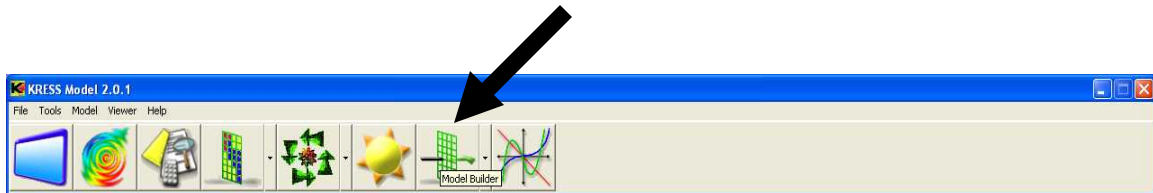


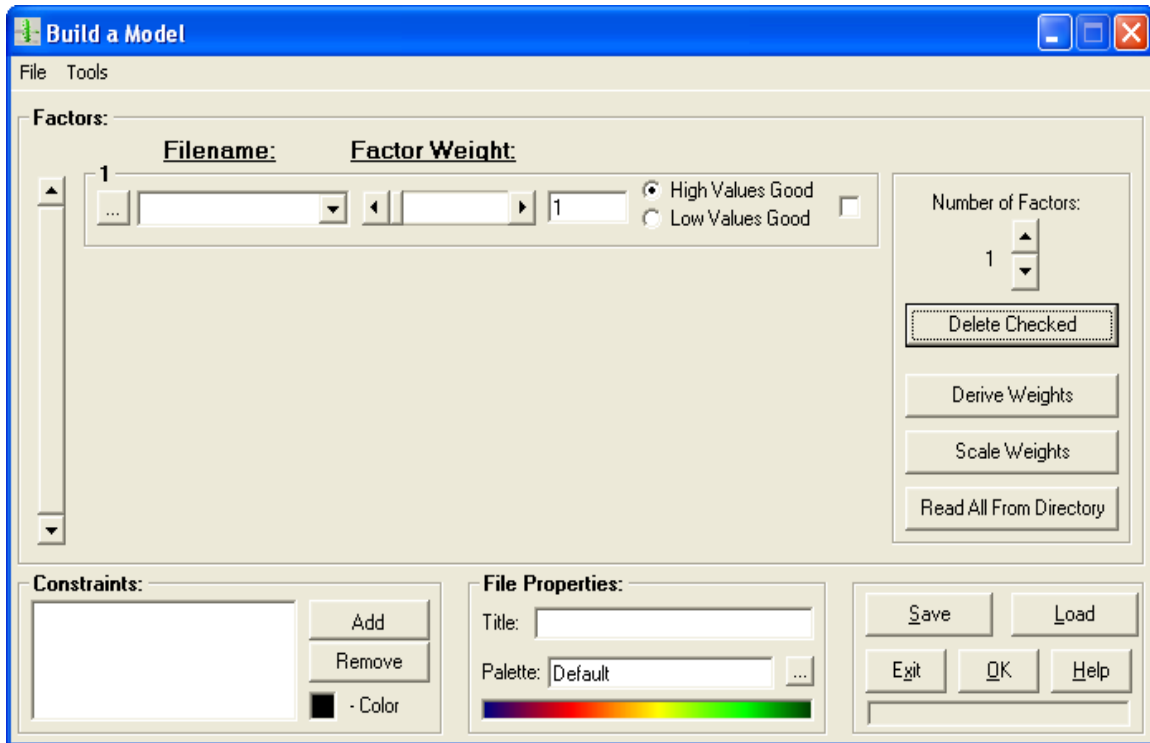
Single-Pass Linear

The Single-Pass linear model is available by clicking the models menu, then selecting **New**, **Single MCE**, and **Linear**. It can also be reached by pressing **F2**, or clicking the arrow next to the **Model Builder** icon and selecting **Single Pass Linear**.



