UPDATE HYDROMETEOROLOGICAL DATABASE

USER MANUAL

1. Essential requirements for application the Information systems "hydrological and meteorological data for the Caspian sea and its basin"

- IBM-compatible personal computer with processor not less than 486/70 (preferably more powerful).
- Hard disc, with the free space not less than 50 Mb.
- Mouse Device of the Microsoft Company or other pin-compatible device.
- Video graphics array VGA monitor or compatible one (preferably of better quality).
- 12 Mb of random access memory (preferably more).
- Russian Version of Microsoft Windows 2000 or professional version of Microsoft Office including Microsoft Access-2000.
- Information Systems "Hydrological and meteorological data for the Caspian sea and its basin", installed on hard disc.

All the instruction are written with intention that users are familiar with essential operations in Microsoft windows like work with mouse, windows, dialogue box. If it is necessary to refresh all these acknowledgements, the user should apply to the general Microsoft Windows user manual.

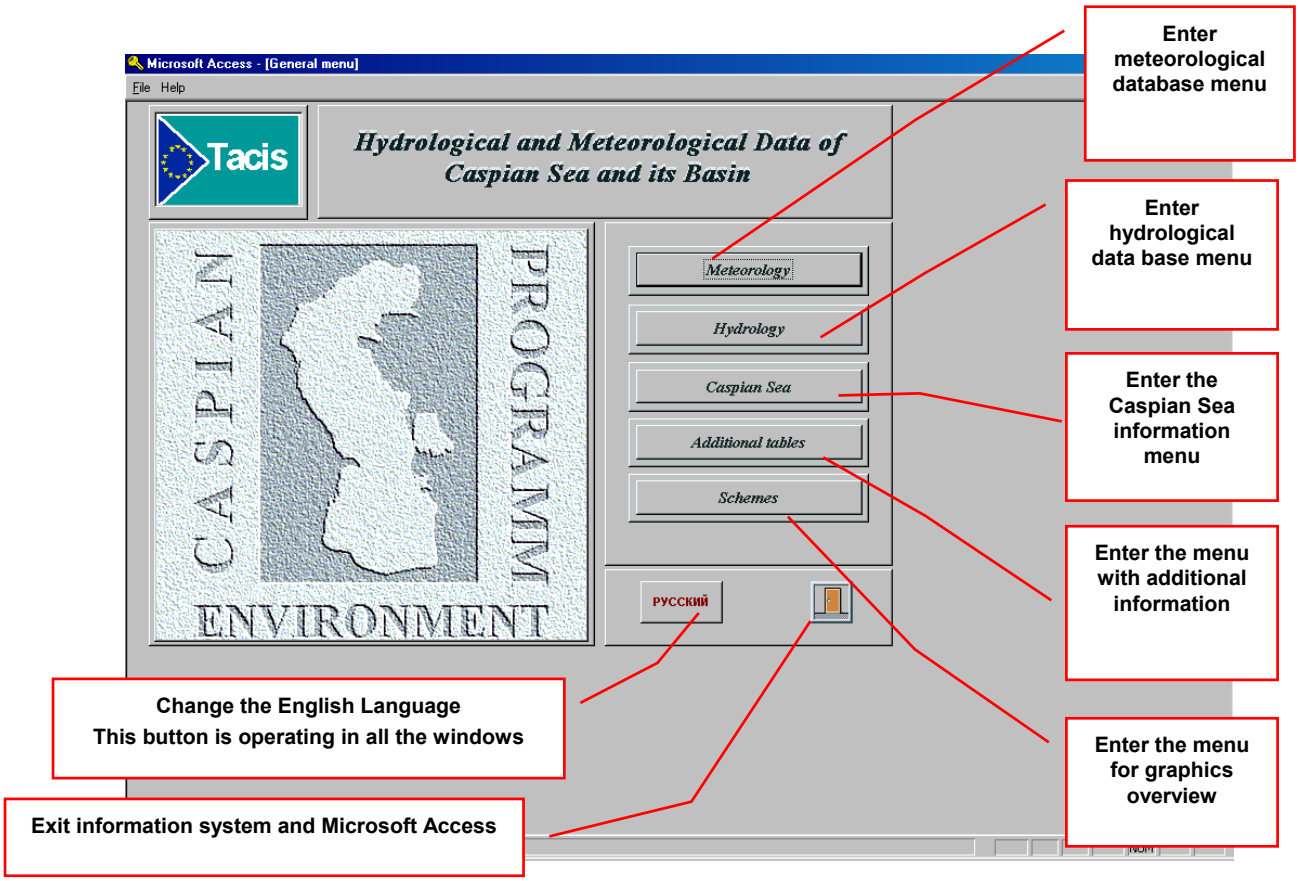
2. Installation of the information system "hydrological and meteorological data for the Caspian sea and its basin"

- Install, if needed, **Microsoft Access**.
- Create **CCWLF** directory.
- Arrange all the Information System files in the **CCWLF** directory (C:\CCWLF).
- Start up **Microsoft Access**.
- Choose **Open Data Base** in the Microsoft Access dialogue box (or choose **Open** in the menu **File**, or press the button "**Open Data Base**" in the toolbar).

- In the dialogue box **Open database files** choose sub directory **CCWLF,** select the **CCWLF** file and make double-click.

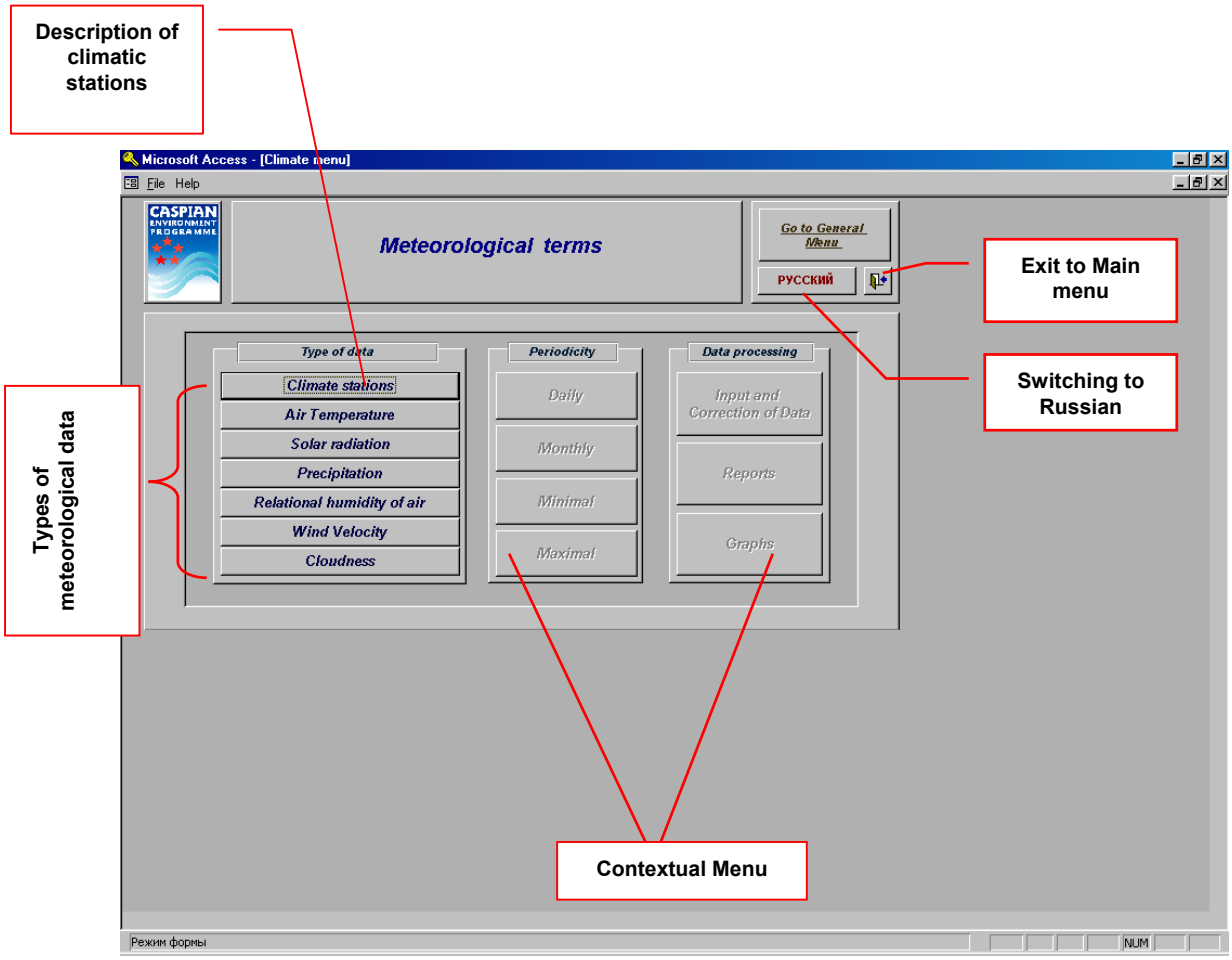
The **Main Menu** will be visible on the screen.

3. Main menu



Select the category you are interested in and press the button. On the screen you will see the menu of the selected information system with the list of inserted data.

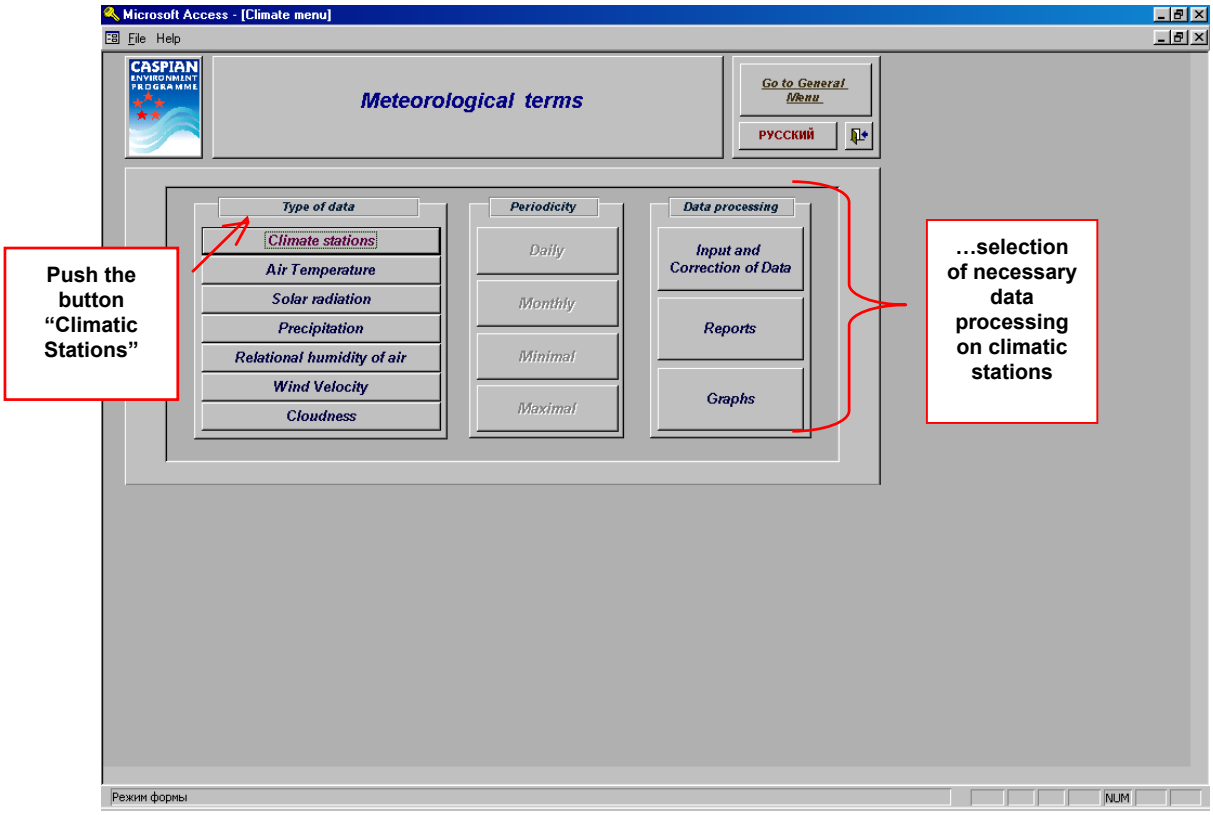
4. Meteorological Data



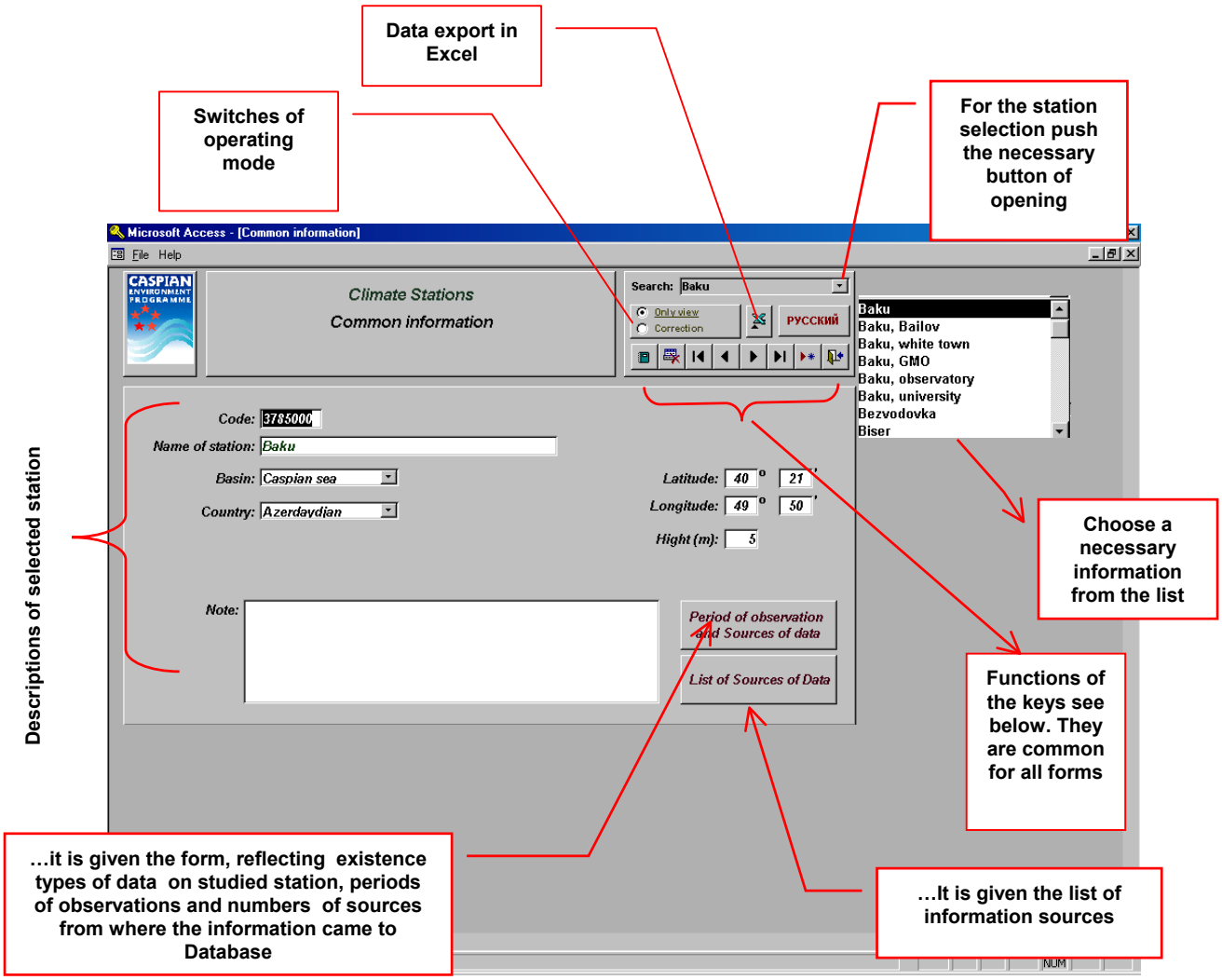
Menu **Meteorological elements** are conditionally possible to divide on three parts. In the first, extreme left part, there are buttons, which allow choosing a type of the meteorological data, and also the button, which reveal the characteristics of all meteorological stations, which have any data. The average group of buttons gives a choice of periodicity of gauging. These buttons become accessible only after a choice of any type of the meteorological data. The extreme right group of buttons becomes active only after a choice of the certain type of the meteorological data of concrete periodicity or after pressing the button **Climatic stations**. These buttons give a choice of an important type of data processing. The button **Input and updating of the data** concern the types of data processing. It allows to remove the important data on the screen and, if it is necessary, to modify them. The button **the Reports** gives an opportunity to create, to look through previously and to print various variants of the data and. The button **the Graphs** opens the mechanism, allowing to display the information in various combinations on the diagrams.

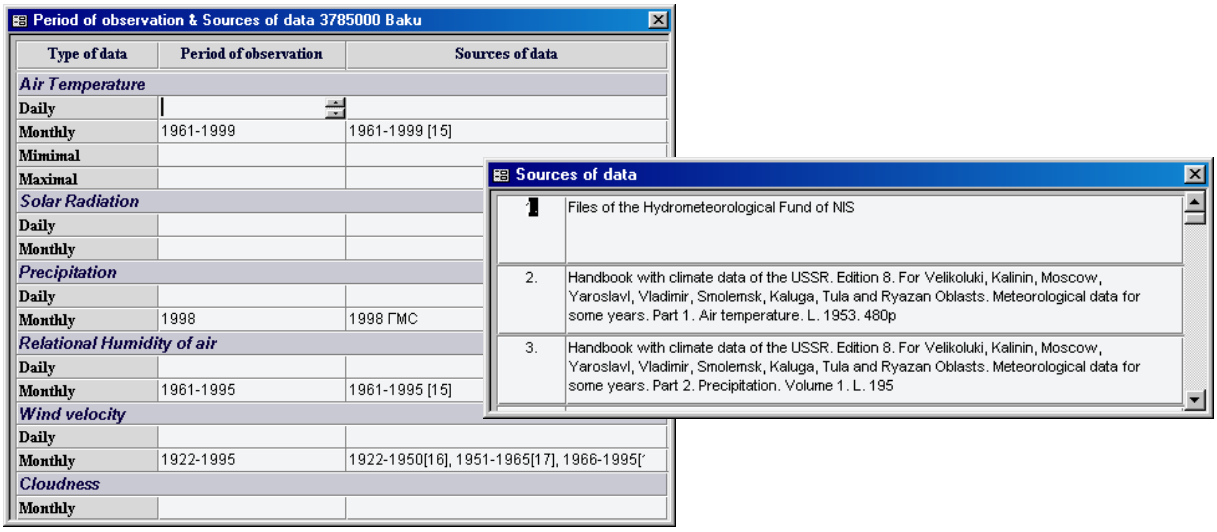
4.1 Climatic stations.

The characteristics of climatic stations, which have any information, are brought in **Information system.** It is possible to look, to correct, to print the various reports and to remove the data on climatic stations in a graphic kind, as well as others data.



