USER'S MANUAL OF THE CCWLF DATA BASE WITH ARCVIEW GIS SYSTEM

Our thanks to those who gave us a possibility to begin our work with ArcView® GIS, the master software for desktop GIS and mapping. ArcView gives us the power to visualize, explore, query and analyze data geographically from CCWLF Data Base.

Our first experience of ArcView GIS project making you can see below.

The project is made on ArcView GIS 3.2a Version
The project includes:

- Installation of CCWLF Data Base (DB) dynamic linking.
- Creating of the new maps.
- Loading existing data from CCWLF Data Base to ArcView joining them with a theme's attribute table.
- Using of ArcView SQL connection feature and SQL query run to retrieve hydrological and meteorological records from CCWLF DB. We have an access to the records, which become table in our project. We can analyze and display this data in the diagrams for example.
- Laying out and printing maps.

Installation of ArcView GIS 3.2a on your computer and loading of the ArcView CCWLF06 project

During the installation process the Setup program prompts you to choose where you want to install ESRI ArcView GIS 3.2a software and the type of installation you want. You need to choose the Typical installation, which installs the most frequent using components of ArcView GIS. You can install ArcView GIS directly on your hard disk from a CD-ROM or from a network location. See the section "To install ArcView GIS" for more information.

Do this after ArcView installation:

- Find Esri folder in operative disk.
- Set the CD-ROM with the CCWLFO6 project to the CD-ROM drive
- Copy "Av_gis30" and "Esridata" folders from CD-ROM to the "Esri" folder, changing the file names if they have already exist.

Installation of Data Base CCWL links with ArcView project

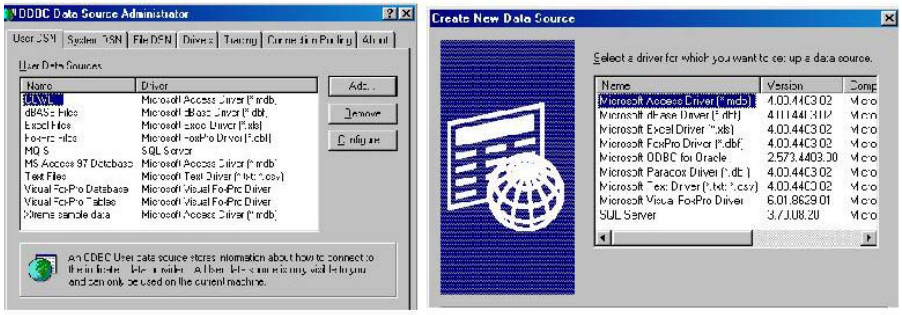
ArcView GIS supports SQL (ODBC) database links, which allows ArcView GIS to connect to SQL databases via Open Database Connectivity (ODBC) drivers. The ArcView GIS Setup program installs the necessary files for the ODBC Data Source Administrator. However, ArcView GIS distributive doesn't includes any ODBC-drivers. To get information about ODBC- drivers installation please apply to ODBC-

driver description. ArcView is compatible with a majority of all using drivers. The main is that 32 bits drivers are need for SQL-linking with DB.

Creation of ODBC Data Sources

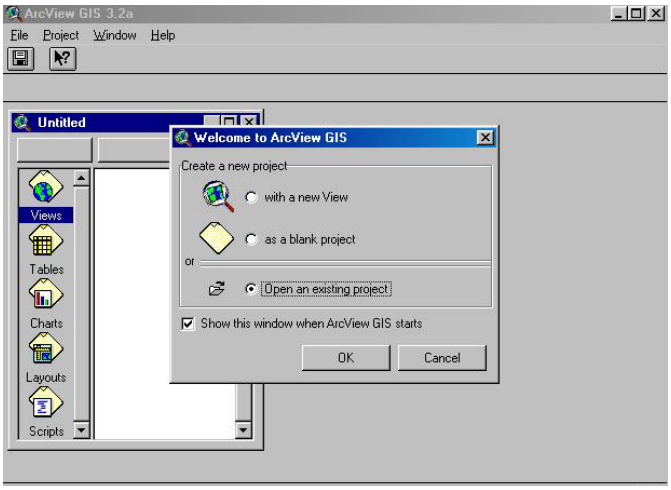
Data Source for ArcView need this for making CCWLF DB:

1. Make sure that CCWLF folder with DB is located in radical directory of your computer.
2. On the 'Control panel ' 'My computer' find 'ODBC Data Sources' and 'User DSN' insert.
   An ODBC User data source, store keep, the information about installation of Source links. A user data source is visible only for you. And can only be used on the current machine.
3. Input Data Source name 'CCWLF' into column 'name'
4. Click the "add" button and select a driver for which you want to set up a data source.
5. Press 'OK'.



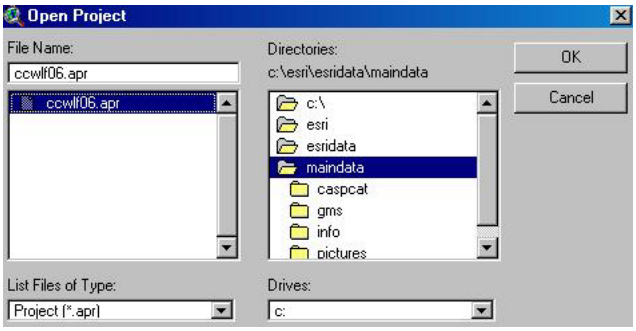
Opening of the ArcView CCWLF06 project

1. Start ArcView, cancel the Welcome dialog and you'll see the ArcView application window.

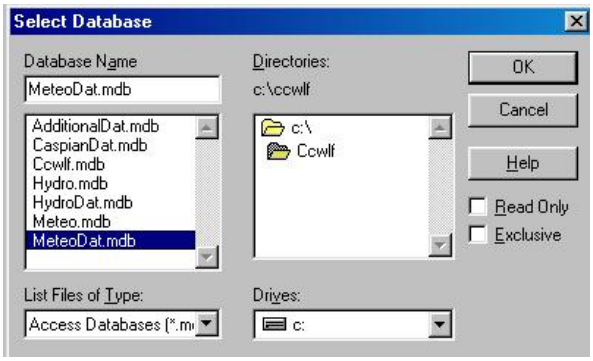


2. Click the "open an existing project" radio button, then press OK.
   A *project* is a file in which we store our work. Project file names have an *.apr extension.

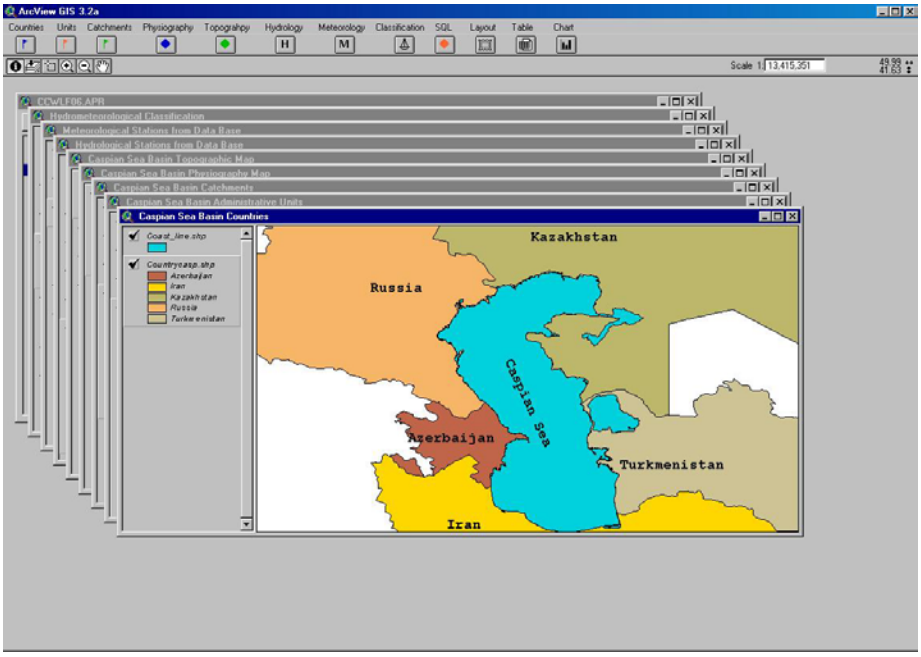
3. Set the cursor in the dialog window on “esridata” folder name, where our project data are located. Double-click the ‘esridata’ directory, and then double-click the ‘maindata’ directory it contains.



4. Select the project file called ‘ccwlf06’ from the list on the left side of the dialog and press OK.
5. Select the Data Base CCWLF file you want to work with from the list on the left side of the dialog and press OK.



When the project opens, you’ll see a premier *View*, prepared by us, named ‘Caspian Sea Basin Countries’.



Working in project

We created an ArcView project ccwlf06.apr, containing eight different Views:

We decided to have only fourteen buttons on our new interface: one to display each View and four for execution of some tasks. Also six instruments were entered for object choice on the map by their attributes.

ArcView is made up of layers of geographic information for a particular area or place. Each layer is collection of geographic features, such as rivers, lakes, countries or stations. In ArcView, these layers are called *themes*.
All the themes in view are listed to the left of the map in the view's *Table of Contents*. The Table of Contents also shows the symbols used to draw the features in each theme. The check box next to each theme indicates whether it is currently turned on or off in the map, that is, whether is currently draw on the map or not.
The order in which the themes are listed in the Table of Contents is also important.
The themes at the top of the Table of Contents are drawn on top of those below it.
For making this theme active click on the it name. Be sure to click on the name of the theme, not the check box next to the theme name. By making a theme active you are telling ArcView you want to work with the features in that theme. Click the Open Theme Table button. The attribute table appears. A theme attribute table contains information about the features in that theme, one record for each feature.

To change the order a theme is drawn in

Drag the theme up or down in the Table of Contents. When you drop the theme in its new position, the view will automatically redraw.

The Buttons and Tools for moving around a map

Zoom To Full Extent Button. Zoom to full spetial extent of the all themes in our view. For example, if you've zoomed in a couple of times on your view? You can click this button if you want to see the whole view again.

When you selected a tool and move the cursor the view, the cursor changes shape to reflect the tool you selected. The tool remains selected until you choose a different one.

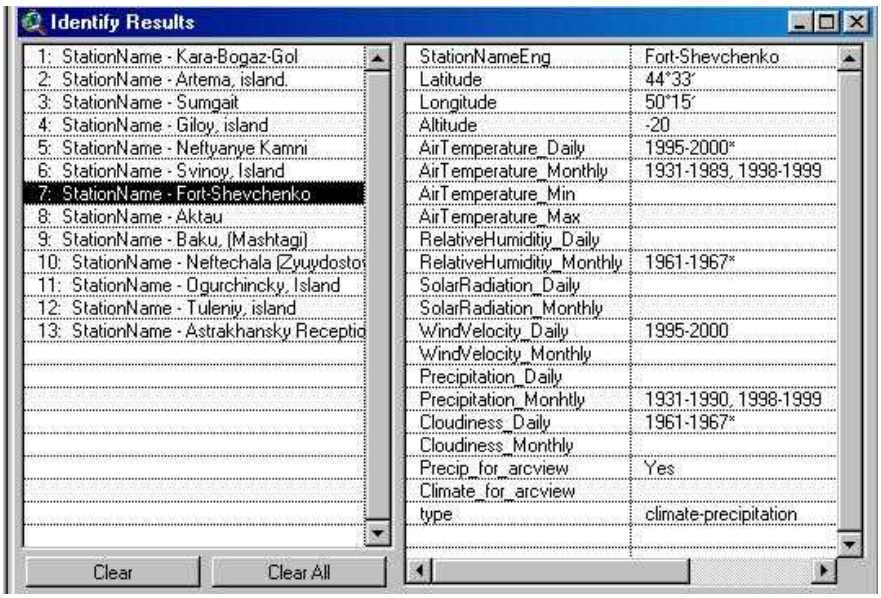
Zoom in Tool. To zoom in centered on a particular position on the view, click that position once with this tool. To zoom in to a particular area on the view, drag a box over the area with this tool.

