

## What's New in Surfer 12?

We have compiled a list of some of the top new features in **Surfer 12**. This list is only a small sampling of the new features added to **Surfer 12**.

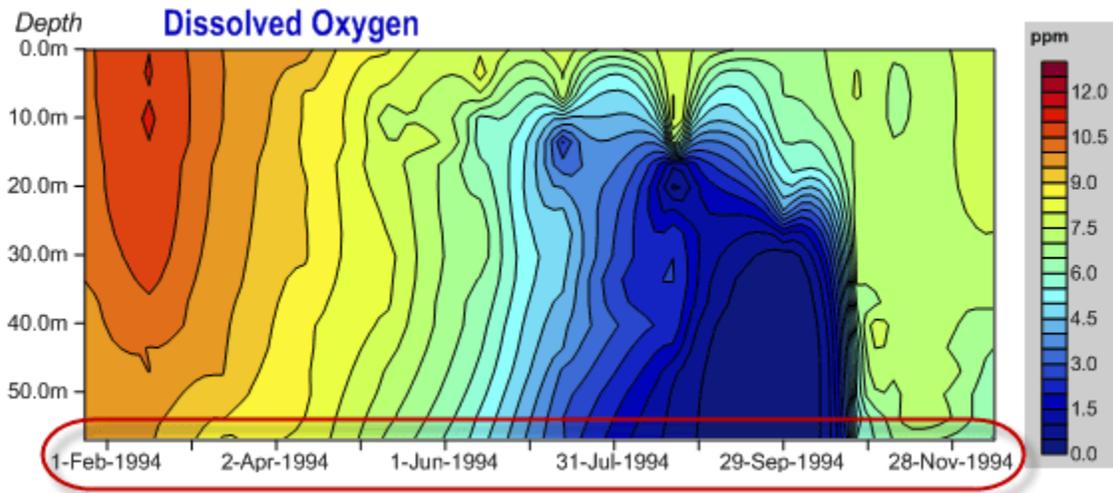
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### Reverse X or Y Axis Direction

Reverse the direction of the X or Y axis with a simple click of a button! It is easy to show descending data, such as depth data, in the correct orientation without modifying your data.

*"This is a nice feature, especially for geo-scientists compiling contoured cross-sections of data. Nice work. It's blindingly fast and works for very large files with very complicated maps."* – Shane Wilkes, Hydrogeologist





Use dates and times in a data file as a variable when gridding, and format the axis tick labels in one of many date and time formats!

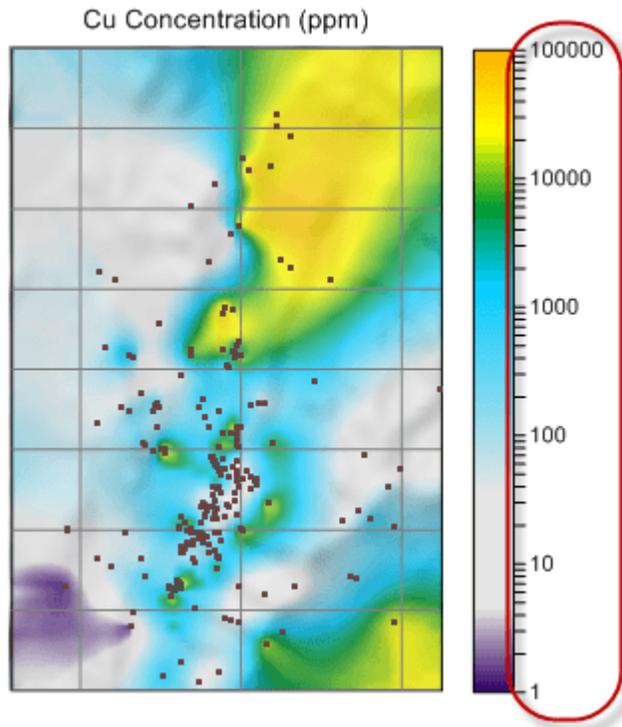
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### Grid and Display Maps with Logarithmic Z Scale

Effectively display Z data that range over several orders of magnitude! You can grid data taking the log of the Z value prior to gridding, choose to have logarithmically scaled contour levels, or have logarithmic scaling applied to the color scale. This is extremely useful when your data file has extreme data ranges, such as concentration data where the Z values can span multiple orders of magnitude (i.e. >1 to <20000).

