Deltares

Memo

To

To whom it may concern

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2020-02-03	001		11

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Subject

Manual to plot Climate and Forecast 1.7 standard compliant Time Series files

Copy to

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Contents

enabling delta life

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1   Release Notes

| Release	Description
2.10.00	- If a part of the time series is selected the, CSV export is now correct. The time and value did not correspond.
2.09.00	- Some parameters where listed without having the time-dimension. Now a parameter need the time-dimension, to be present in Parameter listbox.
2.08.00	- Export to CSV, commas (,) in names replaced by semi-coumn (;).
	- Fusion style theme used, advised by QT application.
2.07.00	- Show main window before loading the file given via the command line arguments.
	- Time unit, now assigned once, so independent on the length of the time-series (a performance issue).
2.06.00	- Disable reading a file with no time variable.
2.05.00	- Export of $<*.csv>$ file is now to start up directory.
2.04.00	- Location of selected graph added to the top of the context menu.
	- Double click on a selected graph shows the location, time and value of the point where the cursor is when the double click is performed.
2.03.00	- Plot window is approximately a quarter of the main screen.
	- Main window size computed as percentage of the main screen.
	- Update spinners and tooltips if no files are in the file listbox.
2.02.02	- Close option added to file menu, close will close the files and exit will exiting the program.
2.02.01	- Set the tooltip to the filename which is selected in the file listbox.
2.02.00	- Upgrade to QT 5.12.1.
2.01.??	- No information available.

2 Main window
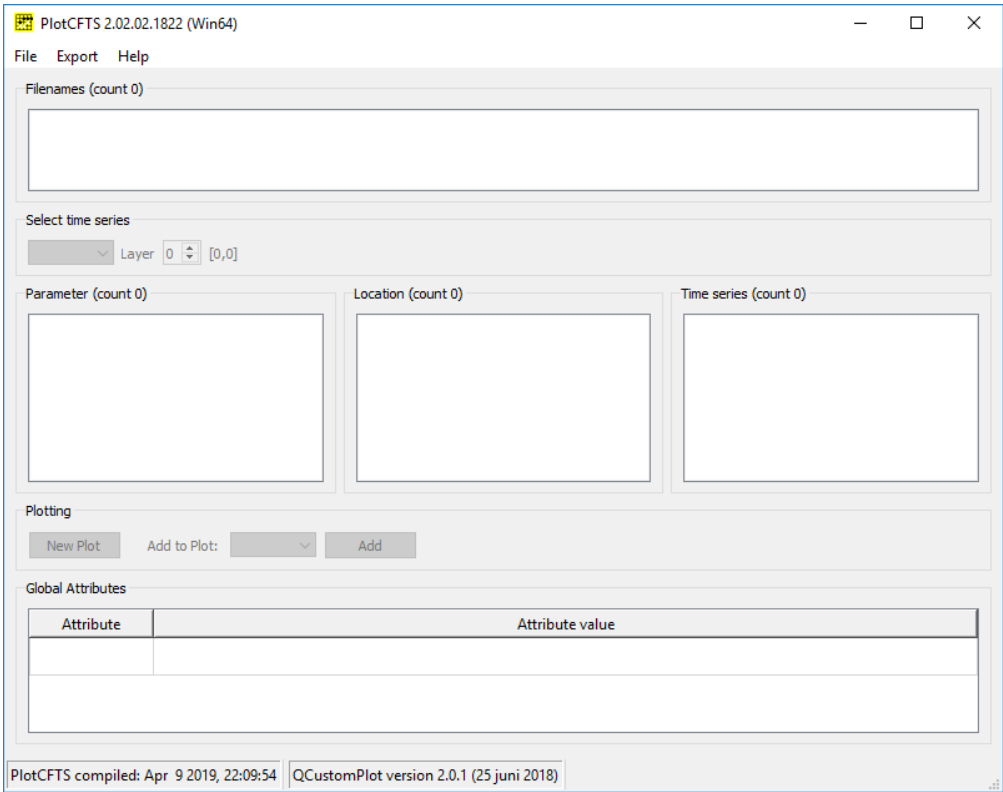
Figure 1: *Openings window of the program PlotCFTS (**Plot C**limate and **F**orecast **T**ime **S**eries)*
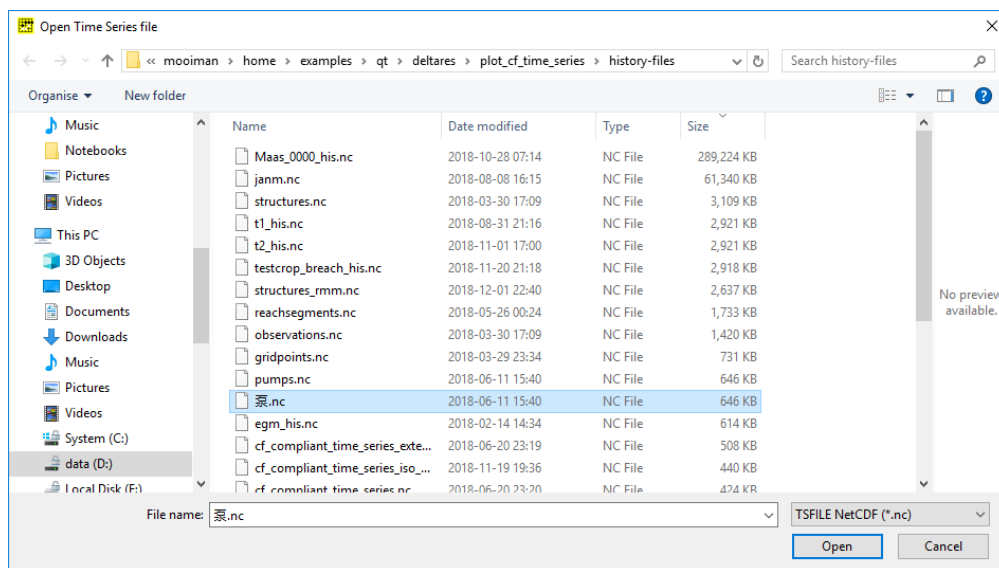
3 Menu bar

