4.1THE DESERT WINDOW

When DESERT is invoked by double clicking on its icon with the mouse or by any other way allowed by Windows, the application window and the **TERMINAL** window will appear (**figure 4.1.1**).

The application window is a classical Windows style window, with its own title bar, menu bar, tool bar, bottom bar, and scroll bars. In the title bar there is the title, "**Desert 1.0**", the minimizing and maximizing buttons for resizing the window and reducing it to an icon, and the Control Menu button for closing, restoring, minimizing, maximizing, sizing, and moving the window, and for switching to other tasks.

The menu bar contains a series of "pop down" menus (**File**, **Edit**, **View**, **Window**, **Help**). The tool bar is located immediately below the menu bar. When a menu, a command, or a tool item are clicked with the pointer, a short description will appear on the bottom bar (**see figure 4.1.1**). The menus can be accessed by using the mouse or by contemporarily typing the **Alt** digit and the digit corresponding to the letter underlined in the menu name.
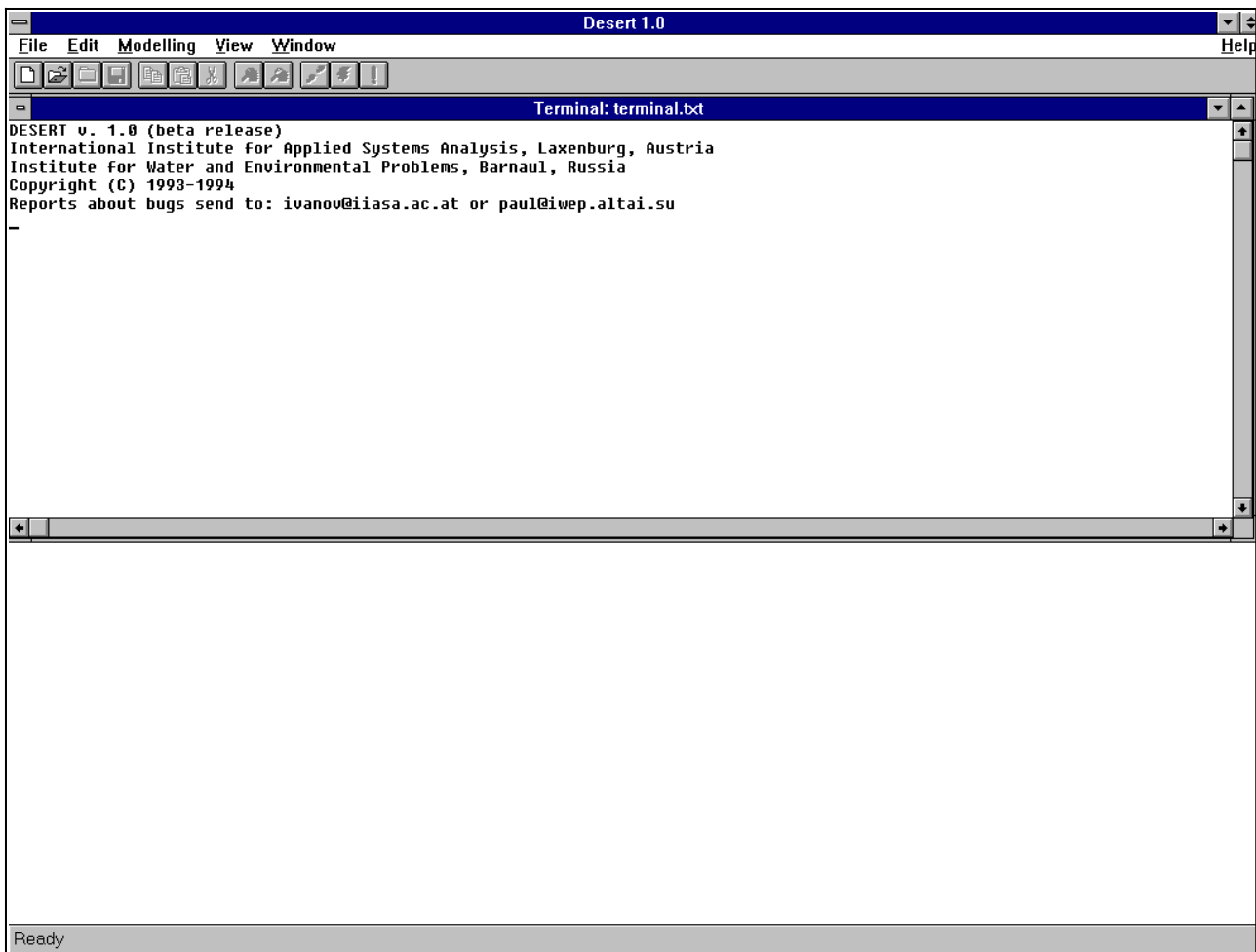

Figure 4.1.1 The application window of DESERT 1.0 and the Terminal window as they may appear just after launching DESERT 1.0.

