PROFILE EXTRACTOR 6.0 USER GUIDE

Extracts a cross section profile from TIN or GRID theme.

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- ## SYSTEM REQUIREMENTS:

The Profile Extractor extension can be run from three different environments, each version can be found at http://www.ian-ko.com/

1. 3-D Analyst

    Works with TIN and/or Grid data

2. Spatial Analyst

    Works with Grid data

3. ArcView

    If you do not own either extension Edit Tools will change an Elevation Shape File into a TIN shape file that may be used instead. A demo and full version can be downloaded at the sight above.

The extension also needs a copy of ArcView 3.1 or higher to run properly.

- INSTALLATION:

Once the proper extension in downloaded, un-zip the file. There will be .avx files, .dll and .dat files. If your version of ArcView has Dialog Designer, then place the .avx files in ArcView's ext32 directory. If your copy does not have Dialog Designer then place the other two files in ArcView's bin32 directory.
Start up ArcView!

*There is an extra extension called PENet… and it only works if you have NetWork Analyst extension loaded.

- SET-UP:

Open a new View from the Project Window, then go to File/Extensions and check off PE 6.0 for AV:
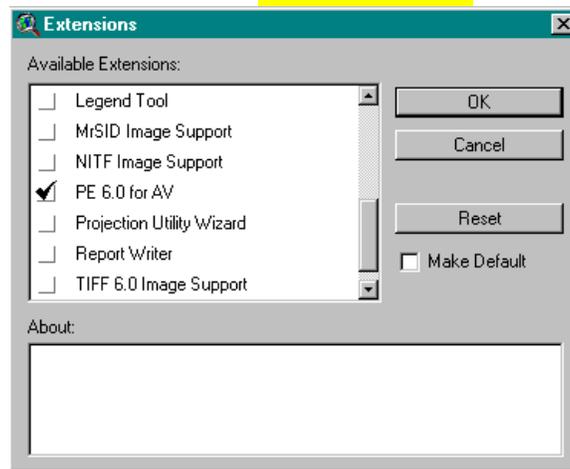

A new button ⊞ will appear on the View's Button Bar, click on it to start the Profile Extractor!

It will now ask you to make a temporary D-Base file for all the information accumulated throughout your session.

Next, select the TIN theme you wish to use in the PE Dialog Box and it will calculate the TIN statistics.

The Profile Extractor Dialog Box will then appear with these settings:
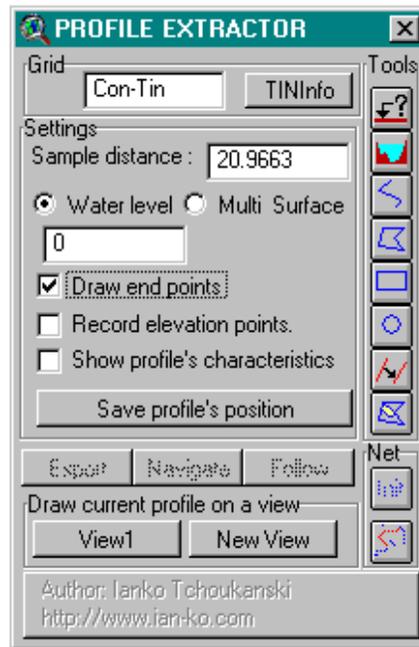
- MAIN DIALOG:
    1. GRID PANEL:

This panel indicates which grid or TIN is presently being used for documenting and analyzing the z-factor. To change the document, double click on the info box and it will take you back to the PE Dialog Box.