4.1.1 INPUT And UPDATING of the DATA





Period of observation & Sources of data 3785000 Baku

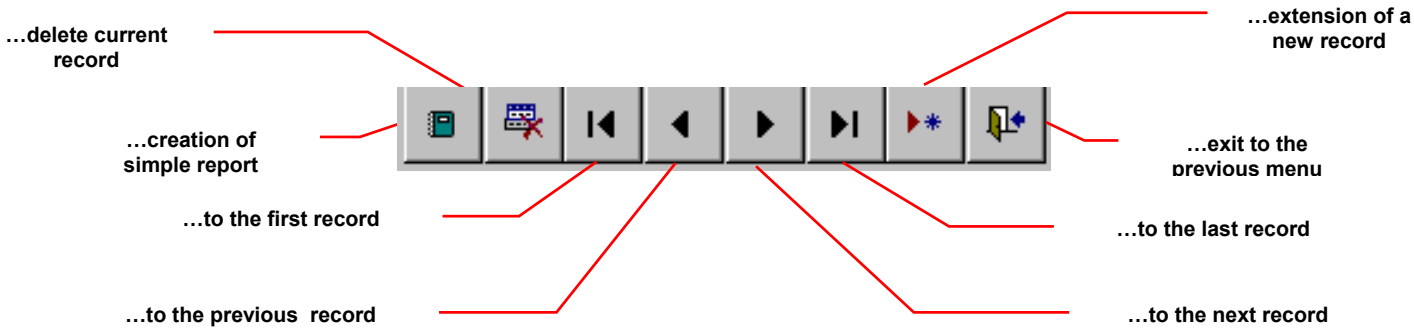
Type of data	Period of observation	Sources of data
Air Temperature		
Daily		
Monthly	1961-1999	1961-1999 [15]
Minimal		
Maximal		
Solar Radiation		
Daily		
Monthly		
Precipitation		
Daily		
Monthly	1998	1998 ГМС
Relational Humidity of air		
Daily		
Monthly	1961-1995	1961-1995 [15]
Wind velocity		
Daily		
Monthly	1922-1995	1922-1950[16], 1951-1965[17], 1966-1995[
Cloudness		
Monthly		

Sources of data

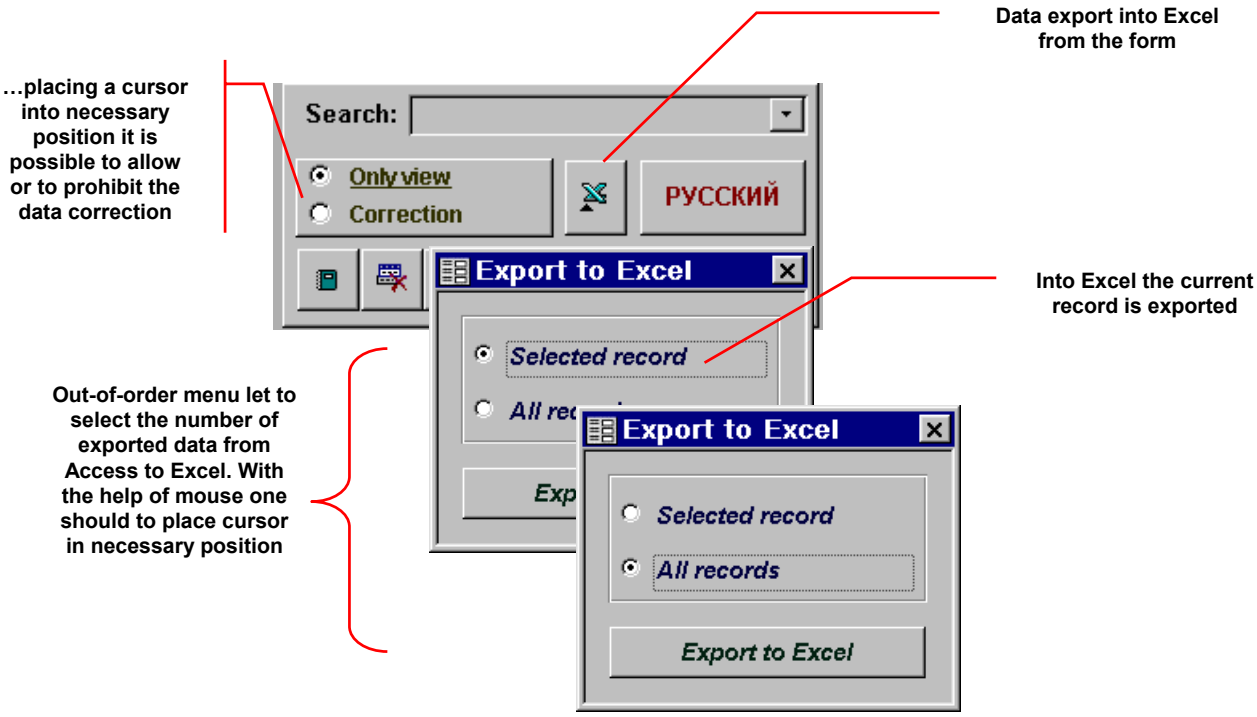
1	Files of the Hydrometeorological Fund of NIS
2.	Handbook with climate data of the USSR. Edition 8. For Velikoluki, Kalinin, Moscow, Yaroslavl, Vladimir, Smolemsk, Kaluga, Tula and Ryazan Oblasts. Meteorological data for some years. Part 1. Air temperature. L. 1953. 480p
3.	Handbook with climate data of the USSR. Edition 8. For Velikoluki, Kalinin, Moscow, Yaroslavl, Vladimir, Smolemsk, Kaluga, Tula and Ryazan Oblasts. Meteorological data for some years. Part 2. Precipitation. Volume 1. L. 195

4.1.2 ASSIGNMENT OF KEYS

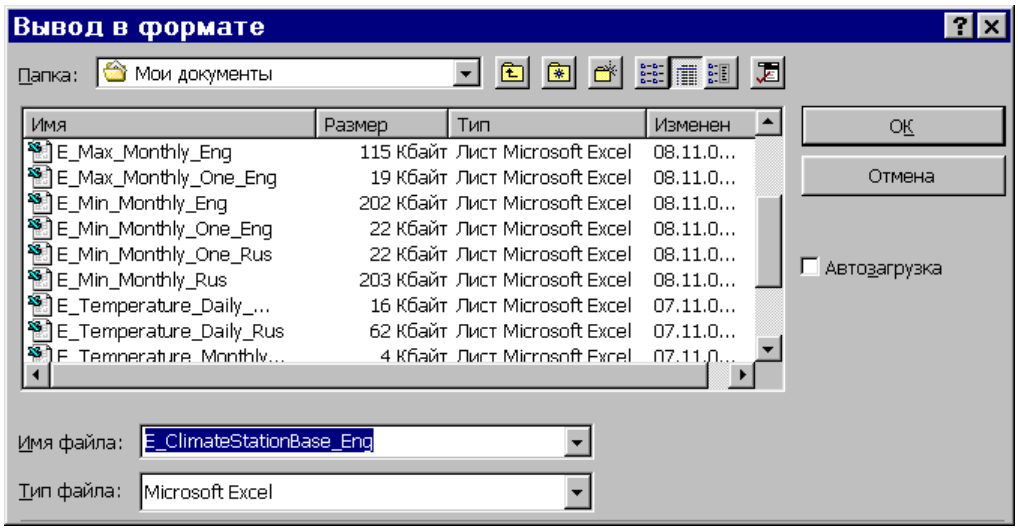
The Information systems represent the data, which are keeping in the tables as records. In the top right part of some forms there are special buttons intended for convenience of movement on records. You con read about them lower.



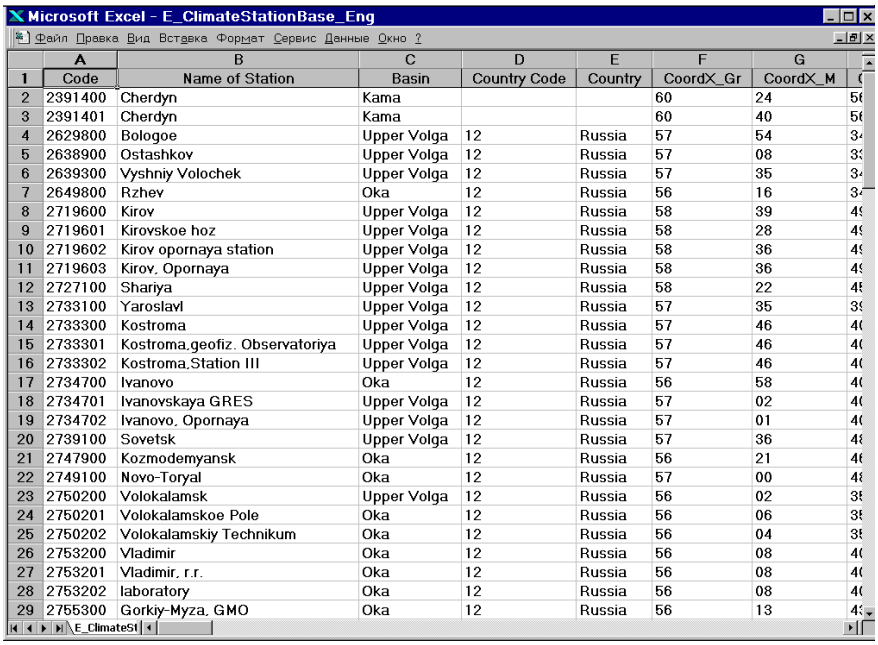
There is the button of export of the data in **Excel**. This button is used when it is necessary to make any single manipulations with the data, which is not taken account in **Information system**.



The window of the dialogue **the output in the format** appears on the screen after a choice of the necessary records for export in **Excel**. The name of the future file accepted by **Information system** by default and a place of its arrangement on the disk is underlined there. If it is necessary, the user can change the name and the site of the file.



It is possible to work with the exported files without dependence from **Information system**, opening them in **Microsoft Excel**.

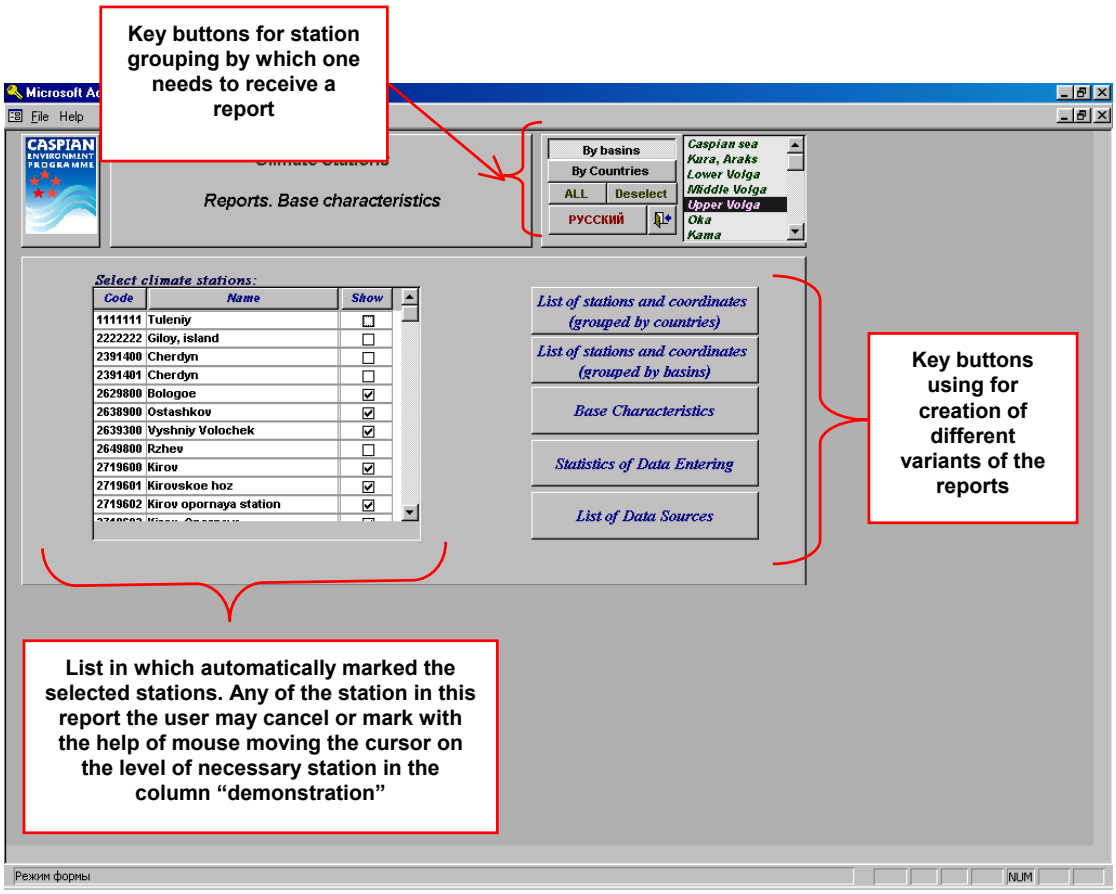


Microsoft Excel - E_ClimateStationBase_Eng

	A	B	C	D	E	F	G
1	Code	Name of Station	Basin	Country Code	Country	CoordX_Gr	CoordX_M
2	2391400	Cherdyn	Kama			60	24
3	2391401	Cherdyn	Kama			60	40
4	2629800	Bologoe	Upper Volga	12	Russia	57	54
5	2638900	Ostashkov	Upper Volga	12	Russia	57	08
6	2639300	Vyshniy Volochek	Upper Volga	12	Russia	57	35
7	2649800	Rzhev	Oka	12	Russia	56	16
8	2719600	Kirov	Upper Volga	12	Russia	58	39
9	2719601	Kirovskoe hoz	Upper Volga	12	Russia	58	28
10	2719602	Kirov opornaya station	Upper Volga	12	Russia	58	36
11	2719603	Kirov. Opornaya	Upper Volga	12	Russia	58	36
12	2727100	Shariya	Upper Volga	12	Russia	58	22
13	2733100	Yaroslavl	Upper Volga	12	Russia	57	35
14	2733300	Kostroma	Upper Volga	12	Russia	57	46
15	2733301	Kostroma.geofiz. Observatoriya	Upper Volga	12	Russia	57	46
16	2733302	Kostroma.Station III	Upper Volga	12	Russia	57	46
17	2734700	Ivanovo	Oka	12	Russia	56	58
18	2734701	Ivanovskaya GRES	Upper Volga	12	Russia	57	02
19	2734702	Ivanovo. Opornaya	Upper Volga	12	Russia	57	01
20	2739100	Sovetsk	Upper Volga	12	Russia	57	36
21	2747900	Kozmodemyansk	Oka	12	Russia	56	21
22	2749100	Novo-Toryal	Oka	12	Russia	57	00
23	2750200	Volokalamsk	Upper Volga	12	Russia	56	02
24	2750201	Volokalamskoe Pole	Oka	12	Russia	56	06
25	2750202	Volokalamskiy Technikum	Oka	12	Russia	56	04
26	2753200	Vladimir	Oka	12	Russia	56	08
27	2753201	Vladimir, r.r.	Oka	12	Russia	56	08
28	2753202	laboratory	Oka	12	Russia	56	08
29	2755300	Gorkiy-Myza, GMO	Oka	12	Russia	56	13

4.1.3 REPORTS

The button **the Reports** (see item 4.1) is used as the printed document for representation of the data on **Climatic stations**. The reports give the user large opportunities in the depiction of the data and large flexibility in grouping the data. Menu for creation the reports on climatic stations look as follows:



List of stations and coordinates (grouped by countries)

Formation of the report on the marked climatic stations grouped by countries. For example:

Russia

Code	Name	Latitude	Longitude	Hight, m	Note
2733100	Yaroslavl	57° 35'	39° 55'	103	
2638900	Ostashkov	57° 08'	33° 07'	217	
2639300	Vyshniy Volochek	57° 35'	34° 34'	161	
2719600	Kirov	58° 39'	49° 37'	164	
2719601	Kirovskoe hoz	58° 28'	49° 17'	123	
2719602	Kirov opornaya station	58° 36'	49° 40'	164	
2629800	Bologoe	57° 54'	34° 03'	178	

List of stations and coordinates (grouped by basins)

Formation of the report on the marked climatic stations grouped by basins. For example:

Upper Volga

Code	Name	Latitude	Longitude	Hight, m	Note
2733100	Yaroslavl	57 ° 35 '	39 ° 55 '	103	
2638900	Ostashkov	57 ° 08 '	33 ° 07 '	217	
2639300	Vyshniy Volochek	57 ° 35 '	34 ° 34 '	161	
2719600	Kirov	58 ° 39 '	49 ° 37 '	164	
2719601	Kirovskoe hoz	58 ° 28 '	49 ° 17 '	123	
2719602	Kirov opornaya station	58 ° 36 '	49 ° 40 '	164	
2629800	Bologoe	57 ° 54 '	34 ° 03 '	178	
2727100	Shariya	58 ° 22 '	45 ° 32 '	139	
2750200	Volokalamsk	56 ° 02 '	35 ° 58 '	189	
2733300	Kostroma	57 ° 46 '	40 ° 57 '	139	
2733301	Kostroma,geofiz. Observatoriya	57 ° 46 '	40 ° 58 '	139	
2733302	Kostroma,Station III	57 ° 46 '	40 ° 36 '	101	
2734701	Ivanovskaya GRES	57 ° 02 '	40 ° 23 '	124	
2734702	Ivanovo, Opornaya	57 ° 01 '	40 ° 58 '	132	
2739100	Sovetsk	57 ° 36 '	48 ° 58 '	119	
2719603	Kirov, Opornaya	58 ° 36 '	49 ° 42 '	156	

Base Characteristics

The report is formed. The report contains the base characteristics and the table of available types of the climatic data with the periods of supervision and sources of the information on chosen stations. For example:

Climate Stations

Base characteristics

Station: 3811100 *Aktau*

Basin: *Caspian sea*

Country: *Kazakhstan*

Latitude: 43 ° 40 '

Longitude: 51 ° 08 '

Hight: 16 m

Note:

Type of data	Period of observation	Sources of data
Air Temperature		
Daily	1990-2000*	1990-2000 [1]
Monthly	1998	1998
Minimal		
Maximal		
Solar Radiation		
Daily		
Monthly		
Precipitation		
Daily		
Monthly	1998	1998 ГМС
Relational Humidity of air		
Daily		
Monthly		
Wind Velocity		
Daily	1990-2000	1990-2000, ГМС
Monthly	1990-2000*	1990-2000 [1]
Cloudiness		

Statistics of Data Entering

The table is formed. The table contains the information about the presence of the data in climatic tables of **Information system**. For example:

TTable	TTCode	TTName	TTPeriod
Climate_Cloudness_Daily		No data	
Climate_Cloudness_Monthly		No data	
Climate_Humidity_Daily		No data	
Climate_Humidity_Monthly			
	3590700	Kulaly, Island	1936-1965
	3747200	Mahachkala	1961-1986
	3785000	Baku	1961-1995
	3836700	Kara-Bogaz-Gol	1936-1965
	3850400	Kuuly-Mayak	1939-1965
	3850700	Krasnovodsk	1939-1982
	3850702	Krasnovodsk suburb	1945-1965
	3863700	Ogurchincky, Island	1937-1965
Climate_Max_Monthly			
	3590700	Kulaly, Island	1936-1945, 1947-1965, 43
	3747200	Mahachkala	1912-1950
	3785002	Baku, observatory	1922-1965
	3785003	Baku, university	1914-1929
	3786100	Neftyanye Kamni	1953-1965
	3836700	Kara-Bogaz-Gol	1921-1965
	3850400	Kuuly-Mayak	1921-1965
	3850700	Krasnovodsk	1913-1965
	3850702	Krasnovodsk suburb	1946-1965
	3863700	Ogurchincky, Island	1938-1965
Climate_Min_Monthly			
	3436300	Kamyshin R R	1901-1911, 1928-1932, 1934-1950
	3436301	Kamyshin	1891-1937

List of Data Sources

The report is formed. The report contains the list of sources from which the data were brought in **Information system**. The number of a source of the data is always underlined. For example:

CASPIAN ENVIRONMENT PROGRAMME

Climatic stations

List of Data Sources

1. Files of the Hydrometeorological Fund of NIS
2. Handbook with climate data of the USSR. Edition 8. For Velikoluki, Kalinin, Moscow, Yaroslavl, Vladimir, Smolemsk, Kaluga, Tula and Ryazan Oblasts. Meteorological data for some years. Part 1. Air temperature. L. 1953. 480p
3. Handbook with climate data of the USSR. Edition 8. For Velikoluki, Kalinin, Moscow, Yaroslavl, Vladimir, Smolemsk, Kaluga, Tula and Ryazan Oblasts. Meteorological data for some years. Part 2. Precipitation. Volume 1. L. 195
4. Handbook with climate data of the USSR. Edition 9a. For Molotov, Sverdlovsk, Chelyabinsk, Kurgan Oblasts and Bashkiriya. Meteorological data for some years. Part 1. Air temperature. L. GM 1954.512 p.
5. Handbook with climate data of the USSR. Edition 9a. For Molotov, Sverdlovsk, Chelyabinsk, Kurgan Oblasts and Bashkiriya. Meteorological data for some years. Part 1. Air temperature. L. GM 1954.512 p.
6. Handbook with climate data of the USSR. Edition 9a. For Molotov, Sverdlovsk, Chelyabinsk, Kurgan Oblasts and Bashkiriya. Meteorological data for some years. Part 2. Precipitation. L.GM, 1955, 378 p.
7. Handbook with climate data of the USSR. Edition 9a. For Molotov, Sverdlovsk, Chelyabinsk, Kurgan Oblasts and Bashkiriya. Meteorological data for some years. Part 2. Precipitation. Sverdlovsk. 1972, 308 p.
8. Handbook with climate data of the USSR. Edition 12. Tatarstan, Uljanovsk, Kuibyshev, Pensa, Orenburg, Saratov Oblasts. Meteorological data for some years. Part 1. Air temperature. Kuibyshev.1969. 348 p.
9. Handbook with climate data of the USSR. Edition 12. For Tatarstan, Mordoviya, Uljanovsk, Penza, Kuibyshev, Saratov, Chkalov Oblasts. Meteorological data for some years. Part 2. Precipitation. L.1954. 640 p
10. Handbook with climate data of the USSR. Edition 12. For Tatarstan, Uljanovsk, Kuibyshev, Penza, Orenburg, Saratov Oblasts. Meteorological data for some years. Part 2. Precipitation. Kuibyshev. 1973. 546 p.
11. Handbook with climate data of the USSR. Edition 13. For Rostov, Stalingrad, Astrakhan Oblasts.

