Define Points and Boxes

Introduction

The MOHID GUI can help the user to define points and boxes. Point and boxes are usually used to impose initially condition, boundary conditions and/or analyze results. In MOHID points can be used to define several things like:

- the locations of time series;
- water discharges (river, outfalls, etc);
- emit lagrangian particles;
- etc.

Boxes can be used to:

- initialize properties (water properties, bottom properties, surface properties, etc);
- monitor properties (water properties, bottom properties, surface properties, etc);
- emit lagrangian particles;
- etc.

Once defined the bathymetry of a simulation in the MOHID GUI, the user can open a window which displays the information about the bathymetry. This window opens by double-clicking on the bathymetry icon (shown in Figure 1) in the list view of the MOHID GUI.

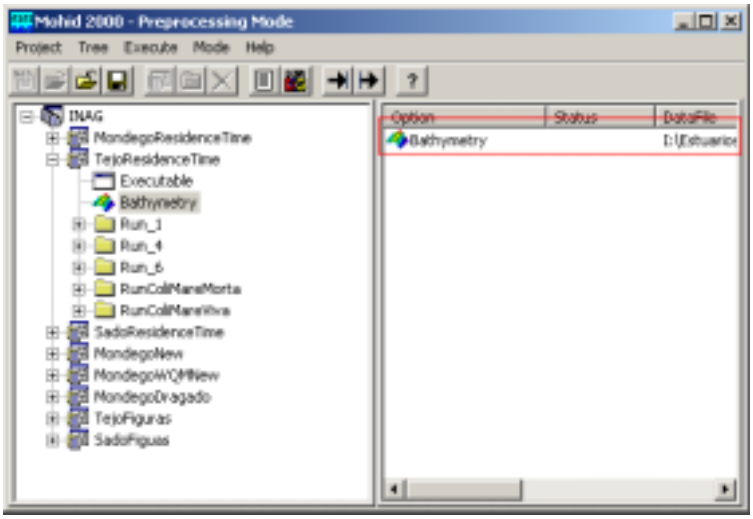

Figure 1: Bathymetry icon in the list view

Once the bathymetry window opened, a window similar to the window show in Figure 2 should appear.

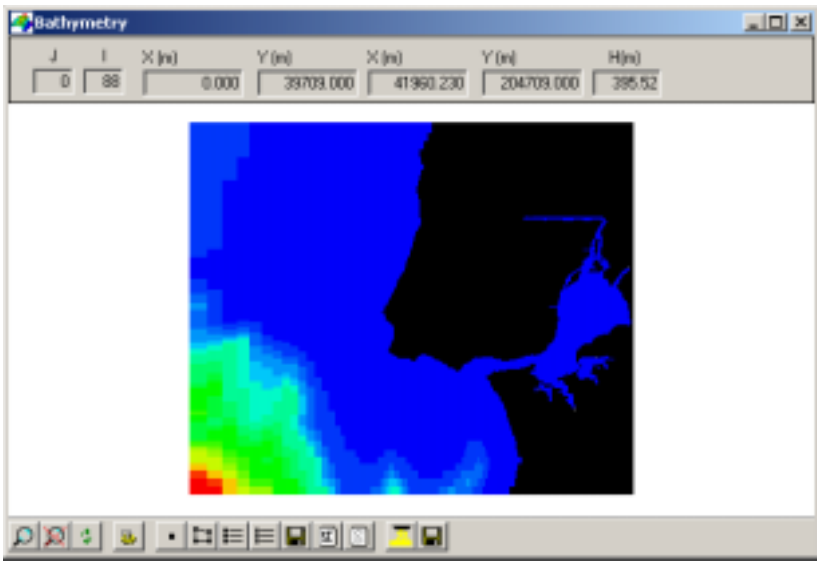

Figure 2: Window which shows the bathymetry

The toolbar at the bottom of this window permits, besides other functionalities, to define points and boxes.

Defining points

To define a new set of points simple select the icon “Define new Points” from the toolbar and right-click over the image at the places where you would like to define points. A left mouse click stops the definition of new points.

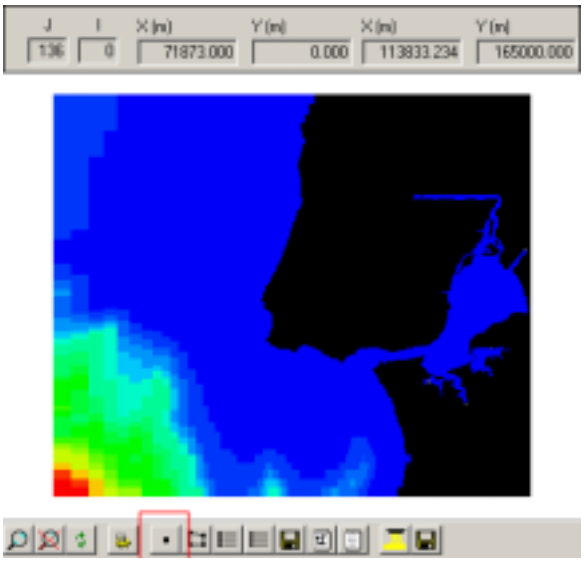

Figure 3: Icon to add a new set of points

To see a list of the points defined so far, just select the icon labeled “List defined points”. A window with a list of defined boxes, similar to Figure 4 appears. By double clicking over a given point, one can change its name. The list of defined points can be accessed from other windows of the MOHID GUI, whenever necessary.

