

Education for Sustainable Development: Russian-Swedish Project

RUSSIAN SUSTAINABILITY NewsLETTER



Special Issue. June 2011

This issue includes...

Environmental aspects of the priority areas in the modernization of Russia
World Environment Day
Meeting of the Presidium of the State Council on Environment
Russia has ratified the Stockholm Convention on elimination of persistent organic pollutants

Memorandum of understanding between Norway and Russia
Environmental management in Russia:
Federal Agency for Water Resources
Who is who in Russia: Rosvodresursy
Sociology on Ecology
The attitude towards nuclear energy in Russia
Conference on innovation in alternative energy

Environmental aspects of the priority areas in the modernization of Russia

The twenty-fifth session of the Commission on the modernization and technological development of the economy, which took place on the 27 June this year, was devoted to environmental issues in the priority directions for modernization in Russia. The meeting of the commission was led by its chairman, Russian President *Dmitry Medvedev*. The issues discussed at the meeting covered creating a system for monitoring environmental conditions from space, the development of "green" or renewable energy, and the improvement of the safety systems for reactors for nuclear power plants and processing of nuclear waste.



The meeting of the Commission on modernization and technological development of the Russian economy, June 27, 2011.

Photo of the press service of the President of Russia.

Below follow the most significant excerpts from the speech of the President of Russia from the standpoint of environmental policy:

«Environmental requirements - and here we have yet to change the thinking - should not be considered by the business as something exotic or some kind of "public service" that is conducted only to please their boss or not to provoke environmentalists. This is one of the win-win ways to improve the

competitiveness of domestic products on the world markets. It is this most countries now do. The leaders have long understood that an innovative product should not only be attractive, interesting, ergonomic and low-cost - it must also be environmentally sound».

«Today I will mention several promising projects on which we must concentrate our attention in the near future.

The first is to create a system for monitoring environmental conditions from space. Thanks to satellites it is now possible not only to operatively receive such information, but also to control the movement of environmentally hazardous goods, the state of forests, which is especially important in summer, in particular, the state of glaciers, and the work of nuclear power plants. However, space systems require a fairly significant cost. Therefore, it is necessary to create legal and organizational conditions to attract to this area not only public investment, which is what we have been doing the latest years, but also to try to turn this area into an area of public and private partnership (including issues of environmental monitoring)».

«The second project is the so-called "green" or alternative energy. Its share in total energy produced by us, given the fact that we are the largest hydrocarbon country, is prohibitively low (less than 1%). We are not just significantly inferior to European partners, but in fact, have done nothing so far in this field. Germany, for example, as one of the leading countries in this area, plans to increase the share of renewable energy at the end of the decade to 35%».

«The third is the implementation of pilot programs in certain regions with the aim to replace public transport with cheap electric or hybrid cars. Already in many cities the situation is very serious - in summer it practically impossible to breathe, and, of course, this kind of cars with electric and hybrid engine can change the situation radically. For example, if just the engines in the public and freight transport were replaced, emissions into the atmosphere would easily drop by half. Although, of course, to do this is very difficult. In any case it is necessary to support development in this area. Also, I would still like to hear from the government what will be done to meet the deadlines for the introduction of environmental standards in the production and consumption of automobile fuel».

«I will touch separately on climatic factors in the modernization of the economy. There is the Kyoto Protocol, which will soon complete its existence. In my opinion, we are not using these possibilities as we should. It is necessary to accelerate the selection and approval of relevant projects. We are losing not only time here, but also investors who might come into the industry. It is necessary to prepare proposals of joint initiatives directly into energy-saving and environmental protection projects».

«Particular attention to the nuclear industry. Russia will, of course, continue to engage in the development of nuclear energy, and improving the security of nuclear reactors at the power plants. Serious research should be conducted in the field of processing of nuclear waste. We need to understand what will happen with that legacy».

«In closing, I would like to point out one thing, indisputable, in my view, that all the commitments, all beautiful and true words about the environment that are commonly recited aloud, are worth nothing unless they materialize into specific government and, most importantly, business support of innovative projects of environmental orientation. That is the task that stands today as the major one».

At the meeting of the commission, the Minister of Natural Resources and Environment *Yu P Trutnev* presented the report "Modernization of environmental monitoring system". More at <http://президент.рф/новости/11755>.