4.1.3.1 Figure

Climatic stations

Base Characteristics

Russia

Code	Name	Latitude	Longitude	Hight, m	Note
3488000	Astrahan	46 ° 16 '	48 ° 2 '	18,00	
3400900	Kursk	51 ° 44 '	36 ° 16 '	209,00	
2872200	Ufa	54 ° 46 '	56 ° 0 '	197,00	

Azerbaydjan

Code	Name	Latitude	Longitude	Hight, m	Note
3786100	Neftyanye Kamni	40 ° 14 '	50 ° 32 '	-15,00	Period of work since 1953 - fo
3785000	Baku	40 ° 21 '	49 ° 50 '	5,00	Period of work 1900 - for real

Kazakhstan

Code	Name	Latitude	Longitude	Hight, m	Note
3836700	Kara-Bogaz-Gol	41 ° 3 '	52 ° 55 '	-23,00	
3811100	Aktau	43 ° 40 '	51 ° 8 '	16,00	
3800100	Fort-Shevchenko	44 ° 33 '	50 ° 15 '	-20,00	
3570500	Big Peshnoy Island HMS	46 ° 55 '	51 ° 41 '	-24,00	

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4.1.3.2 Figure

Climatic stations

Base Characteristics

Caspian sea

Code	Name	Latitude	Longitude	Hight, m	Note
3836700	Kara-Bogaz-Gol	41 ° 3 '	52 ° 55 '	-23,00	
3811100	Aktau	43 ° 40 '	51 ° 8 '	16,00	
3800100	Fort-Shevchenko	44 ° 33 '	50 ° 15 '	-20,00	
3786100	Nefteyaye Kamni	40 ° 14 '	50 ° 32 '	-15,00	Period of work since 1953 - fo
3785000	Baku	40 ° 21 '	49 ° 50 '	5,00	Period of work 1900 - for real
3570500	Big Peshnoy Island HMS	46 ° 55 '	51 ° 41 '	-24,00	

Lower Volga

Code	Name	Latitude	Longitude	Hight, m	Note
3488000	Astrahan	46 ° 16 '	48 ° 2 '	18,00	

Oka

Code	Name	Latitude	Longitude	Hight, m	Note
3400900	Kursk	51 ° 44 '	36 ° 16 '	209,00	

Kama

Code	Name	Latitude	Longitude	Hight, m	Note
2872200	Ufa	54 ° 45 '	56 ° 0 '	197,00	

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4.1.3.3 Figure

Climate Stations

Base characteristics

Station: 3836700 Kara-Bogaz-Gol

Basin: Caspian sea

Country: Kazakhstan

Latitude: 41 ° 3 '

Longitude: 52 ° 55 '

Hight: 23,00 m

Note:

Type of data	Period of observation	Sources of data
Air Temperature		
Daily		
Monthly	1921-1965, 1998-1999	1921-1950, [22], 1951-1965, [26]
Minimal	1921-1965	1921-1950, [22]; 1951-1965, [26]
Maximal	1921-1965	1921-1965, [26]
Solar Radiation		
Daily		
Monthly	1936-1948	1936-1948, [25]
Precipitation		
Daily		
Monthly	1921-1999	1921-1970, [37]; 1971-1997, [40]; 1998-1999, [44]
Relational Humidity of air		
Daily		
Monthly	1936-1965	1936-1965, [27]
Wind Velocity		
Daily		
Monthly	1921-1950	1921-1950, [24]
Cloudness		
Daily		
Monthly		

29.12.2008

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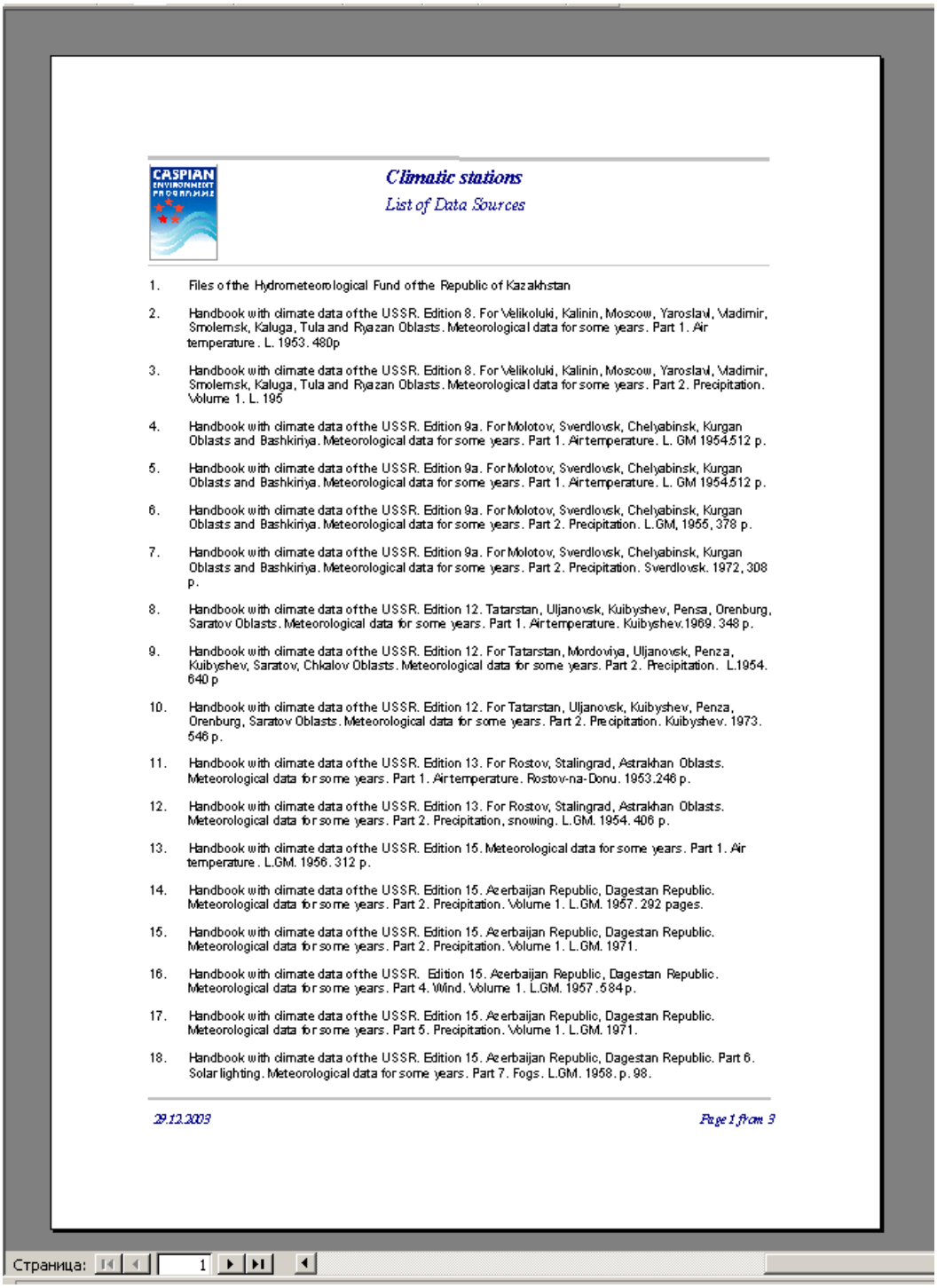
4.1.3.4 Figure



Climatic stations

List of Data Sources

1. Files of the Hydrometeorological Fund of the Republic of Kazakhstan
2. Handbook with climate data of the USSR. Edition 8. For Velikoluki, Kalinin, Moscow, Yaroslavl, Vladimir, Smolensk, Kaluga, Tula and Ryazan Oblasts. Meteorological data for some years. Part 1. Air temperature. L. 1953. 480p
3. Handbook with climate data of the USSR. Edition 8. For Velikoluki, Kalinin, Moscow, Yaroslavl, Vladimir, Smolensk, Kaluga, Tula and Ryazan Oblasts. Meteorological data for some years. Part 2. Precipitation. Volume 1. L. 195
4. Handbook with climate data of the USSR. Edition 9a. For Molotov, Sverdlovsk, Chelyabinsk, Kurgan Oblasts and Bashkiriya. Meteorological data for some years. Part 1. Air temperature. L. GM 1954.512 p.
5. Handbook with climate data of the USSR. Edition 9a. For Molotov, Sverdlovsk, Chelyabinsk, Kurgan Oblasts and Bashkiriya. Meteorological data for some years. Part 1. Air temperature. L. GM 1954.512 p.
6. Handbook with climate data of the USSR. Edition 9a. For Molotov, Sverdlovsk, Chelyabinsk, Kurgan Oblasts and Bashkiriya. Meteorological data for some years. Part 2. Precipitation. L.GM, 1955, 378 p.
7. Handbook with climate data of the USSR. Edition 9a. For Molotov, Sverdlovsk, Chelyabinsk, Kurgan Oblasts and Bashkiriya. Meteorological data for some years. Part 2. Precipitation. Sverdlovsk. 1972, 308 p.
8. Handbook with climate data of the USSR. Edition 12. Tatarstan, Uljanovsk, Kuibyshev, Pensa, Orenburg, Saratov Oblasts. Meteorological data for some years. Part 1. Air temperature. Kuibyshev.1969. 348 p.
9. Handbook with climate data of the USSR. Edition 12. For Tatarstan, Mordoviya, Uljanovsk, Penza, Kuibyshev, Saratov, Chkalov Oblasts. Meteorological data for some years. Part 2. Precipitation. L.1954. 640 p
10. Handbook with climate data of the USSR. Edition 12. For Tatarstan, Uljanovsk, Kuibyshev, Penza, Orenburg, Saratov Oblasts. Meteorological data for some years. Part 2. Precipitation. Kuibyshev. 1973. 546 p.
11. Handbook with climate data of the USSR. Edition 13. For Rostov, Stalingrad, Astrakhan Oblasts. Meteorological data for some years. Part 1. Air temperature. Rostov-na-Donu. 1953.246 p.
12. Handbook with climate data of the USSR. Edition 13. For Rostov, Stalingrad, Astrakhan Oblasts. Meteorological data for some years. Part 2. Precipitation, snowing. L.GM. 1954. 406 p.
13. Handbook with climate data of the USSR. Edition 15. Meteorological data for some years. Part 1. Air temperature. L.GM. 1956. 312 p.
14. Handbook with climate data of the USSR. Edition 15. Azerbaijan Republic, Dagestan Republic. Meteorological data for some years. Part 2. Precipitation. Volume 1. L.GM. 1957. 292 pages.
15. Handbook with climate data of the USSR. Edition 15. Azerbaijan Republic, Dagestan Republic. Meteorological data for some years. Part 2. Precipitation. Volume 1. L.GM. 1971.
16. Handbook with climate data of the USSR. Edition 15. Azerbaijan Republic, Dagestan Republic. Meteorological data for some years. Part 4. Wind. Volume 1. L.GM. 1957. 584 p.
17. Handbook with climate data of the USSR. Edition 15. Azerbaijan Republic, Dagestan Republic. Meteorological data for some years. Part 5. Precipitation. Volume 1. L.GM. 1971.
18. Handbook with climate data of the USSR. Edition 15. Azerbaijan Republic, Dagestan Republic. Part 6. Solar lighting. Meteorological data for some years. Part 7. Fogs. L.GM. 1958. p. 98.

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19. Handbook with climate data of the USSR. Edition 18. Kazakhstan Republic. Meteorological data for some years. Part 1. Air temperature. Volume 1. Mean monthly and annual. Alma-Ata 1973, 150 p

20. Handbook with climate data of the USSR. Edition 18. Kazakhstan Republic. Meteorological data for some years. Part 1. Air temperature. Volume 2. Average and absolute minimum. Alma-Ata.1972. 246 p.

21. Handbook with climate data of the USSR. Edition 18. Kazakhstan Republic. Meteorological data for some years. Part 1. Air temperature. Volume 3. Average maximum. Alma-Arta. 1973. 196 p.

22. Handbook with climate data of the USSR. Edition 19. For Turkmenistan, Tajikistan, Kyrgyzstan. Meteorological data for some years. Part 1. Air temperature for the stations in Turkmenistan and Uzbekistan. Tashkent. 1952. 368 p.

23. Handbook with climate data of the USSR. Edition 19. Meteorological data for some years. Part 2. Precipitation for the stations in Turkmenistan and Uzbekistan. Volume 1. Tashkent. 1954. 344 p.

24. Handbook with climate data of the USSR. Edition 19. Turkmenistan. Meteorological data for some years. Part 4. Wind. L. GM. 1961.496 p.

25. Handbook with climate data of the USSR. Edition 19. Turkmenistan. Meteorological data for some years. Part 6. Cloudiness and solar lighting. L. GM. 1962. 412 p.

26. Handbook with climate data of the USSR. Edition 30. Turkmenistan. Part 1. Air temperature. L.GM. 1973.

27. Handbook with climate data of the USSR. Edition 30. Turkmenistan. Meteorological data for some years. Part 5. Air humidity. L.GM. 1970.

28. Meteorological data. Part 2. Monthly and annual precipitation. The largest daily precipitation. Edition 1. European part of the USSR from the north to 5901 n.l. L. GM. 1939. 341 p.

29. Meteorological data. Volume 2. Monthly and annual precipitation. The largest quantity of precipitation. Edition 2. European part of the USSR from 590000 to 55001 n.l. L.GM. 1940.

30. Meteorological data. Volume 2. Monthly and annual precipitation. The largest quantity of precipitation. Edition 3. Europeam part of the USSR from 55000 l to 51001 l n.l L.GM.1940

31. Meteorological data. Volume 2. Monthly and annual precipitation. The largest quantity of precipitation. Edition 4. European part of the USSR51000 l to 48001 l n.l L.GM.1940

32. Meteorological data. Volume 2. Monthly and annual precipitation. The largest quantity of precipitation. Edition 5. European part of the USSR 48000 l to 45001 l n.l + Krim L.GM.1940

33. Meteorological data. Volume 2. Monthly and annual precipitation. The largest quantity of precipitation. Edition 6. Caucus. L.GM. 1940.

34. Meteorological data. Volume 2. Monthly and annual precipitation. The largest quantity of precipitation. Edition 7. Western part of the Asian part of the USSR. L.GM 1940.

35. Handbook with climate data of the USSR. Edition 15. Dagestan, Azerbaijan, Nakhichevan Republics. Meteorological data for some years. Part 2. Air temperature. L.GM. 1970. 352 p.

36. Handbook with climate data of the USSR. Edition 15. Dagestan, Azerbaijan, Nakhichevan Republics. Meteorological data for some years. Part 6. Meteorological data for some years. Part 6.Solar lighting, radiance balance, solar radiation. L.GM. 1972. 220 p

37. Handbook with climate data of the USSR. Kazakhstan Republic. Meteorological data for some years. Part 2. Precipitation. Alma-Ata. 1974. 720 p.

38. Handbook with climate data. Edition 18. Kazkahstan Republic. Meteorological data for some years. Part 4. Alma-Ata. 1975. 904 p.

39. Handbook with climate data of the USSR> Edition 18. Kazakhstan Republic. Part 5. Air Humidity. Part 2. Alma-Ata. 1977/596 p.

40. State Geophysical Observatory of RosHydromet in St.-Petersburg.

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41. Annual data on regime and quality of sea waters and river mouthes. Baku. 1975-1988yy.

42.

43. Marine hydrmeteorological Monthly Handbooks.Caspian Sea. 1961-1969 yy.

44. Data from Abuzarov, 1998-1999 yy.

45. Data from Golubzov, 1960-1999 yy.

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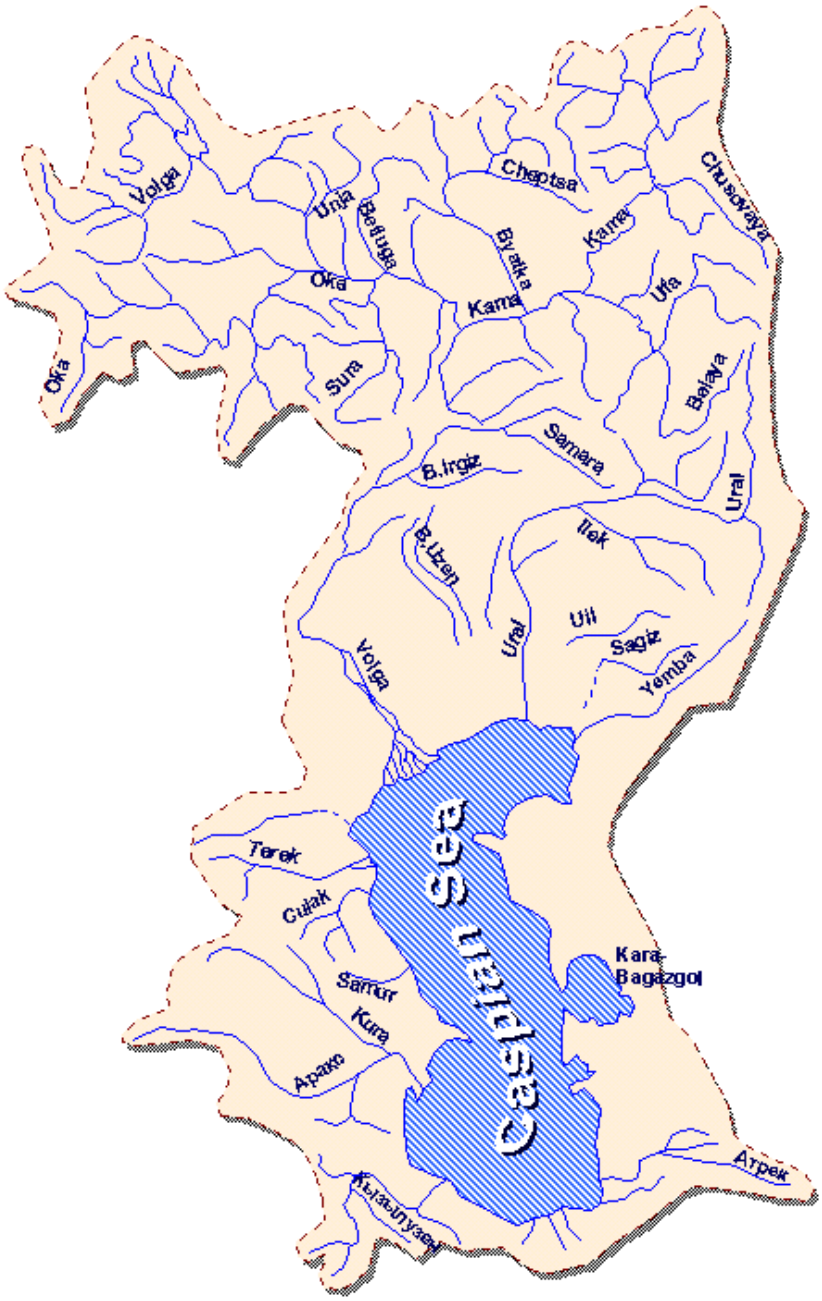
Готово

4.1.4 GRAPHS

The button **Graphs** (see item 4.1) is used for display the data on Climatic stations in a graphic kind. We can see the basin of the Caspian Sea after pressing the button **Graphs** on the screen.

