# TUTORIAL 3

test case 2: *basin2.grd*

SELECTION OF THE CSS BY USING A FILE WITH CS LOCATION ALONG THE CN

Most of the instructions presented in this tutorial have already been explained in Tutorial 1. These instructions are needed to give completeness to the Tutorial. Accordingly, new instructions will be written in blue within the text.

Run the CSP program by clicking on the *CSP.exe* icon.

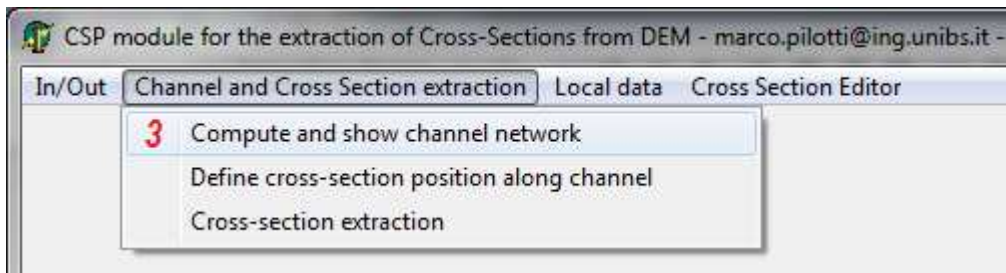Select command 1 above: the following panel appears
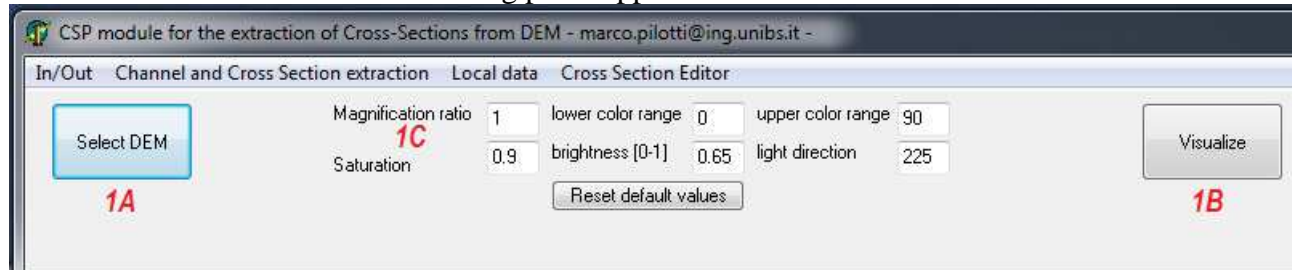
Using 1A, select the file *basin2.grd*. By pressing 1B, the basin is shown on the screen, according to the magnification ratio 1C.

