Project "Transboundary Water Management in the Central Asian Region (GIZ TWMP)"

Administrator's manual on the use and management of on-line GIZ TWM CA database

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of on-line GIZ TWM CA database

Tashkent

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Introduction

This Manual is designed for administrators of the GIZ TWM CA Information System and can help changing the DB structure and keeping track of DB operation and management in on-line regime.

This Manual is written on the basis of the User's Guide (April 2011) and supplemented by examples of IS management and development for individuals, who are skilled in DBMS and are the main supporters of trouble-free operation of IS at the local level (water-management divisions).
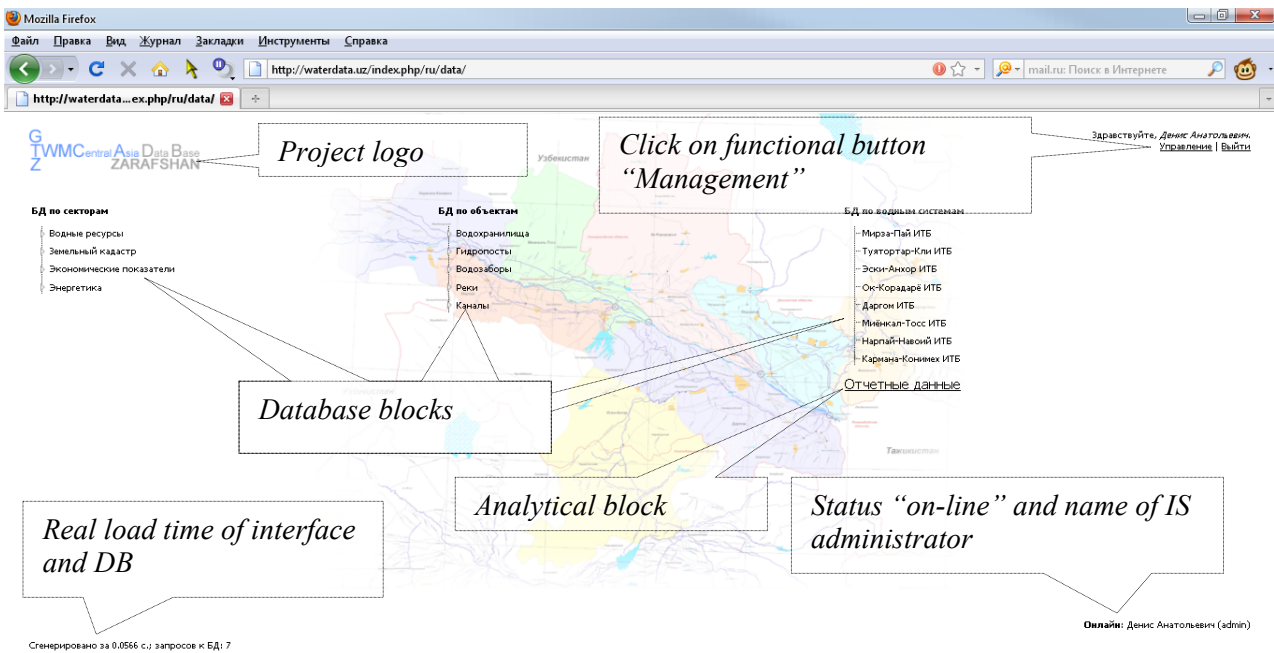
Log-in

Every registered user with administrator's rights has his/her login and password to access the IS' protected zone (DB design algorithm) in on-line regime. These rights should be strongly confidential and not be made public in order to avoid unautho-rized access to DB algorithms.

1) In respective field of any web-browser type address of given resource (let's consider Zaravshan IS as an example and type *http://waterdata.uz*);
2) Choose Interface language (Russian on default);
3) In the fields "Login" and "Password" input administrative data received;
4) Click "Login";

⚲ Use only Latin alphabet here!

5) If all fields are filled correctly, the IS interface will be opened. Then click on "Management" in the upper right corner.

Project logo

Click on functional button "Management"

Database blocks

Analytical block

Status "on-line" and name of IS administrator

Real load time of interface and DB

Function "Management"

1) When clicking on "Management", a window will be opened to work with IS design and modification algorithms. In this window the user can see all main functional blocks: IS Information field; blocks "Functions"; "DB on sectors"; "DB on objects"; and, "DB on water resources".

2) To return to the data window, click on "Data".