The user must now designate the filenames that give the factors that are to be taken into account. The user may browse for these files by clicking on the "...” button. The number of factors may be changed by clicking the up and down arrows under the **Number of Factors** label. The user may also select factors by clicking on the **Set Root Directory** under the **Tools** menu, and choosing the directory containing the files.

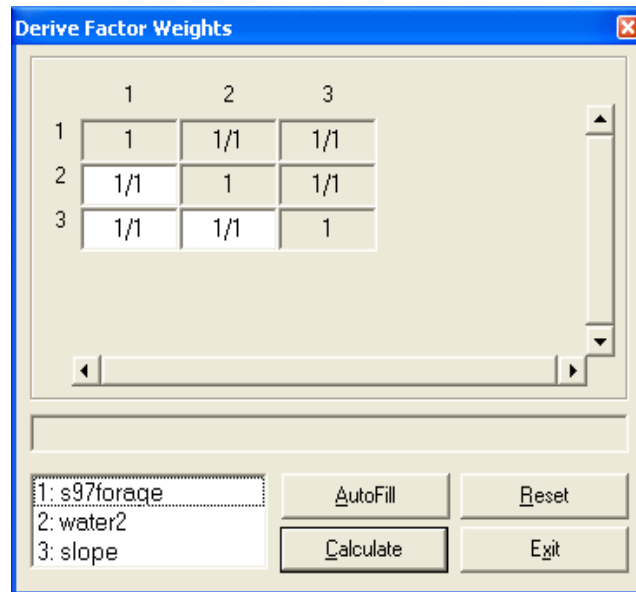
KRESS can currently support up to 100 factors. Then the files will appear on the dropdown menu for each individual factor. To input all the files in a directory, click the **Read All from Directory** button and then select a directory in the pop-up window. To remove a factor from the list, click the check box next to that factor, then click the **Delete Checked Factors** box.



It must be noted that **all factor files must be scaled** before use in the modeler. This can be done using the data preparation program under the tools menu. Once all the factors have been added, the user must designate the importance of each factor. This is done using either the horizontal scrollbar next to the factor, or by typing in the value in the textbox next to the scrollbar. The user must also designate whether the high values or lower values are desirable by clicking the appropriate option button.

The relative importance of the factors is a crucial step to creating a reasonable suitability map and must not be overlooked. If the first factor is weighted 80 and the second weighted 40, that means the first factor is twice as important as the second factor.

There is another way KRESS allows the user to determine the factor weights. By clicking the **Derive Weights** button, a new form will pop up. This form allows the user to designate comparative weighting between 2 factors instead of all the factors at the same time. Then, the computer will determine the best fitting option for the user's specifications. The **AutoFill** button on this form automatically fills in the values from the previous form. The **Reset** button assigns a value of 1 to all the weights. The **Calculate** button finds the best fitting factor values for the user designated comparisons.