Zoom Out tool. Same as the Zoom In tool but zooms out from the position you click or the area you drag over.

Pan tool. Lets you pan the view by dragging the display in any directions with the mouse. To pan, click this tool, move the cursor anywhere over the view, hold down the mouse button, and drag in any direction. Release the mouse button to leave the view in your desired position.

Identifying features on our map

To get information about one of the features on our map, use the Identify tool. When you click on a feature with this tool, ArcView displays the attributes of the feature in a dialog.



To identify a feature on a map

1. In the view Table of Contents, click the name of the theme that the feature you wish to identify belongs to. This makes the theme active. When a theme is active, it appears highlighted (raised up) in the Table of Contents.

2. Click the Identify tool

3. Click on the feature you wish to identify. The feature you click on flashes in the view, and its attributes appear in the Identify Results dialog.

If you to identify a feature but you aren't sure which theme it belongs to, make all the likely themes active before using the ***Identify Tool***. To make more than one theme active, hold down SHIFT and click on their names one by one in the view table of Contents.

Finding features with particular attributes

The ***Identify Tool*** is the best suited for browsing data. To get the attributes of specific features in a theme and then work with them, it's best to select the features on the and then open the theme attribute table to see their attributes. When you select features on a view, they highlight to show you are selected. Features remain highlighted until you make a different selection, or you deselect them. When you open the attribute table of the theme they belong to, you'll see that the records for the features you selected are also highlighted.
There are various ways to select features in ArcView.

Selecting features with the mouse

To select a feature in the active theme using the mouse, click on the feature with the ***Select Feature*** tool. To select more than one feature, hold down SHIFT when you use the tool. You can also use this tool to drag a box over a group of features you want to select. Features that fall partly or wholly inside the box you define are selected.

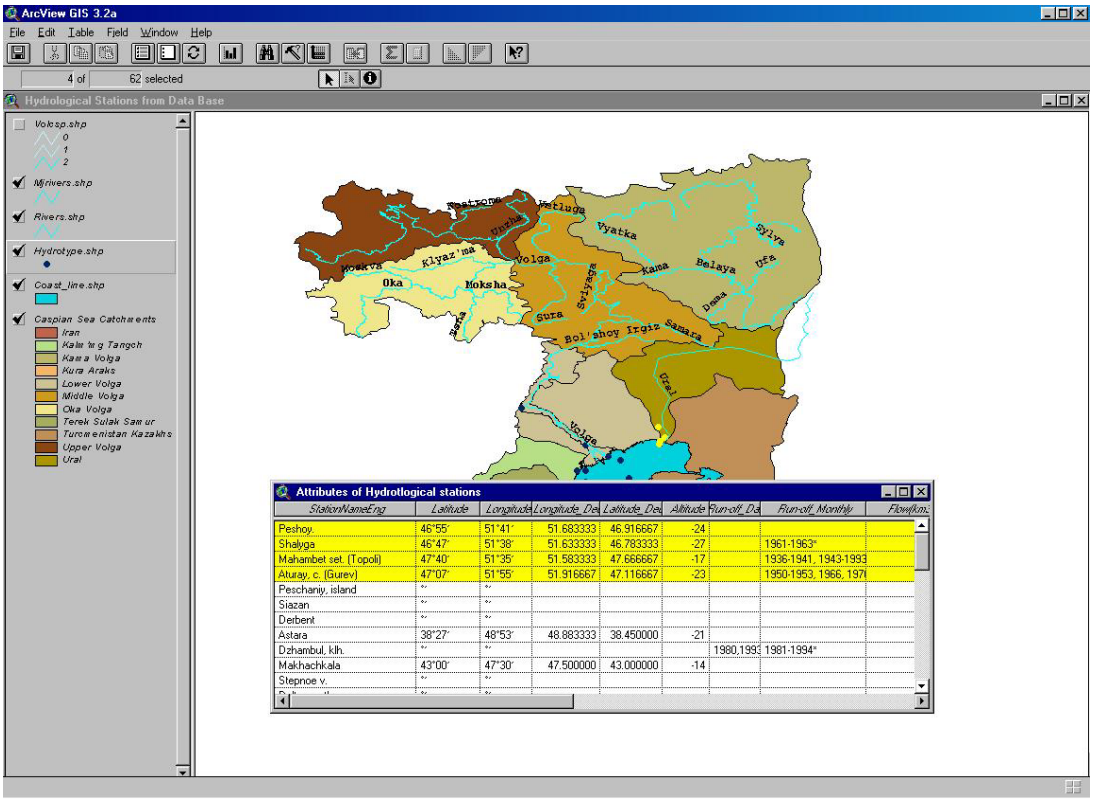
Suppose, you are looking at Hydrological stations' map and want to see the attributes of the particular stations located in Ural River Catchment.

1. Click the name of the theme containing the features you wish to select, in this case *hydrotype*, to make it active.

2. Click the ***Select Feature*** Tool, hold down SHIFT, and click the stations you are interested in. They will yellow to indicate they are selected.

3. Click the ***Open Theme Table*** button to display the attribute table for the Hydrotype. This table contains one record for each station from CCWLF BD.

4. Click the ***Promote*** button to display the records for the selected stations at the table top.

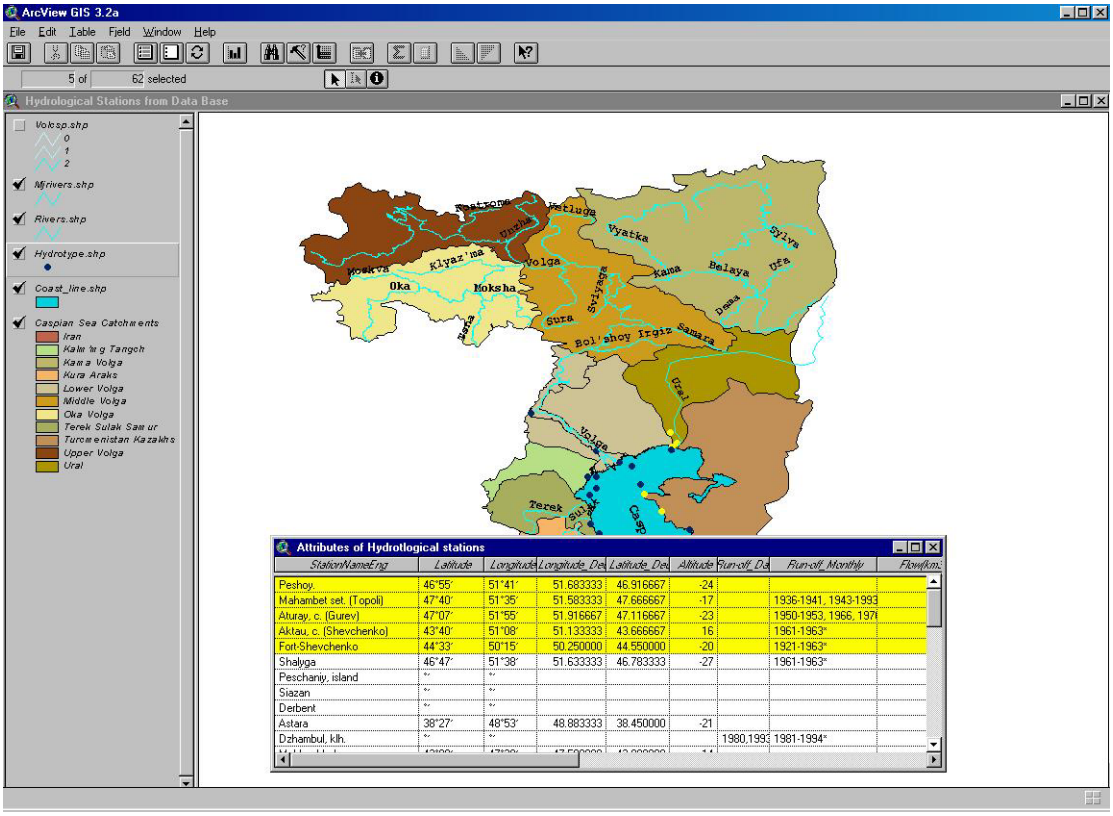


When you quit ArcView and save your project, ArcViw automatically remembers which features you selected. The next time you open project, the same features will still be selected.

Refining the selected with the mouse.

Now suppose you decide to remove one of the stations from the selection and add two more.

1. Click the title bar of the view window to make it active.
2. Holding down SHIFT, use the ***Select Feature*** tool to click on the station you wish to remove from the selection, then click on the stations you wish to add to the selection.
3. Click the title bar of the table window to make it active.
4. Click the ***Promote*** button to display the records for the selected stations at the table top.



Selecting features by selecting their records.

You can also select and deselect features in your view by clicking their records in the theme attribute table.

Click the ***Select*** tool and clock the record you want to select. To select more than one record, hold down SHIFT and click on the records one by one, or drag down over the records. To deselect the records in the table is useful because you can select the features you are interested in as you look at their attributes.

There are some more tools for comfort data performance in the attributive table. You can find them in the table menu.

Further shows you how to perform queries with expressions to automatically select features with particular attribute values.

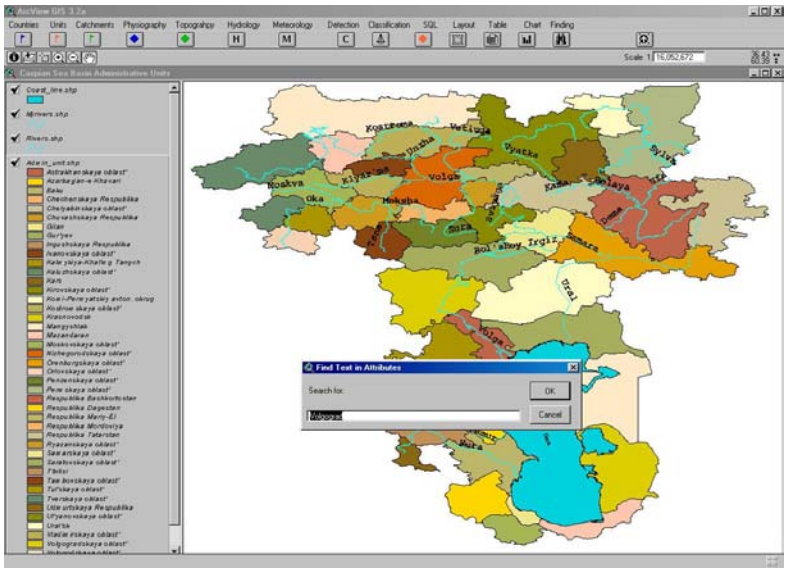
Finding individual features on a map

You can use the ***Find*** button to locate a particular feature in the active theme. For example, suppose you are looking at the Administrative Units' map and you want to find Volgogradskaya oblast.

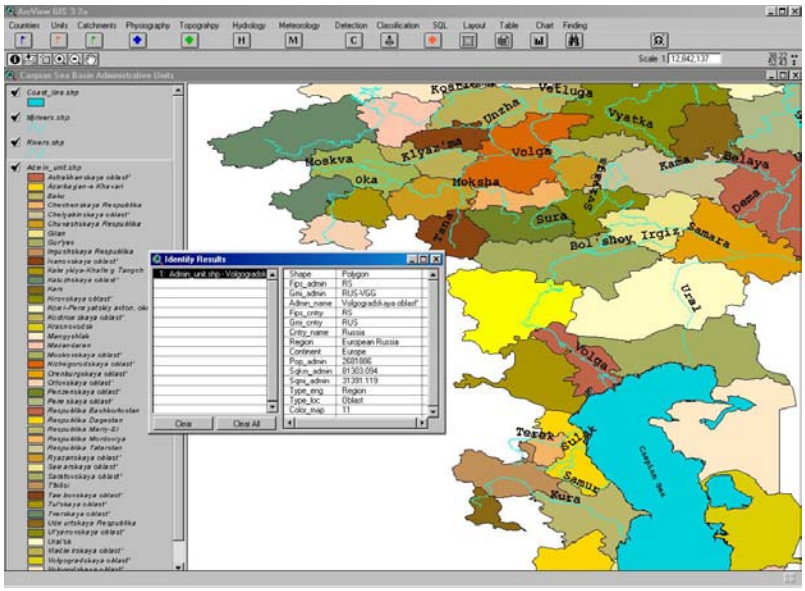
1. Click on the name of the theme that contains the feature you wish to find, in this case Admin_units, to make it active.

