

**Assessment Report  
of the  
Environmental and Natural Resources Network in Caspian Region in Russian Federation**

Moscow, 2002

The necessary condition toward the sustainable development mentioned in Agenda, 21 are the integrating environment and development in decision-making. The measures to be taken for this condition achievement are:

- "Monitoring and evaluating the development process systematically, conducting regular reviews of the state of ...the environment and natural resources; this could be complemented by annual environment and development reviews, with a view to assessing sustainable development achievements by the various sectors and departments of government;
- Ensuring access by the public to relevant information, facilitating the reception of public views"

The reliable information is necessary for the environmentally sustainable development of the Caspian Sea Basin achievement and for the prevention of environmental situation deterioration in region. The access to environmental information improving for decision making and public awareness in the Caspian Sea region are the important conditions for these goals achievement.

UNEP/GRID-Arendal has proposed the development of a user-friendly; indicator based electronic State of Environment Report (SoE) for the Caspian Sea. The report will be available to a very large number of users within and outside the region through the Internet and on CD-ROM.

The first phase of project includes the preparing of Assessment Report of the Environment and Natural Resources Information Network in Caspian Region at the National and Level.

The Report was designed to be prepared on the first workshop on information management and reporting on the environment and sustainable development in the Caspian Sea Basin, which was conducted in Baku, Azerbaijan on July 5-7, 2001. The goals of the Report are the selecting of items to be reported and the inventory of environment information framework.

The main tasks of the Assessment Report are:

- to analyze demands for Caspian related environmental information in Russia
- to characterize the information system (legal framework, information producers, institutional framework, monitoring systems, including institutional framework, vertical and horizontal cooperation, technical base and economic aspects of the information framework existence)
- to estimate access to and dissemination of environmental information
- to determine priority needs and actions for development of an efficient Caspian environmental information
- to determine who is/will be requesting Caspian environmental information

This Report preparing was initiated and supported by the Center of Global Resources information Database of United Nations Environmental Program GRID-Arendal.

## **1. Background and context at national level**

### **1.1. Physical context (geography)**

It is hard to overestimate the importance of the Caspian Sea for Russian Federation. Located on distance of thousand kilometers from ocean, in depth of Eurasia, it is one of largest salty lakes in the world and considerably influence to the climate of region. The surface drain determines the level and ecological state of the sea. About 80% of superficial drain make Volga.

The Caspian Sea level and climatic conditions fluctuations, high seismicity and active geodynamic of territory exacerbate the tense of environmental situation. The length of the Russian shoreline is about 1930 km. The total area of Russian part of the Caspian Region is 170,5 sq.km (about 1,1% of total Russia territory).

### **1.2. Legislative and administrative context**

The Caspian coastal zone of the Russian Federation includes the Republic of Dagestan, the Republic of Kalmykia and the Astrakhan Oblast, located in the South Federal District of Russian Federation.

“The unfavorable environmental situation on Volga and it’s inflows, the degradation of natural ecosystems of Volga river basin” and “the environmental consequences of some settlements and enterprises, located on the Caspian Sea shore and in Astrakhan flooding” are pointed out in the National Environment Action Plan (NEAP) of Russian Federation.

### **1.3. Economic context**

The economic development of region and the population well being directly depend on the environmental situation. There are great stocks of fish, including sturgeon (white fish, Russian sturgeon, sterlet) having the strategic importance for Russia. 70% of sturgeon and 60% of big ordinary in Russia are caught in Astrakhan Oblast, Dagestan and Kalmykia Republics.

Caspian Sea is the considerable transport way providing sea shipping and hydrocarbon transportation within Russia and abroad. There are big oil and gas deposits in the coastal zone. Hydrocarbons extracting, processing and transportation are the main branches of industry having the most negative influence on the environment. There is the risk of environment situation deterioration because of hydrocarbon extraction growth, international port building in North Caspij and Russian merchant navy revival on the Caspian Sea.

### **1.4. Human context**

The population of region is 3,4 mln. persons (about 2,2% of the total Russia population). The great part of population lives in countryside; the urbanization level is low. The population is heterogeneous by national structure. In general, there are 6 cities with the population more than 100 thos. pers. in region.

The serious social problem is high mortality from infectious disease caused by drinking water pure quality. The "ecological emigration" problem is exacerbating in Kalmykia Republic and Astrakhan Oblast. In this region 20 mln. ha (1,2%) of lands are located in arid and semiarid zone and the development of desertification processes is intensified.

The existing environmental issues are closely connected with economic and social problems of the region. The reliable information on the state of environment is necessary for the nature protection and for the existing problem decision.

## **2. Demands for Caspian related environmental information**

## **2.1. Demands of national and international environmental policy for Caspian Environmental Information**

The Volga-Caspian region environment protection is mentioned between main thematic regional activity directions in the field of international cooperation of Russian Federation in National Environmental Actions Plan. The reliable environment information is necessary for the implementation of Russian international obligations and information exchange within international conventions and agreements.

In the Russian Environmental Policy, considerable attention is paid to the improvement of the environmental situation in Caspian region. For the environment situation improvement and the mitigation of unfavorable environmental, social and economical consequences of the Caspian Sea transgression two Federal Targeted Programs were adopted.

The Federal Targeted Program (FTP) "Ecological Improvement and Rehabilitation of the Volga River and its Tributaries, Prevention of the Volga Basin's Degradation" (FTP "Volga Survive") (1996-2010) was developed by the Ministry of Natural Resources (MNR). The Program was developed for the realization of the Order of Russian Federation President N236, February 4, 1994 "On State Strategy of Russian Federation on Environment Protection and the Ensuring of the Sustainable Development".

The main target of the "Volga Survive" Program is Volga Basin environment improvement, the ensuring of human well being, the decrease of mortality and human life duration increase. The program realization period is 15 years (1996-2010). The economic, scientific and practical measures, legal and normative documents for the program targets achievement will be developed.

The Federal Targeted Program "The Decision of Social, Economic and Industrial Problems Caused by Caspian Sea Transgression" (FTP "Caspj") was adopted by the Decree of Russian Federation Government from March 23, 1996 N 328. The state customer of the Program is Gosstroy of Russia.

For the president of Russian Federation Instruction from December 22, 2000 N 2493 fulfillment the FTP "Jug Rossii" ("The South of Russia") was developed by the Ministry of Trade and Development of Russia. The program was adopted by the Order of Government of Russian Federation N 632-p from 03.05.2001 and included into the list of Federal programs, which will be supplied from the State Budget since 2002. The "Caspian and Azov Seas bioresources reproduction and conservation" and the "preparing of base for oil and gas extraction in North and North-Western part of Caspian Sea area of water" were mentioned as the main regional priorities in this program.

The reliable state of environment information for the Caspian Region is needed to the Administrations of Astrakhan region, Kalmykia and Dagestan Governments and to the federal ministries, which are determined as the Federal Targeted Programs main executors.

## **2.2. Key environmental issues and areas for priority actions at national and local levels**

At present, the existing environmental issues of region are exacerbated by the natural factors.

### *1. The Caspian Sea pollution*

The isolation of Caspian Sea increases the risk of marine environment pollution consequences. The Caspian Sea water quality expected to be worse because of the

increase of hydrocarbon extraction in the coastal zone. The negative consequences of hydrocarbon extraction are of the greatest danger in the Northern Caspian, which has the greatest importance for the Caspian Sea commercial bioresources conservation. The water contamination takes place because of polluted water discharges into the sea and cattle farms; municipal and industrial waste disposals flooding as the result the Caspian Sea transgression. "The environmental consequences of some settlements and Astrakhan flooding as the result of Caspian Sea transgression" are mentioned in NEAP (Ch. 1.1.).

#### *2. The desertification and soils degradation*

Desertification and soils degradation (salinization, chemical pollution, the fertility depletion, and deflation) is the serious environmental issue. Desertification in Kalmykia is mentioned as the environmental issue of the main priority in NEAP of Russia (Ch. 1.1.). The development of fuel and energy industry in region negatively influences on the state of soils. Soils contamination by hydrocarbons in Kalmykia and state of abolished oil wells in Astrakhan region are determined as the issues of prime priority in NEAP (Ch. 1.1.).

#### *3. Water resources extinction and contamination*

The lack of drinking water is the serious problem in region. The lack of water stocks, irregular water uses and the decay of urban water pipes causes it. The pure water quality in surface and underground water sources is also the serious problem of the region. Dagestan and Kalmykia are included into the list of Russia regions with the worst provision of population with drinking water (NEAP Ch. 1.1.). The purification of water quality is the result of fuel and energy industry development, irregular work of the water treatment stations and water mineralization because of sea level rise.