World Environment Day

On June 10, the Day of the Environmentalist was celebrated at the State Duma of the Russian Federation in honour of the World Environment Day . The Environmentalist Day is a professional holiday for all Russian environmentalists, experts in environmental protection, public figures and environmental activists. It is celebrated annually on 5 June, the World Environment Day. The Environmentalist Day in Russia was established by a decree of President *Vladimir Putin* on July 21, 2007 on the initiative of the Environmental Committee of the State Duma.

The participants of the ceremonial assembly were greeted by *E A Tugolukov*, Chairman of the Committee on Natural Resources, Environment and Ecology of the State Duma of the Russian Federation; and from the Ministry of Natural Resources and Environment of the Russian Federation and the Federal Service for Supervision of Natural Resources by *VV Kirillov*, Director of Rosprirodnadzor.

As part of the World Environment Day - Environmentalist Day celebration, the competition "National Environmental Award" for 2011 was summed up, the winners of which were:

1. *Rustam Minnikhanov* for environmentally sustainable development of the Republic of Tatarstan;
2. *Sergey Shoigu* for consistency in managing the liquidation of disastrous fires in the summer of 2010;
3. *Olga Yakovenko* for her contribution to mainstream environmental issues and support non-governmental organizations and movements.

The world-famous photographer *Yann Arthus-Bertrand* also took part in the celebration of the World Environment Day - Environmentalist Day, arriving in Moscow with his joint project with *Luc Besson* called "Home", which was presented to all the participants of the ceremonial assembly. According to the decision of the organizing committee and the jury of the National Environmental Prize, *Yann Arthus-Bertrand* and *Luc Besson* were awarded the Vernadsky medal "For contribution to sustainable development" for developing the global environmental dialogue.

Yann Arthus-Bertrand, in his turn, greeted everyone present and thanked the non-government environmental organizations for his nomination for the Vernadsky medal of . The ambassador of France to Russia *Jean de Gliniasti* expressed his gratitude on behalf of *Luc Besson*.

Meeting of the Presidium of the State Council on Environment

The meeting of the Presidium of the State Council on the Environment was held on June 9, 2011 in Dzerzhinsk (Nizhny Novgorod region). In the meeting, the Minister of Natural Resources and Environment *Yuri Trutnev* reported to President *Dmitry Medvedev* on measures taken to ensure environmental safety and the elimination of accumulated environmental damage.

Yu. Trutnev noted that the most important work in the period since the previous meeting of the State Council (May 27, 2010) was the preparation and coordination with all federal executive bodies and representatives of the business community of six bills aimed at improving environmental legislation, emphasizing that this work is carried out for the first time in 20 years.

Three draft laws are in the State Duma (two of them have already been passed on the first reading), the other three have been submitted to the Government of the Russian Federation. Separately, the Minister focused on the draft law on improving the system of regulation and economic incentives in environmental protection, calling it the most difficult bill.

The legislative initiatives of the Russian Ministry of Environment and Natural Resources were supported by the participants of the meeting, and the need to accelerate the adoption of all the bills prepared, while preserving their concepts, was noted.

"The issues of liquidation of accumulated environmental damage are so acute that it would be wrong to wait for legislation reforms without taking any steps. We have started working out models of rehabilitation of areas this year," said Trutnev. He informed about the measures taken by the Ministry of Natural Resources and Environment of Russia in this direction: inventory of contaminated areas, pilot projects of cleaning up such areas, drafting of legislation on the elimination of accumulated environmental damage and the economic revitalization in the area of waste management, as well as preparation of the concept of the federal target program "Russia's environmental security".

Russia has ratified the Stockholm Convention on elimination of persistent organic pollutants (POPs)

Russian President *Dmitry Medvedev* has signed the instrument of ratification of the Stockholm Convention on Persistent Organic Pollutants (POPs), which aims to reduce the use and the total elimination of POPs posing a threat to human health and the environment, reported the Kremlin press service on Monday 27 June this year.

The list of banned substances includes aldrin, chlordane, dieldrin, endrin, heptachlor, hexachlorobenzene, mirex, toxaphene, polychlorinated biphenyls. These substances are widely used in industry and may either be by-products of technological processes, or specifically created, such as in the case of pesticides. In addition, these pollutants possess toxic properties and are resistant to degradation. They can be transported by air or water, migratory fish, animals or birds.

