Report of the Russian National Committee for the IHP to the XX Session of the Intergovernmental Council for the IHP of UNESCO
(June 2012)
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Introduction
The present report is prepared at the State Hydrological Institute on the basis of materials received from the following agencies and organizations:

- State Hydrological Institute of Roshydromet (SHI)
- State Oceanographic Institute of Roshydromet (SOI)
- State Hydrochemical Institute of Roshydromet
- All-Russian Research Institute of Hydrometeorological Information of Roshydromet
- Caspian Marine Scientific and Research Center of Roshydromet
- Federal Agency for water resources (RosVodResursy)
- Moscow State University
- Institute of Geography RAS
- Russian State Hydrometeorological University (RSHU)
- Institute of Water Problems RAS
- Institute of Water and Ecological Problems SB RAS
- Institute “Hydروproject”

The Report is prepared according to the structure, format and volume developed at the UNESCO IHP Secretariat.
1. Activities undertaken in the period June 2010 – May 2012

1.1 Meetings of the IHP National Committee

Decisions regarding the composition of the IHP NC of Russia

The NC of Russia (hereinafter the NC) exists since the time when International Hydrological Programmes of IHD/IHP were launched by UNESCO; the personal composition of the NC, however, has been renewed periodically. The present NC composition was nominated by a decision of the Russian Government in 2003. The Chairperson of the NC is the Head of Roshydromet Dr Alexander V. Frolov, the deputy Chairpersons are Academician Victor M. Kotlyakov, Director of the Institute of Geography RAS, and Dr Vladimir Yu. Georgievsky, Director of the State Hydrological Institute of Roshydromet (in accordance with the NC decision of 19.10. 2011 and the appointment order № 635 of 29.11.2011 issued by the Head of Roshydromet). At present the Committee consists of 21 members – scientists and specialists known both in Russia and all over the world, representatives of different ministries, departments, organizations and institutions who actively work in the fields of hydrometeorology, water resources, water management, education and training.

Main points discussed

In 2010-2012 the NC performed its activities in accordance with the following plan:

1. In 2010 two meeting were held at which current and future activities within the framework of IHP-VII were discussed. The meetings considered the results of the most important projects in the fields of hydrology and water management implemented in Russia and developed a general strategy of the NC on the key issues of international cooperation in the above mentioned fields, in particular with participation of the Russian delegation in the 19th session of the IHP Intergovernmental Council.

2. In 2011 two meetings were held which discussed proposals of the NC on participation in the IHP-VIII which had been submitted to the UNESCO IHP Secretariat, as well as priority areas of scientific research within the framework of the Federal Target Programme “Development of water sector of the Russian Federation until 2020” which may constitute a contribution to the next IHP phase.

The main topics of the reports at the NC meetings are as follows:

- Transboundary underground water resources and perspectives of their use.
  Speaker – Prof. I. Zetsker

- On the activities of the International Data Centre on Hydrology of Lakes and Reservoirs.
  Speaker – V. Vuglinsky

- On the results of work of delegation of the Russian NC at the 19th session of the Intergovernmental Council for the IHP of UNESCO and plan of activities for 2011.
  Speaker – O. Gorelits

- On participation in the International Symposium “Floods – a global problem that needs local solution” held by the International Centre for Water Hazard and Risk Management (ICHARM) under the auspices of UNESCO.
  Speaker – Z. Kopaliani

- Proposals of the Russian NC on participation in the UNESCO IHP-VIII (preparation of action plan).
  Speaker – Zh. Balonishnikova

- Elaboration of priority areas of scientific research in the system of Ministry of Natural Resources of Russia to meet strategic needs of water sector of the Russian Federation in accordance with Water Strategy of the Russian Federation until 2020.
  Speaker – M. Bolgov
1.2 Activities at international level in the framework of IHP

1.2.1 Status of IHP activities and contribution to IHP-VII

During the reporting period, the NC implemented activities at national and international levels on the following IHP-VII Themes:

Theme 1: Adapting to the impacts of global changes on river basins and aquifer systems
- Focal Area 1.1 – Global changes and feedback mechanisms of hydrological processes in stressed systems
- Focal Area 1.2 – Climate change impacts on the hydrological cycle and consequent impact on water resources
- Focal Area 1.3 – Hydro-hazards, hydrological extremes and water-related disasters
- Focal Area 1.4 – Managing groundwater systems’ response to global changes
- Focal Area 1.5 – Global change and climate variability in arid and semi-arid regions

Theme 2: Strengthening water governance for sustainability
- Focal Area 2.2 – Capacity development for improved governance; enhanced legislation for wise stewardship of water resources
- Focal Area 2.4 - Managing water as a shared responsibility across geographical and social boundaries
- Focal Area 2.5 - Addressing the water-energy nexus in basin-wide water resources

