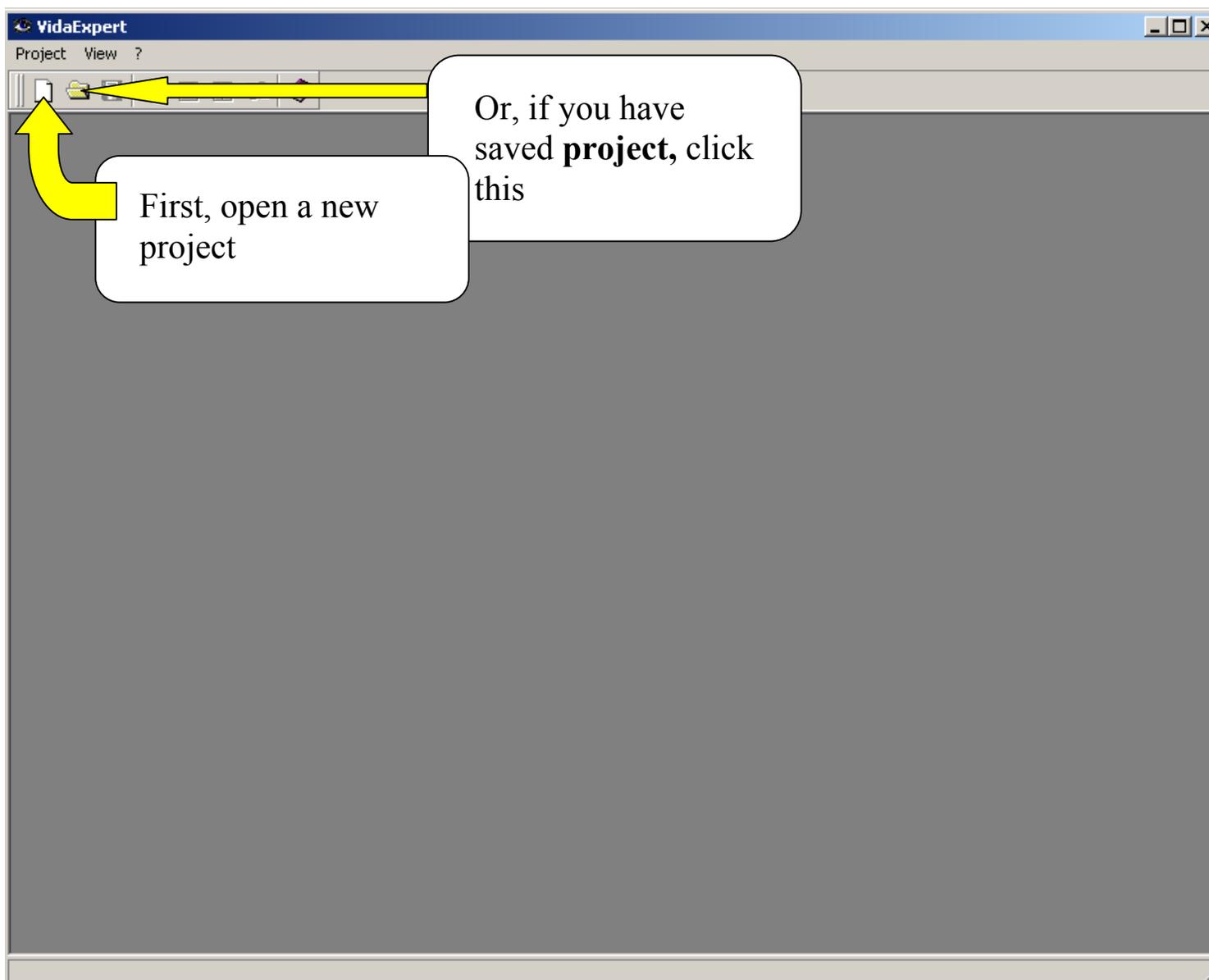


VIDAEXPERT: WORKING WITH DATASET



VIDAEXPERT: WORKING WITH DATAS

The image shows a screenshot of the ViDaExpert software interface. The window title is "VidaExpert" and the menu bar includes "Project", "Scenario", "View", and "Window". Below the menu bar is a toolbar with icons for file operations. The main workspace is divided into several panels. On the left is a large grey "Object Manager Panel". On the right is a "Work with Objects Panel". In the top right corner, there is a toolbar with icons for opening and saving files. Four callout boxes with yellow arrows point to specific elements: one points to the "New" icon (a document with a plus sign) for opening a new datatable; another points to the "Open" icon (a document) for opening an existing map; a third points to the "Save" icon (a floppy disk) for saving an existing dataset; and a fourth points to the "Save As" icon (a floppy disk with a plus sign) for saving an existing dataset under a new name.