Button of return to DB data interface

IS Information field

Block of management categories: "Functions", "DB on sectors", "DB on objects", "DB on water resources"
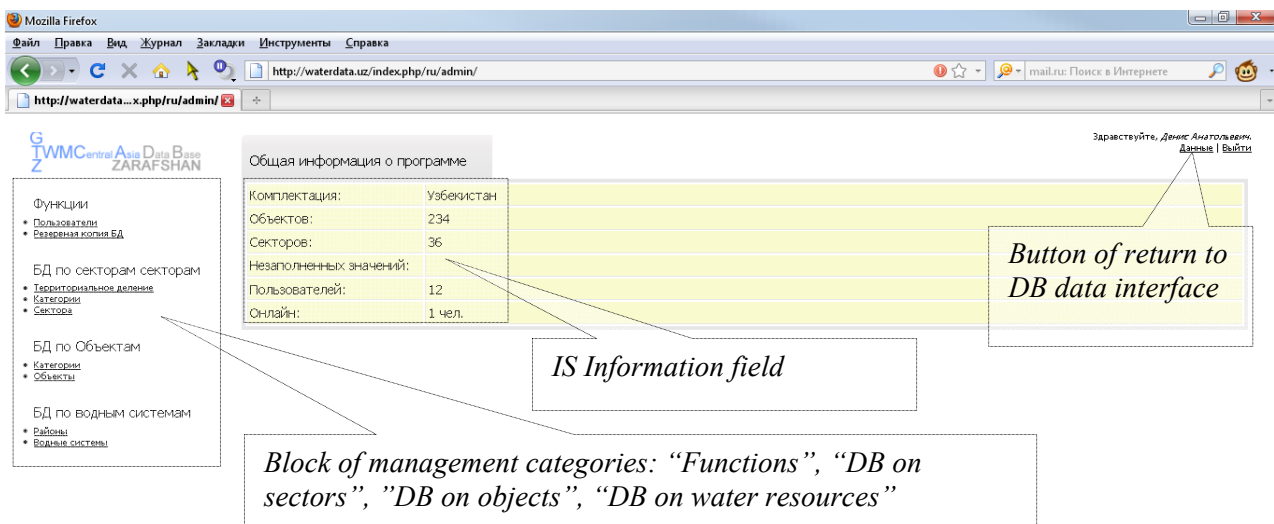
Category "Functions"

The category is divided into two blocks: "Users", "DB backup". The administrator has a right to control the list of users, assign them different levels of access, and remove or register new users.

1) For switching to adding and deleting of users and for changing their rights, click on button "Users";

1) Click on "Users"

Pop-up list of users

Choose a user from the list

Button to delete a user from DB

Field for information about user

Choosing access rights

To confirm changes, please, click on "Сохранить/Save"

2) In the pop-up list the administrator can choose a user from the existing ones or add new one. For adding a new user[1], it is necessary to fill in the information field "Name", set login and password, assign respective rights[2] and click on the button "Save";

3) For changing information about existing user and/or assign another level of access, it is necessary to choose this user from the list and make required changes. Then click on the button "Save".

The section "DB backup" allows the administrator to save a copy of the whole DB on the hard disk of his/her computer (Backup) in any moment of time and/or upload one of last DB versions on the project server from the hard disk or any other medium (Restore).

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[1] *This function is similar to the process of independent registration of new users but with assignment of various access rights*
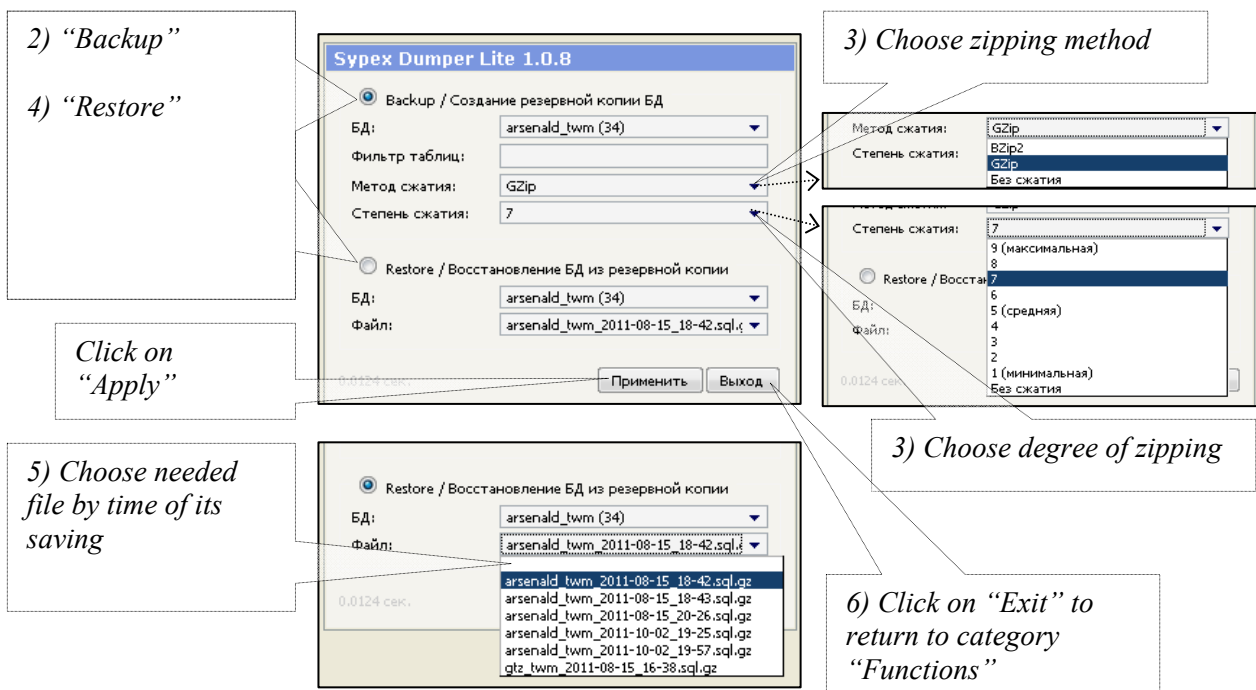
[2] *"User" – view of information, "Editor" – correction and change of data, "Administrator" – full access, including possibility to change the DB structure*