4.2THE FILE MENU

The **File** menu contains all the commands necessary to create, open, save, import, and close files, and the command to exit from DESERT (**see figure 4.2.1**). It can also be invoked by digit **Alt+F**.
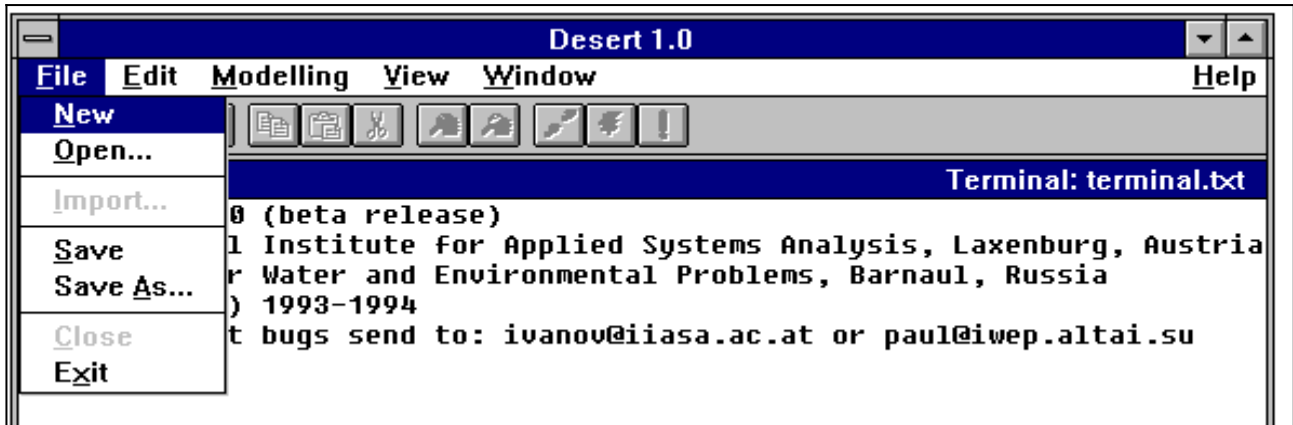

Figure 4.2.1 The File menu opened from the Terminal window.

The commands of the **File** menu are:

<u>N</u>ew

The **New** command has a double effect, depending on the active window from which it has been launched. Invoked from the Terminal window or from a Universe file window, the **New** command causes the creation of a new Rivernet file. Invoked from a Rivernet file, it causes the opening of the link to the Microsoft Excel spreadsheet (**see Chapter 3.8**). It can also be invoked by digit **Alt+F N**.
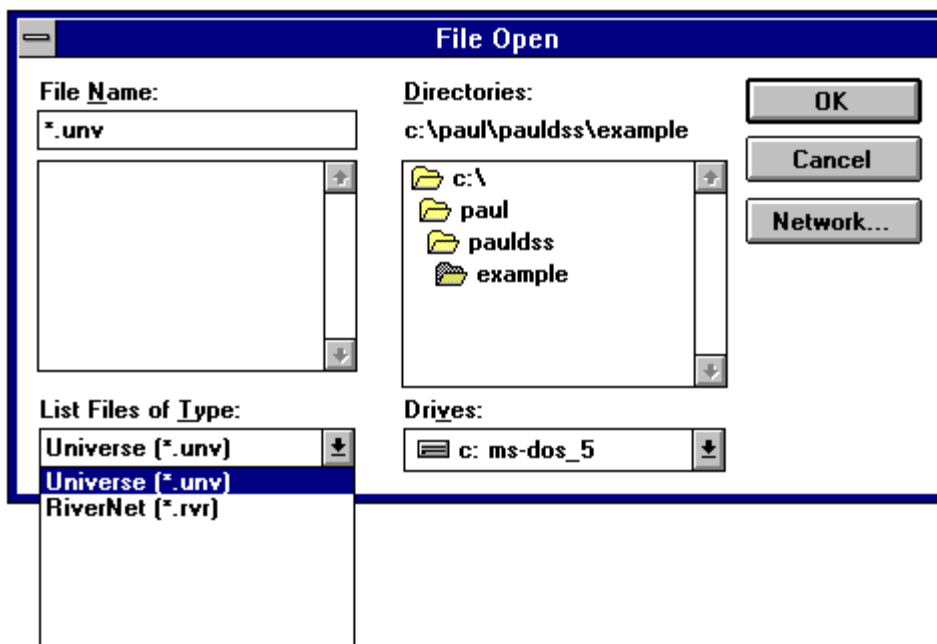