If you already have a **map** saved in ViDaExpert, click this

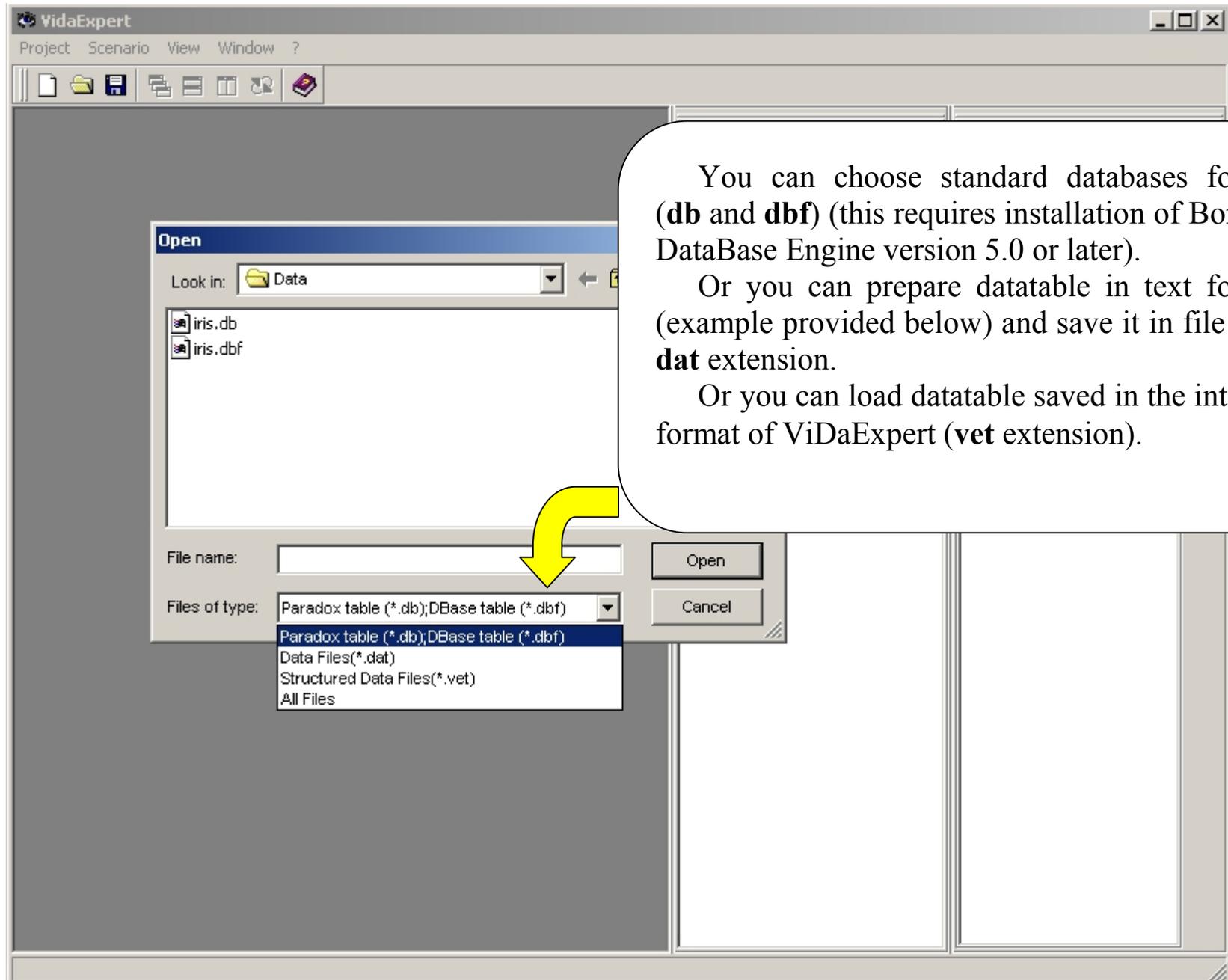
To open a **new** datatable, click this

If you already have a **dataset** saved in ViDaExpert, click this

Object Manager Panel

Work with Objects Panel

VIDAEXPERT: WORKING WITH DATASET



You can choose standard databases format (**db** and **dbf**) (this requires installation of Borland DataBase Engine version 5.0 or later).

