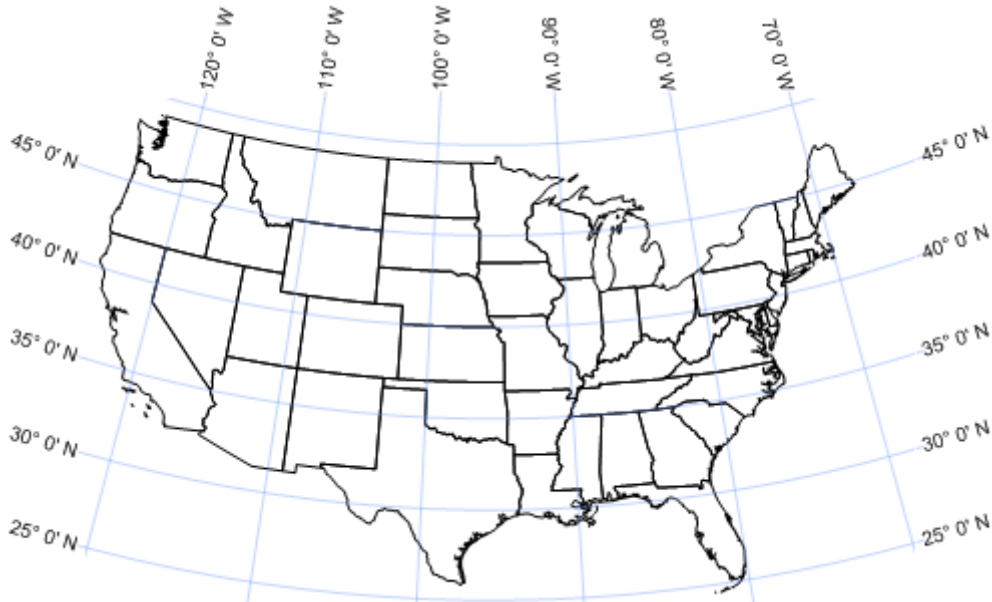


What's New in Surfer 13?

We have compiled a list of some of the top new features in **Surfer 13**. This list is only a small sampling of the new features added to **Surfer 13**.

Graticule and Grids

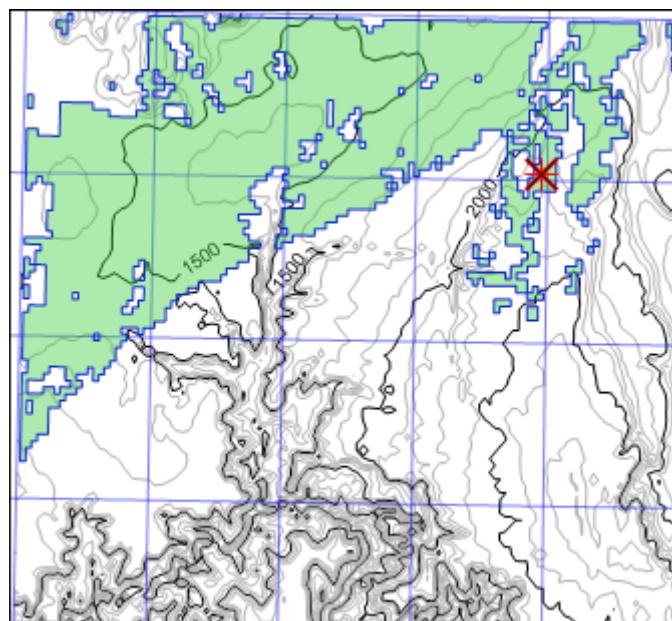
Display your projected map and with a click of a button, add latitude and longitude graticule lines directly on your map! You can also create a grid in different units, allowing you to project your map in one coordinate system (e.g. UTM) and display the grid in different units, such as feet.



Add latitude and longitude graticule lines over your projected map!

Viewshed Maps

Add viewshed layers to your map to display the visible or invisible areas from a specific XY point location. Change the transmitter coordinates, the sweep angle and radius, the sampling distance, and the drawing properties to create the best presentation.

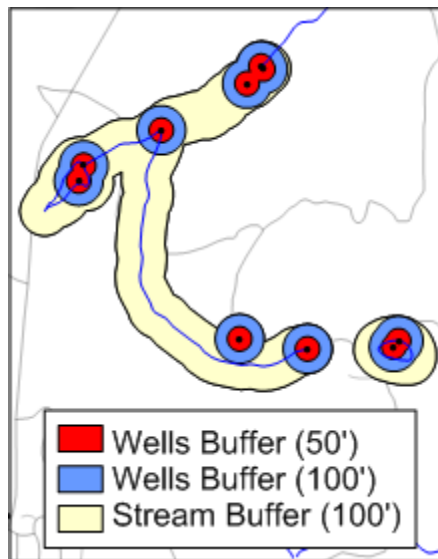


Display areas visible from a specific XY location using the new viewshed map type.