After pressing 1B, the screen will look like in the following: the Watershed Visualizer panel and the Task List panel will appear on the screen.
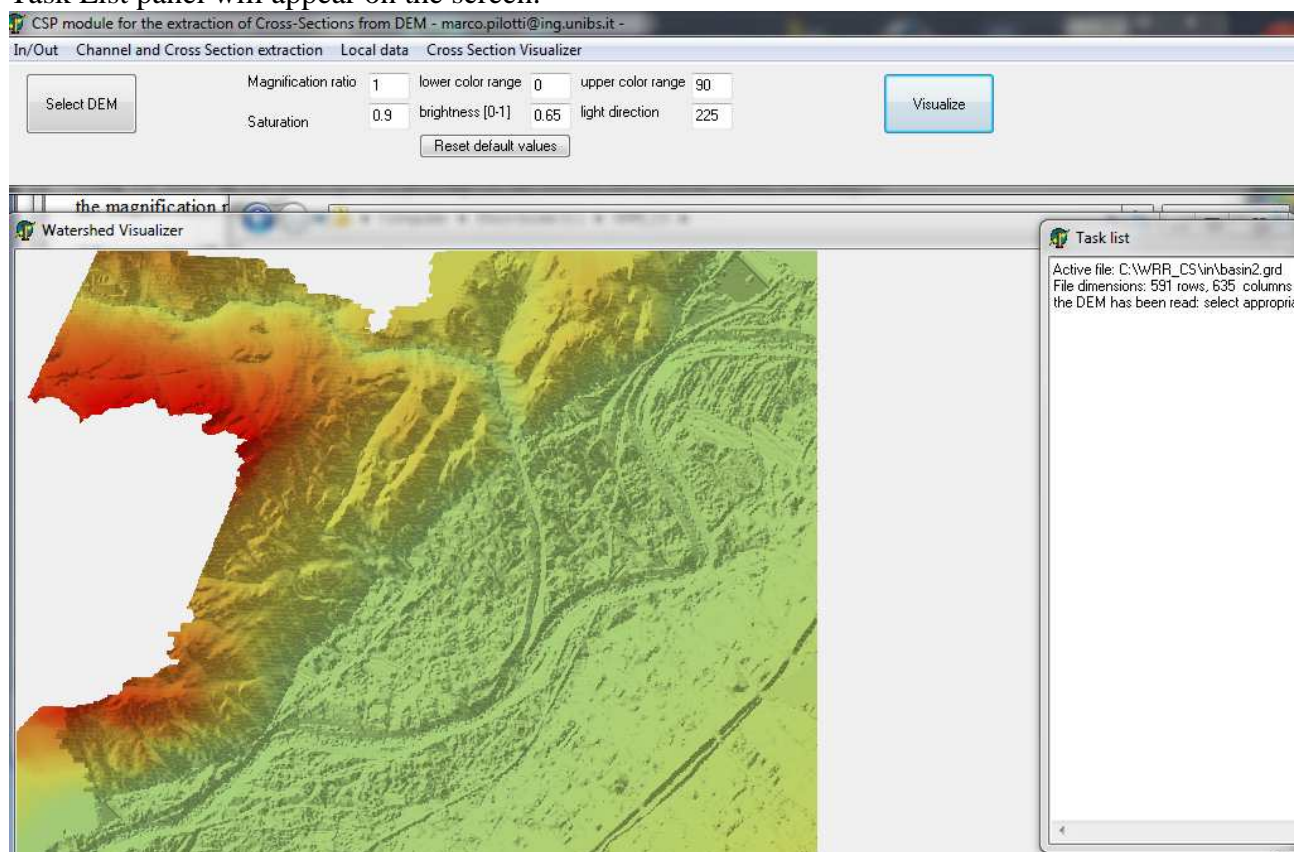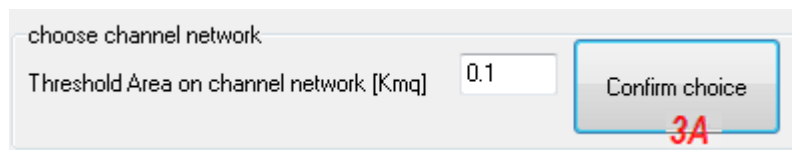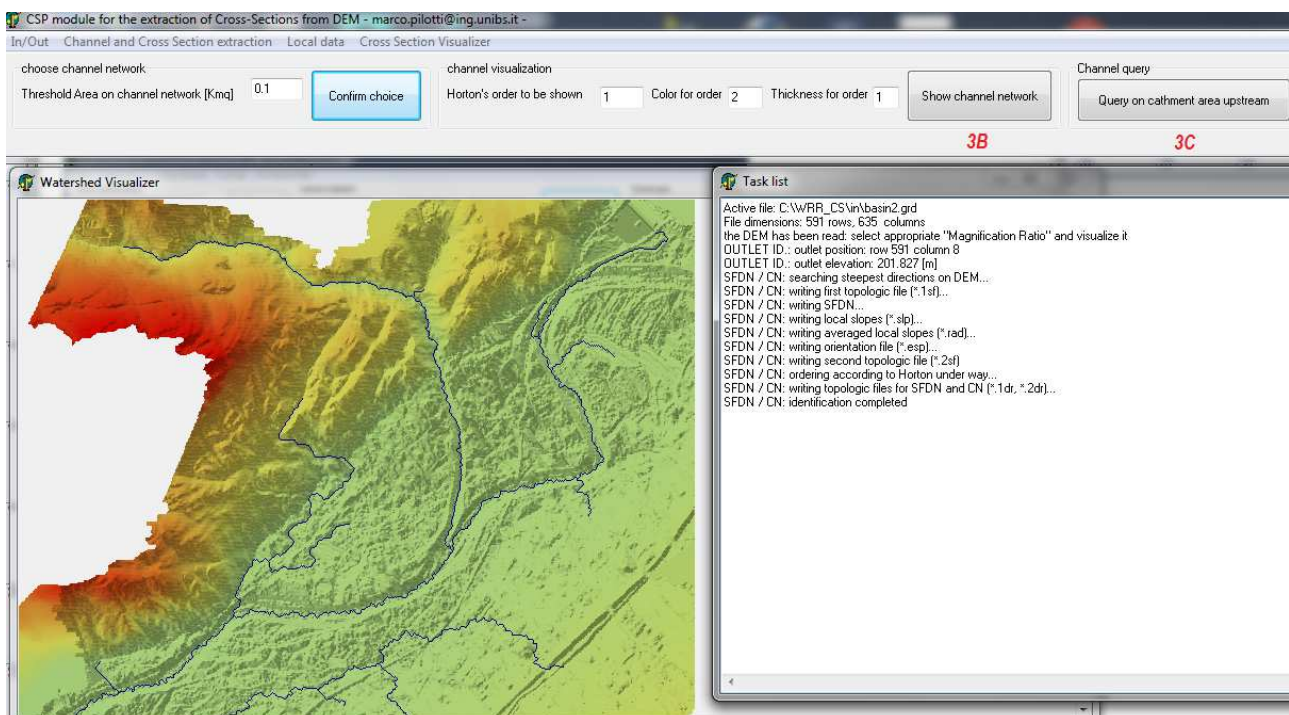