Or you can prepare datatable in text format (example provided below) and save it in file with **dat** extension.

Or you can load datatable saved in the internal format of ViDaExpert (**vet** extension).

VIDAEXPERT: WORKING WITH DATASET

EXAMPLE OF DAT-FILE

————— *Beginning of file* —————

```
5 150
N1 FLOAT
N2 FLOAT
N3 FLOAT
N4 FLOAT
IRIS-SETOS STRING
4.9 3.0 1.4 0.2 "Iris-setosa with spaces"
4.7 3.2 1.3 @ Iris-setosa
4.6 3.1 1.5 0.2 Iris-setosa
5.0 3.6 1.4 0.2 Iris-setosa
5.4 3.9 1.7 0.4 Iris-setosa
4.6 3.4 1.4 0.3 Iris-setosa
5.0 3.4 1.5 0.2 Iris-setosa
4.4 2.9 1.4 0.2 Iris-setosa
4.9 3.1 1.5 0.1 Iris-setosa
5.4 3.7 1.5 0.2 Iris-setosa
.....
6.0 3.0 4.8 1.8 Iris-virginica
6.9 3.1 5.4 2.1 Iris-virginica
6.7 3.1 5.6 2.4 Iris-virginica
6.9 3.1 5.1 2.3 Iris-virginica
5.8 2.7 5.1 1.9 Iris-virginica
```

First line is the number of columns and the number of records in the datatable.

After one should provide description of every field in form “FIELD_NAME FIELD_TYPE”. Possible types are FLOAT and STRING.

After that, line after line, values of columns of every record separated by **spaces**. If a string-type value has spaces, it must be in quotes.

If you have **gap** (unknown value), then it should be marked by **@** symbol.

