

New Features

This is an overview of some of **Surfer 11's** new features.

User Friendly

- [Lock object position](#) to prevent the object from moving.
- Added the [Text Editor](#), making font properties for individual characters easier.
- Created a [text template library](#), for easily inserting math equations in a text box.
- Full [Unicode](#) integration to allow international fonts and characters in all aspects of the program.
- Read and display numbers with the [decimal separator](#) as either commas or periods.
- Automatically blank outside the data with the new convex hull option in the [Grid Data](#) dialog.
- File names displayed next to the map layer name in the [Object Manager](#).
- Display the map and file name at the top of the [Property Manager](#).
- Updated the [Options](#) dialog to make finding and updating advanced options easier.
- Added a [Tools | Defaults](#) command to update default settings for dialogs and properties.
- Set the [symbol](#) line color and fill color separately.
- Set the [number of lines](#) in an ASCII grid file.
- Choose to add a [blank line](#) between rows in an ASCII grid file.

Map Features

- Create [watershed map](#) types that calculate and display drainage areas and watershed boundaries.
- [Measure](#) distances and calculate areas in map units directly on the map.
- Create [profiles](#) automatically from map layers.
- Add [attribute information](#) to map layers, map frames, axes, or individual objects in a map layer.
- Add [labels](#) directly from attribute information for polylines, polygons, and symbols on [base map](#) layers.
- Increased the number of allowed [classes](#) in a [classed post map](#) layer to 200.
- Moved the *Fill contours* option to the [Levels](#) page for contour maps.
- [Add](#) a new left, right, top, or bottom axis to an existing map.
- Prompt for the [coordinate system](#) when creating or adding a map layer from an unreferenced file.
- Non-displayed [axes](#) are no longer exported when exporting a map layer.
- [Export boundaries](#) from a base map layer.

Drawing and Boundary Editing Features

- Convert a [polyline to polygon](#) command.
- Convert a [polygon to polyline](#) command.
- [Combine multiple polygons](#) into a single complex polygon.
- [Break apart a complex polygon](#) into multiple polygons.
- [Connect multiple polylines](#) into a new single polyline.

- [Break a polyline](#) into multiple polylines.
- [Digitize Coordinates](#) window stays open until you close it, making it easier to edit the data or digitize multiple times into the same data file.
- Added the ability to add [attribute information](#) to drawn objects.

Data Features

- Convert text to numbers with the [Data | Text to Number](#) command in the worksheet.
- Round data with the [Data | Transform Round equation](#).
- Save data in [Excel XLSX](#) file format.
- Read commas as [decimal separators](#) in the worksheet.

Import and Export Improvements

- Import [attribute](#) information from files that contain attributes, such as TIF, GPX, or SHP.
- Set line wrapping for [ASCII GRD](#) files.
- Set numeric format for [ASCII GRD](#) files.
- Import Global Weather Data grid [GRIB](#) file formats.
- Export [ZMAP](#) files.
- Import GPS exchange file [GPX](#) files.
- Import ZIP and USGS SDTS [topological](#) and [grid](#) files in .TAR.GZ, .TAR, .ZIP, and .TGZ format directly without unzipping.
- Export GeoPDF format in [vector PDF](#) files.
- New compression options for [raster](#) and [vector PDF](#) files, creating smaller exported files.
- Export partially transparent objects to vector [PDF](#) file format.
- Export [PDF](#) files with page sizes.
- Preserve object properties when exporting [KML](#) files.
- Export [KML](#) post map symbols as Google symbols.
- Export [CPS-3](#) grid files.
- Import [E00 grid](#) files.
- Export [attribute](#) information for polylines, polygons, and symbols to [BLN](#), [BNA](#), [GSB](#), [GSI](#), [KML](#), [KMZ](#), [MIF](#), and [SHP](#) file formats.
- Import [LiDAR](#) LAS binary data files.

Grid Node Editor Features

- Coordinates are now tracked in all open plot, worksheet, and grid node editor windows with the [Track Cursor](#) command added to the [grid node editor](#).
- Zoom [in](#) and [out](#) in the grid node editor using toolbar buttons or keyboard shortcuts.
- Click the [Fit to Window](#) command to zoom to the entire grid.
- Display [grid node labels](#) in the grid node editor.

- Set label [format](#) and [font](#) properties for the grid node labels.

Automation

- Added the [GridConvert2](#) command to set grid options from a script.
- Pass [command line arguments](#) to a script.

Projections, Coordinate Systems, and Datums

- New Projections
 - [New Zealand Map Grid](#)
 - Updated [Hotine Oblique Mercator](#)
 - Updated [Hotine Oblique Mercator 2-Point](#)
- New Coordinate Systems
 - Hungarian National Grid EOV
 - Italy Zone 1 Gauss-Boaga (EPSG 3003)
 - Italy Zone 2 Gauss-Boaga (EPSG 3004)
 - Sardinia - Gauss-Boaga
 - Sicily - Gauss-Boaga
 - New Zealand Transverse Mercator 2000 (NZTM2000)
 - New Zealand Map Grid
 - State Plane 1983 Kentucky Single Zone
 - State Plane 1983 Kentucky Single Zone (Feet)
 - Irish National Grid
 - Switzerland - CH1903+LV95
 - Switzerland - CH1903 LV03
 - Japan Plane Rectangular CS IX
 - ITRF90 (Bursa-Wolf)
- New Datums
 - Hungarian Datum 1972
 - Rome 1940 - Italian Peninsula
 - Rome 1940 - Sardinia
 - Rome 1940 - Sicily
 - New Zealand Geodetic Datum 1949 (Bursa-Wolf)
 - New Zealand Geodetic Datum 2000 (NZGD2000)
 - CH 1903 - Switzerland (Bursa-Wolf)
 - CH 1903+ - Switzerland
 - ITRF90 (Bursa-Wolf)
 - ITRF94 (WGS84)

- Japanese Geodetic Datum 2000 JGD2000 (WGS84)

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