*"I have been using the new logarithmic scaling feature for several days now. I have really found it useful in working with soil gas and production maps. It does show better definition in data sets that have wide ranging z values."* – David Holley, Geologist

*"This feature alone makes upgrading to version 12 a necessity."* - Steven Schamel, GeoX Consulting Inc., Salt Lake City, Utah



*Visualize the very low and very high values by gridding the log of the data and using a logarithmically scaled colormap.*

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### **Download Free Online Maps**

More information is now at your fingertips. Download image layers from hundreds of free online Web Map Services (WMS) through Surfer's new, integrated WMS browser. Connect to online data sources, pick the layers of interest you want to download, and Surfer seamlessly downloads and imports the images into your projects.

Download Online Maps

Select Data Source (right click for options)

Name	Type	Details
Imagery		
NAIP Color Imagery for US	WMS	http://raster.nationalmap.gov/A...
Orthoimagery/USGS_EDC_Ortho_NAIP		
U.S. Data		
Worldwide Data		
Favorites		

NOTE: Download speeds will vary and servers may be unresponsive. These data sources are on external servers which are out of our control.

Select Area to Download

Entire data source extents

Within  Miles of Longitude  Latitude

Specify Latitude/Longitude extents

West  North  East  South

Select Image Resolution to Download

1 : 9 K (2 K x 2 K pixels, 12 MB)

Preview



Log

OK Cancel Help

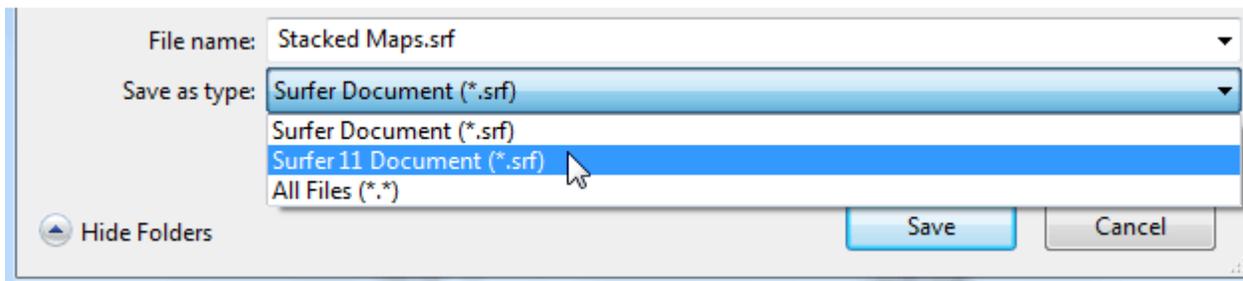
*Surfer's new integrated WMS browser efficiently locates and downloads high resolution images to use as base layers.*

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### **Save SRF files in Surfer 11 Format**

Be compatible with your colleagues! If you have Surfer 12 and they have not upgraded yet, you can still share your project with them by saving it in Surfer 11 format so they can open it.