Figure 4.2.2 The Open file dialogue box.

Open

This command allows to open files **.RVR** and **.UNV** through a selection box (**figure 4.2.2**). The Open command is not influenced by the window from which it is invoked. It always proposes the opening of a Universe file (.UNV). However, it is very easy to switch from the default setting to the opening of a Rivernet file (**figure 4.2.2**). The result of the opening a file is the creation of a window and the graphical display of its content. This can also be invoked by digit **Alt+F O**.

Import

This command allows to import a Model file (.MOD) already defined. It is possible to invoke this command only from the Terminal window. When a Rivernet file window or a Universe file window is active, the command is not available and its instance in the File menu is grey (**figure 4.2.1**). The result of invoking this command is the appearance of the dialogue box of **figure 4.2.3**. It can also be invoked by digit **Alt+F I**.
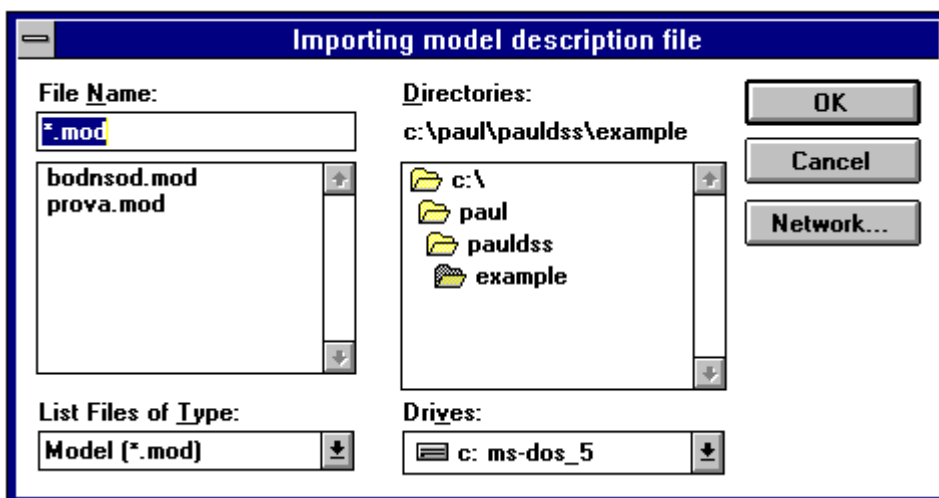

Figure 4.2.3 The Import file dialogue box.

Save

This command saves the content of the **.RVR** file currently active or the content of the Terminal window if this is active. In the latter case, the Terminal window is saved as the text file Terminal.txt. It can also be invoked by digit **Alt+F S**.

Save **A**s

This command saves the content of the **.RVR** file currently active or the content of the Terminal window (if active) with name and path specified by the user through the dialogue box of **figure 4.2.4**. It can also be invoked by digit **Alt+F A**.