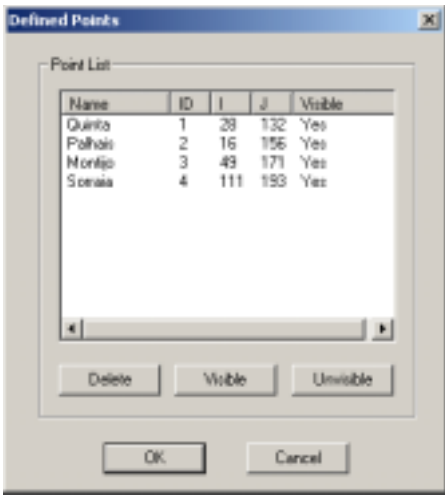

Figure 4: Window with a list of defined points

If you use the points to mark time series, any data file read by MOHID will contain a section which looks similar to the one presented in Figure 5. In the case of this example, three time series are defined. For each property the user wants to write time series the keyword TIME_SERIE must be provided and set equal to one. The keyword DT_OUTPUT_TIME specifies the interval between the outputs of the time series.

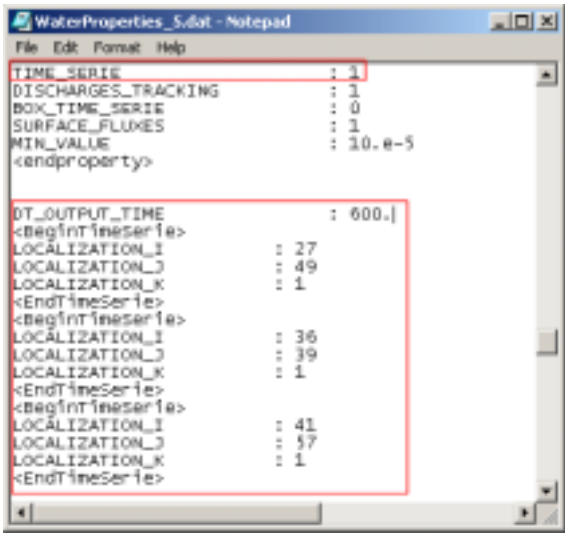

Figure 5: Definition of time series (Waterproperties)

Defining boxes

To define a new box simple select the icon “Define a new Box” from the toolbar and right-click over the image at the vertices of the box you want to define. A left mouse click stops the definition of the box a closes the polygon. The icon “List defined boxes” brings up a window similar to the one in Figure 4 showing a list of the defined boxes. Most probably you want to use one or more defined box in a posterior run. To do so, the defined boxes have to be exported to a file which is intended by MOHID. This can file can be written by selecting “Export Boxes Data File” from the toolbar. The file which contains the definition of the boxes will look similar to the one presented in Figure 6.

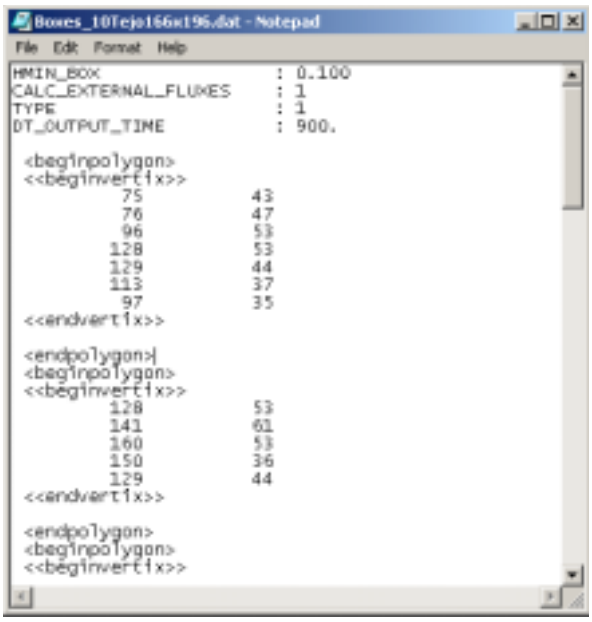

Figure 6: Boxes definition file