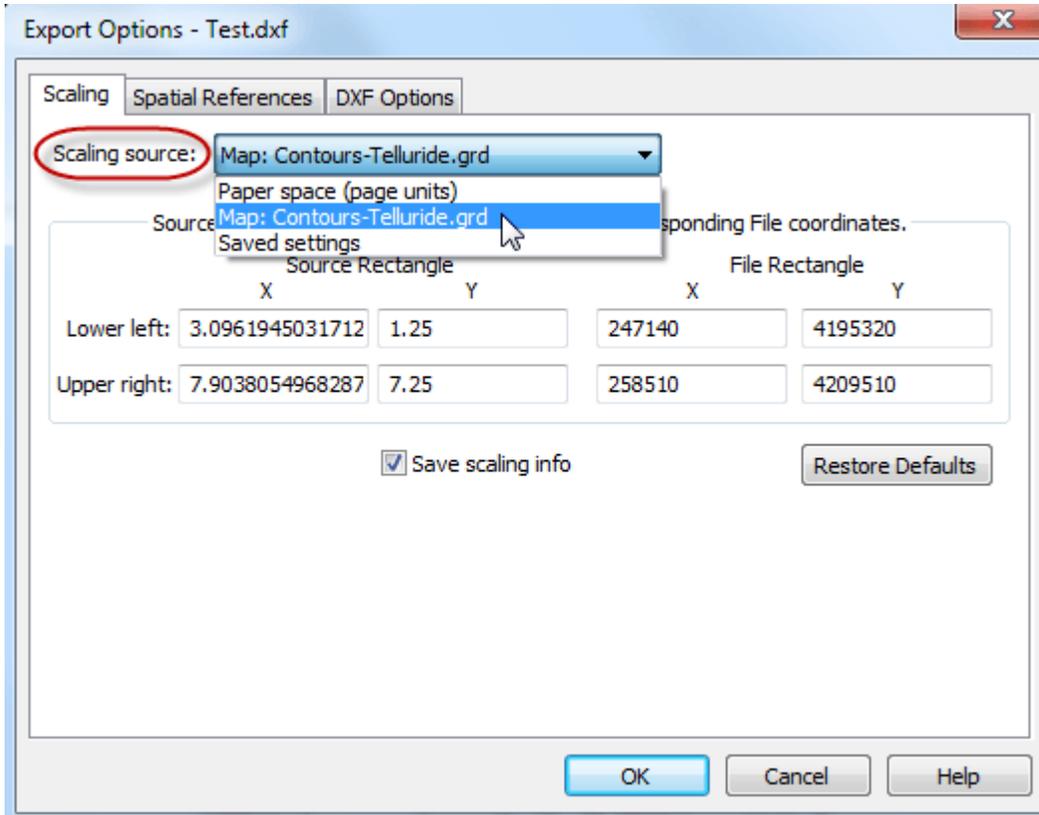
*Save in Surfer 12 or Surfer 11 SRF format! Share SRF files saved in Surfer 11 SRF format with other users still using Surfer 11.*

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### **Export Map and Drawn Objects in One Step**

Save time! Exporting map and non-map objects just got a lot easier. No more complicated two-step export process. Now, simply specify the map as the scaling source when exporting your entire project to a vector or georeferenced image file– it's that easy!



*Select the map to use as the scaling source during export!*

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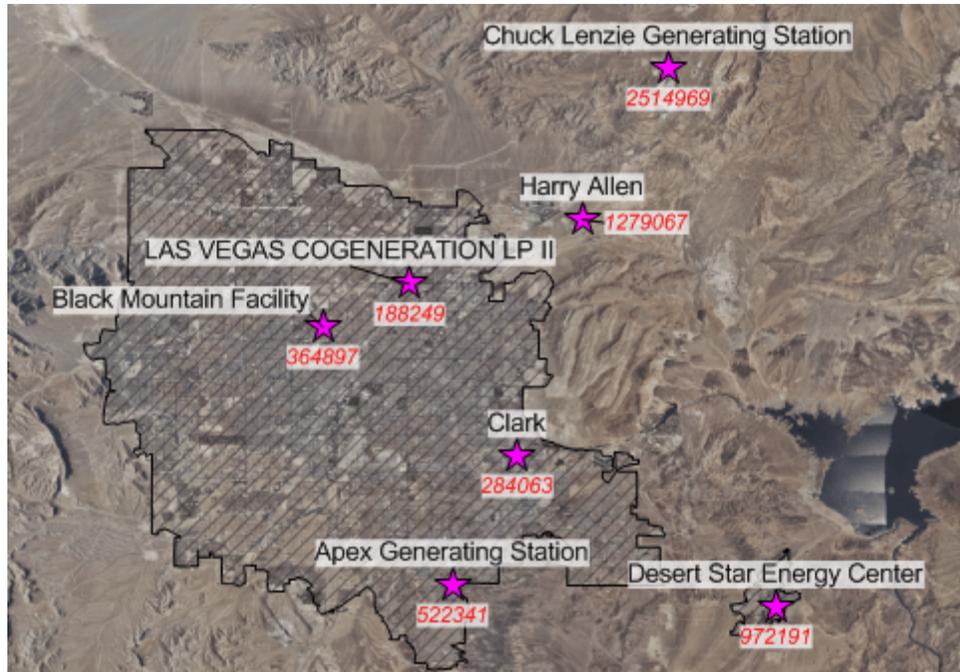
### **Take Advantage of the Post Map and Classed Post Map Enhancements**

Create your post maps the way you want them! Many new enhancements have been made to post and classed post maps so that you can create the map you envision. Add multiple labels to points, connect the points with a line, and use the symbol color as the label font color, just to name a few.