Close

This command closes the currently active window (files **.RVR** and **.UNV**). When the Terminal window is active, this command is not available. Consequently, it appears in gray color on the **File** menu (**figure 4.2.1**). It can also be invoked by digit **Alt+F C** or **Ctrl-F4**.
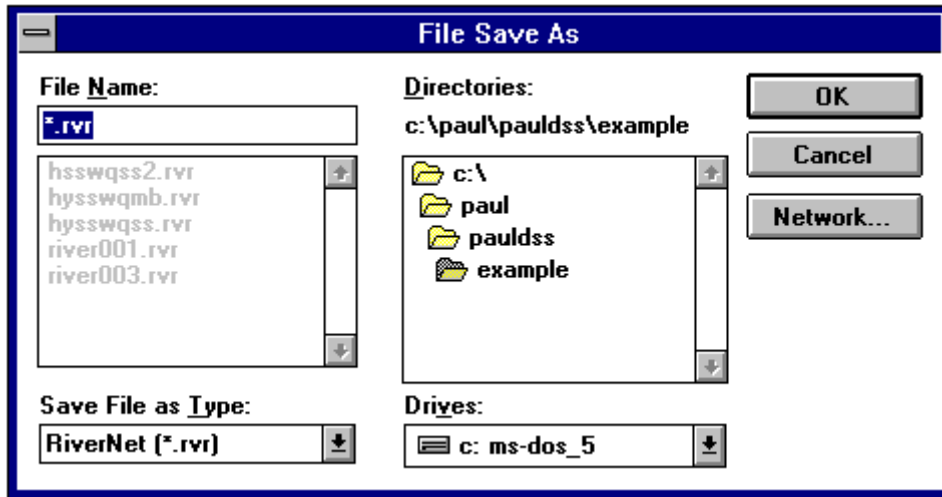
Figure 4.2.4 The Save as file dialogue box when activated from a Rivernet file window.

E**x**it

This command terminates the session of DESERT. It can also be invoked by digit **Alt+F X** or **Alt+F4**.

4.3THE EDIT MENU

The **Edit** menu contains all the commands used for editing (i.e., selecting, copying, and pasting) data files. Thus only.**UNV** and **.RVR** files are affected by these commands. However, the **Clear** command operates also on the Terminal window. This menu can also be invoked by digit **Alt+E**.
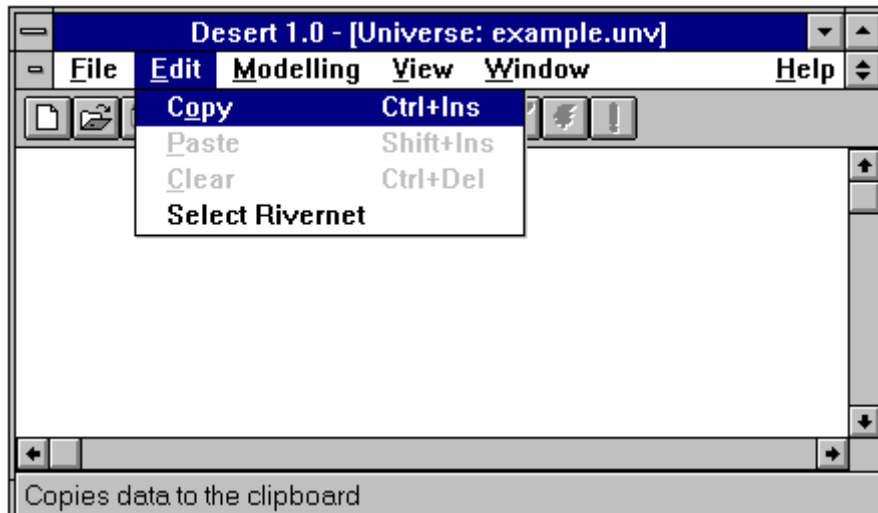
Figure 4.3.1 The Edit menu when invoked from a Universe file window.
On the bottom bar a brief explanation of the command unlighted appears.

C**o**py

This command is used to copy on the clipboard a selection of a Universe file. The selection is obtained by the use of the **Select Rivernet** command. It can also be invoked by digit **Alt+E O** or **Ctrl + Ins**. It is available only when the Universe file window is active.

Paste

The selection from the Universe file copied with the **Copy** command can be pasted into a Rivernet file. Any new pasting will substitute the previous information with the new one. This substitution will become permanent if the file is saved. It can also be invoked by digit **Alt+E P** or **Shift+Ins**. it is available only when the Rivernet file window is active.

Clear

This command erases the content of the Rivernet file window and Terminal window from which it is invoked. If the Terminal window is cleared, then DESERT does not have any information on the system or on the simulation to carry out. It can also be invoked by digit **Alt+E C** or **Ctrl+Del**. It is not available when the Universe file window is active.

Select Rivernet

This command allows to select a set of reaches from the **.UNV** file by a graphically encircling the reaches of interest. When this command is active, the open scissors symbol will appear on the screen (**see figure 4.3.2**). On the left upper corner of the scissors, there is a cross indicating the pointer.