3.1 File
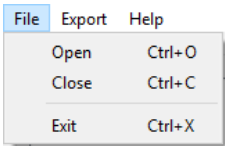
Figure 2: *Menu →File*

3.1.1 Open file

Open a file, all NetCDF files are shown, even if they do not met the Climate and Forecast 1.7 standard. If the file does met the Climate and Forecast standard 1.7 the file will be read and the main window will updated with the current information.

Figure 3: *Open window, to open a Climate and Forecast 1.7 standard compliant Time Series file (TSFILE)*

If the file does not met the Climate and Forecast 1.7 standard or cannot be read due to unsupported characters a message will presented (see Figure 4)
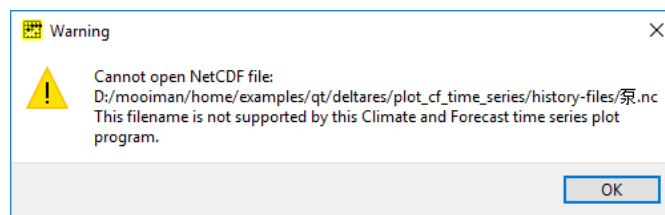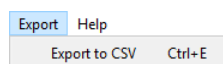

Figure 4: *Message window when a file does not met the Climate and Forecast 1.7 standard or the path contains unsupported characters.*

3.1.2 Close
Close all plot windows and opened files.
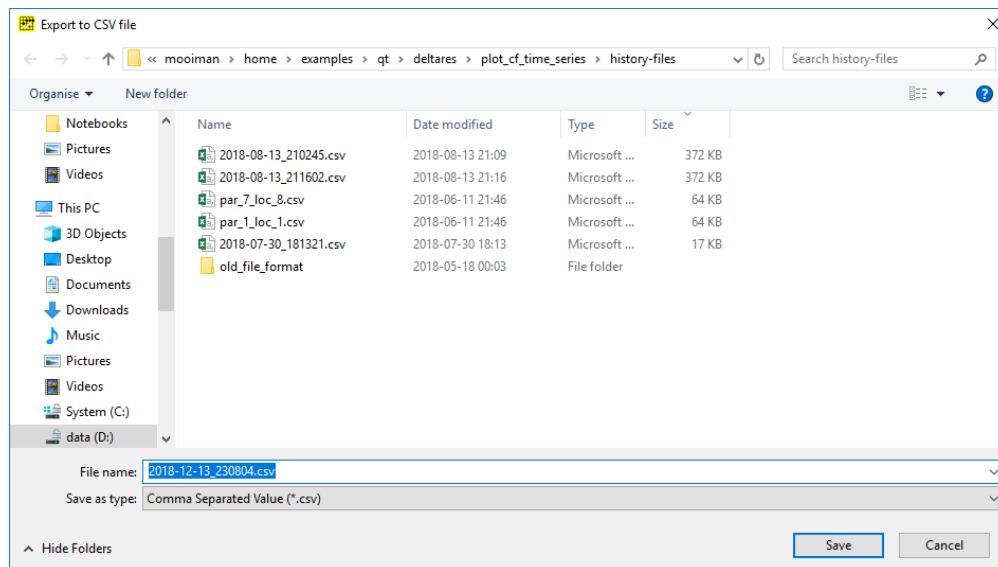
3.1.3 Exit
To exit the application PlotCFTS.
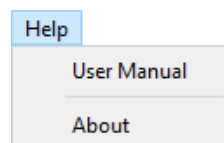
3.2 Export

