Smooth User's Guide

This program applies a filter to a time series. Key points are:

- Two input files are required: a time series file in tab-delimited text format and a filter file.
- The time series file (30,000 lines maximum) should have two columns: age and a variable.
- The filter file must have been designed using the same delta-t as the time series file.
- The filter should be an output file from the Filter program.
- The program does not accept missing data in either input file.
- There are 3 graphs available: the input series, the smoothed series and both plotted together.
- The tab-delimited output file is the smoothed time series, reflecting the application of the filter.
- Additional time series and/or filters may be read in, but only one of each is kept in memory at a time.

File Menu:

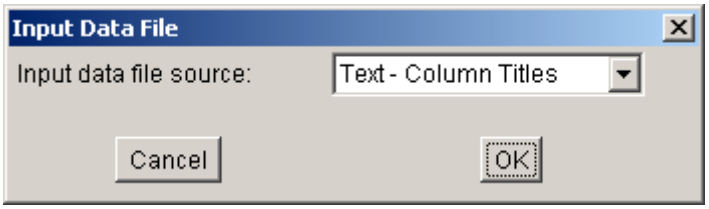
Open Data File… Ctrl+D: This opens a dialog box to select the time series. The file must have two columns (age and a data variable). Next, the *Input Data File* dialog box (explained below) is displayed.

Open Filter File… Ctrl+F: This menu item displays a dialog box for the filter file selection. The filter file must have the same delta-t as the input data file and have been created with the Filter program.

Once both files are chosen, the **Output Smoothed Data** and all **Graphs** menu options are enabled.

Output Smoothed Data… Ctrl+O: Use this menu item to write the smoothed data to a tab-delimited text file. A dialog box appears, allowing the user to name and save the file to disk.

Input Data File dialog box from Open Data File menu item:



Input data file source:

Text – Column Titles: The input file must be a tab-delimited text file with column titles on the first line.
Text – No Column Titles: The input file must be a tab-delimited text file without column titles.

Once the **OK** button is clicked, the **Plot Input Data** option from **Graphs** menu is enabled.

Graphs Menu:

Plot Input Data… Ctrl+1: This option plots the original (unsmoothed) input time series data.

Plot Smoothed Data… Ctrl+2: This option plots the data series that has been smoothed with the filter.

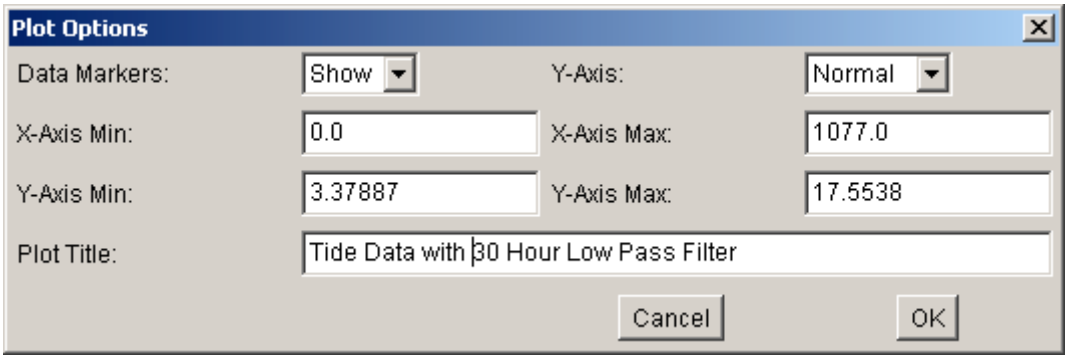
Plot Both Data Series… Ctrl+3: This option plots both the original and smoothed data together.

Save Graph/Printer Options… Ctrl+S: This option offers a full print dialog box, giving the user the ability to save the plot as a PDF, switch printers and change other properties. To save the graph as a PDF, choose a PDF writer from the dropdown list in the *Print* dialog box and proceed as if printing. At that point, the next dialog

box allows the user to save the PDF to disk. Refer to section 6 in ReadMe.pdf for more information on obtaining a PDF writer.

Print Graph Ctrl+P: This menu item prints the plot, in landscape mode, to the default printer. No print dialog box is displayed. The graph is sent directly to the printer in the background without prompting the user.

Plot Options dialog box from any of the three plot menu items above:



Data Markers:

Show: A plus sign (+) marks each data point on the plot.
Hide: No data points are marked. A smooth curve is plotted.

Y-Axis:

Normal: The y-axis labeling from the (x,y) origin goes from minimum to maximum.
Reverse: The y-axis is reversed. Labeling from the origin is from maximum to minimum.

X-Axis and **Y-Axis Min** and **Max:** Change the defaults to view different axis ranges.

Plot Title: Enter a title to describe the plot.

Written by Philip J. Howell (9/2005)
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