Theme 3: Ecohydrology for sustainability
- Focal Area 3.1 - Ecological measures to protect and remediate catchment processes
- Focal Area 3.2 - Improving ecosystem quality and services by combining structural solutions with ecological biotechnologies
- Focal Area 3.3 - Risk-based environmental management and accounting
- Focal Area 3.4 - Groundwater-dependent ecosystems identification, inventory and assessment

Theme 5: Water education for sustainable development
- Focal Area 5.1 - Tertiary water education and professional development
- Focal Area 5.2 - Vocational education and training of water technicians
- Focal Area 5.3 - Water education in schools

During the reporting period, the NC Executive Secretary O. Gorelits took part in current activities of Commission of the Russian Federation for UNESCO. Prepared were documents concerning cooperation with National Committees of the IHP Intergovernmental Council Member States. On the request of Mr Badarch, Director of the UNESCO Moscow Office, the Executive Secretary took part on 13 March 2012 in the presentation of the 4th edition of the UN annual report “Managing Water under Uncertainty and Risk” held in the UN Information Center in Moscow. On this occasion, a presentation of cooperation since 2008 between the NC and the UNESCO Moscow Office was prepared. The presentation was submitted to the UNESCO Moscow Office and the report from the event was made available on the UNESCO Moscow Office and the NC RF official web sites.

19-20 April at the European regional office (bureau) UNESCO (Venice) held a seminar and conference on the PSI-Connect program – «Connecting Policy and Science through Innovative Knowledge Brokering in the field of Water Management and Climate Change» http://www.psiconnect.eu/, and also meeting of secretaries NC IHP UNESCO European cluster (in t.ch.Rossiya). Executive Secretary of the National Committee took part in this event with the presentation on the activity of the IHP UNESCO in Russia.

The official website of NC RF for the IHP of UNESCO was launched in 2009 at www.ihp-russia.ru and renewed continuously. The information and technical basis for development and operation of the site have been provided by the State Oceanographic Institute. The site contains information on the IHP objectives and tasks, as well as documents describing the structure and governing bodies. The site is regularly updated with the IHP Secretariat newsletters and information on forthcoming IHP events. The site is provided with a download counter. The statistics show that the newsletters have been downloaded by more than 50 visitors during one
month, which indicates real website traffic. NC RF is planning to use the site as a tool for communication and sharing information between National Committees of the CIS countries.

1.2.2 National scientific and technical meetings

One of the most important events undertaken during the reporting period was organization of the Second Meeting of Responsible Representatives of UNESCO IHP National Committees of CIS Countries. It was held on the proposal of the NC of Russian Federation supported by the Commission of the Russian Federation for UNESCO. Roshydromet adopted a decision to hold the Second Meeting of Responsible Representatives of UNESCO IHP National Committees of CIS Countries which took place on 18-19 October 2011 at the State Hydrological Institute (SHI), St. Petersburg, Russia, with the support of the UNESCO Moscow Office. The meeting was chaired by the Head of Roshydromet Dr A. Frolov.

Heads and responsible representatives of NCs of Azerbaijan, Armenia, Belarus, Kyrgyzstan, Moldova, Russian Federation, the Ukraine, Uzbekistan, Tajikistan, representatives of the UNESCO IHP Secretariat and the Bureau of the IHP Intergovernmental Council, the representative of the CIS Executive Committee, members of the NC of Russian Federation, scientists from the State Hydrological Institute, State Oceanographic Institute, Arctic and Antarctic Research Institute, Russian State Hydrometeorological University, Institute of Water Problems RAS and Institute of Water and Ecological Problems SB RAS participated in the meeting.

The meeting addressed a range of key problems and tasks in the field of hydrology and water resources both in the world and CIS countries taking into account their specific features and priorities, analyzed the efficiency of the CIS countries activities during IHP-VII, discussed progress and weak points of international cooperation within the framework of IHP, possibilities of raising internal and extrabudgetary funds and enhancing administrative resources, planning of cooperation and coordination of activities, elaboration of a joint strategy and programme for effective cooperation with UNESCO Member States and between National Committees of CIS countries.

As a result of the discussion and exchange of opinions on the reports and presentations contributed by responsible representatives, recommendations were adopted on the most urgent and top-priority lines of cooperation between NC for the IHP of UNESCO of CIS countries within the framework of the IHP-VII “Water systems under stress and societal responses” (2008-2013). The following problems and tasks of the present-day global and regional hydrology were recognized as top-priority fields for cooperation:

- Study of climate change and economic impact on hydrological cycle and water resources (also of arid and semi-arid regions);
- Assessment, management and use of water resources, especially in transboundary basins;
- Study and forecasting of hydro-hazards, hydrological extremes and water-related disasters;
- Monitoring of water bodies and improvement of hydrological observing networks;
- Evaluation of ecological state of water bodies and water quality monitoring;
- Assessment of transboundary transport of water and non-biodegradable materials;
- Training of specialists in the field of hydrology and water resources in the CIS countries, also of highest qualification; organization of advanced training courses.