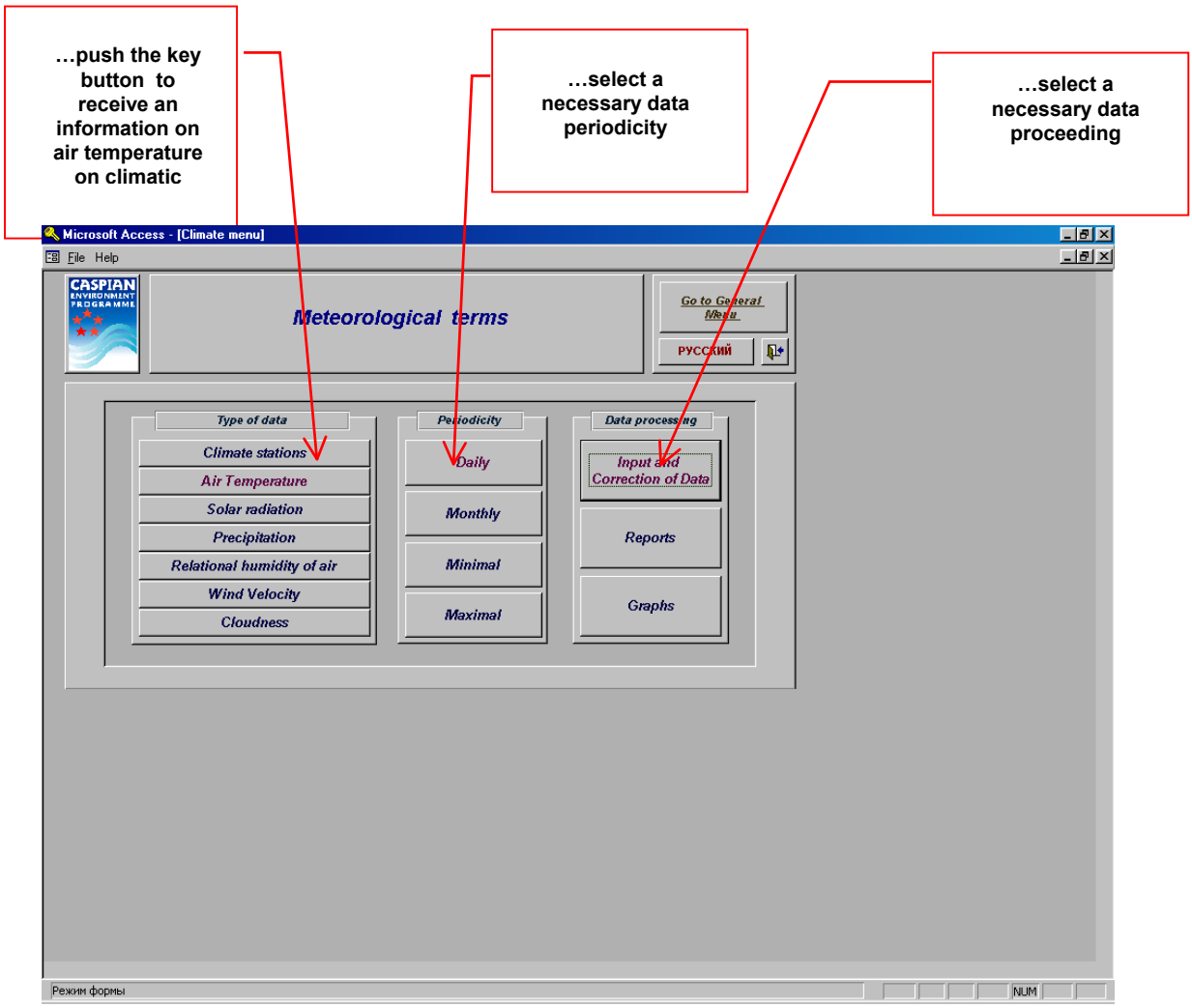


4.2 Air Temperature

For reception of the quantitative information about **Air Temperature** you had to:

- Select the button **Air Temperature** in **Menu Meteorological terms**.

- Select interesting periodicity of supervision in Contextual **menu Periodicity**.



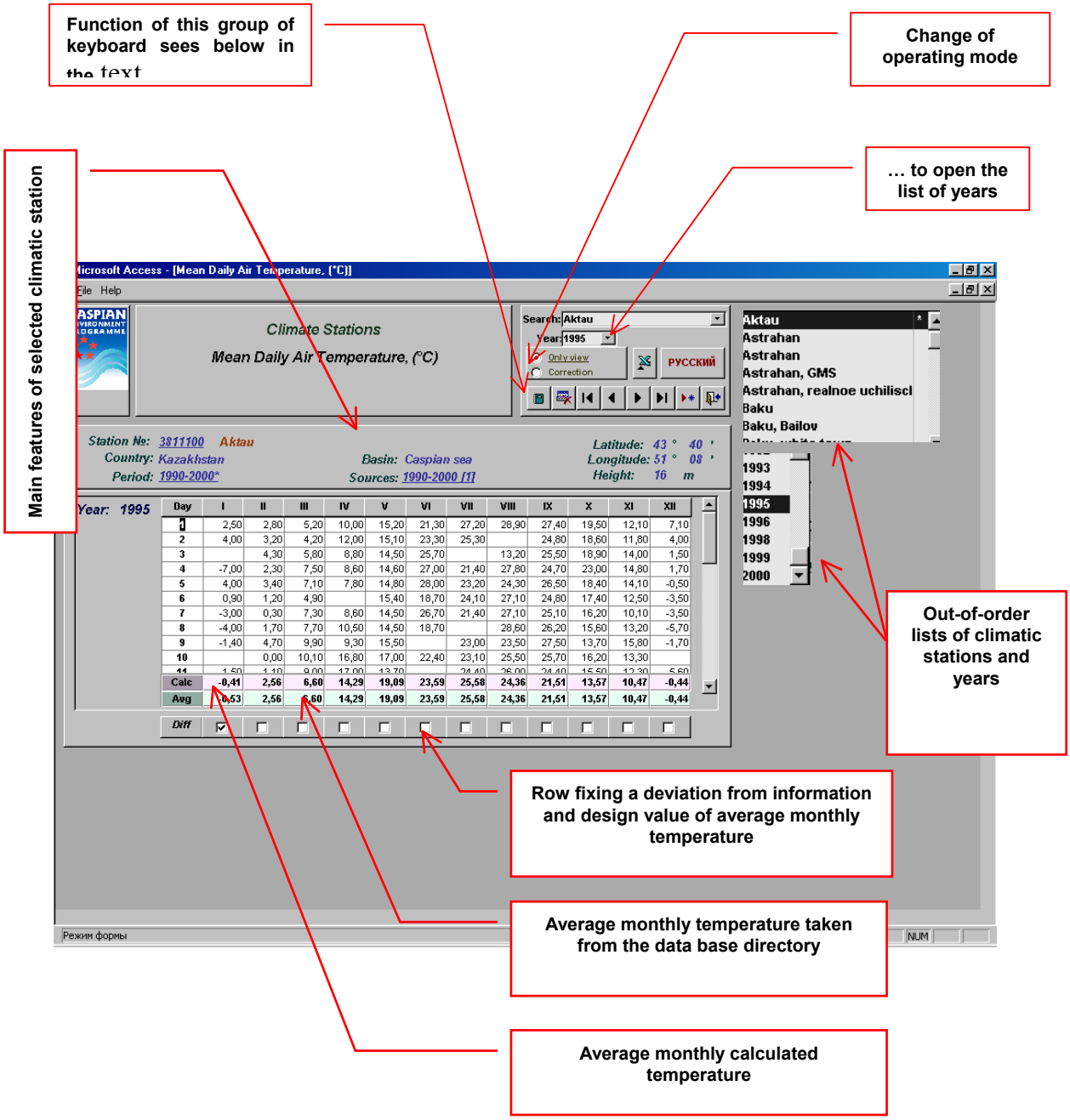
There is an opportunity to receive daily average temperature of air, monthly average temperature of air on the chosen station, and also maximal and minimal temperature of air on stations for one month and for one year from **Information system**. **Information system** contains the data taken from the directories, which have references, and also designed, total. It is possible to receive a difference between the designed and help data.

- Select a necessary data processing in Contextual **menu Data processing**.

In **Information system** there is an opportunity to look through, to correct, to supplement data given to the chosen periodicity, to display them on the diagrams in various combinations, to print them.

4.2.1 MEAN DAILY AIR TEMPERATURE

4.2.1.1 Input and updating of the data.



The window for viewing input and editing of the daily average data on temperature of air can be conditionally divided into three parts. Each of them carries out a special function.

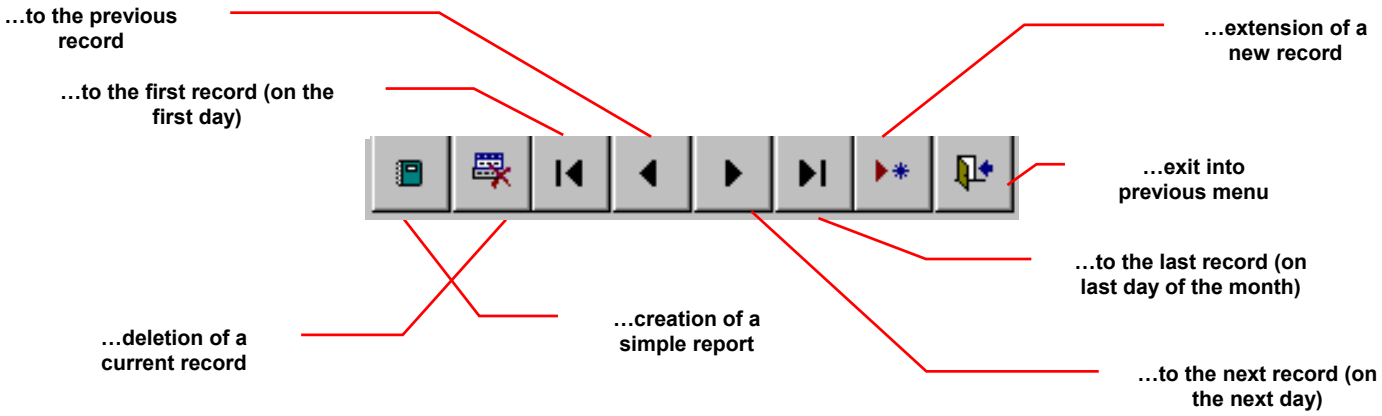
The top right part of the window is intended for a choice of station and management of records. It includes:

- The List of all climatic stations, which appears by pressing on the cursor of disclosing of the list. The stations which have the data on daily average temperature of air are marked by an asterisk (*). The necessary station gets out by the mouse.

- The List of all prospective years, which appear by pressing on cursor of disclosing of the list. The necessary year gets out by the mouse.

- Switches of modes. The mode **Only viewing** is established by default. To edit the data it is necessary to establish the switch in a state updating.

- The Action of the following group of keys is similar with what is written in item 4.1.2, but it is distributed on recording inside the displayed table containing the daily average data on temperature of air. Certainly, it is possible to come from one record to another with usual carry of the cursor on the necessary record.



Fragment of the simple report

3785000 Baku

Year: 1962

Azerbaydjan
Caspian sea

Day	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Avg.y.
1	5,50	5,60	8,00	13,00	20,60	24,40	25,90	25,50	20,10	15,70	11,60	9,20	**15,42**
2	6,00	6,80	9,60	13,00	18,30	23,00	27,80	26,00	22,10	16,20	11,60	8,00	**15,70**
3	5,60	6,20	6,10	12,10	17,70	22,00	26,10	25,20	22,60	16,60	11,10	5,10	**14,70**
4	1,10	3,90	5,70	11,10	18,00	24,80	25,40	24,50	21,70	25,90	11,30	6,70	**15,01**
5	4,30	4,60	6,30	9,40	17,60	23,40	26,40	25,20	21,10	14,00	11,00	8,80	**14,34**
6	7,50	6,80	8,80	14,10	17,70	23,80	27,90	27,70	20,90	17,20	14,00	9,40	**16,32**
7	7,00	2,30	6,00	11,50	20,00	21,40	24,90	26,10	20,60	17,20	12,20	7,40	**14,72**
8	5,80	5,40	7,30	11,80	21,60	21,70	25,30	25,20	22,60	17,40	12,00	7,00	**15,26**
9	1,30	0,40	4,50	10,10	16,50	23,00	24,10	25,00	20,80	14,90	10,60	8,40	**13,30**
10	4,70	6,00	8,20	13,30	18,70	22,00	26,70	25,60	21,00	15,50	12,50	6,40	**15,05**
11	5,40	4,90	7,30	10,70	18,60	22,20	27,50	26,00	24,00	16,40	13,40	7,50	**15,33**
12	-0,40	1,50	4,60	13,60	18,20	24,70	27,20	27,10	21,90	18,60	11,80	4,90	**14,48**
13	2,00	5,80	6,80	12,90	18,50	22,10	25,10	25,60	19,90	16,50	9,70	6,10	**14,25**

The export of the data in **Excel**. Assignment of this key absolutely similar with what is described in item 4.1.2 thus the daily average temperatures of air given in a window are exported in Excel.

E_Temperature_Daily_One_Eng.xls

	A	B	C	D	E	F	G	H	I	J	K	L
1	Code	Name	Basin	Country	Year	Day	I	II	III	IV	V	VI
34	3811100	Aktau	Caspian sea	Kazakhstan	2000	1	3,00	2,00	-6,00	9,25	16,33	18,00
35	3811100	Aktau	Caspian sea	Kazakhstan	2000	2	6,33	-1,00	3,33	11,00	14,75	26,67
36	3811100	Aktau	Caspian sea	Kazakhstan	2000	3	4,67	4,33	3,75	14,00	12,67	25,25
37	3811100	Aktau	Caspian sea	Kazakhstan	2000	4	5,75	6,25	3,50	15,25	9,75	27,25
38	3811100	Aktau	Caspian sea	Kazakhstan	2000	5	2,67	3,00	2,50	14,00	12,75	24,50
39	3811100	Aktau	Caspian sea	Kazakhstan	2000	6	0,50		9,50	13,00	16,25	30,00
40	3811100	Aktau	Caspian sea	Kazakhstan	2000	7	-1,75	0,33	7,00	11,00	14,00	28,00
41	3811100	Aktau	Caspian sea	Kazakhstan	2000	8	-0,50	2,67	5,00	13,00	14,00	28,00
42	3811100	Aktau	Caspian sea	Kazakhstan	2000	9	0,00	3,00	4,33	13,00	13,33	26,50
43	3811100	Aktau	Caspian sea	Kazakhstan	2000	10	1,33	2,00	2,50	10,67	13,00	21,25
44	3811100	Aktau	Caspian sea	Kazakhstan	2000	11	0,50	6,67	6,67	10,25	13,00	19,67
45	3811100	Aktau	Caspian sea	Kazakhstan	2000	12	0,33	3,00	2,00	11,00	14,00	17,75
46	3811100	Aktau	Caspian sea	Kazakhstan	2000	13	-1,00	1,00	3,00	12,50	17,50	18,50
47	3811100	Aktau	Caspian sea	Kazakhstan	2000	14	-1,00	2,25	2,67	17,50	13,67	18,00
48	3811100	Aktau	Caspian sea	Kazakhstan	2000	15	-3,00	2,75	3,00	21,00	13,00	17,50
49	3811100	Aktau	Caspian sea	Kazakhstan	2000	16	-4,33	7,00	3,00	14,50	13,67	19,75
50	3811100	Aktau	Caspian sea	Kazakhstan	2000	17	-7,00	4,25	5,25	12,50	13,67	26,50
51	3811100	Aktau	Caspian sea	Kazakhstan	2000	18	-6,00	5,25	9,50	10,33	12,00	25,00
52	3811100	Aktau	Caspian sea	Kazakhstan	2000	19	8,00	2,00	9,00	19,33	14,25	22,25
53	3811100	Aktau	Caspian sea	Kazakhstan	2000	20	5,25	6,33	9,75	20,33	10,00	21,00
54	3811100	Aktau	Caspian sea	Kazakhstan	2000	21	3,00	4,00	8,33	15,33	16,33	20,00

The average part of the window is intended for displaying the characteristics of the chosen station. It includes:

- A Climatic code of stations taken from the climatic directories. The developers of Information system add two last figures in this code. It serves for the following purposes:

  00-this station is mentioned in the climatic directory.

  01, 02, 03 etc. - these stations are not present in the climatic directory, used by us, but their names and coordinates are close to available, and the their data are received from sources, deserving trust.

- The Name of station, country and basins.

- A Range of years, which we have, and the number of a source of the information whence these data were received by the developers.

- The Coordinate of station.