The TINInfo button opens a dialog that describes the statistics of the Grid or TIN at hand.
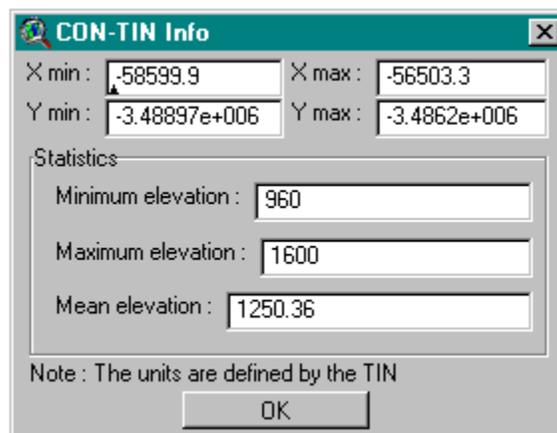
2. SETTINGS PANEL:

Sample Distance: Gives a sample distance between two points. The default is the Grid's cell size.

Water Level: Default at zero, gives the option for an initial water level to be calculated into the profile. This radio button also indicates that this is a single grid profile.

Multi-Surface Radio Button allows the user to select other surfaces to compare to the current grid. Select the [Set secondary surfaces] button and
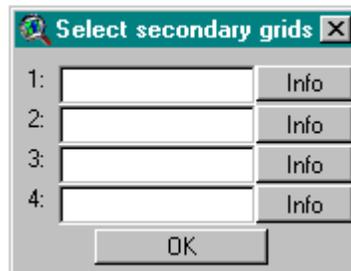
you can either enter info or select on the [Info] button and it will take you back to the PE Dialog Box to select another Grid or TIN.

Draw End Points just gives an option to add the beginning (green) end ending (red) points for better viewing.

Record Elevation Points gives the option to input the elevation data (made by the elevation point tool) into a new theme or an existing point theme.
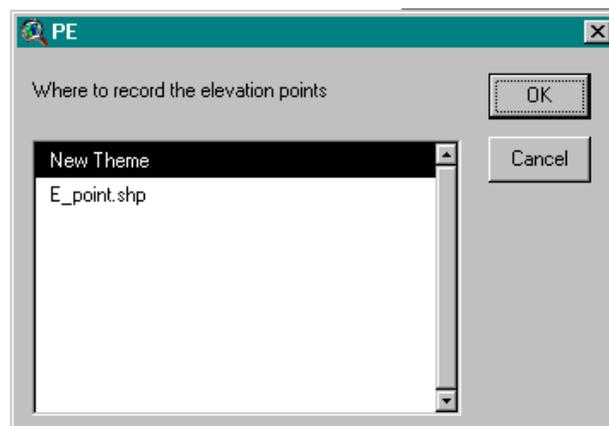
When un-checking, it asks the user to save the elevation data.

Show Profile Characteristics Shows characteristics of the current profile (you can also alter or add characteristics manually):

Save profile's position After a profile chart is made; its characteristics (size and position) can be saved with this button. If the profile has been closed, it cannot be saved.

1. EXTRACT FROM PANEL:

This panel is only available for Grid Data. It allows the user to decide where to extract the elevation data from: the Grid itself or the surface defined by the grid.

3. ACTION BUTTONS:

Export This button exports the current profile's data into a dBase, INFO or Delimited Text File. If dBase is chosen, it will allow you to import the data into a new table in your project.