The following critical components of enhanced international cooperation and coordination of activities of NCs of CIS countries were outlined:

- Organization within the framework of IHP-VII of international conferences, symposia, workshops and meetings of the CIS countries on the most urgent problems of the present-day hydrology;
- Exchange of literature on hydrology, most recent manuals, regulatory documents, standards and technical regulations published in the CIS countries, as well as joint publications on a wide range of hydrological problems developed in the CIS countries within the framework of IHP-VII and other WMO programmes on hydrology and water resources;
- Exchange of scientists, post graduates and students, organization of educational and training courses for students in the CIS;
- Development of curricula and programs for tertiary students trained in the field of land hydrology at WMO Regional Meteorological Training Centres;
- Organization within the framework of the UNESCO IHP subject to the terms and conditions of the Agreement on training specialists for national hydrometeorological services of regular advanced training courses on hydrology and water resources addressing the most challenging subjects of hydrology for the specialists of the CIS countries with invitation of leading scientists (mainly from the CIS countries);
- Cooperation, exchange of experience and mutual assistance in the course of implementation of programmes and projects for improvement of hydrological observing networks in the CIS countries;
- Close cooperation and coordination of NCs activities with the activities of the Interstate Council on Hydrometeorology of the CIS countries.

During the meeting, concern was raised by NC responsible representatives that the UNESCO IHP Secretariat does not include a CIS representative.

It was recommended that CIS NCs conduct mutual consultations, as well as consultations with the IHP Secretariat, aimed at putting forward a CIS representative to the IHP Secretariat.

Participants agreed on the need to organize a third NCs’ meeting under the umbrella of the VIIth Hydrological Congress (October 2013) for discussion and coordination of their activities and in order to summarize their participation in the IHP-VII (2008-2013) and to plan the activities within IHP-VIII (2014-2019). In order to enhance cooperation in the field of water resources, participants consider it expedient to organize in 2013 a conference on topical issues of hydrology and ecohydrology of water bodies of CIS countries (section meeting during the Congress).

Participants expressed their hope that implementation of the outlined activities will contribute to enhanced efficiency of participation of CIS NCs in IHP-VII for solving challenging tasks in the field of hydrology, water resources, water sector, environmental protection and ecology in these countries.

In May 2010 a scientific conference with international participation “Current problems of hydrochemistry and water quality formation” dedicated to 90th anniversary of Hydrochemical Institute, the city of Azov, was organized.

Invited reports of leading Russian scientists in the field of hydrochemistry and surface water monitoring were presented at the conference.

The reports considered fundamental issues of land water quality formation under current conditions, the problem of climate and anthropogenic impact on the volume and seasonal variation of runoff, sediments and chemicals for the Russian rivers, modern techniques for evaluating and forecasting state and contamination of water bodies and possibilities of using field modeling in isolated water ecosystems for regulating permissible pollution load on water bodies.

Representatives of 28 organizations, including scientific and research institutions of the Russian Academy of Sciences and Roshydromet, Centres for Hydrometeorology and Environmental Monitoring, leading higher educational institutions, including Moscow State University (MSU), and scientific institutions of the Ukraine and Kazakhstan participated in the conference.
In May 2010 an International Scientific Conference “Groundwater resources: problems of study and use” was jointly organized in Moscow by the Faculty of Geology of MSU and the Institute of Water Problems RAS. More than 200 scientists and specialists from CIS, USA, Bulgaria and China participated in the conference. The reports considered preset-day methods for mapping and evaluating variability of natural groundwater resources, models of surface and groundwater resources interaction, as well as climate change impact on groundwater resources. Conference proceedings are published.

In May 2011 a High-level International Scientific Conference on Study and Use of Groundwater for Water Supply and Irrigation was jointly organized in Moscow by the All-Russian Research Institute of Hydrogeology and Engineering Geology (VSEGINGEO) and the Institute of Water Problems RAS under the support of the International Association of Hydrogeologists. The conference was hosted by VSEGINGEO. About 300 scientists from Russia (RAS, MSU, VSEGINGEO, Federal Subsurface Management Agency (Rosnedra), Rosvodresursy, Ministry of Natural Resources and other universities and higher educational institutions) participated in the conference. The President of IAH, representatives of the UNESCO Chair in Water Resources, scientists from Bulgaria, China and the CIS made their reports at the conference. Recommendations of the conference were submitted to the Federal Subsurface Management Agency for implementation. All conference reports are published.

In July 2011 the International Steering Committee for the International Data Centre on Hydrology of Lakes and Reservoirs (HYDROLARE) held its third meeting in the SHI. 13 representatives of GRDC, CNES/LEGOS, WMO, GCOS and ILEC participated in the meeting.

The following issues were discussed: status of HYDROLARE activities (SHI); re-designed official web site of the Centre (SHI); preliminary results of collection and processing data from outside Russia (SHI); collaboration with national and international data providers and partners; outcomes of a joint GRDC-HYDROLARE workshop held in 2010, Koblenz, Germany; integration of in-situ and satellite data (all participants).

