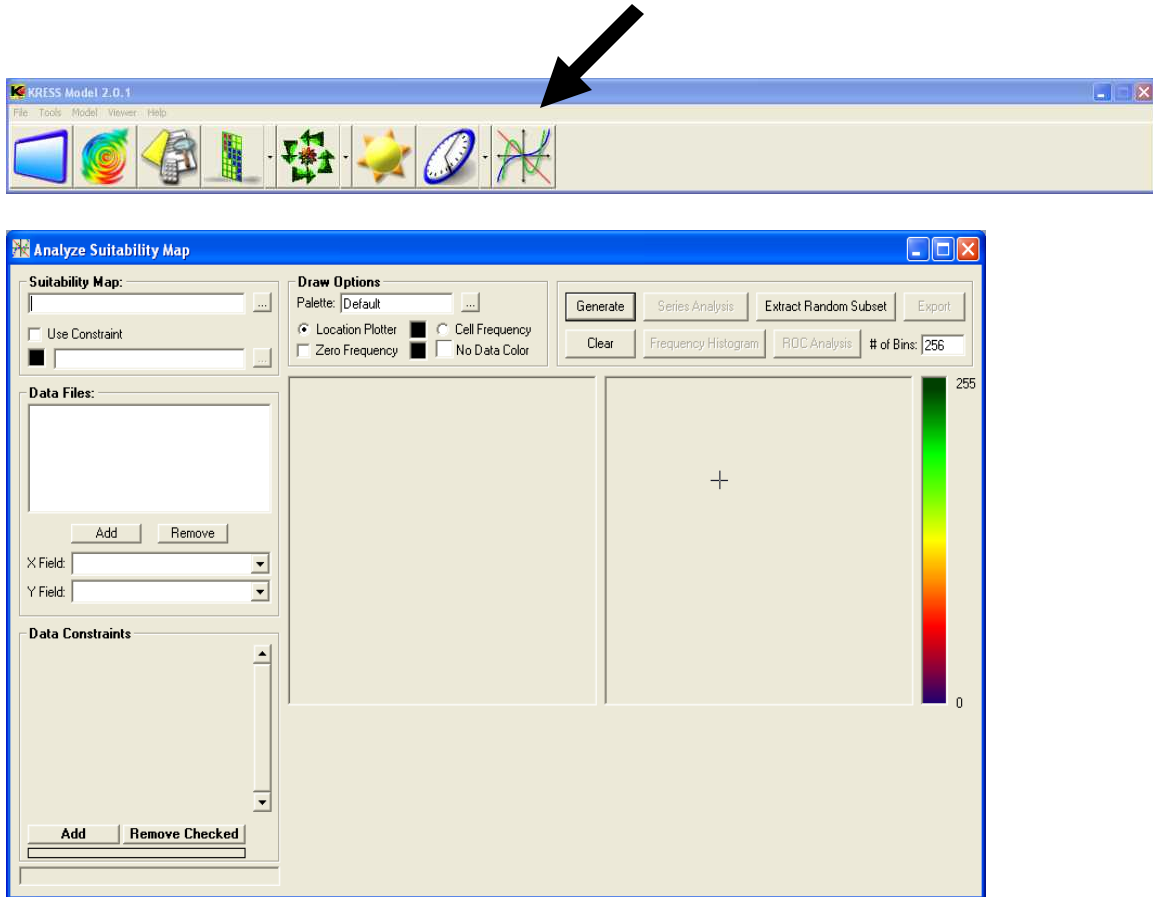


Analyze Suitability Map

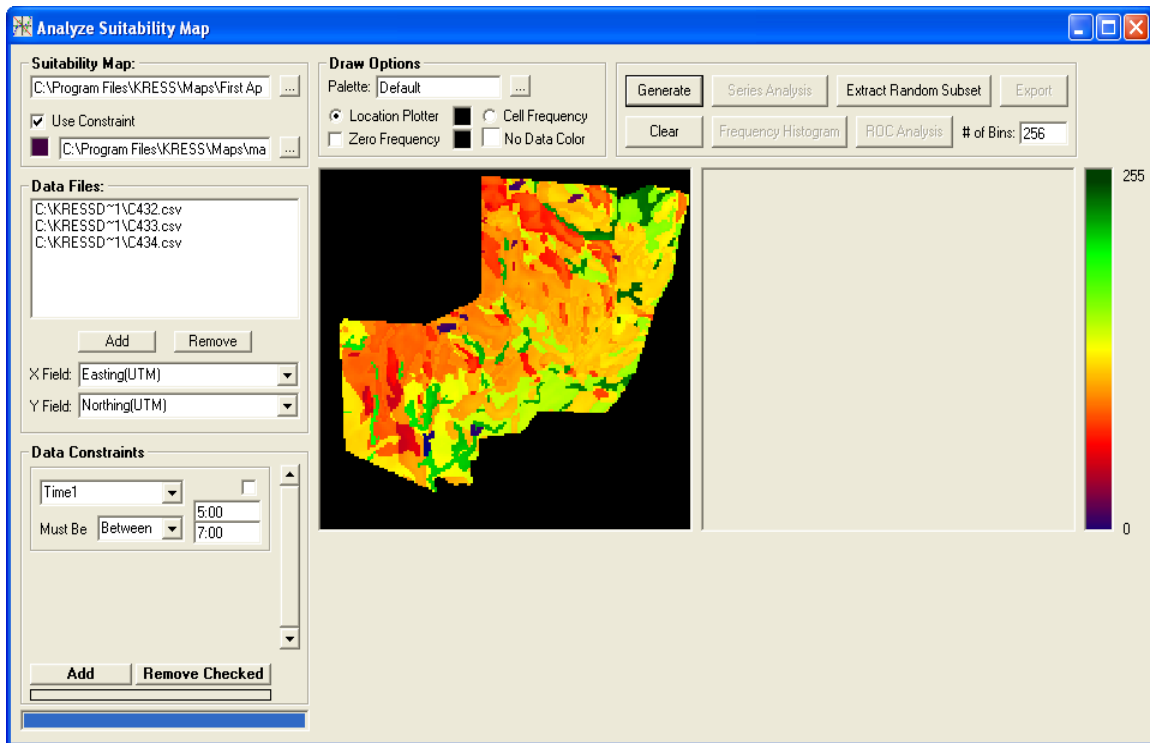
KRESS allows the user to evaluate their suitability map against data. For example, using data of where animals were actually located in a field can be compared with where the animals were expected to be. To reach the **Analyze Suitability Map** form, click on the **Model Evaluation** button or click on **Analyze** under the **Model** dropdown menu.



The suitability map to be analyzed can be loaded by clicking the “...” button under the **Suitability Map** label. If there are any constraints that go along with the suitability map (or used in creating the suitability map) they must be loaded as well to provide an accurate analysis. They can be loaded by clicking the “...” button next to the **Constraints** label.

Next, the user must load the data files with which to compare the suitability map. This is done by clicking the **Add** button in the **Data Files** frame. A browse window will pop up allowing the user to browse for the desired file(s). Multiple files can be loaded at once to save time by selecting as many files as desired in the browse window by holding the control key while clicking the desired files.