2. Click the ***Find*** button.

3. In the dialog that appears, type in the Volgogradskaya oblast word. You can enter part of the text.



4. If a feature is found it is selected and highlighted on the map. The map also pans automatically so that the feature is displayed in the center.

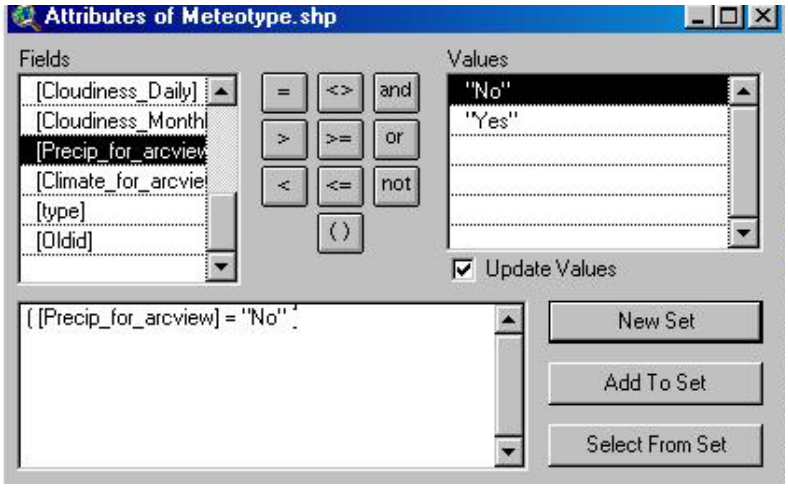


Finding features by building a query expression

A *query expression* is a precise definition of what you want to select. Building a query expression is a powerful way to select features because an expression can include multiple attributes, operators, and calculations.

In this example, imagine, you've got the Hydrometeorological Classification map, and want to find meteorological stations which didn't make the precipitation data. You can build an expression to specify these criteria.

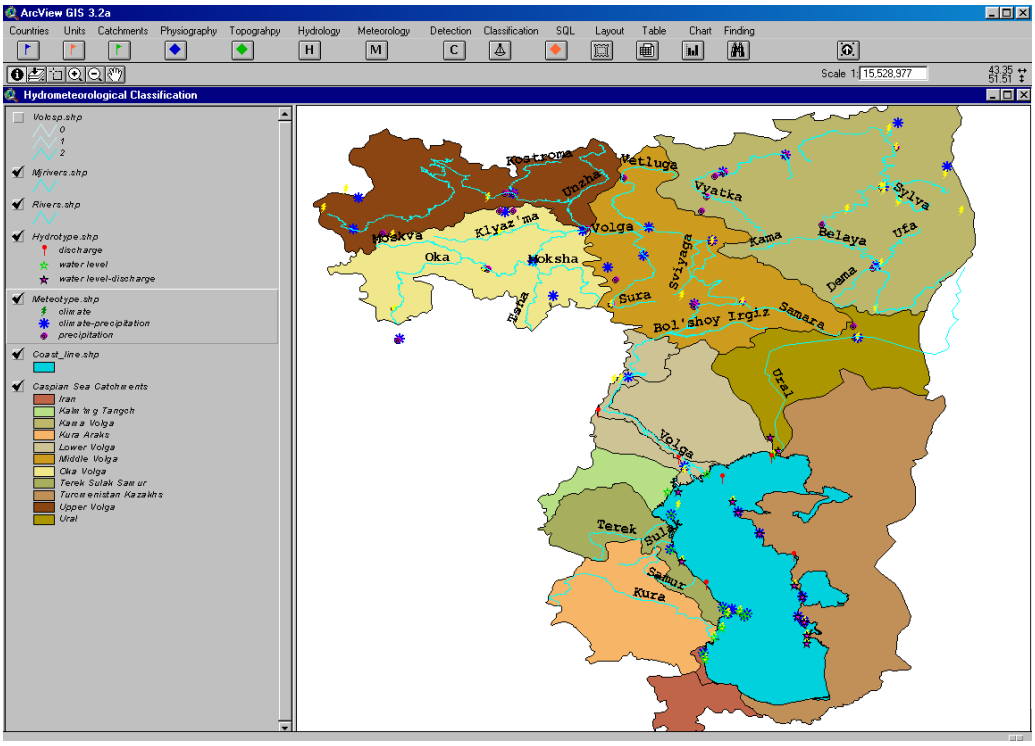
1. Click the name of the theme containing Features you want to find, in this case Meteotype, to make it active.
2. Click the ***Query Builder*** button. The dialog that appears lets you build the query expression by either on fields, operators, and values, or by typing it in. The Fields list shows you the all fields in the DB table.
3. In the fields' list, double-click the Precip_for_arcview field to enter [Precip_for_arcview] into the expression.
4. Click the **"="** button to enter the = operator into the expression.



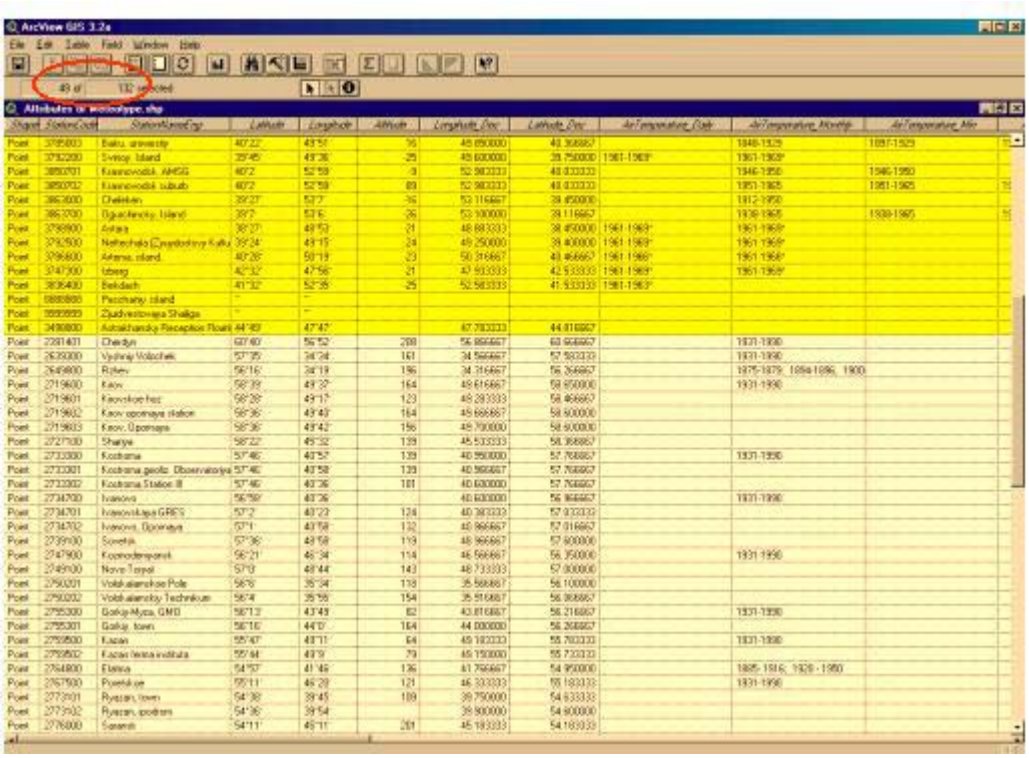
5. Click the New Set button.

- **New Set:** make a new set containing the features selected in your query expression. Any currently selected features not in this set are deselected.
- **Add to Set:** Adds the features selected in your query expression to the existing set of selected features. Use this option to widen your selection. (If there is not existing selected set, this option works the same as New Set).
- **Select From Set:** Applies your query expression only to those features that are already selected. Features in the existing selected set that are not selected by your query expression will be deselected. Use this option to narrow down your selection to progressively focus in on the features you want.

6. ArcView executes the query and features that are selected are highlighted in your map.



To find out how many features meet the criteria in your expression, or to review the attributes of the selected features, click the ***Open Theme Table*** button . The number of records that are currently selected is displayed in the tables' tool bar.



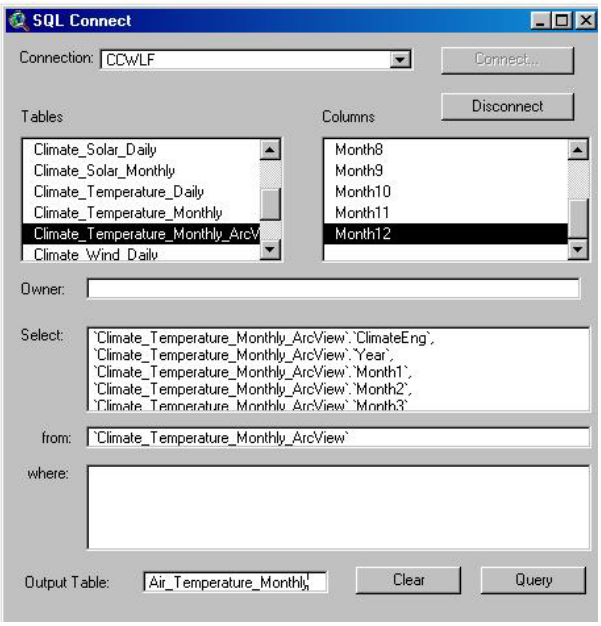
Combining different query techniques in this way can help you solve a wide variety of problems. The ability to query your data according to spatial relationships and tabular attributes is one of the key benefits of using ArcView.

Loading tabular data from databases

Using ArcView SQL connection feature, we can connect to one of databases from CCWLF, and run an SQL query to retrieve records from it. The records you access become a table in our project. For example, we may have meteorological data for the different stations, show on the map. By adding our data to the map, we'll be able to symbolize, label, query, and analyze the states according to this data

To load data by connecting to a database

1. Make the any project window active.
2. From the Project menu, choose ***SQL Connect***.
3. In the dialog that appears (see the picture below), the Connection list shows all the database connections available to you. Choose the database CCWLF containing the data you wish to load into ArcView and press the ***Connect*** button. This enables you to log into the database you chose.
4. The Table list shows you the tables available in the database we are connected to. You can click on a table to list the columns (field) it contains. Use the Tables and Columns list to compose an SQL query by specifying which columns from which tables you wish to bring into ArcView. Double-clicking a column name adds it to the ***Select*** box. Double-clicking a table name adds it to the From box.
5. If you want restrict the records that will be retrieved to specific subset, type a selection expression into the Where box. It is better for us to load all data from database, and then choose records with a help of query expression if we need this.
6. In the Output table box, specify a name for the table that ArcView will create to store this data.
7. Press ***Query***.



In this SQL query, records for all columns in the table Air_Temperature_Monthly.

ArcView will create a table containing the records you specified from the database.

