

SurfLink Bridges the Gap Between Surfer® and MapInfo®

In these times, if you are like most software users, you are no longer satisfied with the features offered in a single software package. And, unfortunately, most software packages do not offer all the features that you need to complete a single project in the most comprehensive way possible.

Surfer Maps into MapInfo?

This problem is becoming especially evident when users want to integrate Surfer's powerful 3D capabilities with GIS (Geographic Information Systems) programs such as MapInfo, one of the more popular GIS packages. Surfer provides the most powerful contouring capabilities in the software industry, and is used in many disciplines including archeology, groundwater hydrology, precision farming, soil science, and ecology. From talking to our customers at Golden Software, we know that a significant segment of the same user commu-

nity that relies on Surfer is using MapInfo. However, exchange of data between the two programs often proves to be cumbersome. Now, we are happy to say a bridge is being built that connects these two islands of the software industry. And that bridge is called SurfLink, developed by P. Srinivasan at HSI GeoTrans, Inc. in Sterling, Virginia.

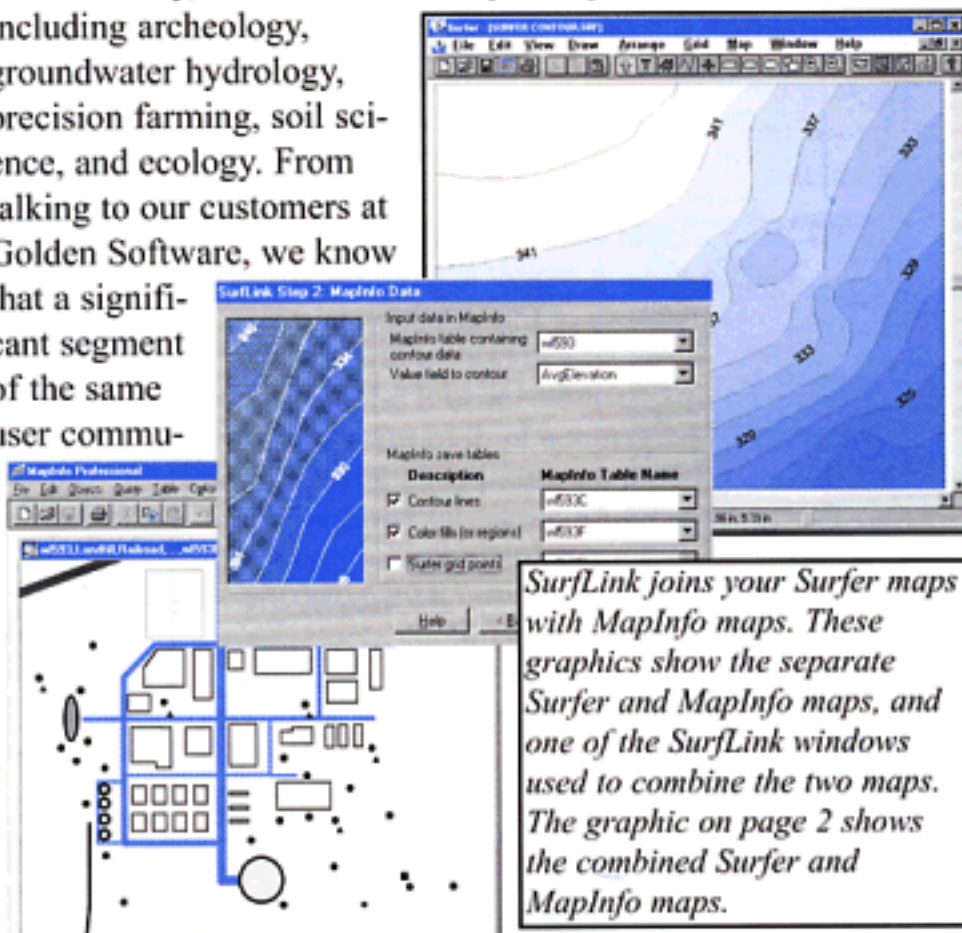
Introducing SurfLink

SurfLink is an excellent utility for Surfer users that wish to manage their Surfer data on the MapInfo platform. Srinivasan says, "While browsing through e-mail in the MapInfo mailing list last summer, we came across inquiries such as, 'Hasn't anyone thought of a utility, other than the

limited DXF export/import avenue, to transfer data between Surfer and MapInfo?' At HSI GeoTrans, we did, and that led us to the development of SurfLink." SurfLink provides the answer that users have been looking for.

