





# How to use RivTool in 5 steps

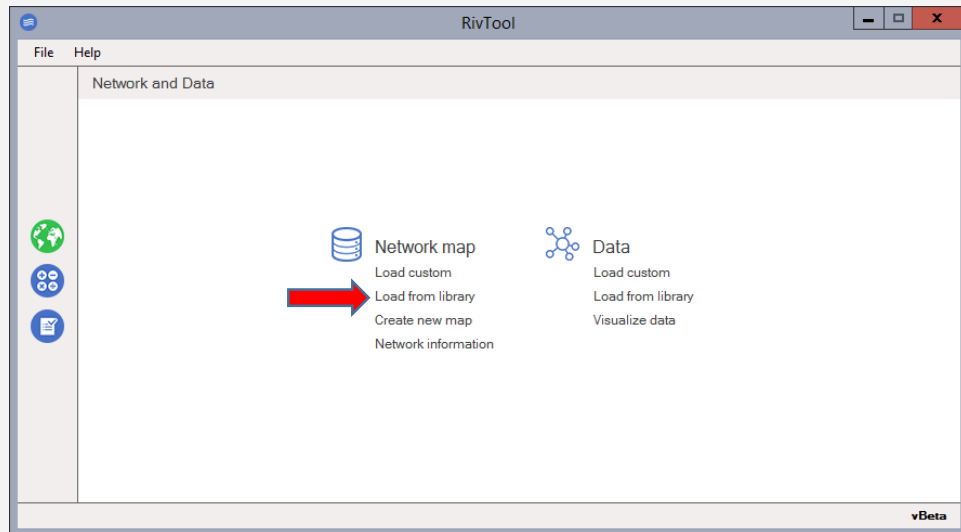
Step 1 – Load a network map





# How to use RivTool in 5 steps

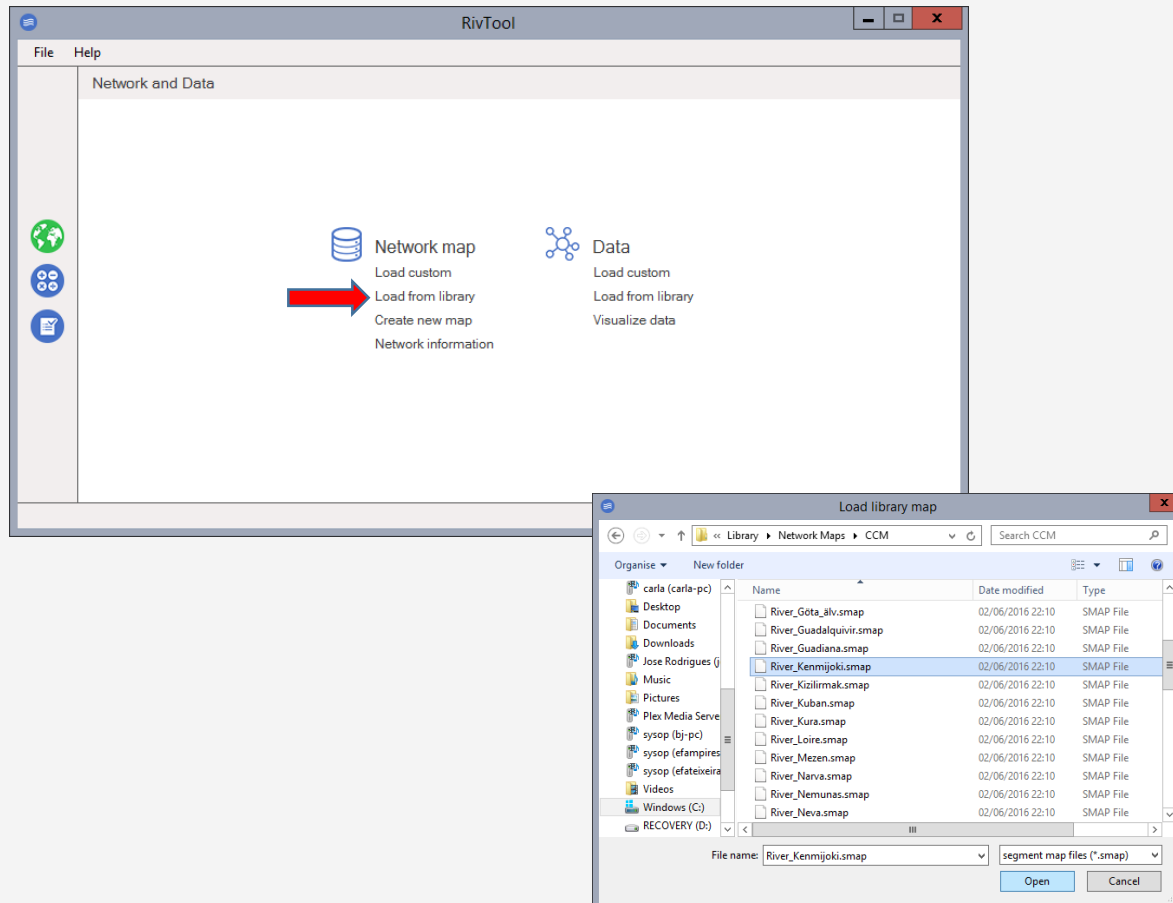
## 1. Load a network map





# How to use RivTool in 5 steps

## 1. Load a network map



The RivTool interface shows a menu with two main sections: 'Network map' and 'Data'. A red arrow points to the 'Load from library' option under 'Network map'. Below this, a file explorer window titled 'Load library map' is open, showing a list of SMAP files in the 'Network Maps > CCM' directory. The file 'River\_Kenjijoki.smap' is selected.

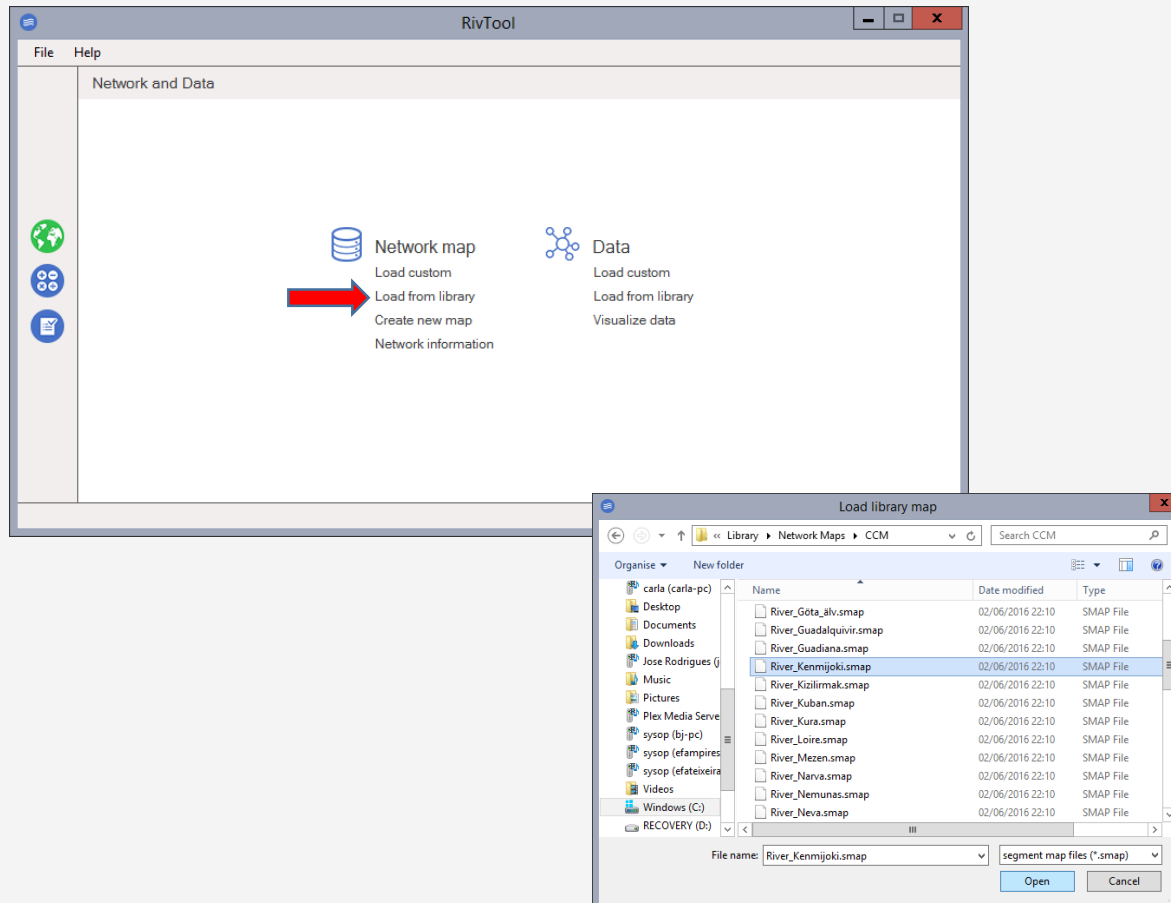
Name	Date modified	Type
River_Göta_älv.smap	02/06/2016 22:10	SMAP File
River_Guadalquivir.smap	02/06/2016 22:10	SMAP File
River_Guadiana.smap	02/06/2016 22:10	SMAP File
River_Kenjijoki.smap	02/06/2016 22:10	SMAP File
River_Kizilirmak.smap	02/06/2016 22:10	SMAP File
River_Kuban.smap	02/06/2016 22:10	SMAP File
River_Kura.smap	02/06/2016 22:10	SMAP File
River_Loire.smap	02/06/2016 22:10	SMAP File
River_Mezen.smap	02/06/2016 22:10	SMAP File
River_Narva.smap	02/06/2016 22:10	SMAP File
River_Nemunas.smap	02/06/2016 22:10	SMAP File
River_Neva.smap	02/06/2016 22:10	SMAP File