Select command 3 below.

The program will automatically accomplish the tasks shown in the Main Task List panel, needed for the computation of the SFDN. This may take some dozens of seconds depending on the computer and on the DEM dimension.
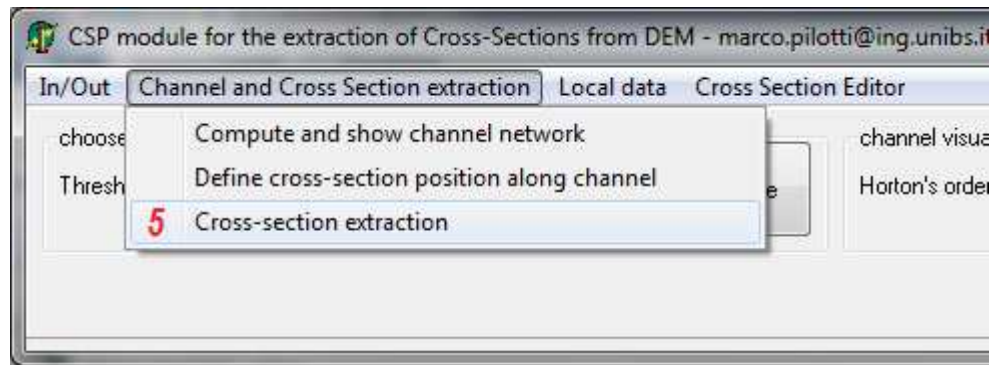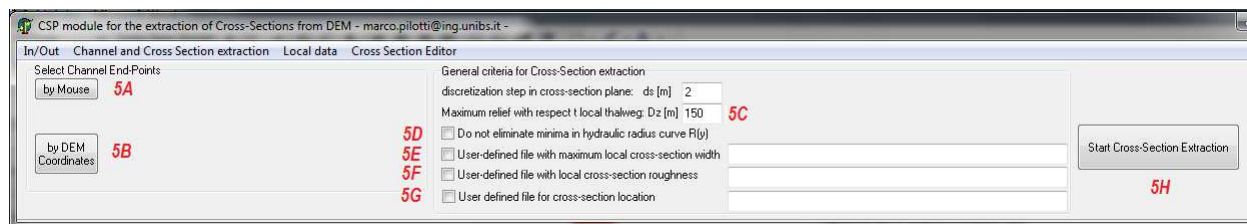
the following panel is shown