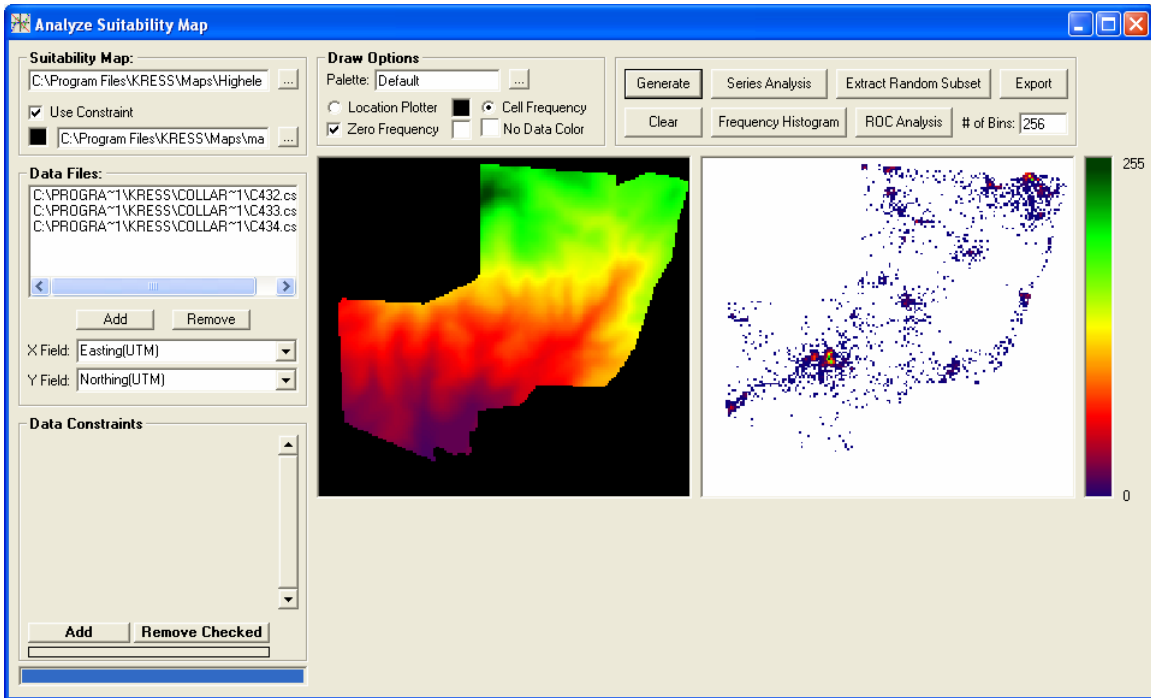
The user must use the dropdown menus under the **Data Files** frame to specify the names of the columns giving the X and Y coordinates in the data files. Data constraints can be added as well by clicking the Add button in the Data Constraints frame. A new constraint option will pop up in the Data Constraints frame. Using the dropdown menus, the user must specify the constraint by identifying a column of data and giving values for it to be greater than, less than, one of, none of, or between. If a data constraint is used, then only the data meeting the restrictions of the constraint will be used in the analysis.



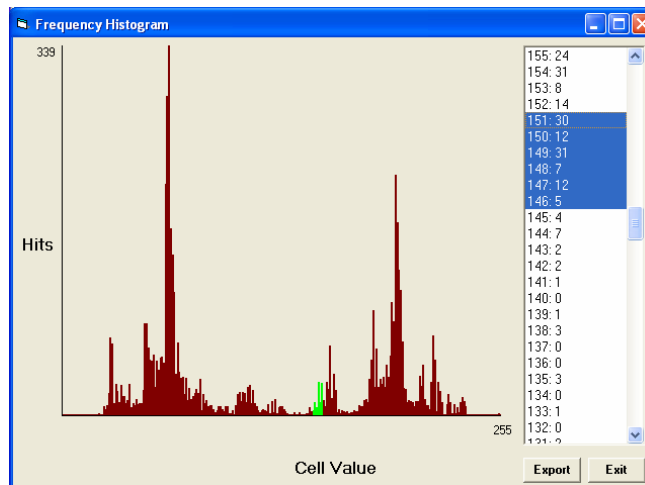
Next, the user must choose their draw options. They can specify a palette using the “...” button next to the **Palette** label. The user must choose to display the data file as a location, where each location where a data point is found is colored with a dot, or cell frequency, where each cell on the map tallies how often a data point is found there. For the display, the results are scaled, but in exporting these values, either the scaled or original version can be used. The zero frequency color and no data colors for the display can be changed by clicking the colored box next to the appropriate label. Clicking the **Generate** button will load the image files and allow the user to compare the two images at sight. The **Export** button will export the image showing the data points or frequency as a BMP file. If the user has cell frequency selected, they have the option of exporting as a raster file. The **Clear** button will clear the image allowing the user to start over with a new set of data files.