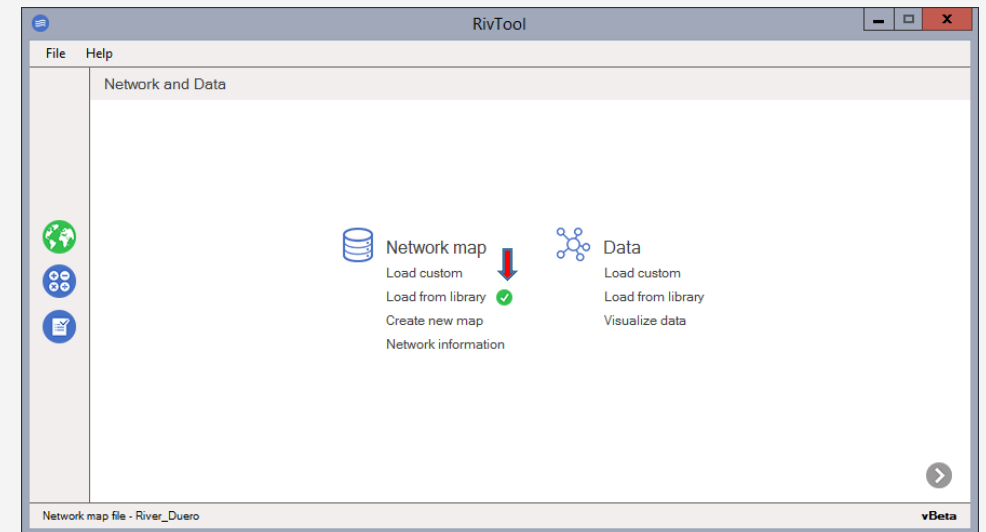
# How to use RivTool in 5 steps

## 1. Load a network map



The RivTool interface shows the 'Network map' menu with a red arrow pointing to 'Load from library'. A file explorer window is open below, showing a list of .smap files with 'River\_Kenmijoki.smap' selected.

Name	Date modified	Type
River_Göta_älv.smap	02/06/2016 22:10	SMAP File
River_Guadalquivir.smap	02/06/2016 22:10	SMAP File
River_Guadiana.smap	02/06/2016 22:10	SMAP File
River_Kenmijoki.smap	02/06/2016 22:10	SMAP File
River_Kizilirmak.smap	02/06/2016 22:10	SMAP File
River_Kuban.smap	02/06/2016 22:10	SMAP File
River_Kura.smap	02/06/2016 22:10	SMAP File
River_Loire.smap	02/06/2016 22:10	SMAP File
River_Mezen.smap	02/06/2016 22:10	SMAP File
River_Narva.smap	02/06/2016 22:10	SMAP File
River_Nemunas.smap	02/06/2016 22:10	SMAP File
River_Neva.smap	02/06/2016 22:10	SMAP File



The RivTool interface shows the 'Network map' menu with a red arrow pointing to 'Load from library' and a green checkmark next to it. The status bar at the bottom reads 'Network map file - River\_Duero'.





# How to use RivTool in 5 steps

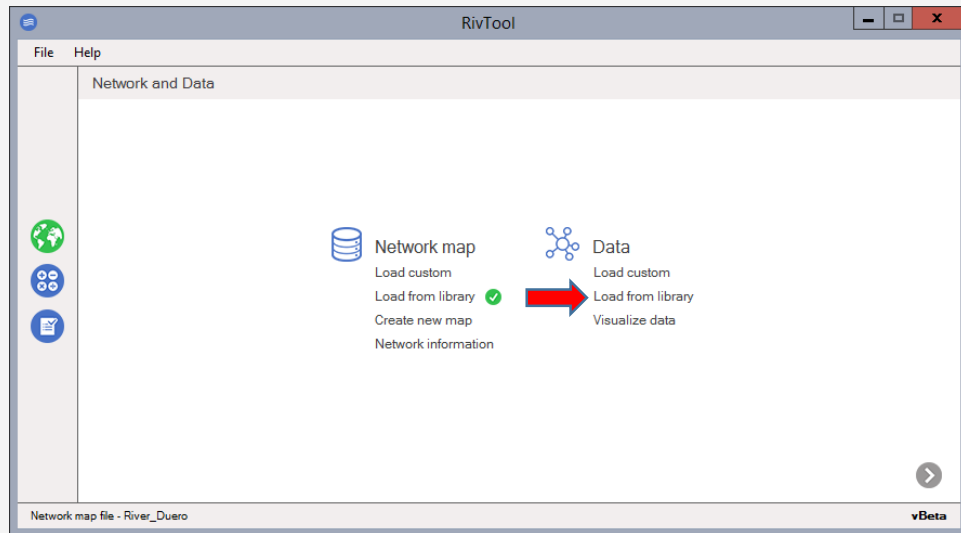
## Step 2 – Load environmental data





# How to use RivTool in 5 steps

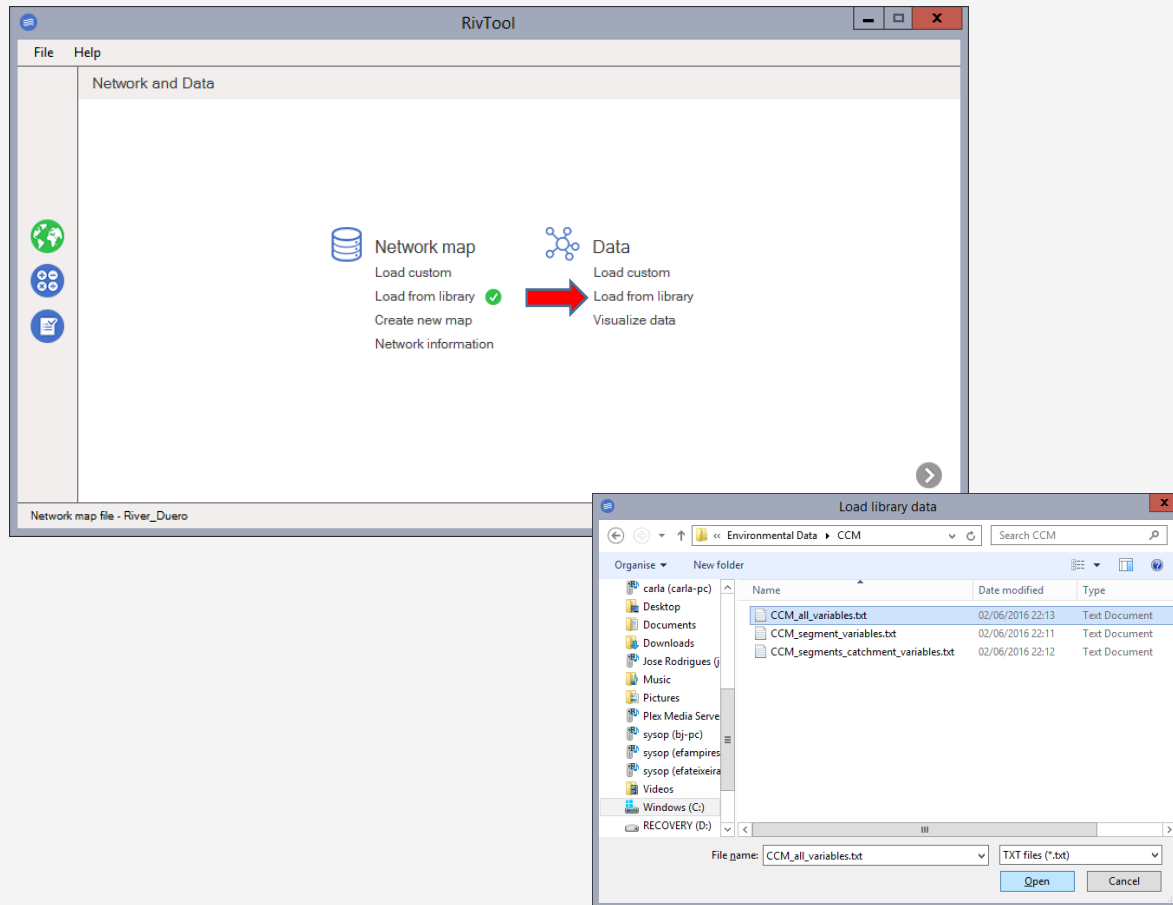
## 2. Load environmental data





# How to use RivTool in 5 steps

## 2. Load environmental data



The screenshot shows the RivTool application window with the 'Data' section selected. A red arrow points from the 'Load from library' option under 'Data' to a file selection dialog box.