#### *4. The biodiversity conservation*

At present, the unique ecosystems of region are threatened by seawater pollution with oil products as the result of hydrocarbon-extracting companies' activity. The protected territories in region include 4 zapovednics of federal importance, 3 national parks, 6 natural zakazniks of federal importance, 22 zakazniks of regional importance and the natural landscapes protected by Ramsar Convention. The conservation of these natural landscapes is the problem of prime priority in region.

#### *5. The fish resources*

Fishery is one of the leading branches of economy in region, so the fish resources conservation has the special priority. At present, there is the real threat of Caspian sturgeon disappearing. Hydrotechnical construction, redistribution of rivers flow during the year, limitation of spring passages, huge water abstraction for irrigation and other economic needs, water contamination resulted in the aggravation of reproduction conditions for fish species in the Caspian basin. The exploitation of water resources without efficient fish protecting measures and illegal catch had decreased the fish stocks.

The specific problem for the fishery in Caspian Sea is connected with the disturbance of food chains by Mnemiopsis brought into the sea as the result of human carelessness. These species have not real enemies in Caspian Sea, so they can to destroy the food base and to decrease fish catch.

#### *6. The air pollution*

The air pollution is also the serious problem of the region. FTP "Volga Survive" is included into the List of priorities of Federal importance in NEAP (Ch. 3.3.). The decrease of emissions from the stationary and mobile sources in region is one of the program targets.

#### *7. Wastes generation, collection and utilization issue*

Wastes generation, collection and utilization issue have the particular importance because of fuel and energy industry development and threat of sea contamination by the municipal and industrial wastes disposal flooding and the technologies of wastes utilization and wastes management absence. "The development of industrial and domestic wastes management system in Astrakhan region" is between the main targets of FTP "Wastes". The "Wastes" program is mentioned in the List of priorities of Federal importance in NEAP (Ch. 3.3.).

#### **4.3. Demands of sectorial policy and municipalities for Caspian environment information**

The danger of deterioration of environmental situation in Caspian Region and its natural resources depletion is connected with the state of economy and with the acknowledgment of this problem importance by society.

The risk of environmental situation deterioration is aggravated by rapid development of fuel and energy industry, lack of legal base for nature protection activity, rare use of nature protecting technologies and with pure ecological culture, as it mentioned in the Conception of National Security of Russia.

The national priority actions for the prevention of environmental disasters in Caspian Region, are mentioned in the Russia Conception of National Security:

- rational use of natural resources
- creation and use of the environmentally safe technologies (especially in hydrocarbons extraction and transportation)
- development and improvement of emergency situations prevention and liquidation systems
- prevention of environment pollution
- Caspian countries international cooperation development
- public environmental education

#### **2.4. Demands of public for Caspian Environmental Information**

At present, the public interest in environment information is connected with the deterioration of environmental situation in regions and purification of human living conditions. There are 9 environmental NGO's in Caspian region (Annex III):

- Astrakhan "Green Peace" organization.
- The Scientific-ornithological society of pupils and students "Berkut".
- Regional Caspian Environmental Center.
- Astrakhan department of the Russian Geographic Society.
- Kalmykia foundation for sustainable development.
- Arid center of Kalmykia Republic.
- Regional students environmental foundation.
- Dagestan organization of Russian Society for Nature Protection.
- Astrakhan organization of Russian Society for Nature Protection.

Since the October 1998 the American Non-Governmental Organization ISAR (Initiative for Social Action and Renewal in Eurasia/ISAR), implements Caspian program of NGO supplement "Sustainable Future Building: the Development of Cooperation Between Environmental NGO's of Caspian Region Countries".

The main target of ISAR Caspian program is to promote environmental NGO's participation in the Caspian environmental issues decision. The other target of the program is to develop

the cooperation between NGO's of Caspian region countries: Azerbaijan, Kazakhstan, Russia, Turkmenistan and Iran.

The information exchange between Caspian countries NGO's within the Program includes training in Internet and E-mail use for NGO's

- mini-grants (\$400) for modems acquisition and E-mail payment
- supporting of the "Caspinfo" web-site. The Caspinfo web-site was created in 2001 to facilitate the free and open exchange of information on environmental issues critical to the Caspian region. The Internet-address of "Caspinfo" is <http://www.caspinfo.ru>. Ecoline realizes web design and technical support of Caspinfo.<sup>1</sup>
- distribution of Caspian bulletin (in English and Russian) electron versions twice a month. The bulletin includes annotations of new "Caspinfo" database information from the beginning of April, 1999 The database includes follow information:
  - on the Caspian environmental issues and NGO's nature-protecting activity (projects, events and so on)
  - on the NGO's of other oil and gas regions of the world experience
  - on oil and gas industry of Caspian region news
  - on the events of ISAP Caspian Program (conferences, workshops, grant programs and other documents connected with the Program)

At present, there are about 550 subscribers of "Caspinfo" bulletin. They receive the bulletin twice a month.

- publishing the "ISAR Transcaspian Bulletin" six times a year. The bulletin describes Caspian region environmental issues and NGO's activity.

There are 3 Universities in region (Annex III):

**Astrakhan State Technical University in Astrakhan** has the biology and nature use faculty.

**Dagestan State University** has the ecology faculty with the Institute of applied ecology and the Department of Rational Nature Use.

**Kalmyk State University** has the Department of Biology. The Scientific activity of the department includes the study of flora and fauna of the republic and the problems of their care use and protection.

Also, there is the **Pedagogic Institute** in Astrakhan with the department of biology (Annex III).

### **3. Characteristics of the environmental information systems relevant for the Caspian environment**

#### **3.1. Legal framework for the Caspian environmental information systems**

According to the Federal Law "On informatization, information and information protection" N24-FZ, Article. 3 the duties of State in field of informational resources formation and informatization are:

- creation and protection of the state information resources

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<sup>1</sup> The Russian non-governmental organisation Ecoline was created in 1995 with the following principal goals: facilitating an open and informed public dialogue on environmental issues; improving access of various sectors of the Russian society to environmental information; collecting, analysing and disseminating environmental and related information. The Web-Site of Ecoline is [www.ecoline.ru](http://www.ecoline.ru).

- federal and regional information systems creation and development, ensuring their cooperation and compatibility in the informational space of Russia”.
- It is mentioned in NEAP of Russia that “the dissemination of real and well-timed environmental information” is the necessary condition of sustainable development.

#### **4.3. Environmental information producers at national level and municipal level. Analysis of institutional framework, main institutions involved and mandates**

There are several categories of environmental information producers:

- 1) departmental organization, distinguished by the subordination to the agencies, responsible for natural resources use and environment protection (organizations subordinated to MNR, State Service for Hydrometeorology of Russian Federation (Roshydromet), to the State Service for the Land Cadastre of Russian Federation (Goscomzem of Russia), to the State Fishery Committee of Russian Federation (Goscomribolovstvo of Russia), to the Ministry for Agriculture and Food of Russian Federation (Minselhozprod of Russia), to the Federal Service for Geodesy and Cartography of Russian Federation (Roscartografii)), the territorial agencies of the State Statistic Committee;
- 2) Russian Academy of Science scientific-research Institutes (Annex III);
- 3) institutes and universities (Annex III);
- 4) archives
- 5) territorial nature protecting agencies. Until 2000, it was Regional Environmental Committees. Since 2000 (when Goscomecology was abolished) the functions of environment protecting agencies were given to the territorial committees of natural resources (Annex III).

These institutions and their mandates will be described in details in “Environmental monitoring” section, because the organizations, responsible for monitoring realize the primary data treatment.

#### **3.3.Environmental information exchange at national level and local levels**

Environmental information exchange at national level should be implemented within framework of the essentially new informational system - the State United Environmental Monitoring System. The System provides cooperation between territorial nature protecting agencies of Russian Federation for the state of environment complex estimation and the decision-making information support. The system creation, functioning and the cooperation of state environment monitoring agencies within the system should be implemented by the MNR of Russia.

The State United Environmental Monitoring System provides cooperation of follow agencies: MNR of Russia, Roshydromet, Goskomzem of Russia, Ministry for Emergencies of Russian Federation, Goskomribolovstvo of Russia, Minselhozprod of Russia, Gosstroi of Russia, Roskartography.

At the local level the environment information receiving, analyzes, storage and dissemination are implemented by the territorial environment protecting agencies: the Committee for Natural Resources of Dagestan Republic, the Committee for Natural Resources of Kalmykia Republic and the Committee for Natural Resources of Astrakhan Oblast.