More Geoprocessing Tools

Many more geoprocessing functions are available for you to edit your vector geometry. Secure your desired results by creating points at intersections, new polygons from existing polygons, buffer polygons around objects at specified distances, and many more! New vector editing tools include:

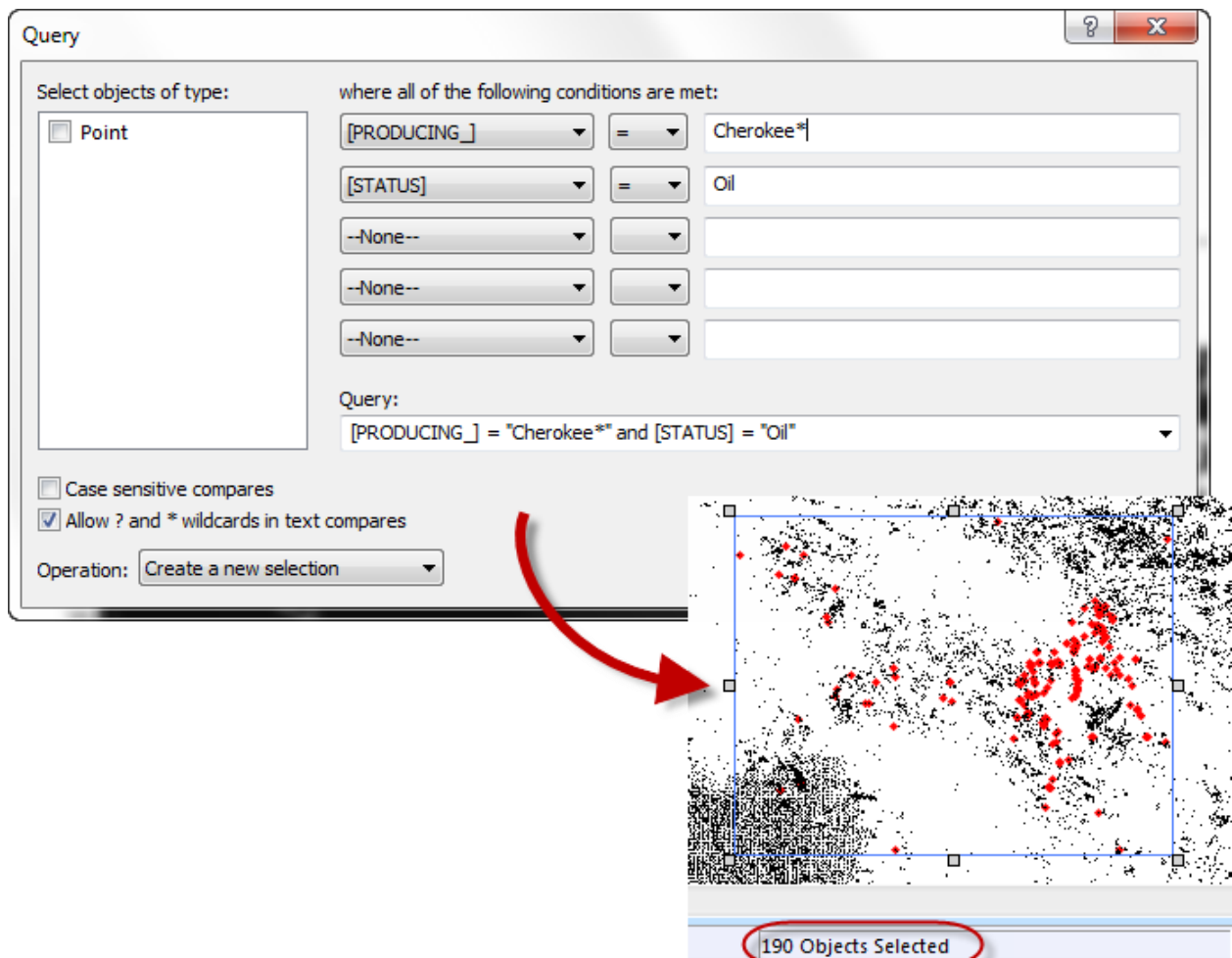
- Create Intersection Points: creates points at all intersections of the selected polylines and/or polygons.
- Break Polyline at Intersection: breaks selected polylines at all intersections with other shapes.
- Difference of Polygons: creates new polygons without overlapping areas.
- Intersect Polygons: 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.



Create buffers around streams, roads, wells or any object at specified distances to visualize offsets or setbacks!

Query Base Map Objects

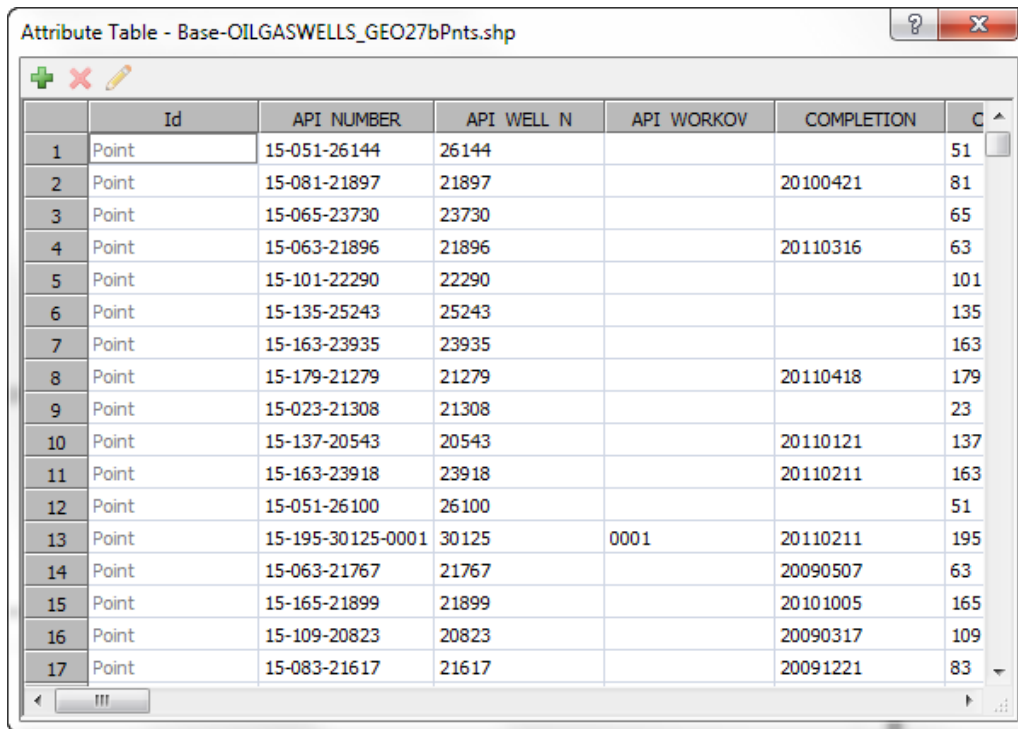
Access your data quickly! Query objects in any base layer using the object attributes. The powerful new query tool makes searching and filtering complicated base layers a snap.