where we select the constant area threshold 0.1 km^2, on the basis of which the CN will be filtered from the SFDN. After confirming the choice (3A key), in a few seconds the following panel appears

where the CN is shown. Now select command 5 below.

The following panel will be shown on the screen

As already explained in Tutorial 1 and 2, in this panel it is possible to select the CN stretch along which the CSs will be extracted. Differently from Tutorial 1 and 2, in this case we will use command 5G to read the ASCII file basin2.s, with 14 selected stations s_i in correspondence of which the CSs will be extracted. The basin2.s file has been created by the program using command 4, as will be explained in Tutorial 4. By using command 4, the user graphically selects on the screen the location of the desired CS. The progam writes the coordinates of the selected point and, at the same time, the end-points of the corresponding CN. These coordinates are automatically read by the program when command 5G is used. Accordingly, in this case there is no need to use command 5A or 5B to select the CN end-points.

After providing the criteria to guide the CS extraction:
maximum elevation with respect to the local thalweg, 5C;
the user defined file with the maximum local width, 5E (file *basin2.wdt*)
the user defined file with the local roughness coefficient, 5F (file *basin2.stk*)
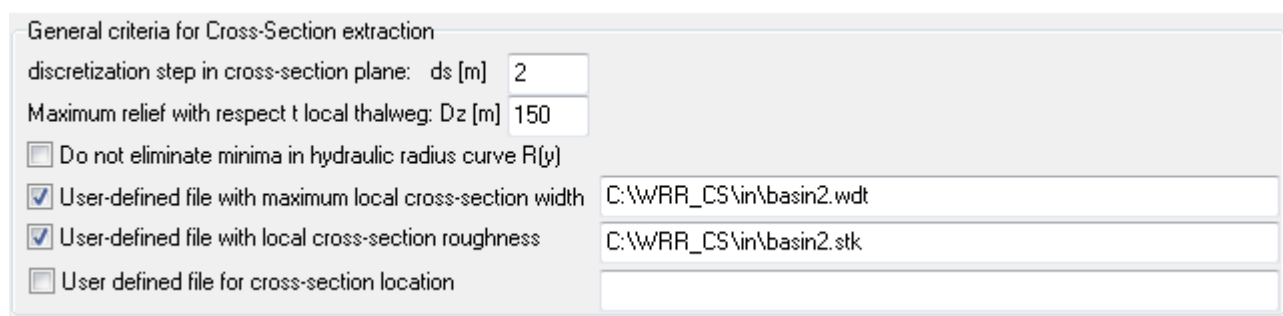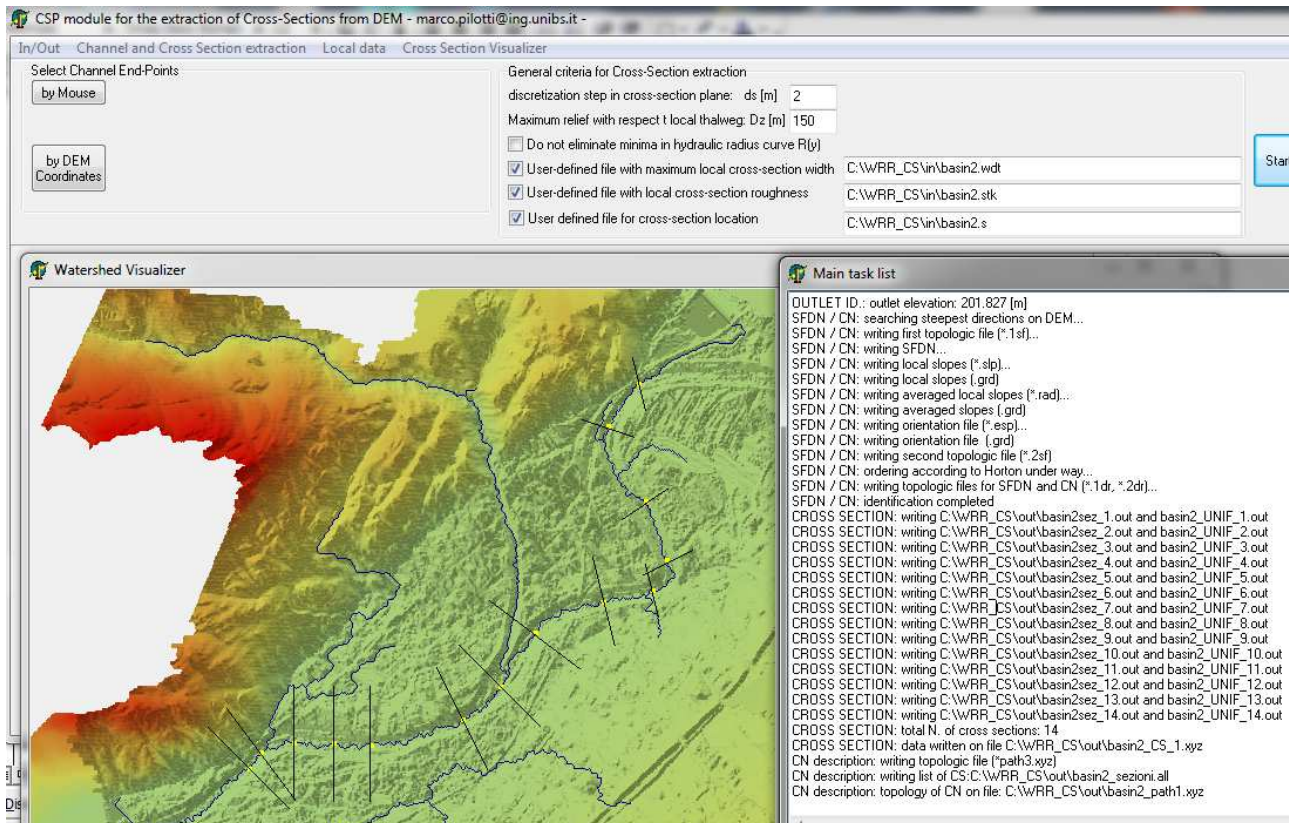

we select (in 5G) the file *basin2.s*, with the stations in correspondence of which the CSs will be extracted,

and eventually select 5H to start the extraction process. The planimetric outline of the CSs is then plotted on the screen as shown in the panel below.

and each CS can be explored as already done in previous Tutorials.

Cross-section visualizer

N° Cross-section 2 / 14

Show Cross Section

move downstream

Move upstream

Cross Section sequence 10

East thalweg	591654.063
East 1° end point	5082013.5
North thalweg	591563
North 1° end point	5082040
East 2° end point	591743
North 2° end point	5081980
s from upstream [m]	225.42
Drained area [kmq]	0.214
Z thalweg [m]	213.836
Z max. [m]	225.40
Height [m]	11.56
Width [m]	190

discharge Q [mc/s]	600

Plot normal depth

K Strickler	30.00
local slope [m/m]	0.00240
Y [m]	4.2
actual Q [mc/s]	615.33
width of free surface [m]	58.0

CS position along the CN

Thalweg profile with CS station

right bank　　Cross Section profile looking upstream　　left bank

black line: current cross-section