New Features

This is an overview of some of **Surfer 14's** new features.

User Friendly

- New ribbon and quick access toolbar user interface makes **Surfer** faster and easier to use.
- Quickly create a map with the Map Wizard.
- Improved performance when zoomed in on a region of a high-density post, classed post, or grid values map.
- Select whether the Align Objects commands align objects relative to their bounding box or to the page margins with the **Align to Margins** command.
- Side selection handles move with the zoom and view when resizing objects, so they are always visible.
- Close all documents at once without exiting **Surfer**.
- Zoom and pan operations are no longer included in the Undo list.
- Add headers and footers to plot documents.
- Perform most geoprocessing commands on a geotransformed base layer with Edit Group.
- Print the current view in the plot window.
- Select the location to paste objects in the plot window.
- Much faster worksheet sort operation.
- Renamed the image map from **Surfer 13** and earlier versions to color relief map.

Map Features

- Create base maps from XY data files.
- Interactively set map limits by drawing or sizing the map limit rectangle.
- Set the map scale in as a representative fraction (ratio of distance on map to distance on the ground).
- Georeference an image base layer.
- Save a base layer in the map coordinate system
- Post grid values on a map with a grid values layer.
- Save geometry created with the Measure command to a base layer or export the geometry to a vector file.
- New scale bar styles and options, such as subdivisions, titles, and label position.
- Overlay coincident 3D surface maps without stitching effects on the base.
- Display multiple profiles on the same profile plot.
- New single legend object for post, classed post, 1-grid vector, and 2-grid vector layers.
- Add names to classed post layer classes and display the class name in the legend.
- Download Online Maps or Grids improvements:
    - Download image base maps from OSM servers.
    - Download grid data from WCS servers.
    - Download vector data from WFS servers.
    - New predefined WMS, OSM, WCS, and WFS servers.

Gridding Features

- Modify grids, edit contours, and edit surfaces in the grid editor with many new tools:
  - More control over grid Labels, Nodes, Contours, and Color Fill appearance in the grid editor.
  - Paint Z values across the grid with the Brush.
  - Sculpt the grid Z values with the Warp tool.
  - Smooth the grid in specific regions.
  - Push down or pull up Z values in specific regions.
  - Blank (assign NoData value) to grid nodes with the Eraser tool.
  - Quickly acquire node values with the Eyedropper.
  - Send grid changes back to the map layer with the Update Layer command.
- Create a grid from contours in a map layer or vector file.
- Project a grid into a different coordinate system.
- Blank grids (assign the NoData value) with many vector file formats.
- Save grids in STL format for 3D printing.
- Sample points from a grid to acquire Z values.
- Use map layers as inputs and immediately create map layer outputs with most grid operations.

Drawing and Boundary Editing Features

- Create range rings around a point location.
- Convert points to a polyline.
- Convert a polyline to points.
- Distribute objects horizontally or vertically with equal spacing.
- Size one or more objects to a reference object's width and/or height.
- Quickly adjust image contrast, brightness, saturation, and hue.
- Add tabs in the Text Editor by pressing CTRL + TAB.

Worksheet Features

- Double-click column header dividing lines to automatically size the column.
- Functions can use x^y to raise a value x to a power y, similar to the pow(x,y) mathematical function.
- Convert Degrees-Minutes-Seconds values to decimal degrees with the DMS to DD command.

Import and Export Improvements

- Export only the current view of the plot window.
- Save/Load spatial reference information in the Esri AUX.XML format.
- Export 2D or 3D SHP Shapefiles.
- Export 2D or 3D DXF files

- Open MID files in the worksheet.

- Import NetCDF .GRD files

- Import and export spatial references in the Esri .aux.xml file format.

- Import LAS LiDAR Binary files in uncompressed (.las) and compressed (.laz) format.

- Import GML Geography Markup Language files.

Automation

- Export a specific region of the plot document.

- Create range rings around a specific point.

- New scale bar properties.

- Print the current view.

- Renamed the ImageLayer object to ColorReliefLayer

Projections, Coordinate Systems, and Datums

- Save or load coordinate systems with the Assign Coordinate System dialog.

- New Coordinate Systems

  - ATF / Nord De Guerre

  - EUREF89 NTM Zone 05 - 30

  - Jamaica National Grid

  - Krovak (East-North) / S-JTSK

  - Krovak (East-North) / S-JTSK (Ferro)

  - Krovak (South-West) / S-JTSK

  - Krovak (South-West) / S-JTSK (Ferro)

  - NTF (Paris) / France I - IV

  - NTF (Paris) / Lambert Centre France

  - NTF (Paris) / Lambert Corse

  - NTF (Paris) / Lambert I - IV

  - NTF (Paris) / Lambert Nord France

  - NTF (Paris) / Lambert Sud France

- New Datums

  - S-JTSK

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