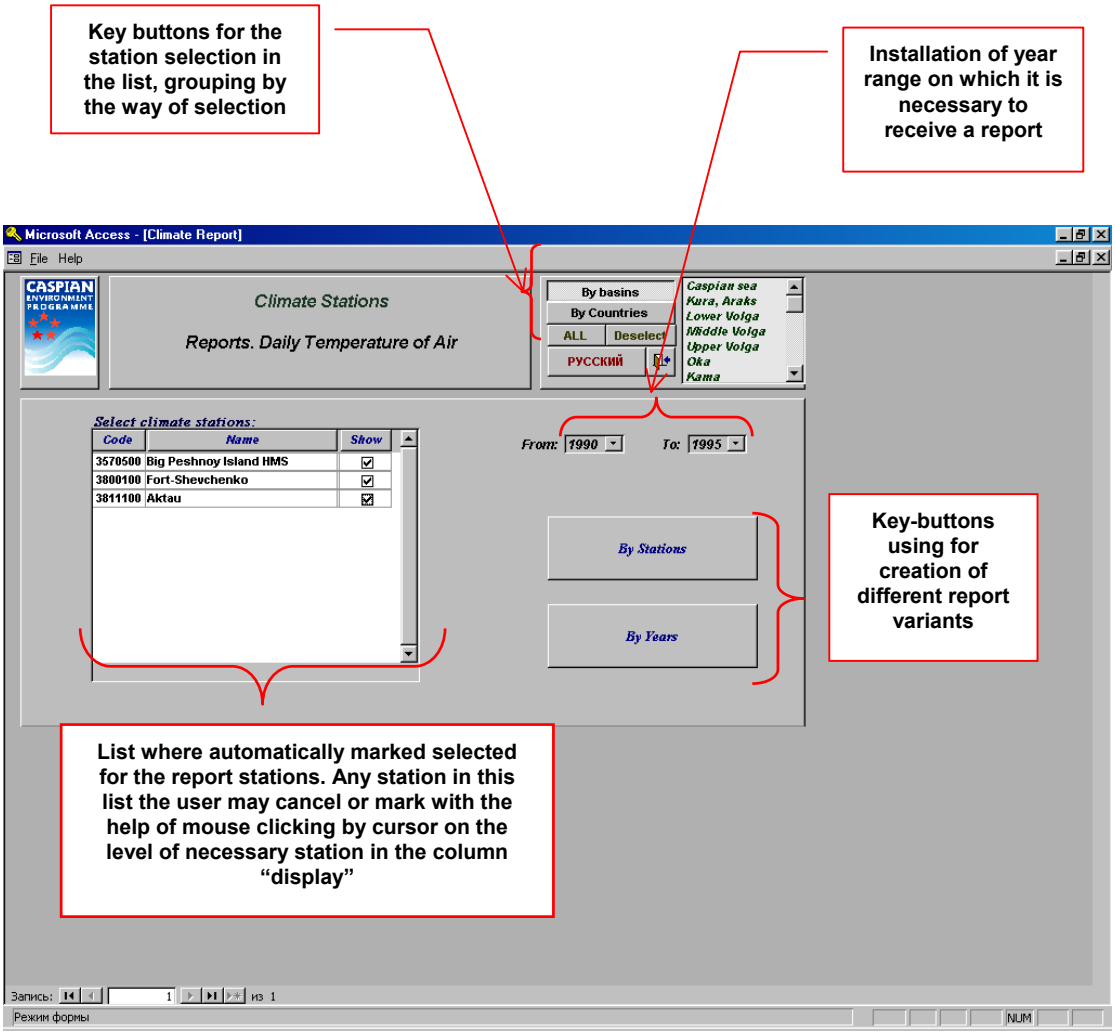
The bottom part of the window is intended for output of the quantitative information on the chosen station for the specified year. It represents the table with the daily data distributed on months. The bottom lines of the table give out the average data for the month. The second line from below gives out the data for the month taken from a source of the information. The third line from below gives out the counted average data. The lowermost line gives out a difference between available and counted average

size. "Tick" testifies presence of a mistake. By clucking the button of the mouse on "tick" it is possible to see the size of a mistake.

4.2.1.2 Reports.

The button **Reports** in menu **Climatic terms** (see item 4.2) is used as the printed document for representation of the data on **Mean Daily Air Temperature**. The reports give the user large opportunities in the depiction of the data and large flexibility in grouping the data. There is an opportunity to make sample of the necessary stations for display them in the report grouping them on **Stations** or on **Basins**. It is possible to mark interesting stations by the mouse, putting "tick" opposite to the chosen station. It is possible to choose the button **All** or **Deselect** for display or for cancellation all ticked stations. It is necessary to specify a range of years, which are necessary to generate the report on the marked stations. After pressing the button **On stations** or **On years**, the chosen variant of the report will be generated and displayed for viewing. After viewing the generated report on the screen it is possible to print it clucking **Print** from the menu.

Menu for creation the reports on **Daily Temperature of Air** of air looks as follows:



By Stations

Formation of report on the marked climatic stations grouped by stations. For example:

Climatic stations

Daily Temperature of Air (°C)

3570500 Big Peshnoy Island HMS

Caspian sea
Kazakhstan

Year: 1990

Day	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Avg.y.
1	-3,35	-15,40	4,70	5,40	14,30	26,20	23,40	22,60	19,30	12,80	4,10	5,10	**9,93**
2	-4,10	-15,80	1,10	5,40	18,10	27,80	23,50	22,60	15,00	14,60	3,20	5,20	**9,72**
3	-3,80	-15,20	2,50	5,10	0,00	27,80	24,00	24,40	15,90	14,20	7,40	3,10	**8,78**
4	-8,40	-11,90	1,50	7,30	0,00	24,80	25,20	24,20	18,40	6,40	5,60	2,80	**7,99**
5	-15,60	-11,70	-0,40	11,10	0,00	22,30	24,20	23,50	21,40	8,00	7,10	1,20	**7,59**
6	-12,30	-12,20	0,50	13,20	0,00	21,20	24,30	21,90	20,10	10,40	9,00	-0,20	**7,99**
7	-9,00	-5,60	1,80	12,50	17,70	21,60	26,00	23,40	20,90	14,00	7,80	2,20	**11,11**
8	-5,40	-4,00	3,00	11,20	18,40	21,20	27,40	21,80	21,00	14,40	5,60	-0,10	**11,21**
9	-9,10	-5,00	2,20	12,20	15,50	20,00	26,90	22,60	21,50	14,40	5,80	-2,80	**10,35**
10	-3,00	-5,50	3,00	11,80	13,20	15,70	27,40	19,50	21,40	15,40	2,30	-3,70	**9,79**
11	0,00	-9,10	3,20	15,30	17,00	17,80	24,50	21,80	19,80	13,60	0,80	-3,50	**10,10**

By Years

Formation of report on the marked climatic stations grouped by years. For example:

Climatic stations

Daily Temperature of Air (°C)

Year: 1990

Code	Name	Day	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Avg.y.
3570500	Big Peshnoy Island HMS	1	-3,35	-15,40	4,70	5,40	14,30	26,20	23,40	22,60	19,30	12,80	4,10	5,10	**9,93**
3570500	Big Peshnoy Island HMS	2	-4,10	-15,80	1,10	5,40	18,10	27,80	23,50	22,60	15,00	14,60	3,20	5,20	**9,72**
3570500	Big Peshnoy Island HMS	3	-3,80	-15,20	2,50	5,10	0,00	27,80	24,00	24,40	15,90	14,20	7,40	3,10	**8,78**
3570500	Big Peshnoy Island HMS	4	-8,40	-11,90	1,50	7,30	0,00	24,80	25,20	24,20	18,40	6,40	5,60	2,80	**7,99**
3570500	Big Peshnoy Island HMS	5	-15,60	-11,70	-0,40	11,10	0,00	22,30	24,20	23,50	21,40	8,00	7,10	1,20	**7,59**
3570500	Big Peshnoy Island HMS	6	-12,30	-12,20	0,50	13,20	0,00	21,20	24,30	21,90	20,10	10,40	9,00	-0,20	**7,99**
3570500	Big Peshnoy Island HMS	7	-9,00	-5,60	1,80	12,50	17,70	21,60	26,00	23,40	20,90	14,00	7,80	2,20	**11,11**
3570500	Big Peshnoy Island HMS	8	-5,40	-4,00	3,00	11,20	18,40	21,20	27,40	21,80	21,00	14,40	5,60	-0,10	**11,21**
3570500	Big Peshnoy Island HMS	9	-9,10	-5,00	2,20	12,20	15,50	20,00	26,90	22,60	21,50	14,40	5,80	-2,80	**10,35**
3570500	Big Peshnoy Island HMS	10	-3,00	-5,50	3,00	11,80	13,20	15,70	27,40	19,50	21,40	15,40	2,30	-3,70	**9,79**
3570500	Big Peshnoy Island HMS	11	0,00	-9,10	3,20	15,30	17,00	17,80	24,50	21,80	19,80	13,60	0,80	-3,50	**10,10**
3570500	Big Peshnoy Island HMS	12	0,00	-3,80	2,20	16,60	17,70	20,30	23,60	23,70	20,30	13,40	3,30	-3,80	**11,13**
3570500	Big Peshnoy Island HMS	13	-11,40	-1,50	3,20	13,00	16,50	23,10	24,00	24,50	22,80	10,60	-1,10	-4,40	**9,94**
3570500	Big Peshnoy Island HMS	14	-16,70	-4,60	4,20	12,00	11,30	22,50	23,60	23,20	21,80	3,70	2,20	-4,30	**8,24**
3570500	Big Peshnoy Island HMS	15	-15,00	-5,30	0,00	12,10	11,20	22,90	26,40	24,20	14,20	6,30	4,20	-3,00	**8,18**
3570500	Big Peshnoy Island HMS	16	-12,60	-7,60	-1,50	10,20	13,80	23,20	27,60	24,20	15,70	9,80	1,20	-3,80	**8,35**
3570500	Big Peshnoy Island HMS	17	-9,50	-5,90	0,80	10,80	15,80	21,00	27,00	23,60	18,00	6,60	4,20	-3,80	**9,05**
3570500	Big Peshnoy Island HMS	18	-8,10	-5,40	2,20	10,40	19,20	21,00	23,90	22,10	15,50	2,40	7,20	-9,70	**8,39**
3570500	Big Peshnoy Island HMS	19	-1,80	-6,10	3,00	11,00	19,30	21,20	23,70	22,20	14,90	8,40	6,90	-14,60	**9,01**
3570500	Big Peshnoy Island HMS	20	-4,00	-11,10	3,20	10,80	19,10	23,20	25,20	20,80	16,80	10,00	6,60	-12,30	**9,03**
3570500	Big Peshnoy Island HMS	21	-0,70	-15,40	4,20	11,30	14,00	20,00	27,30	20,60	15,00	10,80	5,90	-9,60	**8,62**
3570500	Big Peshnoy Island HMS	22	-1,40	-14,50	6,10	12,40	13,30	22,40	26,80	22,30	17,00	9,70	6,40	-9,70	**9,23**
3570500	Big Peshnoy Island HMS	23	-1,60	-2,10	4,70	12,00	15,10	21,20	25,90	24,20	16,40	7,90	7,20	-10,90	**10,00**

4.2.1.2.1 Figure

Climatic stations

Mean Daily Air Temperature, (°C)

3811100 Aktau

Caspian sea
Kazakhstan

Year: 1998

Day	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Avg.y.
1	-5,00	4,75	-0,75	5,00	11,75	22,00		28,25		15,75	13,33	-6,50	8,96
2	-4,00	5,00	1,25	7,33	10,25	22,67		26,00		18,67	10,75	-9,33	8,86
3	3,00	2,50	1,25	7,50	12,00	23,25		24,00		16,75	12,00	-12,50	8,98
4	-1,00	-6,00	1,50	9,50	14,33	20,00	28,33	27,00		10,50	11,67	-3,67	10,20
5	-1,67	0,50	2,00	10,00	18,00	27,33	27,00			7,00	13,50	-1,00	10,27
6	0,00	3,67	3,67	9,00	18,33	25,00		26,33		15,33	14,00		12,81
7	6,00	6,50	2,00	12,00	16,00	27,50		25,75		12,75	11,67	3,67	12,38
8	6,75	5,00	7,00	13,25	21,33	27,00	24,33	24,00		7,50	12,00	6,67	14,08
9	6,50	5,00	6,25	14,00	19,25	29,67	27,50	25,00		8,50	5,67	5,00	13,85
10	3,00	1,33	6,25	16,00	18,00	27,25		26,50		10,75	6,00	9,00	12,41
11	6,00	2,00	8,00	14,00		26,50	26,00	25,00		13,67	4,00	8,00	13,32
12	2,33	1,00	10,67	10,00	20,00	26,00	24,50	23,50		13,25	1,75	3,75	12,43
13	-1,50	4,33	8,50	14,00	19,75	29,00	27,00	22,25		10,00	5,33	0,33	12,64
14	-1,00	5,00	5,33	13,00	18,50	27,50	23,50	20,25			4,50	3,67	12,03
15	4,33	2,00	3,50	19,67	14,00	28,25	24,00	19,67				3,75	13,24
16	5,67	3,50	4,25	17,25	18,50	28,50	25,67	21,67			10,50	3,50	13,90
17	3,00	5,00	3,75	13,50	17,50	36,00	26,50	20,00		15,67	10,00	2,75	13,88
18	0,00	6,67	3,00		20,00	31,50	23,00	19,75		11,00	11,00	4,67	13,06
19	0,50	6,67	1,00	15,00	18,25	25,00	25,00	21,25			3,00	4,25	11,99
20	-3,25	5,50	-3,00	14,75	24,00		26,75	23,00			3,50	7,00	10,92
21	-1,00		4,00	8,67	20,75	23,00	27,25	23,50			7,00	5,00	13,13
22	3,50	5,67	7,00	11,00	15,00	33,50	22,00	25,25			8,75	6,33	13,80
23	7,50	9,00	4,25	11,00	16,67	28,75		26,50			3,50	5,33	12,50
24	1,67		6,25	11,50	17,75	26,00	27,00	25,50			0,25	-2,67	12,58
25	3,00	6,00	2,33	13,00	20,00		25,00	25,50			3,33	-4,25	10,44
26	5,00	5,50	4,00	11,50		30,33	23,00	26,75		11,50	8,25	-2,67	12,32
27	5,33	3,50	5,00	15,00	20,00	27,33	25,33	25,25		11,75	6,00	-3,25	12,84
28	3,75	6,00	8,50	16,75	25,00		28,00	30,00		12,67	-5,00	0,00	12,57
29	4,25		10,33	14,75	27,67		26,00	25,50		13,33	-11,25	1,67	12,47
30	1,00		5,00	15,33	25,25	23,67		27,50		12,50	-6,75	6,50	12,22
31	4,67		4,33		26,00		28,67	25,75		10,00		3,67	14,73
Avg	2,20	4,06	4,40	12,53	18,75	26,98	25,71	24,54		12,33	6,15	1,66	12,66
Calc	2,20	4,06	4,40	12,53	18,75	26,98	25,71	24,54		12,33	6,15	1,66	12,66

Climatic stations

Mean Daily Air Temperature, (°C)

3811100 Aktau

Caspian sea
Kazakhstan

Year: 1999

Day	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Avg.y.
1	3,30	4,20	4,00	18,00	15,00	23,00		30,75	21,50	20,00	8,00		14,78
2	-4,60	4,90	5,00	13,50	16,00	22,00		30,67	22,33	18,33	4,00	8,00	12,74
3	-3,70	4,80	10,50	10,25	14,50	16,50	25,00	29,25	22,00	23,67	10,50	6,33	14,13
4	2,40	2,50	7,25	8,00	14,25	20,33		31,33	13,00	22,00	9,67	5,67	12,40
5	5,10	-4,70	7,75	11,00	13,50	21,33		26,50	19,67	22,67	10,50	2,75	12,37
6	-1,80		10,67	6,75	10,00	20,25		30,33	19,75	23,67	8,00	3,00	13,06
7		3,10	6,00	4,75		24,67	26,00	26,00	15,00	20,50	7,25	7,00	14,03
8	4,20	0,60	8,00	5,00	9,67	23,00	23,67		26,25	17,00	5,75	2,75	11,44
9	-1,70	5,80	7,50		5,00	25,00	23,50	29,00	25,67	18,00	1,50	2,50	12,89
10	4,10	3,20	6,50	10,25		26,50	25,33	25,00	21,50	21,33	-1,25	3,67	13,28
11		0,60	2,00	11,50	17,50	28,50	27,67		21,67	19,50	1,25	2,25	13,24
12	5,20		4,00	8,00	15,00	27,00	22,25	28,50	20,75	17,00	5,00	1,00	13,97
13	2,30	2,60	6,25	16,33	15,50	25,50	19,00	27,00	21,75	14,50	4,00	4,00	13,23
14		2,80	5,25	12,50	17,00	22,25	20,50	26,00	19,50	17,00	0,00	3,50	13,30
15	1,90		3,00	13,00	14,33	19,75	21,00	26,50	15,33	16,25	8,50	6,25	13,26
16	3,20	8,20	3,67	12,00	16,25	19,67	26,50	29,50	14,67	17,25	8,25	3,25	13,53
17	4,70	5,40	0,67		15,75	23,25	25,33	28,33	17,00	15,75	3,00	2,50	12,88
18		4,90	0,25	15,67	16,00	24,50	25,00	26,75	18,25	15,00	0,00	5,75	13,82
19	0,50	7,80	-3,00	11,50		25,67	27,50	30,50	15,00	12,00	7,33	7,25	12,91
20	-1,70	7,10	8,33	9,00	10,00	24,00	31,00	32,75	20,00	12,50	3,25	6,50	13,56
21	-3,10		8,50		13,33	25,33	27,67	29,50	17,33	9,67	-3,67	5,00	12,96
22	2,00	4,10	8,00	10,00	14,33	24,00	24,00	28,00	17,50	11,00		5,50	13,49
23		6,60	3,00	10,25	14,67	19,00	26,00	28,75	16,00	9,50	0,33	2,67	12,43
24	4,30		6,33	8,00	17,50	22,33	27,00	31,33	15,00	9,00	4,00	-2,00	12,98
25			5,25	14,33	19,50	20,00	25,00	27,50		11,00	6,00	-2,75	13,98
26	5,00	8,90	7,00	15,50	19,00	21,50	24,00	26,67	20,00	8,33	0,25	0,00	13,01
27	5,30	0,00	9,50	16,25	22,00	21,00	24,75	28,50	15,00	9,00	-1,75	3,75	12,78
28	4,90	0,00	10,25	16,00	22,67	25,67	26,00	24,25	17,25	13,50	-1,25	4,00	13,60
29	3,80		9,00	18,67	22,00	21,50	25,67	24,25	17,50	10,00	-2,00	7,67	14,37
30	4,30		8,00	15,50	16,00	22,00	32,33	19,75	21,00	10,75	-1,75	7,25	14,10
31	4,30		8,50		19,00		22,59	19,67		9,75		6,00	12,83
Avg	2,17	3,79	6,03	11,91	15,54	22,83	25,16	27,68	18,87	15,34	3,61	4,03	13,08
Calc	2,17	3,79	6,03	11,91	15,54	22,83	25,16	27,68	18,87	15,34	3,61	4,03	13,08

Страница: 2

Climatic stations

Mean Daily Air Temperature, (°C)

3811100 Aktau

Caspian sea
Kazakhstan

Year: 2000

Day	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Avg.y.
1	3,00	2,00	-6,00	9,25	16,33	18,00	33,67	28,33	21,25	14,00			13,98
2	6,33	-1,00	3,33	11,00	14,75	26,67	26,25	32,00	20,75	14,30			15,44
3	4,67	4,33	3,75	14,00	12,67	25,25	23,75	32,25	19,75				15,60
4	5,75	6,25	3,50	15,25	9,75	27,25	22,00	27,50	22,25	13,10			15,26
5	2,67	3,00	2,50	14,00	12,75	24,50	22,50	29,00	21,25	10,40			14,26
6	0,50		9,50	13,00	16,25	30,00	23,75	29,50	22,75	10,50			17,31
7	-1,75	0,33	7,00	11,00	14,00	28,00	25,75	24,75	27,25	12,60			14,89
8	-0,50	2,67	5,00	13,00	14,00	28,00	24,00	27,00	27,33	12,30			15,28
9	0,00	3,00	4,33	13,00	13,33	26,50	21,33	27,00	23,33				14,65
10	1,33	2,00	2,50	10,67	13,00	21,25	22,50	27,33	24,33	12,20			13,71
11	0,50	6,67	6,67	10,25	13,00	19,67	25,00	27,00	20,33				14,34
12	0,33	3,00	2,00	11,00	14,00	17,75	24,00	26,75	19,00	14,10			13,19
13	-1,00	1,00	3,00	12,50	17,50	18,50	25,33	29,50	23,67	14,50			14,45
14	-1,00	2,25	2,67	17,50	13,67	18,00	23,50	28,33	20,00	12,60			13,75
15	-3,00	2,75	3,00	21,00	13,00	17,50	25,75	26,25	21,67	8,30			13,62
16	-4,33	7,00	3,00	14,50	13,67	19,75	28,00	24,50	22,67	8,50			13,73
17	-7,00	4,25	5,25	12,50	13,67	26,50	29,25	24,00	20,25				14,30
18	-6,00	5,25	9,50	10,33	12,00	25,00	27,00	25,25	17,25	12,80			13,84
19	8,00	2,00	9,00	19,33	14,25	22,25	27,75	25,00	17,33	10,80			15,57
20	5,25	6,33	9,75	20,33	10,00	21,00	30,67	25,67	16,25	9,10			15,44
21	3,00	4,00	8,33	15,33	16,33	20,00	29,67	27,25	17,67	8,60			15,02
22	-1,00	8,00	8,67	14,33	16,67	19,50	33,67	27,50	20,50	8,20			15,60
23	-2,00	7,00	7,00	18,50	18,75	25,00	29,50	27,25	16,75	8,80			15,66
24	-2,25	2,50	8,50	16,50	20,50	23,00	30,00	27,00	13,75	8,30			14,78
25	2,33	0,00	7,25	16,00	24,25	18,33	25,75	26,00	14,00	11,80			14,57
26	1,67	5,00	5,50	15,00	22,50	18,50	29,00	27,50	15,25	10,90			15,08
27	-4,00	3,33	6,50	18,25	27,25	17,75	26,00	27,25	15,00	9,20			14,65
28	-4,00	-0,67	11,00	17,25	28,00	21,00	30,25	23,25	13,50	7,60			14,72
29	-2,00	-3,25	9,67	18,25	25,50	23,00	30,25	24,33	14,00	10,60			15,03
30	0,00		7,00	18,00	20,00	31,00	31,00	24,00	14,50	9,80			17,26
31	2,25		8,75		19,00		31,00	23,67		9,90			15,76
Avg	0,25	3,18	5,72	14,69	16,46	22,61	27,03	26,84	19,45	10,88			14,71
Calc	0,25	3,18	5,72	14,69	16,46	22,61	27,03	26,84	19,45	10,88			14,71