At present, Russia has no industrial production of chemicals regulated under the Stockholm Convention. However, many of these substances were produced in the USSR.

"The Convention provides for the development of a national (state) plan of implementation of the Convention, in which mechanisms will be identified for decommissioning of equipment (transformers and capacitors) containing POPs and disposal (destruction) of waste and pesticides covered by its action," it says in the message.

The replacement of these devices is planned according to wear and ending of their operational period; this process will be completed by 2028 - the timetable has already been drawn up. The Convention of 22 May 2001 has been ratified by 173 states. Russia signed it in New York on 22 May 2002.

Memorandum of Understanding between Norway and Russia

On June 21, 2011, a Memorandum of understanding between the Ministry of Natural Resources and Environment of the Russian Federation and the Ministry of Petroleum and Energy of Norway was signed at the Russian Ministry. The document was signed by the Minister of Natural Resources *Yuri Trutnev* and the Norwegian Minister of Petroleum and Energy, *Ola Borten Moe*, within the framework of the Russian-Norwegian dialogue on the use of oil and gas resources and the environment.

The Memorandum of Understanding reaffirms and continues the dialogue between the countries in

managing oil and gas resources, the environment, as well as on the promotion of investment projects with companies of these states.

The meeting focused on the practical implementation of the Treaty on Maritime Delimitation and cooperation in the Barents Sea and Arctic Ocean, which was signed on September 15, 2010, and will come into force on July 7, 2011. The parties noted that the Memorandum of Understanding is the first document that testifies to the willingness of both countries to begin work on the implementation of the treaty.

According to Yuri Trutnev, "signed after negotiations that lasted 40 years, the treaty on the delimitation of maritime boundaries shows the possibilities for coordinated work and the development of mutually beneficial cooperation". Speaking about relations between Russia and Norway, the Head of the Ministry of Natural Resources and Environment of Russia said that both countries are leading oil and gas powers and play an important role in the energy balance of the planet.

During the meeting the parties discussed the improvement of legislation regulating the use of natural resources. Trutnev noted that the Russian Ministry of Natural Resources and Environment is developing a number of bills toughening environmental requirements for the oil and gas sector, which is especially important when working in the fragile environment of the North. In addition, the Russian Federation has introduced new regulations on utilization of associated gas; the figure for 2012 will be increased to 95%. The head of the Russian Ministry of Natural Resources and Environment said that it is necessary to adhere strictly to deadlines when implementing these requirements.

During the negotiations, the parties agreed on the need to expand common interests, strengthen and improve them.

Within the framework of the negotiations, a Russian-Norwegian meeting on the prospects for exploration in the Barents Sea and Arctic Ocean was held. From the Russian side attended Deputy Minister of Natural Resources and Environment *Sergei Donskoy*; the Norwegian side was represented by *Pål Haremo*, senior vice-president of Statoil.

The parties agreed that the issuance of licenses in Russia and Norway to offshore operations could begin in 2013-2014. Until that time, a series of regional geophysical studies, as well as environmental impact assessment, will take place.

Joint development of prospective oil fields was also discussed at the meeting. Given the harsh environment of the North, the lack of infrastructure and the technological issues, the parties expressed their willingness to explore the possibility of participating in joint Russian-Norwegian projects and creating consortiums for their implementation. In this regard, S. Donskoy said that the Russian Ministry of Natural Resources and Environment is preparing proposals for the development of legislation regulating the activities on the shelf, and is also involved in improving the tax regime for investment in offshore projects.

Environmental management in Russia: The Federal Agency for Water Resources

In accordance with government regulations, the Federal Agency for Water Resources (Rosvodresursy) is a federal executive authority responsible for providing public services and management of federal property in the area of water resources. It is administered by the Ministry of Natural Resources and Environment, and operates directly or through its regional offices (including basin ones) and through

subordinate organizations in collaboration with other federal executive bodies, executive bodies of subjects of the Russian Federation, local self-government, public associations and other organizations.

The Federal Agency for Water Resources, which was given law enforcement functions and functions of providing public services and property management in the field of water resources, was created on March 9, 2004 by V V Putin's presidential decree "On the system and structure of federal bodies of executive power". With the creation of the Federal Agency for Water Resources, departmental divisions in the management of water bodies of the country were overcome.