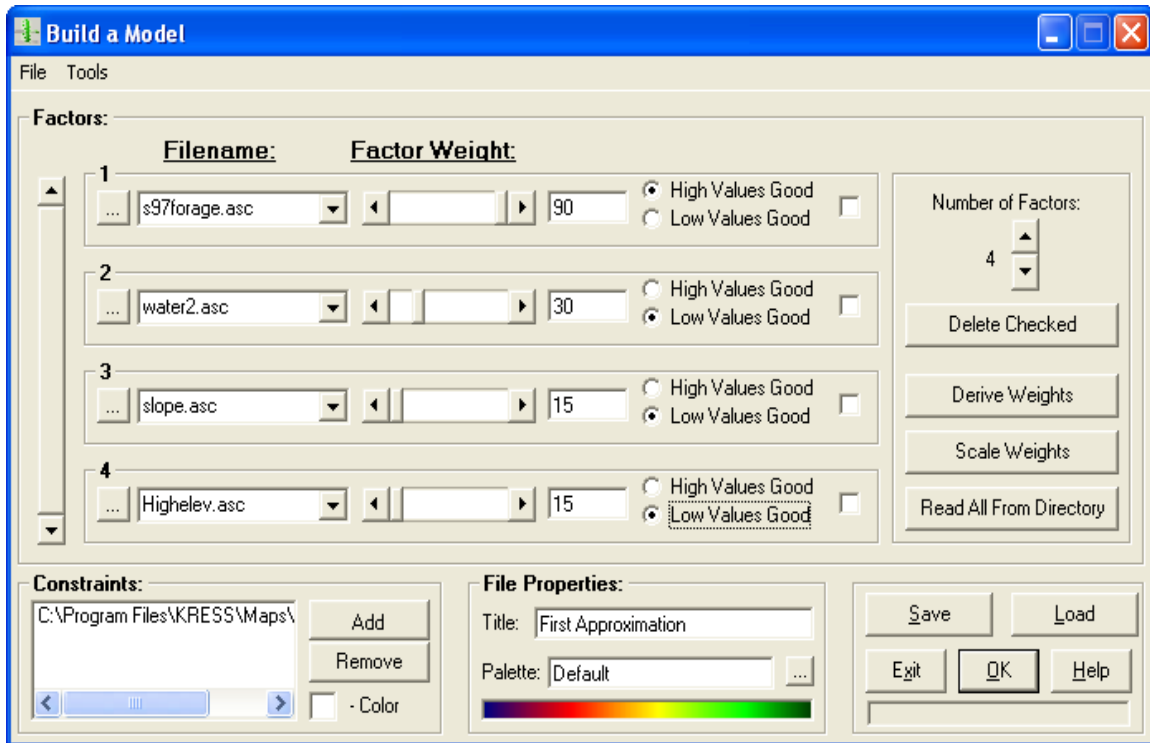


The **Scale Weights** button just changes the bounds of the horizontal scrollbar to match the spread of the user designated weights. It does not change anything in terms of calculations, and the user can use the textbox to input weights outside of the range of the scrollbar, and the scrollbar length will change to match the new range.

Constraints may be added by clicking the **Add** button under the **Constraint** label. The **Color** of the constraint can be chosen as well by clicking the colored box next to the color label. The constraint is used if the area covered in the factor maps is greater than the area of interest. With a constraint file, the program will assign a value of 0 to all values outside of the constraint.

Forms can be saved for later use or adjustment by clicking the **Save** button. To open a saved set, click the **Load** button. Both of these options are also available under the **File** menu.

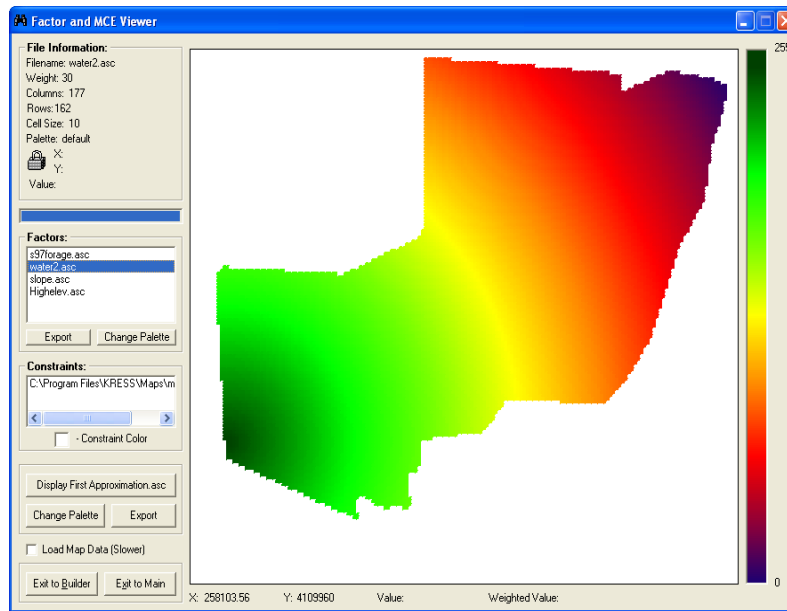
The user may designate a title for the analysis by typing it in the textbox next to the **Title** label. The user can also choose a palette by clicking the "..." button next to the palette label. The palette determines the colors of the values used for the display of the suitability map.



