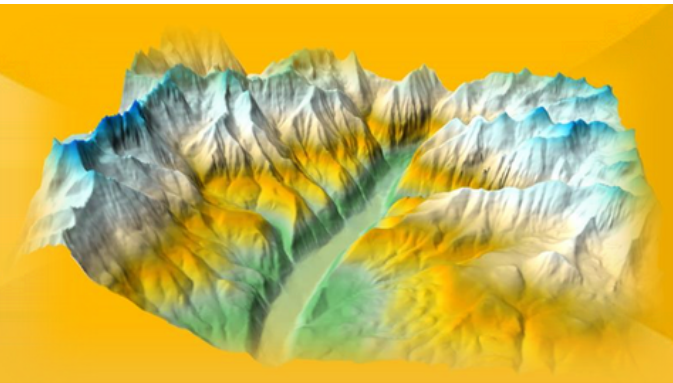
Surfer

Create an immersive 2D/3D model in under 2 minutes



From the rugged terrain to your desktop, explore the depths of your data.
Surfer's extensive modeling tools help you analyze, visualize, and communicate your findings with accuracy and precision.

Powerful Data Interpolation

Have complete confidence in the accuracy of your model. Surfer provides numerous interpolation methods to grid regularly or irregularly spaced data onto a grid or raster, and each interpolation method provides complete control over gridding parameters. Plus, no time is wasted with multithreaded gridding!

Grid 2D XYZ data with 13 powerful algorithms

- Kriging
- Co-Kriging
- Inverse Distance to a Power
- Minimum Curvature
- Natural Neighbor
- Nearest Neighbor
- Polynomail Regression
- Radial Basis Function
- Modified Shepard's Method
- Triangulation with Linear Interpolation
- Moving Average
- Data Metrics
- Local Polynomial

Grid 3D XYZC and Drillhole data with 3 dynamic algorithms

- Inverse Distance to a Power
- Local Polynomial
- Data Metrics

Calculate the TVD of deviated drillholes with 5 calculation methods

- Tangential
- Balanced Tangential
- Minimum Curvature
- Radius of Curvature
- Average Tangential

Each interpolation method includes advanced options such as anisotropy, faults, breaklines, and variogram models.

Computational Analysis Tools

Once your data is interpolated stakeholders are relying on you to understand the project and provide insights that will save them time and money. Surfer empowers you with a robust set of analysis features to extract the most from your data and identify trends, anomalies, or areas of interest.

Grid Convert - Convert grid file formats
Grid Math - Apply math function to z values and perform functions between grid files
Grid Calculus

- Directional Derivatives
- Terrain Modeling
- Differential and Integral Operators
- Fourier and Spectral Analysis

Grid Transform - Modify XY map coordinates
Grid Function - Apply user defined Z = f(X,Y) functions
Grid Slice - Generate a cross section from a grid
Grid Residuals - Compute vertical difference
Point Sample - Compute Z values of given XY locations
Contour Volume/Area - Compute volume and area above, below, or between contour lines
Calculate Isopach - Calculate thickness between surfaces
Grid Mosaic - Combine multiple grids into one
Grid Extract - Create a subset of an existing grid
Grid Editor - Directly edit your grid

- Smooth contours
- Erase areas
- Change nodes to a specific value
- Increase or decrease Z values in an area

Versatile, Publication-Quality Mapping Options

The right figure can solidify the contract. Surfer offers an extensive list of map types for you to visualize and model all types of data. Each map type contains unique, highly customizable properties that give you full control of your final output.

- Base
- Base From Online Server, including Google Maps
- Contour
- Post
- Classed Post
- 3D Surface
- 3D Wireframe
- Color Relief
- Grid Values
- Watershed
- Grid Vector
- Point Cloud
- Viewshed
- Peaks and Depressions
- Drillhole
- Profile
- Graticule

Immersive 3D Modeling

Gain deeper insights into your data by viewing it in three-dimensional space. Surfer's 3D view makes it easy to model, analyze, and understand all aspects of your data. Switching between Surfer's 2D and 3D perspectives ensures you discover all of your data's patterns and provide a memorable presentation.

- Visualize a 3D grid as a volume render, block render or isosurface
- Drape aerial or site plan imagery onto a surface
- Clip 3D grids at custom angles based on XYZ values
- Create an image or contour slice through a 3D grid
- Display 3D points, 3D base layers, and grids in a comprehensive model
- Create, edit, and record a fly-through
- Digitize 3D coordinates
- Create 3D Drillhole models
- Export models to 3D PDF and VRML files, and export 3D vector data to vector files

Extensive Output Options

Seamlessly visualize and analyze data from multiple sources for multiple industries. Surfer natively reads numerous file formats and supports all popular export formats. Quickly share your work with colleagues, stakeholders, and clients in geology, hydrology, construction and beyond.

- Universally accepted 2D & 3D PDF
- Common drafting & GIS file formats such as SHP, TIF, XLSX, JPG, CSV, KML GRD, DXF, VTK and more
- Comprehensive raster and data file formats

Automate Workflows

Research requires repetition to confirm your findings. Surfer ships with native automation and is compatible with popular third-party applications that will help you automate your gridding and mapping workflows.

Analyze complex data with confidence, create meaningful maps with unparalleled speed, and clearly communicate results to all audiences.
Download the free trial today.