Air_Temperature_Monthly

ClimateEng	Year	Month1	Month2	Month3	Month4	Month5
Yaroslavl	1941	-15.200000	-13.500000	-7.400000	0.300000	6.900000
Yaroslavl	1942	20.900000	-13.500000	-10.600000	2.600000	11.200000
Yaroslavl	1943	-16.200000	-6.800000	-2.500000	5.000000	12.100000
Yaroslavl	1944	-4.400000	-7.100000	-3.300000	0.000000	11.600000
Yaroslavl	1945	-11.700000	-10.800000	-7.300000	1.700000	7.300000
Yaroslavl	1946	-8.400000	-11.600000	-5.400000	3.200000	10.200000
Yaroslavl	1947	-10.800000	-18.000000	-6.500000	3.500000	9.000000
Yaroslavl	1948	-9.800000	-11.900000	-5.300000	3.900000	14.700000
Yaroslavl	1949	-4.100000	-8.500000	-3.900000	3.500000	13.700000
Yaroslavl	1950	-19.400000	-8.700000	-3.600000	7.800000	10.100000
Kostroma	1931	-12.300000	-15.200000	-5.100000	3.100000	12.600000
Kostroma	1932	-6.000000	-15.900000	-8.400000	3.600000	12.400000
Kostroma	1933	-14.300000	-13.000000	-4.900000	4.600000	8.900000
Kostroma	1934	-7.900000	-10.200000	-4.000000	3.600000	13.800000
Kostroma	1935	-11.100000	-5.500000	-4.500000	3.600000	8.700000
Kostroma	1936	-6.100000	-13.600000	-3.900000	3.200000	11.300000
Kostroma	1937	-10.800000	-8.300000	-2.200000	7.300000	9.100000
Kostroma	1938	-11.400000	-7.300000	-2.700000	2.100000	11.000000
Kostroma	1939	-10.600000	-7.400000	-4.000000	1.100000	9.100000
Kostroma	1940	-22.100000	-13.800000	-6.600000	2.100000	11.100000
Kostroma	1941	-16.200000	-13.400000	-8.100000	-0.400000	6.700000
Kostroma	1942	-21.300000	-12.600000	-11.100000	2.300000	11.400000
Kostroma	1943	-16.000000	-7.700000	-3.700000	4.400000	11.700000
Kostroma	1944	-4.800000	-7.700000	-3.700000	-0.300000	11.200000

ArcView stores the definition of the SQL query, not the records themselves. When you open a project containing a table representing the results of an SQL query, ArcView will automatically reconnect to the database to obtain to the data for your table. Any changes in the database will therefore be reflected in your table, and in any views, charts, or layouts in which you use data from this table. In addition, at any time you can choose Refresh from the Table menu to automatically reconnect to the database and retrieve the records for your table, so you can be sure it contains the latest information.

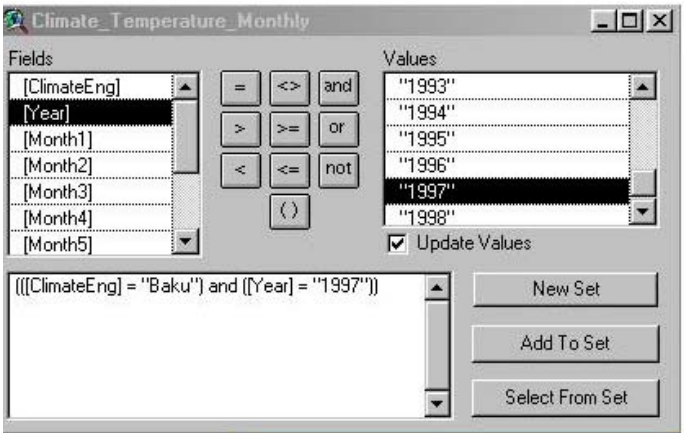
So ArcView will create any table containing the records you specified from the database.

Finding features by building a query expression in the table made by SQL query

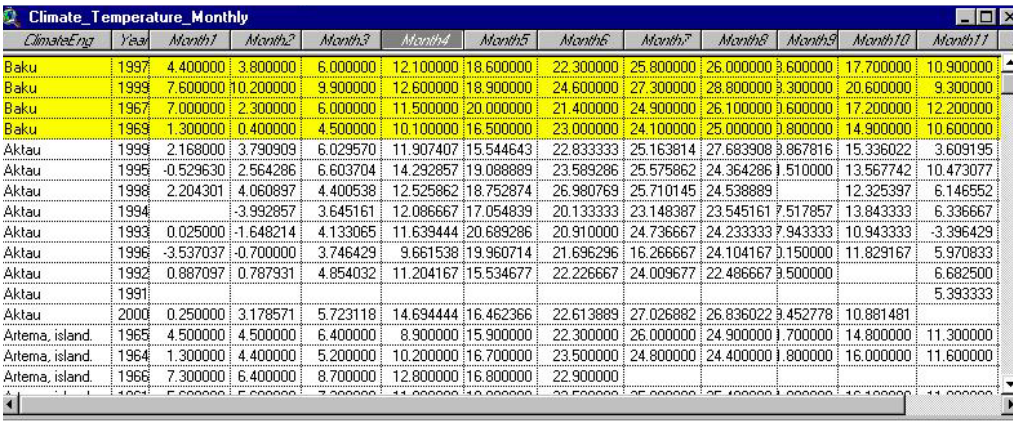
In this example, imagine, you've got data of Monthly Air Temperature, which were got at Baku station in 1999, 1997, 1969 and 1967. You can build an expression to specify these criteria.

1. Click the ***Query Builder*** button. The dialog that appears lets you build the query expression by either on the fields, operators, and values, or by typing it in. The Fields list shows you all the fields in the DB table. We'll start by building the part of the expression to do with Stations' Name.
2. In the fields' list, double-click the Name Stations to enter [ClimateEng] into the expression.
3. Click the ***Equal*** button to enter the = operator into the expression.
4. The Values list shows you the unique values in the table for the ClimatEng field. Scroll and double-click "Baku".
5. Now we'll build the part of the expression to do with years. Click the ***And*** button to indicate that both parts of the expression must be true. ArcView automatically follows this operator with a part of parentheses for the next part of expression.
6. In the list fields, double-click the Year field.
7. Click the ***Equal*** button.
8. The Values list shows you the unique values in the table for the Year field. Scroll down and double-click "1999".

9. Click the ***New Set*** button.
10. Reword points from 2 to 9 for 1997, 1969, 1967 years, changing click the ***New Set*** button on ***Add*** to ***Set*** button.



11. Click the ***Promote*** button. This brings the selected records to the top of the table so you can see them together.



Climate_Temperature_Monthly

ClimateEng	Year	Month1	Month2	Month3	Month4	Month5	Month6	Month7	Month8	Month9	Month10	Month11
Baku	1997	4.400000	3.800000	6.000000	12.100000	18.600000	22.300000	25.800000	26.000000	3.600000	17.700000	10.900000
Baku	1999	7.600000	10.200000	9.900000	12.600000	18.900000	24.600000	27.300000	28.800000	3.300000	20.600000	9.300000
Baku	1967	7.000000	2.300000	6.000000	11.500000	20.000000	21.400000	24.900000	26.100000	3.600000	17.200000	12.200000
Baku	1969	1.300000	0.400000	4.500000	10.100000	16.500000	23.000000	24.100000	25.000000	3.800000	14.900000	10.600000
Aktau	1999	2.168000	3.790909	6.029570	11.907407	15.544643	22.833333	25.163814	27.683908	3.867816	15.336022	3.609195
Aktau	1995	-0.529630	2.564286	6.603704	14.292857	19.088889	23.589286	25.575862	24.364286	1.510000	13.567742	10.473077
Aktau	1998	2.204301	4.060897	4.400538	12.525862	18.752874	26.980769	25.710145	24.538889		12.325397	6.146552
Aktau	1994		-3.992857	3.645161	12.086667	17.054839	20.133333	23.148387	23.545161	7.517857	13.843333	6.336667
Aktau	1993	0.025000	-1.648214	4.133065	11.639444	20.689286	20.910000	24.736667	24.233333	7.943333	10.943333	-3.396429
Aktau	1996	-3.537037	-0.700000	3.746429	9.661538	19.960714	21.696296	16.266667	24.104167	0.150000	11.829167	5.970833
Aktau	1992	0.887097	0.787931	4.854032	11.204167	15.534677	22.226667	24.009677	22.486667	9.500000		6.682500
Aktau	1991											5.393333
Aktau	2000	0.250000	3.178571	5.723118	14.694444	16.462366	22.613889	27.026882	26.836022	9.452778	10.881481	
Artema, island.	1965	4.500000	4.500000	6.400000	8.900000	15.900000	22.300000	26.000000	24.900000	1.700000	14.800000	11.300000
Artema, island.	1964	1.300000	4.400000	5.200000	10.200000	16.700000	23.500000	24.800000	24.400000	1.800000	16.000000	11.600000
Artema, island.	1966	7.300000	6.400000	8.700000	12.800000	16.800000	22.900000					

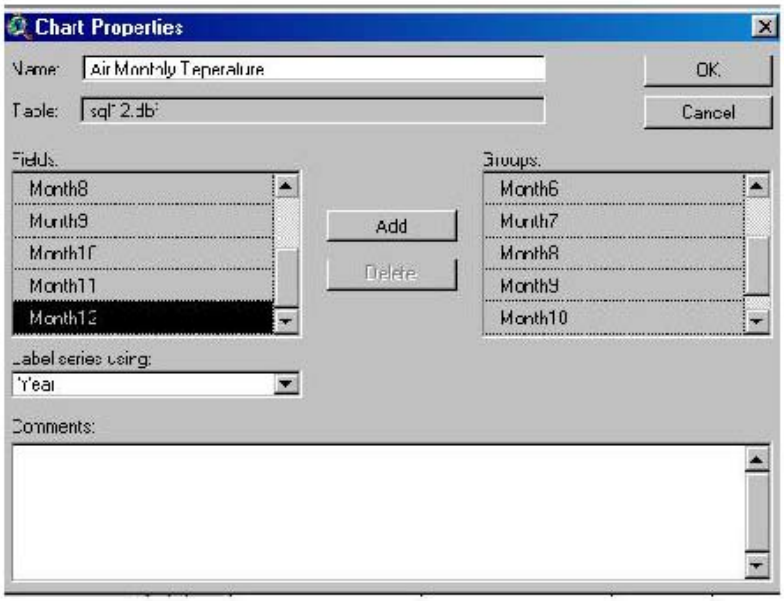
Charting our data

Creating a chart

When you want to communicate the numeric values and the relationships among them, charts provide immediate visual impact and take less effort to understand than a table or a verbal explanation.
The Chart you make will only represent the selected records. If no records are selected, your chart will represent all the records in the table.

1. Click on the title button of the Meteorology View to make it active.
2. Click the ***Create Chart*** button.
3. Choose SQL Table, for example, Air_Temperature_Monthly.

4. The dialog, that appeared, contains a list of numeric field in your table. Click the name of the field you wish to chart, and click the ***Add*** button. The field is added to The Groups list in the dialog. If you wish to chart more than one field, click each field and click the ***Add*** button to add it to the Groups list in the same way.



1. From the drop-down list, choose the field you wish to use to label the data series in the chart.

2. Optionally, type a new name for the chart in the ***Name field*** at the top of the dialog.

3. Click OK. ArcView displays the new chart using the column chart type (The default).

4. Change the type according to your needs.

To change the style used by your chart

Area charts. These show the difference between two or the data groups.

Bar charts. Column charts. These are good for comparing values and showing trends.

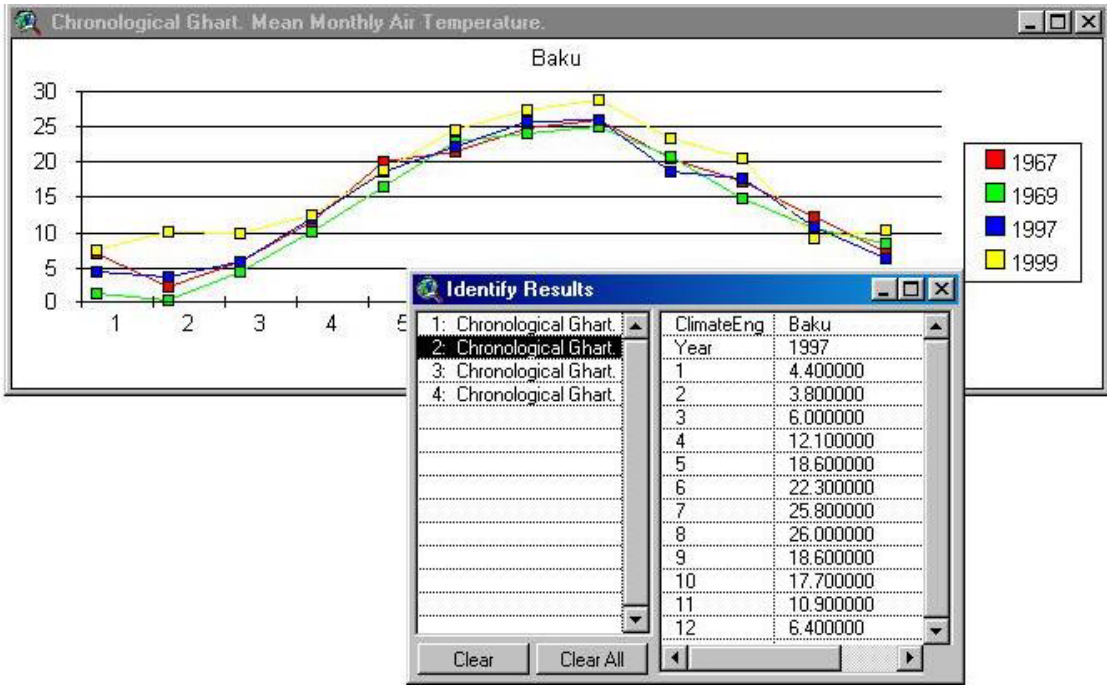
Line charts. These emphasize rate, so change so are particularly good for representing over a period of time.