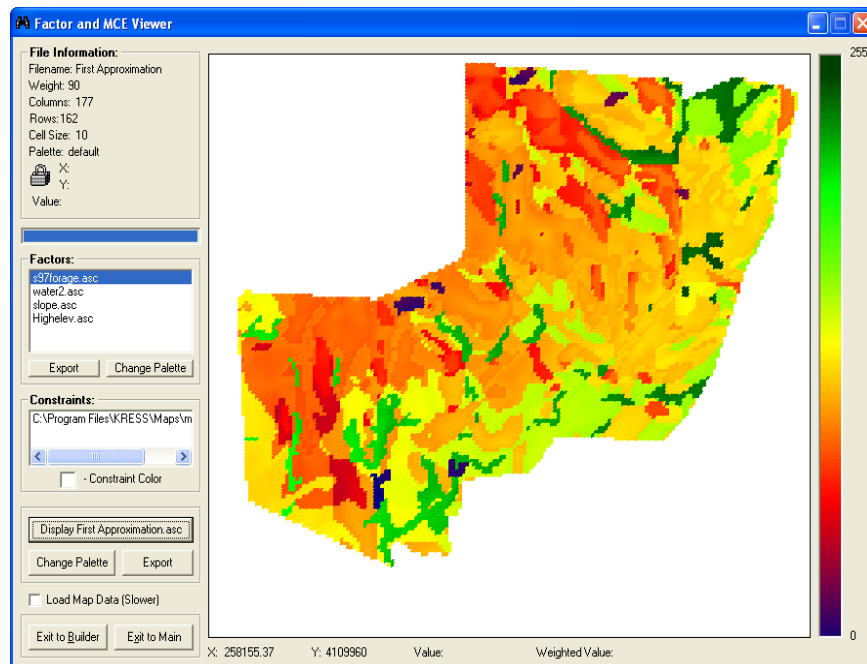
Clicking on the **OK** button will take the user to the **Factor and MCE Viewer** form. The user can view their factors by clicking the appropriate factor under the **Factors** label. The factor information is found in the upper left hand corner of the screen. If the user clicks on the **Load Map Data** checkbox in the lower left hand corner of the screen, they can hold their mouse over a position on the display frame, and identify the values of specific points in the file. The user can change the palette for viewing specific factors by clicking the **Change Palette** button in the **Factors** frame. This will only affect the factor being viewed; the other factors will retain their own palettes. The image in the display frame can be exported as a bitmap by clicking the **Export** button in the **Factors** frame.

The color of the constraint file(s) can be changed by selecting the desired filename under the **Constraints** label and clicking the box next to the **Color** label.

To display the suitability map based on the given factors, constraints, and factor weights, the user must click the **Generate Suitability Map** button. The user is then given the option of saving an output file of the suitability map. The user does not need to save the output for the program to create a suitability map for viewing, only if the user plans on using the suitability map in another application or for viewing at a later time. After the program displays the suitability map, the button will change to read **Display Generated**. This allows the user to view the factors and then view the suitability map without having to recalculate the map each time.



The user can change the Palette color for the suitability map by clicking the **Change Palette** button under the **Display Generated** button. The suitability can be exported as a BMP or as an ASC file by clicking the **Export** button under the **Display Generated** button.



When the user is finished, they can either click the **Exit to Builder** button to return to the factor weighting stage, or click the **Exit to Main** button to close the **Single-Pass Linear Modeler**.