The activity on territorial sub-systems of State United Environmental Monitoring System development in the tested regions is coordinated by the MNR of Russia. In the Caspian region, the territorial sub-system of United Environmental Monitoring System is created in Astrakhan Oblast. At present this process is on the beginning stage

### **3.4. Environmental monitoring and mechanism of transmission, analysis and storage of environmental data**

According to the Law of Russian Federation “On the Environment Protection” from January 10, 2002, the Government of Russian Federation determines the order of environment monitoring. According with the Federal Law from July 19, 1998 N 113-FZ “On the Hydrometeorology Service” monitoring of environment contamination, monitoring methods unity and comparability, reliability of data obtained are provided by Hydrometeorology Service of Russian Federation (Roshydromet).

The monitoring network consists of Roshydromet observing agencies. The observing agencies are responsible for the follow observations:

- the air pollution levels in settlements and industrial centers
- soils contamination with pesticides and heavy metals
- the surface water objects and marine environment contamination levels
- the transboundary air pollution
- the precipitation and snow cover chemical composition
- the atmosphere background pollution
- the radioactive environment contamination
- the complex monitoring of environment pollution and vegetation state

#### **3.4.1. Water objects monitoring**

According to the Water Code of Russia and Russian Federation Government Decision from March 14, 1997 N 307 “On Implementation of Water Objects Monitoring” the state monitoring of water objects is implemented by MNR of Russia and Roshydromet together with interested ministries, agencies and water users.

MNR of Russia and it’s territorial agencies coordinates the activity on water objects monitoring, the data of Roshydromet, other agencies, ministries and water users treatment, estimates the possibility of these data use for water management and protection, carries out the necessary observations of water objects for the state targets implementation.

The hydrobiological and hydrochemical water qualities observation is implemented by regime monitoring stations situated in cities and on water objects in regions with high contamination levels and in “clear” regions. The obtained raw data are analyzed by special laboratories - analytic and prognosis centers. The laboratories sent these data to the territorial centers for environmental monitoring, to the territorial Committees for Natural Resources, and to Roshydromet. The monitoring of surface water objects in Caspian region of Russia is implemented by North Caucasus Territorial Center for Hydrometeorology and Environment Monitoring. Last time the number of monitoring station has reduced because of pure financial support. The Roshydromet Hydrochemical Institute in Rostov-na-Donu generalizes the observation results.

The State Oceanography Institute implements the marine environment pollution by hydrochemical indicators and bottom sediments contamination monitoring. In the northern part of Caspian Sea the monitoring stations located in Lopatin region, in Terec mouth, Makhachkala region, Kaspijsk region, Izberbash region, Derbent region, Sulak mouth, Samur

mouth, Chechen Island -Mangishlac line, Makhachkala - Sagandik line. 22 indicators are used for the water quality estimation.

The methodological provision of monitoring and the collecting of data are implemented by the State information and analytical centers: Institute of Global Climate and Ecology of Roshydromet and Russian Academy of science, Main Vojeikov Geofisic Laboratory, Hydrochemical Institute, State Oceanographic Institute of Roshydromet and Scientific Producing Agency "Typhoon" (SPA "Typhoon").

Monitoring of water pipelines is controlled by territorial agencies of MNR of Russia. The Ministry of emergencies of Russian Federation and Ministry of Health Protection of Russian Federation territorial agencies implement monitoring of water objects in emergencies.

### 3.4.2. Monitoring of lands

According to the Order of Russian Federation from July 18, 2000 N 537 the state agency responsible for land management, cadaster, monitoring, and the state control of land use and protection is Goscomzem of Russia and the territorial agencies and departmental organizations of Goscomzem. There are 4 sub-systems in the State land monitoring system:

- monitoring of legal regime includes monitoring of administrative bodies boundaries change
- monitoring of land use includes monitoring of land use for different purposes, allowed use of land plots, limitations of land use
- monitoring of quality includes monitoring of agricultural lands fertility, meliorative state of lands, changes in environmental state of lands including the development of negative processes: flooding, swamping, erosion, salinisation, contamination with the toxic substances, desertification, shrubbing of agricultural lands, cluttering of lands with industrial and household wastes.
- monitoring of economical state

The State land monitoring includes regular aerospace and on-land observations, the boundaries and areas of lands changes observations, monitoring of land quality. The monitoring data storage and the presentation of data for the land cadastre, the prognosis of lands boundaries and land use changes, the development of recommendations for negative processes prevention are also the elements of land monitoring. The State land monitoring system provides information storage, ordering, and processing and presentation methods realization.

Last time the lands inventories and examinations in the substitutive bodies of Russian Federation implemented occasionally, the results of land examinations allow determining only tendencies of land state deterioration and land use changes.

In some regions, the local Administrations pay the considerable attention to land monitoring for management, use and protection targets decision and for decrease of lands degradation and pollution risk. In these regions, the land monitoring is carried out but not in full volume. The system of tested territories is created in Astrakhan oblast: "Delta", "Cherni Zemli", "Stepnoi-1", "Stepnoi-2", "Deflation", "Volgo-Ahtubinskaja poima", "Solovei" and "Volga". The lands monitoring activity was carried out on this territories. The catalog of Astrakhan oblast tested territories space survey materials is made by Russian Institute of Land and Ecosystems Monitoring.

In Dagestan and Kalmykia Republics the dynamic and intensity of erosion, flooding, desertification, shrubbing of agricultural lands and other negative processes were not studied because of lack of financial support. In the absence of these data, the state land cadaster presentation in full volume is impossible.

The state control of land use for the nature protection activity realization is implemented by MNR of Russia, by regular checks of land use and environment legislation and environmental requirement observance.

Minselhozprod of Russia implements the estimation of land fertility in the substitutive bodies of Russian Federation. The natural and artificial fertility is estimated by bonitet method. The marks of fertility are in proportion with tested agricultural crop productivity. The method allows determining erosion extent, influence of differences in mechanical composition on soil fertility, tendencies in fertility changes connected with agricultural land use intensification. The marks of natural and artificial fertility of arable lands, grasslands and pastures in substitutive bodies of Russian Federation are presented in the State Reports on Land Resources State, issued by Minselhozprod every year.

#### 3.4.3. Monitoring of the state of atmosphere

Data on the state of atmosphere are collected in the centers for environment state monitoring. There are atmosphere pollution monitoring laboratories and laboratories for a physic and chemical method of analyzes in these centers. The laboratories are located practically in every city. In emergencies, the mobile laboratories are used. The concentrations of follow substances are measured: SO<sub>2</sub>, NO<sub>2</sub>, CO<sub>2</sub>, benzapiren the specific compounds (hydrogen sulfite, formaldehyde) and the contents of particules.

In addition, the same substances are measured within “background pollution monitoring” on the tested areas. The “background pollution monitoring” centers are located far from the cities and industrial centers, as a rule in zapovedniks and national parks. In the Caspian region, the background station for air quality monitoring is located in Astrakhan zapovednik. The data obtained are transmitted to the regional Agencies on hydrometeorology and environment monitoring. On the base of these reports the Institute of Global Climate and Ecology prepares the annual report “The Survey of Environment Pollution in Russian Federation”. This report includes information on different subjects. The information for the Russia at whole and for the substitutive bodies of Russian Federation is presented in the Report.

#### 3.4.4. Water bioresources monitoring

Goskomribolovstvo of Russia implements state monitoring of water bioresources. The departmental Scientific Institutions of Goskomribolovstvo implement the following activity:

- monitoring of fishery objects
- the bioresources and water ecosystems contamination monitoring
- the creation of Russian Federation marketable fishes branch cadaster

The monitoring of Caspian Sea water bioresources in Russian Federation is implemented by the Caspian Scientific-Research Fishery Institute (CaspNIRH). CaspNIRH is the greatest scientific and research center on Caspij and scientific departments, located in Astrakhan, laboratories in Volgograd, Elista and Makhachkala.

The Institute has scientific navy (more than 20 ships, including 9 for the work in Sea). In 1997, the new ship "Caspian Explorer" was obtained by the Institute for the international expeditions on the sea hydrology and food base investigation, estimation of sturgeon and sprats stocks organization.

CaspNIRH works in cooperation with scientific institutes of Caspian countries - Kazakhstan, Azerbaidjan and Iran. The Institute has considerable experience in scientific researches. The whole sea is involved to monitoring expeditions sphere. The coastal territories of other countries are investigated with the participation of foreign experts.

#### 3.4.5. Animals and vegetation monitoring

The organization of State animals and vegetation monitoring is provided by territorial agencies of MNR together with territorial agencies of Minselhozprod and Federal Service of Forestry (at present included into MNR), by administrations of substitutive bodies of Russian Federation and by regional organizations. The responsible agencies are determined by the Order of former State Committee for Environment Protection of Russian Federation (Goscomecology) from October 3 1997 N 419-a "On the Order of Red Book Keeping".

