

ArcScan[®] for ArcGIS[®]

Vectorization and Simple Raster Editing



ArcScan for ArcGIS

Vectorization and Simple Raster Editing

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. Users can significantly minimize postprocessing work by using the batch vectorization capabilities within ArcScan to create vector features from the entire image or by interactively tracing selected areas. This benefits the GIS user by allowing them to quickly convert raster data to vector-based feature layers such as shapefiles and geodatabase feature classes. ArcScan tools are all fully integrated within the editing environment of ArcView, ArcEditor, and ArcInfo.





With ArcScan for ArcGIS, You Can

- Create shapefile or geodatabase line and polygon features directly from raster images.
- Perform interactive or batch mode raster-to-vector data conversion.
- Clean up unwanted parts of a raster image prior to batch vectorization.
- Use raster snapping capabilities to make interactive tracing more accurate and efficient.
- Select groups of raster cells by querying for connected areas.



Select settings for batch vectorization.

Batch Vectorization

One of the key features of ArcScan is its ability to automatically convert raster data into vector features. This process, known as batch 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 parcel and survey scanned maps.
- Outline vectorization generates vector features at the border of the raster linear elements. This method is typically used for vectorizing land use and vegetation scanned maps.

Batch vectorization requires 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.



Snapping to raster intersections or to raster centerlines.



Select snapping environment for raster tracing.

Raster Selection

ArcScan supports tools for selecting raster cells. You can create raster selections interactively by clicking a series of connected cells or by executing an expression-based query. These selection tools can help you define the scope of your vectorization.

The Select Connected Cells dialog box allows you to perform complex cell selection based on pixel area and envelope extents. This can help you filter which cells you wish to omit or include in the vectorization.

Supported Platforms

ArcScan for ArcGIS is available for Windows[®] 2000, Windows NT[®] 4.0, and Windows XP (Home and Professional edition). ArcScan for ArcGIS requires ArcInfo, ArcEditor, or ArcView.

Interactive Vectorization

Along with batch 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 tool. *Interactive vectorization* consists of two components: raster snapping and raster tracing.

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.

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

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 manually trace raster cells and generate features for raster data that you wish to vectorize.

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 to generate line and/or polygon features.



Select cells for vectorization.



Use provided tools for raster cleanup.

Simple Raster Editing

ArcScan also supports tools for editing raster images. You can draw, fill, and erase raster cells all within an edit session. These steps, known as raster cleanup, allow you to eliminate raster cells that are not in the scope of the vectorization. In addition, you can export the modified raster to a new file in case you need to preserve the original copy.

For more information on ArcScan for ArcGIS, please visit www.esri.com/arcscan.



For more than 30 years ESRI has been helping people manage and analyze geographic information. ESRI offers a framework for implementing GIS technology in any organization with a seamless link from personal GIS on the desktop to enterprisewide GIS client/server and data management systems. ESRI GIS solutions are flexible and can be customized to meet the needs of our users. ESRI is a full-service GIS company, ready to help you begin, grow, and build success with GIS.

Corporate

ESRI 380 New York Street Redlands, California 92373-8100, USA Telephone: 909-793-2853 Fax: 909-793-5953

For more information on ESRI, call

1-800-447-9778

(1-800-GIS-XPRT) or contact an ESRI reseller near you.

Send e-mail inquiries to

info@esri.com

Visit ESRI's Web page at **www.esri.com**

Outside the United States, contact your local ESRI distributor. For the number of your distributor, call ESRI at 909-793-2853, ext. 1235, or visit our Web site at www.esri.com/international



Copyright © 2003 ESRI. All rights reserved. ESRI, the ESRI globe logo, ArcView, ArcInfo, ArcEditor, ArcGIS, the ArcGIS logo, ArcMap ArcScan, @exri.com, and www.esri.com are trademarks, registered trademarks, or service marks of ESRI in the United States, the European Community, or certain other jurisdictions. Other companies and products mentioned herein are trademarks or registered trademarks of their respective trademark owners.

Regional Offices

Federal Supply Schedule

Place ESRI business partner or distributor address here.