Members of the Steering Committee noted and highly appreciated significant progress in the activities of the Centre:
- the largely re-designed website containing new important information and documents;
- development of the database including encoding system (following recommendations of WMO);
- completion of upload of data from Russia and former USSR countries into the database;
- elaboration of policy guidelines for data acquisition and dissemination;
- development and carrying out demonstration project showcasing integration of in-situ and satellite data.

The meeting adopted a work plan of the Centre for 2011-2012, as well as on-going actions until December 2012.

Efficient activities of the Centre contribute to enhanced cooperation with international hydrological organizations and improve exchange of hydrological data at international level.

In February 2012 a Meeting on Hydrology of North Eurasia was held in the SHI. The meeting discussed various aspects of hydrological consequences of changes in the state of underlying surface and climate across the North Eurasian territory. The meeting was held under the support of the University of New Hampshire, USA.

In April 2012 a workshop with participation of Russian and Japanese specialists from the Civil Engineering Research Institute for Cold Region (CERI), (Hokkaido, Japan), a subdivision of the International Centre for Water Hazard and Risk Management (Tsukuba, Japan), operating under the auspices of UNESCO, was held in the State Hydrological Institute (Workshop on
Rivers and Water Resources Engineering in Snowy Cold Regions. Participants discussed the results of applied research on rivers and water resources in cold snowy regions as well as issues related to specific character of this type of research and possibilities for exchange of experience and further research activities. As a result, a decision on collaboration was adopted and a Memorandum of Understanding was signed.

Besides, for the reporting period the various organizations and the departments, participating in the NC activity, organized the following conferences:

- The third All-Russia conference with the international participation «Fundamental problems of water and water resources» (Barnaul, 2010г.)
- V scientific and practical conference «Drinking waters of Siberia 2010» (Barnaul, 2010г.)
- II International conference «Geoinformatics: technologies, scientific projects» (Barnaul, 2010г.)
- International seminar «Climate change: an assessment of influence and consequences» within the project «Scientific and technological cooperation of EU and Russia in the field of environment» (E-URAL) of the Seventh Framework Programme of the European Union (on November 22-25, Barnaul).
- The All-Russia scientific conference «Safety problems in a water economic complex of Russia». (Krasnodar, 2010г.)
- Conference on formation of the scientific program of the International polar decade. (Sochi, 2010г.)
- X scientific and practical conference of the Ministry of Emergency Situations «Problems of forecasting of emergency situations. Assessment of risks». (Moscow, 2010г.)
- IV International Water Forum «Strategic problems of protection and use of water resources». (Minsk, 2010г.)
- International scientific conference «Climate change and water balance of the Caspian region». (Astrakhan, 2010г.)
- XIV congress of Russian geographical society. Scientific conference. (St.-Petersburg, 2010г.)
- The III All-Russia conference «Ice and thermal processes on water objects of Russia». (Onega, 2011г.)
- International scientific and practical conference «Modern problems of reservoirs and their watersheds». (Perm, on May 17-20 2011г)
- International symposium «Physics, chemistry and mechanics of snow». (Yuzhno-Sakhalinsk, 2011г)
- Meeting of Scientific council of Russian Academy of Sciences «Water resources of a land» and All-Russia scientific conference «Stability of water objects, water national teams and coastal territories; risks of their use». (Kaliningrad, 2011г)
- IV International technical symposium «Preventive geotechnical measures for reduction of natural and technogenic disasters». (Khabarovsk, 2011г)
- The IV International scientific and practical conference «Problems of preservation of ecosystem of the Caspian Sea in the conditions of development of oil and gas fields». (Astrakhan, 2011г)

1.2.3 Participation in IHP Steering Committees/Working Groups

During the period from 5 to 9 July 2010 Russian delegation participated in the 19th Session of the IHP Intergovernmental Council. The delegation consisted of NC members from various organizations, including Federal Agency for Water Resources, State Hydrological Institute, State Oceanographic Institute and Russian State Hydrometeorological University. The delegation submitted to the IHP Secretariat a comprehensive report on the activities in the period 2008-2010 compiled by the NC of Russian Federation on the basis of materials provided by all members of the NC. The delegation included:
1. M. Seliverstova, Head of Rosvodresursy, Head of the delegation
2. I. Shiklomanov, Professor, Director of the State Hydrological Institute, Doctor of Sc. in Geography, Deputy Chairman of the NC of Russia for the IHP of UNESCO;
3. O. Gorelits, Senior Scientist, State Oceanographic Institute, Executive Secretary of the NC of Russia for the IHP of UNESCO;
4. V. Sakovitch, Candidate of Sc. in Geography, Vice-rector, Russian State Hydrometeorological University;

Russian delegation participated actively in all plenary meetings of the 19th Session of the IHP Intergovernmental Council, its representatives reported on all key issues of the Agenda. Consultations were conducted during working meetings with the Secretariat and meetings of RA II countries (East and Central European countries). Representatives of the NC were elected to various IHP bodies.

