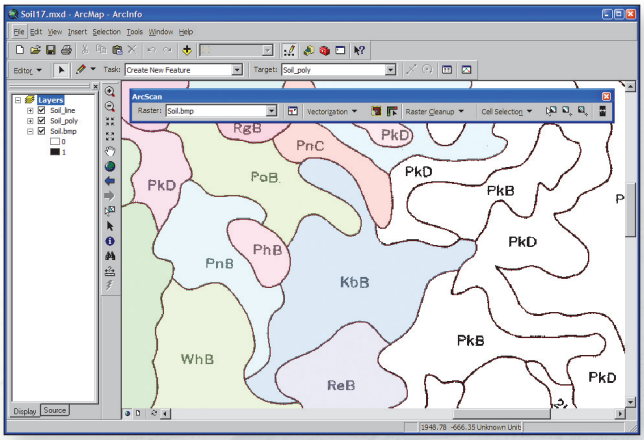
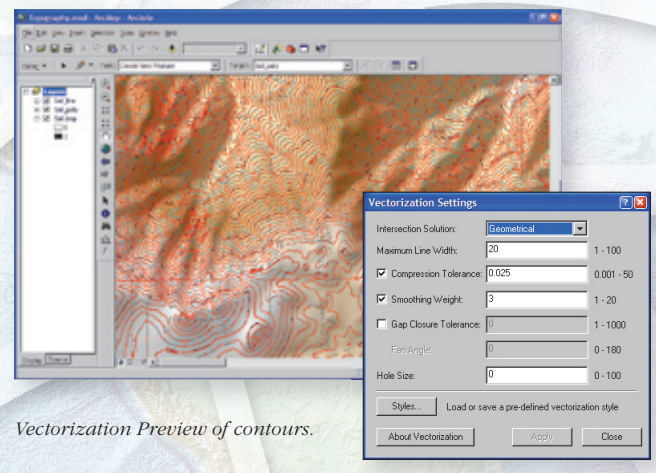
ArcScan™ for ArcGIS®

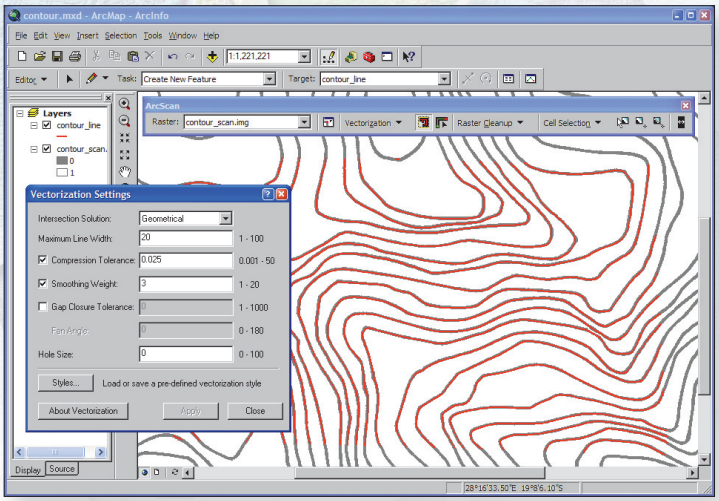
Raster-to-Vector Conversion



Vectorization of soil polygons.



Vectorization Preview of contours.



Select settings for automatic vectorization.

ESRI® ArcScan™ for ArcGIS®, an extension to ArcView®, ArcEditor™, and ArcInfo®, provides a powerful, efficient, and easy-to-use set of tools for raster-to-vector conversion. Through the automatic vectorization capabilities within ArcScan, users can create vector features from the entire image or by interactively vectorizing selected areas, thus significantly minimizing postprocessing work. This benefits geographic information system (GIS) users by allowing them to quickly convert raster data to vector-based feature layers such as shapefiles and geodatabase feature classes. All ArcScan tools are fully integrated within the editing environment of ArcView, ArcEditor, and ArcInfo.

With ArcScan for ArcGIS, You Can

- Perform automatic or interactive raster-to-vector data conversion with high precision.
- Create shapefile or geodatabase line and polygon features directly from raster images.
- Use raster snapping capabilities to make interactive vectorization more accurate and efficient.
- Prepare images for vectorization with simple raster editing.

Automatic Vectorization

One of the key features of ArcScan is its ability to automatically convert raster data into vector features. This process, known as automatic vectorization, can significantly reduce the time it takes to vectorize scanned images.

ArcScan supports two types of vectorization methods: centerline and outline. Depending on your requirements and the type of scanned images you are working with, the vectorization method you employ will vary.

- Centerline vectorization generates vector features along the center of the raster linear elements. This method is typically used for vectorizing scanned parcel, contour, or soil maps.
- Outline vectorization generates polygon vector features encompassing connected raster cells. This method is typically used for vectorizing scanned land use and vegetation maps.