————— *End of file* —————

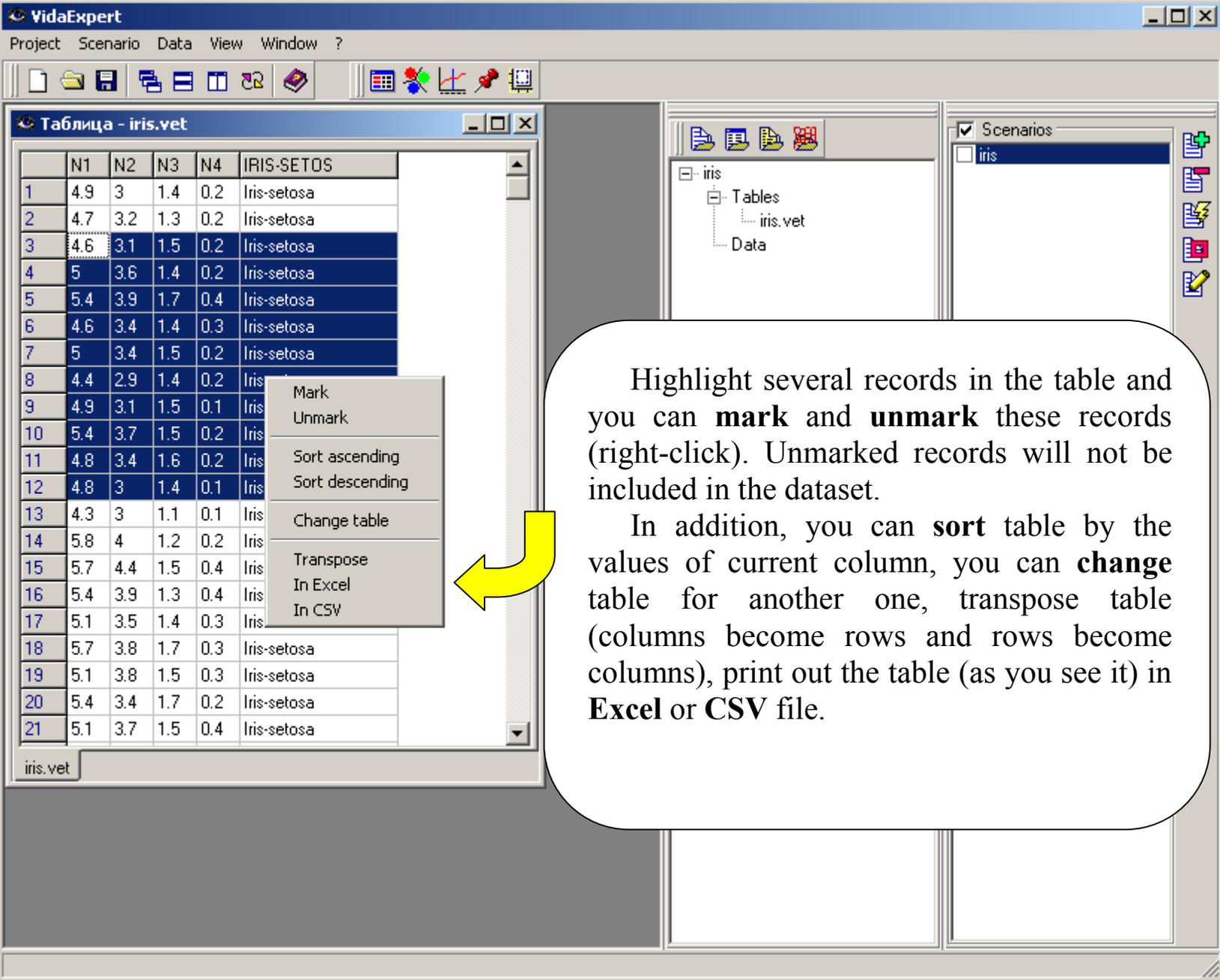
VIDAEXPERT: WORKING WITH DATASET

The screenshot displays the VidaExpert application window. The main window has a menu bar with 'Project', 'Scenario', 'Data', 'View', and 'Window'. Below the menu is a toolbar with various icons. The central area is divided into several panels. On the left, a table titled 'Таблица - iris.vet' is shown, containing data for 'IRIS-SETOSA'. A callout box points to the table with the text: 'Gaps in the datatable are displayed as blank spaces'. On the right, there is an 'Object Manager Panel' showing a tree view with 'iris' as the root, containing 'Tables' and 'Data'. A 'Scenarios' panel is also visible, showing a list of scenarios with 'iris' selected. A callout box points to the 'Scenarios' panel with the text: 'You can add and delete scenarios by clicking on these buttons.' A large callout box at the bottom left contains the following text:

This is the loaded table. It is displayed in Object Manager Panel. You can see that Scenario *iris* contains one **datatable** *iris.vet* and empty list of **datasets**. Now you see list of scenarios in Work With Objects Panel. If you click on *Tables* in Object Manager Panel you will see the list of **datatables** in Work With Objects Panel. If you click on *Data* in Object Manager Panel you will see the list of **datasets** in Work With Objects Panel.

	N1	N2	N3	
1	4.9	3.0	1.4	Iris-setosa with spaces
2	4.7	3.2	1.3	Iris-setosa
3	4.6	3.1	1.5	0.2 Iris-setosa
4	5.0	3.6	1.4	0.2 Iris-setosa
5	5.4	3.9	1.7	0.4 Iris-setosa
6	4.6	3.4	1.4	0.3 Iris-setosa
7	5.0	3.4	1.5	0.2 Iris-setosa
8	4.4	2.9	1.4	0.2 Iris-setosa

VIDAEXPERT: WORKING WITH DATASET



The screenshot shows the VidaExpert software interface. The main window displays a table titled "Таблица - iris.vet" with the following data:

	N1	N2	N3	N4	IRIS-SETOS
1	4.9	3	1.4	0.2	Iris-setosa
2	4.7	3.2	1.3	0.2	Iris-setosa
3	4.6	3.1	1.5	0.2	Iris-setosa
4	5	3.6	1.4	0.2	Iris-setosa
5	5.4	3.9	1.7	0.4	Iris-setosa
6	4.6	3.4	1.4	0.3	Iris-setosa
7	5	3.4	1.5	0.2	Iris-setosa
8	4.4	2.9	1.4	0.2	Iris-setosa
9	4.9	3.1	1.5	0.1	Iris-setosa
10	5.4	3.7	1.5	0.2	Iris-setosa
11	4.8	3.4	1.6	0.2	Iris-setosa
12	4.8	3	1.4	0.1	Iris-setosa
13	4.3	3	1.1	0.1	Iris-setosa
14	5.8	4	1.2	0.2	Iris-setosa
15	5.7	4.4	1.5	0.4	Iris-setosa
16	5.4	3.9	1.3	0.4	Iris-setosa
17	5.1	3.5	1.4	0.3	Iris-setosa
18	5.7	3.8	1.7	0.3	Iris-setosa
19	5.1	3.8	1.5	0.3	Iris-setosa
20	5.4	3.4	1.7	0.2	Iris-setosa
21	5.1	3.7	1.5	0.4	Iris-setosa