**RivTool - Network and Data**

- Network map**
  - Load custom
  - Load from library
  - Create new map
  - Network information
- Data**
  - Load custom
  - Load from library
  - Visualize data

**Load library data**

File name: CCM\_all\_variables.txt    TXT files (\*.txt)

Buttons: Open, Cancel

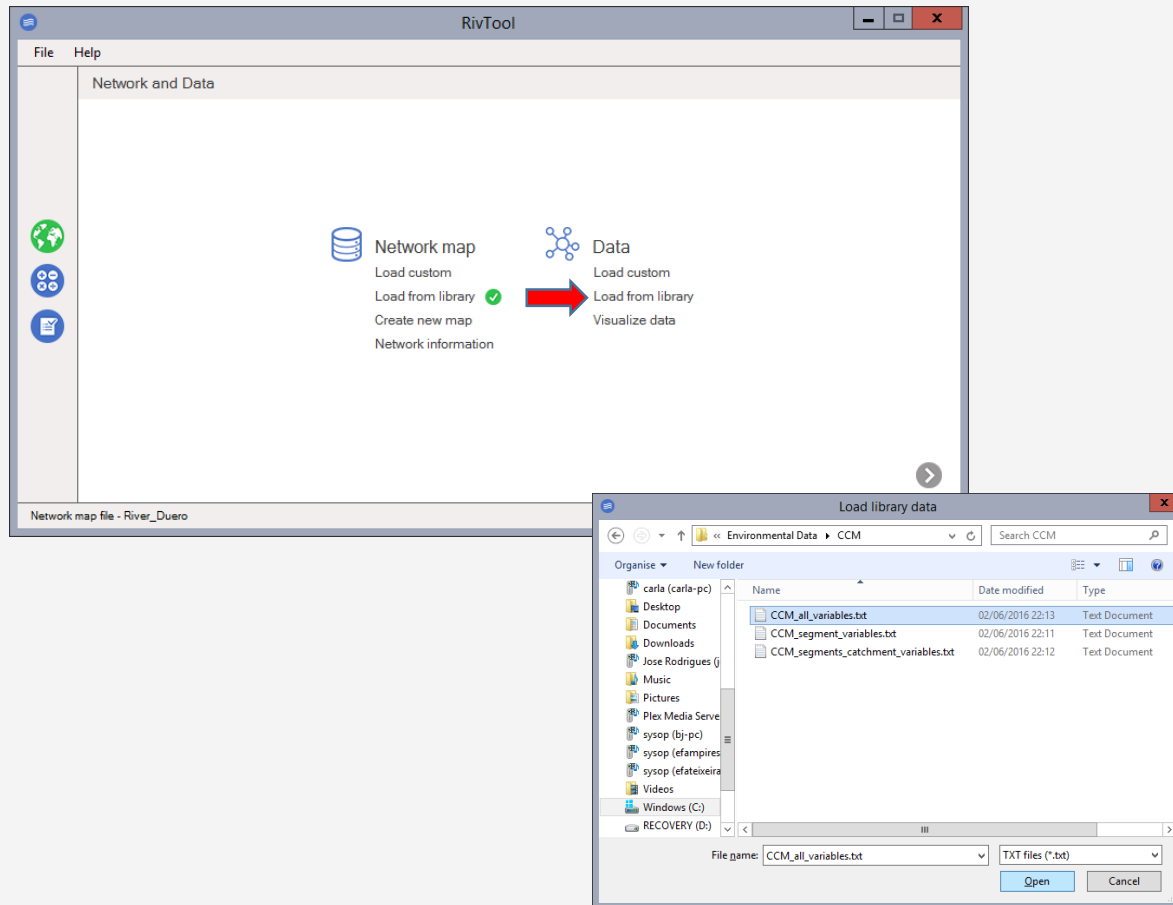




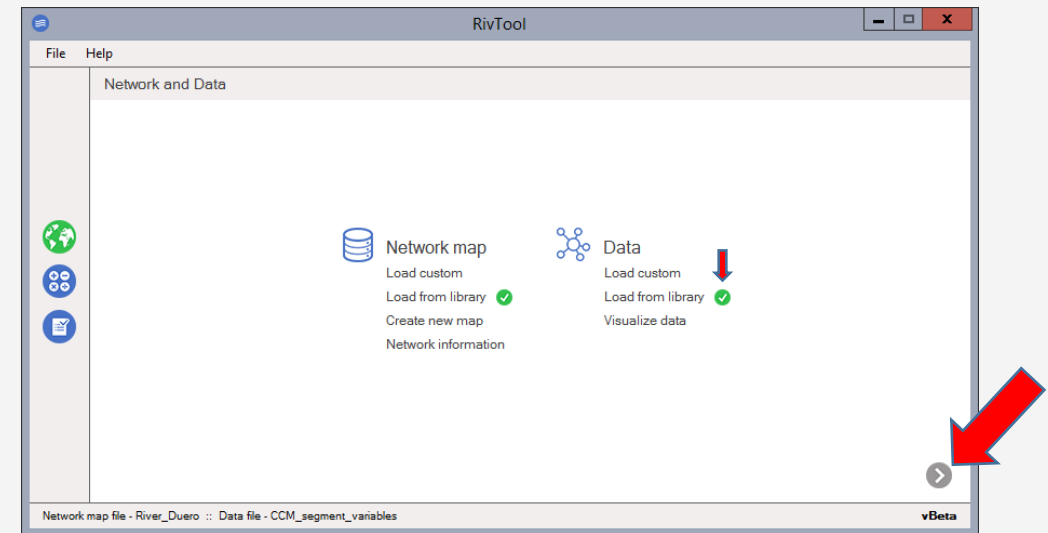


# How to use RivTool in 5 steps

## 2. Load environmental data



The screenshot shows the RivTool application window with the 'Data' menu open. A red arrow points from the 'Load from library' option in the 'Data' menu to a file explorer window. The file explorer shows the 'Environmental Data > CCM' folder containing three text files: 'CCM\_all\_variables.txt', 'CCM\_segment\_variables.txt', and 'CCM\_segments\_catchment\_variables.txt'. The 'File name' field is set to 'CCM\_all\_variables.txt'.



The screenshot shows the RivTool application window with the 'Data' menu open. The 'Load from library' option is checked with a green checkmark. A red arrow points to the 'vBeta' label in the bottom right corner of the window.





# How to use RivTool in 5 steps

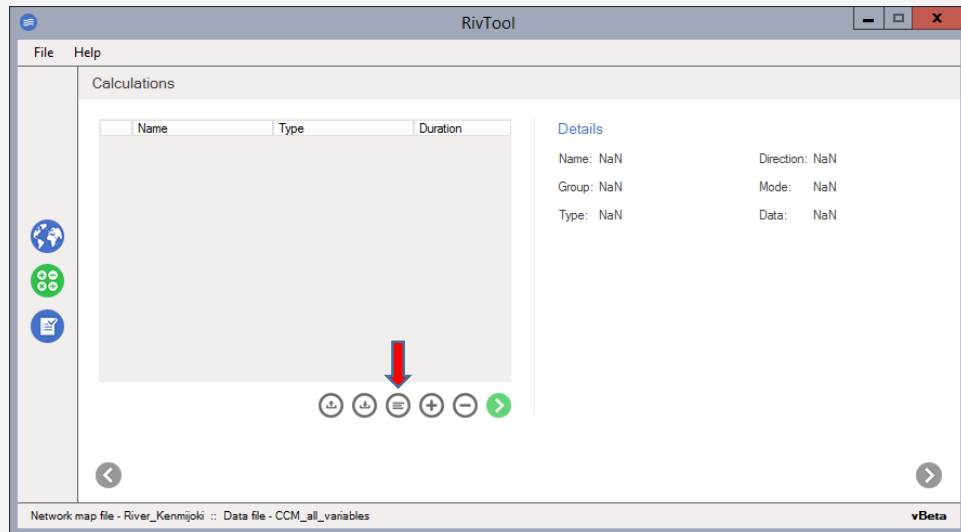
Step 3 – Define segments to be used in calculations