1) When clicking on the button "DB backup", an information panel is opened for operation with DB file;

1) Click on "DB backup"
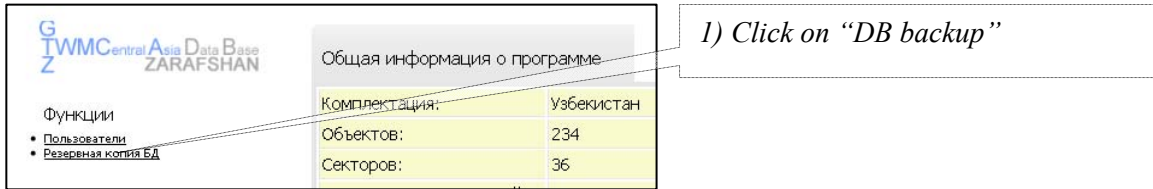
2) To save the file, put cursor on the: function "Backup, the name of the file is not changed – "arsenald_twm (34)" (on default);
3) Then, from popping up lists choose one of zipping methods: "BZip2", "GZip" (on default), "No zipping" and degree of zipping from 1 to 9 (the higher degree of file zipping, the longer time is taken for its backup), click on the button "Apply";
4) For uploading the file, put cursor on the: function "Restore (Restore DB from backup)";
5) Then choose needed file by time of its creation (for example: arsenald_twm_2011-08-15_18-42.sql.gz) and click on the button "Apply";

2) "Backup"

4) "Restore"

3) Choose zipping method

Click on "Apply"

5) Choose needed file by time of its saving

3) Choose degree of zipping

6) Click on "Exit" to return to category "Functions"

6) Return to category "Функции/Functions" is activated by button "Выход/Exit".

Category "DB on sectors"

This category consists of three blocks: "Territorial division", "Categories" and "Sectors". Administrator may change the internal structure of these three blocks, depending on targets set for construction of hierarchical chain of water-management objects and categories.

1) Click on respective button on the left panel in order to switch to "Territorial division" regime;
2) Choose an item of territorial division (provinces, districts, and other territorial divisions) from the list of existing items or enter name of new one (-s), thus adding it to DB structure;
3) After correction of the name or entering new one, click on the button "Save".

1) Click on "Territorial division"

2) Create new iem of territorial division or select it from the list for correction of its name

3) Enter the name of new item

3) Click on "Save"

Thus, when selecting a parameter in the interface of the Database on sectors, the window with data will open. Here, the user can select needed information according to the chosen territorial division.
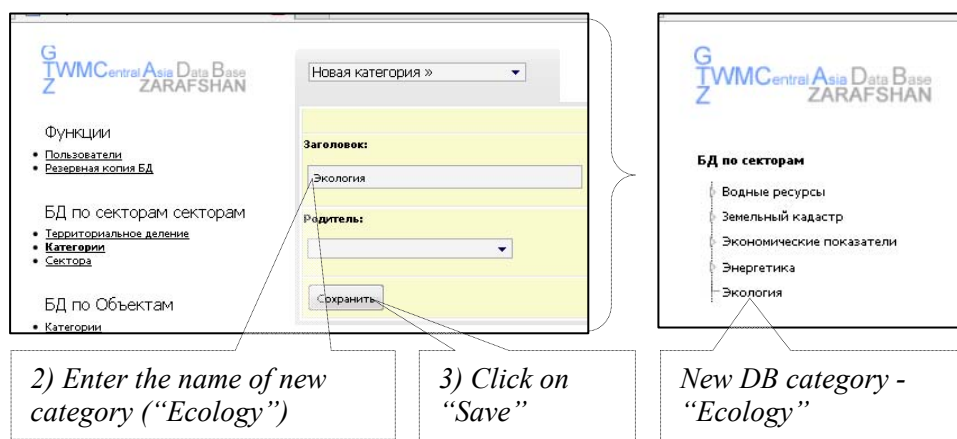

List of parameters in DB on sectors

List of items of territorial division in DB on sectors (in given case, districts)

1) Click on respective button on the left panel in order to switch to "Categories" regime;

1) Click on "Categories"

2) To add new parameters, it is necessary to create corresponding category (for example, the category "Ecology"), i.e. a block of parameters structured by subject area. Choose "New category" in the list of parameters and enter the name of category in the field "Title" – for instance, "Ecology";
3) Click on the button "Save";

2) Enter the name of new category ("Ecology")

3) Click on "Save"

New DB category - "Ecology"

Now, new category – "Ecology" – is added in the interface of DB on sectors.
This category can be divided into subcategories.

