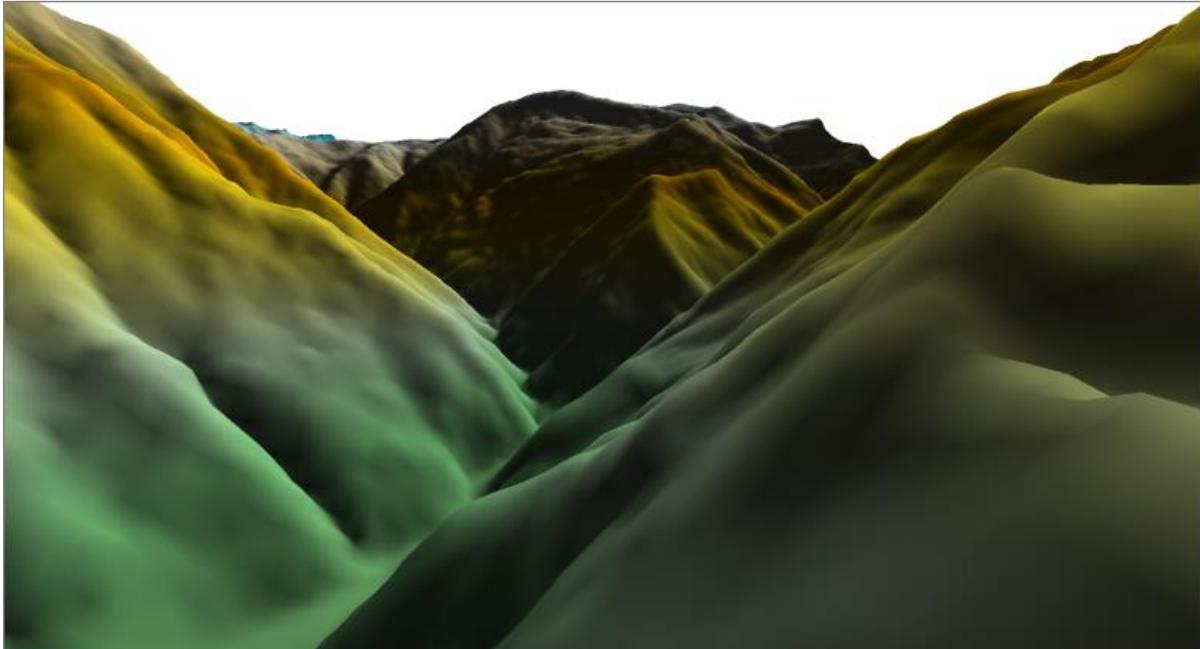


# What's New in Surfer 15?

There are many very exciting new features in Surfer 15! We focused on increasing usability, improving workflows to increase time savings, and including the most popular new features requested. The top new features are listed below. A more complete list of the new features can be found by clicking the ? button in the upper right corner of the program to open the Help. On the **Contents** page in the Help, navigate to **Surfer 15 | Introduction | New Features**.

## 1. [3D View](#)

View and explore your data in 3D! Create a 3D view of your map to walk along the surface, rotate it to view the surface from any perspective, display and adjust the water level, adjust the vertical exaggeration, and create and record fly-through videos! Your map can include raster, image and vector data and all will be displayed in the 3D view for your examination.