Figure 5: *Menu →Export*

3.2.1   Export to CSV
Export the data selected in the main program window to a comma separated value file. The default file name has as basename the current date/time combination (ex. <2018-08-08_230049>) and as extension <csv>.

Figure 6: *Export window to export the data as indicated in the main window of the program PlotCFTS.*

3.3   Help

Figure 7: *Menu →Help*
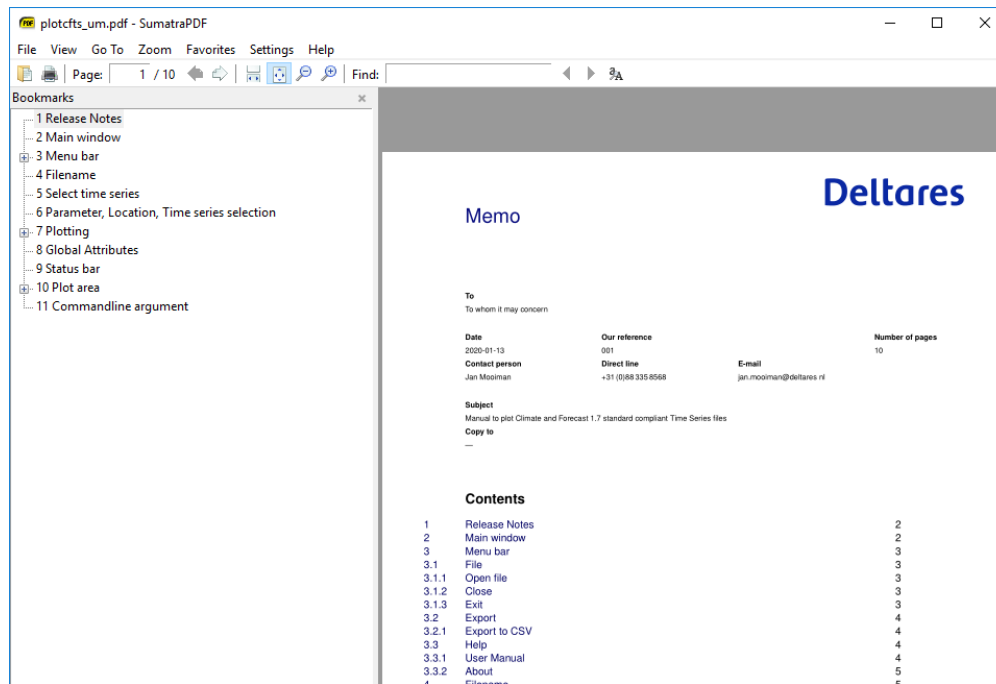
3.3.1   User Manual
Shows the user manual

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Figure 8: *PlotCFTS user manual*
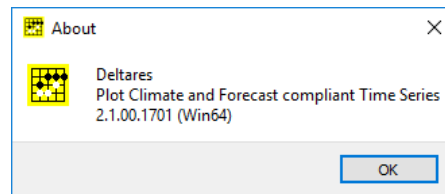
3.3.2 About
Shows the about box.

