

New Features

This is an overview of some of **Surfer 12's** new features.

User Friendly

- [Save](#) in Surfer 11 or Surfer 12 .SRF format for easier sharing between versions.
- Added the [Trackball](#) command to right-click menu for easier rotation of maps.
- New modern [interface](#) appearance schemes.
- [Zoom](#) to the cursor location using the mouse.
- Added new larger predefined page sizes to the [Page Setup](#) dialog.
- Set a printer [option](#) to get the paper size from the **Page Setup** dialog.
- [Rename](#) individual objects in a [base layer](#) without entering the group.
- 150 new complex [line styles](#).
- New logarithmic [colormap](#) options.
- Display [color scale](#) and labels using logarithmic or linear values.
- Press ALT+ENTER on the [keyboard](#) to access the [Property Manager](#).
- Press ALT+F11 on the [keyboard](#) to access the [Object Manager](#).

Map Features

- Set the units and numeric format for the [Map | Measure](#) command.
- Base Maps
 - [Download base maps](#) from online map servers from WMS servers
 - [Rename](#) individual objects in a [base map layer](#) without entering the group.
- Contour Maps
 - Set the [contour label](#) font and format properties when using the *Simple Level Method*
 - Added a [Logarithmic contour map](#) *Level Method*
 - [Minor contour lines](#) default color is now 30% Black, to quickly differentiate major and minor contours on the map.
- Post Maps and Classed Post Maps
 - Set the [symbol color](#) for post maps from a worksheet column.
 - Use a [colormap](#) to link values in the worksheet with colors in the colormap for [post maps](#).
 - Display multiple [labels](#) on post maps.
 - [Connect points](#) in a post map with a line.
 - Use [Date/Time data](#) for [post map](#) creation.
 - Use 3D [DXF files](#) as XYZ data for post map creation.
- Classed Post Maps
 - Apply a [color gradation](#) to classed post map symbol colors.
 - Apply a [size gradation](#) to classed post map symbol sizes.
 - [Change symbols](#) for all classes at once.
 - Display multiple [labels](#) on classed post maps.

- [Connect points](#) in a classed post map with a line.
- Use [Date/Time data](#) for [classed post map](#) creation.
- Use 3D [DXF files](#) as XYZ data for classed post map creation.
- Image Maps
 - Increased the number of discrete colors for [image map](#) layers to 16 million (from 254). This creates better color definition with large number of bins in a CLR file.
- Watershed Maps
 - Change line properties for [watershed map basin boundary](#) lines.
- Axes
 - [Reverse axis direction](#) to make descending axes.
 - Format axis labels using [Date/Time](#) labels.

Gridding Features

- [Grid data](#) using linear or logarithmic options.
- Create a buffer around the convex hull of the data when [gridding](#).
- Use Date/Time data for [gridding](#) or [post map](#) creation.
- Use [3D DXF files](#) as XYZ data for gridding or post map creation.

Drawing and Boundary Editing Features

- [Smooth](#) polylines and polygons.
- [Thin](#) or simplify polylines and polygons.
- Added an option to [disable the OpenGL acceleration](#) on the video card. This is used in rare circumstances where the top of a 3D surface map is black or gives errors when creating the 3D surface map.
- Improved the [classed post map](#) color/symbol [CLS file format](#) to include line and fill color separately.

Data Features

- Import data in [Excel XLSM](#) format.
- Import data from [SP1 and SEG file](#) formats.
- Import [DXF AutoCAD Drawing Data](#) file formats into a worksheet.
- Set worksheet cells to use date/time formats in the [Format Cells](#) dialog.
- Flip or [transpose](#) columns to rows and rows to columns.
- Round data with the [Data | Transform Round equation](#).
- Calculate values in the worksheet with the PI [expression](#) in [Data | Transform](#).
- Added a percentage [number format](#) for easier conversion of data.
- Added a new `\n` [math text directive](#) to create new lines.
- Treat empty cells as blank, as the number zero, or as an empty text string when [transforming](#) data.
- Treat text strings as blank, as text, as the number zero, or convert to a number (if possible) when [transforming](#) data.
- Treat numbers as blank, as text, as the number, or as an empty text string when [transforming](#) data.

