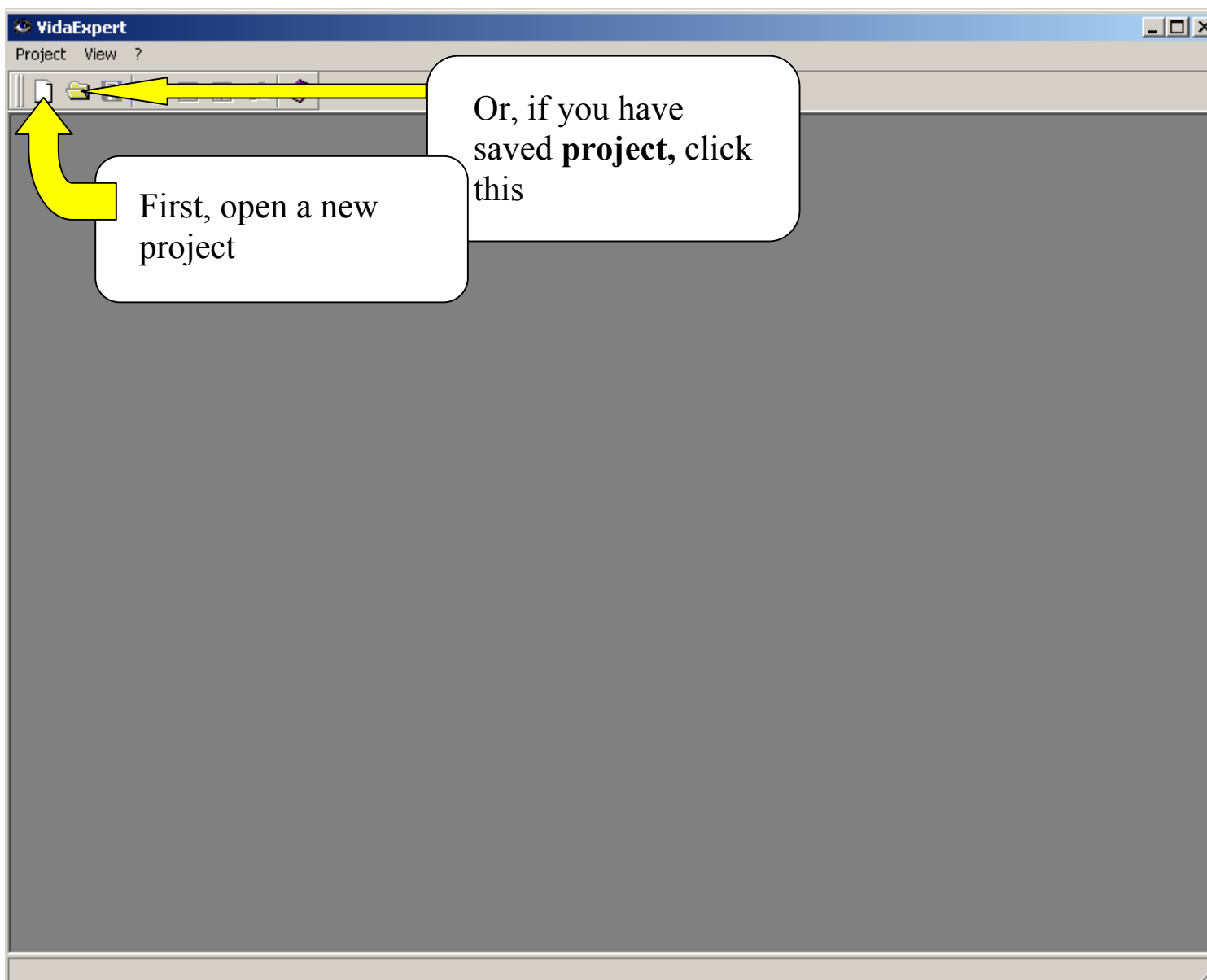


VIDAEXPERT: WORKING WITH DATASET



VIDAEXPERT: WORKING WITH DATASETS

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". A toolbar is located at the top of the right-hand section. Yellow callout boxes with arrows point to specific icons in this toolbar: one points to a folder icon with the text "To open a **new** datatable, click this"; another points to a document icon with the text "If you already have a **map** saved in ViDaExpert, click this"; and a third points to a document with a lightning bolt icon with the text "If you already have a **dataset** saved in ViDaExpert, click this".