Figure 9: *About box*

4 Filename
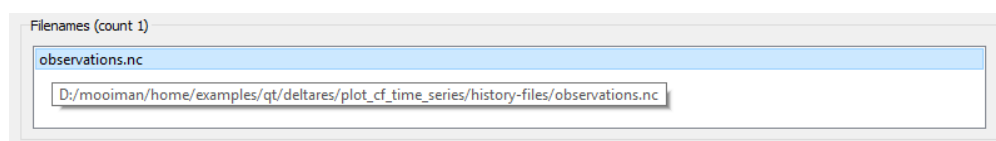
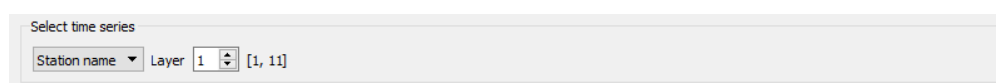**Figure 10:** *List box for filenames.*

5 Select time series

Figure 11: *Combobox within group →Selected Time Series*

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6 Parameter, Location, Time series selection

The groups *Parameter, Location* and *Time series* are shown in Figure 13:
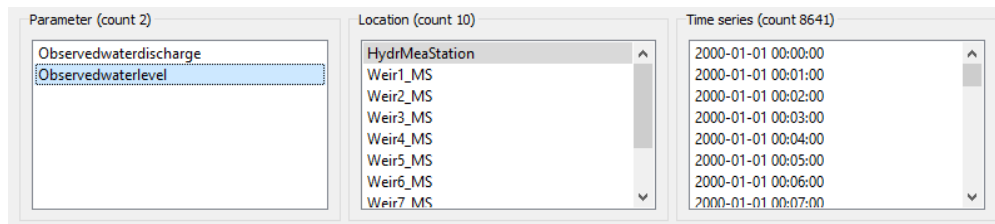
Figure 12: *List boxes for the Parameter, Location and Time Series.*

With this group you are able to select a parameter(s) and a location(s) and the desired part of the time series. If no part of the time-series is selected thew whole time series will be used for plotting the graph.
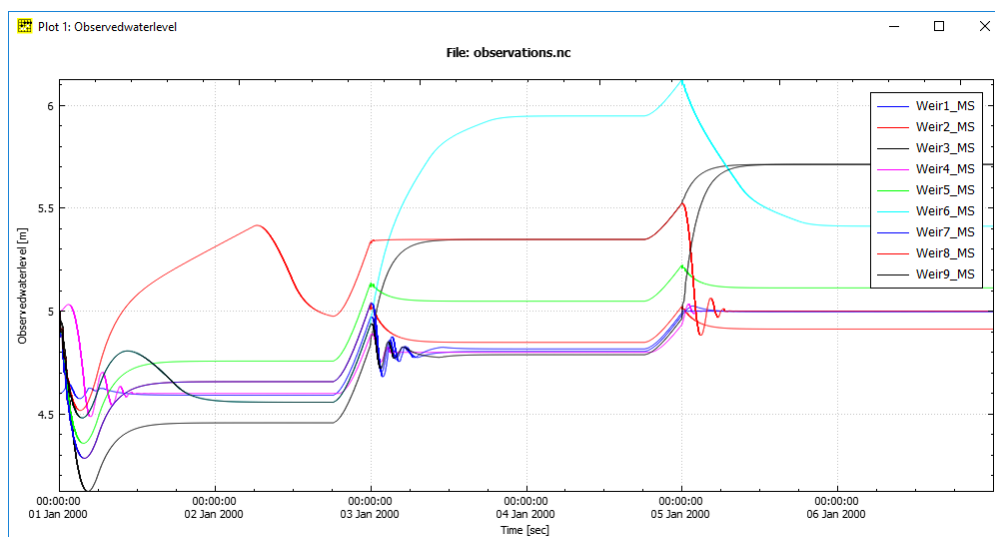
7 Plotting

The group *Plotting* is shown in Figure 13:
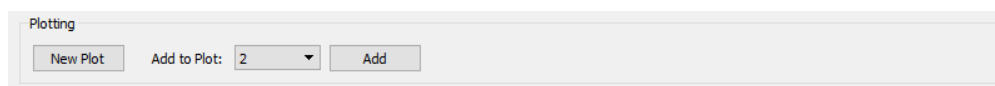
Figure 13: *Group Plotting.*

7.1 Button *New Plot*

Figure 14: *Initial plot after pressing button* New Plot

See section 10 for an explanation of available options to scale and rename some items of the plot area.

7.2 Combobox next to button *Add*

With this combobox you are able to select a plot by its number in which an additional graph can be plotted.