1) Choose "New category" in the list of parameters;
2) Enter the name of new subcategory in the field "Title" (for example "Water quality");
3) In the section "Parent" choose category "Ecology" from the list, thus we link given subcategory with the basic, parent category;
4) Click on the button "Save".

2) Enter name of new category (Water quality)

3) Choose parent category (Ecology)

4) Click on "Save"

New DB subcategory - "Water quality"

New subcategory "Water quality" under the category "Ecology" will be added to the interface of DB by sector.

✐ *This step is not needed if administrator does not intend to create subcategories but does want to start creating the list of parameters immediately.*

1) In order to add new parameters of categories, it is necessary to switch to "Sectors" regime on the left panel;

1) Click on "Sectors"

2) From the list of categories choose "Water quality", "New" (new parameter);
3) Enter the name of new parameter in the field "Name", for example "Salinity";
4) Set time interval for information, since (year) to (year), for example since 2000 to 2011;
5) Field "Additional column" is needed for aggregation of data by months, i.e. to get annual values of given parameter, average or total (if this field is left unmarked, the table will not contain the aggregation column). Choose "Sum";
6) Click on the button "Save".
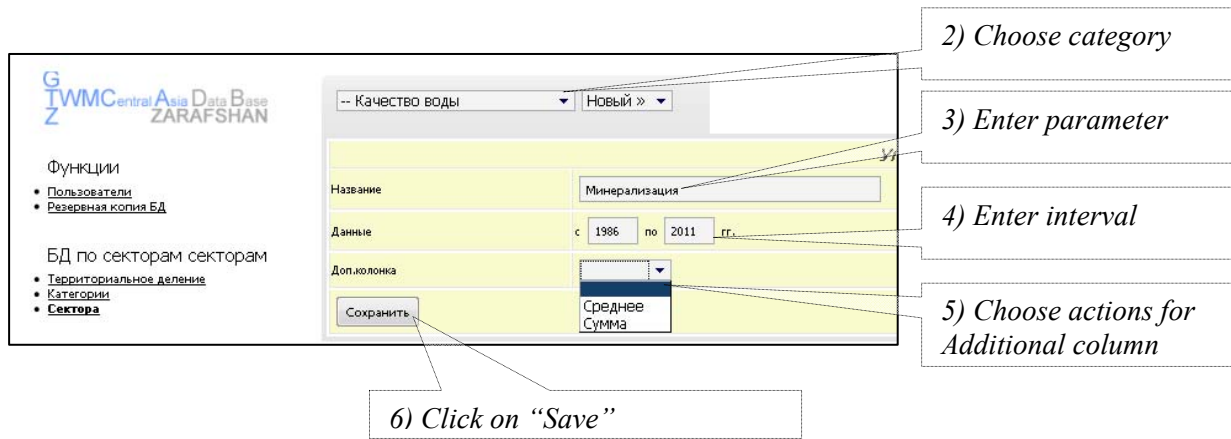
New parameter "Salinity" under subcategory "Water quality" of the category "Ecology" will be added to the interface of DB by sector.
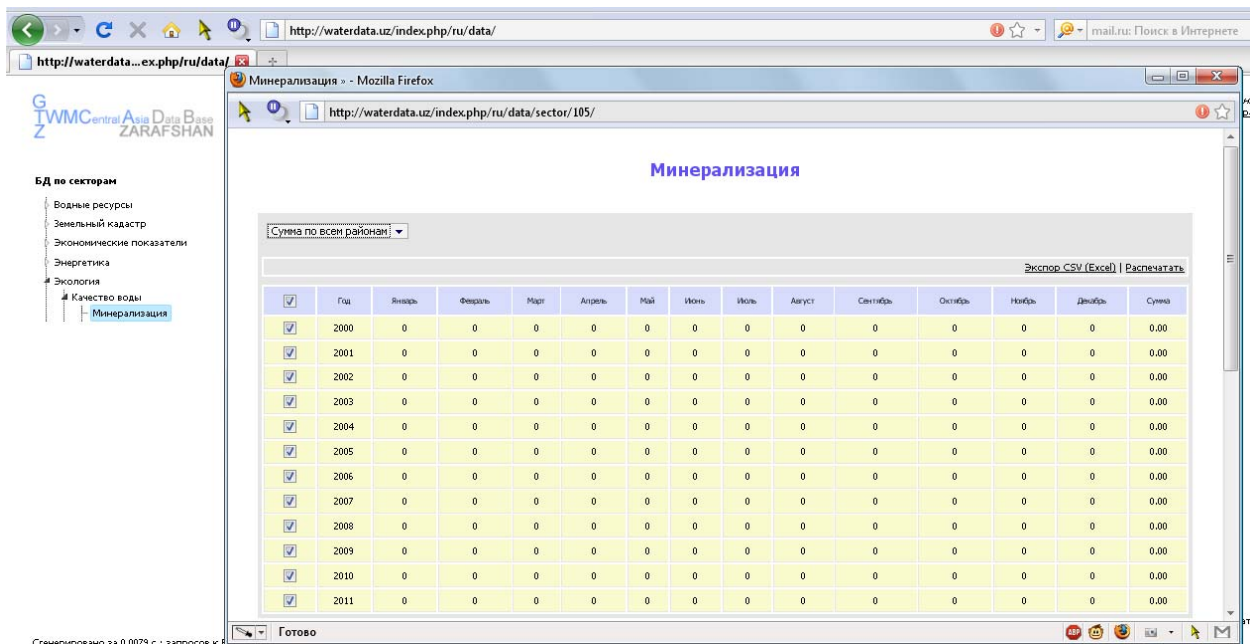
The number of parameters for each category is unlimited; therefore, administrator may enter new parameters according to target structure of the developed DB.

