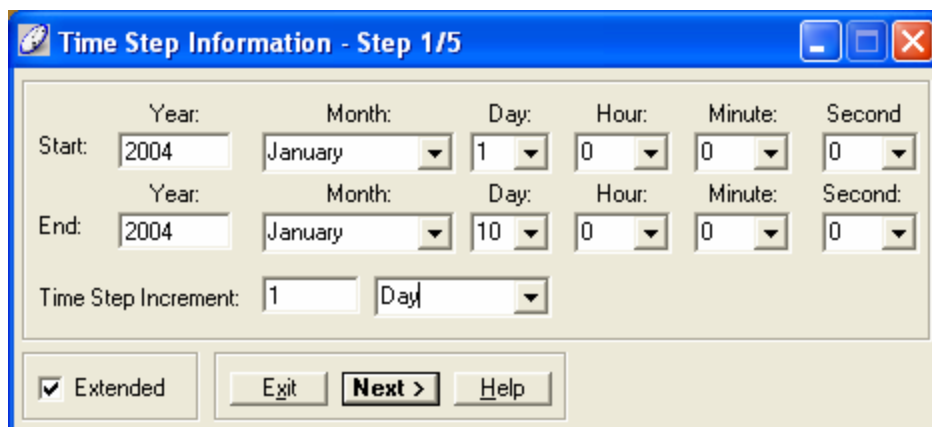


Time-Step Linear

The Time-Step linear model is available by clicking the models menu, then selecting **New**, **Time-Step MCE**, and **Linear**. It can also be reached by pressing F4, or clicking the arrow next to the **Model Builder** icon and selecting **Time-Step Linear**.



The user will first be prompted for a start time, end time, and interval. If the user wants a time-step increment shorter than one day, they can click the **Extended** checkbox at the bottom left of the screen. Once the start time, end time, and interval have been entered, the user can press the **Next** button to continue to the next step of the builder.

A screenshot of the "Time Step Information - Step 1/5" dialog box. The dialog has a blue title bar and a white background. It contains the following fields:

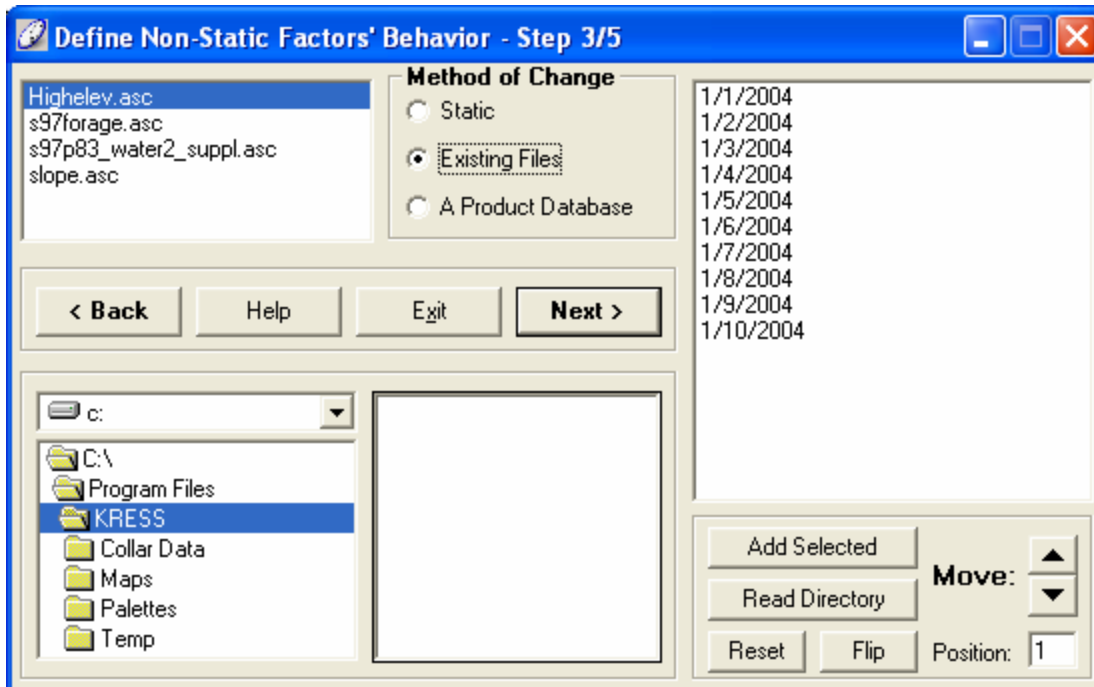
- Start: Year (2004), Month (January), Day (1), Hour (0), Minute (0), Second (0)
- End: Year (2004), Month (January), Day (10), Hour (0), Minute (0), Second (0)
- Time Step Increment: 1 Day