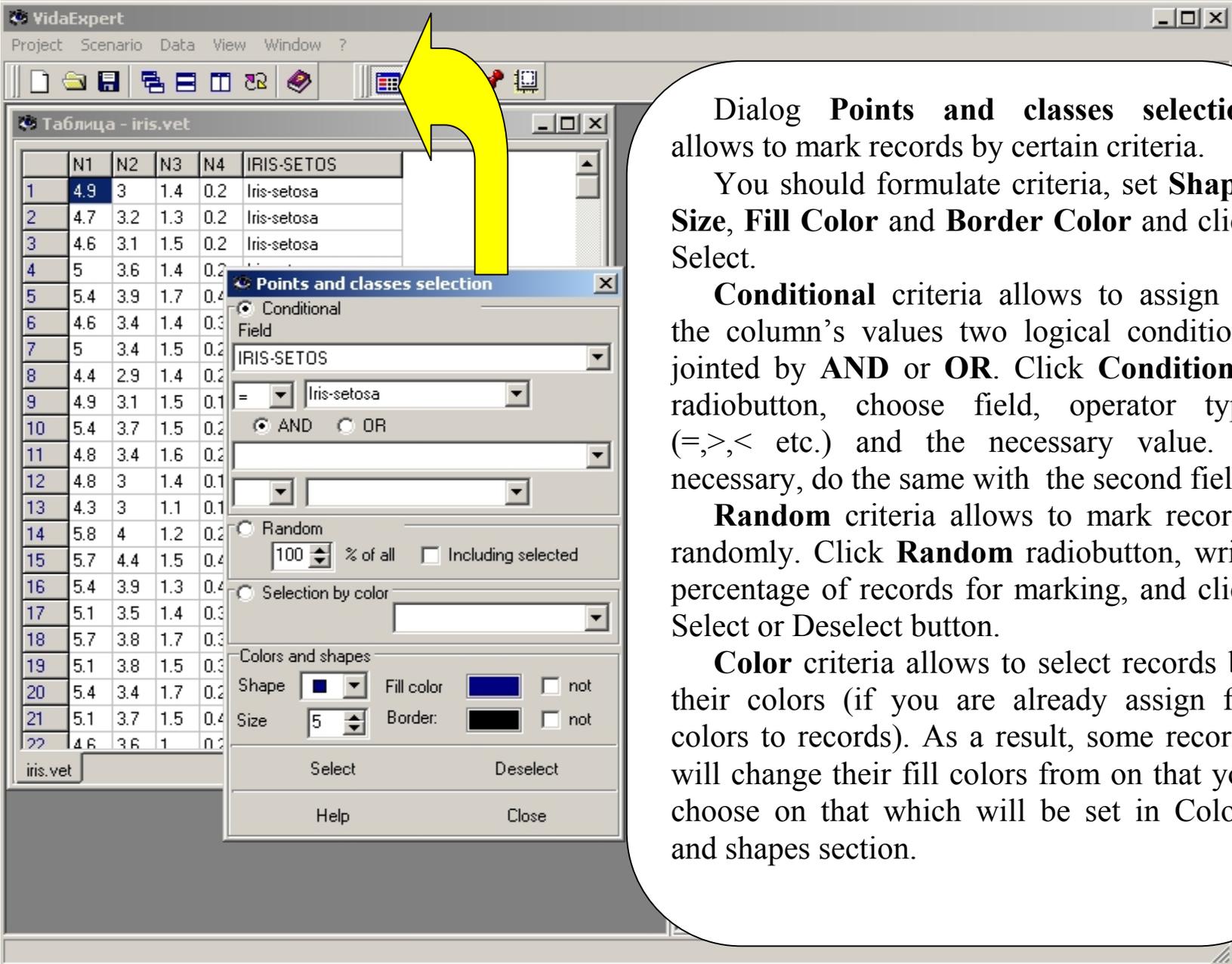
A context menu is open over the table, showing options: Mark, Unmark, Sort ascending, Sort descending, Change table, Transpose, In Excel, and In CSV. A yellow arrow points from the text box to the context menu.

The interface also shows a "Scenarios" panel on the right with a list containing "iris".