Pie charts. These show relationships between the part and the whole, and particularly useful for showing proportions and rations.

Scatter Charts. These reveal trends or patterns in data, and can help you reveal cause-and-effect relationships.

Identifying a data marker

You can identify a data marker in a chart to display all attribute information from the associated record in the table. Identifying a data marker is helpful when you want to see the exact value of data marker, or when you want to see the value of an attribute that's not being charted. While you could see the same information by looking at the table, identifying a chart data marker is easier when the table is closed, or if the table is very large. To identify a data marker on a chart, click the ***Identify*** tool and click on the data marker you want to identify.



Changing chart elements

The chart elements, (its title, legend, and axes) can be individually moved, hidden, or modified. To change or move any chart elements click the ***Chart Element Properties*** tool, and click on the ***Element*** you want to change. A dialog is displayed in which you can specify the properties of the elements.

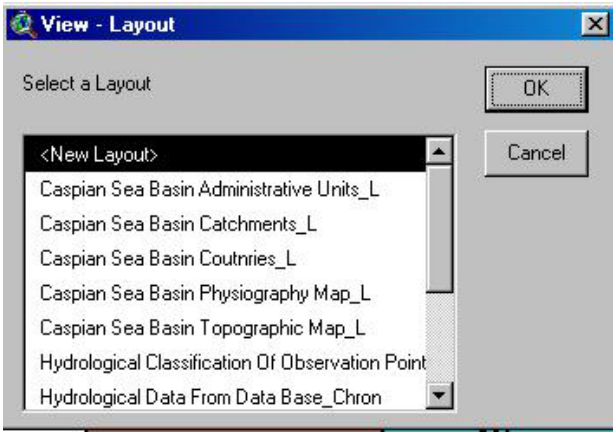
There are a lot of the other tools for changing diagram view. You can find them in ***Menu Diagrams***.

Laying out and printing maps

A layout lets you assemble the all components you want to appear in a map, arrange them together to get the design you want, and the print it out when it's ready. Layouts make it easy to produce presentation quality maps with ArcView. You can place more than one view onto your layout, along with any of the charts and tables in your ArcView project.

1. Choose the view, which you want to situate in the group.
2. From the ***View*** menu, choose ***Layout***.

3. In the dialog that appears, click the Landscape template. Press OK.
4. In the dialog that appears, select a Layout. Press OK.



5. If you choose «***New Layout***», ArcView automatically creates a layout that includes your map, a legend, a title, a north arrow and a scale bar

A layout makes it easy to produce presentation quality maps with ArcView. With a layout, you can assemble all the components you want to appear in your map, arrange them together to get the design you want, and then print it out when it's ready. You can do this by ***Layout*** tools.

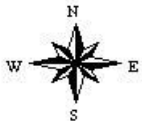
6. If you have chosen layout, which had been already prepared by us, you have to remember that all components (charts and tables) must be active for correct data output.

Some layout data variants from our project you can in the Appendix.

Appendix

Caspian Sea Basin Countries

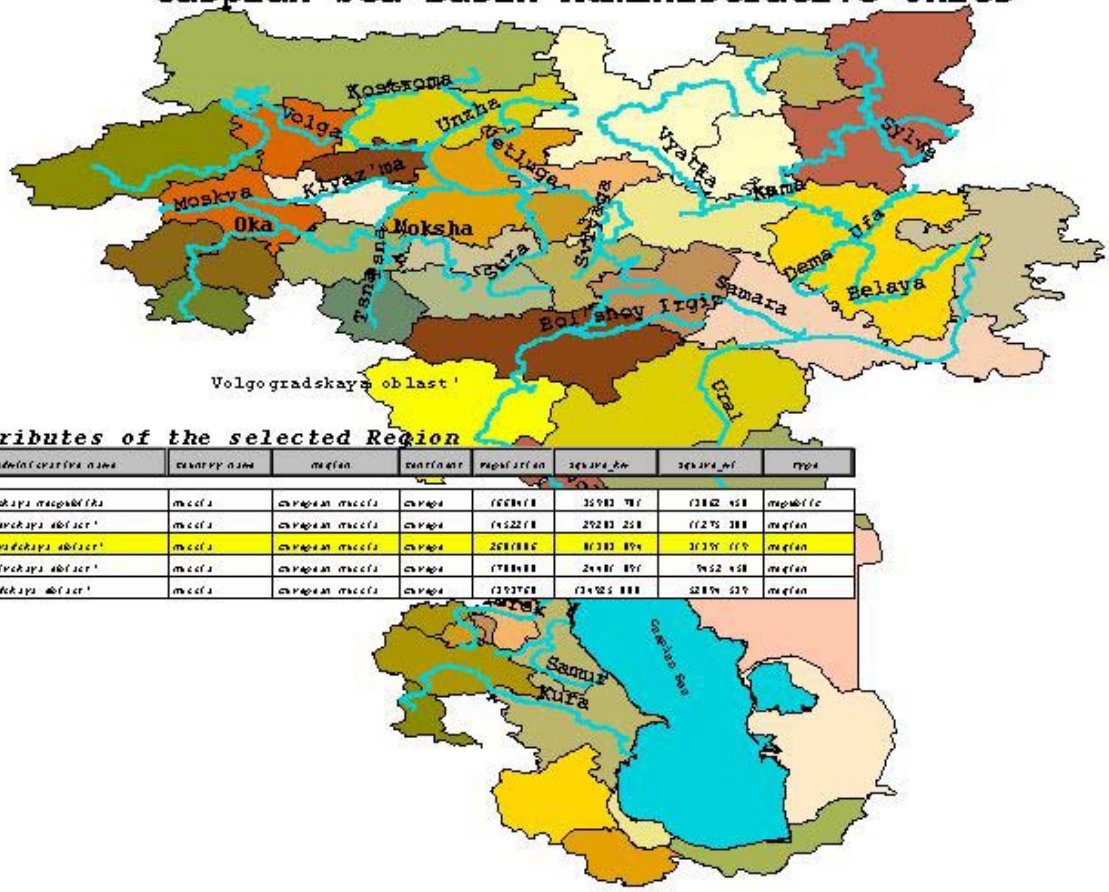
Name	Capital	Population	Square_km	Square_mi	Currency
Azerbaijan	Baku	5487866	85808.203	33130.551	Manat
Iran	Tegeran	64193450	1624760.000	627319.812	Rial
Kazakhstan	Astana	17117910	2715976.000	1048638.000	Tenge
Russia	Moskow	151827600	16851940.000	6506534.000	Ruble
Turkmenistan	Ashkhabad	3714642	471428.500	182018.500	Manat



Caspian Sea Basin Administrative Units

Administrative Units

- Astrakhanskaya oblast'
- Azarbayjan-e Khavari
- Baku
- Chechenskaya Respublika
- Chelyabinskaya oblast'
- Chuvashskaya Respublika
- Gilan
- Gur'yev
- Ingushskaya Respublika
- Ivanovskaya oblast'
- Kabardino-Balkarskaya Resp.
- Kalmykiya-Khal'mg Tangch
- Kaluzhskaya oblast'
- Kars
- Kirovskaya oblast'
- Komi-Permyatskiy avton. okrug
- Kostromskaya oblast'
- Krasnodarsk
- Mangyshlak
- Mazandaran
- Moskovskaya oblast'
- Nizhegorodskaya oblast'
- Orenburgskaya oblast'
- Orlovskaya oblast'
- Penzenskaya oblast'
- Permskaya oblast'
- Respublika Bashkortostan
- Respublika Dagestan
- Respublika Mariy-El
- Respublika Mordoviya
- Respublika Severnaya Osetiya
- Respublika Tatarstan
- Ryazanskaya oblast'
- Samarskaya oblast'
- Saratovskaya oblast'
- Tbilisi
- Tambovskaya oblast'
- Tul'skaya oblast'
- Tverskaya oblast'
- Udmurtskaya Respublika
- Ul'yanovskaya oblast'
- Ural'sk
- Vladimirskaya oblast'
- Volgogradskaya oblast'
- Vologodskaya oblast'
- Yaroslavskaya oblast'
- Zanjan



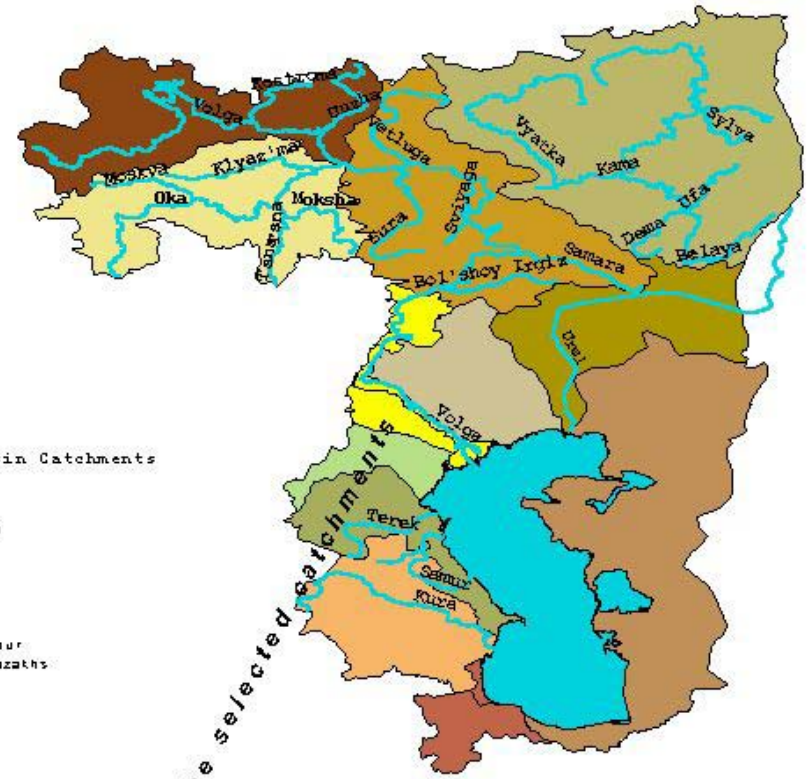
Attributes of the selected Region

administrative name	country name	region	continent	population	area_km	area_mi	type
[illegible]	russia	european russia	europe	[illegible]	[illegible]	[illegible]	republic
[illegible]	russia	european russia	europe	[illegible]	[illegible]	[illegible]	region
[illegible]	russia	european russia	europe	[illegible]	[illegible]	[illegible]	region
[illegible]	russia	european russia	europe	[illegible]	[illegible]	[illegible]	region
[illegible]	russia	european russia	europe	[illegible]	[illegible]	[illegible]	region

900 0 900 Kilometers

N W E S

Caspian Sea Basin Catchments



Caspian Sea Basin Catchments

- Iran
- Kalm'mg Tangch
- Kama Volga
- Kura Araks
- Lower Volga
- Middle Volga
- Oka Volga
- Terek Sulak Samur
- Turcmenistan Kazakhs
- Upper Volga
- Ural