Post maps also offer the ability to color the symbols using a column in the data file of either numeric values (and you can choose a color gradient to apply to the data range) or discrete color names. Classed post maps offer the option to apply a color gradient to the symbols, apply a gradational size to the symbols, and set the symbol properties for all symbols at once.

Creating just the right map of your point locations is better than ever!

*"Loving the multiple post labels function - big thanks for that one!"* – Shane Wilkes, Hydrogeologist



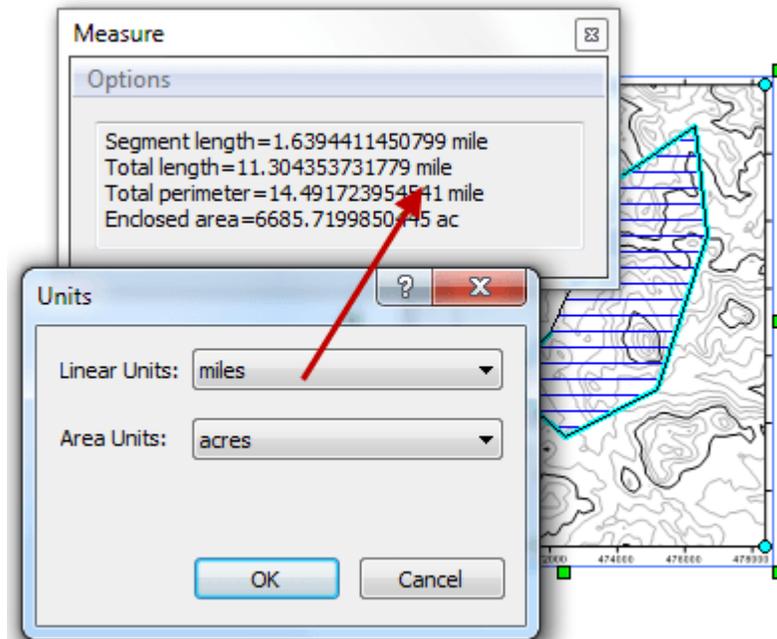
*Add multiple sets of labels to the points in a post map!*

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### **Change Units of Measure**

Get the data you need in the units you want. When measuring lengths and areas on a projected map, you can easily change the units of measure! For example, if your map is in UTM meters, you can measure an area and report the perimeter length in feet and the area in square miles!



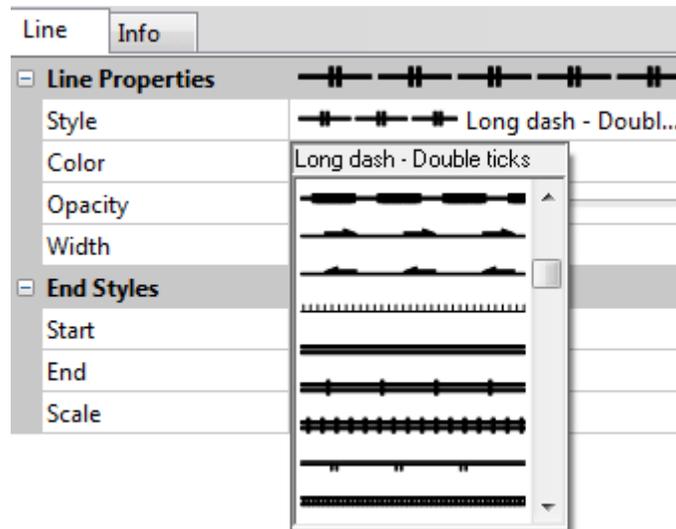
*Change the linear and area units reported by the Measure tool.*

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### Use one of the New Line Styles

Customize your map! Surfer 12 includes over 160 new line styles to help you customize your map to its fullest potential.