The state monitoring of animals and vegetation includes regular observations of plants and animals number and spreading, quality of their living conditions. Organization and implementation of animals and vegetation state monitoring are provided by territorial agencies of MNR together with territorial agencies of Minselhozprod of Russia and other interested agencies.

Structure, content and implementation order of animals and vegetation state monitoring are defined in according with State United System of Environment Monitoring. According with the Order of former Goscomecology "On the Order of Red Book Keeping" the Red Book of Russia is the official document containing information about threatened animals and plants (species, populations) inhabiting on Russia territory, continental shelf and in exclusive economic zone of Russian Federation. The scientific support of Red Book is realized by organizations, defined by MNR of Russia and it's territorial agencies from scientific-research organizations and Institutes, implementing research activity for animals and plants study and the development of measures for plants and animals protection.

The collecting and storage of information on Red Book of Russian Federation animals and plants species and the data base creation and supplement is implemented by the leading organizations within informational-analytic system. The methodology of data management is approved by MNR of Russia

The monitoring system in zapovedniks responds the demands of regular biodiversity control. The scientific-research organizations, determined by MNR of Russia organize the information collecting, storage, generalization and the measures for biodiversity protection development in the substitutive bodies of Russian Federation.

The considerable activity on the information collecting, storage, generalization, analysis and the measures on biodiversity conservation are carried out in Dagestan University and Kalmik University.

The activity of Ecology Faculty of Dagestan State University includes the creation of Dagestan biodiversity cadaster book, the study of biodiversity dynamic, environmental monitoring, the development of biodiversity conservation and bioresources sustainable use strategy.

The activity on animal and vegetation of Kalmykia Republic study, protection, reproduction

and care use is carried out in Kalmykia State University.

### **3.5. Statistical environmental data, mechanisms of transmission, analysis and storage of environmental data**

The producers of statistical environmental information are Goscomstat of Russia agencies. All users of natural resources, defined by Goscomstat, transfer the information on environment impacts and the information on environment protection activity to the territorial agencies of Goskomstat.

#### **3.5.1. Data on water use and protection**

1. The juridical persons - water users, their branches and representatives should give the information in "2-tp vodhoz" (water management) format to the following agencies:

- to the territorial agency of Goscomstat
- to the territorial agency on water resources management and, in case of underground water use, to the territorial agency on mineral resources (Geolcom)
- to the territorial nature protecting agency
- to the agency executing management in the corresponding branch of economy

2. MNR of Russia gives the information to the Goskomstat by the format agreed.

The account data are represented in "2-tp (vodhoz)" format. The first table is named "Water abstraction". It contains information on the volumes of water abstracted from natural sources, water received from the other enterprises (organizations) and water used and water given to the other organizations.

The follow data are presented in the table: the distance between source of water supply and the river mouth, the water use for different needs (for industrial, household needs, irrigation and agricultural water supply).

The second table is named "Water discharges". It contains the information on water discharges: without treatment, insufficiently treated, clear without treatment, clear in accordance with existing normative after treatment. This table contains also information on pollutants content in wasted water.

The third table is named "Measures for water protection". It contains the information on measures for water protection including data on the share of circulated water supply.

#### **3.5.2. The information on atmosphere pollution and measures for air protection**

MNR of Russia and Goskomstat of Russia carry out the activity on estimation of human influence on the atmosphere in Russia within State account of unfavorable influences on the atmosphere.

The account is based on the emissions inventories implemented by enterprises since 1980 in accordance with GHOST 17.2.3.02-78. The statistic reports of enterprises in "2-tp (vozduh)" (air) format are based on the emissions inventories materials. The State account of influences on the atmosphere is based on the enterprise statistic reports.

The juridical persons and their branches having the air pollution sources (according with list, defined by state statistic agencies) present the information in "2-tp (vozduh)" format to the local statistic agencies. The statistic report includes 3 main parts.

*Part 1. Pollutant emissions, cleaning and utilization*

This part includes the information on total pollutant emissions, particles, liquid and gaseous substance emissions including sulfur oxide, carbon oxide, nitrogen oxide (evaluated as NO<sub>2</sub>), hydrocarbons (without volatile organic substances), volatile organic substances and other gaseous and liquid substances.

The part includes information on emissions without cleaning, amount of pollutants received by purification facilities, amount of catches and neutralized substances and amount of utilized ones.

*Part 2. Emissions of the specific pollutants*

This part contains information on specific emission according to the schedule that adopted by Goscomstat. The schedule includes 44 substances, which should be accounted first.

*Part 3.* The part contains information about the sources of air pollution.

*Part 4.* The part contains information on the activity of enterprises for the prevention of pollutant emissions.

3.5.3. The information on wastes

1. The juridical persons, generating hazardous wastes, their branches and representatives should give the information in “2-tp othody”(hazardous wastes) format to the following agencies:

- to the territorial agency of State statistic committee
- to the nature protecting agency
- to the agency executing management in the corresponding branch of economy

The “2-tp-othody” format includes following information:

1. wastes volume in the beginning of year
2. wastes generation per year
3. wastes receiving from the other enterprises
4. wastes use, utilization and the volume of wastes sent to the other enterprises
5. wastes location in the wastes disposal places (including the wastes burial places)
6. wastes volume in the end of year
7. about wastes burial places
8. about the area of burial places

The information on industrial wastes is presented by 4 classes according to the toxicity levels. The account includes only industrial wastes data. There is not municipal wastes account and classification in Russia.

**3.6. Data availability and relevance**

Last time the reliability of environmental data has decreased because of lack of financial support for environmental monitoring. The number of air and water monitoring stations has decreased; the monitoring of soils and lands was not realized in full volume.

The public access to the “reliable state of environment information” is determined by the Law of Russian Federation “On the Environment Protection” №7-FZ from January 10, 2002. The general rules of information collection, storage and access to the information is determined by the law “On the Informatization, Information and Information Protection” N24-FZ.

The environmental information in substitutive bodies of Caspian region is presented in the regional reports, that issued by territorial nature protecting agencies. At present the national system of the environment indicators is only developed. In the Regional State of the Environment Reports, the information is presented in text format with some tables and

graphics. The indicators and/or issues to be used for the Caspian Sea Report and are presented in Annex IV.

The survey of environmental situation in regions is also presented in the State Report "State of Environment of the Russian Federation" in the Chapter "Environmental Situation in Regions". This Chapter contains information about main environmental issues and tendencies of environmental situation change. The information on the state of environmental objects (including concentration of pollutants in air, water and soil) is scanty.

#### *1. Marine Environment pollution*

The State Oceanography Institute presents the information on the state of marine environment in the annual report "The Year-book of Sea Water Quality in Russian Federation by Hydrochemical Parameters". It contains information about marine environment monitoring network (Annex II). The data on seawater pollution levels on monitoring stations is presented in text and table format. The pollution level is estimated by 7-mark scale, by the calculation of special "Water Pollution Index". Unfortunately, last time the investigations of the Sea pollution levels by the state institutes and laboratories take place only occasionally. So, there are data gaps for some years.

#### *2. The desertification and soils degradation*

Goscomzem of Russian Federation issues annual "State Report on State of Land Resources in Russian Federation". The information presented in last reports is less detail because of financial support decrease. (Annex II).

The Report contains expert land state estimations in text format and the tables of dissemination of lands by users and categories in the substitutive bodies of Russian Federation. On the local level, the Scientific Research Institutes of Land Projects (NIIGiprozems) create the geobotanic map of lands, the map of measures for lands use and improvement on the base of farms investigations. The map contains explanations and the working tables. The eroded, damped, overgrown, broken lands are marked on the map with special symbols. On the base of these maps, the territorial NIIGiprozems prepare the reports about geobotanic researches of regions with maps in 1:50 000 scale. These reports are not published and kept in NIIGiprozems as original versions and authors copies with "secret" stamp.

Last time the land inventories and examinations in the substitutive bodies of Russian Federation implemented occasionally. Therefore, the last year's information on the area of eroded, salinized and broken lands is inaccessible.

#### *3. Water resources extinction and contamination*

The information about surface water quality is presented in "The Year-book of Surface Water Quality by Hydrochemical Parameters", which contains information about water monitoring network, changes of water quality in text, tables, the levels of pollutants in surface waters.

The levels of pollutants are estimated by 7-mark scale. The reliability of presented data corresponds to the existing national standards, but there is tendency to monitoring stations number decrease.