The final structure of categories and their parameters, for example in the block "Water resources" can be as follows:

1. Category – "Water resources":
   1.2. Subcategory – "Water use":
      1.2.1. Parameter – "Domestic-household";
      1.2.2. Parameter – " Irrigation";
      1.2.3. Parameter – "Other";
      1.2.4. Parameter – "General";
   1.3. Subcategory – "Water supply sources":
      1.3.1. Subcategory – " Surface water":
         1.3.1.1. Parameter – "Canals";
         1.3.1.2. Parameter – " Rivers";
         1.3.1.3. Parameter – "Reservoirs";
         1.3.1.4. Parameter – "Other";
         1.3.1.5. Parameter – "General";
      1.3.2. Subcategory – " Groundwater":
         1.3.2.1. Parameter – "General".
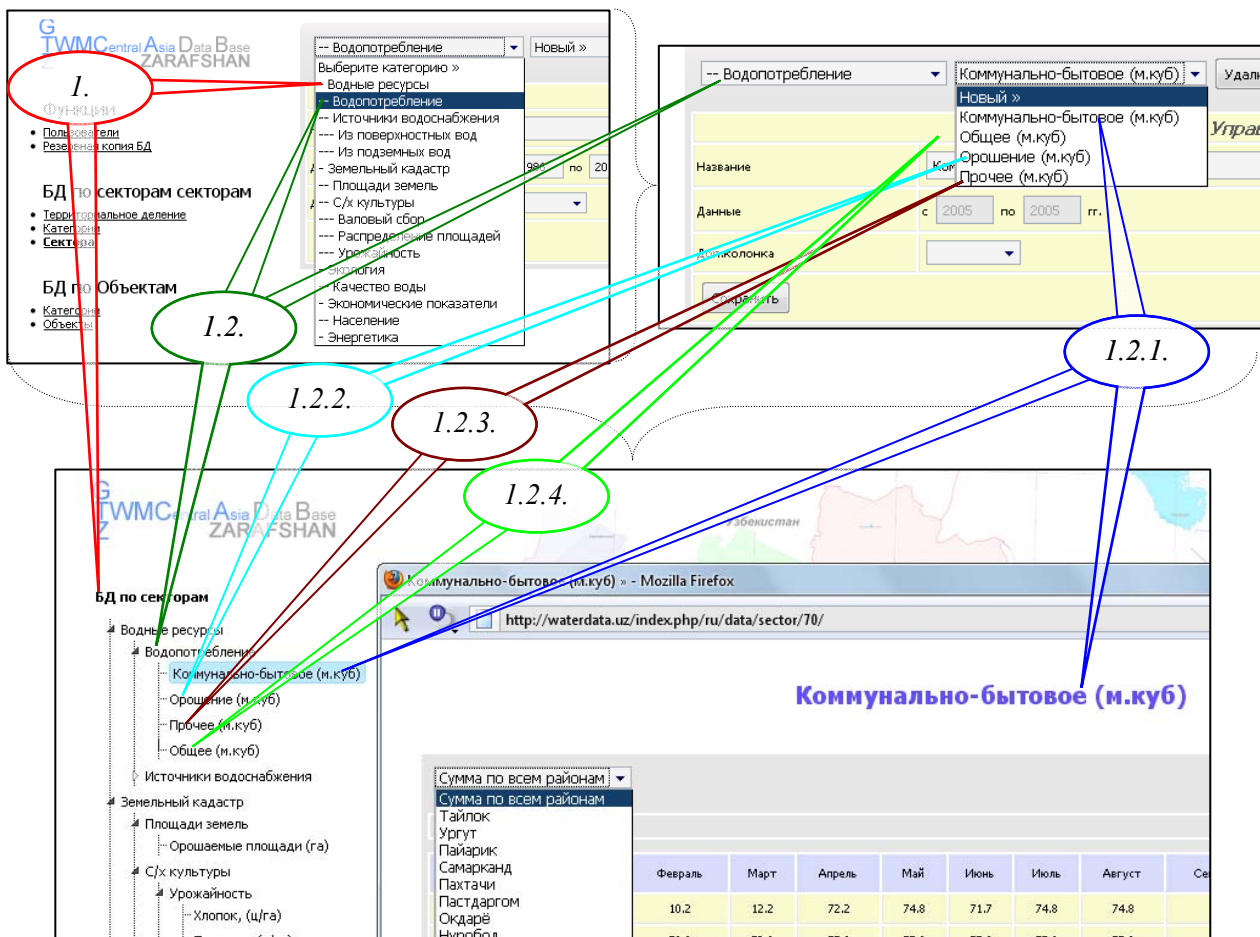
Category "DB on objects"

This category is divided into two blocks: "Categories" and "Objects". Administrator may change the internal structure of these blocks.