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7.3 Button *Add*

When pressing this button the graph of the selected Parameter–Location will be added to the selected plot,idicated by the plot number.

8 Global Attributes

Showing the main global attributes as defined in the Climate and Forecast compliant Time Series file file (NetCDF format, see Figure 15).
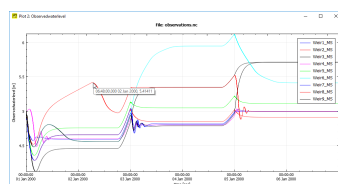

Figure 15: *Status bar*

9 Status bar

The status bar present the compilation date and time, the version number of the used QCustomPlot library and the progress bar when reading a file (see Figure 16).
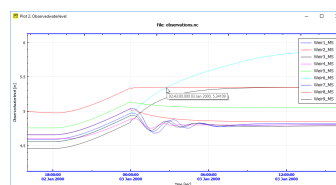

Figure 16: *Status bar*
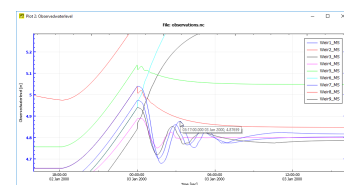
10 Plot area

10.1 Zooming

(a) *Point multiplication*

(b) x*-axis zooming, scaled by the scroll wheel*

(c) y*-axis zooming, scaled by the scroll wheel*

Figure 17: *Several types of zooming: point multiplication, x-axis and y-axis. The zooming factor is scaled by the scroll wheel*
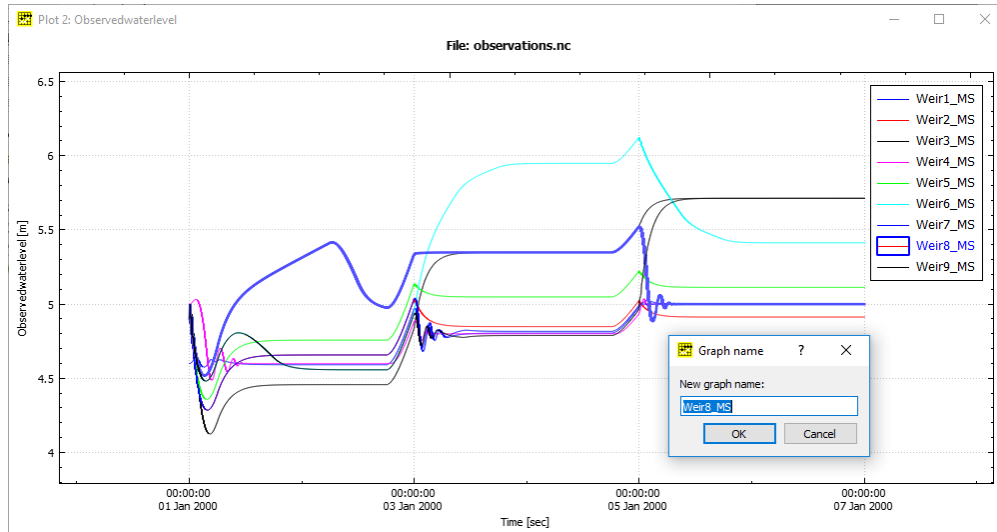
10.2   Select a graph

Figure 18: *Graph selected and edit window for graph name*
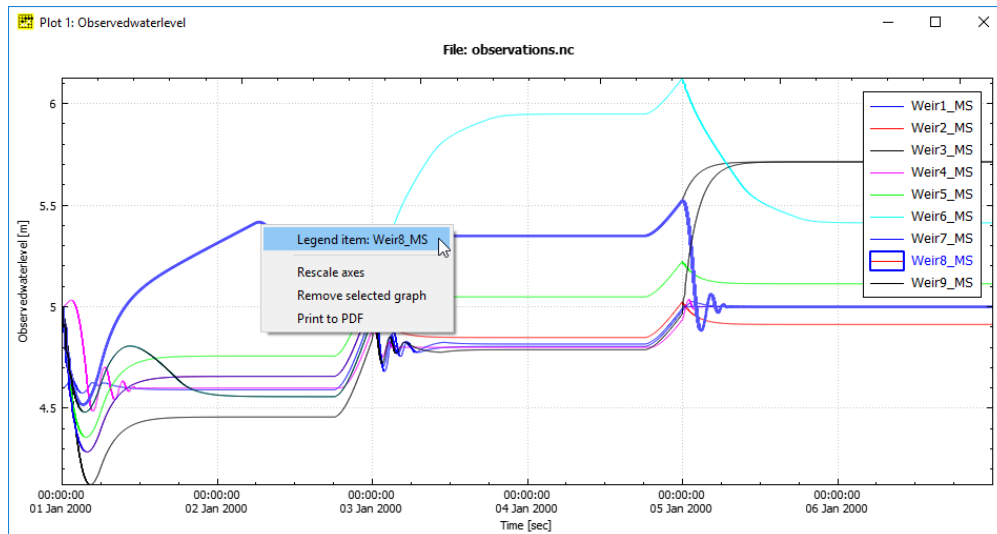
10.3   Select a graph