Highlight several records in the table and you can **mark and **unmark** these records (right-click). Unmarked records will not be included in the dataset.**

In addition, you can **sort table by the values of current column, you can **change** table for another one, transpose table (columns become rows and rows become columns), print out the table (as you see it) in **Excel** or **CSV** file.**

VIDAEXPERT: WORKING WITH DATASET



The screenshot shows the VidaExpert application window. The main window title is 'VidaExpert' and the menu bar includes 'Project', 'Scenario', 'Data', 'View', and 'Window'. Below the menu bar is a toolbar with various icons. The main area displays a table titled 'Таблица - iris.vet' with columns N1, N2, N3, N4, and IRIS-SETOS. The table contains 22 rows of data. A yellow arrow points from the 'Points and classes selection' dialog box to the table. The dialog box has three radio buttons: 'Conditional' (selected), 'Random', and 'Selection by color'. The 'Conditional' section includes a 'Field' dropdown set to 'IRIS-SETOS', an operator dropdown set to '=', and a value dropdown set to 'Iris-setosa'. The 'AND' radio button is selected. The 'Random' section includes a percentage spinner set to '100', a '% of all' label, and an 'Including selected' checkbox. The 'Selection by color' section includes a color dropdown. The 'Colors and shapes' section includes 'Shape' (set to a square), 'Fill color' (set to blue), 'Border' (set to black), and 'Size' (set to 5). There are 'Select', 'Deselect', 'Help', and 'Close' buttons at the bottom of the dialog box.

Dialog **Points and classes selection** allows to mark records by certain criteria.

You should formulate criteria, set **Shape**, **Size**, **Fill Color** and **Border Color** and click **Select**.

Conditional criteria allows to assign to the column's values two logical conditions jointed by **AND** or **OR**. Click **Conditional** radiobutton, choose field, operator type (=,>,< etc.) and the necessary value. If necessary, do the same with the second field.

Random criteria allows to mark records randomly. Click **Random** radiobutton, write percentage of records for marking, and click **Select** or **Deselect** button.

Color criteria allows to select records by their colors (if you are already assign fill colors to records). As a result, some records will change their fill colors from on that you choose on that which will be set in **Colors and shapes** section.

VIDAEXPERT: WORKING WITH DATASET

3. Finally, click Create dataset button.

1. Click on the table in Object Manager to go to the final stage of creating dataset.

2. You should mark the fields for including in the dataset and set the rule of normalization for every field.
The fields which are not marked will not be included in the resulting dataset.
Exclude gaps checkbox allows not to include in the dataset those records which contain gaps (unknown values).

	N1	N2	N3	N4	IRIS-SETOS
39	5.1				
40	5				
41	4.5				
42	4.4				
43	5				
44	5.1				
45	4.8				
46	5.1				
47	4.6	3.2	1.4	0.2	Iris
48	5.3	3.7	1.5	0.2	Iris
49	5	3.3	1.4	0.2	Iris
50	7	3.2	4.7	1.4	Iris
51	6.4	3.2	4.5	1.5	Iris
52	6.9	3.1	4.9	1.5	Iris
53	5.5	2.3	4	1.3	Iris
54	6.5	2.8	4.6	1.5	Iris
55	5.7	2.8	4.5	1.3	Iris
56	6.3	3.3	4.7	1.6	Iris
57	4.9	2.4	3.3	1	Iris
58	6.6	2.9	4.6	1.3	Iris
59	5.2	2.7	3.9	1.4	Iris-versicolor
60	5	2	3.5	1	Iris-versicolor
61	5.9	3	4.2	1.5	Iris-versicolor
62	6	2.2	4	1	Iris-versicolor
63	6.1	2.9	4.7	1.4	Iris-versicolor

Table fields:

- N1
- N2
- N3
- N4
- IRIS-SETOS

Normalization selected fields:

- Exclude gaps
- On logarithm
- On hyperbolic tangent
- On standart deviation
- On (-1;1) diapason

VIDAEXPERT: WORKING WITH DATASET

The screenshot displays the VidaExpert software interface. The main window is titled "VidaExpert" and contains a menu bar (Project, Scenario, Data, Map, View, Window, ?) and a toolbar. A secondary toolbar on the right includes a zoom level of "Without adjusting 10*10" and an "AUTO" button.

On the left, a window titled "Таблица - iris.vet" displays a data table with 25 rows and 6 columns. The columns are labeled "N1", "N2", "N3", "N4", and "IRIS-SETOS". The first row is highlighted in blue.

