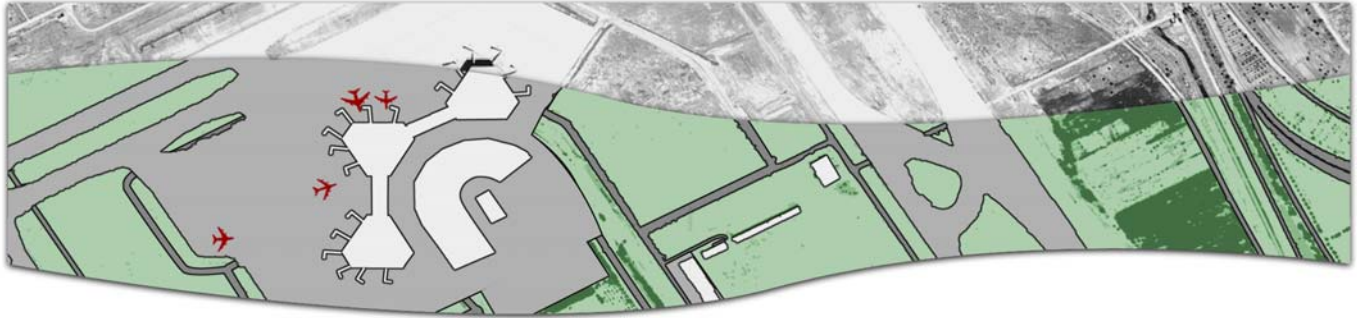


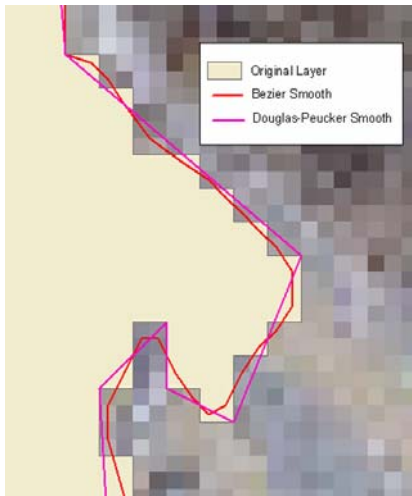
Feature Analyst® QuickStart GUIDE



4.2 for ArcGIS

SMOOTHING FEATURES

The Feature Analyst Smooth Features function allows you to clean up the edges of your polygons. This is especially useful when you are extracting water, such as a shoreline, and want the resulting features to closely resemble the actual features. Smoothing the extraction results creates a neater feature. If you have a river, you can smooth the edges of the river polygon to more closely resemble the actual river path. You can smooth your extracted features using either a Bezier Smooth or a Douglas-Peucker Smooth.



Example smoothing results for both the Bezier Smooth and the Douglas-Peucker Smooth

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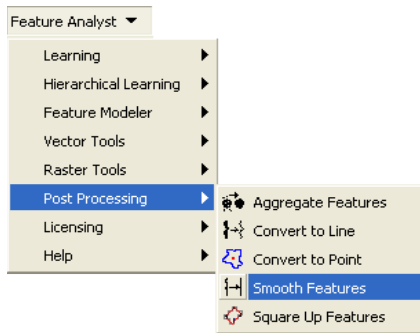
We put the Information in GIS



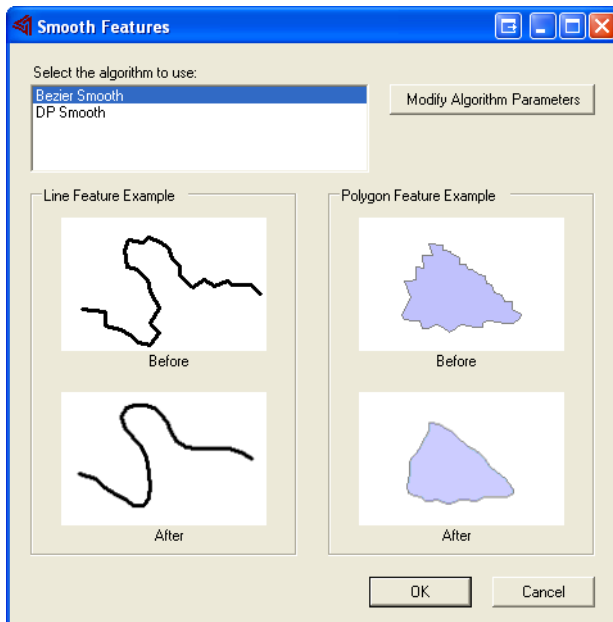
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Smooth Features









- 1 Highlight the **result layer** to smooth in the table of contents.
- 2 Choose **Feature Analyst** on the toolbar, choose **Post Processing** on the drop-down menu, and then choose **Smooth Features**.