Query objects in base layers. Objects that fulfill the query can be selected for editing or removed from the current selection.

Attribute Management

Quickly and easily manage attributes for base layer objects. Adding, deleting, and editing attributes is a breeze with the new Property Manager functionality, and the new Attribute Table.



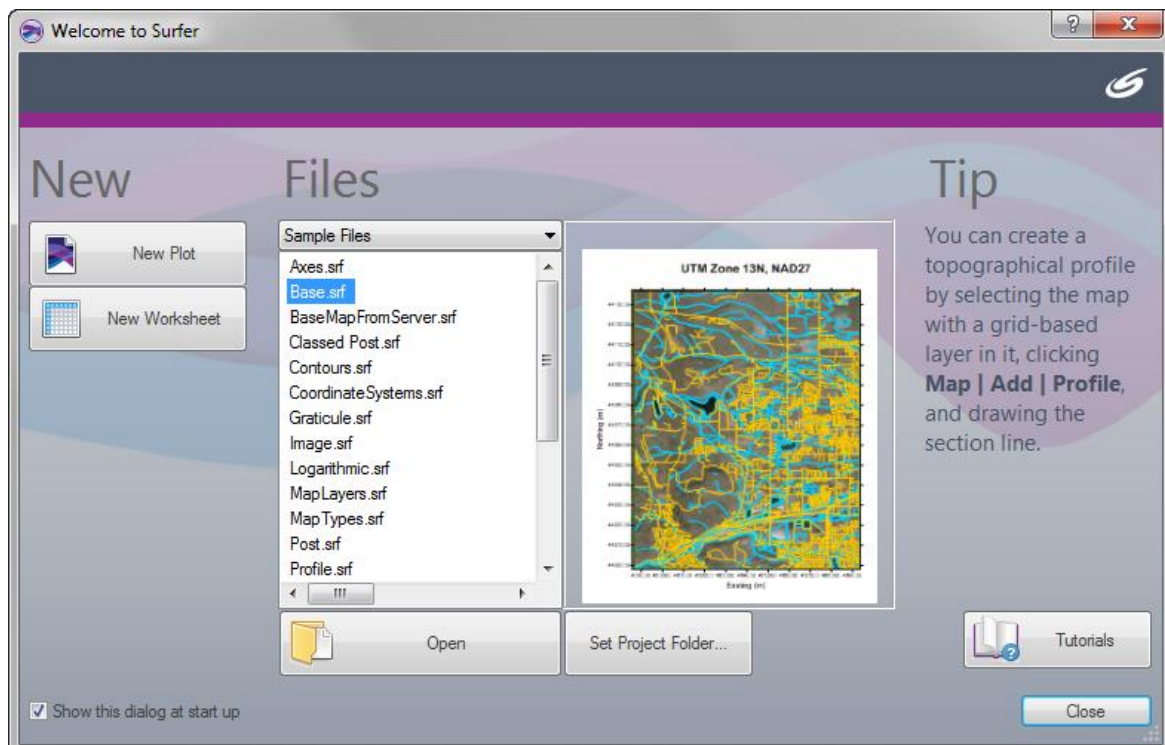
Attribute Table - Base-OILGASWELLS_GEO27bPnts.shp

	Id	API NUMBER	API WELL N	API WORKOV	COMPLETION	C
1	Point	15-051-26144	26144			51
2	Point	15-081-21897	21897		20100421	81
3	Point	15-065-23730	23730			65
4	Point	15-063-21896	21896		20110316	63
5	Point	15-101-22290	22290			101
6	Point	15-135-25243	25243			135
7	Point	15-163-23935	23935			163
8	Point	15-179-21279	21279		20110418	179
9	Point	15-023-21308	21308			23
10	Point	15-137-20543	20543		20110121	137
11	Point	15-163-23918	23918		20110211	163
12	Point	15-051-26100	26100			51
13	Point	15-195-30125-0001	30125	0001	20110211	195
14	Point	15-063-21767	21767		20090507	63
15	Point	15-165-21899	21899		20101005	165
16	Point	15-109-20823	20823		20090317	109
17	Point	15-083-21617	21617		20091221	83

View and edit the attribute and attribute values for all objects in a base layer at once.

Utilize the New Welcome Dialog

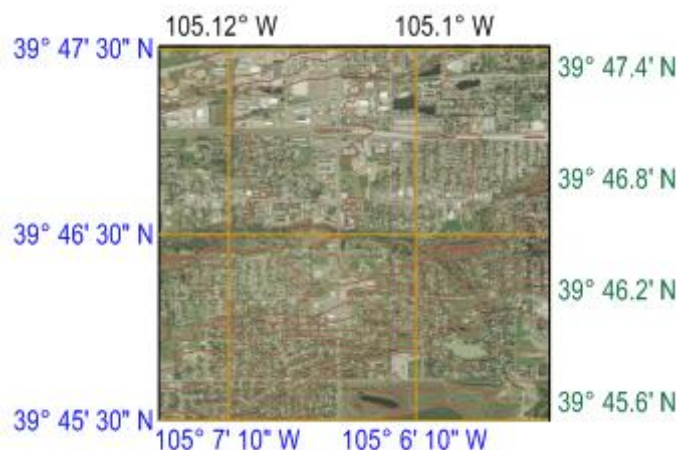
Hit the ground running with Surfer's new welcome dialog! Immediately create a new plot or worksheet window, or open the Tutorial. Alternatively, select any of the project files in the Samples folder, the recent files list, or in your project folder and open them immediately. As long as a file was saved in Surfer 13 or higher, a preview of the SRF file is displayed when the file is selected. You no longer have to wonder what each file contains before opening it!