1) Click on respective button on the left panel in order to switch to the "Categories" regime;
2) In order to create a category of objects, choose "New type" and enter the name of new category ("parent"), for example: "Meteostations", thus adding this category to DB structure;

1) Switching to "Categories" regime of DB by object

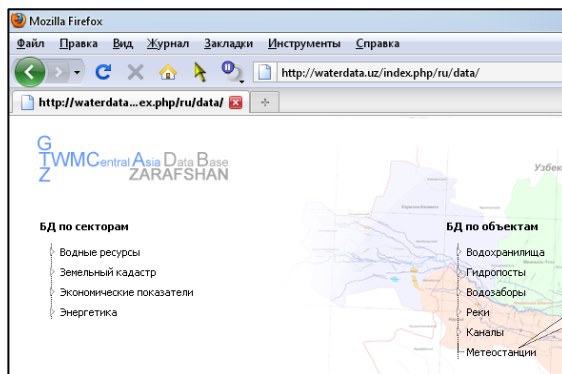*2) Enter new category of objects*

3) Select field "Type of object" in the list "Purpose"

5) Choose type of graph

6) Choose view of the objects list

7) Click on "Save"

4) Enter the name of new table

New category of DB on object s "Meteostations"

3) Select field "Type of object" in the pop-up list "Purpose";
4) Type the name of generated table for meteostations, for example– "meteo" (table names should be in Latin alphabet only);
5) In the field "Draw graph:" choose needed option from proposed ones, for example, "Rowwise" (these graph drawing options for tables are taken from the standard options of "MS Excel");
6) In the field "Sort rows" choose desired order (list of objects is formed in alphabetical order or on default), for example "by name";

7) Then, click on the button "Save."

Hence, administrator created and added new type of objects, such as "Meteo-stations" in the DB on objects.

In order to fill this block with a list of single-type objects, the below steps should be followed:
1) Return back to categories of objects by clicking on the button "Categories" on the left panel of functions;
2) Create new type of objects ("subordinate"). Type name of object in the field "Title", for example "Fergana";
3) Choose "Category" in the field "Purpose", and the below fields, such as "Name of table" and "Draw graph:" will become inactive;
4) In the field "Parent" select required record, that is "Meteostations", i.e. we link our object (meteostation Fergana) with its category (Meteostations);
5) Click on the button "Save".

1) *Switching to "Categories" regime of DB by object*

2) *Input the name of new object*

3) *Choose "Category" in the list "Purpose"*

4) *Choose the required category of objects in the field "Parent"*

5) *Click on "/Save"*

Repeat these steps if a few objects should be entered. For example, we add another two objects – Fedchenko and Namangan. Now, when clicking on "Categories" on the left functions panel, one may see the hierarchy of created objects in the list of categories, i.e. the category "Meteostations" contains such objects as Fergana, Fedchenko, and Namangan.


Category "Meteostations" contains objects: Namangan, Fedchenko and Fergana
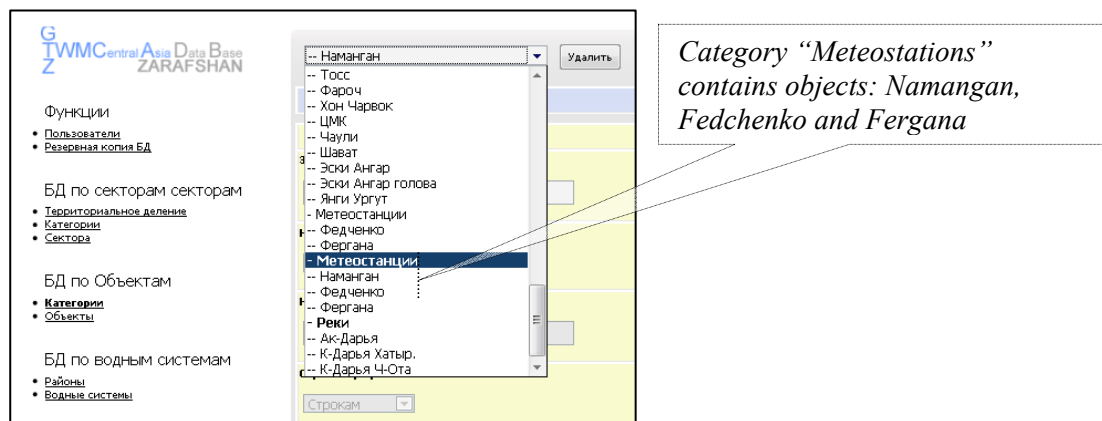
Developing table layout for single-type objects (falling into one category Meteo-stations"):