When the user has chosen the point from which the line enclosing the set of reaches of interest must begin, he or she must click the mouse. Since that moment a straight solid line departing from the point of clicking to the position of the pointer will be traced. When the user will click the mouse again the straight line connecting the first clicking point to the second will become permanent. Another straight line will then connect the second clicking point to the pointer, allowing to trace another segment of the polygonal line necessary to delimit the region of interest. The line does not need to be exactly closed, but it needs to well define the area of interest. The drawing process is terminated by double clicking with the mouse. This action will black the area delimited by the polygonal line for few seconds. In this way it is possible to check whether the selected are is exactly the wished one. In **figure 4.3.2**, the selection process of the SecondA basin of the example river system is reported. The reaches selected are the two reaches of the SecondA river and the one of the Tertiary river. If this selection will be copied and pasted on a Rivernet file, then the simulation will regard only this subsystem.
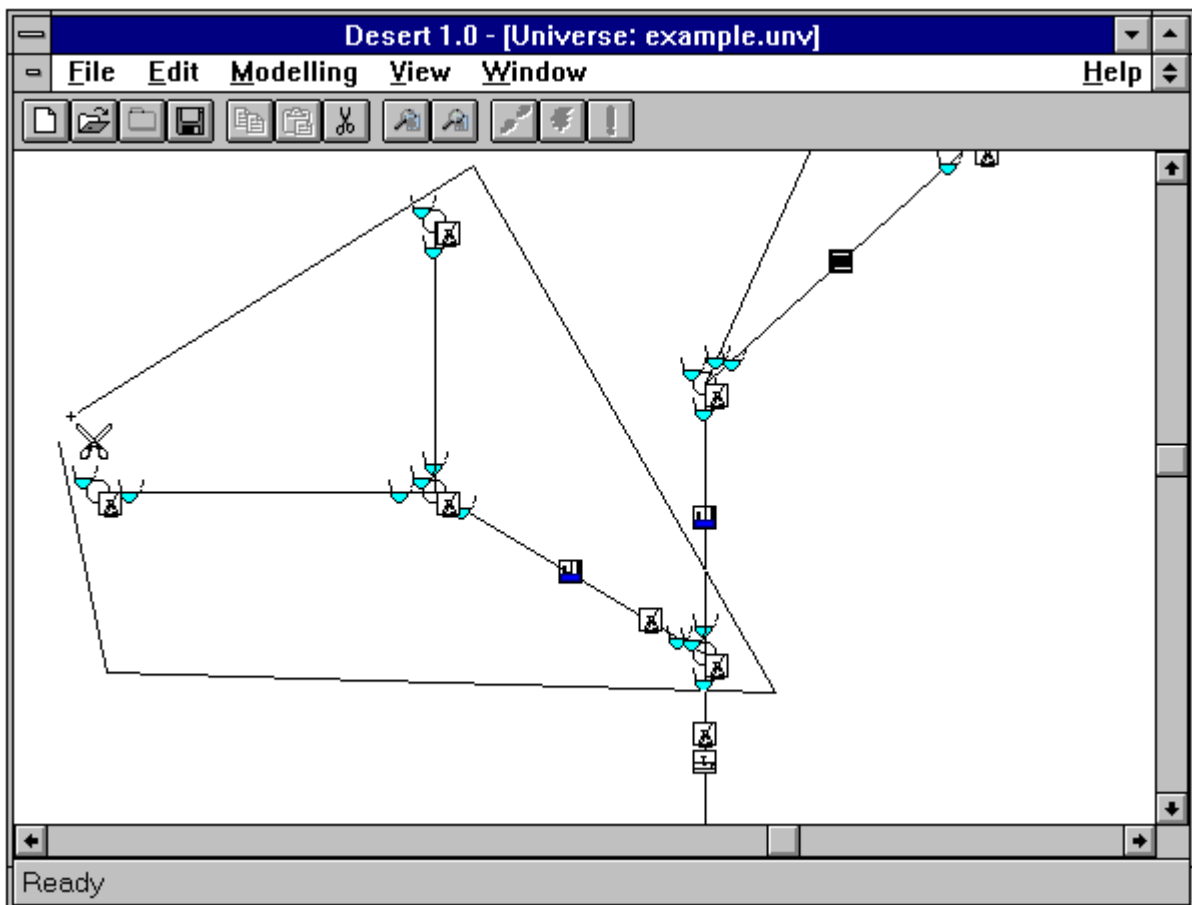

Figure 4.3.2 **The selection of a riverine subsystem from the example by using the Select Rivernet command.**

