

New Features

This is an overview of some of **Surfer 13's** new features.

User Friendly

- [Welcome to Surfer](#) dialog displays at start up for quick access to **Surfer** projects, sample files, and the tutorial.
- [User Interface](#) option to always display drop arrows in the **Property Manager**.
- [Date/Time Format Builder](#) dialog makes custom date and time formats easier to use in the plot and worksheet windows.
- Improved precision for properties specified in page units, such as [line width](#), [symbol size](#), [Label to Label Distance](#) etc.. Property values can be entered with up to seven significant figures.
- Enhanced worksheet appearance.

Map Features

- Hill shading can be applied to [Image Maps](#).
- Add a title to color scales.
- [Viewshed](#) analysis indicates which surfaces are visible from a selected observation point.
- Apply Degree, Minutes, Seconds formats to [label formats](#).
- Add a [Graticule](#) to a map.
- Edit attribute values directly in the [Property Manager](#).
- Select objects subject to multiple constraints with the [Query Objects](#) command.
- Add, edit, and remove attributes and attribute values for objects in a base layer with the [Attribute Table](#).
- Download grid files from WMS servers with the [Grid | Grid from Server](#) command.
- [Download Online Maps](#) improvements:
 - Support SSL servers.
 - Support proxy servers.
 - Drag and drop items in the *Data Source* list.
 - Add a top-level data source category
 - Support for servers that offer images in other coordinate systems
 - Updated dialog with improved look and usability

Gridding Features

- Clamp the [Grid | Data](#) Z range to a specific range of values, if desired.

Drawing and Boundary Editing Features

- [Create Intersection Points](#) creates points at all intersections of the selected objects.
- [Break Polyline at Intersections](#) breaks selected polylines at all intersections with other objects.
- [Difference of Polygons](#) creates new polygons without the overlapping regions of selected objects.
- [Intersect Polygons](#) creates a new polygon from the overlapping section of selected polygons.
- [Union Polygons](#) creates a single polygon from multiple selected polygons.

- [Buffer](#) creates a polygon around or within objects at a specified distance.

Data Features

- Updated the [date/time](#) import to recognize Windows locale settings.

Worksheet Features

- Ignore blanking value or use a specific range of values when computing statistics with [Data | Statistics](#).
- Determine the mode or modes of a data set with [Data | Statistics](#).
- [Paste Special](#) command displays the [Import Options](#) dialog when pasting complexly formatted text.

Import and Export Improvements

- Export [raster PDF files](#) with the page size.
- Compress [exported vector PDF](#) files to create smaller files.
- Specify to render marker symbols or export as points when exporting [DXF](#) files.
- Exported [GIF files](#) are always exported at 72 DPI, to match the GIF file format definition.
- Export transparency to [TIF files](#).
- Select whether to blank inside or outside regions when saving digitized coordinates with the [Digitize](#) command.
- Include ZLEVEL attribute values with [DXF file](#) export.
- Export **Surfer** plots as XYZ points with attributes in [DAT or CSV files](#).
- Import rectangular portions of [SID MrSID image files](#) or entire MrSID image files as read-only to decrease import time and RAM usage.
- Import rectangular portions of [ECW ER Mapper image files](#) or entire ECW image files as read-only to decrease import time and RAM usage.
- Improved transparency and fill pattern handling with [GSI files](#).
- Improved transparency and fill pattern handling with [Vector PDF files](#).
- Specify the render resolution (DPI) when importing [PDF files](#).
- Export [vector PDF files](#) with layers.
- Import [IMG ERDAS Imagine](#) image and/or grid files.
- Import [TIF image files](#) with YCbCr color format.
- Import a table of Z values as [TXT Formatted Text Grid](#) files to create grid-based layers.
- Export [HTM HTML Image Map](#) files.
- Import [KML Google Keyhole Markup](#) files.
- Export text to [KML/KMZ](#) files as a label placemark.
- Import [HGT NASA SRTM](#) data directly from a ZIP file.
- Import one [SHP](#) file in a ZIP file.
- Export [DXF files](#) with rendered marker symbols or points.

Automation

- Create a [profile](#).
- Set [coordinate systems](#) for the layer, map, and grid.
- Add [viewshed](#) layers.
- [Reverse](#) axes
- Set the hill shading property for the [ImageLayer](#) object.
- Set the level method for the [ContourLayer](#) object, with corresponding level properties.
- Create a [WatershedLayer](#) object.
- Set logarithmic scaling on the ColorMap object.
- [GridData](#) improvements
 - Added grid spacing parameters.
 - Inflate grid outside convex hull.
 - Blank grid outside convex hull of data.
- Added the title property for the Discrete and Continuous [ColorScale](#) object.
- Set LiDAR LAS import options.
- [Save](#) in **Surfer 11** or **Surfer 12** SRF format
- Create an [empty base map](#).
- Specify a Preset colormap for the [ColorMap](#) object.
- Get grid [statistics](#)
- Set [LabelFormat](#) object to Date/Time format.
- Load a [CLS](#) file for a [ClassedPostLayer](#) object.
- [PostLayer](#) object improvements
 - Create and edit multiple label sets.
 - Set the [symbol color column](#).
 - Set the [color method property](#)
 - Set the [symbol colors property](#)
- Set [import options](#) when opening some grid files.
- Change the properties for objects within a [composite object](#) or a [base layer](#).
- [AddLayer](#) methods to add map layers to existing MapFrame objects

Projections, Coordinate Systems, and Datums

- Specify the units for the [Local Unreferenced Coordinate System](#).
- Set the coordinate system for all unreferenced layers in the map to the same [coordinate system](#) as the map.
- Search for coordinate systems by text or EPSG code in the [Assign Coordinate System](#) dialog.
- Renamed Germany PD83 and RD83 to Gauss-Kruger Zones.
- New [Coordinate Systems](#)
 - SIRGAS-ROU98 / UTM zone 22S (Uruguay)
 - SLD99 / Sri Lanka Grid 1999
 - Kandawala Sri Lanka Grid

- RGF 1993 Lambert CC42
- RGF 1993 Lambert CC43
- RGF 1993 Lambert CC44
- RGF 1993 Lambert CC45
- RGF 1993 Lambert CC46
- RGF 1993 Lambert CC47
- RGF 1993 Lambert CC48
- RGF 1993 Lambert CC49
- RGF 1993 Lambert CC50
- New [Datums](#)
 - SIRGAS-ROU98
 - SLD99
 - RGF93 (WGS84 base)

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