On the right, an "Object Manager" window shows a tree structure under the name "iris". It contains two sub-items: "Tables" (with "iris.vet" listed below it) and "Data" (with "Datasets01" listed below it). The "Datasets01" item is highlighted with a blue selection box.

A yellow callout box with a white background and a black border is positioned over the "Object Manager" window. It contains the text: "After creating dataset, click on it in Object Manager, and click on **Create Map** button." Two yellow arrows originate from the text box: one points to the "Datasets01" item in the Object Manager, and the other points to the "Create Map" button in the secondary toolbar on the right.

	N1	N2	N3	N4	IRIS-SETOS
1	4.9	3	1.4	0.2	Iris-setosa
2	4.7	3.2	1.3	0.2	Iris-setosa
3	4.6	3.1	1.5	0.2	Iris-setosa
4	5	3			
5	5.4	3			
6	4.6	3			
7	5	3			
8	4.4	2			
9	4.9	3.1			
10	5.4	3.7	1.5	0.2	Iris-setosa
11	4.8	3.4	1.6	0.2	Iris-setosa
12	4.8	3	1.4	0.1	Iris-setosa
13	4.3	3	1.1	0.1	Iris-setosa
14	5.8	4	1.2	0.2	Iris-setosa
15	5.7	4.4	1.5	0.4	Iris-setosa
16	5.4	3.9	1.3	0.4	Iris-setosa
17	5.1	3.5	1.4	0.3	Iris-setosa
18	5.7	3.8	1.7	0.3	Iris-setosa
19	5.1	3.8	1.5	0.3	Iris-setosa
20	5.4	3.4	1.7	0.2	Iris-setosa
21	5.1	3.7	1.5	0.4	Iris-setosa
22	4.6	3.6	1	0.2	Iris-setosa
23	5.1	3.3	1.7	0.5	Iris-setosa
24	4.8	3.4	1.9	0.2	Iris-setosa
25	5	3	1.6	0.2	Iris-setosa

VIDAEXPERT: WORKING WITH DATASET

The screenshot displays the VidaExpert software interface. The main window is titled "Map - Map001" and shows a scatter plot of data points. A yellow arrow points to a button in the toolbar above the map panel. A callout box contains the text: "Now dataset is displayed on the Map panel. You can quickly switch between Map and Table panels by clicking this." The right side of the interface features a tree view showing the project structure: "iris" (Tables: iris.vet, Data: Datasets01, Map001, Datasets). Below the tree view is a "Maps:" panel with a checkbox for "Map001". At the bottom, there is a data table with columns for X, Y, and Iris-setosa, and a dropdown menu showing "iris.vet".

Now dataset is displayed on the **Map** panel. You can quickly switch between **Map** and **Table** panels by clicking this.

X:	Y:	Iris-setosa
25	5	3
1.6	0.2	Iris-setosa

iris.vet

VIDAEXPERT: WORKING WITH DATASET

The screenshot shows the VidaExpert software interface. The main window displays a 3D scatter plot of data points in a coordinate system. The points are colored and shaped based on their class: red squares, yellow triangles, and green diamonds. The plot is titled "Map - Map001".

