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E-URAL

European Union and Russia Link for S&T co-operation in the area of the environment

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D10 Updated List of research needs in Russia

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Introduction

Objectives

This report on the list of research needs in Russia contributes to the achievement of the objective of the WP2, that is to map the niches of excellence existing in Russia relevant to the thematic priorities in the field of environment spread across FP7 Themes, and to contribute to the identification of environmental research topics of interest, supporting the definition of a roadmap of activities in this research field in the context of FP7 priorities evolution.

The present report aims at providing information concerning the analysis of data included in the "On-line database on Russian major research infrastructure, researchers and multipliers" of leading environmental scientific expertise and research infrastructure in Russia, as well as research needs and priorities of cooperation. Once being published and available, the results will contribute to the establishment of a greater number of partnerships.

It is important to clarify that a first version of deliverable "D10 – List of Russia research needs" was already submitted during the first year of E-URAL project. Then, in order to achieve a more complete overview of the topic under analysis, it has been decided to produce a new version of D10 before the end of the project. Therefore, the present report contains all materials already presented in the first version; moreover, further information has been included, as result of the analysis of additional sources of information which were not considered in the first version. This report should be considered as the definitive, complete version of deliverable D10.

State-of-the-art

Environment protection in Russia is a major preoccupation of the government. In line with Order issued by Vladimir V. Putin, President of the Russian Federation (May 21, 2006, № Order-843), "Environmental nature management" is among the 8 priority lines of development in Science & Technologies in Russia.

However it should be noted that the budget allocated to support this line is much less compared with other funding ones. For instance, the share of environmental projects is 11.9% (153 projects in 2007-2010, reported in Annex VII) out of total number of projects funded by Federal Target Programme «R&D in priority fields of S&T complex of Russia in 2007-2012». The financing of environmental developments within the Federal Target Programme makes up circa 1200 mln Rubles from 2007 to 2010, corresponding to 2.6% of the total budget.

On the other hand, the funding of developments in the field of nanotechnologies under the specific Federal Target Programme "Development of nanoindustry infrastructure in the Russian Federation for the years 2008 - 2011" exceeds the budget of environmental projects 13 times, concerning the period from 2008 to 2010.

The leading Russian institutions in the field of environment are the following:

- Institutes of Russian Academy of Sciences;
- Research institutions dependent on the Ministry of Natural Resources of the Russian Federation;
- Higher education institutions;
- Institutes of Russian Academy of Medical Sciences;
- Institutes of Russian Academy of Agricultural Sciences.

The key research institutes involved in environmental studies are presented in *Annex I*.

Among foundations and programmes funding this research field, the following institutions can be distinguished:

- Russian Foundation for Basic Research;
- Russian Foundation for Technological Development;
- Russian Scientific Foundation for Humanities;

- Russian Science Support Foundation;
- Foundation for Assistance to Small Innovative Enterprises (FASIE);
- Federal Targeted Programmes of the Ministry of Education and Science of the Russian Federation.

Methodological approach to research needs identification

In order to achieve the aim of identification of research needs in Russia an analysis of data gained from various sources was implemented, such as:

- a) plans and annual scientific reports of the Institutes of the Russian Academy of Sciences (including Medical and Agricultural Academies);
- b) Plans and annual scientific reports of research groups in the field of environment from Russian state universities and state research institutions;
- c) priority research lines defined in government documents and Federal target programmes;
- d) information obtained as result of four scientific workshops organized by E-URAL project in Russia (Sochi, January 2010; Voronezh, June 2010, Barnaul, November 2010, and Archangelsk, May 2011).
- e) information gained through questionnaire (developed in the frame of WP2) from leading Russian experts and scientists specializing in the field of environment and representing academic and applied sciences as well as large universities.
- f) Foresight for S&T development of Russia for long-term outlook (till 2030);
- g) recommendations of international environmental conferences and the opinions of top Russian environmentalists.

It should be highlighted that, to respect with the first version of D10, new paragraphs and annexes added to this version concern the analysis of questionnaires collected from Russian researchers and stakeholders after month M12 and the analysis of research plans and reports prepared from Russian state universities and state institutes (in addition to the analysis of plan of Russian Academy of Sciences Institutes already included in the first report).

