

# New Features

This is an overview of some of **Surfer 15's** new features.

## User Friendly

- Separated [base layers](#) into *base (raster)* and *base (vector)* layers for clarity
- Updated the default font for better appearance and readability
- The [Export](#) file format is now persistent
- The [status bar](#) section sizes are now persistent
- Changed the term "blank" to "NoData" for clarity - including renamed **Grid Blank** command to [Assign NoData](#).
- Open the [Map Wizard](#) directly from the [Welcome to Surfer](#) dialog

## Map Features

- Apply symbology to a [base map](#):
  - [Unique Values](#) - specify line, fill, and symbol properties for unique attribute values
  - [Unclassed Colors](#) - colors from a color spectrum are applied to the features by numeric attribute value.
  - [Unclassed Symbols](#) - symbols are added for each feature and scaled proportionally by numeric attribute value.
  - [Classed Colors](#) - colors are applied to the features by classifying numeric attribute values.
  - [Classed Symbols](#) - symbols are added for each feature and classified by numeric attribute values.
  - Include the base layer symbology in a [legend](#).
- Create a [point cloud](#) map
  - [Color points](#) in the point cloud layer by elevation, intensity, return number, and classification
  - [Select, modify, and remove points](#) in the point cloud layer
  - [Export](#) the point cloud layer to an LAS/LAZ file
  - [Create a grid](#) from the point cloud layer
- View maps in the [3D view](#)
  - Pan, tilt, and zoom the map in 3D space
  - [Walk](#) along 3D surfaces
  - [Create, view](#), and [record](#) fly-throughs
  - [Copy snapshots](#) of the 3D view to the clipboard
- Optimized and multithreaded [color relief](#) layer rendering for faster draw times when creating the layer or changing the view
- Export the [Grid Slice Output BLN](#) formatted as a cross section to plot the profile as a base map
- Select, rearrange, and drag and drop legend layers in the [Layers for Legend](#) dialog

## Gridding Features

- Multithreading and algorithm optimizations for an average 5x, and up to 14x, faster [gridding](#) speed than Surfer v14
- [Slice](#) now creates a bln file that can be used to generate a profile plot as a base map

## Drawing and Boundary Editing Features

- Create [Delaunay triangulation](#) diagrams from points
- Create [Thiessen \(Voronoi\) polygons](#) from points

## Worksheet Features

- [Deselect](#) single rows/columns in a multiple row or column selection

## Import and Export Improvements

- Import [Vector PDF](#) files
- Import [TIGER/Line .RT\\* Format](#) files
- Import [IDRISI Binary Vector .VCT](#) files
- Import [GeoJSON Data Interchange Format \[.GEOJSON, .JSON\]](#) files
- Import [S-57 Electronic Navigation Chart .000](#) files
- Import [Microstation Design DGN v7](#) files
- Import [MapInfo Table TAB](#) vector data files
- Import and export [spatial reference](#) information in MapInfo TAB format

## Automation

- Deprecated BaseLayer object and created [RasterBaseLayer](#) and [VectorBaseLayer](#) to match the user interface
- Extended the [image properties](#) to the [RasterBaseLayer](#) object

## Projections, Coordinate Systems, and Datums

- Renamed and moved *Regional/National | Europe | Europe ETRS89 / ETRS-TM[26-39]* coordinate systems to *UTM | Europe | ETRS89 / ETRS-TM[26-39]*
- Renamed *Europe UTM zone [28N-38N]* to *European Datum 1950 UTM zone [28N-38N]*
- New [Coordinate Systems](#)
  - ETRS89 / ETRS-UTM zone [26N-39N]

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