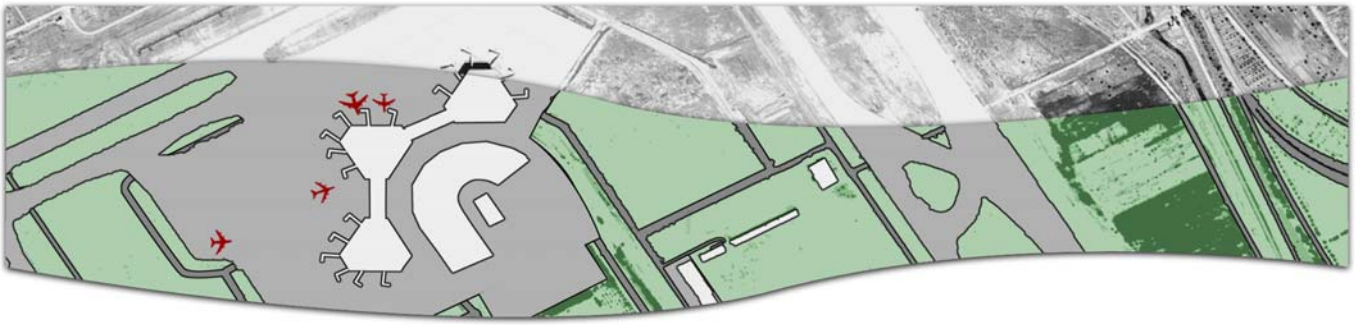
Feature Analyst® QuickStart GUIDE



4.2 for **ArcGIS**

ERODE/DILATE FEATURES

The Erode/Dilate feature is useful for manipulating binary images. Using the erode feature, you can constrict result polygons to provide definition to features that appear to connect, such as building polygons that are close together, or buildings connected by walkways that appear to blend together.

Using the dilation feature, you can expand feature result polygons. This is useful, for example, for connecting adjacent road or river polygons and filling out a network of features.

Note: In order to use the dilate feature, the file must be in raster format.

1 Convert the vector shapefile to a raster file, as necessary.

2 Highlight **the raster results layer** in the table of contents.

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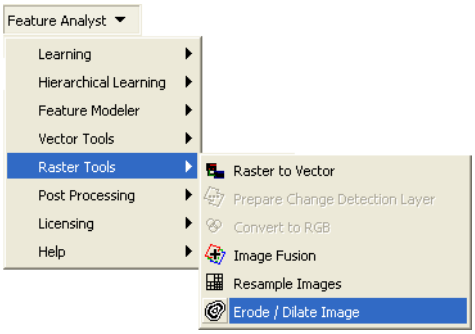
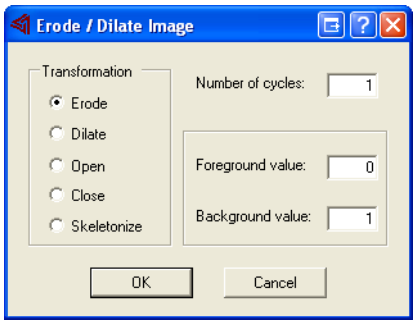
3 Choose **Feature Analyst** on the toolbar, choose **Raster Tools** on the drop-down menu, and then choose **Erode/Dilate Image**.



The Erode / Dilate Image dialog box opens.



4 Under Transformation, select **a method** according to the following:

OPTION	FUNCTION
Erode	Select to implement a binary morphology filter. The filter strips away the outer layer of pixels (repetitively for the specified number of cycles) from the pixel regions in a raster image.
Dilate	Select to implement a binary morphology filter. The filter buffers pixel regions by the width of one pixel (repetitively for the specified number of cycles).
Open	Select to implement a specified number of erode cycles followed by an equal number of dilate cycles. Used to break single regions into multiple regions.
Close	Select to implement a specified number of dilate cycles followed by an equal number of erode cycles. Used to merge proximal regions together into larger regions.
Skeletonize	A special case of Erode. A skeleton is a line representing the shape of a polygon. Select to preserve connectivity between pixel regions and determine the centerline of elongated regions. Processing automatically terminates when either the specified number of cycles is reached or all regions are completely skeletonized.

5 Enter values in the remaining fields, according to the following:

OPTION	FUNCTION
Number of cycles	The number of cycles to run the selected Transformation. The default value is 1. For example, entering a value of 1 will erode or dilate the raster class by 1 pixel along all of its boundaries. NOTE: This is similar to a buffer operation on a vector file in ArcMap.
Foreground value	Use to define pixel regions. Allows you to apply the binary morphology filters to integer-based raster images containing arbitrary numbers of classes. The default value is 0.
Background value	The pixel replacement value used when eroding regions. Allows you to apply the binary morphology filters to integer-based raster images containing arbitrary numbers of classes. The default value is 1.

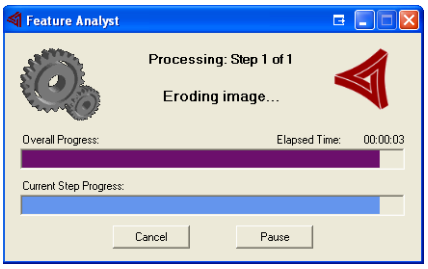
6 Choose **OK**.

The Save Raster As dialog box opens.

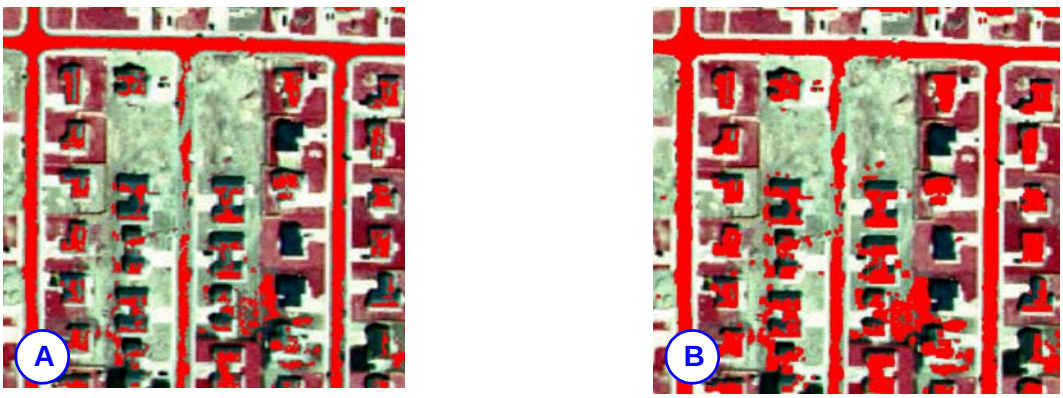
Feature Analyst names the file in the Name field using the last file name, the process (in this case ED for Erode/Dilate).

7 Accept the default name/path or provide a new name and location and choose **Save**.

The Feature Analyst Process box opens, displaying the progress of the erode/dilate.



The image appears in the table of contents and displays in the workspace.



Example extracted road and building features before (A) and after (B) dilation