Project Scenario View Window ?

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

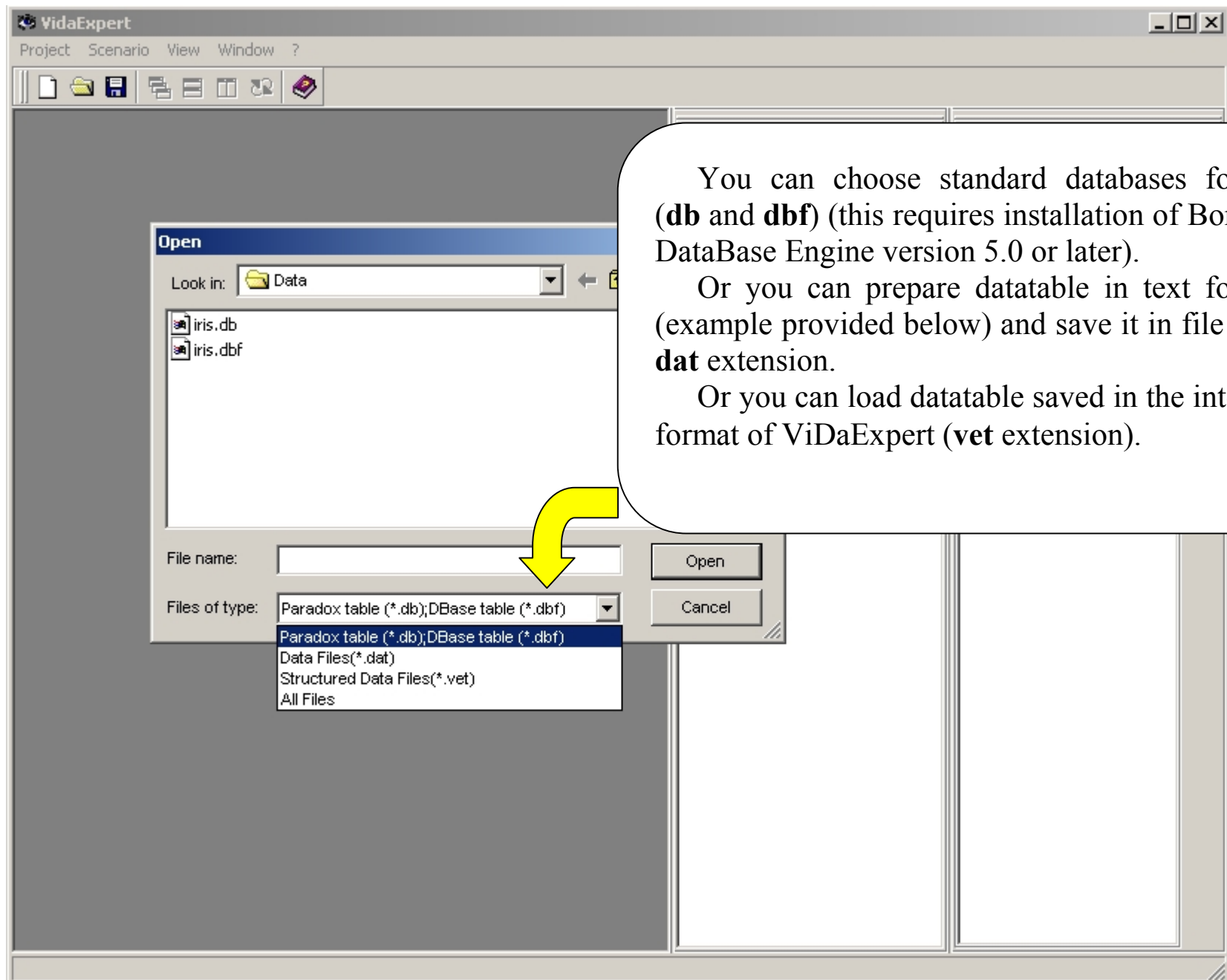
Object Manager Panel

Work with Objects Panel

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

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

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-SETOS'. The table has columns for 'N1', 'N2', 'N3', and 'I'. The data rows are as follows:

	N1	N2	N3	I
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

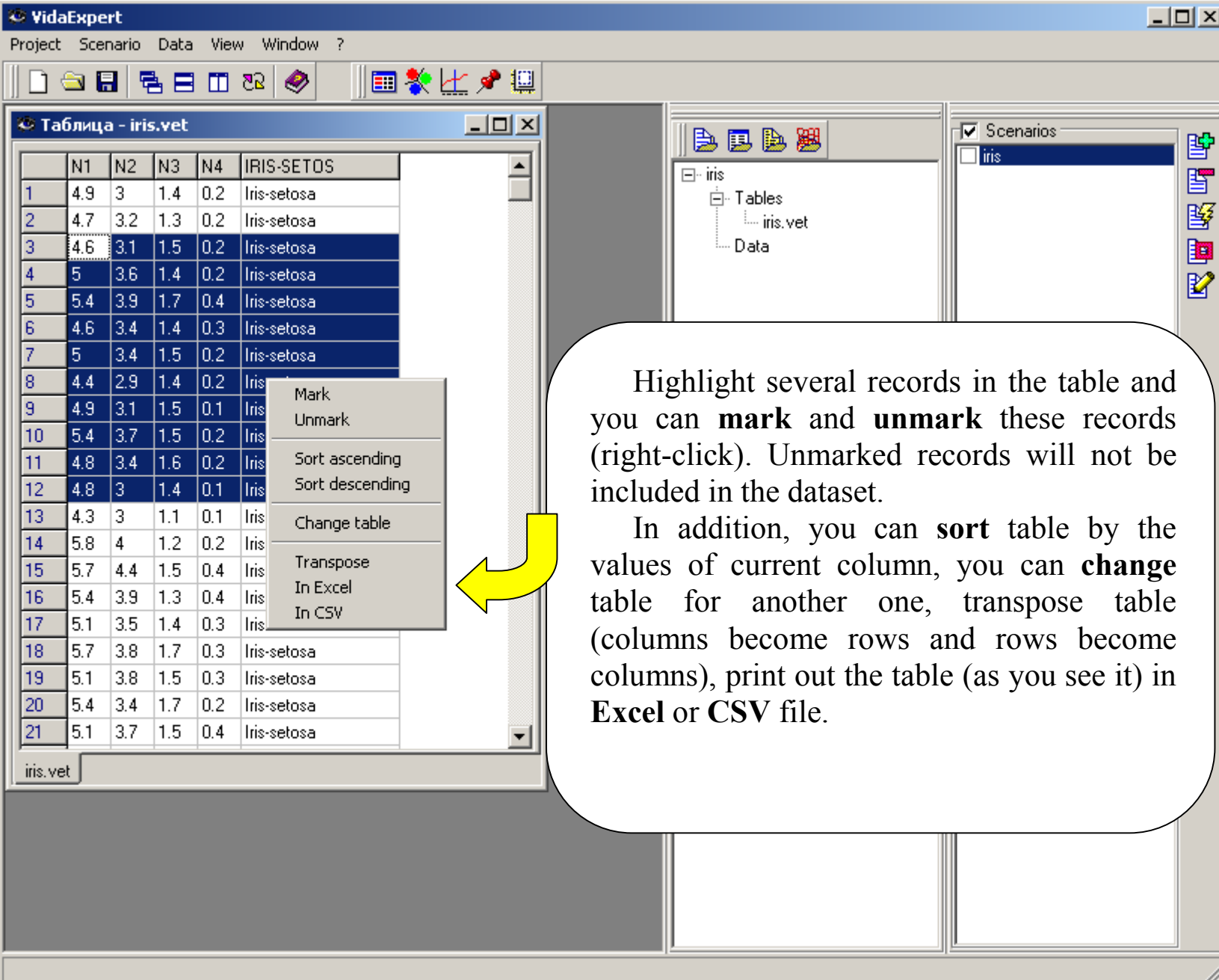
On the right, there is an 'Object Manager Panel' showing a tree structure with 'iris' at the top, containing 'Tables' and 'Data'. Below this is a 'Scenarios' panel with a list containing 'iris'. A yellow arrow points from a callout box to the 'iris' scenario. Another yellow arrow points from a callout box to the 'Tables' folder in the Object Manager Panel. A third yellow arrow points from a callout box to the 'Data' folder in the Object Manager Panel.