Main functions of the agency:

- Provision, within its competence, of measures for rational use, restoration and protection of water bodies, prevention and elimination of harmful effects on water;
- Granting of the right to use water bodies in federal ownership;
- Operation of multi-purpose reservoirs and water systems, and of safety and other hydro-technical structures under the jurisdiction of the Agency, ensuring their safety;
- Development, in the prescribed manner, of schemes of complex use and protection of water resources, water balances and forecasts of water resources and long-term use and protection of water bodies;
- Ensuring the development and implementation of control measures, measures for the design and establishment of [water protection zones](#) of water bodies and riparian buffer zones, prevention of water pollution;
- Providing public information services related to the condition and use of water objects in federal ownership;
- Maintain public register of contracts to use water bodies, the State Water Cadastre and Russian Water works Register, state monitoring of water bodies, public accounting of surface and groundwater.

Postal address: 117292, Moscow, ul. Kedrova 8, corpus 1

Phone: (499) 125-52-79 Fax: (499) 125-22-36 E-mail: admin@cbi-mpr.ru

Who is who in Russia: Rosvodresursy



The Head of the Federal Agency for Water Resources is **Marina Valeryevna Seliverstova**.

She was born on March 8, 1963 in Ulyanovsk. In 1991 she graduated from the Moscow Institute of Law. She was trained in the graduate school of the Russian State Service Academy under the President of the Russian Federation, Department of public administration and public legal service.

1980-2002: Work in representative and executive bodies of state power, bodies of local self-government organizations. 2002-2003: Head of Monitoring and organizational-methodical work of the Volga Federal District Inspectorate of the Main Control Directorate of the RF President Office of the Plenipotentiary Representative of RF President in Volga Federal District, Nizhny Novgorod. 2003-2004: Vice-President of the Independent Association of Engineers, Moscow. July 2004-January 2005: Head of the Economic and

Legal Service of the Federal Water Resources Agency, Moscow. On January 24, 2005 she was appointed deputy head of the Federal Agency of Water Resources by order of the Minister of Natural Resources and Environment of Russia, Yu P Trutnev. On July 15, 2009, she was appointed head of the Federal Agency of Water Resources by order of Prime Minister Vladimir Putin.



Deputy Head of the Federal Agency for Water Resources **Vasily Nikolaevich Kuryanov.**

Born June 2, 1958 in Polotsk, Vitebsk, the Byelorussian SSR. In 1981 he graduated from the Polytechnic Institute of Novopolotsk as civil engineer, in 1991 from the Russian socio-political institution of the RSFSR Communist Party on political science, teacher of social and political sciences, and in 1995 from the Diplomatic Academy of the Russian Foreign Ministry as a diplomat. 1995 he defended his Candidate thesis at the Diplomatic Academy and in 1999, his Doctoral thesis.

Over the course of his working life he has held several executive positions in business, party and political organizations. From 1995 he was in the diplomatic service of the Ministry of Foreign Affairs of the Russian Federation. From August 2000 he worked in the Russian Presidential Administration. From 2004 to February 2008, he headed the Department for Cooperation with the Federal Assembly of Russian Federation and the political parties of the Russian President for Domestic Policy.

Supervises: Administrative office, civil service and personnel.

Deputy Head of the Federal Agency for Water Resources **Alexander Nikolaevich Dombrovsky.**

Born September 20, 1964 in Sverdlovsk. In 1989 he graduated from the Krasnodar Polytechnic Institute in the area "Roads" and in 1996 graduated from the Kuban State Technological University, in the area "Finances and Credit", in 2008 he graduated from the Krasnodar University of the Russian Federation Ministry of Internal Affairs, with the specialty "Jurisprudence". Ph.D., assistant professor. Author of one textbook, five educational booklets, two monographs and more than 100 scientific papers.

Served in the Armed Forces of the USSR from 1983 to 1985. He began his career working with roads in the agriculture complex "Kuban" in the Krasnodar region. He worked as a laboratory engineer in the department of the Krasnodar Polytechnic Institute. From 1989 to 1992 he was a graduate of the Kiev Automobile and Road Institute. From 1992 to 1997: Assistant, Head of the Krasnodar Polytechnic Institute. From 1997 to 2001: Head of department, deputy head of socio-economic studies and expertise of the Legislative Assembly of Krasnodar Region. From 2001 to 2010: Head of treasury and financial management; Deputy Director of Finance, First Deputy Head of the Department of Finance Administration of Krasnodar. On December 7, 2010 he was appointed Deputy Head of the Federal Agency of Water Resources by order of the Minister of Natural Resources and Environment Yuri Trutnev.