***Figure 19:*** *Selected graph with context menu indicating the location in legend*

Context menu
The context menu may have four items:

1 **Legend item ∗:**
    This item cannot be selected. If a graph is selected the name of the location as presented in the legend is shown. This context menu entry is useful when the plot area contains a lot of graphs and the legend area is too short.

2 **Rescale axes**
    Selecting this item the axes will be rescaled to the bounding box of the graphs.

3 **Remove selected graph**
    Selecting this item will remove the selected graph from the plot area and legend.

4 **Print to PDF**
    Selecting this item the plot will be saved to a pdf-file.

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Double click on a selected graph
When a double click is given on een selected graph a message window will shown the location, time and value of the point on the graph where the double click is performed.
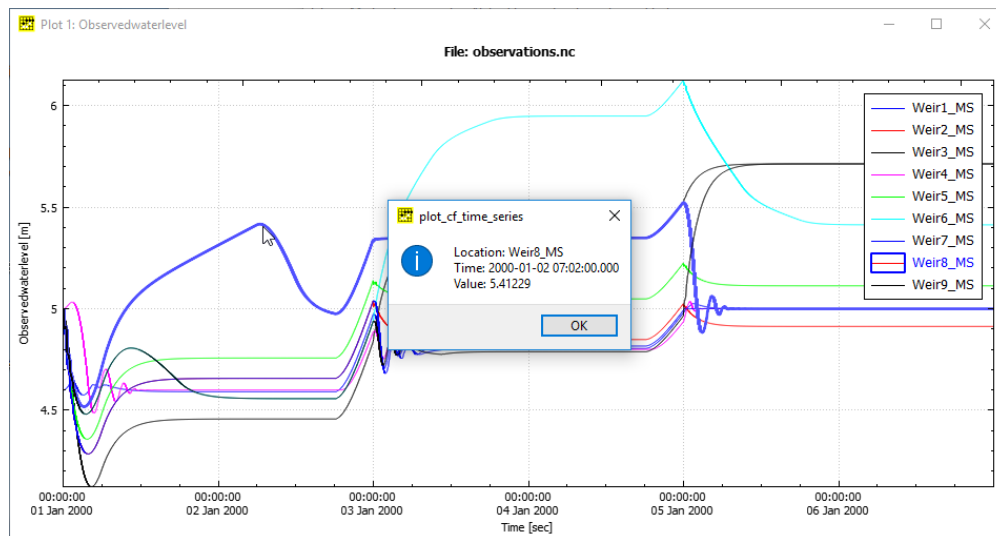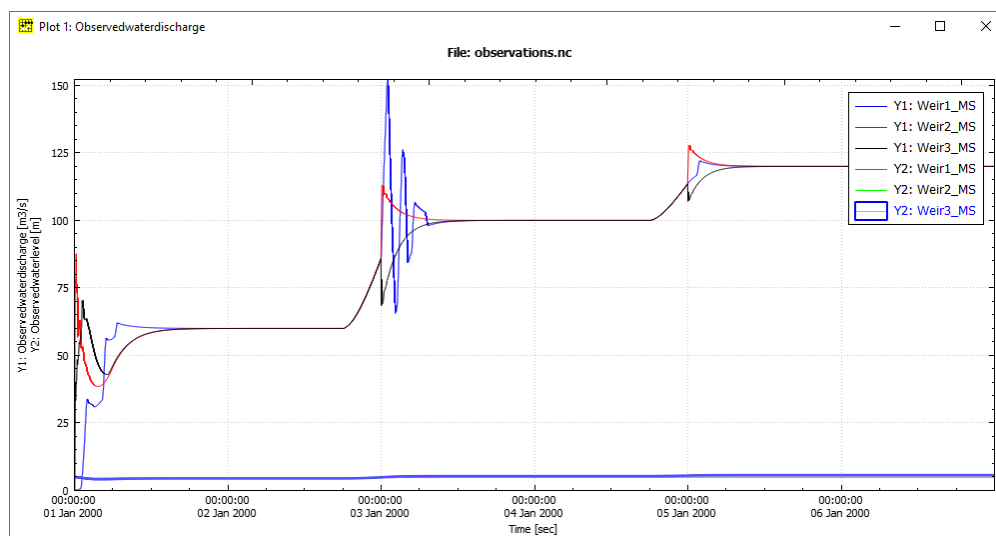