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4.2.1.2.2 Figure

Climatic stations

Mean Daily Air Temperature, (°C)

Year: 1998

Code	Name	Day	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Avg.y.
3570500	Big Peshnoy Island HMS	1			-6,75	0,50	9,33	24,50	24,00	28,75	22,75	16,25	8,35	-12,25	**11,54**
3811100	Aktau	1	-5,00	4,75	-0,75	5,00	11,75	22,00		28,25		15,75	13,33	-5,50	**8,96**
3570500	Big Peshnoy Island HMS	2			-4,00	2,50	9,50	23,25	25,33	27,33	20,25	15,33	7,37	-13,67	**11,32**
3811100	Aktau	2	-4,00	5,00	1,25	7,33	10,25	22,67		26,00		18,67	10,75	-9,33	**8,86**
3570500	Big Peshnoy Island HMS	3			-2,50	2,50	11,25	28,33	25,75	28,50	18,25	10,25	7,98	-12,00	**11,83**
3811100	Aktau	3	3,00	2,50	1,25	7,50	12,00	23,25		24,00		16,75	12,00	-12,50	**8,98**
3570500	Big Peshnoy Island HMS	4			-1,75	3,25	14,25	27,75	25,75	28,25	15,00	6,75	8,70	-7,33	**12,06**
3811100	Aktau	4	-1,00	-6,00	1,50	9,50	14,33	20,00	28,33	27,00		10,50	11,67	-3,67	**10,20**
3570500	Big Peshnoy Island HMS	5			-1,00	3,50	15,50	27,50	22,50	28,25	17,00	6,25	10,25	-5,35	**12,44**
3811100	Aktau	5	-1,67	0,50	2,00	10,00	18,00	27,33	27,00			7,00	13,50	-1,00	**10,27**
3570500	Big Peshnoy Island HMS	6			-0,50	5,50	19,50	26,25	24,25	28,25	13,75	12,75	11,95	-3,75	**13,80**
3811100	Aktau	6	0,00	3,67	3,67	9,00	18,33	25,00		26,33		15,33	14,00		**12,81**
3570500	Big Peshnoy Island HMS	7			-1,00	4,00	20,00	27,67	22,33	29,25	13,25	6,67	6,58	-3,33	**12,54**
3811100	Aktau	7	6,00	6,50	2,00	12,00	16,00	27,50		25,75		12,75	11,67	3,67	**12,38**
3570500	Big Peshnoy Island HMS	8			2,25	7,50	17,50	26,75	24,25	26,75	14,50	2,75	7,58	-0,33	**12,95**
3811100	Aktau	8	6,75	5,00	7,00	13,25	21,33	27,00	24,33	24,00		7,50	12,00	6,67	**14,08**
3570500	Big Peshnoy Island HMS	9			0,25	6,75	18,00	24,00	26,00	24,50	14,55	4,00	2,50	0,25	**12,08**
3811100	Aktau	9	6,50	5,00	6,25	14,00	19,25	29,67	27,50	25,00		8,50	5,67	5,00	**13,85**
3570500	Big Peshnoy Island HMS	10			0,00	7,33	18,75	24,00	26,67	24,50	17,75	8,33	1,75	0,50	**12,96**
3811100	Aktau	10	3,00	1,33	6,25	16,00	18,00	27,25		26,50		10,75	6,00	9,00	**12,41**
3570500	Big Peshnoy Island HMS	11			2,25	9,00	16,33	26,25	29,00	24,50	19,00	14,00	0,00	1,50	**14,18**
3811100	Aktau	11	6,00	2,00	8,00	14,00		26,50	26,00	25,00		13,67	4,00	8,00	**13,32**
3570500	Big Peshnoy Island HMS	12			2,25	6,75	12,75	26,00	26,50	23,00	17,75	12,00	-1,75	-1,75	**12,35**

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Climatic stations

Mean Daily Air Temperature, (°C)

3811100	***Aktau***	**12**	2,33	1,00	10,67	10,00	20,00	26,00	24,50	23,50		13,25	1,75	3,75	**12,43**
3570500	***Big Peshnoy Island HMS***	**13**			0,75	12,75	16,25	29,25	23,75	21,25	19,50	12,50	-4,83	-2,00	**12,92**
3811100	***Aktau***	**13**	-1,50	4,33	8,50	14,00	19,75	29,00	27,00	22,25		10,00	5,33	0,33	**12,64**
3570500	***Big Peshnoy Island HMS***	**14**			-1,00	12,00	15,33	29,75	24,00	17,00	20,00	12,75	-2,00	-2,00	**12,58**
3811100	***Aktau***	**14**	-1,00	5,00	5,33	13,00	18,50	27,50	23,50	20,25			4,50	3,67	**12,03**
3570500	***Big Peshnoy Island HMS***	**15**			-1,33	12,00	19,50	29,25	24,25	19,00	19,50	15,00	-0,58	-3,00	**13,36**
3811100	***Aktau***	**15**	4,33	2,00	3,50	19,67	14,00	28,25	24,00	19,67				3,75	**13,24**
3570500	***Big Peshnoy Island HMS***	**16**			-2,75	8,50	18,50	29,75	26,25	18,00	20,75	13,50	-1,68	-5,75	**12,51**
3811100	***Aktau***	**16**	5,67	3,50	4,25	17,25	18,50	28,50	25,67	21,67			10,50	3,50	**13,90**
3570500	***Big Peshnoy Island HMS***	**17**			-5,25	9,67	19,00	31,50	27,50	18,75	20,33	12,75	0,83	-5,00	**13,01**
3811100	***Aktau***	**17**	3,00	5,00	3,75	13,50	17,50	35,00	26,50	20,00		15,67	10,00	2,75	**13,88**
3570500	***Big Peshnoy Island HMS***	**18**			-3,75	6,67	12,50	30,00	29,00	21,00	18,50	9,75	0,83	-1,00	**12,35**
3811100	***Aktau***	**18**	0,00	6,67	3,00		20,00	31,50	23,00	19,75		11,00	11,00	4,67	**13,06**
3570500	***Big Peshnoy Island HMS***	**19**			-1,50	8,67	14,25	28,33	29,25	21,00	20,33	11,00	1,50	-1,50	**13,13**
3811100	***Aktau***	**19**	0,50	6,67	1,00	15,00	18,25	25,00	25,00	21,25			3,00	4,25	**11,99**
3570500	***Big Peshnoy Island HMS***	**20**			-1,50	7,00	17,25	29,75	25,67	22,00	21,00	11,50	0,95	1,25	**13,49**
3811100	***Aktau***	**20**	-3,25	5,50	-3,00	14,75	24,00		26,75	23,00			3,50	7,00	**10,92**
3570500	***Big Peshnoy Island HMS***	**21**			-2,25	8,50	22,33	30,50	24,50	24,50	22,33	11,50	-1,25	1,67	**14,23**
3811100	***Aktau***	**21**	-1,00		4,00	8,67	20,75	23,00	27,25	23,50			7,00	5,00	**13,13**
3570500	***Big Peshnoy Island HMS***	**22**			-3,00	7,25	19,00	33,43	27,75	25,00	18,00	11,33	-3,53	-0,25	**13,50**
3811100	***Aktau***	**22**	3,50	5,67	7,00	11,00	15,00	33,50	22,00	25,25			8,75	6,33	**13,80**
3570500	***Big Peshnoy Island HMS***	**23**			-1,00	10,00	16,50	26,50	25,67	25,25	15,75	5,67	-8,50	-0,50	**11,53**
3811100	***Aktau***	**23**	7,50	9,00	4,25	11,00	16,67	28,75		26,50			3,50	5,33	**12,50**
3570500	***Big Peshnoy Island HMS***	**24**			-2,00	13,33	19,00	24,25	28,00	26,75	17,75	3,50	-0,68	-10,25	**11,97**
3811100	***Aktau***	**24**	1,67		6,25	11,50	17,75	26,00	27,00	25,50			0,25	-2,67	**12,58**
3570500	***Big Peshnoy Island HMS***	**25**			-2,25	11,25	19,25	25,50	27,50	22,00	14,50	4,50	-6,80	-12,50	**10,30**
3811100	***Aktau***	**25**	3,00	6,00	2,33	13,00	20,00		25,00	25,50			3,33	-4,25	**10,44**

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Climatic stations

Mean Daily Air Temperature, (°C)

3570500	***Big Peshnoy Island HMS***	**26**			-2,33	10,25	20,50	25,00	27,25	24,00	13,00	7,25	-2,03	-9,25	**11,36**
3811100	***Aktau***	**26**	5,00	5,50	4,00	11,50		30,33	23,00	26,75		11,50	8,25	-2,67	**12,32**
3570500	***Big Peshnoy Island HMS***	**27**			-1,25	10,50	21,00	25,00	28,50	22,25	10,50	7,50	-1,85	-7,25	**11,49**
3811100	***Aktau***	**27**	5,33	3,50	5,00	15,00	20,00	27,33	25,33	25,25		11,75	6,00	-3,25	**12,84**
3570500	***Big Peshnoy Island HMS***	**28**			0,00	12,50	23,25	24,00	28,75	21,75	15,25	9,25	-2,25	-0,50	**13,20**
3811100	***Aktau***	**28**	3,75	6,00	8,50	16,75	25,00		28,00	30,00		12,67	-5,00	0,00	**12,57**
3570500	***Big Peshnoy Island HMS***	**29**			1,00	12,50	25,00	23,33	29,50	25,50	15,25	10,00	-14,25	0,00	**12,78**
3811100	***Aktau***	**29**	4,25		10,33	14,75	27,67		26,00	25,50		13,33	-11,25	1,67	**12,47**
3570500	***Big Peshnoy Island HMS***	**30**			0,67	13,50	24,67	24,67	29,25	24,50	15,67	8,25	-12,00	0,50	**12,97**
3811100	***Aktau***	**30**	1,00		5,00	15,33	25,25	23,67		27,50		12,50	-6,75	6,50	**12,22**
3570500	***Big Peshnoy Island HMS***	**31**			0,50		24,00		28,00	27,00		8,50		-1,00	**14,50**
3811100	***Aktau***	**31**	4,67		4,33		26,00		28,67	25,75		10,00		3,67	**14,73**

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Climatic stations

Mean Daily Air Temperature, (°C)

Year: 1999

Code	Name	Day	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Avg.y.
3570500	Big Peshnoy Island HMS	1	-0,60	0,30	-2,67	12,75	15,50	20,00	25,00	25,00	23,00	19,33	5,25	-2,00	**11,74**
3811100	Aktau	1	3,30	4,20	4,00	18,00	15,00	23,00		30,75	21,50	20,00	8,00		**14,78**
3570500	Big Peshnoy Island HMS	2	-16,00	-1,90	-2,00	13,75	16,75	20,50	24,67	24,67	18,50	19,25	6,50	0,75	**10,45**
3811100	Aktau	2	-4,60	4,90	5,00	13,50	16,00	22,00		30,67	22,33	18,33	4,00	8,00	**12,74**
3570500	Big Peshnoy Island HMS	3	-7,50	-6,00	0,75	8,75	16,00	22,00	26,50	26,50	13,00	19,75	7,00	-0,25	**10,54**
3811100	Aktau	3	-3,70	4,80	10,50	10,25	14,50	16,50	25,00	29,25	22,00	23,67	10,50	6,33	**14,13**
3570500	Big Peshnoy Island HMS	4	-10,00	-17,00	3,67	8,75	15,33	21,00	26,50	26,50		19,50	6,75	-0,25	**9,16**
3811100	Aktau	4	2,40	2,50	7,25	8,00	14,25	20,33		31,33	13,00	22,00	9,67	5,67	**12,40**
3570500	Big Peshnoy Island HMS	5	-6,20	-17,90	2,50	6,00	10,75	21,67	27,00	27,00		19,00	9,00	-1,25	**8,87**
3811100	Aktau	5	5,10	-4,70	7,75	11,00	13,50	21,33		26,50	19,67	22,67	10,50	2,75	**12,37**
3570500	Big Peshnoy Island HMS	6		-6,60	4,33	2,75	10,33	22,25	27,75	27,75	20,00	19,00	3,00	0,50	**11,92**
3811100	Aktau	6	-1,80		10,67	6,75	10,00	20,25		30,33	19,75	23,67	8,00	3,00	**13,06**
3570500	Big Peshnoy Island HMS	7	-6,00	-1,10	4,50	6,33	9,00	23,00	28,00	28,00	21,25	18,00	3,00	0,25	**11,19**
3811100	Aktau	7		3,10	6,00	4,75		24,67	26,00	26,00	15,00	20,50	7,25	7,00	**14,03**
3570500	Big Peshnoy Island HMS	8	-0,20	9,00	1,00	9,00	9,67	25,33	26,25	26,25	21,75	16,25	-1,50	-1,50	**11,77**
3811100	Aktau	8	4,20	0,60	8,00	5,00	9,67	23,00	23,67		26,25	17,00	5,75	2,75	**11,44**
3570500	Big Peshnoy Island HMS	9	2,50	3,80	-3,75	8,00	9,00	25,50	26,67	26,67	20,00	16,75	-5,00	0,50	**10,89**
3811100	Aktau	9	-1,70	5,80	7,50		5,00	25,00	23,50	29,00	25,67	18,00	1,50	2,50	**12,89**
3570500	Big Peshnoy Island HMS	10	1,40	0,60	-4,00	10,25	14,67	27,00	29,00	29,00	21,25	20,50	-5,00	0,00	**12,06**
3811100	Aktau	10	4,10	3,20	6,50	10,25		26,50	25,33	25,00	21,50	21,33	-1,25	3,67	**13,28**
3570500	Big Peshnoy Island HMS	11	1,20	-1,70	-1,50	12,25	16,33	25,00	23,00	23,00	19,75	18,75	-1,75	-1,25	**11,09**
3811100	Aktau	11		0,60	2,00	11,50	17,50	28,50	27,67		21,67	19,50	1,25	2,25	**13,24**
3570500	Big Peshnoy Island HMS	12	-10,00	-0,60	0,50	12,00	16,00	24,25	20,00	20,00	17,75	17,25	1,50	-1,75	**9,74**

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Climatic stations

Mean Daily Air Temperature, (°C)

3811100	***Aktau***	**12**	5,20		4,00	8,00	15,00	27,00	22,25	28,50	20,75	17,00	5,00	1,00	**13,97**
3570500	***Big Peshnoy Island HMS***	**13**	-7,10	-1,30	0,00	16,25	18,50	24,75	17,00	17,00	15,50	13,00	-1,33	-1,33	**9,24**
3811100	***Aktau***	**13**	2,30	2,60	6,25	16,33	15,50	25,50	19,00	27,00	21,75	14,50	4,00	4,00	**13,23**
3570500	***Big Peshnoy Island HMS***	**14**	9,80	-2,80	-0,75	16,75	15,25	20,25	21,00	21,00	15,67	13,00	2,25	-1,25	**10,85**
3811100	***Aktau***	**14**		2,80	5,25	12,50	17,00	22,25	20,50	26,00	19,50	17,00	0,00	3,50	**13,30**
3570500	***Big Peshnoy Island HMS***	**15**	-6,10	-4,80	-0,75	15,75	16,33	18,25	22,50	22,50	14,00	13,75	3,75	-0,25	**9,58**
3811100	***Aktau***	**15**	1,90		3,00	13,00	14,33	19,75	21,00	26,50	15,33	16,25	8,50	6,25	**13,26**
3570500	***Big Peshnoy Island HMS***	**16**	-2,60	-1,20	-4,00	20,75	15,50	21,75	21,75	21,75	15,00	15,00	3,25	-0,25	**10,56**
3811100	***Aktau***	**16**	3,20	8,20	3,67	12,00	16,25	19,67	26,50	29,50	14,67	17,25	8,25	3,25	**13,53**
3570500	***Big Peshnoy Island HMS***	**17**	-2,80	-1,00	-4,00	18,67	20,75	23,00	24,50	24,50	15,25	11,00	-2,75	0,67	**10,65**
3811100	***Aktau***	**17**	4,70	5,40	0,67		15,75	23,25	25,33	28,33	17,00	15,75	3,00	2,50	**12,88**
3570500	***Big Peshnoy Island HMS***	**18**	-4,50	-1,20	-1,50	14,00	18,00	24,50	25,75	25,75	15,25	12,00	-4,00	0,75	**10,40**
3811100	***Aktau***	**18**		4,90	0,25	15,67	16,00	24,50	25,00	26,75	18,25	15,00	0,00	5,75	**13,82**
3570500	***Big Peshnoy Island HMS***	**19**	-7,70		-0,75	11,25	14,50	25,25	26,00	26,00	15,00	6,00	-0,25	0,25	**10,50**
3811100	***Aktau***	**19**	0,50	7,80	-3,00	11,50		25,67	27,50	30,50	15,00	12,00	7,33	7,25	**12,91**
3570500	***Big Peshnoy Island HMS***	**20**	-6,40	4,00	3,25	13,25	12,33	22,50	25,50	25,50	13,00	4,50	-7,00	0,67	**9,26**
3811100	***Aktau***	**20**	-1,70	7,10	8,33	9,00	10,00	24,00	31,00	32,75	20,00	12,50	3,25	6,50	**13,56**
3570500	***Big Peshnoy Island HMS***	**21**	-5,40		3,00	4,25	15,33	22,25	27,00	27,00	13,00	5,00	-11,00	0,75	**9,20**
3811100	***Aktau***	**21**	-3,10		8,50		13,33	25,33	27,67	29,50	17,33	9,67	-3,67	5,00	**12,96**
3570500	***Big Peshnoy Island HMS***	**22**	-15,40	-0,80	-1,75	10,00	11,50	21,75	23,25	23,25	12,00	5,67	-8,00	2,00	**6,96**
3811100	***Aktau***	**22**	2,00	4,10	8,00	10,00	14,33	24,00	24,00	28,00	17,50	11,00		5,50	**13,49**
3570500	***Big Peshnoy Island HMS***	**23**	3,30		0,00	10,50	15,67	23,25	25,00	25,00	12,25	5,75	-9,75	-1,75	**9,93**
3811100	***Aktau***	**23**		6,60	3,00	10,25	14,67	19,00	26,00	28,75	16,00	9,50	0,33	2,67	**12,43**
3570500	***Big Peshnoy Island HMS***	**24**	-3,60		2,25	11,00	15,00	24,33	25,33	25,33	15,00	4,50	-6,50	-5,67	**9,73**
3811100	***Aktau***	**24**	4,30		6,33	8,00	17,50	22,33	27,00	31,33	15,00	9,00	4,00	-2,00	**12,98**
3570500	***Big Peshnoy Island HMS***	**25**	-5,40	-1,30	4,25	15,00	18,00	23,50	25,33	25,33	16,25	5,25	-0,50	-5,00	**10,06**
3811100	***Aktau***	**25**			5,25	14,33	19,50	20,00	25,00	27,50		11,00	6,00	-2,75	**13,98**