Proposals of the NC addressing issues of development of scientific hydrology within the framework of IHP-VII and the planned VIII phase were adopted by the Secretariat and their implementation started in 2011.

1.2.4 Research/applied projects supported or sponsored by the NC

During the recent years a number of national scientific and technical projects in hydrology and water resources are being developed in Russia, which are supported by the NC of Russia and fully agree with purposes and objectives of the IHP-VII. Among these projects, the following should be noted which are implemented by different agencies and organizations and covering the whole territory of the country or its vast physiographic and economic regions:

- «Water strategy of the Russian Federation for the period 2020г.»; «The plan of measures on realization of Water Strategy of the Russian Federation for the period 2020г» and the Federal target program «Development of the water management complex of the Russian Federation to 2020г.», which main objectives consist of the guaranteed providing with water resources of sustainable social and economic development of the Russian Federation, preservation and restoration of water objects to a condition providing ecologically favorable living conditions of the population, in ensuring security of the population and objects of economy from floods and other negative impacts of waters, and as in development and modernization of system of hydrological monitoring.
- Implementation of the Union State programme “Improvement of the System of Providing Information to the Population and Industries of Russia and Belarus on Existing and Projected Climatic Conditions, the State and Pollution of the Environment” (contribution to Theme 1);
- Multipurpose projects implemented by the organizations within RosVodResursy on development of outlook, principles and practice for more effective management of water resources and water ecosystems in transboundary river basins. There are 70 large and medium transboundary rivers in Russia (contribution to Theme 2, Focal Area 2.4). During the reporting period, much work has been done in the field of cooperation of Russia and Estonia (Pskovsko-Chudskoye Lake) and Russia-Belarus-Latvia on joint use and conservation of water bodies.

Different aspects of the Russian contributions to the IHP-VII projects are always discussed at the NC meetings. A necessity and importance of research to be made within the framework of the IHP-VII projects at the national level are emphasized, which is a specific feature of this programme. The NC members decided to give first priority to the basic directions outlined in the IHP-VII in setting up subjects for scientific and technical studies and work of the leading hydrological and water management organizations in Russia.

Particular emphasis was focused on a necessity of active participation of Russian scientists and specialists in the implementation of those very important IHP-VII Themes where it is possible to obtain the results of a great scientific and applied importance not only for the
territory of Russia but on the global scale. These are Theme 1 (Focal Area 1.2, 1.3, 1.4, 1.5), Theme 3 (Focal Area 3.1, 3.4) Theme 5 (Focal Area 5.1, 5.2, 5.3).

1.2.5 Participation in other national and international organizations and programmes

On 18 – 21 May 2010 a workshop “Sustainable Development of Biosphere Reserves in the Volga Basin” was held in Nizhny Novgorod under the umbrella of the 12th International Scientific and Industrial Forum “Great Rivers 2010”. The workshop organized by the UNESCO Chair at NNGASU with the support of the UNESCO Moscow Office was attended by the representatives of various UNESCO committees, scientific and educational institutions. The NC of Russia for the IHP presented a detailed report on its activities, tasks and objectives within the framework of the UN International Decade “Water for Life” and IHP-VII.

On 15-18 May 2012 a Workshop on Implementation of Joint Research Programme on Enhanced Hydrometeorological Security jointly organized by Roshydromet and RAS, as well as a roundtable “Provision of programmes and works within the framework of integrated baseline monitoring of rational use of biosphere reserves” jointly organized by the NC and the Russian Committee for the Man and the Biosphere Programme of UNESCO, were held under the umbrella of the 14th International Scientific and Industrial Forum “Great Rivers (ecological, hydrometeorological, energy security)”. Representatives of Roshydromet institutions, RAS and the Volga Basin biosphere reserves participated in the roundtable discussions. It was noted, in particular, that integrated baseline monitoring in biosphere reserves is one of the principal tools for environmental control in vast territories remote from urban and industrial centres. Participants elaborated recommendations for sustainable development of the Volga Basin.

From 27 May to 2 June 2010 and 2011 an International Conference of UNESCO Associated Schools “The Ob-Irtysh Basin: Youth Studies and Preserves the Natural and Cultural Heritage in the Regions of the Great Rivers of the World” (2010) and a Youth Ecological Forum “Green Dress to the Earth” (2011) were held in the city of Khanty-Mansiysk. Representative of the NC reported at the conference on the IHP tasks and objectives and was included in the panel of jurors for evaluation of research projects presented by the participants.

The events held in May 2010 and 2011 in Nizhny Novgorod and Khanty-Mansiysk provide a considerable contribution of the NC to IHP-VII-related activities.

On invitation of the Focal Point for the Central Asian Programme on Climate Risk Management of UNDP, a member of the NC Zh. Balonishnikova was included in the First International Complex Expedition for Studying of Glacier State, Environmental Situation and Socio-economic Conditions in Upstream Regions of the Vakhsh and Pyandzh Rivers (1-15 August 2011) in the capacity of observer.