The Smooth Features dialog box opens.

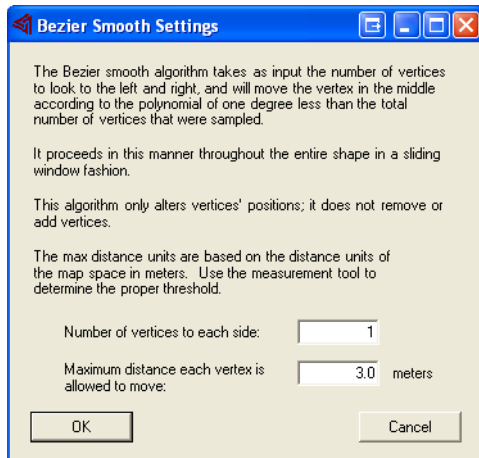


- 3 Under Select the algorithm to use, select either **Bezier Smooth** or **DP Smooth**. Refer to the descriptions below for assistance.

OPTION	FUNCTION
<p>Bezier Smooth</p>    	<p>Moves the vertex to the middle of the specified number of vertices to the left and right of the feature, according to the polynomial of one degree less than the total number of vertices sampled.</p> <p>Smooths the target features by altering the position of the vertices. Vertices are moved—never added or removed.</p> <p>Good smoothing process for water features.</p>
<p>DP Smooth</p>    	<p>The Douglas-Peucker process draws a straight line between the first vertex and last vertex in the segment, and then removes all the other vertices that are less than the specified threshold value away from the straight line.</p> <p>Vertices are removed—never added or moved. The greater the threshold, the more vertices removed. Therefore, this option can greatly reduce the size of the resultant data.</p>

- 4 Choose **Modify Algorithm Parameters**.

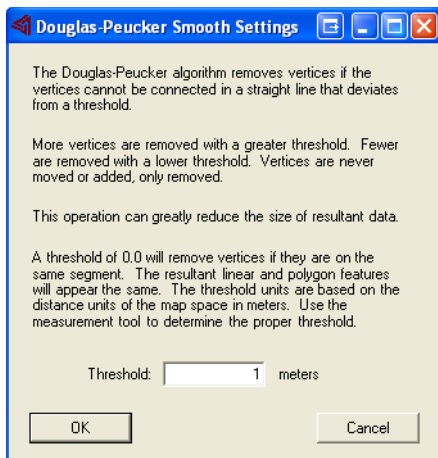
When you select Bezier Smooth and then choose Modify Algorithm Parameters, the Bezier Smooth Settings dialog box opens.



5 Enter values in the two fields according to the following:

OPTION	FUNCTION
Number of vertices to each side	<p>The number of vertices the system looks at on each side to compute the middle location for the vertex.</p> <p>The higher the value, the more vertices included in the computation. Higher values will result in a smoother, more curved appearance for the smoothed shapes, but will also increase the processing time.</p> <p>The default value is 1.</p>
Maximum distance each vertex is allowed to move	<p>The maximum distance, in meters, a vertex is allowed to move to straighten a line. If the vertex lies outside this maximum, it does not move.</p> <p>The units for the maximum distance each vertex is allowed to move are based on the distance units of the map space in meters. Use the ArcMap measurement tool to determine the proper threshold.</p> <p>The default value is 3.0 meters.</p>

When you select *DP Smooth* and then choose *Modify Algorithm Parameters*, the *Douglas-Peucker Smooth Settings* dialog box opens.



6 Enter a **value** in the Threshold field.

OPTION	FUNCTION
Threshold	<p>The threshold straddles a straight line that connects the first and last vertices in a line segment. Vertices that fall within the threshold are removed. Threshold units are based on the distance units of the map space in meters. Use the ArcMap measurement tool to determine the proper threshold.</p> <p>NOTE: A threshold of 0 removes vertices on the same segment but the resultant features will appear the same.</p> <p>The default value is 1 meter.</p>

7 Choose **OK**.

The Save Feature As dialog box opens.

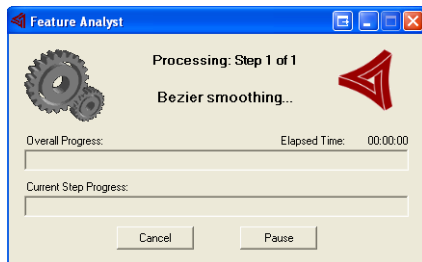
By default, Feature Analyst names the file in the Name field using the last file name, the process (in this case Smt, for Smooth), and incremental numbering.

8 Accept **the default file name** and **file location**.

-or-

Provide **a new name** and **location** for the file and choose **Save**.

The Feature Analyst Process box opens, displaying the progress of the smoothing process.



The smoothed results layer appears in the table of contents and displays in the workspace.