## 2. [LiDAR data processing with the new Point Cloud layer](#)

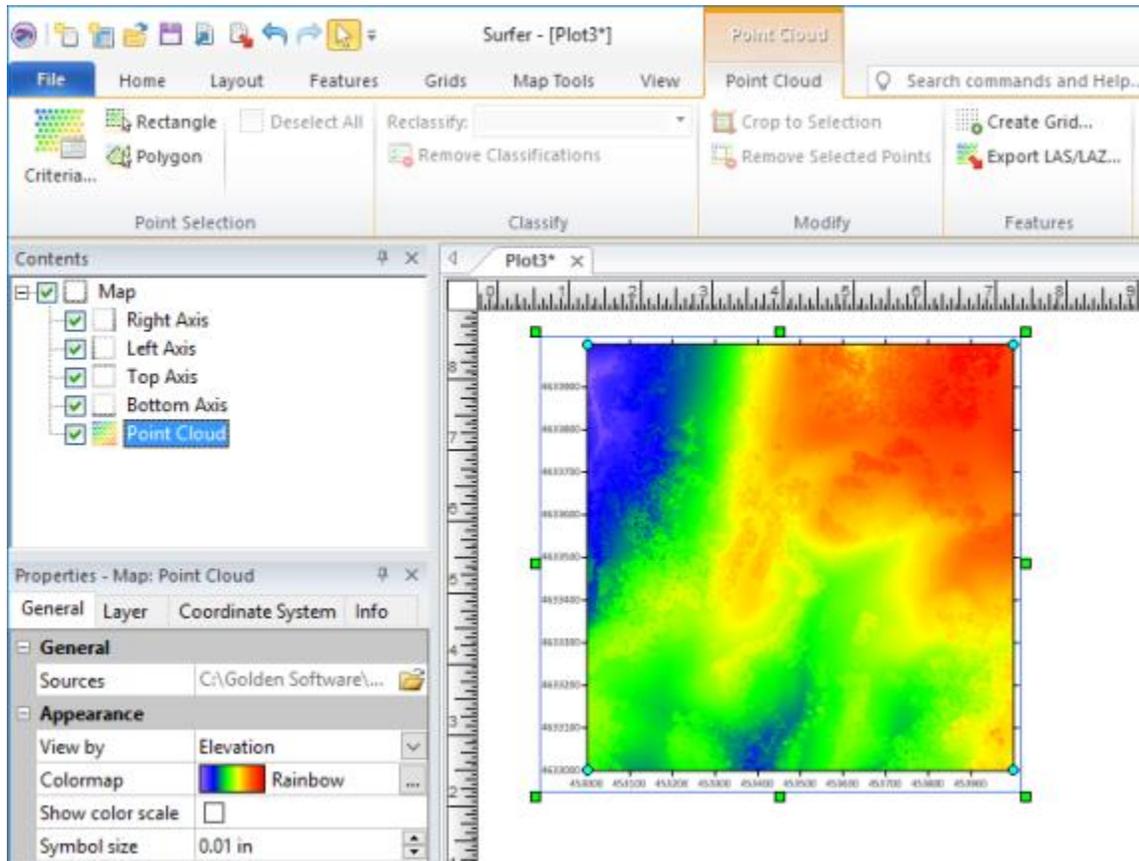
Visualize LiDAR data as a new point cloud layer! Select one (or more) LAS or LAZ files to create the point cloud. Utilize multiple point filtering options (classification, return type, source ID, etc) to import just the points you need. The data from all selected LAS/LAZ files are merged into one point cloud layer.

Once the layer is created, point cloud layers have their own options in the **Properties** window and their own page of tools in the ribbon. You can:

- select points by a criteria, or with a rectangle or polygon
- remove the selected points from the layer
- crop the layer to the selected points
- remove the selected point classifications
- reclassify the selected point classifications

- create a grid directly from the points in the point cloud
- export to a new LAS or LAZ file.

Combine this functionality with the new 3D view for a powerful 3D visualization!

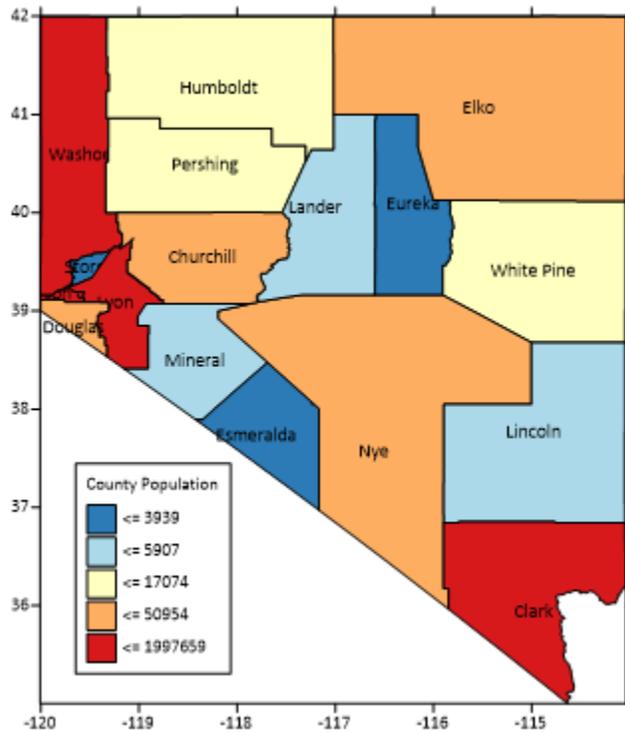


### 3. Base Map Symbology

Apply symbology to base layers and assign colors and symbols to objects based on attribute values. This allows you to Color code objects in your base map, using values in the attribute fields. You can assign unique values certain drawing properties, or assign drawing properties based on numerical ranges in the data. For example, load a SHP/DBF into Surfer and assign symbol properties to all sample locations, and different symbol properties to all well locations. Not only that, but you can also create legends automatically to display these properties and associated attribute values.