Select any Surfer 13 project file from the Files list, and see a preview of the contents of the file!

Display Latitude and Longitude Labels In Degree/Minute/Second Format

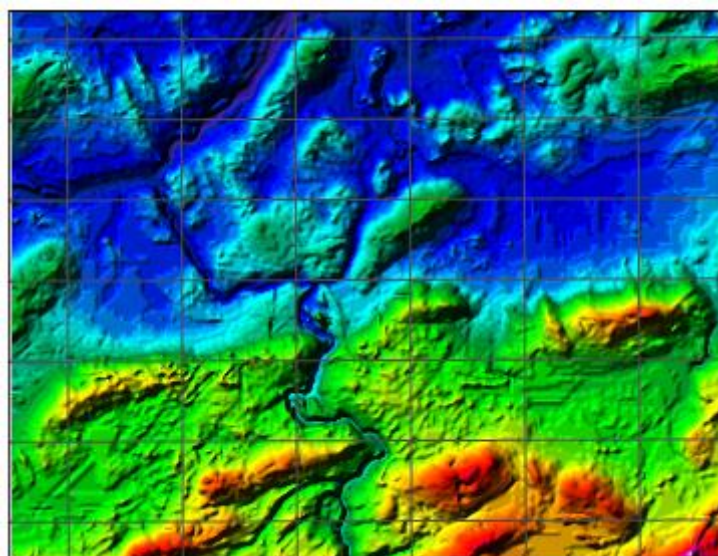
Improve the readability of your maps by formatting latitude and longitude labels in degree minute second format! With the numerous options, you are sure to find the format that best fits your map.



Format your Lat/Long labels in one of many different degree minute second formats!

Create Image Maps with Hill Shading

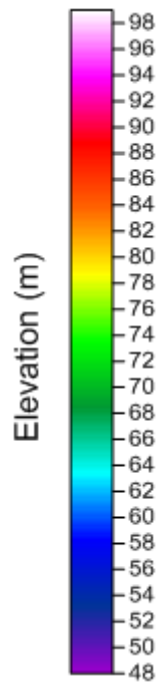
Create a 3D look with your image maps by including hill shading, which incorporates a light source into the image map display. Save time and disk space by simply enabling this feature to create this effect instead of (as previously) overlaying a shaded relief or 3D surface with the image map.



Add hill shading to your image maps for a stunning 3D appearance!

Add a Title to Your Color Scale Bar

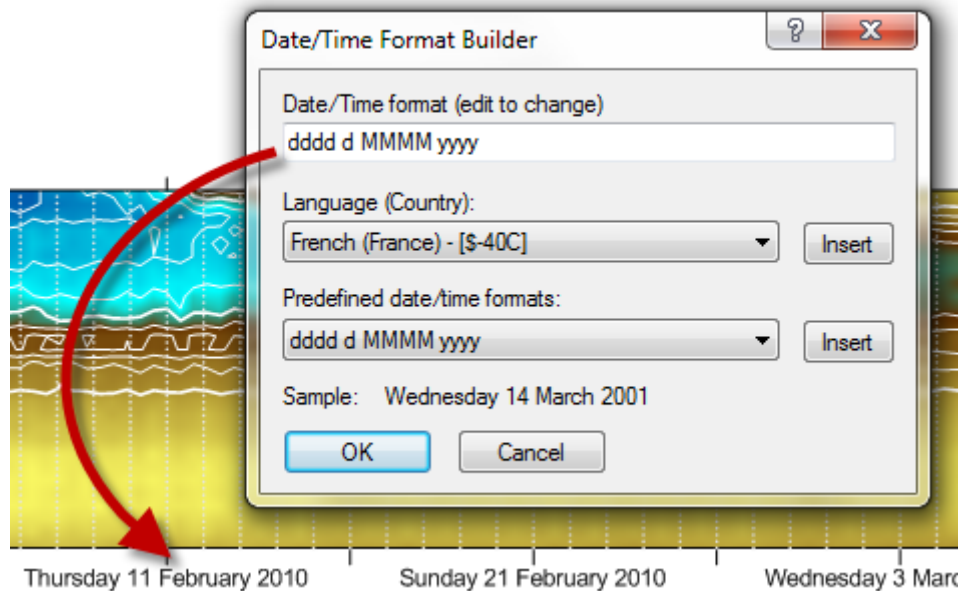
Keep all your data together! Create a title for the color scale bar, so it moves with the bar or helps identify which scale bar is which when you have more than one.



Add a title to your color scale that moves with the scale bar.

Display Date/Times in a Custom Date/Time Format

Display the dates and times in the format you want! Customize the dates and times to show the information in any format you wish.