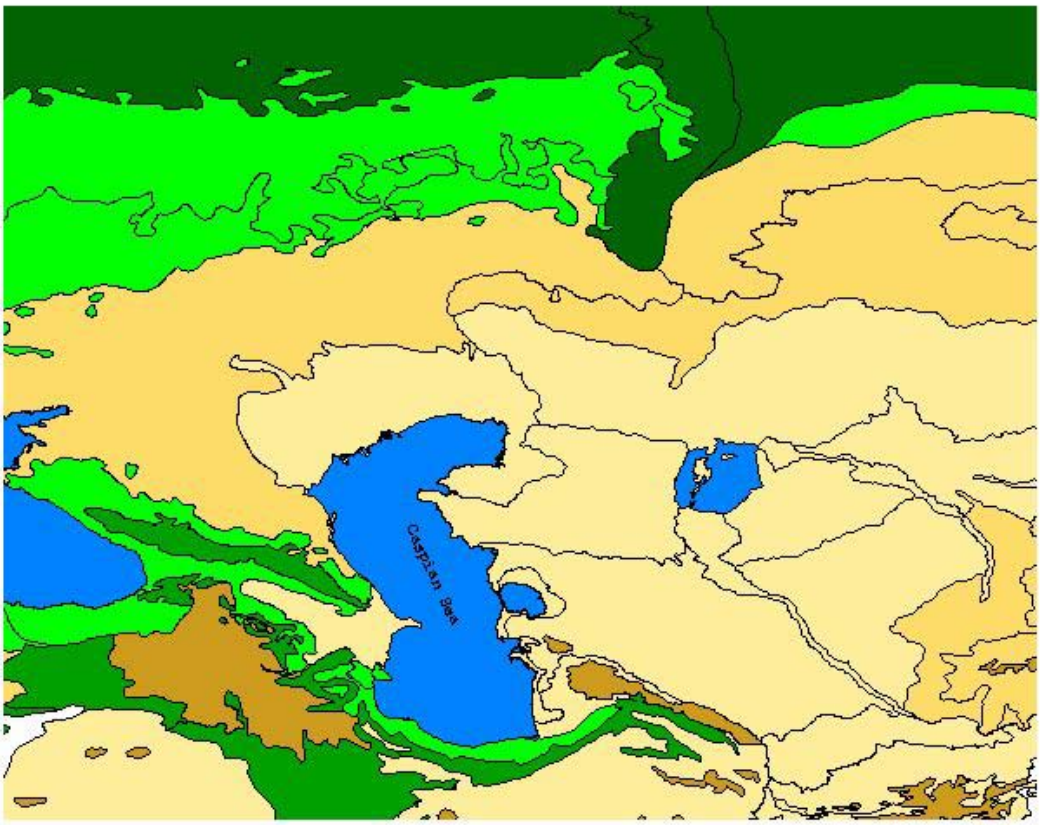
Attributes of the selected catchments

Area	Perimeter	Info	Name
33.814637	42.459860	Volga catchment	Oka Volga
6.146288	29.445719	Volga catchment	Lower Volga
45.798284	44.772210	Volga catchment	Middle Volga
2.793214	11.887227	Volga catchment	Lower Volga
6.998790	18.712933	to be verified	Kalm'mg Tangch
77.287297	48.538113	Volga catchment	Kama Volga

500 0 500 1000 Kilometers

N W E S

Caspian Sea Basin Physiography Map



Zone_name

- Boreal forest/taigas
- Deserts and xeric shrublands
- Montane grasslands
- Temperate broadleaf and mixed forests
- Temperate coniferous forests
- Temperate grasslands, savannas, and shrublands
- Water

1000 0 1000 Kilometers

N
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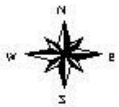
Caspian Sea Basin Topographic Map

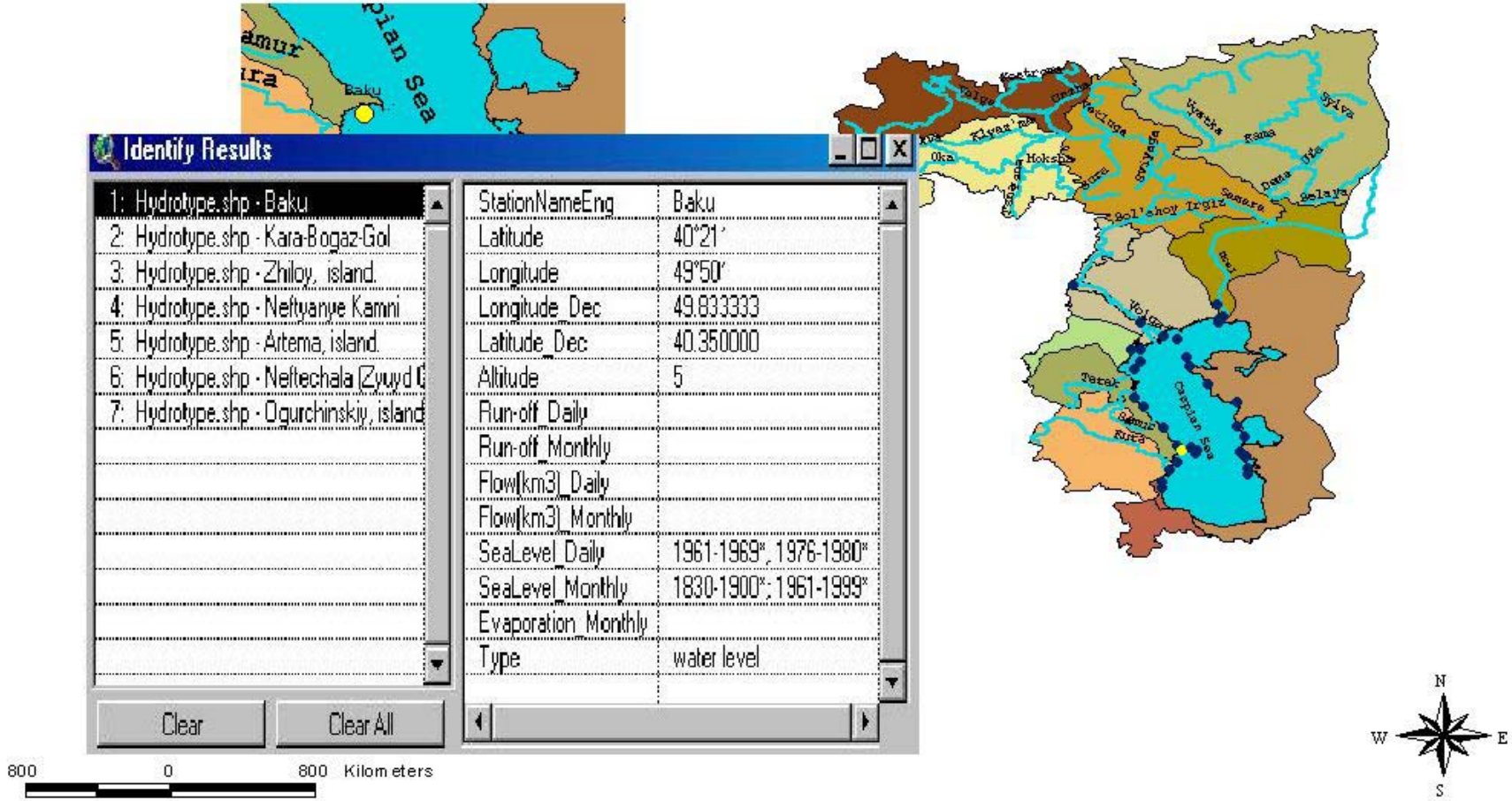
600 0 600 1200 Kilometers

The scale of the depths and heights

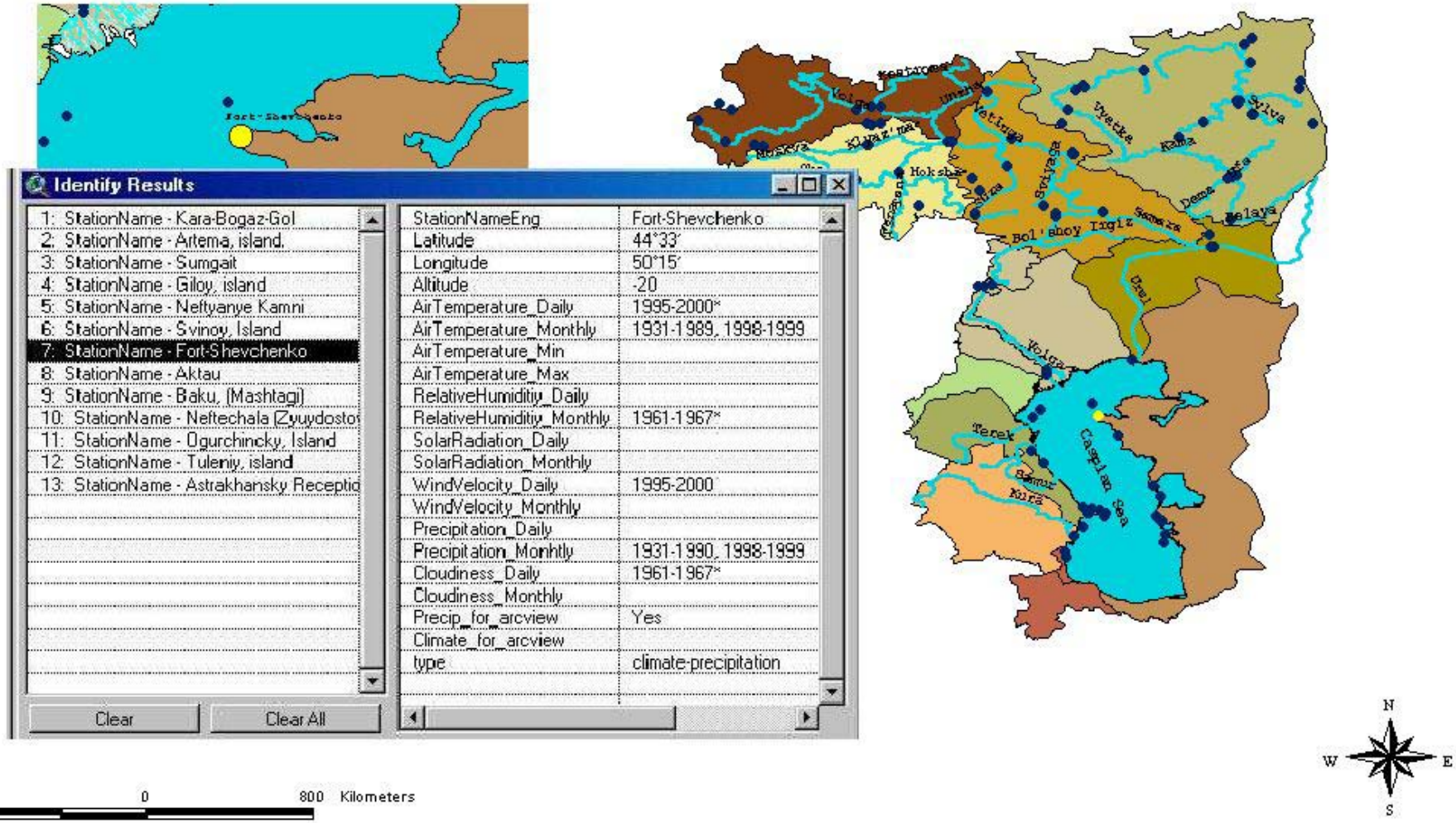
- -9999 - -28
- -27 - -24
- -23 - -20
- -19 - -16
- -15 - -11
- -10 - -7
- -7 - -5
- -4 - 0
- 0 - 50
- 51 - 100
- 101 - 150
- 151 - 200
- 201 - 250
- 251 - 300
- 301 - 350
- 351 - 400
- 401 - 450
- 451 - 500
- 501 - 550
- 551 - 600
- 601 - 650
- 651 - 700
- 701 - 750
- 751 - 800
- 801 - 850
- 851 - 900
- 901 - 950
- 951 - 1000
- 1001 - 1100
- 1101 - 1200
- 1201 - 1300
- 1301 - 1400
- 1401 - 1500
- 1501 - 1600
- 1601 - 1700
- 1701 - 1800
- 1801 - 1900
- 1900 - 6000
- No Data