The user can click the **Extract Random Subset** button to write to a CSV file the values from random points on the suitability map in comparison to the user data

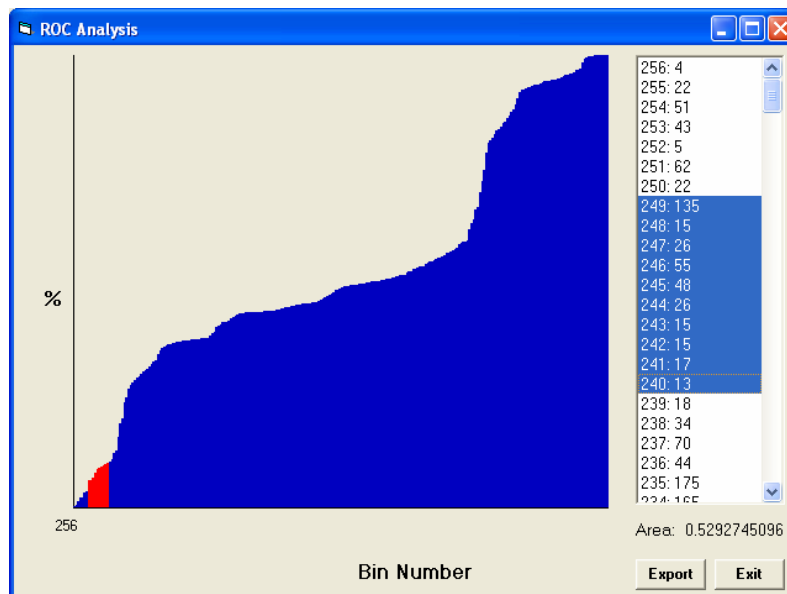
for those corresponding points. The user will be prompted as to the number of points desired. This is useful if the user wants to analyze the data in a different application outside of KRESS.



The user can click the **Frequency Histogram** button to display a graph showing how many data points were located in each cell value. For example, if there were 15 data points in all the cells of the value 100, then the graph would display 15 hits in cell value 100. Along with the graph is a listing of each cell value and the corresponding number of hits. This can be exported as a CSV file by clicking the **Export** button under the graph.



To perform the ROC analysis, the user must first specify a number of bins in the textbox next to the **ROC Analysis** button. Then, by clicking on the button, a graph will be shown providing a ROC analysis. This shows what percentage of the data points is contained in a cell range. This means if there are 200 bins, then the value corresponding to bin 100 will be the percentage of data points contained in the values corresponding to all values equal to or greater than the value corresponding to bin 100. Under the table, the area under the curve is listed as a percent. The closer to 1, the better the suitability model predictions corresponded to actual data. The table of values for the ROC analysis can be exported as a CSV file by clicking the **Export** button.



A series analysis can be done by clicking the **Series Analysis** button. This form is similar to the **Interpolate Vector Data: Series** form. It is recommended that the reader review that section before continuing with this section.

The series analysis function will calculate a ROC analysis and Frequency Histogram for every interval, either unique or by date as specified by the user. Also, if the maps on which to perform the Frequency Histogram and ROC analysis are based on the analysis field (for example, results of a time step analysis and analysis of date intervals), check **use Unique Files for Each Step** and the **Unique File Specification** will give a slot for each possible value which you must fill with the corresponding map as shown below. The user's export options are to automatically display the exported maps (**Display Output Graphs**), write the graphs to a file (**Auto-Export Results**), and to export all sets, including empty ones, (**Export Empty Sets**).

Series Analysis

Input Options

Analysis Field:

Categorization Type:

Date Interval Specification

Start: Year: Month: Day: Hour: Minute: Second:

End: Year: Month: Day: Hour: Minute: Second:

Increment: Lowest Ignored Field:

Unique File Specification

- C:\
- PROGRA~1
- KRESS
- Maps

DemoSuitability.asc	C:\PROGRA~1\KRESS\Maps\Hi
Highelev.asc	1/2/2004
mask.asc	1/3/2004
s97forage.asc	1/4/2004
s97p83_water2_suppl.asc	1/5/2004
slope.asc	1/6/2004
sump83.asc	1/7/2004
suppliment.asc	1/8/2004
trail.asc	1/9/2004
water2.asc	1/10/2004

Move: Position:

Output Options

Display Output Graphs

Auto-Export Results

Export Empty Sets

Use Unique Files for Each Step

Output Folder:

- C:\
- PROGRA~1
- KRESS
- Maps