Navigate To navigate the tool must be on with recorded elevation points. This navigates the line according to where the Follow button has been. The Navigate Dialog box will then appear as below. It allows you to move forward or backward a certain distance at a time. It moves along the line perpendicular to the cross-sectional line. It goes through its middle point. Also, it can rotate a certain angle when either rotate clockwise or counter-clockwise button is selected.
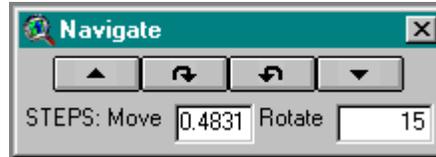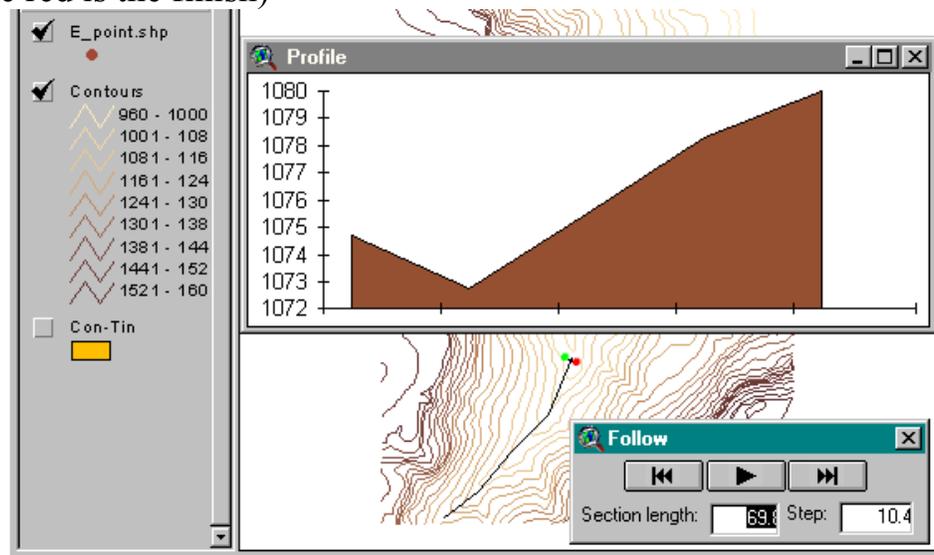
Follow Allows the user to move a certain distance at a time, by a certain amount of steps (as seen below). The result is shown in a profile.
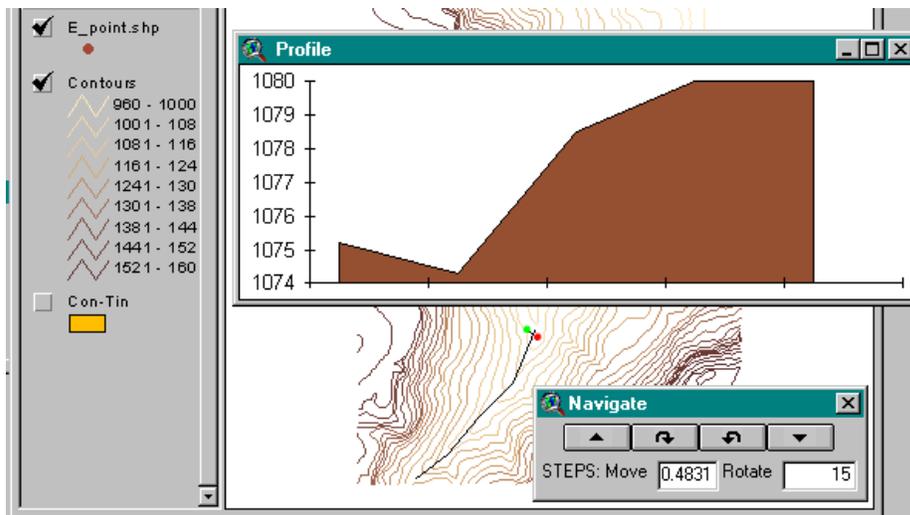
Original Profile:
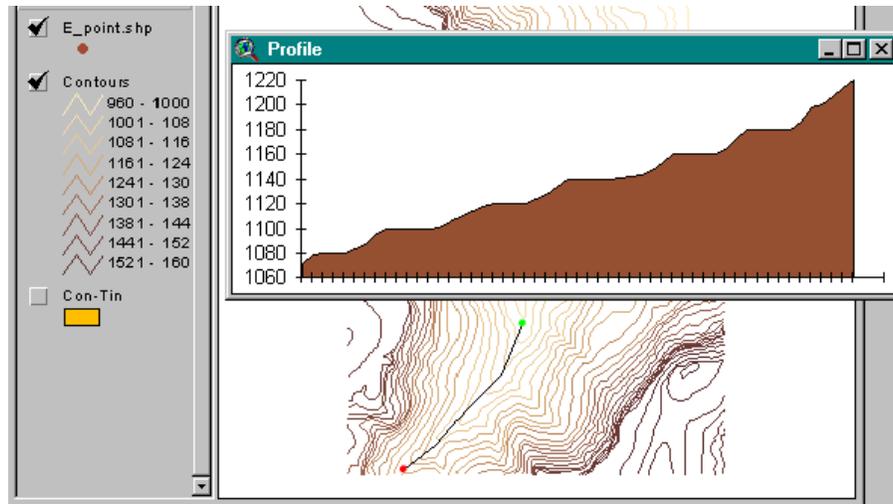
The Profile after taking one-step forward (remember the green is the start and the red is the finish)