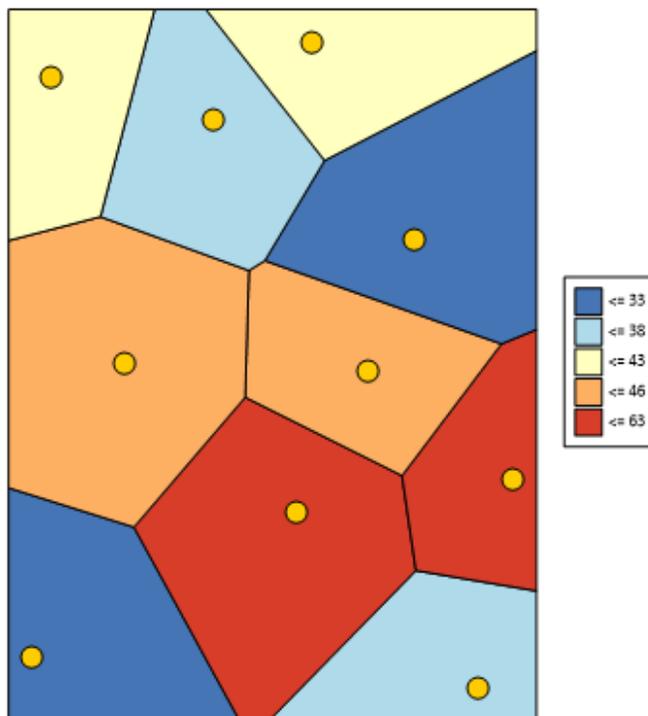
Some applications for use:

- Graduate the colors of polygons in an archaeological excavation based on the amount of finds in each area
- Create a custom geologic map by specifying fill colors for each geological unit
- Color polygons of soil types by their specific type name or sample type
- Show symbols on a map, where the size of the symbol represents the amount of contamination
- Color polylines representing roads by their road type



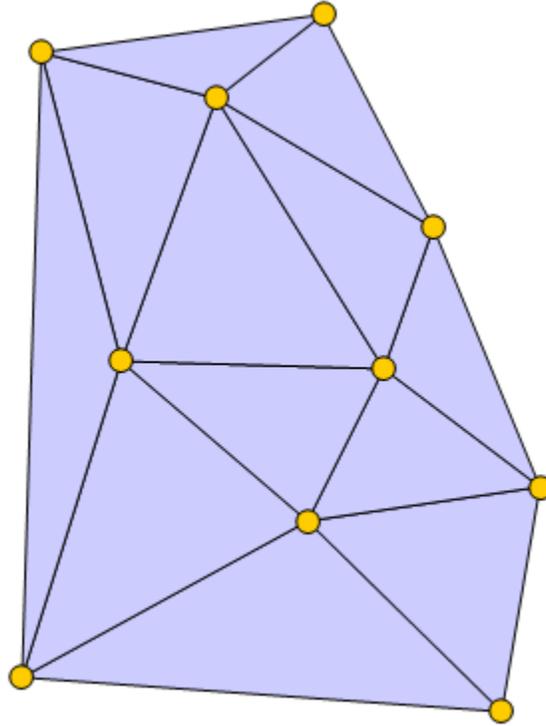
#### 4. Create Thiessen Polygons

Automatically create areas so that all space within the area is closer to an associated point object than to any other point! Thiessen polygons can contribute to proximity analysis and calculating areas of influence. Load the data points as a base layer, select the points and use the **Features | New Features | Thiessen Polygons** command to create the polygons on the same layer as the data points or on a new layer. Once the polygons are created, use their attribute values to color code them with symbology!



## 5. Create Delaunay Triangles

Automatically create triangle polygons between data points, so that no data point is within any triangle. Load the data points as a base layer, select the points and use the **Features | New Features | Triangulation** command to create the Delaunay triangle polygons on the same layer as the data points or on a new layer.



## 6. Multithreaded Gridding and Color Relief Generation

Let your computer do the heavy lifting!

- Gridding is now multithreaded and can take advantage of more memory on your computer. Gridding data is up to 5x faster with most methods!
- Color relief map rendering is also now multithreaded. Creating, zooming, editing and panning color reliefs is much faster. After each change, the redraw, even for very large grids, is almost instantaneous!

## 7. Save Time!

Surfer includes two other time savings improvements by capturing the defaults you want.

- The file format to export is now remembered! If you always export JPG files, the default export format will stay set to JPG until you change it again.
- The size of the status bar boxes are now remembered! You don't have to keep changing the status bar divisions to see all the coordinate information. Surfer will keep and store this information for you until you change it again.

## 8. Coordinate system improvements:

- New coordinate systems ETRS89 / ETRS-UTM zone 26N-39N have been added.

## 9. Import:

- PDF as vector
- MapInfo TAB/MAP vector format
- DGN (v7)
- GeoJSON
- S-57
- IDRISI VCT Binary Vector format
- TIGER/LINE
- MapInfo TAB spatial reference format (import and export)

## 10. Other Improvements:

- The term “blank” has been changed to “NoData” for clarity.
- Base layers have been separated into raster (one image only) and vector (vector or vector+image) type base layers.
- Grid Slice has been improved so that the BLN file exported from the **Grid Sliced** dialog is automatically in cross-section format (instead of having to export a DAT file, edit it and resave to a BLN).
- The **Welcome** dialog now includes a *Map Wizard* button.
- The maximum number of graticule lines has been increased from 1,000 to 10,000.
- Adding, removing or ordering layers in the legend has been made more user-friendly.