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Climatic stations

Mean Daily Air Temperature, (°C)

3570500	***Big Peshnoy Island HMS***	**26**	-2,30	1,40	3,75	17,00	22,75	22,75	26,00	26,00	17,33	2,00	-2,50	-3,75	**10,87**
3811100	***Aktau***	**26**	5,00	8,90	7,00	15,50	19,00	21,50	24,00	26,67	20,00	8,33	0,25	0,00	**13,01**
3570500	***Big Peshnoy Island HMS***	**27**	10,90	0,30	7,00	16,00	22,25	23,50	31,67	31,67	18,00	3,75	-9,75	-3,50	**12,65**
3811100	***Aktau***	**27**	5,30	0,00	9,50	16,25	22,00	21,00	24,75	28,50	15,00	9,00	-1,75	3,75	**12,78**
3570500	***Big Peshnoy Island HMS***	**28**	1,20	4,00	6,25	18,50	23,67	23,75	31,33	31,33	17,75	8,50	-9,00	-1,00	**13,02**
3811100	***Aktau***	**28**	4,90	0,00	10,25	16,00	22,67	25,67	26,00	24,25	17,25	13,50	-1,25	4,00	**13,60**
3570500	***Big Peshnoy Island HMS***	**29**	0,70		5,75	19,00	21,00	24,50	31,00	31,00	18,25	8,00	-12,50	0,50	**13,38**
3811100	***Aktau***	**29**	3,80		9,00	18,67	22,00	21,50	25,67	24,25	17,50	10,00	-2,00	7,67	**14,37**
3570500	***Big Peshnoy Island HMS***	**30**	0,30		6,50	17,67	17,00	25,00	33,50	33,50	17,25	8,00	-9,50	1,00	**13,66**
3811100	***Aktau***	**30**	4,30		8,00	15,50	16,00	22,00	32,33	19,75	21,00	10,75	-1,75	7,25	**14,10**
3570500	***Big Peshnoy Island HMS***	**31**	-0,40		11,00		18,00		31,25	31,25		6,25		0,50	**13,98**
3811100	***Aktau***	**31**	4,30		8,50		19,00		22,59	19,67		9,75		6,00	**12,83**

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Climatic stations

Mean Daily Air Temperature, (°C)

Year: 2000

Code	Name	Day	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Avg.y.
3570500	Big Peshnoy Island НИБ	1	-0,67	-2,67	-0,30	1,50	9,50	24,00	25,75	29,50	19,33	11,25			11,72
3811100	Aktau	1	3,00	2,00	-6,00	9,25	16,33	18,00	33,67	28,33	21,25	14,00			13,98
3570500	Big Peshnoy Island НИБ	2	-0,25	-1,00	0,55	2,25	9,75	23,75	23,50	30,75	16,00	12,67			11,80
3811100	Aktau	2	6,33	-1,00	3,33	11,00	14,75	26,67	26,25	32,00	20,75	14,30			15,44
3570500	Big Peshnoy Island НИБ	3	-0,75	-1,25	0,28	2,67	8,50	23,75	23,25	31,25	16,50	13,50			11,77
3811100	Aktau	3	4,67	4,33	3,75	14,00	12,67	25,25	23,75	32,25	19,75				15,60
3570500	Big Peshnoy Island НИБ	4	-2,75	1,50	1,00	2,75	9,00	24,50	24,75	27,00	18,75	8,75			11,53
3811100	Aktau	4	5,75	6,25	3,50	15,25	9,75	27,25	22,00	27,50	22,25	13,10			15,26
3570500	Big Peshnoy Island НИБ	5	-3,33	-1,25	0,33	0,25	12,75	24,25	23,75	26,00	20,75	10,75			11,43
3811100	Aktau	5	2,67	3,00	2,50	14,00	12,75	24,50	22,50	29,00	21,25	10,40			14,26
3570500	Big Peshnoy Island НИБ	6	-5,25	-3,75	3,25	0,75	14,50	24,25	22,75	26,00	21,50	11,50			11,55
3811100	Aktau	6	0,50		9,50	13,00	16,25	30,00	23,75	29,50	22,75	10,50			17,31
3570500	Big Peshnoy Island НИБ	7	-4,00	-2,50	5,00	1,67	13,67	27,00	23,50	23,00	24,00	8,00			11,93
3811100	Aktau	7	-1,75	0,33	7,00	11,00	14,00	28,00	25,75	24,75	27,25	12,60			14,89
3570500	Big Peshnoy Island НИБ	8	-1,67	-1,75	3,00	1,75	15,25	22,25	24,25	22,50	24,50	5,50			11,56
3811100	Aktau	8	-0,50	2,67	5,00	13,00	14,00	28,00	24,00	27,00	27,33	12,30			15,28
3570500	Big Peshnoy Island НИБ	9	-2,00	-0,25	3,50	3,50	12,00	25,25	23,25	24,75	22,00	6,25			11,83
3811100	Aktau	9	0,00	3,00	4,33	13,00	13,33	26,50	21,33	27,00	23,33				14,65
3570500	Big Peshnoy Island НИБ	10	-4,33	1,25	4,50	7,25	11,00	21,28	24,00	26,50	20,50	7,00			11,89
3811100	Aktau	10	1,33	2,00	2,50	10,67	13,00	21,25	22,50	27,33	24,33	12,20			13,71
3570500	Big Peshnoy Island НИБ	11	-2,33	2,00	3,50	14,50	9,50	18,25	24,50	27,00	20,75	8,00			12,57
3811100	Aktau	11	0,50	6,67	6,67	10,25	13,00	19,67	25,00	27,00	20,33				14,34
3570500	Big Peshnoy Island НИБ	12	-1,00	1,25	1,25	19,33	14,25	13,00	23,75	26,25	21,50	7,75			12,73

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3811100	***Aktau***	**12**	0,33	3,00	2,00	11,00	14,00	17,75	24,00	26,75	19,00	14,10			**13,19**
3570500	***Big Peshnoy Island HMS***	**13**	-0,75	0,50	2,67	9,50	14,33	17,50	24,00	25,25	21,25	6,75			**12,10**
3811100	***Aktau***	**13**	-1,00	1,00	3,00	12,50	17,50	18,50	25,33	29,50	23,67	14,50			**14,45**
3570500	***Big Peshnoy Island HMS***	**14**	-1,25	0,50	2,50	1,00	10,00	17,67	24,25	25,50	16,50	5,50			**10,22**
3811100	***Aktau***	**14**	-1,00	2,25	2,67	17,50	13,67	18,00	23,50	28,33	20,00	12,60			**13,75**
3570500	***Big Peshnoy Island HMS***	**15**	-1,25	0,33	0,33	3,33	12,75	20,00	25,75	25,50	19,00	3,75			**10,95**
3811100	***Aktau***	**15**	-3,00	2,75	3,00	21,00	13,00	17,50	25,75	26,25	21,67	8,30			**13,62**
3570500	***Big Peshnoy Island HMS***	**16**	-1,25	0,25	1,50	3,50	14,50	22,50	26,25	21,50	19,00	8,25			**11,60**
3811100	***Aktau***	**16**	-4,33	7,00	3,00	14,50	13,67	19,75	28,00	24,50	22,67	8,50			**13,73**
3570500	***Big Peshnoy Island HMS***	**17**	-3,75	1,75	1,75	6,75	11,00	23,75	25,75	22,50	13,00	7,50			**11,00**
3811100	***Aktau***	**17**	-7,00	4,25	5,25	12,50	13,67	26,50	29,25	24,00	20,25				**14,30**
3570500	***Big Peshnoy Island HMS***	**18**	-0,50	2,00	4,25	0,75	10,50	25,75	26,25	25,75	12,75	7,25			**11,48**
3811100	***Aktau***	**18**	-6,00	5,25	9,50	10,33	12,00	25,00	27,00	25,25	17,25	12,80			**13,84**
3570500	***Big Peshnoy Island HMS***	**19**	0,00	1,00	4,25	0,50	12,00	26,25	27,50	25,00	11,50	6,00			**11,40**
3811100	***Aktau***	**19**	8,00	2,00	9,00	19,33	14,25	22,25	27,75	25,00	17,33	10,80			**15,57**
3570500	***Big Peshnoy Island HMS***	**20**	-0,75	0,75	5,50	2,25	10,50	23,50	29,25	24,50	12,75	5,25			**11,35**
3811100	***Aktau***	**20**	5,25	6,33	9,75	20,33	10,00	21,00	30,67	25,67	16,25	9,10			**15,44**
3570500	***Big Peshnoy Island HMS***	**21**	0,75	1,00	7,33	10,50	14,67	19,75	26,00	26,25	16,00	4,25			**12,65**
3811100	***Aktau***	**21**	3,00	4,00	8,33	15,33	16,33	20,00	29,67	27,25	17,67	8,60			**15,02**
3570500	***Big Peshnoy Island HMS***	**22**	-3,67	1,25	6,50	5,25	15,00	23,67	28,50	23,25	19,00	4,50			**12,33**
3811100	***Aktau***	**22**	-1,00	8,00	8,67	14,33	16,67	19,50	33,67	27,50	20,50	8,20			**15,60**
3570500	***Big Peshnoy Island HMS***	**23**	-5,75	0,00	6,50	1,50	18,00	20,00	28,25	23,67	11,00	5,50			**10,87**
3811100	***Aktau***	**23**	-2,00	7,00	7,00	18,50	18,75	25,00	29,50	27,25	16,75	8,80			**15,66**
3570500	***Big Peshnoy Island HMS***	**24**	-7,67	-1,00	5,50	1,50	18,50	22,25	26,50	26,75	11,00	6,25			**10,96**
3811100	***Aktau***	**24**	-2,25	2,50	8,50	16,50	20,50	23,00	30,00	27,00	13,75	8,30			**14,78**
3570500	***Big Peshnoy Island HMS***	**25**	-3,67	-1,50	5,75	1,00	23,00	21,00	28,00	21,25	7,75	7,25			**10,98**
3811100	***Aktau***	**25**	2,33	0,00	7,25	16,00	24,25	18,33	25,75	26,00	14,00	11,80			**14,57**

Climatic stations

Mean Daily Air Temperature, (°C)

3570500	***Big Peshnoy Island HMS***	**26**	-2,33	-0,75	3,50	0,75	24,75	20,25	28,00	21,00	10,50	6,50			**11,22**
3811100	***Aktau***	**26**	1,67	5,00	5,50	15,00	22,50	18,50	29,00	27,50	15,25	10,90			**15,08**
3570500	***Big Peshnoy Island HMS***	**27**	-11,00	-2,50	6,00	0,75	21,33	22,00	28,25	23,25	12,25	5,25			**10,56**
3811100	***Aktau***	**27**	-4,00	3,33	6,50	18,25	27,25	17,75	26,00	27,25	15,00	9,20			**14,65**
3570500	***Big Peshnoy Island HMS***	**28**	-6,75	-6,50	5,00	2,00	22,25	24,00	28,25	25,00	8,00	5,00			**10,63**
3811100	***Aktau***	**28**	-4,00	-0,67	11,00	17,25	28,00	21,00	30,25	23,25	13,50	7,60			**14,72**
3570500	***Big Peshnoy Island HMS***	**29**	-1,50	-3,50	7,25	2,75	22,00	24,50	28,25	20,50	9,00	6,50			**11,58**
3811100	***Aktau***	**29**	-2,00	-3,25	9,67	18,25	25,50	23,00	30,25	24,33	14,00	10,60			**15,03**
3570500	***Big Peshnoy Island HMS***	**30**	-2,00		6,25	2,50	19,75	26,67	27,00	19,75	11,67	7,75			**13,26**
3811100	***Aktau***	**30**	0,00		7,00	18,00	20,00	31,00	31,00	24,00	14,50	9,80			**17,26**
3570500	***Big Peshnoy Island HMS***	**31**	-2,00		3,75		19,67		28,50	22,00		6,50			**13,07**
3811100	***Aktau***	**31**	2,25		8,75		19,00		31,00	23,67		9,90			**15,76**

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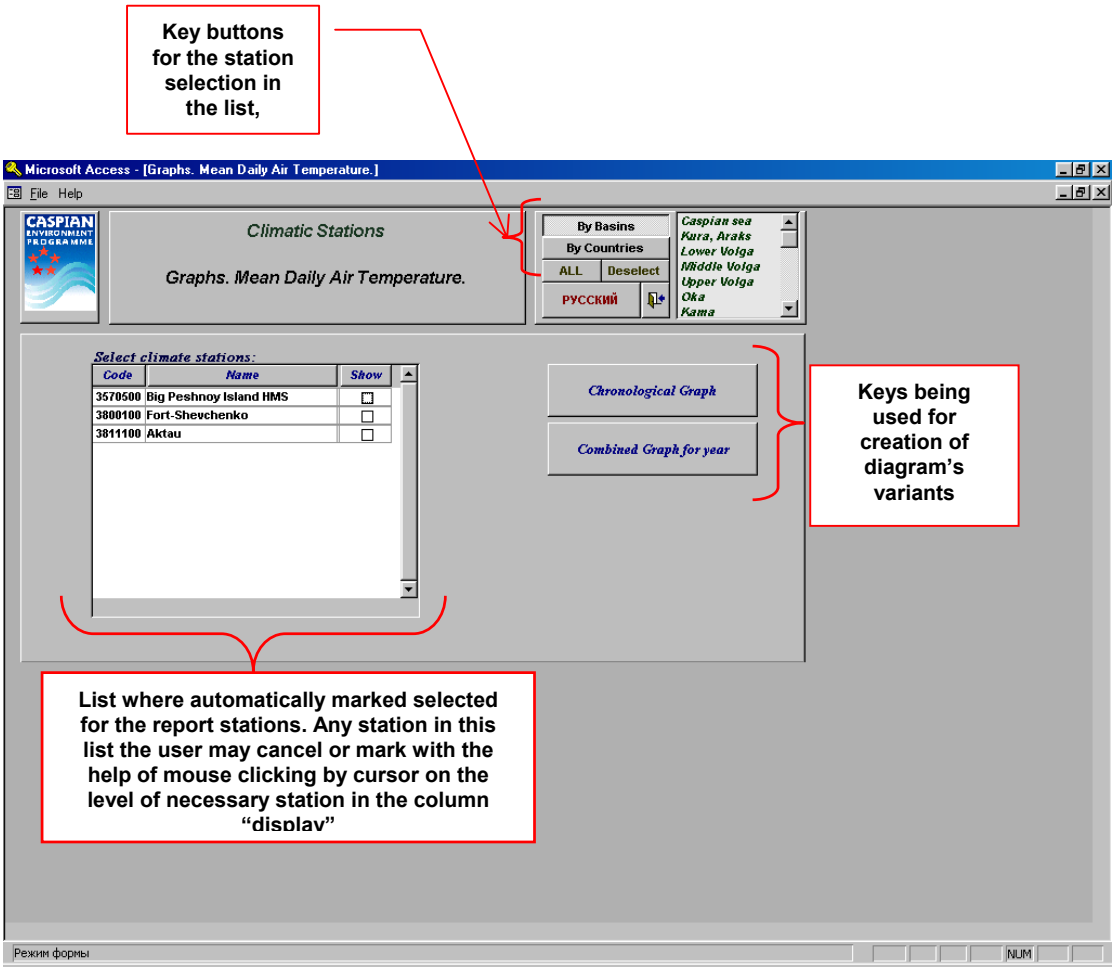
4.2.1.3 Graphs

The button the **Graphs** in menu **Meteorological terms** is used for display the data on **Mean Daily Air Temperature**. The graphs are intended for more evident and attractive display of the available quantitative information. Besides the mechanism of construction of the diagrams has large flexibility in display and large opportunities for grouping and for primary analysis of the data.

There is an opportunity to make sample of the stations necessary for display on the diagrams grouping them on **Stations** or on **Basins**. It is possible to mark interesting stations by the mouse, putting "tick" opposite to the chosen station. It is possible to choose the button **All or Deselect** for display or for cancellation all ticked stations.

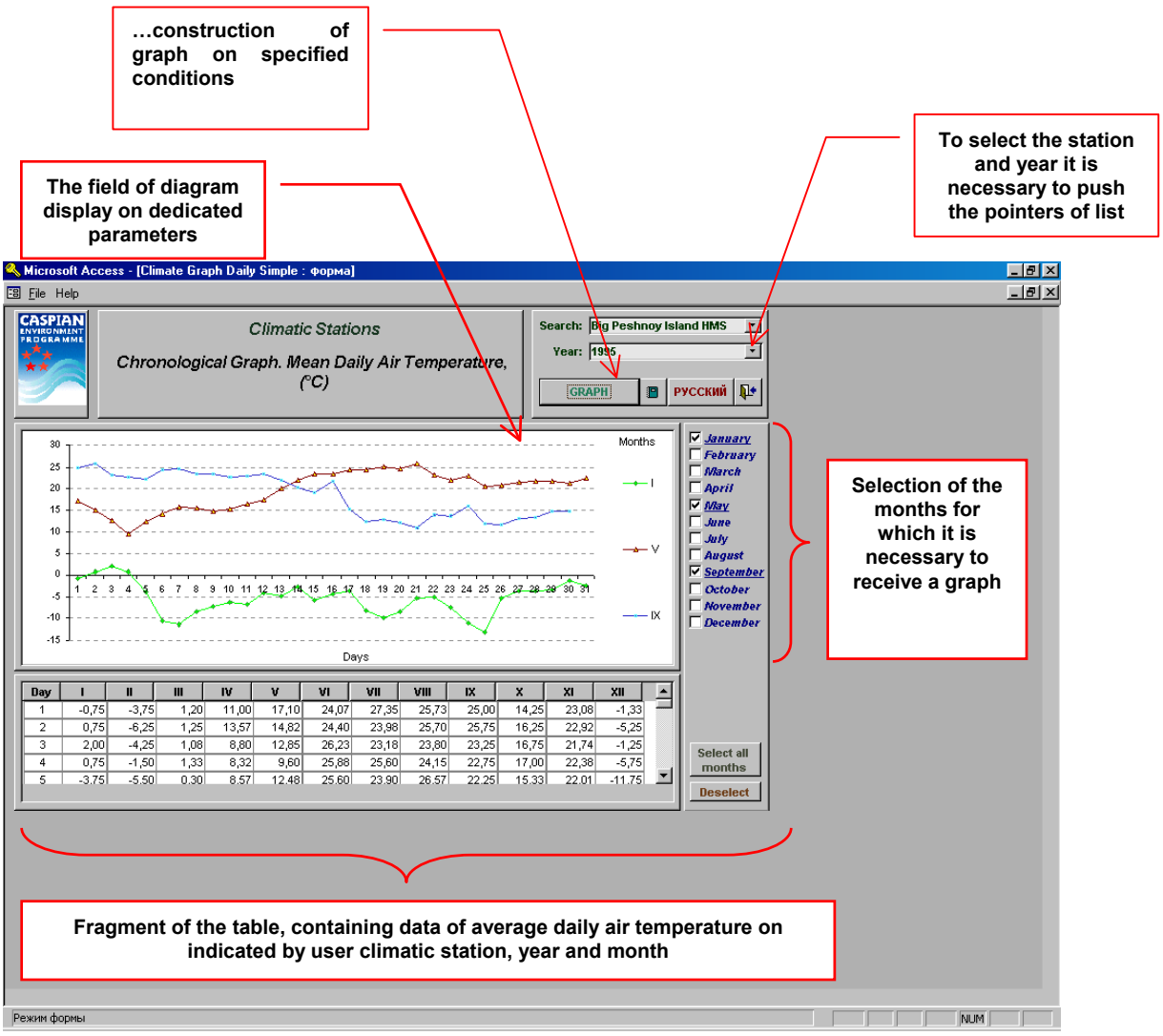
The window for creation the diagrams for **Mean Daily temperature** of air looks as follows:

The window for creation the diagrams for **Mean Daily temperature** of air looks as follows:



Entrance in the window **Climatic stations the Monthly simple graph Daily average Temperature of air**. The diagram is formed this window. The diagram displays daily average temperature of air on chosen station for the specified months.