As far as E-URAL thematic workshops (c) are concerned, it should be highlight that the objectives of these events were sharing experiences between current research activities of relevant projects in Europe and Russia, and bringing together experts and scientists of the field in order to identify common interests or main gaps, available cooperation opportunities and tools. They also allowed to reveal Russian research needs and their correspondence with the European ones, and permitted to collect and discuss suggestions for new cooperation ideas.

Concerning the questionnaires (d), it should be specify that the objectives of the Questionnaire development were to map the niches of excellence existing in Russia relevant to the thematic priorities in the field of environment spread across FP7 Themes, and to contribute to identification of environmental research topics of interest and identify both overlapping areas of EU-Russia interest and additional new topics. Moreover, they were aimed at ,combining Russian research needs with FP7 theme “Environment including climate change” and contributing to individual match making and assistance for consortium building, and supporting roadmapping of activities in this field of research in the context of FP7 priorities evolution.

Taking into account the importance of the questionnaire on the achievement of the overall objectives of the project and its influence on the successful implementation of other tasks, it was decided that the role and functions of the questionnaire should be extended and accordingly its structure should be modified. Accordingly two separate Questionnaires were developed, one for researchers and one for stakeholders, as was then executed by CBP RIP on the basis of partners’ and SAB members’ inputs.

For systematization and statistical data processing of the researchers (QfR) and stakeholders (QfSt) questionnaires, IWEP SB RAS has developed two specific computer programmes. The first one allows to view all files with questionnaires in the directory indicated, and to save the form field for statistical processing. The second programme reads the data saved by the first one and creates the files in Excel format, where the information from each questionnaire is recorded in one line. Thereafter, the information

from Excel-files can be processed in different ways, providing: the information on the number of answers to any question from the questionnaire; the information on research interests of respondents, either general or in detail; different summary tables of more complex data analysis (e.g., how the research interests are distributed among respondents from universities and research institutes in different administrative districts of Russia). Such a complex analysis can be applied in any section of the questionnaire.

In addition to the identification of research areas and topics which are the most interesting to Russian scientists, the analysis of both questionnaires allows to combine Russian research needs with FP7 theme "Environment including climate change" topics and to define overlapping areas of EU-Russia research interest.

Results of the analysis of different sources of data for research needs identification

Results gained from analysis of plans and annual scientific reports of the Institutes of the Russian Academy of Sciences

In accordance with the Basic Research Program of National Academies for 2008 – 2012, approved by the executive order of RF Government of February 27, 2008, № 233-p, the *Plan of Basic Research in the Russian Academy of Sciences* (RAS) for the period till 2025 includes some fundamental problems and tasks related to the environment protection, covering the following topics:

- Ecology of communities and organisms;
- Environmental evolution and prediction of its development under rapid natural and anthropogenic changes;
- World Ocean: bottom geology and mineral resources; physical processes in the ocean and their influence on the global climate formation; marine ecosystems and bioproductivity;
- Water resources, water quality and problems of water availability in the country; dynamics and conservation of underground and surface water and glaciers;
- Environment and climate change: environmental study, monitoring and forecast of environment state; natural disasters, analysis and evaluation of natural risk, volcanism;
- Investigation, monitoring and forecast of cryosphere state, and variations in cryogenic conditions;
- Physical and chemical processes in atmosphere; thermodynamics, radiation transport, variations in composition;
- Changes of natural-territorial complexes of Russia in the zones of intensive technological impact; foundations of environmental management;
- New concepts and technologies for the study of the Earth surface;
- Geoinformatics, development of geoinformation systems

This is a short list providing an outline of priority scientific areas, while the list of detailed topics provided in the Plan of Russian Academy of Sciences can be found in Annex II. The list of research topics provided in the plans and annual scientific reports of research institutes of RAS is presented in Annex VIII.

All together, the Programme of Basic Research of RAS involves 88 lines, and about 20% refers to the field of environmental research. The related funding is 22-25% of the total one.

Table 1 presents basic research lines and related funding trends of RAS in the environment protection research within the framework of the Plan developed for 2008-2012.