Gaps in the datatable are displayed as blank spaces

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.

You can add and delete scenarios by clicking on these buttons.

VIDAEXPERT: WORKING WITH DATASET



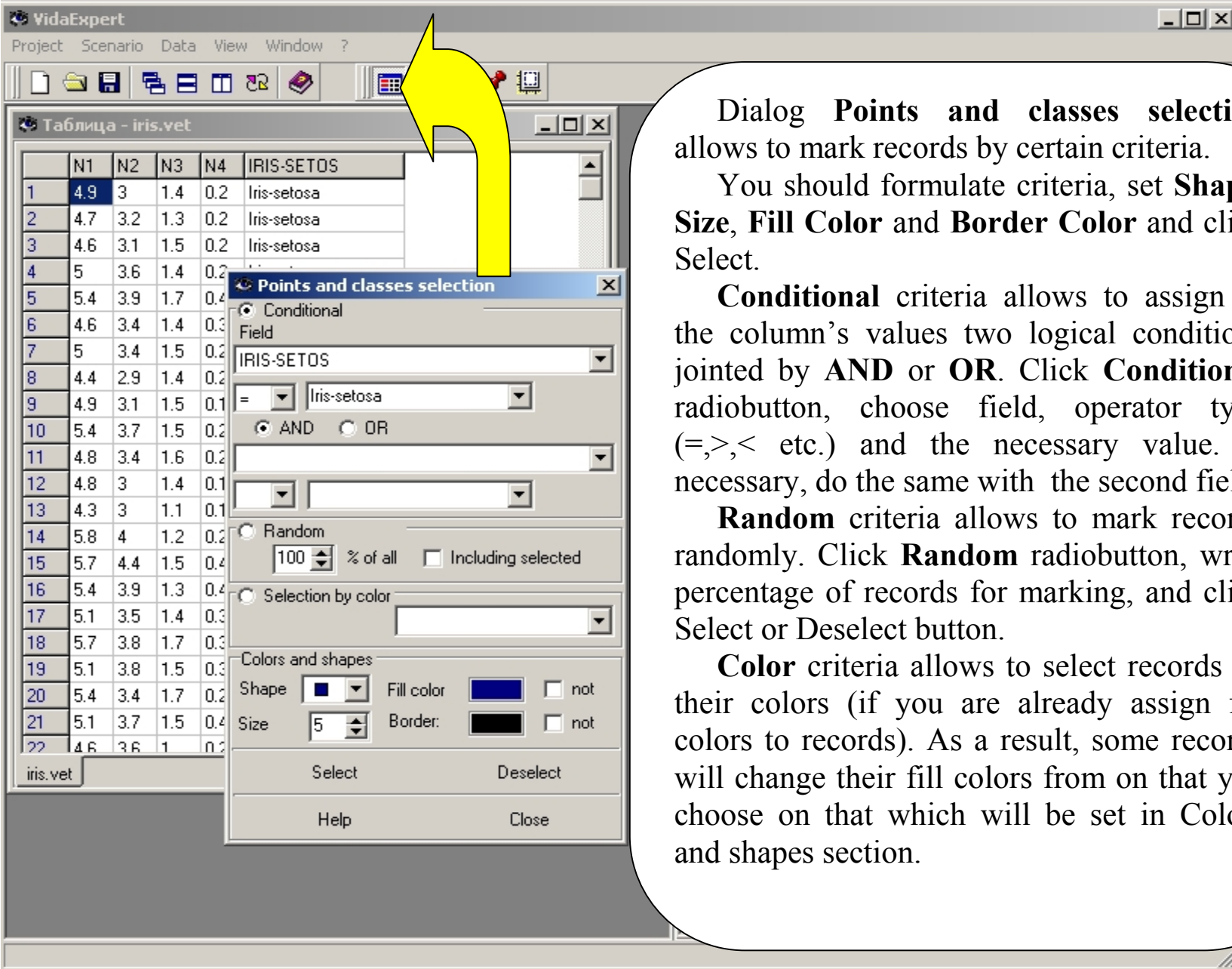
The screenshot shows the VidaExpert application window. The main window displays a table titled "Таблица - iris.vet" with columns N1, N2, N3, N4, and IRIS-SETOS. A context menu is open over the table, listing options: Mark, Unmark, Sort ascending, Sort descending, Change table, Transpose, In Excel, and In CSV. A yellow arrow points from the text box to the context menu. On the right, a "Scenarios" panel shows a tree view with "iris" selected under "Tables".