1) Choose the created type of objects - "Meteostations"; Fill in characteristics that refer to all objects of single type in the opened tab.
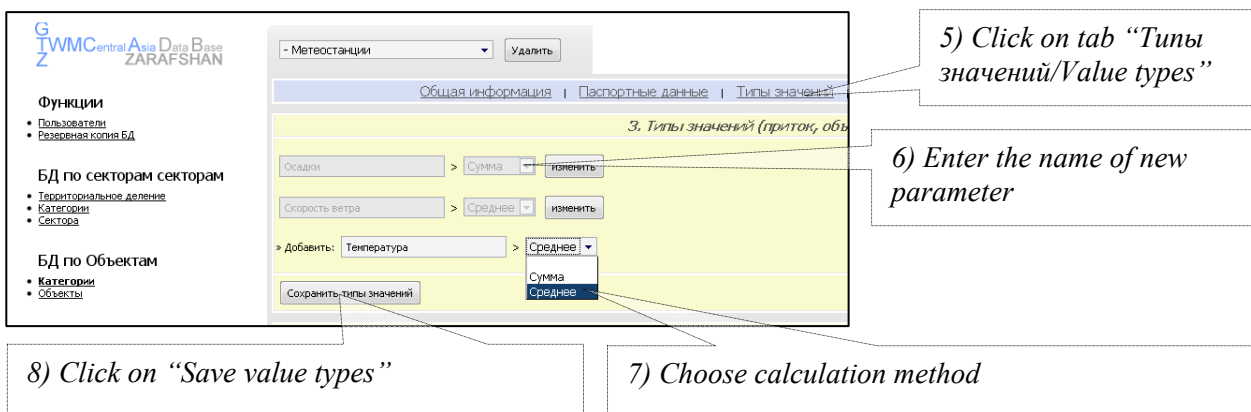
✍ ***The table layout, fields for passport data, and values types will be the same for all single-type objects.***

1) Choose type of objects *Tabs of object characteristics*
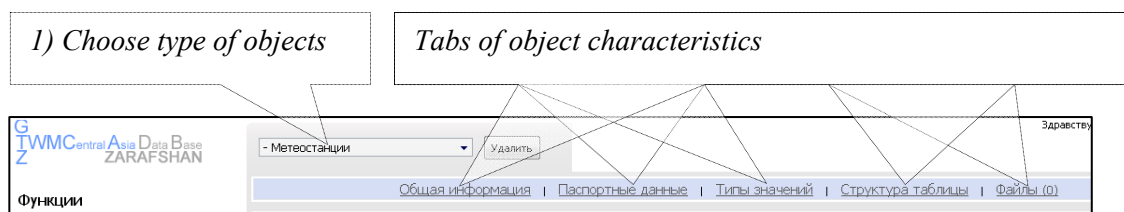
2) First tab - "General information" was already filled when creating the type of objects. Then click on tab – "Passport data". Passport data – this is the description of given object and its technical characteristics;
3) In the empty field input characteristic describing the object. After saving this record is saved, and an empty field appears below for input of next characteristic, if necessary. For example, input: "Year of construction", "Location", "Measurement frequency";
4) Click on the button "Save the field".

2) Click on tab "Passport data"

3) Input the name of object's new passport characteristic

4) Click on "Save the field"
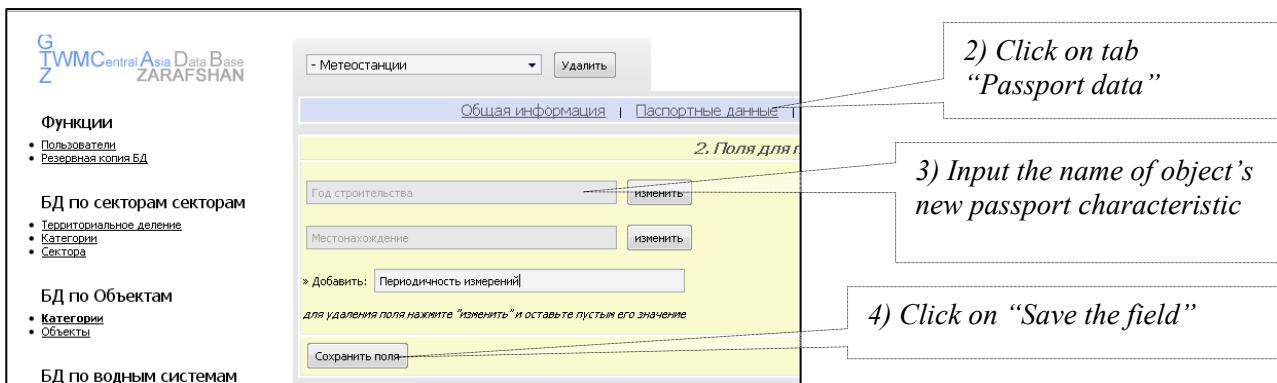
5) Switch to the next tab - "Value types". Here the list of value types is created, i.e. for measured parameters. Click on " Value types";