Table 1. The RAS Plan of Basic Research for 2008 – 2012, including basic research lines and related funding trends (mln.rbl.)

Basic research lines	Russian government funding				
	2008	2009	2010	2011	2012
1. Computational mathematics, parallel and distributed calculations	239	241	264	264	264
2. Mathematical simulation in science and engineering	337	352	371	371	371

Basic research lines	Russian government funding				
	2008	2009	2010	2011	2012
3. Fundamental problems of physical electronics, including development of techniques for wave generation, reception and conversion by solid-state and vacuum devices, acoustoelectronics, relativistic microwave frequency, physics of powerful beams of charged particles.	398	418	437	437	437
4. Modern problems of astronomy, astrophysics and space studies, including origin, structure and evolution of the Universe; dark matter and energy nature; studies of the Moon and planets, the Sun and solar-terrestrial relations, exoplanets and search for extraterrestrial civilizations; development of methods and equipment for exoatmospheric astronomy and space exploration; coordinate-temporal provision for basic and applied tasks	1481	1593	1673	1673	1673
43. Ecology of organisms and communities	1201	1245	1305	1305	1305
44. Biological diversity	1497	1540	1610	1610	1610
45. General genetics	240	249	260	260	260
50. Biophysics, radiobiology, mathematical models in biology, bioinformatics	492	522	546	546	546
54. Study of structure and formation of main types of geological structures and geodynamic regularities of structural and compositional evolution of solid Earth, basic research problems of sedimentary rock formation, magmatism, metamorphism and mineral formation	768	786	824	824	824
55. Periodization of Earth history, determination of duration and correlation of geological events using geochronological, stratigraphical and palaeontologic methods	211	223	233	233	233
59. Sedimentary basins and their resource potential, basic research problems in geology and petroleum and gas geochemistry	218	225	237	237	237
61. World ocean – physical, chemical and biological processes, geology and geodynamics of ocean lithosphere, role of the ocean in the Earth climate formation	586	608	630	630	630
62. Dynamics and conservation of underground and surface water, glaciers, water management within the country	343	354	372	372	372
63. Physical and chemical processes in atmosphere and Earth surface, mechanism of climate formation and change, problems in cryosphere research	379	395	424	424	424
64. Disastrous natural and technogenic processes, seismicity – study and forecast	986	1018	1062	1062	1062
65. Environment and climate evolution under natural and anthropogenic factors, scientific basis for rational nature management, use of traditional and new sources of energy	922	956	1001	1001	1001
66. Development of techniques, technologies, engineering and analytical tools for investigation of Earth surface and interior, hydrosphere and atmosphere; geoinformatics	467	486	504	504	504
Total	38629	40362	42390	42390	42390

The abovementioned scientific topics and priorities should be developed by research institutes that are incorporated into the Russian Academy of Sciences (RAS), including specialized and regional departments and research centers.

Results gained from analysis of plans and annual scientific reports of research groups in the field of environment from Russian state universities and state research institutions

The key research institutes and large universities involved in environmental studies are presented in Annex I.

The majority of environmental research activities of Russian research institutes and university research groups focuses on the areas 6.1 «Climate Change, pollution and risks» and 6.3 «Environmental technologies». The distribution of research work priorities of the considered institutions is presented in Table 5.

Table 5. Distribution of research work priorities of key research institutes and large universities involved in environmental studies

No	Research areas according FP7 Environment Work programme	Percentage of institutes focused on each area
1	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment	30%
2	6.2.1 Conservation and sustainable management of natural and man-made resources and biodiversity	22%
3	6.1.1 Pressures on environment and climate	16%
4	6.1.3 Natural Hazards	12%
5	6.1.2 Environment and health	7%
6	6.4.2 Forecasting methods and assessment tools for sustainable development taking into account differing scales of observation	4%
7	6.3.3 Technology assessment, verification and testing	3%
8	6.4.1 Earth and ocean observation systems and monitoring methods for the environment and sustainable development	3%
9	6.3.2 Protection, conservation and enhancement of cultural heritage, including human habitat	2%
10	6.2.2 Management of marine environments	1%

Table 5 shows that the most frequent sub-activities among Russian research community according to study of plans and annual scientific reports of research groups in the field of environment from Russian state universities and state research institutions are: 'Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment', 'Conservation and sustainable management of natural and man-made resources and biodiversity' and 'Pressures on environment and climate'. It is evident that the results almost fully coincide with the outcomes of the questionnaire survey and there is no divergence in research needs by different sources of data. The only difference consists in the inclusion of two more research areas such as 'Technology assessment, verification and testing' and 'Protection, conservation and enhancement of cultural heritage, including human habitat' that are not included in the results of questionnaire analysis. The list of research topics provided in the plans and annual scientific reports of Russian research institutes and universities can be found in Annex IX.