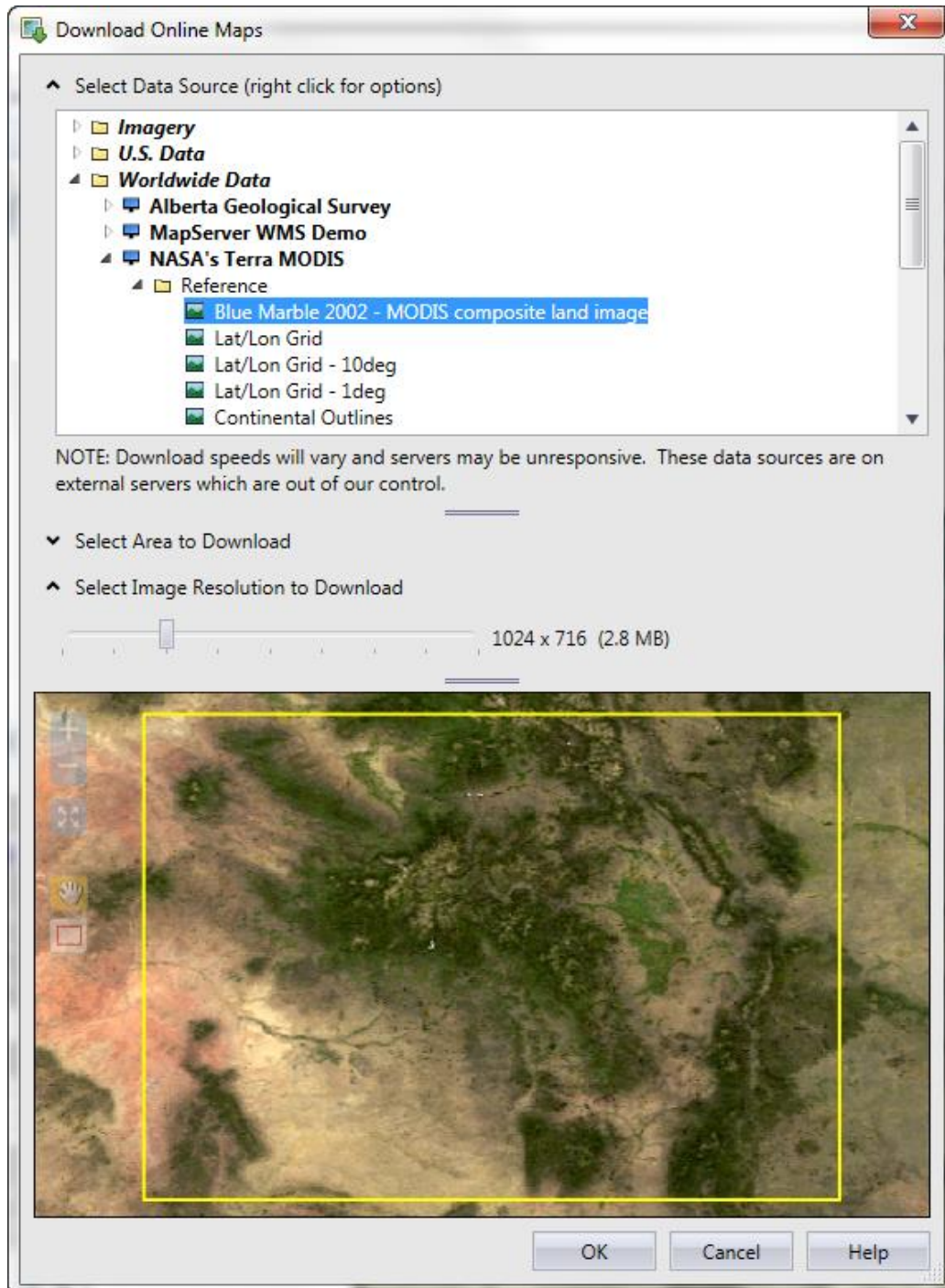


Customize your date and time format to whatever format is best for you! Choose between many different predefined formats or create your own.

Experience the Improved WMS Connectivity for Downloading Online Maps

Downloading online maps has never been easier! The WMS functionality has been greatly improved to streamline the process and get you the imagery you need. You can even download the images as grids for grid-based maps! Some improvements include:

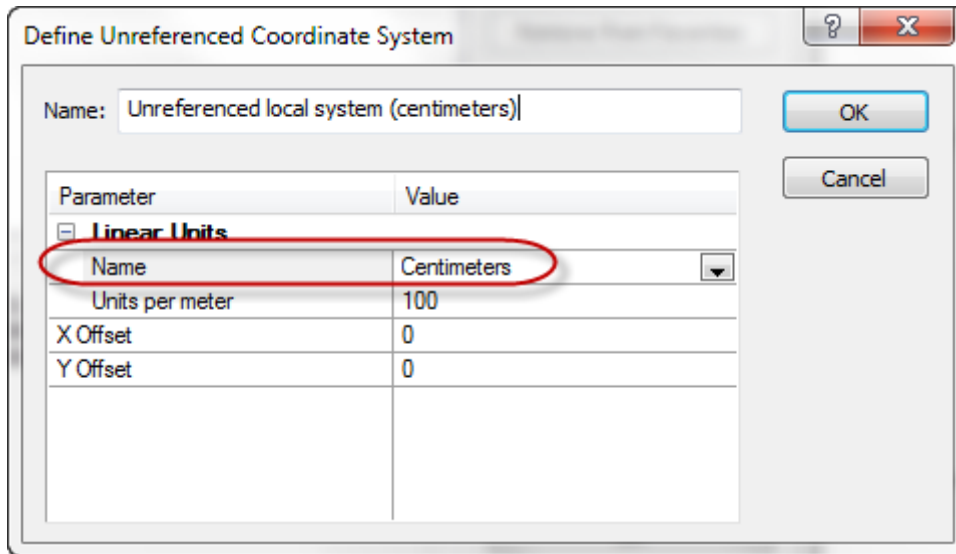
- Support for SSL servers
- Support for proxy servers
- Drag and drop items in the Data Source list
- Add a top-level data source category
- Support for servers that offer images in other coordinate systems
- Updated the dialog with new look
- Support for displaying nested servers and layers



Surfer's improved WMS browser efficiently locates and downloads high resolution images to use as base layers or other grid-based layers.