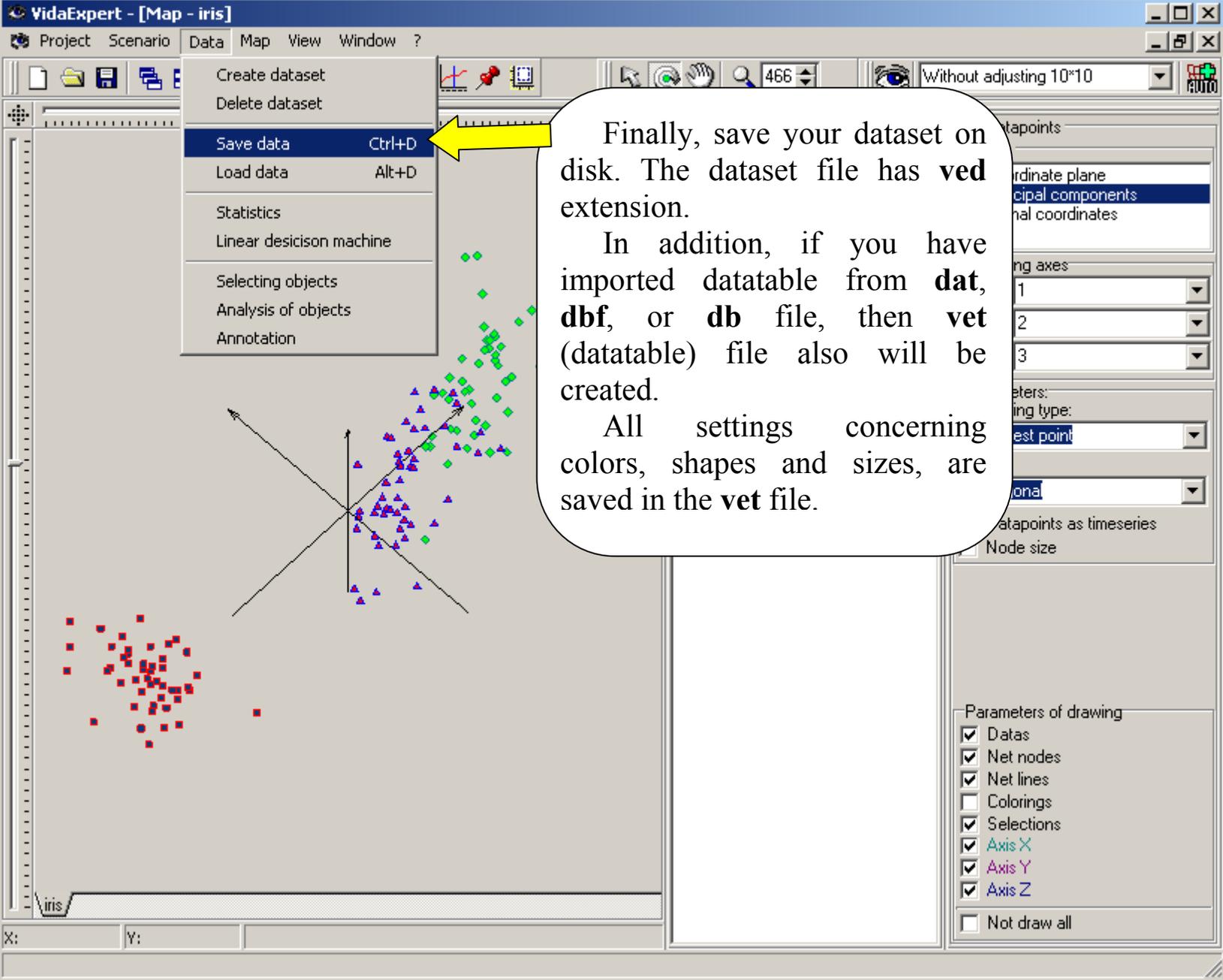
On the right side, there is a settings panel for the dataset. The "Views" section is expanded, showing three options: "On coordinate plane" (selected), "On principal components", and "In internal coordinates". Below this, the "Choosing axes" section has three dropdown menus for "Axis 1: N1", "Axis 2: N2", and "Axis 3: N3". The "Parameters" section includes "Projecting type: In closest point" and "View: Orthogonal". There are also checkboxes for "Datapoints as timeseries" and "Node size".

At the bottom of the interface, there is a data table with columns for X, Y, and other variables. The table shows data for "Iris-setosa" and "iris.vet".

Three callout boxes with yellow arrows provide instructions:

- Click on Datasets to change parameters of displaying
- Select **View** type: you can display dataset in the linear subspaces spanned by three coordinate axes, or you can display dataset in the linear subspaces spanned by principal vectors.
- You can display dataset as a timeseries.

VIDAEXPERT: WORKING WITH DATASET



The screenshot shows the VidaExpert software interface. The main window displays a scatter plot with three clusters of data points: red squares, purple triangles, and green diamonds. A coordinate system with X and Y axes is overlaid on the plot. The 'Data' menu is open, and the 'Save data' option is highlighted with a yellow arrow. The 'Save data' option has the keyboard shortcut 'Ctrl+D' next to it. Other options in the menu include 'Create dataset', 'Delete dataset', 'Load data' (Alt+D), 'Statistics', 'Linear decision machine', 'Selecting objects', 'Analysis of objects', and 'Annotation'. The interface also shows a toolbar with various icons, a status bar at the bottom with 'X:' and 'Y:' fields, and a right-hand panel with various settings and parameters.

Finally, save your dataset on disk. The dataset file has **ved** extension.

In addition, if you have imported datatable from **dat**, **dbf**, or **db** file, then **vet** (datatable) file also will be created.

All settings concerning colors, shapes and sizes, are saved in the **vet** file.