SurfLink makes it easy to combine Surfer's powerful contouring with MapInfo's strengths. Starting from MapInfo, SurfLink steps you through the familiar Surfer interface, so you can choose from Surfer's wealth of gridding and custom mapping options. SurfLink then prompts you for basic information such as data files, contour levels, and fill types necessary to create a custom color-filled contour map.

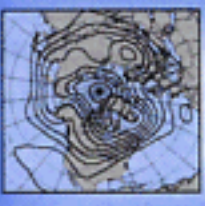
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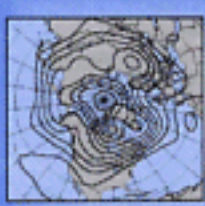
SurfLink joins your Surfer maps with MapInfo maps. These graphics show the separate Surfer and MapInfo maps, and one of the SurfLink windows used to combine the two maps. The graphic on page 2 shows the combined Surfer and MapInfo maps.




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Polar Projection Contour Maps - Using Surfer® and MapViewer™ Together
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Polar Projection Maps and Kriging Defaults Continued
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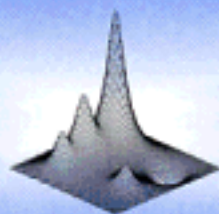
Using Digger® Data to Produce Surfer® Maps
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More about SurfLink and Kriging Options in Surfer®

Dear Golden Software User,

These are exhilarating times at Golden Software. Our new product, Digger, is now being shipped. Response from our Digger customers is very positive and the software is proving to meet the demands of today's sophisticated digitizers.

You should have recently received a Digger brochure in the mail. This brochure outlines some of Digger's outstanding features. If you have not yet received a brochure, please call us so we can send you one.

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Sincerely,

Patrick Madison
President

Surfer Kriging Options

It is widely known that Surfer has the strongest gridding capabilities available for 3D and contouring packages. Among the several gridding algorithms available in Surfer, we have selected Kriging as the default gridding method because it is the most robust of the Surfer gridding methods. Surfer calculates a default set of Kriging parameters for you, and these defaults prove to be accurate and reasonable under most circumstances. Here is how the defaults are calculated.

- Surfer does not compute an experimental variogram, but uses a linear variogram model by default. This gives a reasonable representation of your data with most data sets.
- The default model is isotropic. Regardless of the direction in which a datum point lies from a grid node, a datum point closer to a grid node has more influence in determining the grid Z value than data points further away.
- The slope of the linear variogram makes no difference as long as the nugget effect is zero. However, the calculation of the default slope is simply (default scale) ÷ (default length).
- The default nugget effect is zero. This is based on the assumption that there is no significant random error (noise)

in your data. Kriging is a perfect interpolator under this condition.

- The calculated default scale is the variance of the data and equals the variogram sill because, by default, no nugget effect is used. When you use the linear variogram and do not specify a nugget effect, the scale value has no effect on the grid.
- The default length (range) is one half the diagonal extent of the data. When you use the linear variogram and do not specify a nugget effect, the length value has no effect on the grid.

$$\text{scale} = \frac{\sum_{i=1}^N z_i^2}{N} - \left(\frac{\sum_{i=1}^N z_i}{N} \right)^2$$

Specifying Kriging Parameters

Surfer's Kriging implementation is highly flexible so you can specify many of the Kriging parameters. However, you must first determine what those parameters should be. This calls for the use of geostatistical packages that allow you to determine variogram models and Kriging parameters. There are three public domain packages available on the Golden Software Bulletin Board that can

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SurfLink continued!

You can also specify other information, such as blanking boundaries, log transformation for filtering widely varying data, a Surfer level [.LVL] file, a Surfer [.SET] file, and so on. Once your Surfer contour map is created, SurfLink creates the necessary MapInfo contour tables, and in just seconds, your contour map is integrated with your MapInfo data. Then, if you revise the contour map in Surfer (as you might often do), a few mouse clicks will quickly update the contour map in MapInfo.

More About HSI GeoTrans

HSI GeoTrans has a combined staff of 200 geologists, hydrogeologists, engineers, and scientists. Among other applications, HSI GeoTrans has developed a variety of software packages for groundwater flow and transport modeling, areas in which Surfer has been applied extensively.

SurfLink is a great relief for users who have been looking for this type of link.

SurfLink requires Surfer 6 and MapInfo 4.0 to run. SurfLink is in fact a module within SiteGIS, another software developed by HSI GeoTrans to analyze and manage environmental data used in subsurface remedial investigations. SurfLink is available from HSI GeoTrans, Inc. at 46050 Manekin Plaza, Suite 100, Sterling, VA 20166, Phone: (703) 444-7000, Fax: (703) 444-1685. For more information on SurfLink, including an evaluation version, you can visit their web site: www.hsigeotrans.com.