Specify Units for Local Coordinate Systems

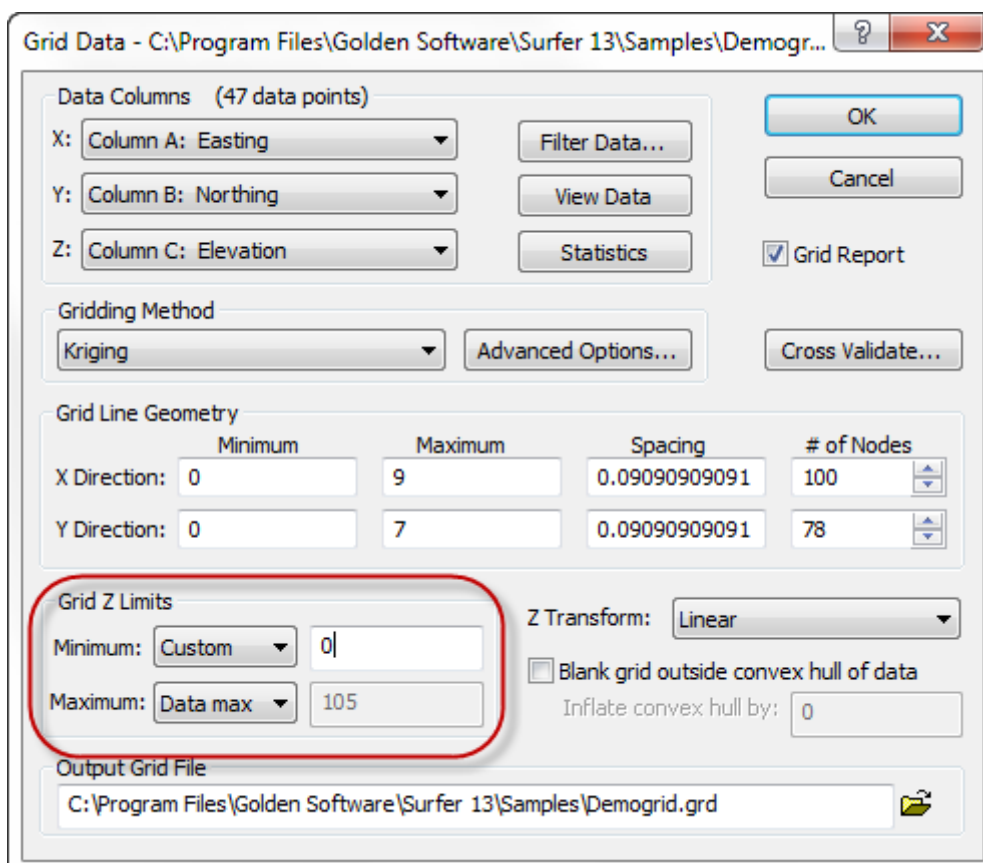
Define a local system for your map and set the units for that system! It doesn't have to be in a geographic world system. The units could be millimeters on a microscope slide, or centimeters for an archaeological excavation. Once the units are specified, you can measure distances and areas and convert the units to another linear unit.



Specify the local units for your layers and convert the map to other units.

Limit the Z Range of Gridded Data

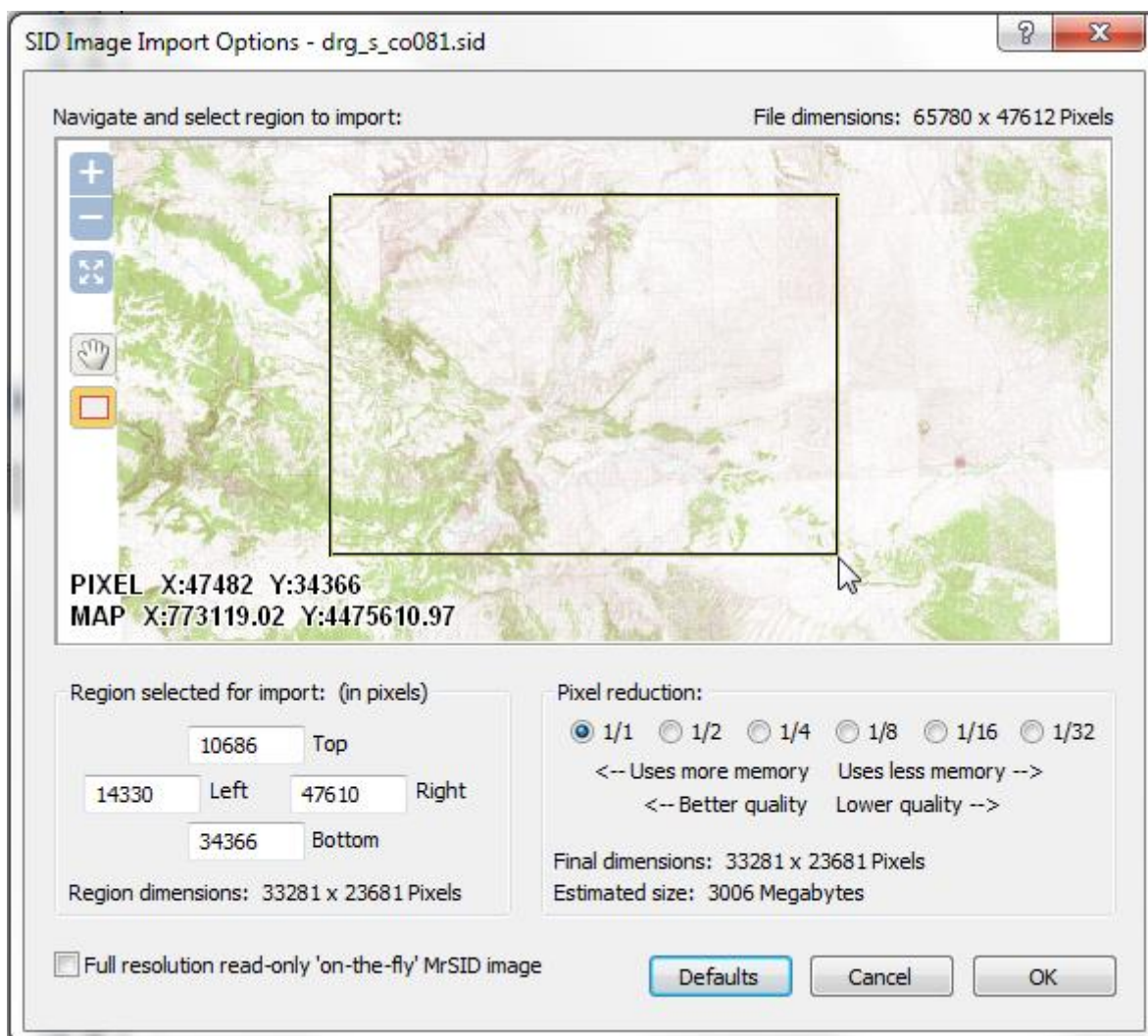
Get the grid file you need! Don't allow the gridding method to extrapolate the grid Z values beyond the Z range you know it should be. Choose to limit the Z range in the grid to the Z value extents of the source data, or choose to enter a custom value for the min and max Z value.