Import and Export Improvements

- [Export](#) multiple maps and non-map objects to a single coordinate system for raster export.
- [Export](#) multiple maps and non-map objects to a single coordinate system for vector export.
- Create georeferenced [base maps](#) from warped [images](#) with correct rotation, skew, distortion, warp, and coordinate system.
- Import [SP1 and SEG file](#) formats.
- Export [SP1 and SEG](#) file formats.
- Import [Adobe](#) PDF raster file formats.
- Import [GeoPDF](#) format in raster PDF files
- Import [JPEG2000](#) file formats.
- Export [JPEG2000](#) file formats.
- Export [SVG file](#) formats.
- Import [HGT SRTM Elevation Data grid](#) file formats.
- Import [netCDF NC Network Common Data Form grid](#) file formats.
- Export [netCDF NC Network Common Data Form grid](#) file formats.
- Improved [DXF AutoCAD Drawing](#) import to allow data DXF files to import in a worksheet.
- Improved [GIF file](#) format to export with transparent background.
- Improved [ZMap Grid](#) file import to handle additional non-standard fields.
- Improved [KML export](#) to have all symbols export to a single GIF.
- Improved [ESRI ADF grid file](#) import to read mult-tiled datasets.
- Improved the [Geosoft grid file](#) import to read compressed grid formats.
- Improved [LiDAR LAS data file](#) filtering.

Automation

- Added a [Transform3](#) command to transform worksheet data with various options for empty cells, text cells, and numeric cells.

Projections, Coordinate Systems, and Datums

- New [Projections](#)
- New [Coordinate Systems](#)
 - Albany Grid 1984 (Australia)
 - Albany Grid 1994 (Australia)
 - Australia New South Wales ISG (Integrated Survey Grid)
 - Australian Grid, 37 new coordinate systems
 - Barrow Island and Onslow Grid 1994
 - Broome Grid 1984

- Broome Grid 1994
- Busselton Coastal Grid 1984
- Busselton Coastal Grid 1994
- Carnarvon Grid 1984
- Carnarvon Grid 1994
- Christmas Island Grid 1984
- Christmas Island Grid 1994
- Cocos (Keeling) Islands Grid 1992
- Cocos (Keeling) Islands Grid 1994
- Collie Grid 1994 (Australia)
- Esperance Grid 1984
- Esperance Grid 1994
- European 1950 (Portugal/Spain variant) - UTM Zone 29N
- Exmouth Grid 1984
- Exmouth Grid 1994
- Geraldton Coastal Grid 1984
- Geraldton Coastal Grid 1994
- Goldfields Grid 1984
- Goldfields Grid 1994
- Hartebeesthoek / Lo, 10 new zones
- Idaho Transverse Mercator 1927 (IDTM27)
- Idaho Transverse Mercator 1983 (IDTM83)
- Irish Transverse Mercator (ITM)
- Jurien Coastal Grid 1984
- Jurien Coastal Grid 1994
- Kalbarri Grid 1994
- Karratha Grid 1984
- Karratha Grid 1994
- Kununurra Grid 1984
- Kununurra Grid 1994
- Lancelin Coastal Grid 1984
- Lancelin Coastal Grid 1994
- Magna-Sirgas, six new coordinate systems
- Margaret River Coastal Grid 1984
- Margaret River Coastal Grid 1994
- Mount Eden Circuit 2000
- Mount Eden Circuit 1949
- NZGD2000, 28 new circuits
- Perth Coastal Grid 1984

- Perth Coastal Grid 1994
- Portuguese National Grid, Greenwich Meridian
- Portuguese National Grid, Lisbon Meridian
- Portuguese National Grid, Lisbon Meridian (zero easting/northing)
- POSGAR 94 - Argentina
- POSGAR 98 - Argentina
- Port Hedland Grid 1984
- Port Hedland Grid 1994
- SVY21 / Singapore TM
- Sweden - SWEREF99 TM
- SWEREF99 local zones
- SWEREF99 / RT90 emulation zones
- New [Datums](#)
 - IRENET95
 - Lisbon 1937 (Lisbon Meridian)
 - NWS-84
 - Posiciones Geodesicas Argentinas 1994 (WGS84 base)
 - Posiciones Geodesicas Argentinas 1998 (WGS84 base)
 - SVY21 (WGS84 base)
 - Sweden - SWEREF99
- New [Ellipsoids](#)
 - NWS-84 Sphere

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