At the bottom, there is a checkbox labeled "Extended" which is checked. To the right of the checkbox are three buttons: "Exit", "Next >", and "Help".

The next form is identical in functionality to the Single-Pass Linear factor weight form. The only difference is that some of the tools (derive weights, etc.) can only be found under the **Tools** menu. Please see the Single-Pass Linear section of the manual for details on these functions. After the factor weights have been set, click the **OK** button to proceed to the next step.



Step 3 gives the user the option of using different files for the time-step process. If the same file is to be used for a specific factor over the course of the entire time of interest, then the user should select the **Static** option button. If there are existing files (such as output files from the insolation modeler) that would correspond with the intervals over the time of interest for the factor, then the **Existing Files** option button should be selected. Then, by selecting the desired interval in the list of intervals on the right side of the screen, and browsing for the corresponding file in the window on the left side of the screen, the user can assign a file for each of the intervals. The user can also use the **Read Directory** button to input all the files from a directory. If there are more files in the directory than intervals, then the program will only load as many files as there are intervals.

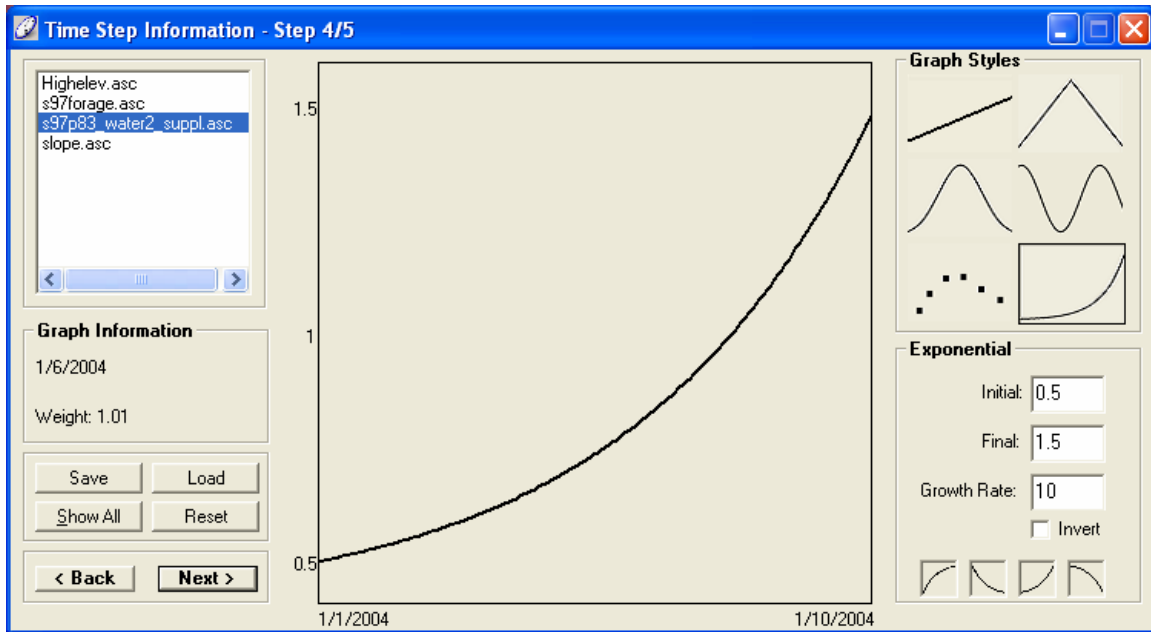


The last option for using a file to give time-step information is to use a product database file. To use this option, select the **A Product Database** option button on the right side of the screen. After designating a CSV file and the important row, the program will read the number in each column of that row and multiply the value of each cell of the factor map by it.