Control the Z range of the grid file being created!

Import ECW and SID files Without Resampling or Extract a Region

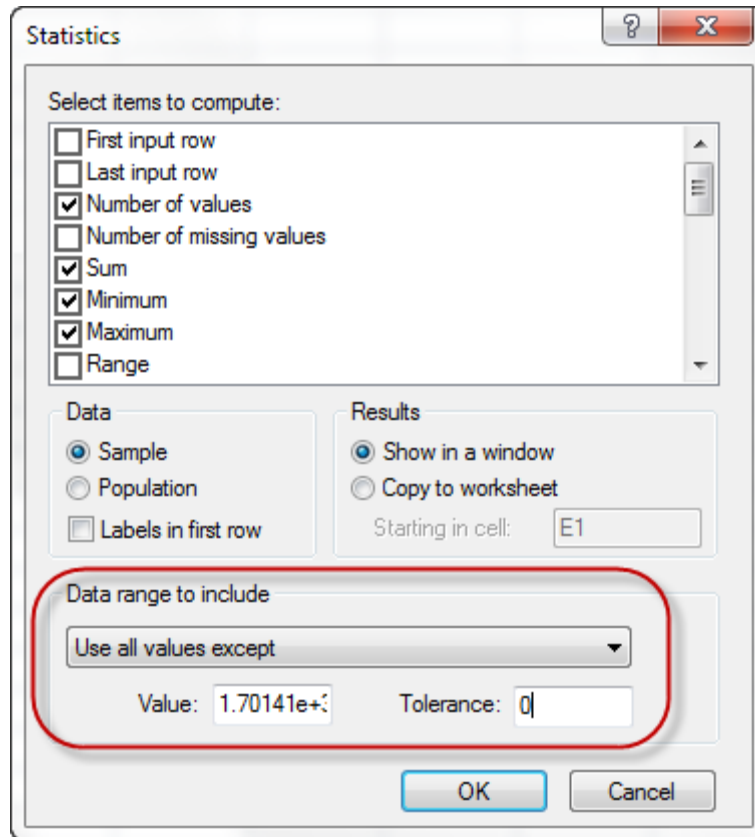
Managing large image files in ECW and SID formats is more powerful than ever. Keep the original full resolution of the image upon import! Alternatively, don't waste time importing areas and information you don't want. Choose to extract a portion of the file upon import.



Choose to select a small area of a large SID or ECW image to import into Surfer.

Calculate Statistics on Range of Values in the Worksheet

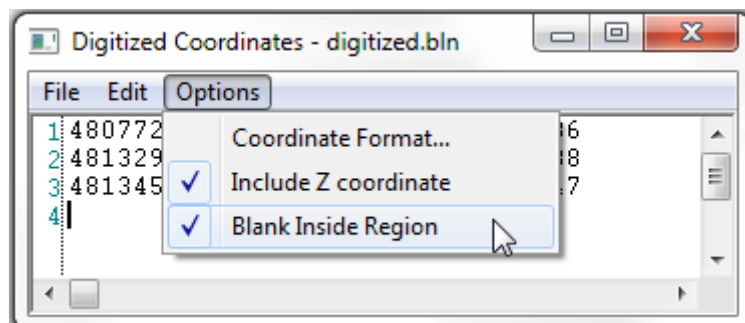
Need to calculate statistics on data that contains ranges that you want to exclude? Or, do you only want to calculate statistics on data inside a set range? Or do you want to exclude a single value with or without a tolerance value? Now Surfer makes this easy. Simply select the range you want and calculate the statistics only on the data you need. Don't spend hours getting the data just right. Allow Surfer to make it faster and more convenient.



Calculate statistics on your data and choose to exclude a data value from the calculations, such as the Surfer blanking value.

Changing Blanking Flag to 0 when Saving Digitized Data

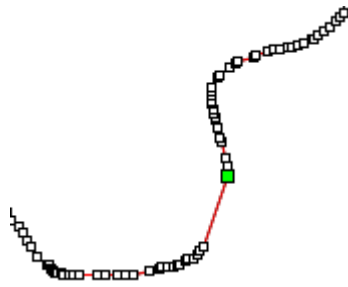
When digitizing and saving data to a BLN file, you have control whether to set the blanking flag value in the BLN file to blank inside or outside the region.