# How to use RivTool in 5 steps

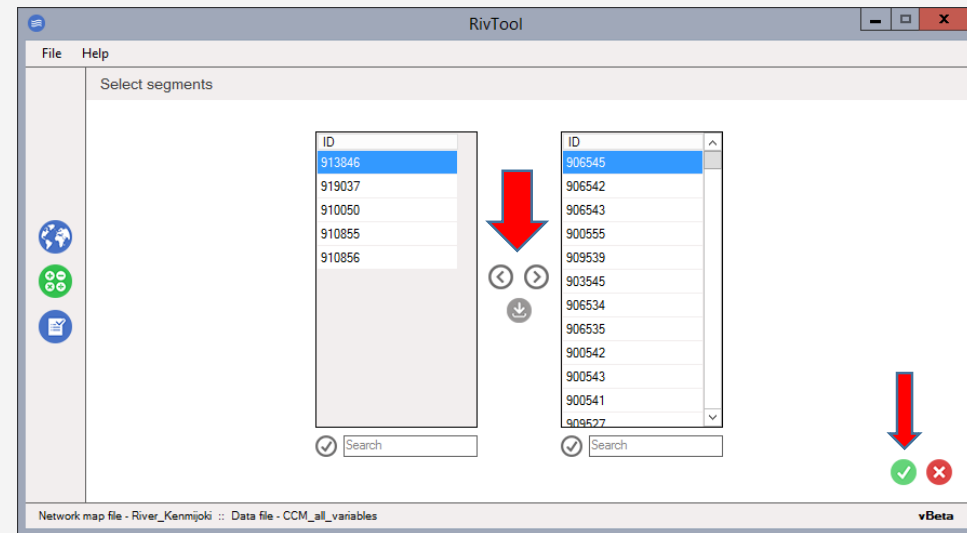
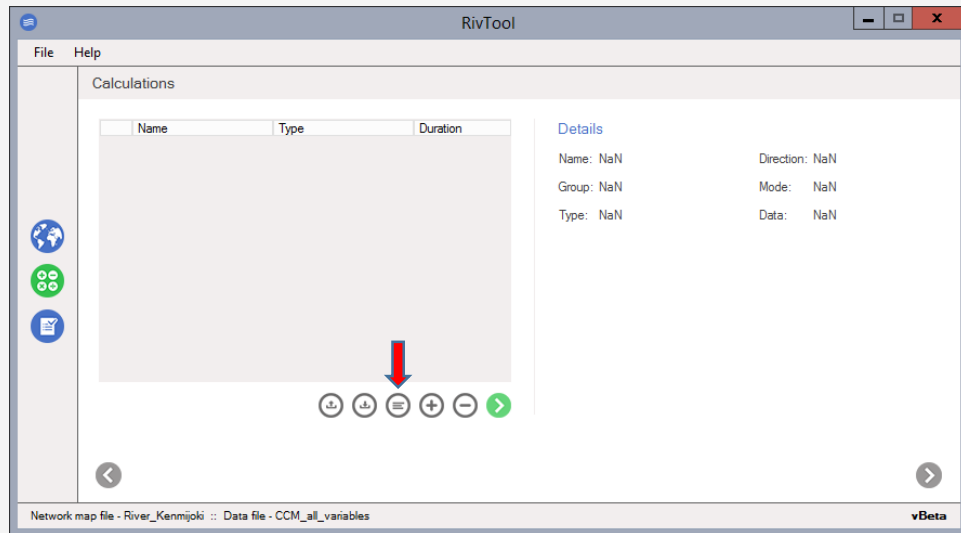
## 3. Define segments to be used in calculations





# How to use RivTool in 5 steps

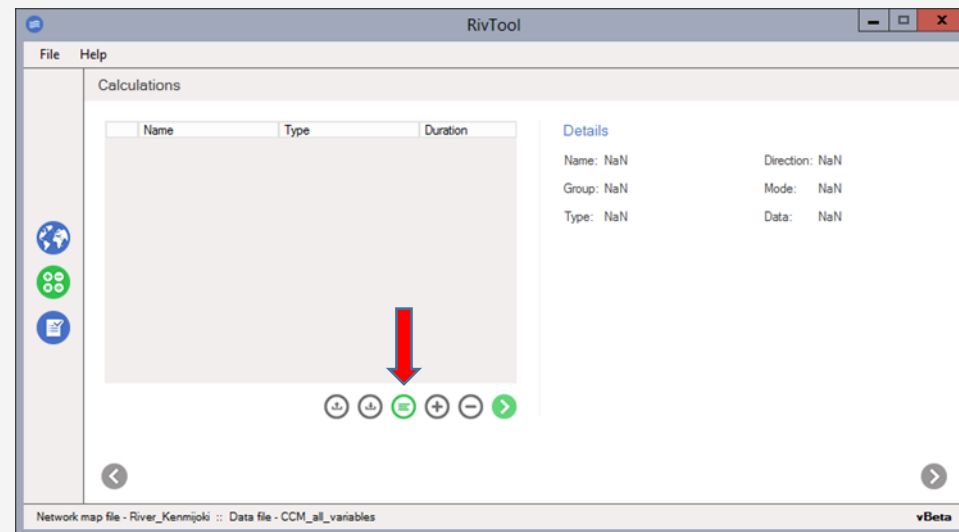
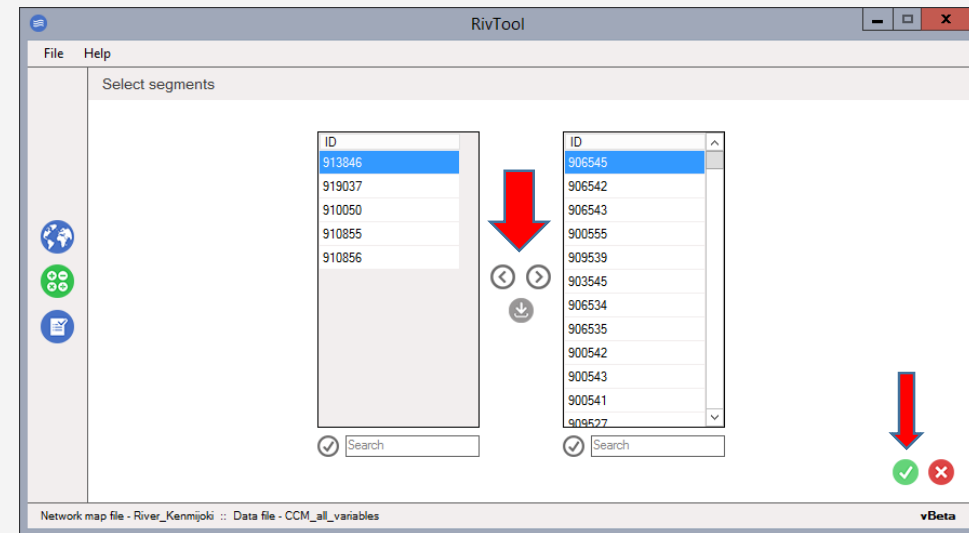
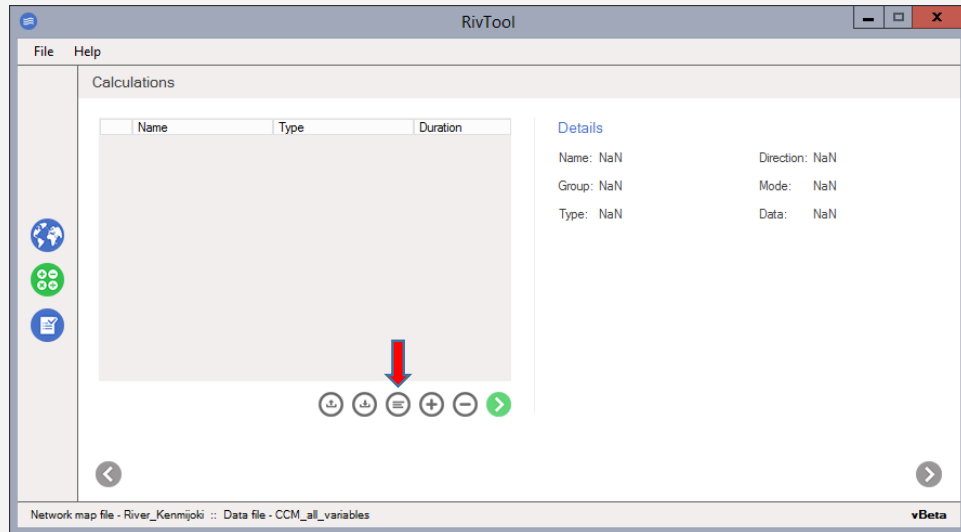
## 3. Define segments to be used in calculations