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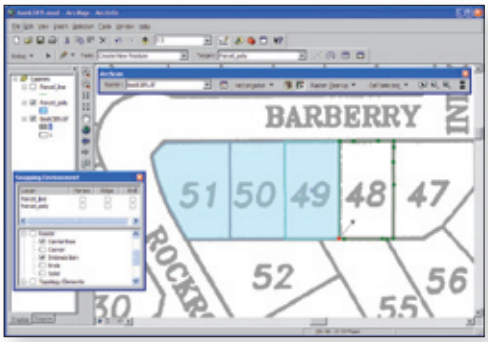
Interactive Vectorization

Along with automatic vectorization, you can also generate features manually. This process is known as interactive vectorization and is similar to existing techniques used to create features with the Editor tools. Interactive vectorization consists of two components: raster tracing and raster snapping.

Automatic vectorization and interactive vectorization both require settings that influence how the output vector features are generated. These settings, also known as styles, can be saved and reused with raster images that possess similar characteristics.

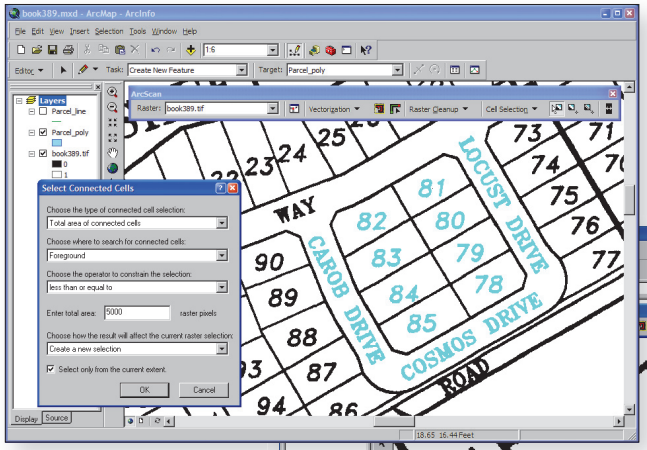


Select snapping environment for raster tracing.

Raster Tracing

Raster tracing is useful in cases in which you need to have more control over the vectorization process or need to vectorize a small portion of an image. The Vectorization Trace tool allows you to easily trace raster cells and generate vector features.

With the Vectorization Trace tool, you simply point the cursor in the direction you wish to vectorize and click. With each click, features are generated at the centerline of the raster cells. The current vectorization settings influence the output vector geometry. You have the option through the Editor to generate line and/or polygon features.

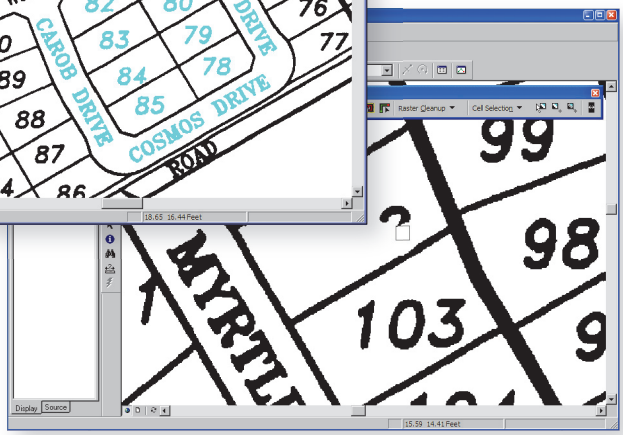


Select cells for vectorization.

Raster Snapping

ArcScan supports the ability to snap to raster cells. Although not required for raster tracing, raster snapping can help ensure that you create features accurately. You can snap to raster centerlines, intersections, corners, ends, and solids while creating features with the Editor tools.

You can specify your raster snapping preferences using the Editor's Snapping Environment dialog box.



Use provided tools for raster cleanup.

Raster Selection

ArcScan supports tools for selecting raster cells. Selected cells can be used to define the scope of vectorization, aid raster cleanup, or create a new image. You can create raster selections interactively by clicking a series of connected cells or by executing an expression-based query in the Select Connected Cells dialog box.

Raster Cleanup

ArcScan also supports tools for performing simple edits on raster images. You can draw, fill, and erase raster cells—all within an edit session. These steps, known as raster cleanup, allow you to prepare a scanned map for more efficient vectorization. In addition, you can export the modified raster to a new file in case you need to preserve the original copy.

Requirements

ArcScan for ArcGIS requires ArcInfo, ArcEditor, or ArcView.

For more information on ArcScan for ArcGIS,

visit **www.esri.com/arcscan**.

or call **1-800-447-9778**.

ESRI 380 New York Street, Redlands, California 92373-8100, USA • E-mail: info@esri.com
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