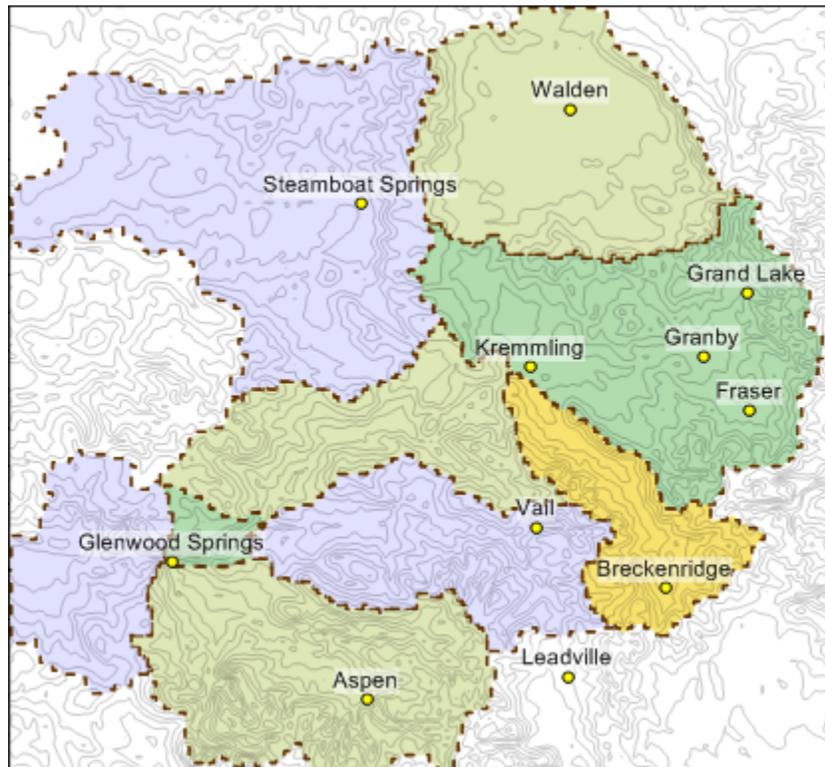


*Choose one of the new line styles available!*

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## Change Watershed Basin Line Properties

See your basin boundaries better. Change the line properties and make the lines thicker, a different color, or a different style.

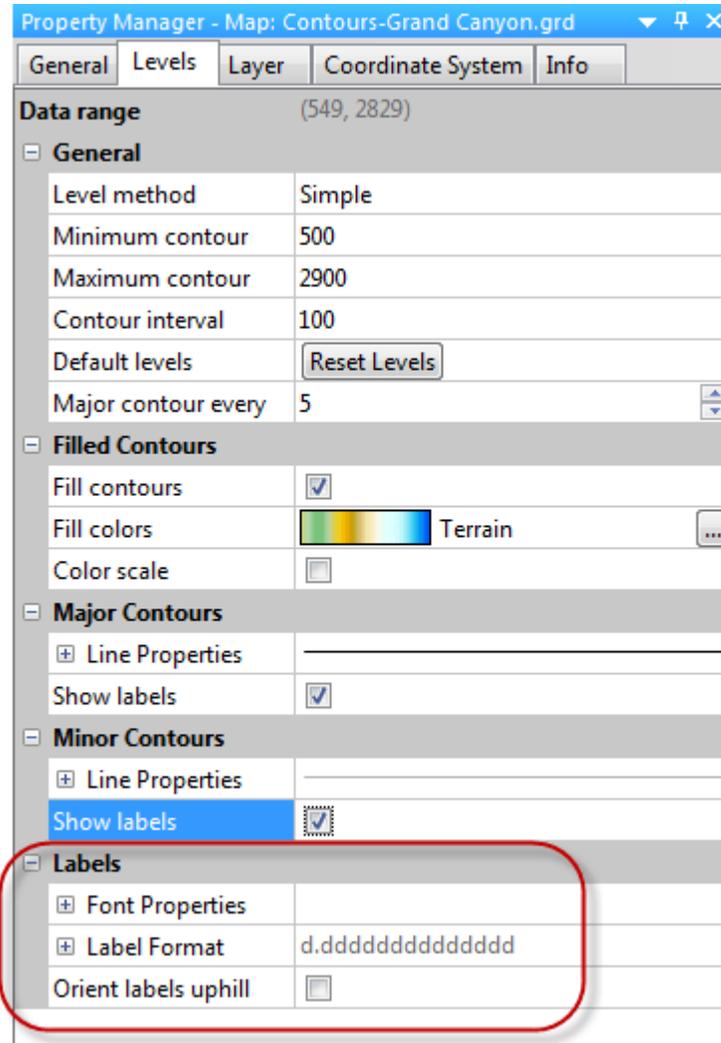


*Make your watershed basins more visible by changing the basin line properties!*

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## Format Contour Labels

Quickly and easily change contour label properties so your map looks its best! Set the contour map label font and format properties in the Property Manager when using the Simple level method.