Figure 20: *Selected graph with information window containing the location, time and value of the cursor location*

## 10.4   Editing labels

10.5   Multiple y-axis

When multiple axis are needed each y-axis label gets a prefix, this label will also be visible as prefix in the legend.

Figure 21: *Multiple y-axis, legend and y-axis labels has a prefix.*

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10.6   Support ISO 10646 charaters set (UTF-8)

The plot program support the ISO 10646 character set as seen in Figure 22, the location list box contains Norwegian and Chinese characters.
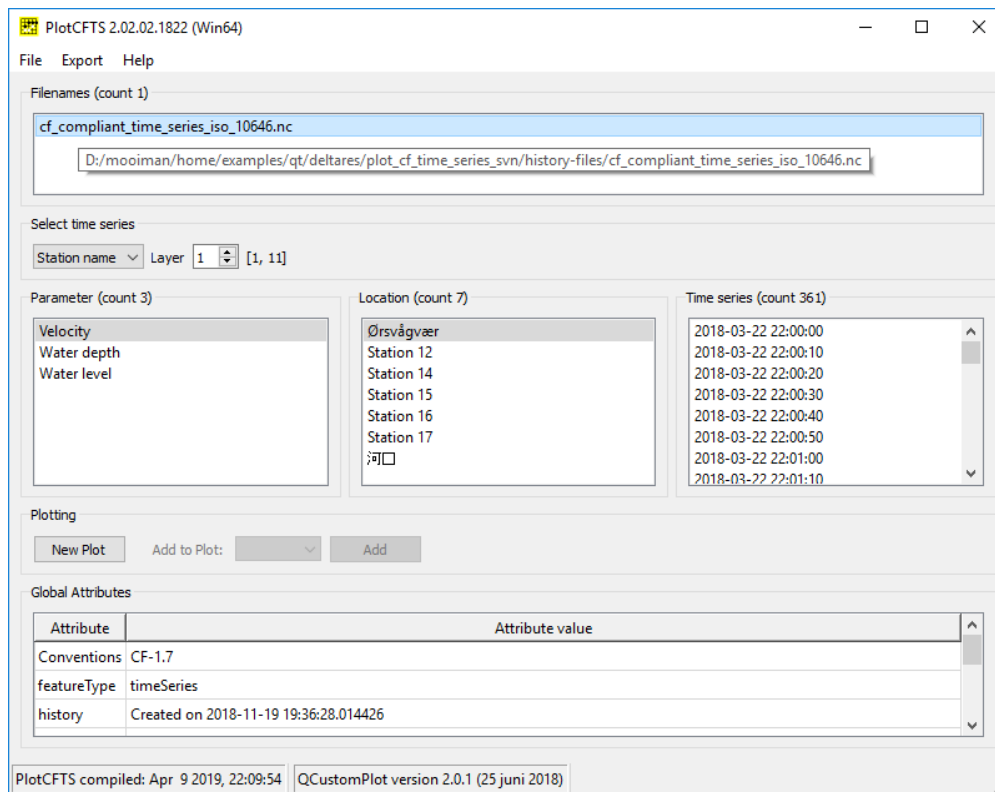
Figure 22: Location *list box contains Norwegian and Chinese characters.*

11   Commandline argument

The program can be started with the desired file with a command line argument:

--ncfile   Behind this argument the name of the NetCDF file need to be specified, including the file extension <.nc>.

Example:

```
$ plocfts --ncfile <filename>
```

12   Source

The source code is available on GitHUB:

```
https://github.com/Deltares/PlotCFTS
```