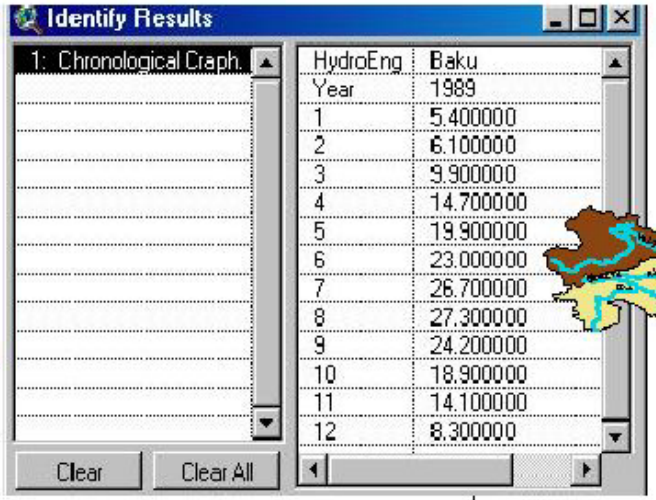
Hydrological Stations from Data Base



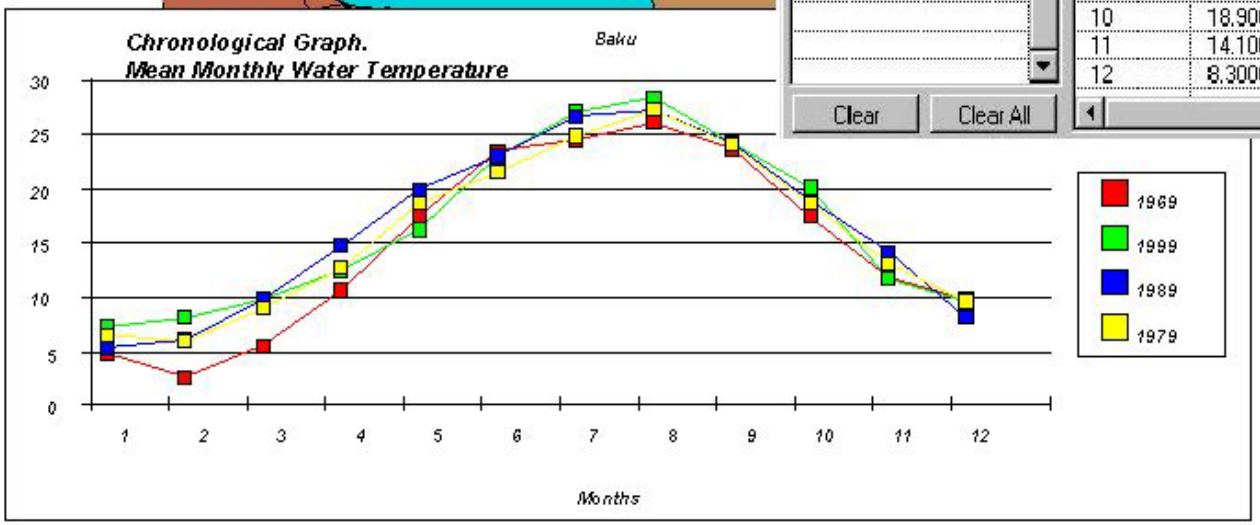
Meteorological Stations from Data Base

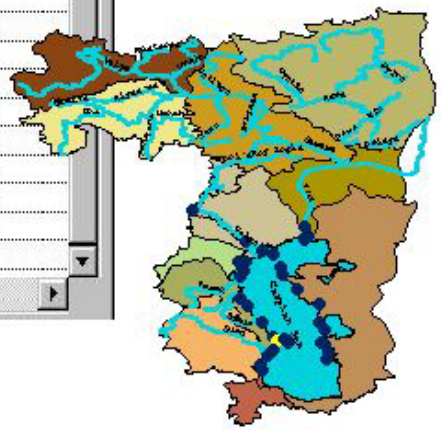


Hydrological Data from Data Base



HydroEng	Baku
Year	1989
1	5.400000
2	6.100000
3	9.900000
4	14.700000
5	19.900000
6	23.000000
7	26.700000
8	27.300000
9	24.200000
10	18.900000
11	14.100000
12	8.300000





800 0 800 1600 Kilometers

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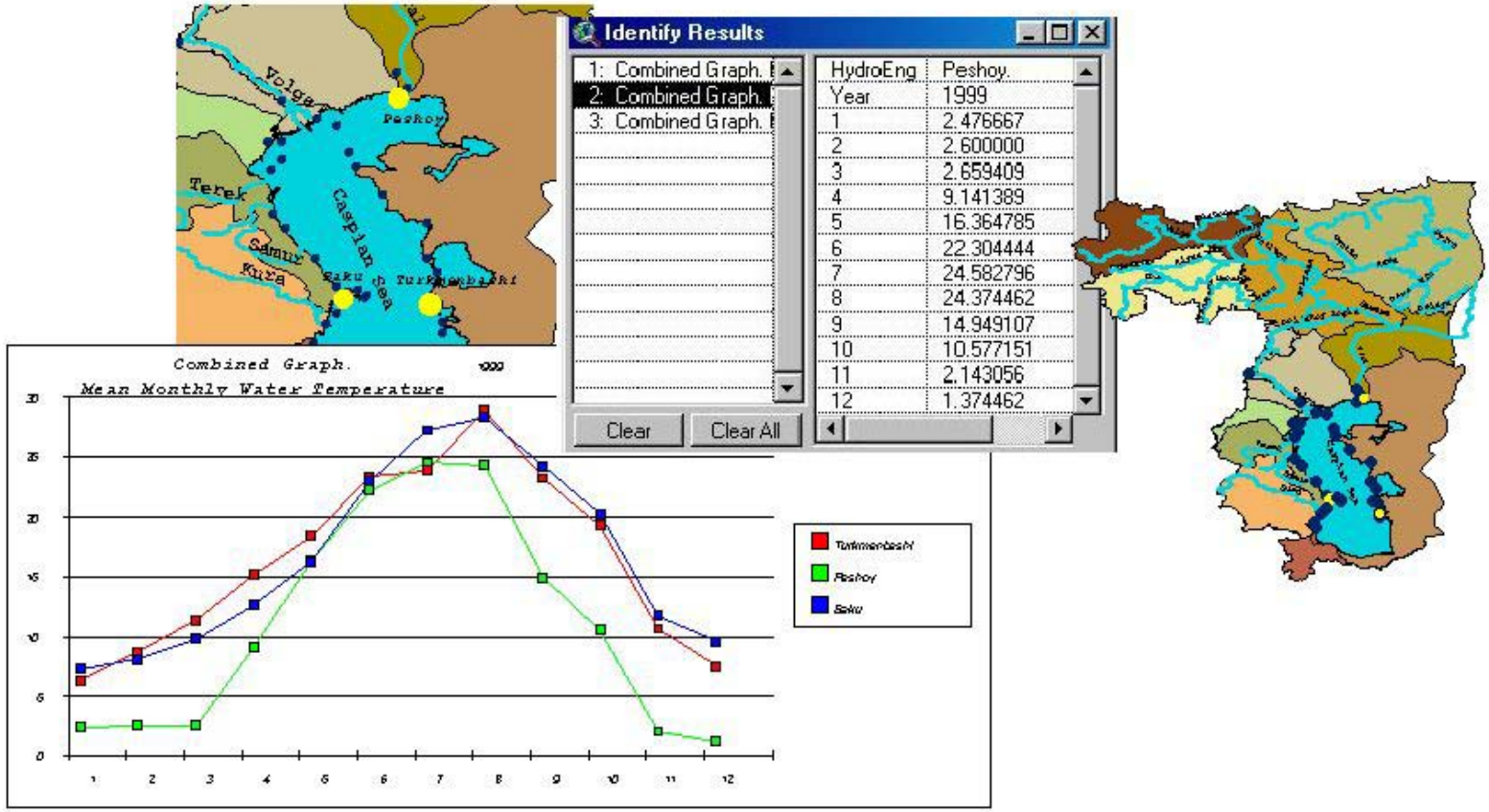
Hydrological Data from Data Base



1000 0 1000 2000 3000 4000 Kilometers

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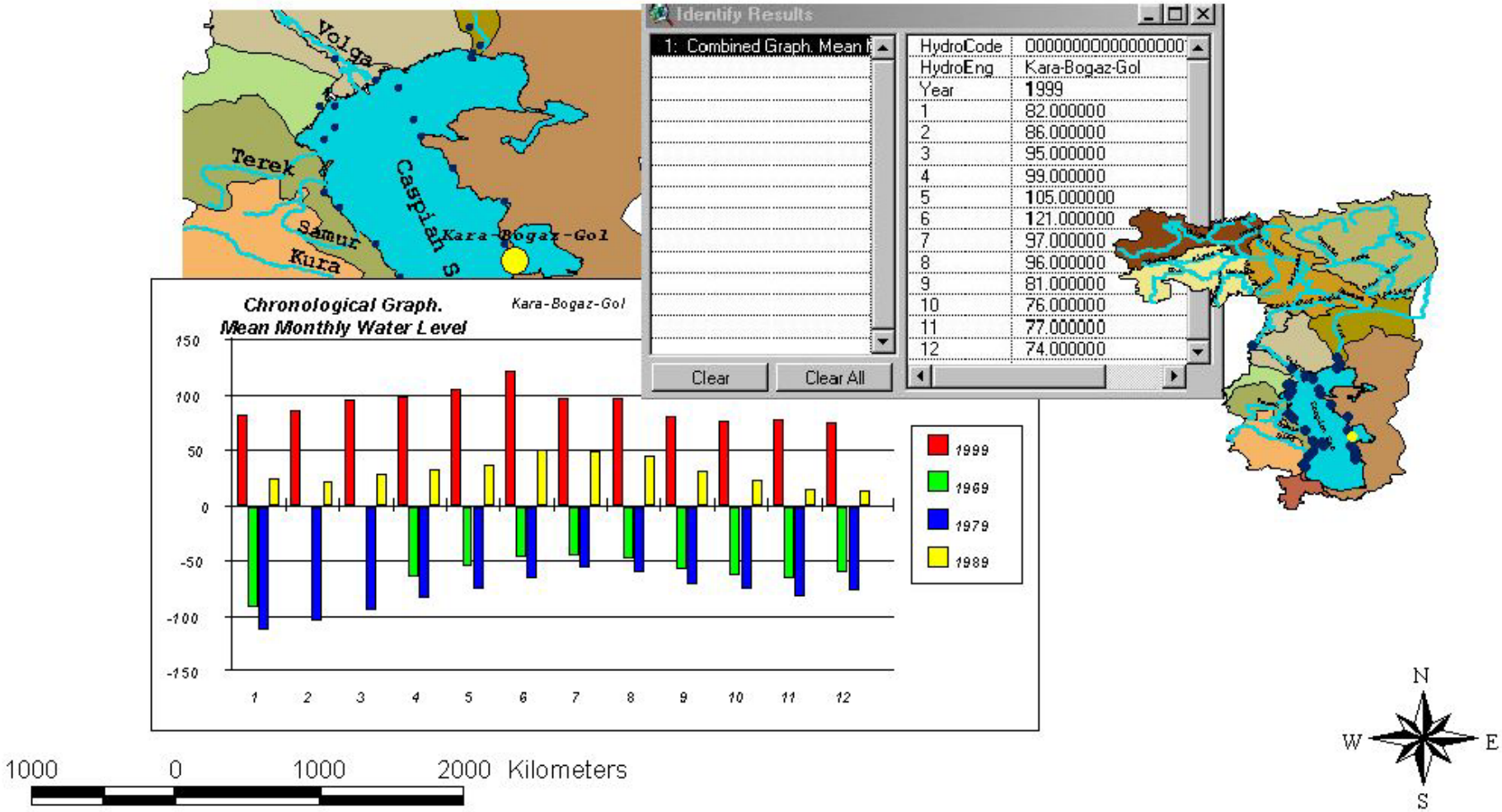