# How to use RivTool in 5 steps

## 3. Define segments to be used in calculations





# How to use RivTool in 5 steps

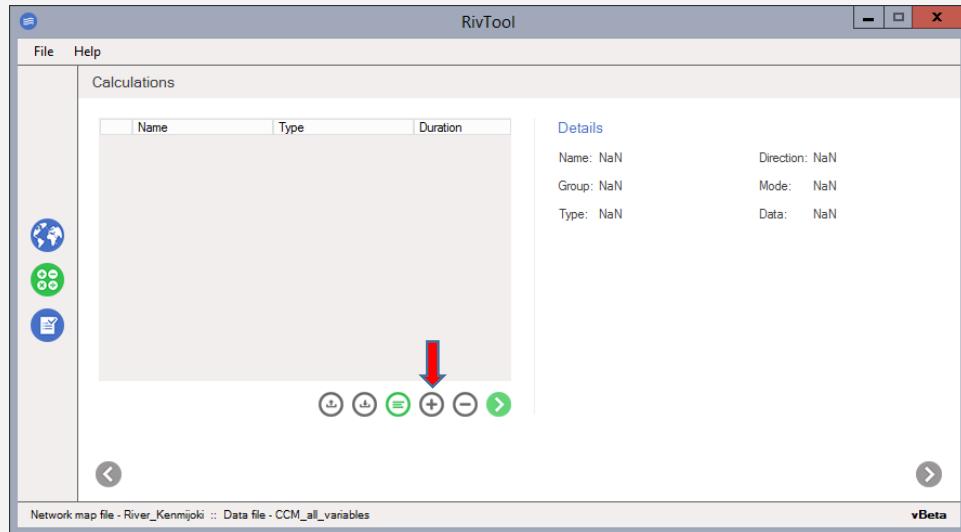
Step 4 – Specify the calculations to be performed





# How to use RivTool in 5 steps

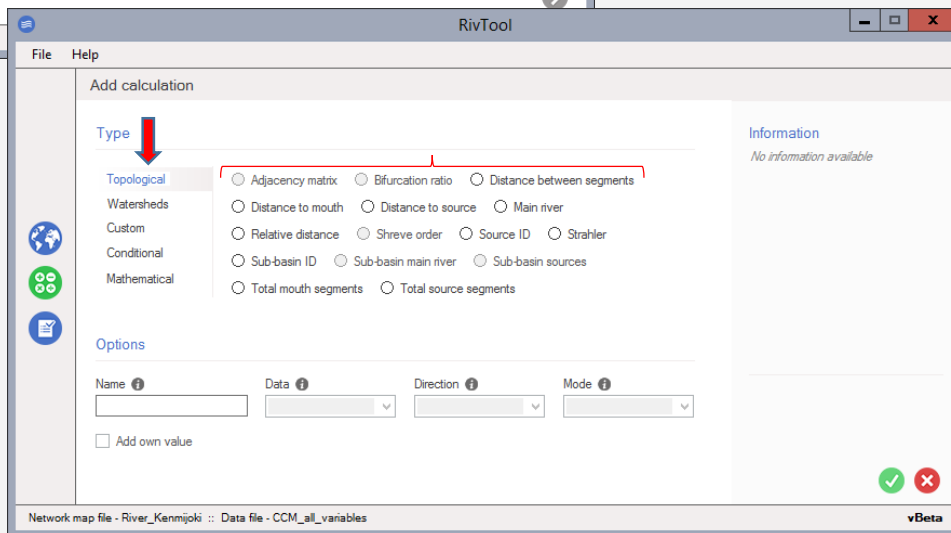
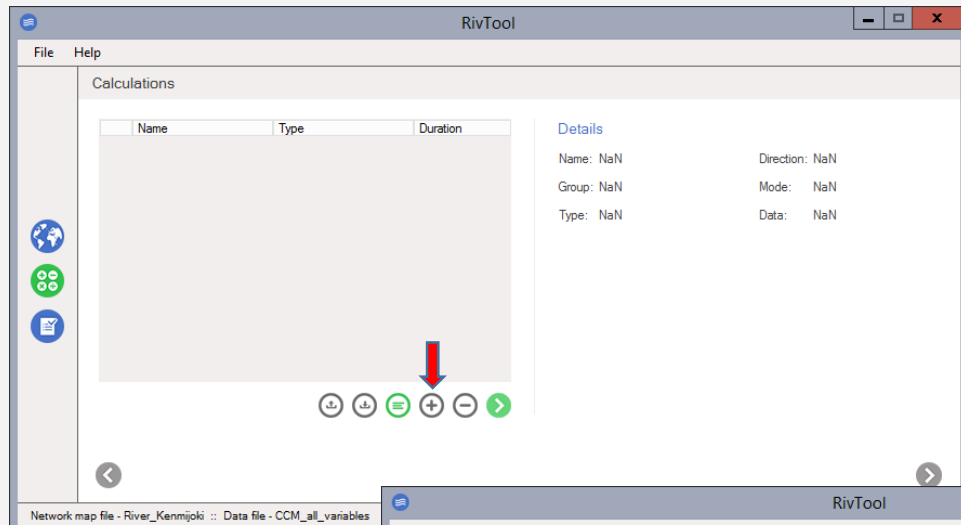
## 4. Specify the calculations to be performed ⊕





# How to use RivTool in 5 steps

## 4. Specify the calculations to be performed (+)

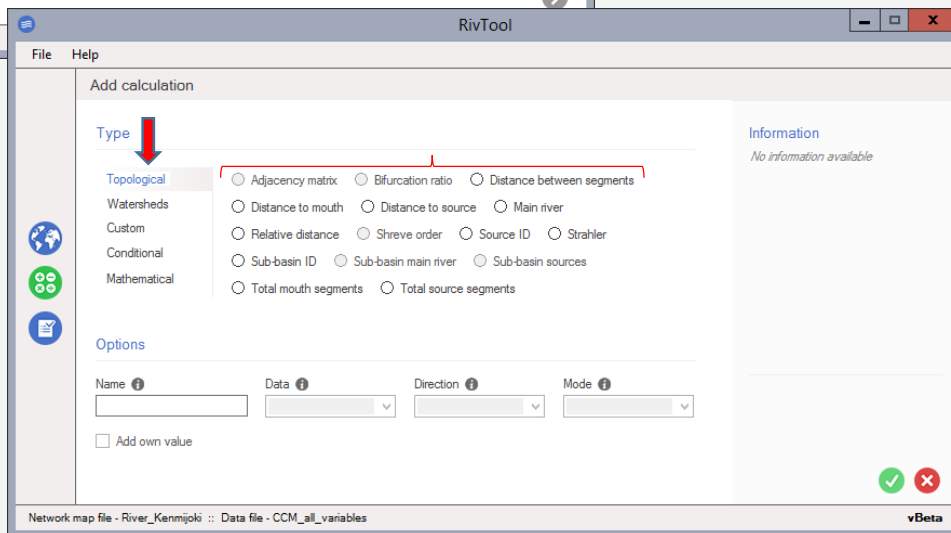
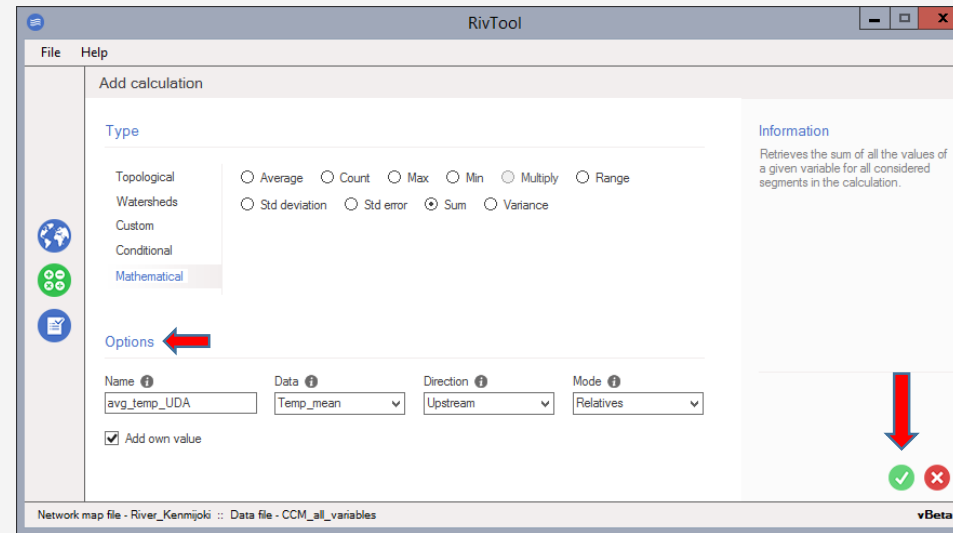
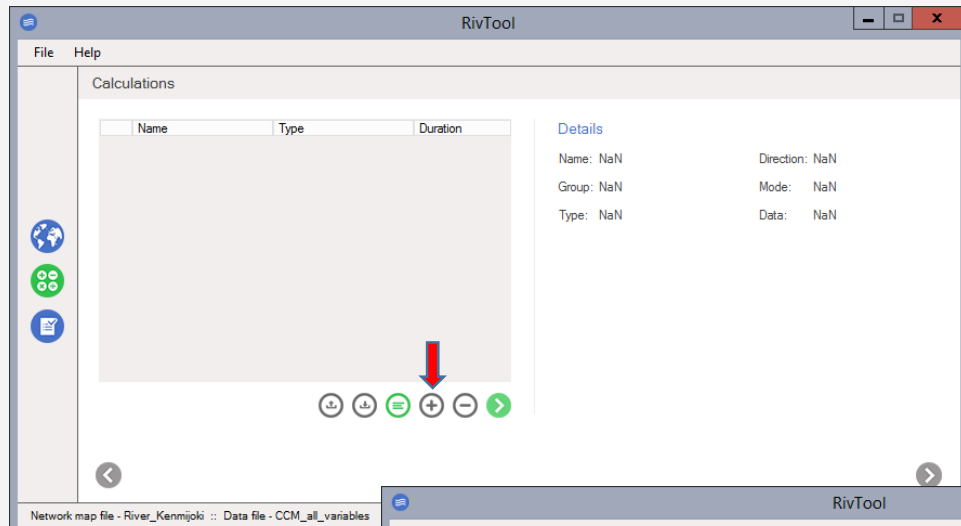