	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

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 software interface. The main window displays a table with columns N1, N2, N3, N4, and IRIS-SETOS. The first row is highlighted in blue. A dialog box titled "Points and classes selection" is open over the table. The dialog 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" and a checkbox for "Including selected". The "Selection by color" section includes a color dropdown. The "Colors and shapes" section includes a "Shape" dropdown set to a square, a "Fill color" dropdown set to blue, a "Size" spinner set to "5", and a "Border" dropdown set to black. There are "Select", "Deselect", "Help", and "Close" buttons at the bottom of the dialog. A yellow arrow points from the dialog box to the table.

	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
22	4.6	3.6	1	0.2	Iris-setosa

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

VIDAEXPERT: WORKING WITH DATASET

The screenshot displays the VidaExpert software interface. On the left, a window titled "Таблица - iris.vet" shows a table with 25 rows of data. The columns are labeled N1, N2, N3, N4, and IRIS-SETOS. The first row is highlighted in blue. A yellow callout box with a white background and a black border is positioned over the table, containing the text: "After creating dataset, click on it in Object Manager, and click on **Create Map** button." Two yellow arrows point from the callout box to the "Datasets01" entry in the Object Manager and the "Create Map" button in the Maps panel.

Object Manager (iris):

- Tables
 - iris.vet
- Data
 - Datasets01**

Maps: Maps:

	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 toolbar contains various icons for file operations, data manipulation, and navigation. The right side of the interface features a tree view showing the project structure, including "iris", "Tables", "Data", and "Datasets01". Below the tree view is a "Maps:" panel with a checkbox for "Map001". At the bottom of the map panel, there are input fields for "X:" and "Y:" and a table with data points.

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".