4.4THE VIEW MENU

The **View** menu contains all the commands that can be used to reshape the vision of the Universe file. These commands are very useful because they allow to zoom in the area of interest. The menu can also be invoked by typing **Alt+V**.
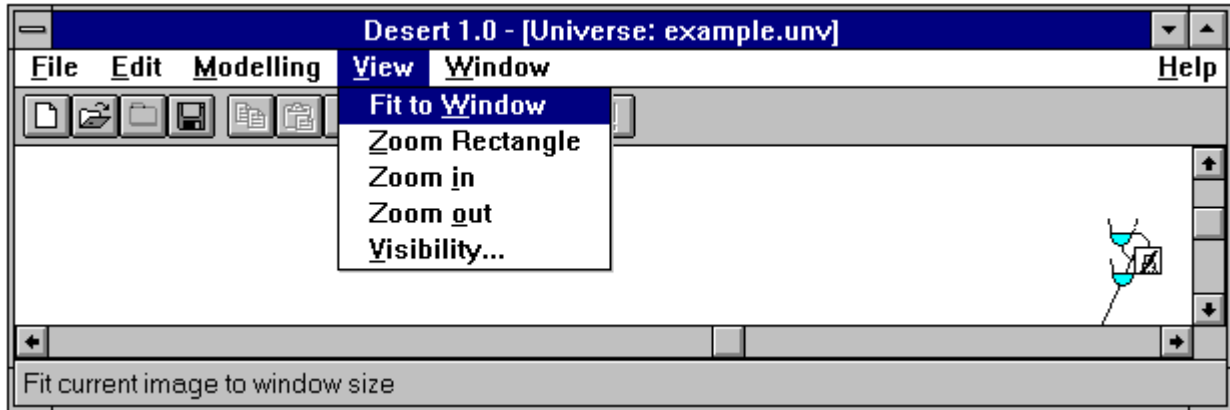

Figure 4.4.1 The View Menu.

Fit to Window

> This command displays the geometry of the system defined in the Universe file (and in the MapTable file, if it is used) at a window dimension. The representation is drawn with the smallest between the ratios width of the windows/width of drawing and heigth of the window/heigth of the drawing equal to 2. The drawing is placed in the middle of the dimension having the smallest of the previous ratios. This command can also be invoked by typing **Alt+V W**.
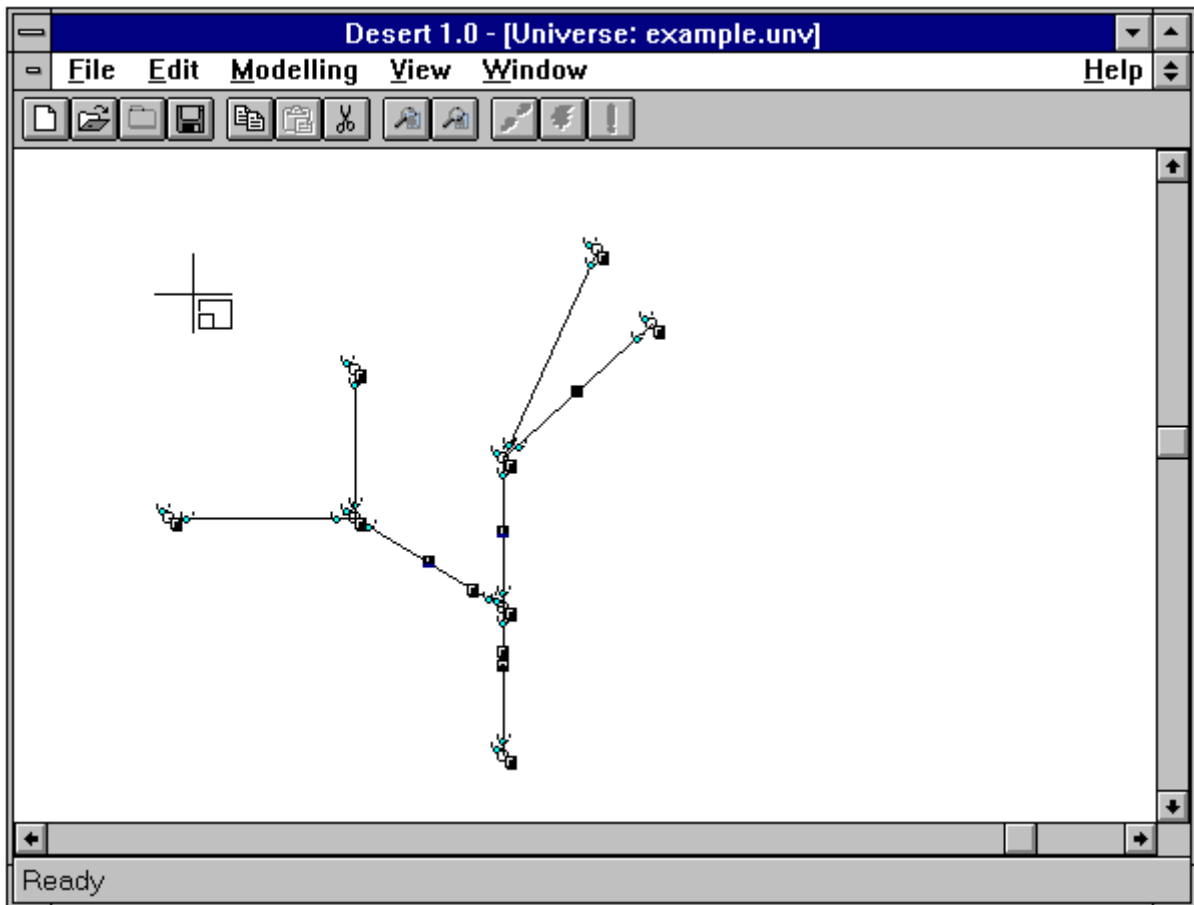
Figure 4.4.2 The Zoom Rectangle pointer.