Supervises: Property management, informatics and science

Deputy Head of Federal Agency for Water Resources **Vadim Anatolyevich Nikanorov.**

Born on February 28, 1960 in Grozny, the Chechen Republic. In 1982 he graduated from Rostov State University, majoring in Hydrogeology and Engineering Geology, he qualified as an engineer-geologist. On the job he fulfilled postgraduate studies at the Novocherkassk Polytechnic Institute, he is a Candidate of

Geological and Mineralogical Sciences, author of scientific works in the field of water management, a professor of Novocherkassk State Academy of Reclamation.

From 1982 to 1995 he worked as a hydrogeologist, as head of a desk, leading hydrogeologist of Kavminvodskoy hydrogeological expedition in Inozemtsevo, Stavropol Territory. From 1995 to 1997: Director of Zheleznovodsk branch of the BNF company. From 1998 to 2011, Nikanorov was working in public service, first as principal hydrogeologist, senior specialist at the department of geology and X resources expertise of the Natural Resources Committee in the Rostov region, then as the Deputy Head of the Department of Natural Resources of the Southern region of the Ministry of Natural Resources of Russia - head of the service for management and protection of water resources in the Rostov region, head of the Division of State Water Control of the Department of the State Control and Prospective Development of Natural Resources and Environment at the Ministry of Natural Resources of Russia in the Southern Federal District, chief of department of management and protection of water bodies of the Committee on Environment and Natural Resources at the Administration of the Rostov region.

From 2004 to 2011: Head of the Don Basin Water Management of the Federal Agency of Water Resources. On January 17, 2011 he was appointed Deputy Head of the Federal Agency of Water Resources by order of the Minister of Natural Resources Yuri Trutnev.

Supervises: Management of water resources and control of water management activities.

Sociology on Ecology

In connection with the Day of the Environmentalist, Levada-Center held a Russia-wide poll on the state of the environment in Russia.

The survey revealed that 40% of Russian citizens consider the situation with the environment in their localities good, while 59% of respondents expressed concern about the situation. It should be noted that, according to a similar survey conducted in 2008, the number of respondents satisfied with the environment was 7% lower. Thus, in recent years, there is some reduction in the number of Russians who feel the environmental conditions in their villages and neighborhoods are poor.

According to the sociologists, the environmental conditions are seen as unsatisfactory by residents of Moscow more often than others - 84%, among them a third called the conditions very bad. According to a poll, Muscovites are most concerned by gas contamination of the air, climate change, water pollution, chemicals in food, bad drinking water, elevated levels of noise and radiation.

The second city, with which the inhabitants are most unhappy, is Chelyabinsk, where 74% of inhabitants spoke negatively about the situation with the environment. But if the capital's residents worried about the endless traffic jams, fumes and cutting down forests, people in Chelyabinsk are more concerned with industrial production in the precincts of settlements.

The cleanest in the opinion of the people are Ufa and Novosibirsk. In the northern capital one third of the population is happy with the environment. A quarter of the Russian citizens in general is not at all interested in the ecological situation, sociologists found, but people are most concerned about garbage collection, production plants within the boundaries of settlements, transport, and cutting of vegetation.

The survey was conducted on a representative sample of the All-Russian rural and urban population of 1,600 people aged 18 years and older in 130 localities in 45 regions of the country. The distribution of answers is given as a percentage of total respondents, together with figures from previous surveys. The statistical error in the data of these studies does not exceed 3.4%.

In parallel with Levada-Center's survey, a study of public opinion was conducted on the portal Superjob.ru (in 16 major Russian cities). According to this survey, the residents of Ufa and Novosibirsk are more satisfied than others with the environmental conditions in their native city. "In our town, the environment is more or less clean, our services are watching this carefully," local respondents commented.

The inhabitants of Khabarovsk and Ufa are more likely to call the environmental conditions in their cities 'okay' (43%). Judging by the comments of respondents, the situation could be improved by increasing the number of green spaces and better garbage collection.