The main goal of the expedition was to assess the state of glaciers and the dynamics of water resources in their area of formation under changing climate conditions in order to develop practical recommendations on sustainable socio-economic development of Tajikistan mountain regions. The expedition was organized under the umbrella of the International Polar Year (IPY) and State Programme for Study and Preservation of Glaciers 2010-2030 and was aimed at drawing attention of international community to the challenges facing glaciers and water resources of Tajikistan, which have direct effects on the entire Central Asia (CA).

After the expedition, a report was prepared and submitted to UNDP containing recommendations on development of international cooperation in the field of hydrology and water resources. Also, a report was presented at the international conference “Climate change and disaster risk in mountainous regions” held on 19-21 September 2011 in Dushanbe, Tajikistan.
In December 2011 a proposal was made to SHI by the Minister of Civil Engineering and Communications of Paraguay to visit this country in order to discuss current problems with the Pilkomayo River and other water economy problems of the country, to conduct a field survey of the river, as well as to prepare proposals on scientific and technical cooperation in the field of water problems. In order to provide scientific and methodological assistance, the members of Russian NC for IHP – D-r V. Georgievski and D-r Z. Kopaliani from the SHI performed this work and a Memorandum of Cooperation in the field of water problems was signed between SHI and the Paraguayan colleagues.

Also, practically all members of Russian NC take active part in works of the international organizations.

Frolov Alexander V., the Chairman of Russian National committee for IHP UNESCO (since 2004), the President on oceanography of the Joint commission UNESCO/WMO on sea meteorology and oceanography (since 2009), the Representative of the Russian Federation in the Intergovernmental Council on hydrometeorology of CIS countries (since 2010).

Alekseevsky Nikolay I., the member of the World association on sedimentation and erosion researches WASER

Asarin Alexander E., the member of National committee of the International commission on Large Dams (ICOLD)

Balonishnikova Jeanne A., the member of the International Association of hydrological sciences (IAHS), the member of the Consulting group of the Commission on Hydrology of WMO Bolgov Mikhail V., the member of National committee of the International commission on Large Dams (ICOLD)

Vasilyev Oleg F., the member of the committee of the Russian Academy of Sciences according to the system analysis, the member of National committee on theoretical and applied mechanics, the member of the International association on hydraulic researches (IAHR) (since 1961, since 2001. – honorary member), member of the International Association of hydrological sciences (IAHS), honorary member of the Hungarian hydraulic society (1980), honorary doctor of engineering sciences of Karlsruhe University (Germany) (1988).

Gorelits Olga V., the member of the International association of water resources (IWRA)

Zektser Igor S., the Vice-president of the International association of hydrogeologists (IAH), the academician of the Bulgarian Academy of Sciences

Kopaliani Zurab D., the member of Consulting council of the International research and training center of UNESCO on erosion and sedimentation (IRTCES), Beijing, China, the member of Consulting council of the International center of UNESCO on water natural disasters and management of risk, Tsukuba, Japan

Kotlyakov Vladimir M., the Chairman of the Russian national committees on the International geosferno-biospheric program, on researches of Antarctic.

Nikanorov Anatoly M. Acting member of the International Engineering academy, International academy of computer sciences and systems. Ecological academy of Russia, corresponding member of the Russian Academy of Sciences (since 1997г.), The chairman of the International commission on protection of waters from pollution, the International association of geochemistry, the First vice-president of the International commission for quality of waters of the International association of hydro-geological sciences, the Honorary professor of Viskonsinsky university of the USA.

1.2.6 Other initiatives

In November 2011 Russian Federation organized an International Conference on Problems of Adaptation to Climate Change (PACC-2011). Organization of the event was supported by the G8 leaders in Muskoka, Canada, 25-26 June 2010. The principal organizing institutions of this conference were Roshydromet and the NC of RF.

The major objective of the conference was to thoroughly discuss and give a scientific rationale to measures on adaptation to current and expected climate change, as well as to
exchange international experience and scenarios in this area, which would make it possible to contribute significantly to establishing Global Framework for Climate Services envisaged by the Third World Climate Conference (2009) and become an important step towards integration of international efforts in adaptation, including anticipatory adaptation, to climate changes.

Main topics of the conference addressed assessment of climate change impact on sustainable development, vulnerability, risks, damage and benefits, possibilities of adaptation to current and expected climate changes, large-scale weather anomalies and their consequences, including development of monitoring and early warning systems, as well as identification of new approaches which could contribute to stable climate preservation. The major outcomes of the conference are as follows:

- Assessment of current state of research into adaptation to and consequences of climate change for environment and the economy.
- Formulation of problems, priorities and prospects of research in the field of adaptation, also in order to contribute to identification of priorities of national and international programmes coordinating climate research.
- Identification of possibilities for consolidation of international community, multidimensional integration and cooperation of scientific and business communities, social groups (including small and indigenous peoples), government institutions at national and international levels to solve adaptation problems, as well as in order to contribute to the establishment of Global Framework for Climate Services.