Choose to blank inside the region when digitizing data and saving to a BLN file.

Consecutively delete vertices when reshaping

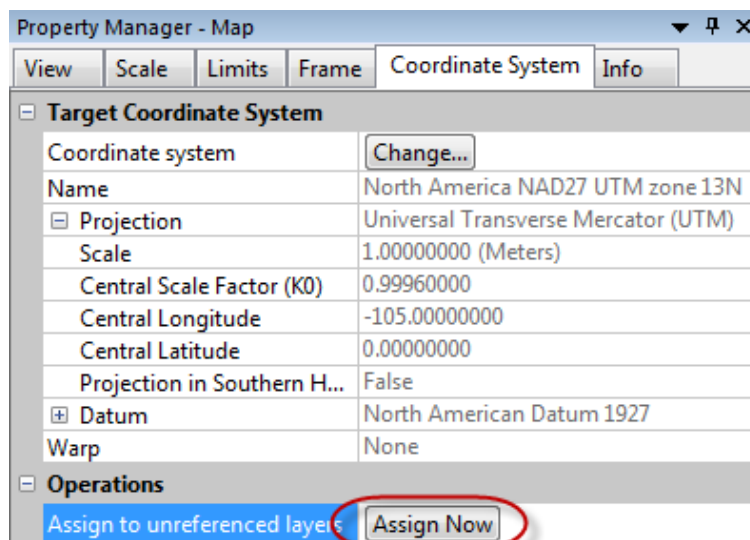
Removing vertices from your polylines and polygons is quick and easy. Simply hold the DELETE key down and delete consecutive vertices.



Reshape a polyline or polygon and delete vertex after vertex by holding the delete key down.

Assign Coordinate Systems to All Unreferenced Layers

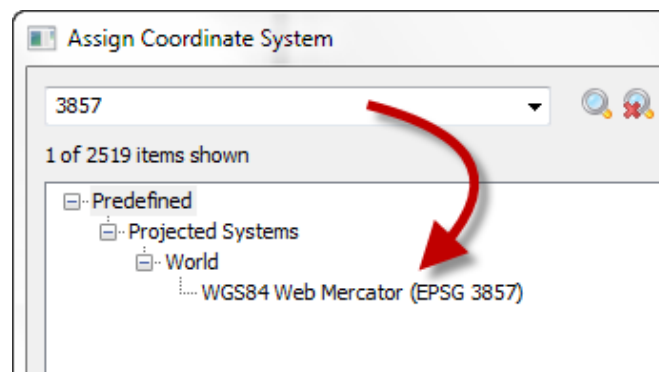
Working with coordinate systems has never been easier. Now you can assign the same coordinate system that the map is in to all unreferenced layers in the map. You do not have to click on each layer to assign the same CS to each layer as that of the map. For example, if you have 10 layers in a particular UTM system – rather than setting the coordinate system individually for each layer, just set the coordinate system for the map and click the Assign Now button! All the layers will be automatically assigned the same system.



Click Assign Now to assign the selected coordinate system to all unreferenced layers in the map.

Search for Coordinate Systems

You can search for coordinate systems! Simply type in the name, part of the name, or the EPSG number of the coordinate system you are looking for.



Search for the coordinate system to make finding the one you need quick and simple.

New Coordinate Systems and Datum

New Coordinate Systems

- SIRGAS-ROU98 / UTM zone 22S
- Kandawala Sri Lanka Grid
- SLD99 Sri Lanka Grid

New Datums

- SIRGAS-ROU98
- SLD99

New and Improved Import Functions

Surfer is more compatible with the programs you use, including Google Earth, ArcGIS, and ERDAS Imagine! Import KML/KMZ and ERDAS IMG file formats, or create maps directly from a matrix of Z values. New and improved import options include:

- Import KML/KMZ
- Import ERDAS IMG
- Import matrix of uniform Z values as grid
- Import SHP from ZIP files
- Import SRTM data from ZIP file

New and Improved Export Functions

Get the data you have in the format you need! Export to layered PDFs, XYZ text files, or DXF files with drawing properties and Z values. New and improved export options include:

- Export DXF with Z values, drawing properties and render the marker symbols
- Export vector data as an XYZ DAT file
- Export a vector PDF with map layers as layers in the PDF, and export with compression to create a small file size
- Export a raster PDF with the page size
- Export HTML files
- Export text objects to KML/KMZ as a label placemark
- Export background transparency to TIF and GSI files

More Automation Commands

Surfer's automation support now supports more of the new features and options that were included in the user interface from the last few versions! New functions supported under automation include:

- Creating a Profile object
- Creating a WatershedLayer object
- Creating a ViewshedLayer object
- Setting coordinate systems for the layer and the map
- Reversing axes
- Setting the hill shading property for the ImageLayer (previously ImageMap) object
- Setting the level method for the ContourLayer object (simple, logarithmic, advanced), with the corresponding level properties
- Setting logarithmic scaling on the ColorMap object
- GridData:
 - Adding the grid spacing property

- Adding the option to inflate grid outside convex hull
- Adding the option to blank grid outside convex hull of data
- Adding the title property for the Discrete and Continuous ColorScale object
- Setting LiDAR LAS import options
- Adding the option to save in Surfer 11, 12 or 13 SRF format
- Adding an empty base layer to the map
- Specifying a Preset for the ColorMap object
- Getting grid statistics
- Setting the LabelFormat object to Date/Time format
- Loading a CLS file for a ClassedPostMap object
- PostMap object:
 - Editing and creating multiple label sets
 - Setting the symbol color column
 - Setting the color method property
 - Setting the symbol colors property
- Setting import options when opening some grid files
- Editing a group or base layer to add, move or delete objects
- Creating the AddLayer command to add layers to existing maps