Zoom Rectangle

This command allows to zoom the vision of the geometry of the system to a dimension determined by the user through a flexible box. When invoked a cross shaped pointer appears (**see figure 4.5.2**). By dragging it, it is possible to define the area of interest. The area of interest is enclosed in a flexible box. This command can also be invoked by typing **Alt+V R**.

Zoom in

This command magnifies twofold a portion of the screen. When invoked, the   symbol will appear. It serves as pointer for the center of the two fold enlargement. This command can be invoked also by typing **Alt+V I**.

Zoom out

This command zooms out by a factor of two a portion of the screen. When invoked, the   symbol will appear. It serves as pointer for the center of the two fold narrowing. This command can be invoked also by typing **Alt+V O**.

Visibility

This command allows to hide the presence of some of the objects from the Universe file representation. This feature is very convenient, since in the real life hundreds of cross-sectional profiles can be necessary to represent a riverine system, and the number of other object can easily arrive to the order of teens. This fact would make working on the Universe file representation very difficult. The dilaogue box of figure 4.5.3 allows the user to choose the classes of object that will be shown. The default configuration represents all the possible classes.
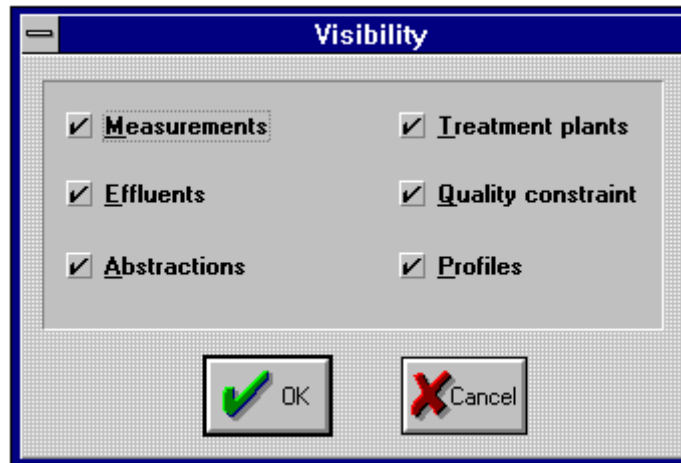

Figure 4.4.3   The Visibility dialogue box as it appear when invoked for the first time.
The user can choose which classes to represent.

4.5 THE <u>W</u>INDOW MENU

This menu displays the commands concerning the disposition of the windows used by DESERT inside the DESERT application window. It can be invoked also by typing **Alt+W**.

<u>C</u>ascade

This command arranges all the windows in a cascade style. It can be invoked also by typing **Alt+W C**.

Tile <u>H</u>orizontally

This command displays all the windows disposing them favoring width. It can be invoked also by typing **Alt+W H**.