### 1.3 Educational and training courses

#### 1.3.1 Participation in IHP courses (at IHP Centres)

Not participate

#### 1.3.2. Organization of specific courses

- Workshop on education and training specialists from Kazakhstan on calculation of ambient concentrations for determination of waste discharge limit values and on using of GHM-1 and GHM-2 computer programmes for making these calculations. The workshop was held at the request of the Department of Ecological Monitoring of RSE “Kazgidromet” on 20-22 September 2011 in the Hydrochemical Institute, Rostov-on-Don.
- Courses of experts – hydrologists of Roshydromet and other research and design organizations of the various ministries and departments of the Russian Federation «Engineering hydrological calculations» (St.-Petersburg, GGI, on June 27 – on July 8 2011).
- School seminar «Problems of geography and a land hydrology (Krasnovidovo, September, 2010),
- Preparation and scientific educational program realization «Studying of regularities of transformation of an ecosystem of the Lake Tagus (the USA, California) under the influence of natural and technogenic factors» (geographical faculty of the Moscow State University Tagus-Baikal Institute, Agency of the USA on the international development in Moscow and Institute of water problems of the Russian Academy of Sciences (February, 2011)

Outreach and professional educational events in the field of hydrology, water resources and ecohydrology organized by RSHU:
• International summer ecohydrological school at the training and observation station on Valaam Island, Ladoga Lake (July 2011) – 15 students from the University of Helsinki (Finland) and RSHU;
• All-Russian Interuniversity Conference of Young Researchers in the Field of Environment, Water Resources and Ecology “Education. Science. Profession” (March 2011) – 70 participants;
• All-Russian Student Academic Competitions on Hydrometeorology and Hydrology (April 2011, RSHU) – 53 participants in the 3rd round;
• Regional Competition of Tertiary Students on Ecology (October 2010) – 71 participants;
• Activities of hydrological and ecological sections of a Conference of RSHU Scientific Student Society (April 2011) – 25-30 participants in each section;
• Training for students and post graduate students and one teacher from RSHU under hydrological education development program (May 2011) and training for students and a teacher from Poland at the RSHU training station (July 2011) – 6 students from each university (jointly with the Nicolaus Copernicus University, Toruń, Poland);
• Practical training on ecology for Russian students in the University of Łódź, Poland, and for Polish students in RSHU, Russia – 10-14 students from each university (jointly with the University of Łódź, Poland);
• Summer hydroecological training for RSHU students in Armenia, Lake Sevan, and students from the Yerevan State University at the training and observation station on Valaam Island, Ladoga Lake, (July 2011) - 4 students and a teacher from each university (jointly with the Yerevan State University, Armenia);
• RSHU Open Days – outreach and educational guidance meetings with high school students and their parents (five meetings from September 2010 to April 2011) – up to 700 attendees;
• Job Fairs – monthly meetings with high school students;
• Educational and outreach exhibitions on environmental protection, water resources and ecology “The Horizons of Education” (2 exhibitions in November 2010 and April 2011);
• All-Russian Youth Ecological Forum “Earth Is Our Home” (RSHU, February 2011) – 62 participants;
• Career-guiding Competition on geography, environmental protection and ecology for high school students (RSHU, May 2011) – 3 rounds, 650 participants;
128 specialists were trained under professional development and retraining programs in the field of hydrology, water resources and ecohydrology (9 programs).

1.3.3 Organization of Category II UNESCO IHP Centre

Now negotiations between RSHU and the Secretariat of IHP UNESCO are carried on for giving to RSHU the status of the IHP Center of UNESCO of Category II.

1.4 Cooperation with UNESCO-IHE Institute for Water Education

No

1.5 Publications – monographs, collected works, manuals and study guides

Monographs
• Alekseevsky N.I., Frolov N.L., Hristoforov A.V. Monitoring of hydrological processes and increase of safety of water use. M: Geographical Moscow State University f-t, 2011. 387 pages
• Chalov R. S. Theory, geography and practice in channel processes. M, 2011. 955 pages
• Danilov-Danilyan V. I., Hranovich I.L. Water resources management. Coordination of strategy of water use. 2010. M: Scientific world, 232 pages
• Ecology and hydrometeorology of large cities and industrial zones in 3 volumes (Ed. Carlin L.N., Shelutko V.A.) 2010, RSHU, SPb.
• Klaven A.B., Kopaliani Z.D. Experimental studies and hydraulic modeling of river flow and channel processes. SPb., 2011. 543 pages
• Kovalenko V. V. Not local hydrology, 2010r., RSHU
• Martynova M. V. Bottom sediments as a component of limnichesky ecosystems. M: Science, 2010. 242 pages
• Nikanorov A.M., Bryzgalo V.A. River of Russia . Part II. The rivers of the European North and Siberia (hydrochemistry and hydroecology) – Rostov / D 2010. – 296 pages
• Rosenthal O. M. Sursyakov V. N. Quality of water and ecological regulation / Ed. Danilov-Danilyan V. I. Yekaterinburg, 2010, 144 pages
• Shumova N. A. Regularities of formation of water consumption and water security in the south of the Russian plain. M: Science, 2010. 239 pages
• Taratunin A.A. Floods on continents and the world countries. 2011r.
• Water resources and quality of waters: condition and management problems / Ed. V.I.Danilov-Danilyan, Pryazhinsky M: Russian Academy of Agrarian Sciences, 2010. 415 pages

