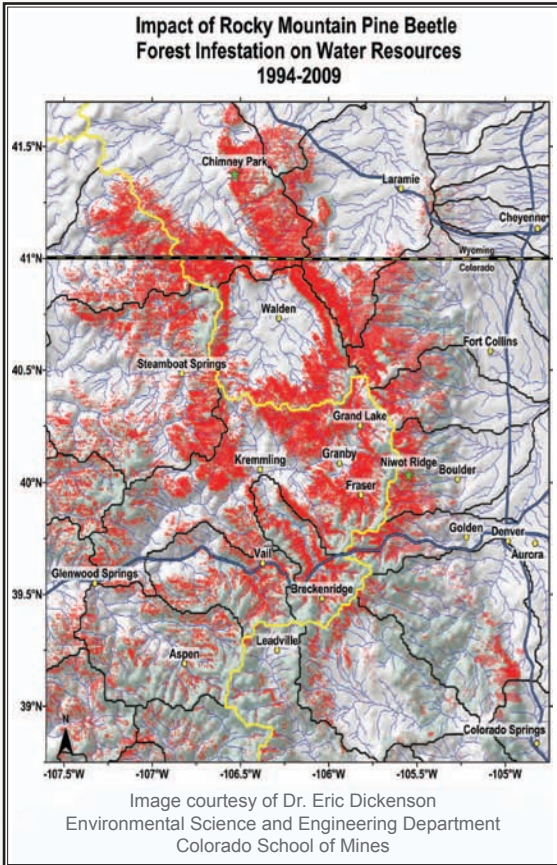
## Export Formats

- BLN, BMP, BNA, BW, CGM, 3D DXF, DXF, EMF, EPS, GIF, GSB, JPEG, JPG, KML, KMZ, MIF, PCX, PDF Raster, PDF Vector, PNG, PNM, RAS, RGB, RGBA, 3D SHP, SHP, SUN, TGA, TIF, TIFF, WMF, X, XIMG, and XYZ TXT

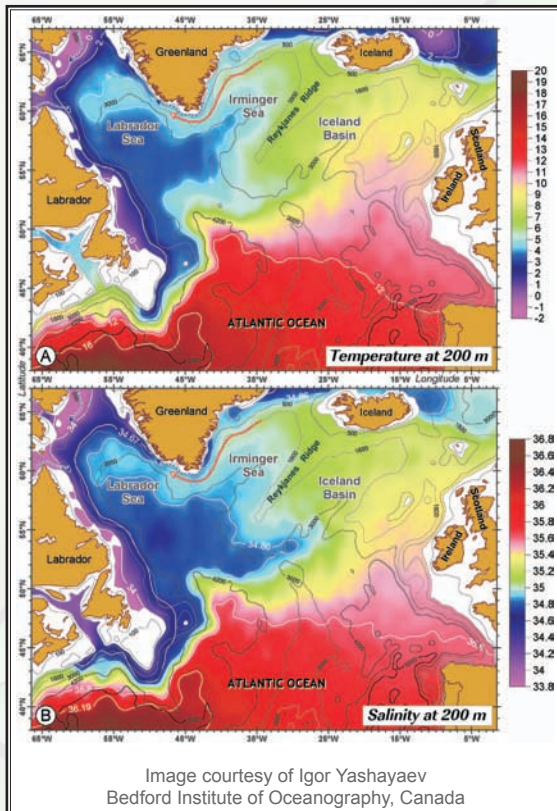
# Download a Demo Today!

**System Requirements** • Windows XP SP2 or higher, Vista, 7 or higher  
512MB RAM minimum, 1GB RAM recommended • 100MB free hard disk space • 1024x768x16-bit color minimum resolution

# The Best Just Got Better!



The above map was created using ten different data sets in more than five different coordinate systems! No extra effort is required to convert data sets, **Surfer** works seamlessly with all coordinate systems.



Create multiple contour maps to compare and display all your data. With **Surfer**, you are in complete control!

✓ **Unlimited Map Projections!** You've waited long enough. **Surfer** now supports map projections! Choose from an endless list of projections for your map to display.

✓ **Leave No Data Behind!** Work with all of your large data sets and images without the worry of running out of memory and create the most accurate map with **Surfer's** enhanced precision capabilities. Install either the 32-bit or 64-bit version of **Surfer** for peak performance!

✓ **Complete Control!** Editing your **Surfer** plot has never been easier with the new property manager. With a few simple clicks, completely customize your map and see the changes in the map immediately.

✓ **Enhanced Drawing Capabilities!** You asked for it and we responded! Use the new spline curve tool to add a smooth, flowing polyline to your **Surfer** plot to mimic contours or to emphasize map details.

✓ **Effortless Assignments!** Work smarter, not harder! **Surfer** allows you to assign a projection once and the information is saved for future use.

✓ **Advanced Abilities!** Grid Math is more powerful than ever! Easily assign blanked grid node values and use an unlimited number of grid files.

✓ **Save Time and Effort!** Overlay Maps option is back by popular demand! Select any number of maps to combine into a single map.

✓ **Access All of Your Data!** Have a **Surfer** file but no associated data file or grids? No problem! **Surfer** can extract this missing information so you will have everything you need!

✓ **Dynamic Digitizing!** Extract not only your XY data, but also your Z data from any map!

✓ **Improved Flexibility!** Take complete control over your post and classed post maps! Specify the range of data to plot with minimal effort.

✓ **Ultimate Data Compatibility!** Import and export in all popular formats! New import formats include Access® 2007 ACCDB import and database query support. New export formats include Google Earth™ KML and KMZ.

✓ **Quick Customization!** It is easier than ever to format contour map levels with **Surfer's** new customization abilities. Adjust basic contour level attributes all the way down to the smallest details of your map. The options are endless!

✓ **Make an Impression!** Easily reverse **Surfer's** numerous color gradients with a click of the mouse!

✓ **Extreme Exporting!** Export any contour map to an XYZ data file.

✓ **No More Duplicate Work!** **Surfer** automatically saves the last ten grid functions you created so there is no need to enter the same functions repeatedly.

✓ **Versatile Visualization!** Open a grid file and easily identify and edit all blanked nodes!

✓ **The Above are Only a Few of Surfer 10's Enhancements!** Buy **Surfer 10** today and discover the very best mapping software!