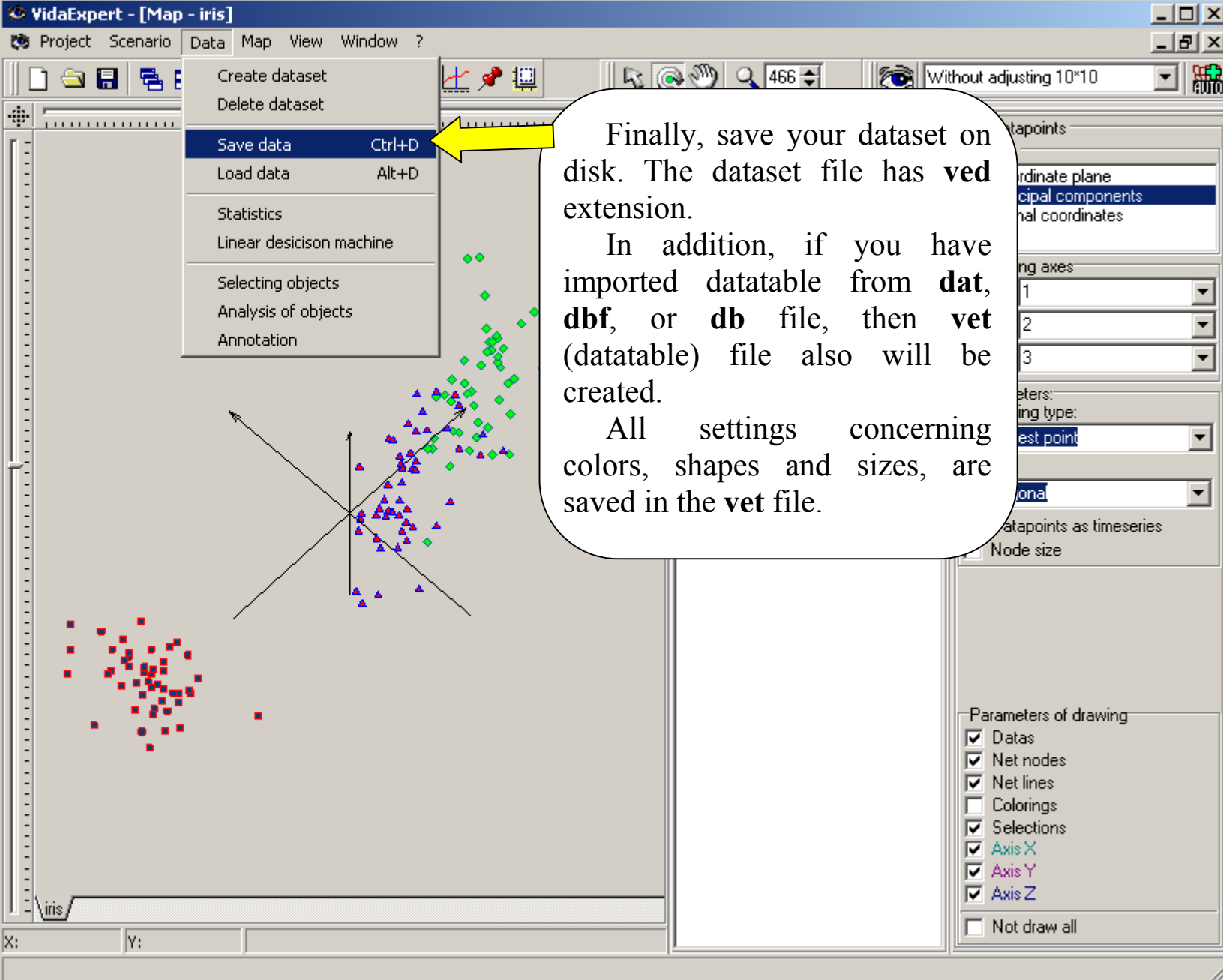
On the right side, there is a settings panel for the dataset. The "Views" section is expanded, showing three options: "On coordinate plane" (selected), "On principal components", and "In internal coordinates". Below this, the "Choosing axes" section has three dropdown menus for "Axis 1: N1", "Axis 2: 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 first row shows values 25, 5, 3, 1.6, 0.2 for the variables Iris-setosa, Iris-versicolour, Iris-virginica, Sepal-length, and Sepal-width. The second row shows values 1, 4.9, 1.4, 0.5, 0.2 for the variables Iris-setosa, Iris-versicolour, Iris-virginica, Sepal-length, and Sepal-width.

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 right side of the interface shows various settings panels, including 'Parameters of drawing' with checkboxes for 'Datas', 'Net nodes', 'Net lines', 'Colorings', 'Selections', 'Axis X', 'Axis Y', 'Axis Z', and 'Not draw all'. The status bar at the bottom shows 'X:' and 'Y:' coordinates.

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.