# How to use RivTool in 5 steps

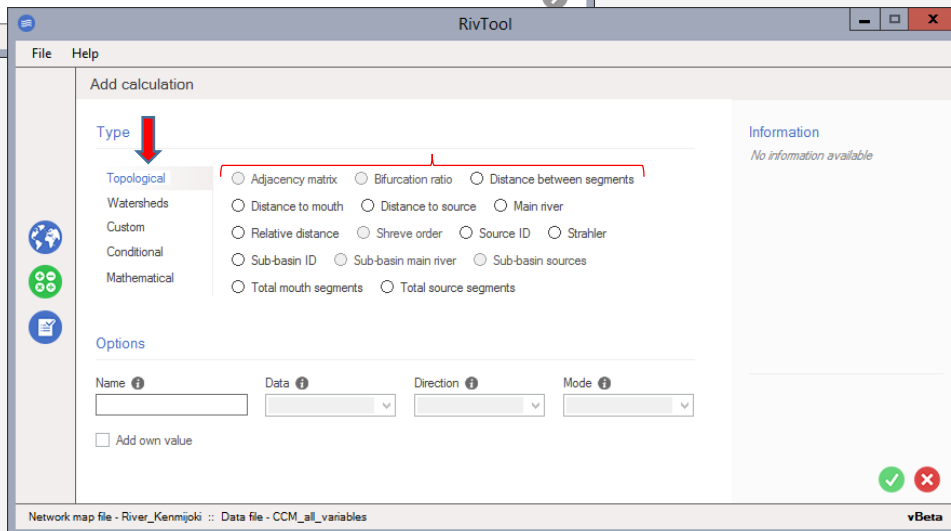
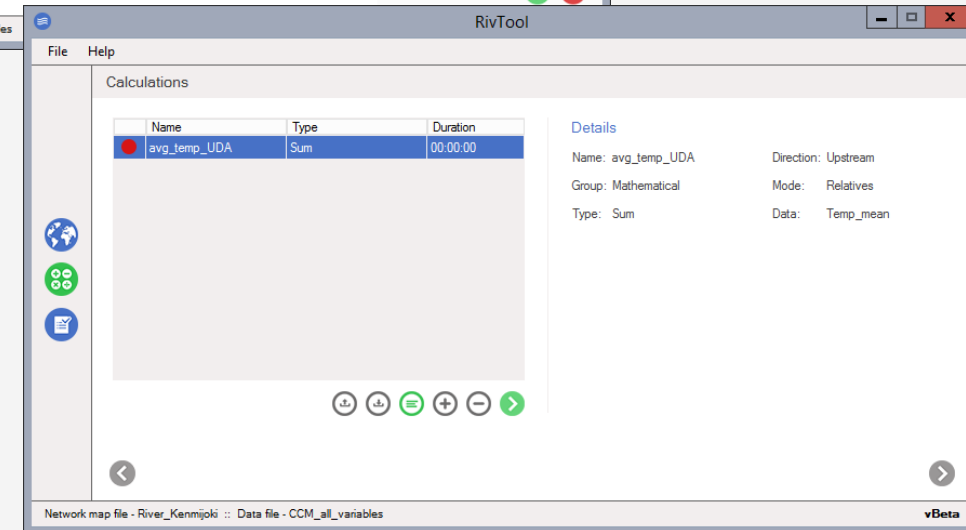
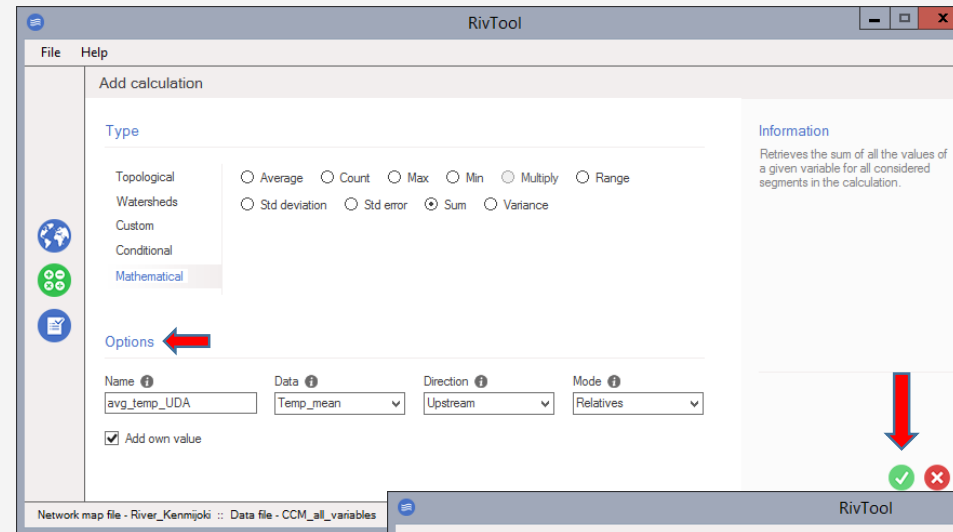
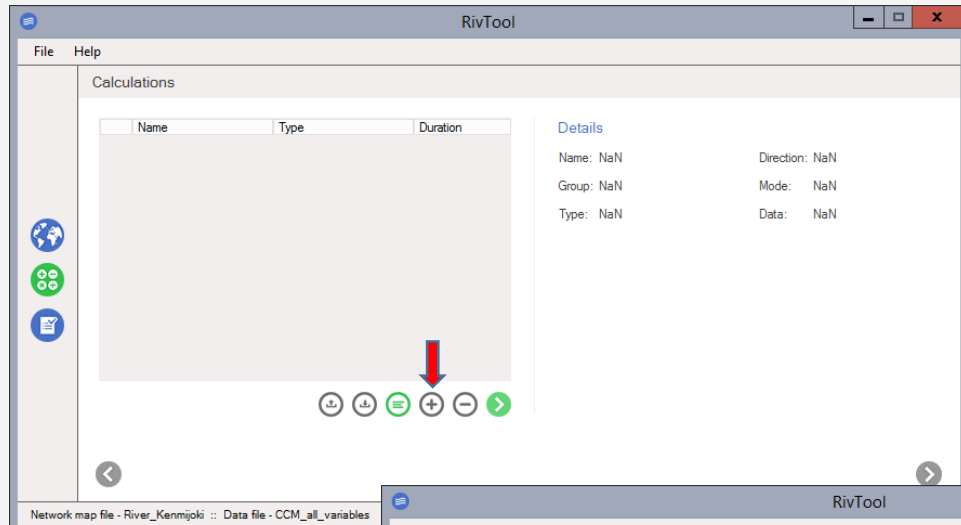
## 4. Specify the calculations to be performed (+)