#### *4. The problem of biodiversity conservation*

The annual Reports "Chronicle of Nature" contain more detail and reliable information on the state of animals and vegetation in universal format. There are 4 State zapovedniks in Caspian region: "Cherny Zemly" state natural biosphere zapovednik (Kalmykia republic), "Bogdinsko-Baskunchaksky" state natural zapovednik (Astrakhan oblast), "Astrakhansky" state natural biosphere zapovednik, "Dagestansky" state natural biosphere zapovednik. The investigation of animals and vegetation state are implemented within frameworks of Red Books creation programs. The Red Books are created in Kalmykia Republic and Astrakhan

oblast. The Red Book of Dagestan is accessible in Internet: <http://www.dgu.ru/fakuls/bio/biomus/reddag.html> .

### *5. The air pollution*

The information on air quality is published in the “The State of Atmosphere Pollution in the Cities of Russia Territory” (Issued by the Main Geofisic Laboratory) (Annex II). It contains information about monitoring network, concentrations of sulfur oxides, nitrogen oxides, particulates, some specific compounds in air of cities. The data are presented in text format, the concentrations of pollutants are evaluated as the maximum permissible concentration quota, and in some cases, the annual concentrations are presented. The monitoring stations are shown in yearbook on schemes.

The data on air pollution are collected and systematized by territorial and federal agencies of Goscomstat and by territorial agencies of MNR. The data are presented in annual “Report on Air Protection”, issued by Goskomstat (Annex II) and in “Atmosphere Pollution Outlook” issued by territorial agencies of MNR. The materials of these reports are analyzed in Scientific Research Institute for Atmosphere Protection (SRI “Atmosphere”) – the leading organization for air protection in Russia. SRI “Atmosphere” issues the “Year-book of Pollutants Emissions in the Cities and Regions of Russian Federation” (Annex II, IV).

The information in “Year-book of Pollutants Emissions in the Cities and Regions of Russian Federation” is more detail than in “Report on Air Protection” by the following reasons:

- Goscomstat analyses data only for 36 pollutants, the territorial “Atmosphere Pollution Outlooks” and in the “Year-book of Pollutants Emissions in the Cities and Regions of Russian Federation” the information on 2000 substances is presented
- Goscomstat analyzes and publish information only for stationary sources, in the “Year-book of Pollutants Emissions in the Cities and Regions of Russian Federation” the information on transport emissions is also presented.
- Goscomstat presents data only for enterprises which had presented the information on emissions in 2-tp format in time, the territorial agencies of MNR publishes the information for all enterprises, defined by Goscomstat, as air pollutants.

Thus, the “Year-book of Pollutants Emissions in the Cities and Regions of Russian Federation” is the more comprehensive document in Russian Federation, which contains data on emissions and the analysis of their spatial dissemination on the territory of Russia.

The information on water objects, air and soils state is also published in the annual “Environmental Contamination in Russian Federation Outlook”, issued by the Institute of Global Climate and Ecology of Russia.

### **3.7. Technologies supporting environmental information systems**

At present the largest scientific-methodological center, possessing modern technologies of information collecting and storage is Caspian Scientific-Research Fishery Institute (Annex III). There are 18 laboratories in the institute located in Astrakhan, Elista and Makhachkala. The institute has scientific-research navy (20 vessels, including 9 for the in the sea researches). In 1997, Caspiroh received the new sheep “Caspian Explorer” for the expeditions for hydrogeological researches, sprats and sturgeon stocks study. The institute has Internet-site, e-mail, phone/fax (Annex III).

The Sea surface temperature data, received from NOAA satellites and the space snapshots of the Sea surface are presented on Internet-site of the Space Researches Institute of Russian Academy of Science: <http://meteo.infospace.ru/caspian/index.htm>

The state system of air pollution control consists of atmosphere pollution monitoring

laboratories and laboratories for a physic and chemical method of analyzes. Last years the number of observing stations has decreased. The laboratories have not new equipment because of lack of financial support in region. The monitoring centers communicate by phone/fax (Annex III).

The data on the marine environment, surface waters, air and soils pollution levels are practically inaccessible in Internet. The data are stored in laboratories and in monitoring centers on paper.

The lands inventories and examinations in the substitutive bodies of Russian Federation implemented occasionally. There is not new equipment in NIIGiprozems for the observations implementing. The institutions communicate by phone/fax (Annex III). The data are collected in institutes on paper. There are not e-mail or Internet servers in centers.

There are modern laboratories in educational sector of region. Dagestan State University has the monitoring station and laboratories on the environmental faculty. The biologic faculty of Kalmyk State University has 25 research laboratories.

The Universities of region are equipped with the modern tools of communication: there are Internet-servers in Astrakhan, Dagestan and Kalmyk State Universities.

The [www.wild-russia.org](http://www.wild-russia.org) and [www.found.astrakhan.ru](http://www.found.astrakhan.ru) sites contain information on protected territories in region. The [www.found.astrakhan.ru](http://www.found.astrakhan.ru) site is supported by Astrakhan State Technical University.

### **3.8. International relations**

Since 1998, the international cooperation for the environment protection is implemented within framework of the Caspian Environmental Program. In Russia there are 2 Caspian Regional Thematic Centers (CRTC's) (Annex III).

The CRTC for Legal, Regulatory, and Economic Instruments was established in May, 1998 and operates on the basis of Center for International Projects (CIP, Moscow, Russia). The goals of CRTC are:

- Assistance to creation of unified economic and regulatory instruments for management of the Caspian environmental and natural resources on the national and regional level
- Assistance to harmonization of national environmental legislation in the Caspian states and its compliance with the provisions of international conventions, and more effective and coordinated implementation of environmental conventions (e.g. CITES, Ramsar, Espoo, Bonn, etc.)
- Assistance to creation of an effective legal framework for preventing environmental damage from marine prospecting, extraction and transportation of hydrocarbon raw materials based on the analysis of international experience and relevant obligations by the Caspian states
- Assistance to improving the effectiveness of the existing economic instruments through their adequate assessment and working out relevant recommendations
- Assistance to finalizing preparation of the Framework Convention on protecting the Caspian marine environment as the fundamental component of regional cooperation, environment protection and rational use of the Caspian resources; working out protocols and institutional structures of the Convention; facilitating their interaction with CEP.

The CRTC for Fisheries and Commercially Exploited Bioresources was established in 1998 Astrakhan and operates on the base of KaspNIRH.

Russia takes part in international cooperation within international agreements having the great importance for Caspian environment protection:

- Convention on Biological Diversity (1992);
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (1973);
- Convention on Wetlands of International Importance as Wildlife Habitats (1971);
- Convention on Protection and Use of Transboundary Watercourses and International Lakes (1993);
- Framework Convention on Climate Change (1992);
- Vienna Convention on Protection of the Ozone Layer (1985),
- Montreal Protocol (substances that deplete the ozone layer) (1987);
- Convention Concerning the Protection of the World Cultural and Natural Heritage (with regard to natural heritage) (1972),
- Convention on Long-range Transboundary Air Pollution (1979);
- Basle Convention on Control of Transboundary Movement of Hazardous Wastes and Their Disposal (1972),
- Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (the London Convention) (1972);
- Convention on Transboundary Effects of Industrial Accidents (1992).

In accordance with a resolution of the Government of the Russian Federation, though not a party of some agreements, it continues to take part in the activities of their organs as an observer:

- Convention on Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification (1994),
- Convention on the Protection of Migrating Species of Wild Animals (the Bonn Convention), 1979.

The legal framework for the international cooperation between Russian Federation and Republic of Kazakhstan for the North and Middle Caspian environment protection is the agreement on the Caspian Sea bottom boundary, on the local level the agreement on environment protection between Astrakhan Oblast and Atirausky Akimat of Kazakhstan.

In order to consolidate Russian and foreign scientist for Caspian environmental problems decision the IOC/UNESCO Project “Caspian Floating University” was created based on CaspNIRH (Annex III, V).

The main target of the Project is the education of young scientists and specialists in the field of oceanography and marine environmental science and the development of international cooperation between Caspian countries for Caspian natural resources protection and care use. The main directions of scientific activity within the Project are:

- the study of sea level changes influence on the marine and coastal ecosystems
- the study of sea pollution influence on the coastal ecosystems and bioresources
- study and protection of Caspian Sea biodiversity, the study of North Caspij and Volga

delta biodiversity changes as the result of sea level fluctuations and human influence increase

- control of the Caspian Sea borders dynamic, the distributions of suspensions and plankton in the surface layer of seawater study by remote monitoring methods study.