Tile Vertically

This command displays all the windows disposing them favoring height (**see figure 3.11**). It can be invoked also by typing **Alt+W T**.
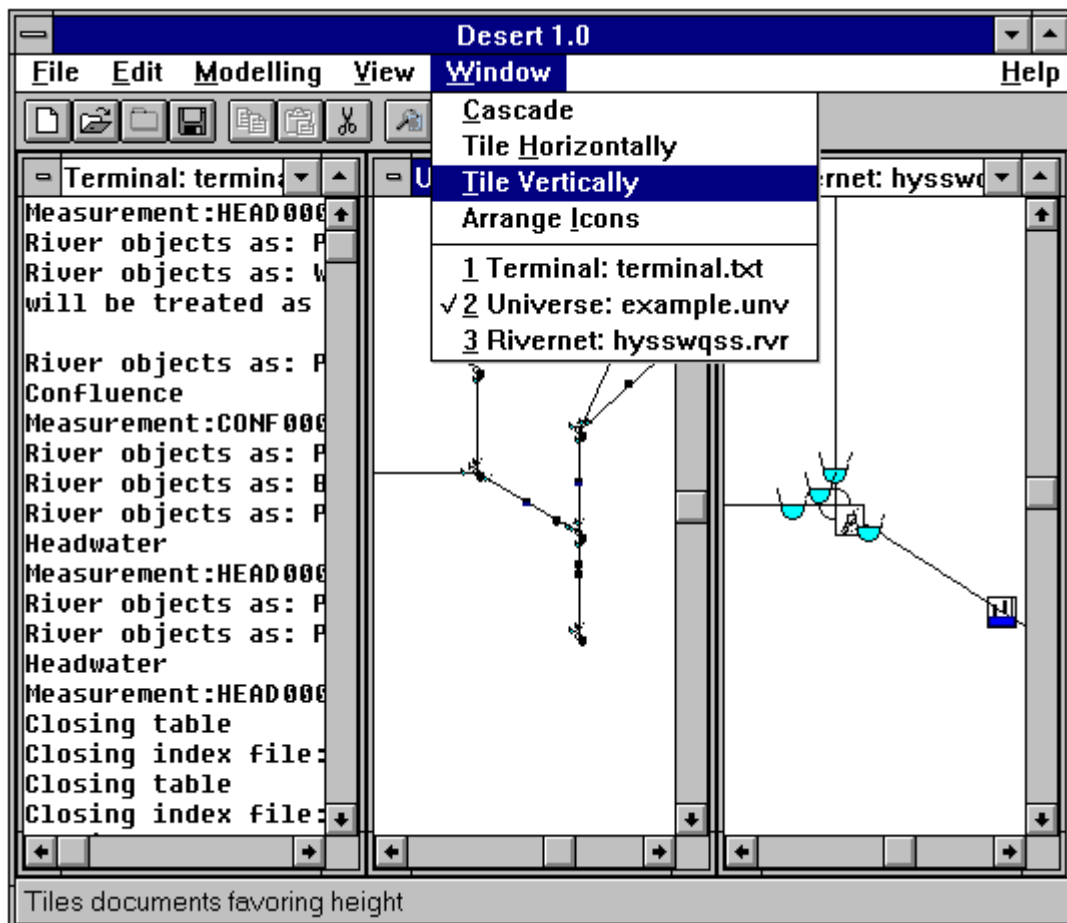

Figure 4.5.1 The Windows menu. DESERT windows are tiled vertically.

Arrange <u>I</u>cons

This command arranges document icons at the bottom of the screen. It can be invoked also by typing **Alt+W I**.

<<u>#</u>> <window name>

This command fills the DESERT window with the window characterized by that name. It can be invoked also by typing **Alt+W <#>**, where <#> is the number associated to the window (**figure 4.6.1**).

4.6THE HELP MENU

This menu contains help commands.

About Desert

This command displays information about this application.

4.7 DESCRIPTION OF TOOLS

In the tool bar, just below the menu bar, the following tools are available:

It operates like the **Open** command of the **File** menu.

It operates like the **New** command of the **File** menu.

It operates like the **Close** command of the **File** menu.

It operates like the **Save** command of the **File** menu.

It operates like the **Copy** command of the **Edit** menu.

It operates like the **Paste** command of the **Edit** menu.

It operates like the **Select Rivernet** command of the **Edit** menu.

It operates like the **Zoom in** command of the **View** menu.

It operates like the **Zoom out** command of the **View** menu.

It operates like the **Step** command of the **Modeling** menu.

It operates like the **Run** command of the **Modeling** menu.

It operates like the **Stop** command of the **Modeling** menu.