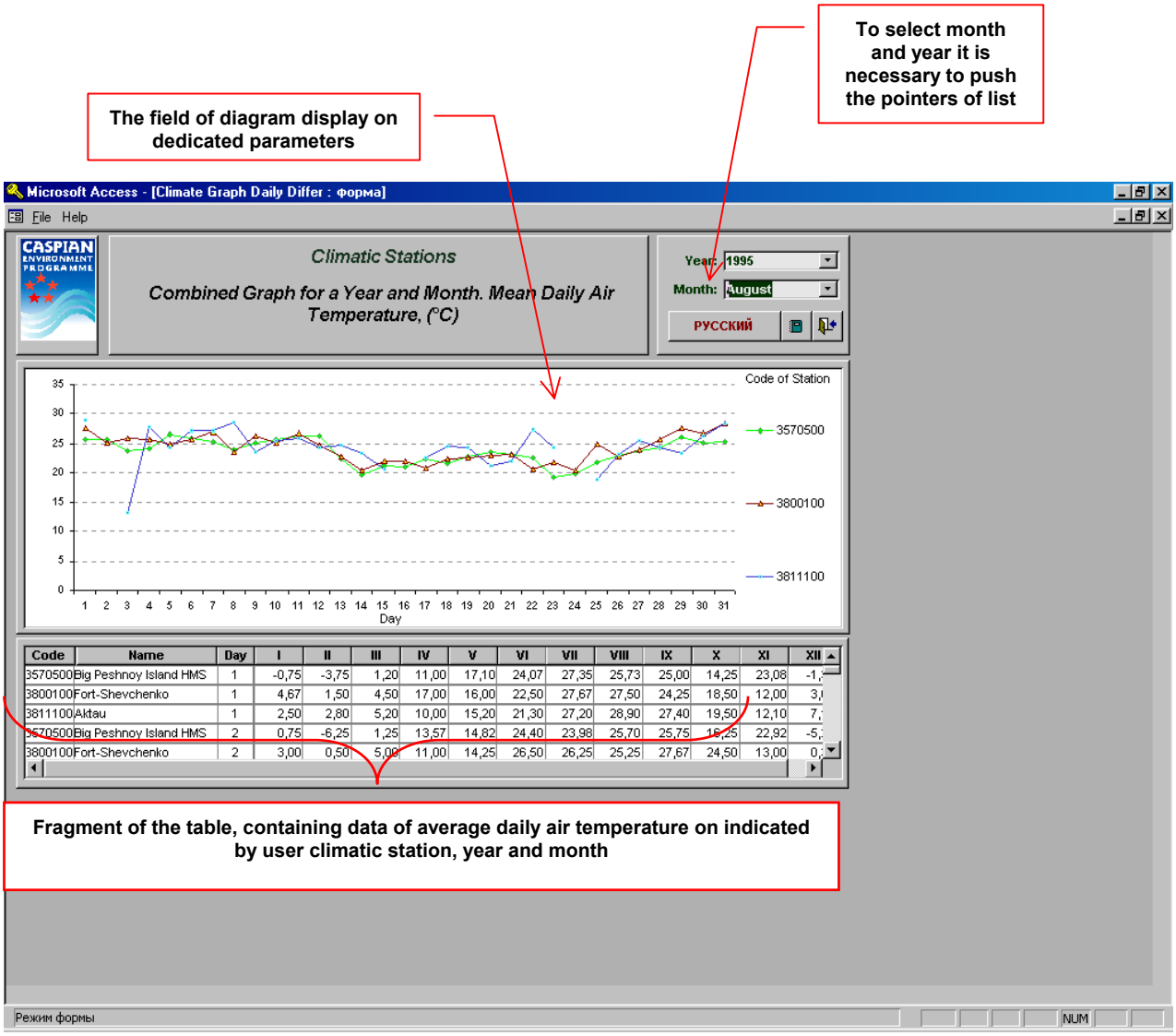
We choose the station with which we need to receive the simple graph pressing on the button of disclosing of the list. In the list of years located below, we mark interesting year. In the list of months, located in the right part of the window, we mark interesting months. There is an opportunity to note at once all months and to cancel everything we have marked. Parameters thus are set. It is necessary to press the button **Graph** for construction the graph itself**.** The diagram with parameters, given by the user will be displayed in a field of display. In the right part of a field it is possible to see conditional designations, which are necessary for readership the graph. Under the graph we can see the fragment of the table on Mean **Daily Air Temperature** appropriated to the user installations. It means the data given on the chosen station for established year and months. The described window looks as follows:



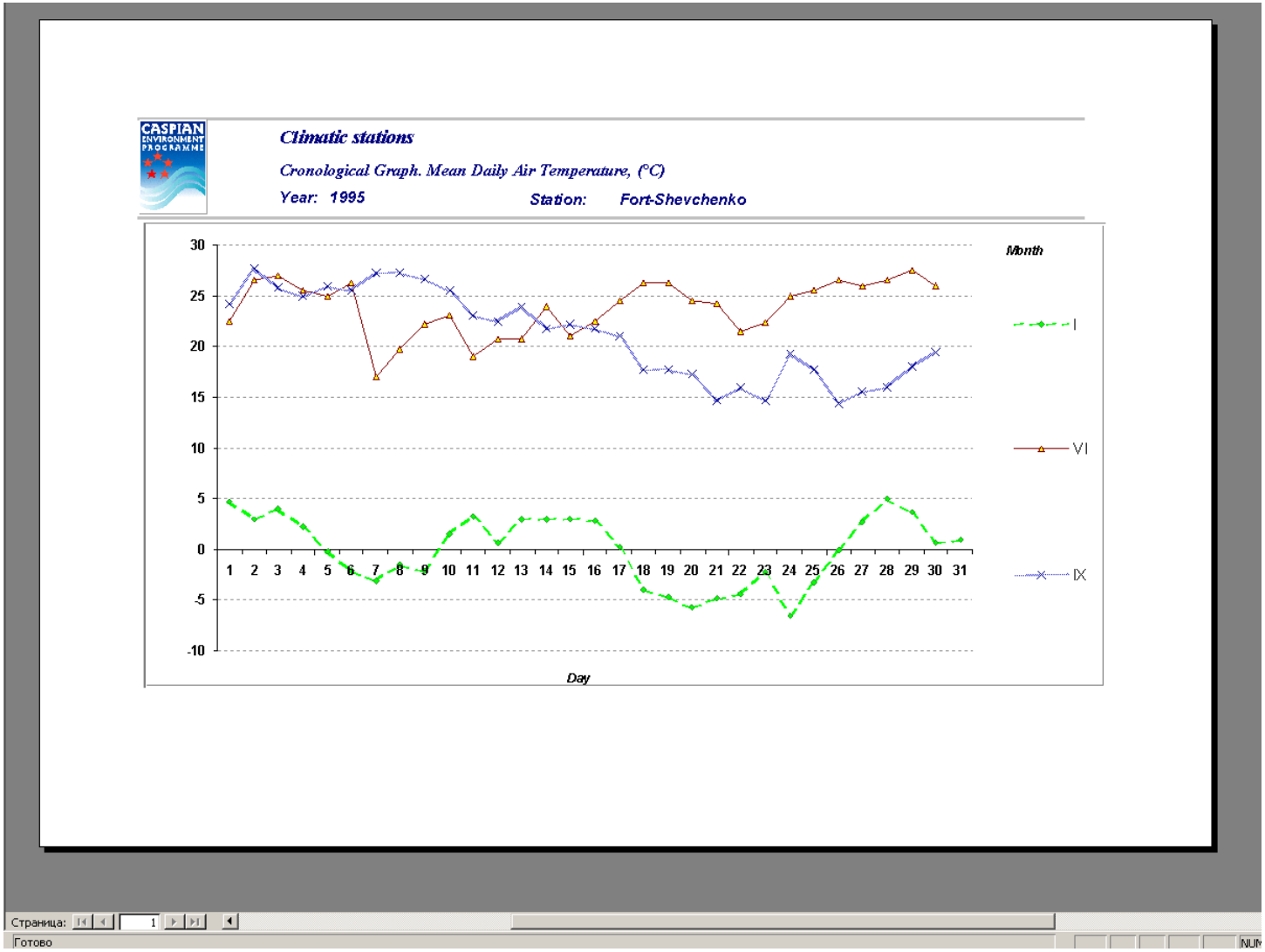
Day	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
1	-0,75	-3,75	1,20	11,00	17,10	24,07	27,35	25,73	25,00	14,25	23,08	-1,33
2	0,75	-6,25	1,25	13,57	14,82	24,40	23,98	25,70	25,75	16,25	22,92	-5,25
3	2,00	-4,25	1,08	8,80	12,85	26,23	23,18	23,80	23,25	16,75	21,74	-1,25
4	0,75	-1,50	1,33	8,32	9,60	25,88	25,60	24,15	22,75	17,00	22,38	-5,75
5	-3,75	-5,50	0,30	8,57	12,48	25,60	23,90	26,57	22,25	15,33	22,01	-11,75

Entrance in the window **Combined Graph for a Year and Month. Mean Daily Air Temperature**. The graph is formed in the window.

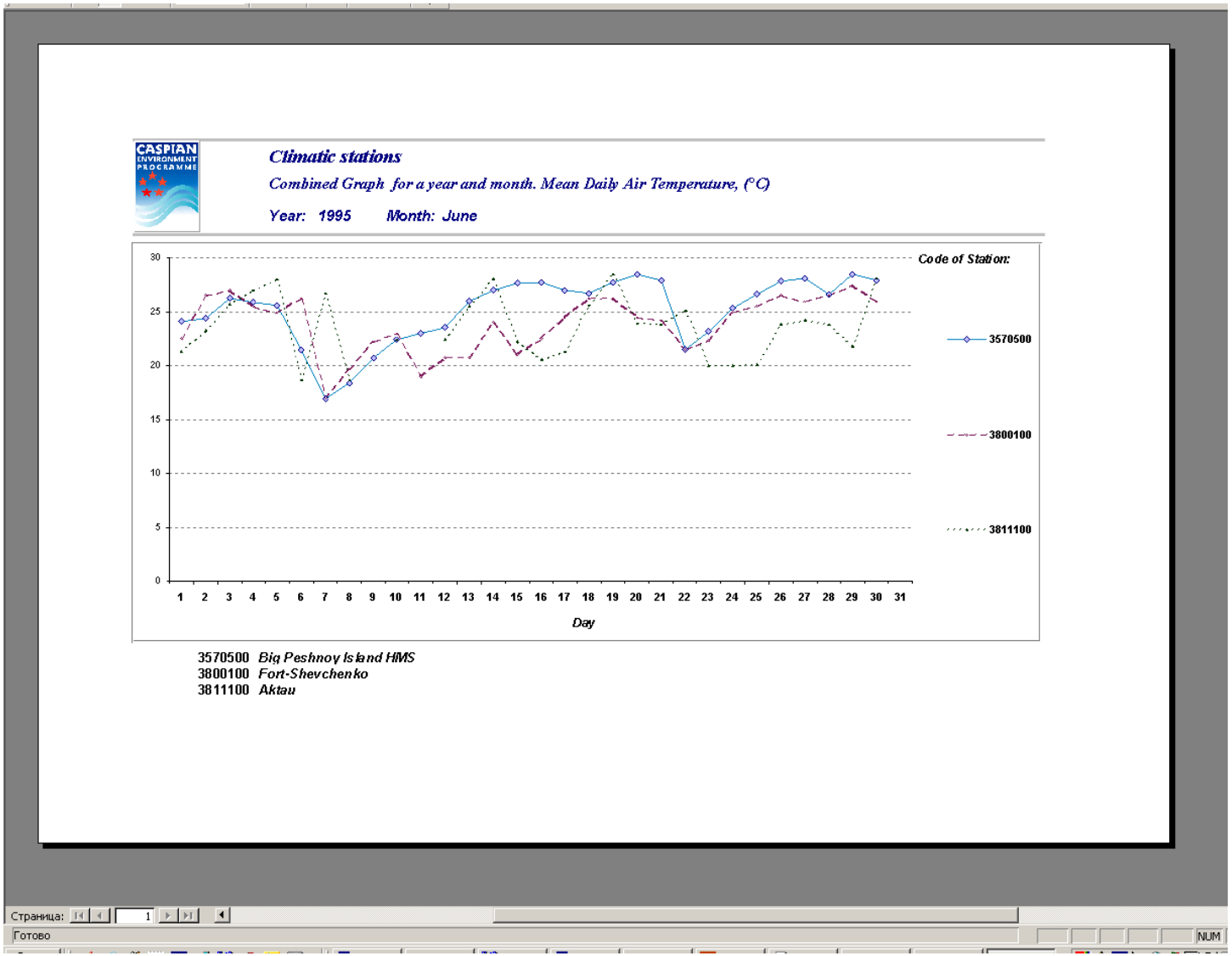
In current menu we choose the year with which it is necessary to receive the Monthly graph, having chosen interesting stations in the previous menu and having pressed on the button of disclosing of the list. Parameters thus are set. The graph with given parameters is formed in a field of display. In the right part of a field it is possible to see conditional designations, which are necessary for readership of the diagram. Under the graph we can see the fragment of the table on **Mean Daily Air Temperature** appropriated to the user installations. It means all data on the chosen stations for established year. The described window looks as follows:



4.2.1.3.1Figure



4.2.1.3.2 Figure

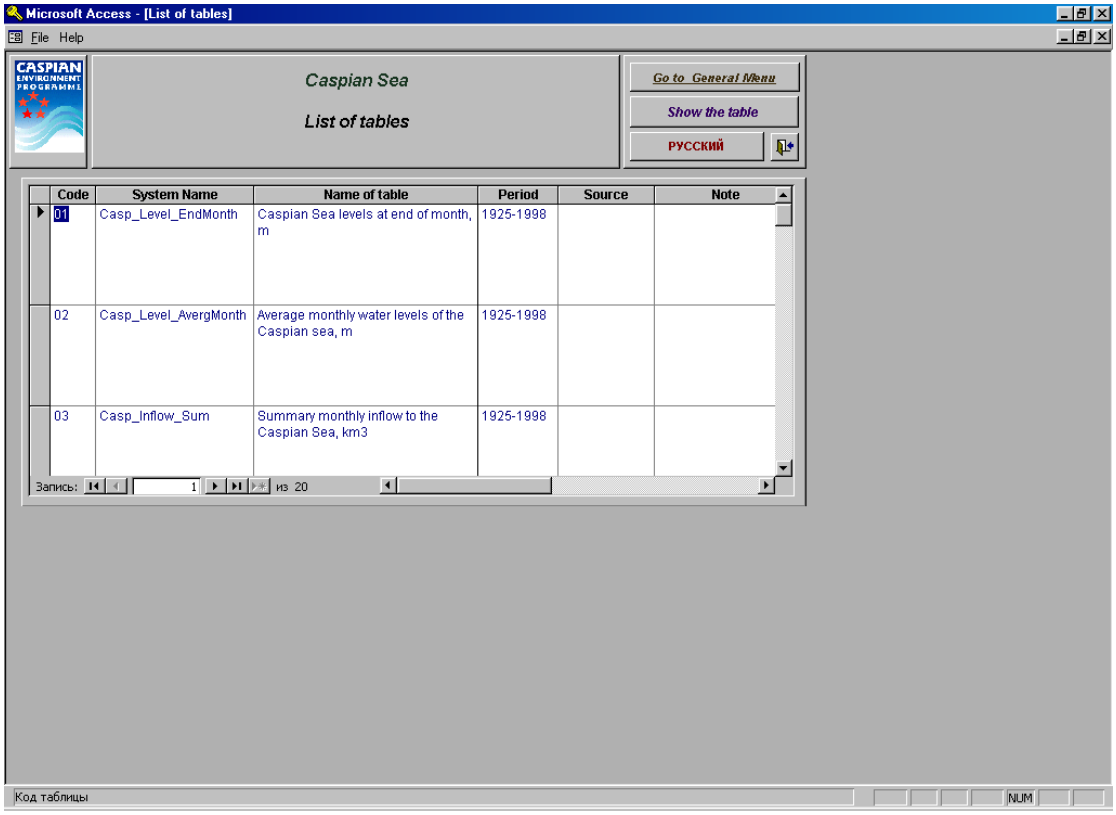


Work with other meteorological and hydrological data, included in information system is the same.

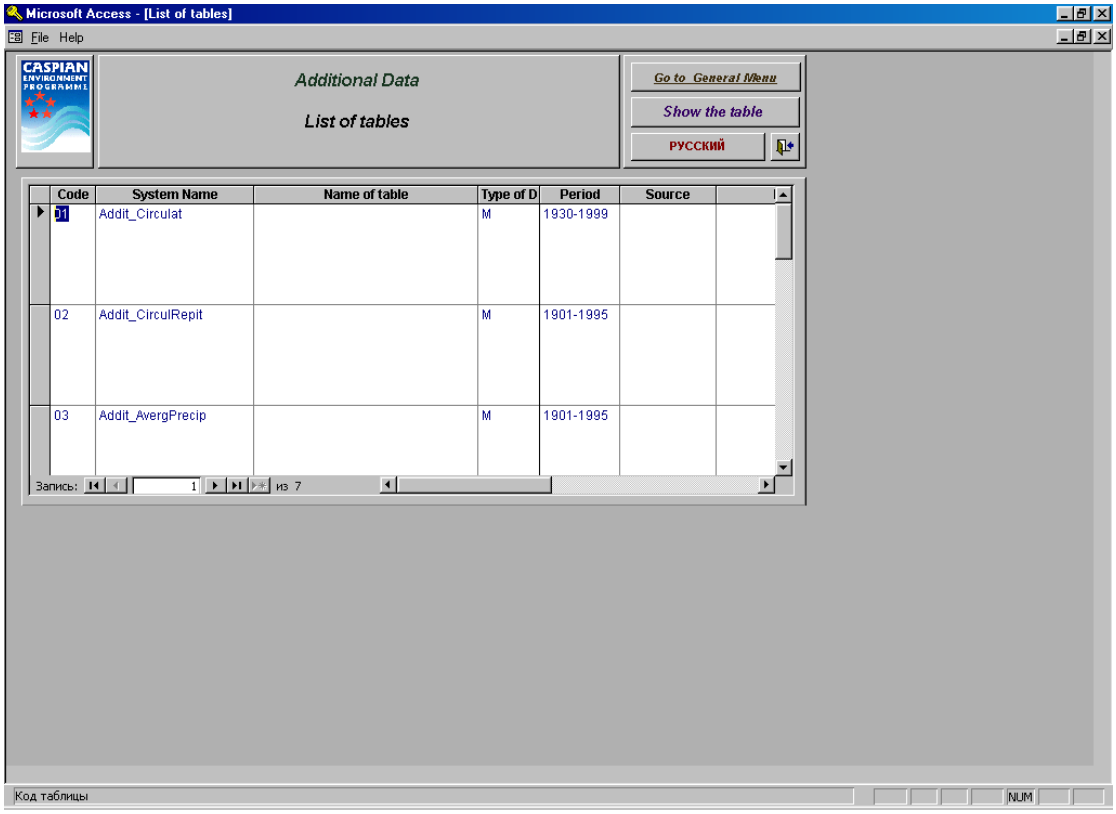
6.Caspian Sea

Information system "Caspian Sea " works for the keeping of derivative on Caspian initial information, that means that there are Caspian data there, which are the results of some estimation.

Scroll box and search window of existent information look as follows



7. Additional tables

Information system "Additional Data " works for the keeping of derivative on additional Caspian initial information, that means that there are additional Caspian data there, which are the results of some estimation.

Scroll box and search window of existent information look as follows