The main priorities for regional cooperation on the Caspian Sea environment protection in future are the Agreement on Caspian Environment protection, the Agreement on biodiversity of Caspian Sea protection, the Agreement on hydrometeorology and monitoring of Caspian Sea and the Framework Convention on the Marine Environment of Caspian Sea development. It is planned to create the international Caspian center for the implementation of environmental monitoring and for the development of recommendations on environment protection and natural resources care use. The proposal was made on the Kaluzjni (the Russian President representative on the Caspian Sea status) visit to the Caspian countries in July, 2000. Azerbaidjan and Kazakhstan supported the Russian initiative for the center creation.

### **3.9. Economic considerations regarding the implementation of environment information systems and the dissemination of environmental information in and about the Caspian region**

The environmental information systems in substitutive bodies of Russian Federation are supported from the following internal sources:

- from the federal and regional budgets
- from the federal and regional environmental facilities
- from non-governmental funds (Russian Facility for Fundamental researches, Russian humanitarian scientific Facility, Non-governmental Vernadsky Facility).

For the estimation of information systems economic support from national and international, the official request of Ministry with Minister signature is needed.

According to available information, the total funds of Astrakhan regional environmental facility in 1998 were 15 mln. rubles. The expenses for monitoring system creation are about 2,4%, for environmental education and the dissemination of environmental information are also 2,4% as a rule. Unfortunately, because of economic default in 1998, the dollar rate has been grown 4 times in August and it is difficult to calculate the total expenses in dollars.

On the base of Official Questioning made by Goscomecology in 1998, the 100% of international subsidies, received by Kalmykia between 1992 and 1997 were spent for the desertification prevention. At that time, Astrakhan oblast and Dagestan had not received any international support.

The expenses for the scientific activity and researches in 2001 within Federal Targeted Program "Caspj" were 1,65 mln. rubles. By the experts estimations the expenses for the information systems development are about 10% of this funds. In 2001, the expenses for the scientific activity and researches within "Caspj" Program were 2,527 mln. rubles, so the expenses for information systems support were 0,253 mln. rubles (or about 10 000 \$).

The expenses for the scientific activity and researches in 2001 within Federal Targeted Program "Volga survive" were 18,32 mln. rubles, so the expenses for information systems

support were 1,83 mln. rubles (or about 72 000 \$). However, it is the total funds for 39 substitutive bodies financing.

We have analyzed the information on international support of Russian projects (TACIS Program, Global Environmental Facility, Institute of Sustainable Communities) and have not found information on the financial support of Caspian environmental information systems development.

#### **4. Access to and dissemination of Caspian Environmental information**

##### **4.1. Legal framework for access to and dissemination of Caspian Environmental information**

The access to environmental information is defined by the following legal acts:

1. By the Constitution of Russian Federation.

According to the Article 42: "Every person have right for the safe environment and for reliable environmental information..."

2. By the Federal Law "On the Environment Protection"

Article 11: "Citizens have a right for demand of full, reliable, well-timed information on the state of environment and measures for environment protection..."

3. By the Federal Law "On the Epidemiological Sanitary Well-being of the Population"

According to the Article 5: "Citizens have a right for reliable information on environment state, sanitary well-being of the population and on measures for ensuring of sanitary well-being".

4. By the Federal Law "On the Population and Territories Protection from the Natural and Industrial Emergencies".

According to the Article 6: "The information on population and territories protection from the natural and industrial emergencies (the data on existing and forecasted emergencies, their consequences, on radiation, chemical, epidemiological, explosive, fire and environmental safety) should be open if other is not determined by the legislation of Russian Federation".

5. By the Low of Russian Federation "On Information, Informatization and Information Protection"

According to the Article 3: "The main directions of the state policy in information sphere are:

- the creation of conditions for population, federal authorities, local authorities, state institutions and non-governmental organization effective informational provision
- the provision of national security in field of information and the guaranty of human rights in the field of information
- the assistance to creation of informational resources, services, technologies market and means for their development.

6. By the Federal Law "On the Participation in International Information Exchange".

According to the Article 4: "The federal and the local authorities of Russian Federation should:

- assist to modern information technologies ensuring effective participation of Russian Federation, local bodies, physical and juridical persons in international information exchange

- assist to development of international informational exchange and protect the interests of Russian Federation, local bodies, physical and juridical persons in international information exchange

7. According to the Doctrine of informational security of Russian Federation the realization of constitutional rights of people and citizens for search, receiving, producing and dissemination of information by any legal way and for receiving the environmental information is the part of national interests of Russia in informational area.

8. According to the Order of President of Russian Federation “About State Policy in the Informational Area” the main directions of the state policy in informational area are the creation and the development of information systems and information networks and ensuring of their compatibility and interaction on federal and local levels.

#### **4.2. Public access to Caspian environmental information**

According to the Article 6 of the Federal Law “On Environment Protection”, the public access to environmental information on the national and local levels is provided by MNR and its territorial agencies, which issues annual State of Environment Reports in regions. Usually these Reports are sent to regional and municipal libraries where the interested persons could receive them. The reports also should be sent to MNR and to the Russian National Library. The last time the circulation of the Reports had decreased.

The opportunity of the environmental information requesting is declared in the Federal Law “On the Environment Protection”. But the real unswerving the requests mechanism is absent. Therefore the public access to the information is not easy. The main way of the environment information dissemination is the regional State of the Environment Reports.

According to the laws “About State Secret” (from July 1993 with the changes from October 1997) and “About Geodesy and Cartography” (from December 1995) the secret information has the “secret” or “for the official use” stamps. Secret are maps, photomaps, photoplans of settlements, inner water objects and shelf with the scale 1:50000 and more. Any other thematic maps and schemes on the base of these maps are also secret.

According to the law “About Geodesy and Cartography”: “the topographic maps with the scales 1:200000, 1:500000 and 1:1000000 should not be free publicized or sold. Publication of other topographic, geodesic or cartographic materials... is allowed only after expert decision of the State geodesic supervision agencies.”

Any information regarding objects of national security and military objects is also secret.

#### **4.3. Implementation: publication and dissemination of Caspian environmental information**

The main source of information about Caspian region is the Caspian Environmental Program site ([www.caspianenvironment.org](http://www.caspianenvironment.org)) containing National Report of Russian Federation “Environmental Problems of the Caspian Region”, created in 1998, only English version.

The information about environmental situation in Dagestan, Kalmykia and Astrakhan oblast is presented on the Ministry of Natural Resources official site: [www.priroda.ru](http://www.priroda.ru)  
The information is presented in the following items:

- Geographic information
- Historical review
- Branches of economy, transport
- Climatic conditions
- Water resources
- Water bioresources
- Lands and soils
- Forest resources
- Land bioresources
- Mineral resources
- The protected areas
- Recreational resources
- The state of environment
- Attractiveness for investments
- Legal acts

#### Links

The analytic review of “State of Environment of the Russian Federation Report” contains information about environmental situation in Dagestan Republic, Kalmykia Republic and Astrakhan Oblast in “Environmental Situation in Regions” section on the site of GRID-Moscow: <http://ceeri.ecoinfo.ru>

The Russian State of Environment Report also contains some information on environmental situation in regions, the Report is issued in small circulation, but it is accessible in Internet: [www.ecocom.ru](http://www.ecocom.ru).

The information about lands and soils state are published by State service of Russian Federation for land cadaster in the “State Report about State of Land Resources in Russian Federation”. The circulation of the Report is small and the public access to the Report is weak.

The data of air and surface water pollution monitoring are issued by territorial Departments of Federal Service for Hydrometeorology and Environmental Monitoring (DHEM) in the yearbooks “Surface Water Pollution on the DHEM Territory Outlook” and “State of Atmosphere on the DHEM Territory Outlook”. Before 1991, these yearbooks were in the free access, but since 1991, they are disseminated only within Roshygromet and the public access to these data is weak.

The scientific research institutes of Roshydromet issues the yearbooks on the state of air, water and soils in Russia at whole. These books are accessible only in the branch institutes of Roshydromet and in the scientific institutes of the Russian Academy of Science.

The statistic environmental information is published by State Statistic Committee in “Environment in Russia” book ones in two years. This book contains information for substitutive bodies of Russia. The regional statistic yearbooks also contain environmental information. Nevertheless, the information presented in these books is not full. For example, the information on hazardous substance discharges into the water is absent.

The information on biodiversity is more accessible for user. It is published in the regional Red Books, which are issued by regional publishing houses and sold.

On the national level the Caspian environmental information is published in “Caspian Sea Bulletin”, issued by the Russian UNEP COM and Ministry of Natural Resources of Russian

Federation. The Bulletin is published every month for the decision-makers on English and Russian. The Bulletin includes section on the Caspian environmental issues.