Satisfied with the state of the environment is over a third of the inhabitants of Novosibirsk, Voronezh, Kazan (35%): "It is overall ok, but there are many neighborhoods, especially in the suburbs, which have long remained untouched by a street-sweeper ", "There should be more parks, as well as projects greening rooftops of low-rise buildings".

Noticeably harder to breathe is it for the residents of Chelyabinsk and Moscow - the vast majority of residents (76% and 74% respectively) feel the environment in their cities is bad. The population of "the iron capital" is angered by the scale of factory emissions and the omissions of the authorities who do not take any action against violators of environmental legislation.

In turn, Muscovites condemn the cutting of green areas, and suffer from the abundance of hazardous industries located in the city: "The city has terrible environmental conditions. In Moscow there are many industries that should be moved outside the city. This process is going on, but very slowly."

Against the background of Moscow, the Northern capital is looking much better - the environmental situation in the city is okay says 30% of respondents (versus 19% in Moscow), bad - 60%.

The attitude towards nuclear energy in Russia

Most Russians (57%) favor the abandonment of nuclear power in Russia, as it is considered unsafe, shows a survey of the Russian Public Opinion Research Center (VCIOM), published June 16 this year.

Safety checks of nuclear power plants began around the world after the devastating earthquake and tsunami on March 11 in Japan. As a result of the natural disaster, a series of accidents caused by failure of the cooling system was recorded at nuclear power plant Fukushima-1. At the station, several leaks of radiation were revealed, which led authorities to evacuate people from a 20-kilometer zone around the plant.

After the Fukushima accident, residents of a number of European countries have opposed the use of peaceful nuclear energy. In particular, at a national referendum in Italy the vast majority of citizens voted against the resumption of nuclear energy in the Apennines, which the Italians abandoned already in 1987 after the Chernobyl accident.

According to the survey, only 20% of respondents are opposed to Russia's refusal of nuclear energy. Among the supporters of this idea are, above all, rural residents (62% of village dwellers) and less educated respondents (62% of respondents without higher education), and also Russians with middle and low income (59% of respondents in these groups).

The main argument of the supporters of refusal of nuclear energy is improving the safety of life and environmental improvement (68%). Thus explain their position, especially, residents of large cities (73%

of megacities) and less educated Russians (78% of people without higher education). Also 24% of the supporters of rejection of the peaceful atom state as their argument the fact that alternative sources are safer and more economical. This view is most characteristic for inhabitants of Moscow and St. Petersburg, as well as highly educated respondents (33% of all groups).

Those who object to stop the nuclear power plants are convinced that Russia cannot exist without nuclear energy (38%), that there are not enough alternative sources of energy so far (16%), that nuclear power is safe when used properly (13%) and that it is beneficial to our economy (11%), and also that such a move would lead to raised electricity prices (4%).

The All-Russia opinion poll was conducted by VCIOM June 11-12, 2011. 1.6 thousand people were surveyed in 138 settlements in 46 regions, territories and republics of Russia. The statistical error does not exceed 3.4%.

Conference on innovations in alternative energy

The issue of innovation in alternative energy is becoming more popular in Russia. Another evidence of this was the VIII International Conference "Renewable and Small-scale Energy 2011", held June 7-8, 2011 in the Krasnaya Presnya Expocentre.

At the conference, it was noted that the development of these issues in Russia is primarily associated with the increased price of electricity supplied from centralized networks, as well as the difficulty of private farms, cottages, villages and newly built industrial sites in connecting to these networks, but also with purely environmental aspects.

The conference discussed the current state of legislation on renewable energy sources, current issues of development and application of various technical systems that use solar, wind, small streams, low potential energy of the earth and other sources. The latest achievements in the development and production of power systems for renewable energy were presented.

The conference presentations will be published in the journal "Energy Strategy" and other publications.

The conference was prepared and conducted by the Committee on the use of Renewable Energy of the Russian Union of Scientific and Engineering Non-Governmental Organizations, the Russian Academy of Engineering and the Krasnaya Presnya Expocentre. It was headed by *P P Bezrukikh*, Doctor of Technical Sciences, Academician and Secretary of the Energy section of the Russian Academy of Engineering, Chairman of the Committee on the use of renewable energy sources.

Sources: Ministry of Natural Resources and Environment of Russia, Federal Agency of Water Resources, Rosgidromet, Rosprirodnadzor, RTN, other official sources, own information.