# How to use RivTool in 5 steps

## 4. Specify the calculations to be performed (+)





# How to use RivTool in 5 steps

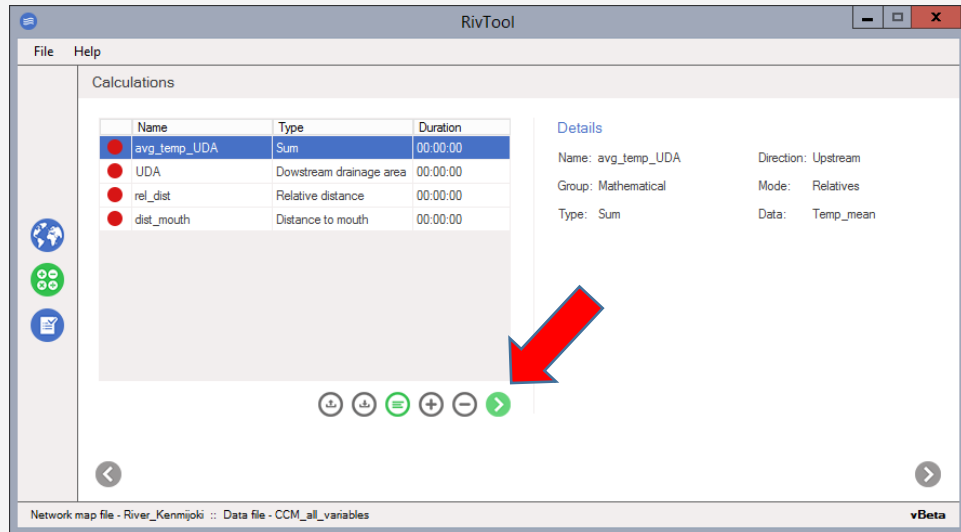
Step 5 – Obtain, visualise and export results





# How to use RivTool in 5 steps

## 5. Obtain, visualise and export results



The screenshot shows the RivTool application window. The main area is divided into two panes: 'Calculations' on the left and 'Details' on the right. The 'Calculations' pane contains a table with the following data:

Name	Type	Duration
avg_temp_UDA	Sum	00:00:00
UDA	Downstream drainage area	00:00:00
rel_dist	Relative distance	00:00:00
dist_mouth	Distance to mouth	00:00:00

The 'Details' pane shows the following information for the selected calculation:

Name: avg\_temp\_UDA      Direction: Upstream  
Group: Mathematical      Mode: Relatives  
Type: Sum      Data: Temp\_mean

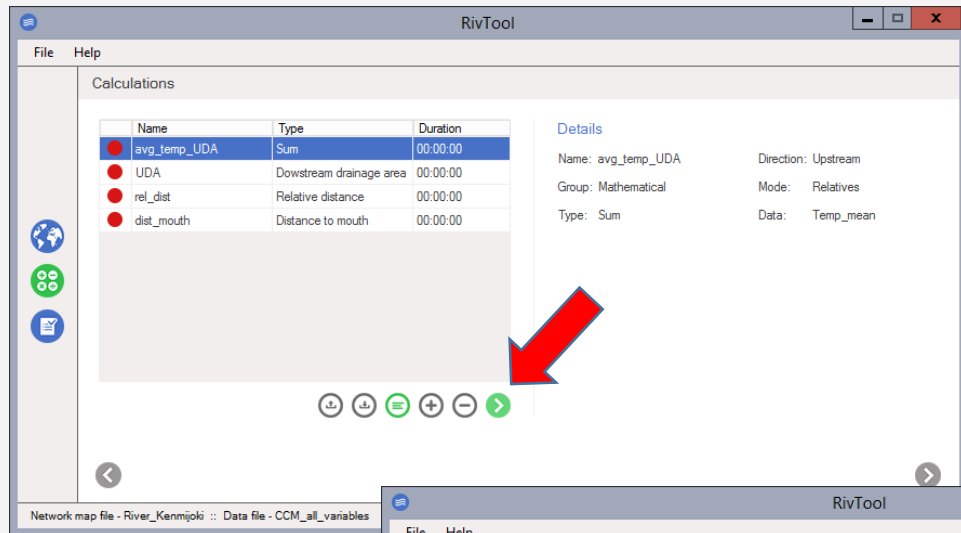
At the bottom of the 'Calculations' pane, there is a toolbar with several icons. A red arrow points to the rightmost icon, which is a green circle with a white document icon, representing the export function. The status bar at the bottom of the window displays: 'Network map file - River\_Kenmijoki :: Data file - CCM\_all\_variables' and 'vBeta'.





# How to use RivTool in 5 steps

## 5. Obtain, visualise and export results



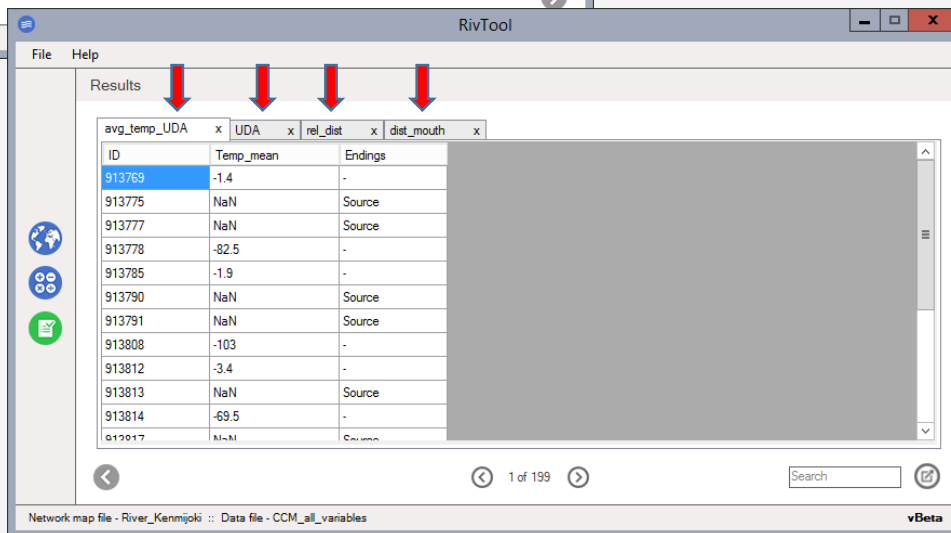
The screenshot shows the RivTool interface with the 'Calculations' panel. A table lists four calculations:

Name	Type	Duration
avg_temp_UDA	Sum	00:00:00
UDA	Downstream drainage area	00:00:00
rel_dist	Relative distance	00:00:00
dist_mouth	Distance to mouth	00:00:00

To the right, the 'Details' panel shows information for the selected 'avg\_temp\_UDA' calculation:

Name: avg\_temp\_UDA      Direction: Upstream  
Group: Mathematical      Mode: Relatives  
Type: Sum      Data: Temp\_mean

A red arrow points to the 'Export' icon (a document with a checkmark) in the bottom toolbar of the Calculations panel.



The screenshot shows the RivTool interface with the 'Results' panel. A table displays the results for the 'avg\_temp\_UDA' calculation:

avg_temp_UDA	UDA	rel_dist	dist_mouth
ID	Temp_mean	Endings	
913769	-1.4	-	
913775	NaN	Source	
913777	NaN	Source	
913778	-82.5	-	
913785	-1.9	-	
913790	NaN	Source	
913791	NaN	Source	
913808	-103	-	
913812	-3.4	-	
913813	NaN	Source	
913814	-69.5	-	
913917	NaN	Source	

Four red arrows point from the column headers of the table to the corresponding column headers in the table above. The bottom status bar shows '1 of 199' and a search box.





# How to use RivTool in 5 steps

## 5. Obtain, visualise and export results

Calculations

Name	Type	Duration
avg_temp_UDA	Sum	00:00:00
UDA	Downstream drainage area	00:00:00
rel_dist	Relative distance	00:00:00
dist_mouth	Distance to mouth	00:00:00

Details

Name: avg\_temp\_UDA Direction: Upstream  
Group: Mathematical Mode: Relatives  
Type: Sum Data: Temp\_mean

Results

avg_temp_UDA	UDA	rel_dist	dist_mouth
ID	Relative_Distance	Endings	
906545	0.997	Source	
906542	0.954	-	
906543	0.994	Source	
900555	0.996	Source	
909539	0.994	Source	
903545	0.99	Source	
906534	0.995	Source	
906535	0.991	Source	
900542	0.977	-	
900543	0.98	-	
900541	0.997	Source	
900517	0.996	Source	