*Set the contour label font and format properties easily in the Property Manager!*

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## **Edit Your Boundaries**

Surfer's giving you more flexibility than ever to edit your boundaries to look their best. New geoprocessing tools allow you to simplify polylines and polygons to remove extraneous bends or vertices while preserving essential shape, or smooth them to improve aesthetic or cartographic quality.

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## **Blank the Grid around a Buffered Convex Hull**

Include all your data points in the grid. Blank the grid outside the convex hull of the data, but add a buffer inside or outside the convex hull to be sure all data points and areas around them are within the gridded boundary.

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### **Save Z Values of Contour Lines When Export**

Export all your data! Export a contour map to MIF, SHP, GSB, GSI, BLN or BNA file formats and the Z values are stored as metadata. In addition, when exporting a contour map to KML file, the Z values of the contours are saved as the Object ID for the polyline objects.

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### **Visualize Increased Resolution for Image Maps**

See all the details of your image map. The number of colors used to display images maps has been significantly increased from 256 colors to up to 16 million colors, allowing smaller color variations to be discernible.

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### **Use Larger Grids**

Create and load grids with up to 2 billion grid nodes! Your computer will run out of memory before you can find a grid that is too large to load in Surfer.

*"I routinely generate grids bigger than 32767 rows or cols and am not able to check them in Surfer 11 but Surfer 12 reads them in and displays them no problem. I loaded an 8 GB (26758 x 38890) grid yesterday with 8 GB of RAM and was so impressed I went out and bought another 4GB SIMM to celebrate and make it load faster. Well done!" – Kim Frankcombe, ExploreGeo, Australia*

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### **Choose from More Paper Sizes**

Work more efficiently! Larger paper sizes were added to the list of predefined sizes under Page Setup. You no longer have to manually customize larger sizes like A0, A1 or A2.

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## Utilize Increased File Compatibility

Take advantage of the newly available or enhanced import and export formats!

*"I really like support for pdf files in Surfer 12. Now I can do amazing things with the pdf files I get sent from my clients. You have just made things easier for me. Thanks." – Shane Wilkes, Hydrogeologist*

### Import formats:

- AutoCAD DXF (as data)
- Excel Spreadsheet, XLSM
- PDF, GeoPDF
- SEG-P1 (as data or base map)
- JPEG2000
- NetCDF grids
- SRTM HGT grids
- Multi-tiled ADF grids
- compressed Geosoft grids

### Export formats:

- Z value is saved as metadata to MIF/MID, SHP/DBF, GSB, GSI, BLN, BNA with File | Export
- KML/KMZ Export:
  - Export contours to KML, and Z value is the Object ID for each line in the KML
  - Export each layer in map to its own folder in the KML/KMZ
  - Export one GIF for the same symbol
- Transparent GIF
- Transparent PNG
- GeoPDF
- JPEG2000
- SEG-P1
- NetCDF grids
- SVG

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## Select a Newly Added Coordinate System, Datum or Ellipsoid

### Coordinate Systems

- Australia New South Wales ISG (Integrated Survey Grid), 7 new zones
- Australian grid, 37 new coordinate systems were added
- Europe UTM zone 29N using European 1950 - Port./Spain datum
- Hartebeesthoek / Lo, 10 new zones
- Idaho Transverse Mercator 1927 (IDTM27)

### Datums

- IRENET95
- Lisbon 1937 (Lisbon Meridian)
- NWS-84
- Posiciones Geodesicas Argentinas 1994 (WGS84 base)
- Posiciones Geodesicas Argentinas 1998 (WGS84)

### Ellipsoid

- NWS-84 Sphere

- Idaho Transverse Mercator 1983 (IDTM83)
- Irish Transverse Mercator (ITM)
- NZGD2000, 28 new circuits
- Portuguese National Grid, Greenwich Meridian
- Portuguese National Grid, Lisbon Meridian
- Portuguese National Grid, Lisbon Meridian (zero easting/northing)
- POSGAR94, 7 new zones
- POSGAR98, 7 new zones
- SVY21
- SWEREF99 TM
- SWEREF99, 12 new local zones
- SWEREF99/RT90, 6 new emulation zones
- base)
- SVY21 (WGS84 base)
- SWEREF99