6) In the empty field input a value type of given object. After saving, a new field appears for input of new type, if necessary. For example, add three parameters: "Rainfall", "Wind speed", and "Temperature";

7) In the pop-up list select one of values for cumulative column of the future table: "Sum" or "Average", i.e. in the last column the data will be aggregated and computed automatically for selected value of field. For example, for rainfall – sum; for wind speed – average; and, for temperature – average as well;

8) Click on "Save value types";

5) Click on tab "Типы значений/Value types"

6) Enter the name of new parameter

8) Click on "Save value types"

7) Choose calculation method

9) The next tab forms layout of tables that will be displayed on interface when selecting parameters of object. Choose the tab "Table layout";

10) Input required quantity of cells

9) Click on "/Table layout"

11, 12) To display layout, click on arrow key

13) Click on "Save layout"

List of scenarios for laying out the tables

10) Administrator can build a table, based on tasks set. To this end, it is necessary to enter quantity of columns and rows in the cells: "Columns" and "Rows";
11) Then, click on the arrow key ">>" to display the layout of table;
12) For simplified construction of tables the developers provide a mechanism of construction using ready scenarios *. After selection of one or another scenario click on the arrow key ">>";
13) After selection of scenario or creation of one's own one, click on the button "Save layout", for example, let's select the scenario "(Month/Year)";
14) After saving the model layout, the layout of new table will be displayed on the tab. If necessary, administrator can delete this layout and create new one.

 Days in table's cells are set automatically according to their quantity in each month.

Ready table layout built by scenario "Month / Year"

14) To delete given table, click on "Delete table"

* List of available scenarios and their structure:

a)   *Day / Month - (31 day / 12 moths);*

b)   *Day+Daypart / Month – (31 day: morning, evening and average / 12 months);*

c)   *Day+Hours / Month – (31 day: 07:00, 11:00, 15:00, 19:00, and average / 12 months);*

d)   *Month / Year – (12 months / q-ty of years);*

e) Ten-day period / Year – (12 months by ten-day / q-ty of years);

### f) Ten-day period+Month / Year – (12 months by ten-day / q-ty of years);

To finalize the table, it is necessary to assign it management characteristics for each of created object under category "Meteostations":

1) Switch to "Objects" regime by clicking on respective button on the left panel;

1) Switching to "Objects" regime of DB by object

2) Choose existing object

4) Click on Save"

3) Fill the fields of object's technical characteristics

2) Choose an object, for example "Namangan";
3) In earlier created fields input technical information about given object: since the layout - "Month / Year" was chosen, then in the field "Add a year" type the phrase "Long-term series" (contents of this field depends on selected table

layout and is filled at the discretion of administrator), in the field "Year of construction" – 1980 and then follow the cells;
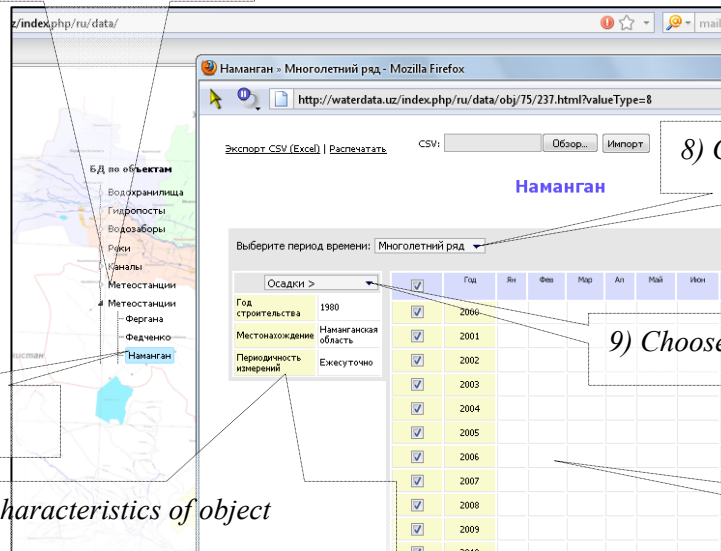
4) Click on the button "Save";
5) To view the constructed table, click on the button "Data" in the upper right corner – switching to data view interface;
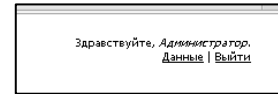
6) Choose object category

8) Choose interval

9) Choose parameter

7) Choose object

Technical characteristics of object

Table

6) In the block "DB on objects" we select type of data – "Meteostations";
7) In the pop-up list of objects select "Namangan";
8) In the window opened in the field "Choose interval" we choose "Long-term series";
9) Switching of tables on parameters "Rainfall", "Wind speed", and "Temperature" is made by choices in the field of parameters.

The constructed table is ready for filling[3].

Category "DB on water systems"[4]

This analytical block is created and edited by IT specialist upon requests of client (water-management divisions) since this block requires knowledge of PHP programming language.

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[3] *Existing first guidelines "User's manual" will help you to operate correctly new DBs and available information*
[4] *Names of given analytical block are different for all pilot basins*

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For notes