Results

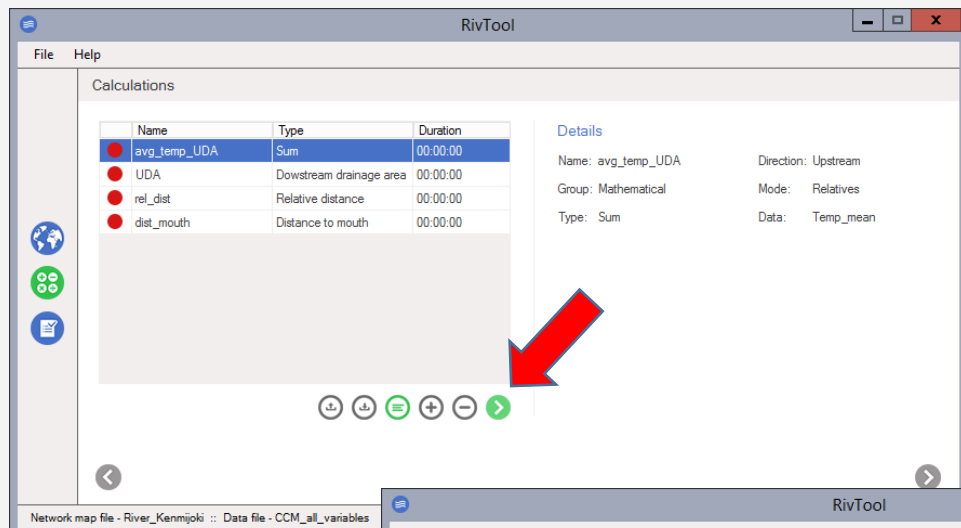
avg_temp_UDA	UDA	rel_dist	dist_mouth
ID	Temp_mean	Endings	
913769	-1.4	-	
913775	NaN	Source	
913777	NaN	Source	
913778	-82.5	-	
913785	-1.9	-	
913790	NaN	Source	
913791	NaN	Source	
913808	-103	-	
913812	-3.4	-	
913813	NaN	Source	
913814	-69.5	-	
913817	NaN	Source	





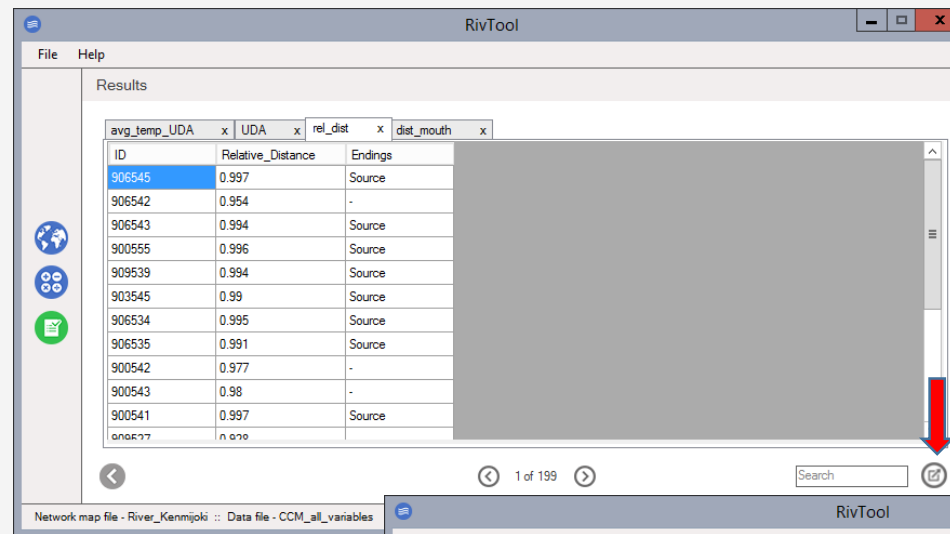
# How to use RivTool in 5 steps

## 5. Obtain, visualise and export results



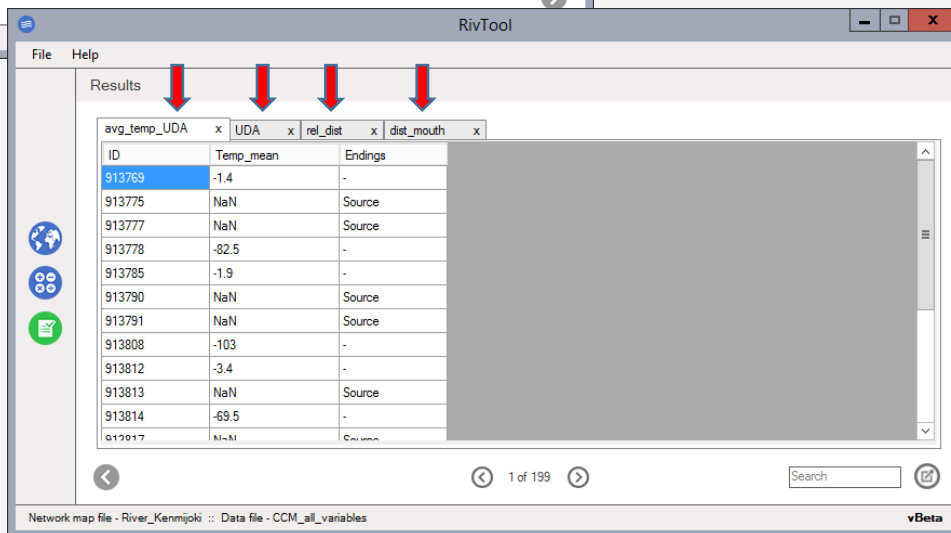
The screenshot shows the 'Calculations' panel in RivTool. It contains a table with columns 'Name', 'Type', and 'Duration'. A red arrow points to the 'Export' button (a green circle with a right-pointing arrow) at the bottom right of the panel.

Name	Type	Duration
avg_temp_UDA	Sum	00:00:00
UDA	Downstream drainage area	00:00:00
rel_dist	Relative distance	00:00:00
dist_mouth	Distance to mouth	00:00:00



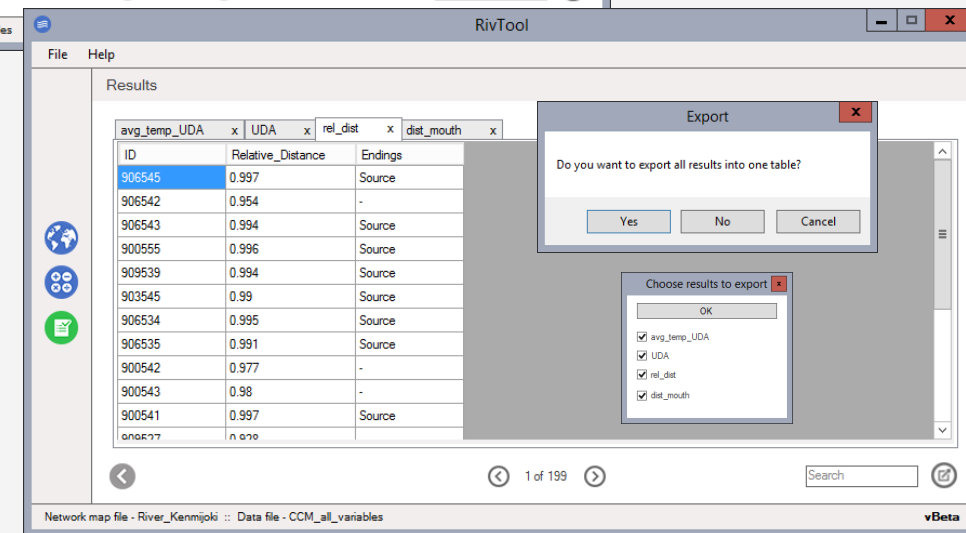
The screenshot shows the 'Results' panel in RivTool. It displays a table with columns 'ID', 'Relative\_Distance', and 'Endings'. A red arrow points to the 'Export' button (a green circle with a right-pointing arrow) at the bottom right of the panel.

ID	Relative_Distance	Endings
906545	0.997	Source
906542	0.954	-
906543	0.994	Source
900555	0.996	Source
909539	0.994	Source
903545	0.99	Source
906534	0.995	Source
906535	0.991	Source
900542	0.977	-
900543	0.98	-
900541	0.997	Source



The screenshot shows the 'Results' panel in RivTool. It displays a table with columns 'ID', 'Temp\_mean', and 'Endings'. Four red arrows point to the 'Export' button (a green circle with a right-pointing arrow) at the bottom right of the panel.

ID	Temp_mean	Endings
913769	-1.4	-
913775	NaN	Source
913777	NaN	Source
913778	-82.5	-
913785	-1.9	-
913790	NaN	Source
913791	NaN	Source
913808	-103	-
913812	-3.4	-
913813	NaN	Source
913814	-69.5	-



The screenshot shows the 'Results' panel in RivTool with an 'Export' dialog box open. The dialog asks 'Do you want to export all results into one table?' and has 'Yes', 'No', and 'Cancel' buttons. Below the dialog is a 'Choose results to export' section with checkboxes for 'avg\_temp\_UDA', 'UDA', 'rel\_dist', and 'dist\_mouth', all of which are checked.

ID	Relative_Distance	Endings
906545	0.997	Source
906542	0.954	-
906543	0.994	Source
900555	0.996	Source
909539	0.994	Source
903545	0.99	Source
906534	0.995	Source
906535	0.991	Source
900542	0.977	-
900543	0.98	-
900541	0.997	Source





# How to use RivTool in 5 steps

Step 1 – Load a network map

Step 2 – Load environmental data

Step 3 – Define segments to be used in calculations

Step 4 – Specify the calculations to be performed

Step 5 – Obtain, visualise and export results