Study guides
• Magritsky D.V. Discharge and mouths of the rivers. M: Geographical faculty of the Moscow State University, 2011. 211 pages
• • Nikanorov A.M. Regional hydrochemistry. Manual. - Rostov-on-Don., 2011 – 388 pages
• • Povalishnikova E.S., Frolov N. L., Yefimov L.E. Hydrological practice. M, Geographical faculty of the Moscow State University, 2011, 135 pages
1.6 Participation in the international scientific meetings

1.6.1 Meetings hosted by the country

- International symposium «Ecology of the Arctic and subarctic territories» (Arkhangelsk, on June 6-10 2010)
- International Conference (school) of the Dynamics of Coastal Zone of Non-Tidal Seas (school-seminar), Baltiysk (Kalininingrad Oblast, Russia), 27-30 June 2010
- International conference on environmental observations, modeling and information systems, Tomsk, July, 5-11, 2010
- International conference «Deltas of Eurasia: origin, evolution, ecology and economic development» (Ulan-Ude, on August 16-19, 2010)
- Third All-Russian Conference with international participation “Fundamental Problems of Water and Water Resources”, 24-28 August 2010, Barnaul
- The 2nd International Workshop on Water Cycle of Inland River Valley in Arid Region under Climate Change, 4-5 September 2010, Urumqi
- The IV All-Russia conference on a water ecological and water toxicology «Anthropogenic influence on water organisms and ecosystems» (with participation of experts from neighboring countries), 24-28 September. 2011, Borok of the Yaroslavl region.
- Conference on developing a program of the International Polar Decade, 4-7 October 2010, Sochi.
- International scientific conference «Modern problems of hydroecology». St.-Petersburg. October 11-15, 2010
- Coordination council on problems of erosion an channel processes (Astrakhan, October 12-16, 2010)
- Russian scientific conference on health and safety problems. Moscow. October 25, 2010
- International conferences «The Caspian Region: Environmental Consequence of the Climate Change. Moscow. October 14-16 2010
- All-Russia scientific and practical conference «Scientific bases of environmental monitoring of reservoirs», Khabarovsk, on October 26-29, 2010
- International conferences «Environment and management of natural resources». – Tyumen’, 2010
- The II international conference «Modern problems of regional development», Birobidzhan, November 22-25, 2010
- The XI international scientific and practical symposium «Pure water of Russia (on May 18-20, 2011, Yekaterinburg)
• IVth All-Russian Conference on Water Ecotoxicology “Anthropogenic Impact on Water Organisms and Ecosystems” (with participation of specialists from the near-abroad), 24-28 September 2011, Papanin Institute for Biology of Internal Waters RAS, Borok, Yaroslavl Region.
• XXVI coordination council on problems of erosion and channel processes (Ulyanovsk, October 7-14, 2011)
• Lomonosov readings in the Moscow state university (Lomonosov-2011) (Moscow, November 14, 2011)
• The international scientific conference «Global climatic processes and their influence on ecosystems of the Arctic and subarctic regions» (Murmansk, on November 9–11, 2011)
• 5 international conference «Earth from space– the most effective decisions» (Moscow, November 29 - December 1, 2011)
• The first open conference of the Moscow State University scientific and educational center and IVP Russian Academy of Sciences «Resources and quality of waters of a land: assessment, forecast, management» (Moscow, on December 8-9, 2011)

1.6.2 Participation in meetings abroad
Participation in more than 40 conferences

2 Future activities
2.1 Activities planned until December 2012
The following activities are planned:
1. Advanced course on hydrology “Hydrological computations” (Spatial-temporal generalization of hydrological characteristics), June 2010, St Petersburg, SHI.
Convened by ERB Steering Committee in cooperation with
• IHP UNESCO North European FRIEND Project 5
• State Hydrological Institute, St.Petersburg
• Russian IHP Committee and Roshydromet
• Germany IHP-HWRP

Conference Themes
• Uncertainties in surface and ground water interactions.
• Changes in hydrological regimes resulting from climate variations and human impacts.
• Current state, problems and perspectives of hydrological modelling.
• Study of runoff formation in research basins and the transfer of results to ungauged basins.
• New methods for water balance components measurements.
• Open session on hydrological and ecologically related research in small basins.

2.2 Activities foreseen for 2013-2014
Organization of the Seventh All Russian Hydrological Congress in 2013.

2.3 Activities envisaged in the long term
These activities will be considered at the meetings of NC RF in 2012 in the course of preparation of research programmes in hydrology and water resources in different agencies and organizations of Russia for 2013-2020.