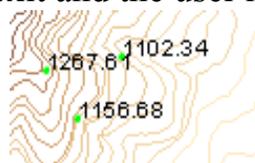The next profile was navigated [⤴], then [▼] by the amount indicated below:

5. TOOL PANEL:

The Tool Panel is used for extracting the profile's co-ordinates using different methods of viewing. Below will outline each method of analysis:

[⊥?] The Point tool is very handy in outlining different points from the TIN or Grid at hand. It will show each point with a brought green point and its elevation point beside it. Before putting the point onto the view, a message box will appear asking if it is the proper one to put…


Add to the View X = -57446.3 Y = -3.48738e+006

ELEVATION = 1017.57

Yes   No
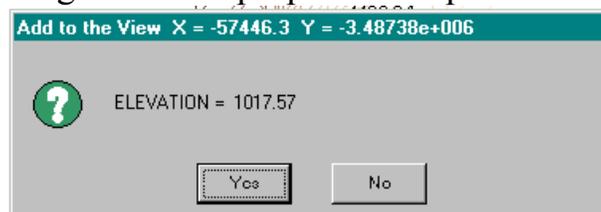
If no it will exit and the user may try again.

1267.6   1102.34

1156.68

Record Elevation Points is selected, the points would be put in either a theme in the view or a new one, the PE Dialog Box will prop-up to choose the proper theme.

This takes the cross-sectional profile of a line segment drawn on the view. The line is drawn and a profile is made instantly, but the line is not visible after.

To see the line you must use which takes a cross-segment line and can also be multi-segment, as the one above is a single line.
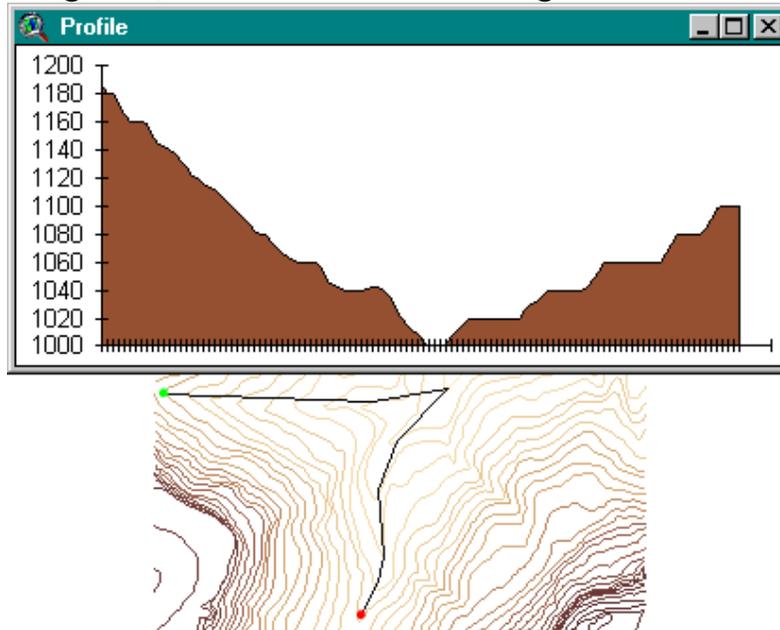