When all of the factors have been identified with the applicable choice of three methods, click the **Next** button to move on to step 4.

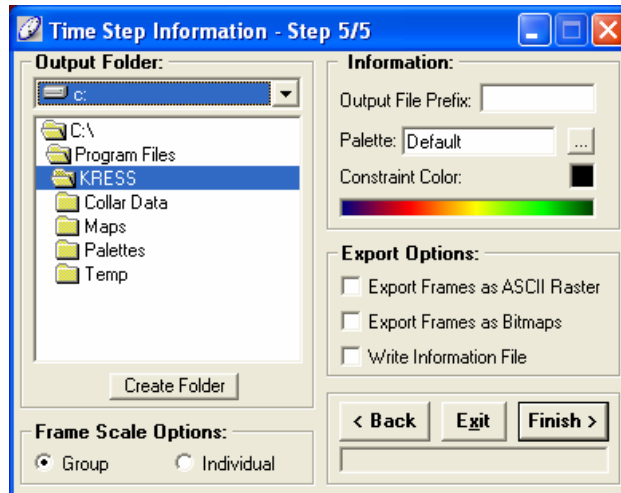
Step 4 uses a form similar to the factor weight form in the Single-Pass Non-linear modeler. It is recommended the user read that section before continuing with the rest of this section.

The different factors may be given different weights over the time frame by selecting the desired factor in the upper left and altering its curve using the shapes and the appropriate textboxes on the right side of the screen. By holding the mouse over the graphic, the specifications for that point are given in the **Graph Information** frame on the left side of the screen. When all the factors have been set, click the **Next** button to go to step 5.



In step 5, the user is given the option to export the suitability maps as ASC files or BMP files. There is also the option of writing an information file, which contains all the information the user inputted for the modeler so they can reference how they got the results they did and replicate the results if necessary. The user must click the appropriate checkbox in the **Export Options** frame for the desired export option. If none of the boxes is checked, the program will still run, but no files will be exported. The user may choose to export both ASC and BMP files as well by clicking both boxes. The user may browse for the folder to export the files to, and create a new folder if desired. A file prefix can be added by typing the prefix in the textbox next to the **Output File Prefix** label. The palette and constraint colors can be changed, just like in the other modelers.

This step is also the place where the user designates whether to scale the output files individually, or as a group. If they are scaled individually, then the minimum and maximum values of each file will be 0 and 255 whereas if the group option is selected, then the minimum value of the entire group will be set as 0 and the maximum of the entire group will be set at 255 and the values in between scaled accordingly. The appropriate option can be selected using the option buttons at the bottom left of the screen. The **Finish** button will create the suitability maps.



This will take the user to the **Time Step Viewing** utility. This utility allows the user a number of ways to view the sequence of suitability maps. By moving the horizontal scrollbar at the bottom of the image, the user can scroll through the images. Each tickmark on the bar represents an interval, and consequently, a map. The user can also use the **Animated Viewer** utility. The user must specify the start and end intervals (the default is to include all the intervals) as well as the number of frames per second. Each interval is one frame. To view the file, press the > button. There are also buttons to pause and stop the program from playing once it has started. This sequence of images can be exported as an AVI file by clicking the **Write AVI** button.

Just like in the Single-Pass viewers, there is a checkbox called **Load Map Data** that allows the user to view the values of the cells in the image by clicking on them and reading the data under the image or in the upper left corner of the screen. Also, for each frame, there will be a certain amount of blue showing behind each factor's name. The percentage of the bar that is blue shows the relative factor weighting of the maps in relationship to each other. The more of the bar that is blue, the more weight that factor has.

There is also a zoom window in the lower left corner of the screen. The user can select an area on the image by clicking and dragging the box around the desired area and it will appear in the zoom window. If the **Active** checkbox is clicked, then the zoom window will update as the user clicks through various frames. If it is not checked, then it will retain the original frame and not update as the user scrolls through other frames.