The regional environmental issues are described periodically by the local mass media:

- In Astrakhan Oblast by “MK in Astrakhan” newspaper (the Internet-version is <http://hosmi.astranet.ru/Mk-ast/mk.htm>), by the weekly newspaper “Astrakhanskie Vedomosti” (the Internet-version is [http://www.adm.astranet.ru/pressa/jul\\_01.htm](http://www.adm.astranet.ru/pressa/jul_01.htm)), by the “Astrakhan” journal.
- In Kalmykia by “Digest of Kalmykia press” (the Internet-version is <http://elista.org/news/>), by “Kalmykia news”, “Evening Kalmykia”, “Komsomolets of Kalmykia”, “Elista news”, “Economy and life of Kalmykia”, “Kalmykia time” newspapers.
- In Dagestan by “Dagestanskaja pravda” (the Internet version is <http://www.dagpravda.ru/>), newspaper, in “Our Dagestan” and “The People of Dagestan” (the Internet-version is <http://www.rd.dgu.ru/nardag.html>.) journals.

In 1991 the Association “Big Volga” was created by 4 republics and 7 oblasts, located in Volga basin. The targets of the Association are:

- strengthening of existing inter-regional relationships,
- development of economic, scientific and industrial cooperation,
- overcoming of sustainable development difficulties,
- decrease of social tense in the region.

Astrakhan Oblast and Kalmykia Republic are the members of this Association. In general there are 11 members in “Big Volga” The Association have the environmental committee. The urgent regional environmental issues and the activity for the environmental situation improvement are described in “Volga-Business” journal, issued by the Association. The Internet-version of the journal is <http://vb.samara.ru>.

The scientific and educational activity is carried out by Dagestan University (on the faculty of ecology), Kalmyk State University and Astrakhan State Technical University (Annex III).

In order to combine efforts of leading scientists and specialists of the region for the comprehensive study of the existing situation, the urgent problems decision, formulation of public opinion and the conditions for the Caspian Sea efficient use and protection creating the Association of Caspian Universities was organized.

The Association is the non-governmental unit of Universities and scientific-research organizations of Caspian countries. The founders of the Association are the Astrakhan and Azerbaidzan State technical Universities, Kalmik, Dagaestan, Turkmen Atirausky (Kazakhstan Republic) State Universities, Mazandaransky, Gilansky and Gorgansky Universities of Islam Republic of Iran. It was decided to issue the new international Magazine “Caspj. Science. Technologies” on the last session of the Association.

#### **4.4. Needs and approaches of Caspian environmental information products to different users**

The reliable and accessible environmental information is necessary for the different users:

- on international level - for international environmental organizations (CEP, GEF and others), for the international non-governmental organizations.
- on national and regional levels - for the decision-makers on national and local level, for the scientists and specialists, for journalists, for the educational sector, for the private sector.

The main directions of regional environmental NGO's activity are the environmental education and the informational support of non-commercial organizations in the field of environmental legislation.

There are follow environment protecting NGO's in region:

- *Dagestan and Astrakhan organizations of Russian Society for Nature Protection* implement environmental education. They take part in national and regional environmental inspections, the environmental control of enterprises, public examinations of programs and projects, organize nature-protecting actions (forests planting, cleaning of rivers and lakes, cleaning of recreation places), organize “Days of Environment Protection”, “Trees for Life”, “The Earth Protection Days” and other actions.
- *Astrakhan “Green Peace” organization*. The directions of its activity are the protection and recovery of fish stocks in Volga-Caspian region. The sphere of “Green Peace” interests is the reliable information on fish stocks and the state of marine environment.
- *The Scientific-ornithological society of pupils and students “Berkut”*. The activity of society is devoted to Dagestan lagoons ornithofauna study and popularization of environmental information. Therefor the society is interested in information on birds' number and the state of protected territories.
- *Regional Caspian Environmental Center*. The activity of the Center is directed to the protection of marine environment from pollution and to the protection of Caspian natural ecosystems.
- *Astrakhan department of the Russian Geographic Society*. The activity of the organization includes popularization of national and international environmental information. The organization is interested in the reliable information on the existing regional environmental problems.
- *Arid center of Kalmykia Republic*.
- *Regional students environmental foundation and Kalmykia foundation for sustainable development* support the dissemination of environmental information in schools, libraries and for students.

At present, there is not any special regular environmental publication in region, containing Caspian environmental information. The descriptions of regional environmental issues in mass media are of episodic character. The public access to the information is weak. It is difficult to receive any short-term or long-term environmental forecast. The environmental situation in region is unfavorable and there is the public anxiety about the state of environment. So, there is the necessity for the reliable environmental information.

## **5. Description of priority needs and actions for developing an efficient Caspian environmental information network**

1. The perfection of the existing air waters and soils monitoring network.
2. The creation and development of territorial environmental monitoring systems (TSEM) in the Caspian region substitutive bodies of Russian Federation.
3. The application of modern informational technologies, including GIS for information systematization and transmission on the local and regional level
4. The perfection of legal base for inter-ministerial environmental information exchange on the federal, regional and local level.
5. The development of and technical instruments for the regional environmental information transmission to the federal level.

- 6.** Increase of environment information systems financial support.
- 7.** The improvement of environment information accessibility to different users by increasing of regional State of Environment Reports circulation, creating of their electronic version and SoE Reports dissemination in Internet and on CD-ROMs.
- 8.** Improvement of SoE Reports availability and visibility by environment indicators application.
- 9.** Creation and dissemination on CD-ROMs and by Internet of MDDs for the perfection of data on environment information producers accessibility to different users.
- 10.** Cooperation with International environmental programs and organizations and international information exchange.
- 11.** Training of experts and journalists in the field of information presentation.

**Environmental Legislation for environmental information systems**

1. By the Constitution of Russian Federation, Article 42
2. By the Federal Law «On Protection of the Natural Environment», Article 12
3. The Federal Law «On Epidemiological Sanitary Well-being of the Population» Article 5.
4. By the Federal law «On the population and territories protection from the natural and industrial emergency situations», Article 6.
5. The Law of Russian Federation «On information, informatization and information protection», Article 3
6. The Federal Law «On the participation in international information exchange», the Article 4.
7. The Doctrine of informational security of Russian Federation.
8. The Order of President of Russian Federation «About state policy in informational area»

### List of existing environment related publications

1. Caspian Sea Bulletin. Issued once in two month by Russian UNEP COM and MNR of Russia
2. Extreme Rise of the Caspian Sea Level and Geocological Catastrophe of Coasts of Dagestan Towns. Svitoch A. - Moscow., 1997
3. Nature-protecting Activity on Caspij. The Public Environmental Organizations. Knijznikov A., Panov I. Moscow, ISAR Caspian Program, 2001.
4. Radiation State on the Russia and Nearby Countries Territory ("Taifoon" Institute). St.-Petersburg, Hydrometeoizdat, Issued annually.
5. Solonets Soils of North Part of Caspian Region. Soil Conditions of Low Volga Region Agriculture Development. Zvolinsky V., Lareshin V., Moscow, 1996. Issued by Nationalities Friendship.
6. State of Atmosphere on the North-Kaukazus UGMS Territory Outlook, Rostov-na-Donu, Issued annually.
7. State of Environment of the Russian Federation, National Report, Moscow, Issued annually. The last Report was issued in 2000.
8. State Report about the State of Land Resources in Russian Federation, National Report, Moscow, Issued annually.
9. Surface Water Pollution on the North-Kaukazus UGMS Territory Outlook, Rostov-na-Donu, Issued annually.
10. Tashninova L Red Book of Soils and Ecosystems of Kalmykia. - Elista, 2000.
11. The Astrakhan Oblast Rare Plants Species. Pilipenko V. Astrakhan, 2001.
12. The Background State of Environment in CIS Countries Outlook (Institute of Global Climate and Ecology). St.-Petersburg, Hydrometeoizdat, Issued annually.
13. The Caspij: Yesterday and Today. The Course of Lectures about Caspian Environmental Issues for Students and Senior Pupils. L.Berkileva, F.Shakirova. Ashkhabad, 2000.
14. The Creation of Environmental Framework of Kalmykia Republic. Elista, Kalmyk State University, 2000.
15. The Desertification of Caspian Region Arid Lands. Borlikov G., Kharin N, Bananova V., Tateishi R. Rostov-na-Donu, 2000.
16. The Ecosystems of Pricaspij – for the XXI Century. Part I. Elista-Astrakhan. Kalmyk State University, 1999.
17. The Ecosystems of Pricaspij – for the XXI Century. Part II. Elista-Astrakhan. Kalmyk State University, 1999.
18. The Environment Protection in Russia” – the statistic Year-book, issued by Goscomstat ones in two years. St.-Petersburg, Hydrometeoizdat, Issued annually.
19. The Experience of Environmental Analysis of Dagestan Soils. Zalibekov Z., Makhachkala, 1995.
20. The Irrigation Systems and Nature Protection in Kalmykia. Elista, Kalmyk State University, 1999.
21. The Lagoons of Dagestan. The Ramsar Project. Moscow, ISAR program, 2001.