The polygon profiler extracts a multi-segmented, closed feature (there is only a start point). In the profile below the water level is set at 1300 to show the difference it makes in the profiler (the blue background):
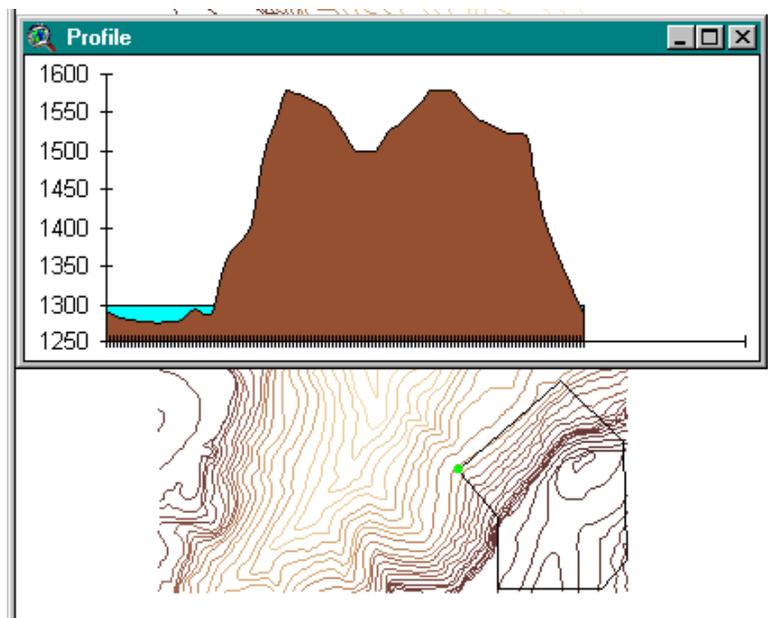
And ☐ take a profile of the outlined shape (like the polygon feature above).

The select-move-reshape tool allows the user to reshape the area being used and extract a new profile from the altered shape. The user can alter the shape by using the pointer tool to select and move it or the vertex tool to change the node placement. The shape above has been altered to the one below and this is the resulting profile:
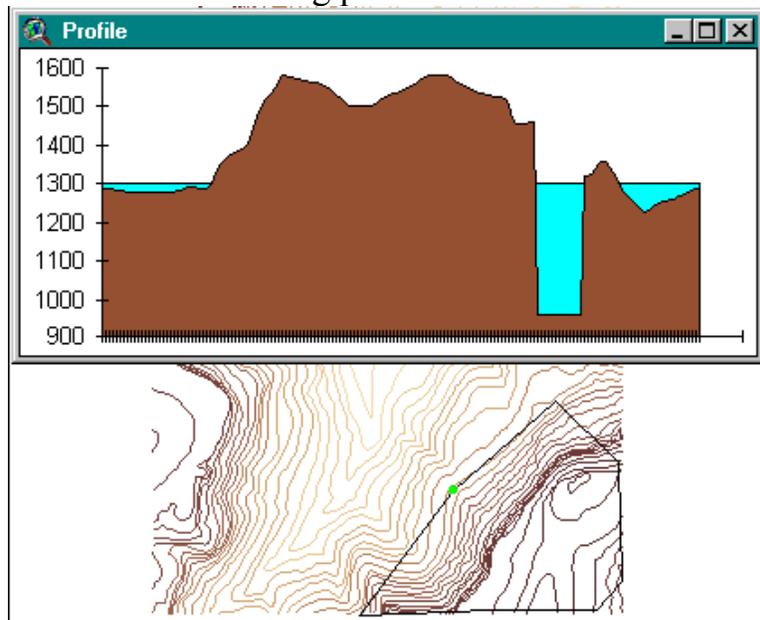
Select from theme tool extract a profile from one feature selected by the user.

- PRACTICAL USES:

The Profile Extractor has many practical uses. It can be used for geology, to see the elevation of the terrain compared to the type of outcropping at that area. The water level can indicate where water has cut into bedrock, to find out the type of rock. When mapping out an outdoors trip, it can give a profile in how steep the terrain one is set out to climb is, the water level can aid in knowing where to canoe. The profile extractor is also great for presentations, to show any data with a three-dimensional (z) value can change over a certain area.

-User Guide made by Amanda Chiprout, 239 882