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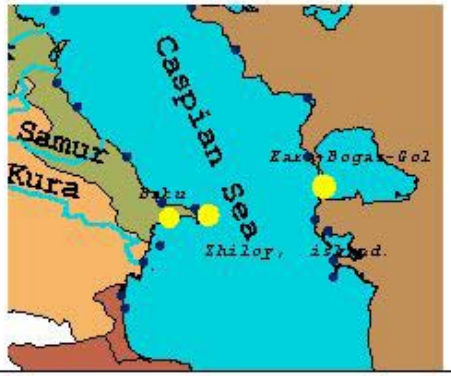
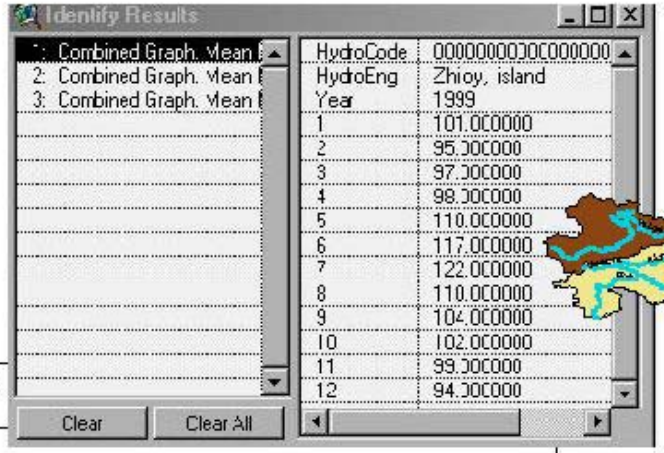
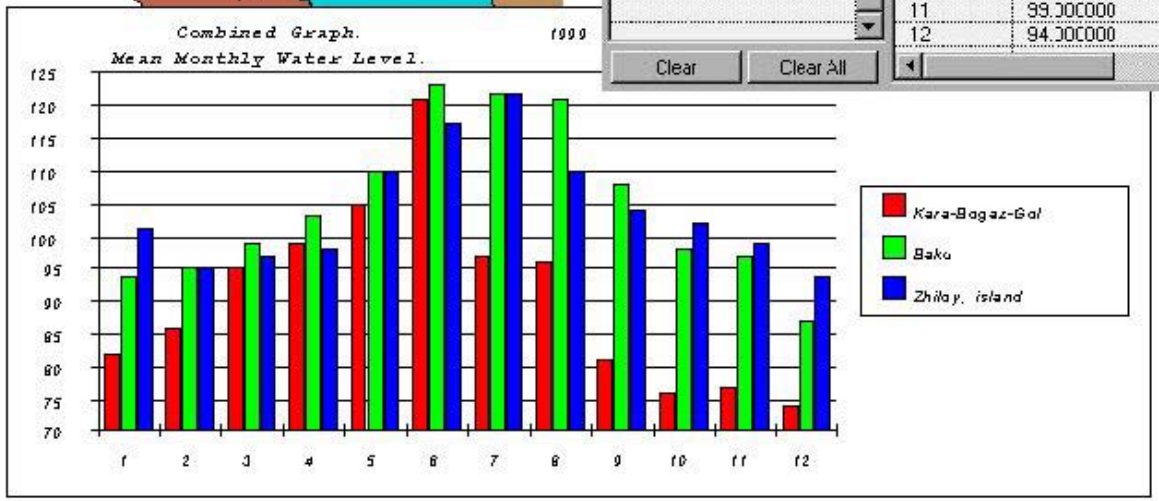
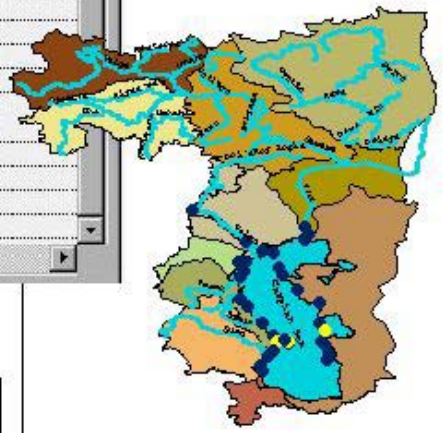


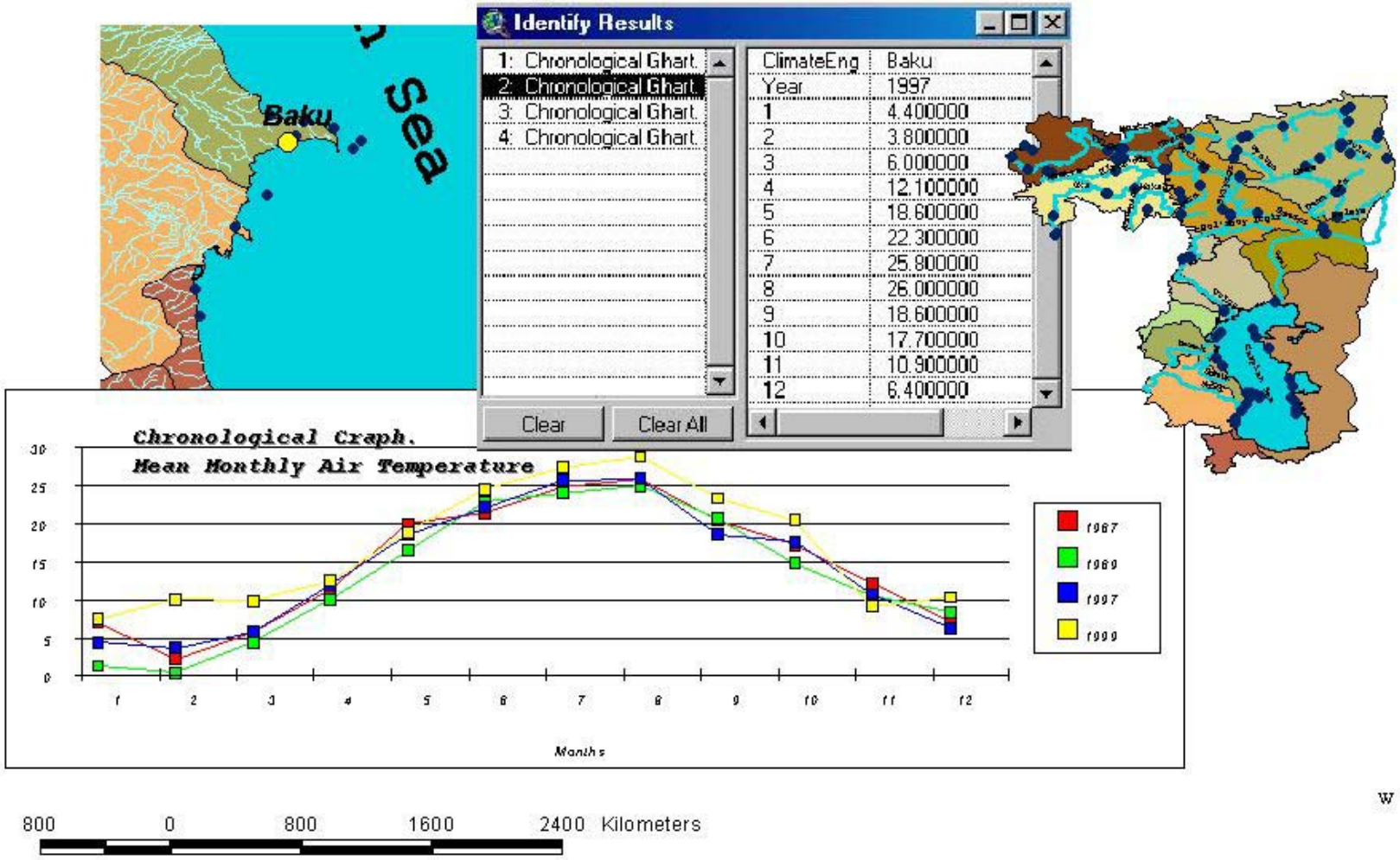






800 0 800 1600 2400 3200 Kilometers

Meteorological Data from Data Base



800 0 800 1600 2400 Kilometers

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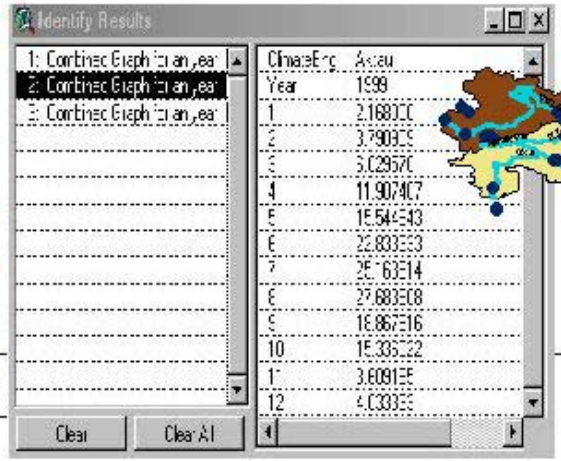
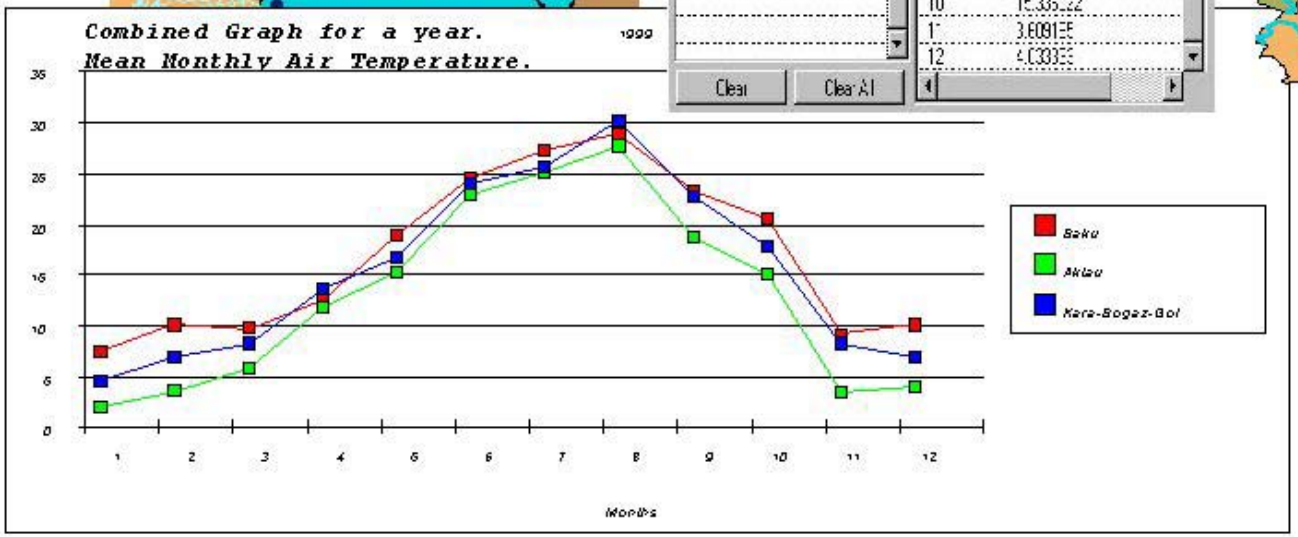
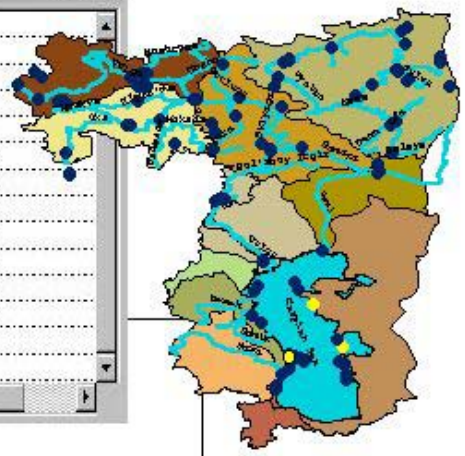
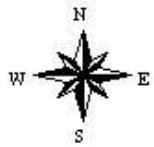
Meteorological Data from Data Base







1000 0 1000 Kilometers