22. The Monitoring of Pesticides in the Environmental Objects of Russian Federation ("Typhoon" Institute). St.-Petersburg, Hydrometeoizdat, Issued annually.
23. The Pollutants Emissions into Atmosphere in Dagestan Republic Outlook. Makhachkala, Issued annually.
24. The Pollutants Emissions into Atmosphere on the Territory of Astrakhan Oblast Outlook, Astrakhan, Issued annually.
25. The Pollutants Emissions into Atmosphere on the Territory of Kalmykia Republic and in Elista Outlook. Elista, Issued annually.
26. The Quality of Marine Water in the Russian Federation by Hydrochemical Indicators (State Institute of Oceanography), St.-Petersburg, Hydrometeoizdat, Issued annually.
27. The Quality of Surface Waters of Russia (by Hydrochemical Indicators) (Hydrochemistry Institute), St.-Petersburg, Hydrometeoizdat, Issued annually.
28. The State of Atmosphere Pollution in the Cities of Russia Territory (Main Geofisic Laboratory), St.-Petersburg, Hydrometeoizdat, Issued annually.
29. The State of Environment in Russian Federation Outlook (Institute of Global Climate and Ecology). St.-Petersburg, Hydrometeoizdat, Issued annually.
30. The System of Protected Territories in Astrakhan Oblast. Chujkov U., Moshonkin N. Astrakhan, 2000.
31. The Water Resources of Dagestan: State and Problems. Saipulaev I, Eldarov E., Makhachkala, 1996.
32. Year-book of Pollutants Emissions in the Cities and Regions of Russian Federation (NII Atmosphere), St.-Petersburg, Hydrometeoizdat, Issued annually.

## Federal ministries

**The Ministry of Natural Resources of Russian Federation**

123812  
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**The State service of Hydrometeorology of Russian Federation (Roshydromet)**

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**The Federal Service of Land Cadaster of Russian Federation (Goskomzem of Russia)**

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**The Department on Fishery of Minselhozprod (Glavribvod)**

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Table of types of data available

Environmental issues	The data available
<b>Marine environment pollution</b>	1. The volumes of polluted waters discharges into the sea (from the Russian part of Caspian region at whole, 1950-th-1997 years)
	2. Concentrations of main pollutants (phenols, NH <sub>4</sub> , NH <sub>3</sub> , heavy metals, PO <sub>4</sub> - Cr (VI), Cr (III) NO <sub>3</sub> <sup>-</sup> , NO <sub>2</sub> <sup>-</sup> in seawater (on the 8 monitoring stations) – the concentrations are fixed, when they are more than higher limited level. (1950-th -1997 years)
<b>The degradation of soils and desertification</b>	<p>1. Information on land use for different needs and land use by different users in Dagestan Republic, Kalmikya Republic and Astrakhan Oblast (1992-1999).</p> <p>2. Some data on land degradation (salinization, erosion, deflation,) and desertification (1992-1999).</p>
<b>Water resources extinction and contamination</b>	<p>1. Data on basic pollutants concentrations in surface water objects on the monitoring stations of region: (phenols, NH<sub>4</sub>, NH<sub>3</sub>, heavy metals, PO<sub>4</sub>- Cr(VI), Cr (III) NO<sub>3</sub><sup>-</sup>, NO<sub>2</sub><sup>-</sup> ) the concentrations are fixed, when they are more than higher limited level. (1950-th - 1996 years)</p> <p>2. Data on total water abstraction by Dagestan Republic, Kalmikya Republic and Astrakhan Oblast (1980-th-2000)</p> <p>3. Data on water discharges into the surface water objects by Dagestan Republic, Kalmikya Republic and Astrakhan Oblast (1980-th-2000)</p> <p>4. Data on the water use for different needs</p> <ul style="list-style-type: none"> <li>• by industry</li> <li>• for the municipal water supply</li> <li>• for irrigation and agricultural water supply</li> </ul> <p>by Dagestan Republic, Kalmikya Republic and Astrakhan Oblast (1980-th-2000 years)</p> <p>5. The information on circulated water supply in Dagestan Republic, Kalmikya Republic and Astrakhan Oblast by Dagestan Republic, Kalmikya Republic and Astrakhan Oblast</p>

	(1980-th-2000 years)
<b>The problem of biodiversity conservation</b>	<p>1. Information on protected territories, the area of protected territories, location of protected territories - from the creation of every zapovednics, zacazniks or national parks-2000 year.</p> <p>2. Information about protected species from the creation of every zapovednic, zacaznik or national park – 2000 year.</p>
<b>II. The fish resources problem</b>	<p>1. The trade fishes number (1910-th-2000 years)</p> <p>1. The fish catches (1910-th-2000 years)</p>
<b>III. The air pollution</b>	<p>1. Information on pollutants emissions by stationary sources in cities – 1980-th-1999 (total emissions, particles, SOx, NOx, CO, VOC, HCl, F compounds, Cl compounds, H2S, heavy metals and As)</p> <p>by mobile sources in oblasts and republics 1980-th-1999 (total emissions, particles, SOx, NOx, CO, VOC)</p> <p>2. The information on pollutants concentrations in observing points (as a rule, in big cities) of region (1950-th-1997 years)</p>
<b>Wastes generation, utilization and disposal problem</b>	Information on hazardous industrial wastes generation, utilization and harmless render by Dagestan Republic, Kalmikya Republic and Astrakhan Oblast by Dagestan Republic, Kalmikya Republic and Astrakhan Oblast – 1980-th –2000 years.

## Relevant ongoing or planned related projects or programs

1. **Federal Targeted Program «The improvement of Environmental situation on Volga and it's inflows and the prevention of Volga Basin natural ecosystems degradation (FTP «Volga survive»)** The program was adopted by the Order of Government of Russian Federation N 95-p from 02.02.1996
2. **The Federal targeted program «The decision of social, economic and industrial problems caused by Caspian Sea transgression» (FTP «Caspj»)** The program was adopted by the Order of Government of Russian Federation N 328-p from 23.03.1996
3. **Federal Targeted Program «Jug Rossii» («The South of Russia»)**. The program was adopted by the Order of Government of Russian Federation N 632-p from 03.05.2001 and included into the list of Federal programs which will be supplied by budget since 2002.
4. **“The Federal Targeted Program of social and economic development of Kalmykia Republic and kalmyk people”**. The program was adopted by the Order of Government of Russian Federation N 303 from March 14, 1997. The target of Program is provision of social and economic development of Republic of Kalmikya.
5. **Caspian Environment Program--** (CEP) is a regional programme developed for and by the five Caspian Littoral States, Azerbaijan, Iran, Kazakhstan, Russia and Turkmenistan, aiming to halt the deterioration of environmental conditions of the Caspian Sea and to promote sustainable development in the area.

### 6. “Caspian floating University” IOC/UNESCO Project

The information on the Project initiation and realization is located on UNESCO web-site:

[http://ioc.unesco.org/iocweb/about\\_ioc/structure/govbodies/ec33/docs/inf-1141.pdf](http://ioc.unesco.org/iocweb/about_ioc/structure/govbodies/ec33/docs/inf-1141.pdf)

7. **ISAR's Caspian Program for strengthening partnerships among NGOs working on environmental problems of the Caspian Basin.**

The projects implementing within the Program in Russia:

7.1. CasplInfo Project was initiated in 2001 within ISAR's Caspian Program for the Caspian environmental information storage and free exchange.

- CasplInfo Service – the database on the Caspian region environmental issues information with the summaries on Russian and on English
- CasplInfo Library – have official governmental and international documents, reference books, reports, outlooks, scientific and methodological literature
- Forum of environmental organizations
- Useful links and contacts
- The archive of news

7.2. The supporting of Caspian region ecoNGO's e-mail development

The project provides mini-grants (about \$400) for equipment purchase and e-mail payment. The training on Internet and e-mail use are implemented within the project.

### 8. **The complex development of Caspian Sea northern part islands, implemented by JSC “Kalmneft”.**

*The financial supporting of zapovedniks and sajak population supporting are implemented within the project*

*“The Kalmykia – is prairie in Europe” since 2000 year. The Internet-address is [www.kalmneft.ru](http://www.kalmneft.ru)*