Results gained from analysis of priority research lines defined in government documents and Federal target programmes

Priorities of scientific development in Environment area in Russia are also defined by the environment protection-related technologies identified in the "*List of critical technologies of the Russian Federation*" approved by RF President, including:

- Monitoring and forecasting atmosphere and hydrosphere conditions;

- New and renewable power sources;
- Assessment and forecasting of resources and condition of lithosphere and biosphere;
- Waste processing and disposal;
- Risk reduction and mitigation of natural and technological accidents;
- Power efficient engines and vehicles;
- Environmentally friendly agriculture;
- Environmentally friendly mining and extraction of natural resources.

Results gained from analysis of result of 4 scientific workshops organized by E-URAL project

Russian research needs and topics of potential collaboration between EU and Russia were also defined during 4 *scientific workshops* on topics related to FP7-Theme Environment held within the E-URAL project in different Russian districts (i.e. Sochi, Voronezh, Barnaul, Arkhangelsk).

The lists are presented according to the main theme explored within each scientific workshop.

Suggestions of potential topics for cooperation with EU under topic “*Integrated coastal zone management*” (elaborated during the workshop held in January 19-20, 2010 in Sochi, Russia):

- analysis of interactions between marine ecosystems and human activities (the current research efforts to manage sea basins, taking into account the marine environment and the maritime activities);
- the management of coastal areas (developing ICZM methodology for coastal lagoons and their barrier spits or islands);
- the management of water resources under specific conditions and different impacts (droughts and floods, or the shift in seasonality of the water cycle under changing climate, or the influence of tides on pollution spread in the estuarine areas).

Suggestions of potential topics for cooperation with EU under topic “*Nature and biodiversity*” (elaborated during workshop held in June 28-29, 2010 in Voronezh, Russia):

- Biodiversity as buffer;
- Balancing economy and ecology in urban areas;
- Long-term effects of high radiation on the natural environment;
- Recultivation of severely disturbed landscapes in the EU and Russia;
- Assessment of the impacts of land, water and forest management on biodiversity, human livelihood and global change;
- Development of an sustainability-based and interdisciplinary approach towards biodiversity;
- Exploitation and harmonisation of existing observation capabilities and databases of in-situ data relevant for biodiversity conservation;
- Building up a reference system for DNA-identification of Russian freshwater biodiversity;
- Investigation of functional changes in ecosystems and populations under effects of anthropogenic environmental transformation;
- Indication of forest ecosystem conditions and forest stability in the view of climate change and other anthropogenic effects.

Suggestions of potential topics for cooperation with EU under topic “*The Evaluation of Climate Change Impacts*” (elaborated during workshop held in November 22-23, 2010 in Barnaul, Russia):

- Regional climate change in Siberia – from local to global consequences;
- Hydro-meteorological extremes in changing climate and adaptation to them;
- Permafrost fate in North Eurasia;
- Ecosystemic approach of coastal responses in a changing climate;
- Forest fire risk adaptation in a context of climate change conditions and anthropogenic impacts.

Suggestions of potential topics for cooperation with EU under topic “*Environmental Technologies for Solid Waste and Waste Water Management*” (elaborated during the workshop held in May 25-27, 2010 Arkhangelsk, Russia):

- Integrating rehabilitation (remediation) and exploitation of landfills areas;
- Innovative and sustainable wastewater treatments and best practices for pollution prevention and restoration of water resources in North-Eastern Countries.

Results gained from analysis of information got from E-URAL Questionnaires

A significant source of information for the analysis of the Russian research needs is the survey carried out by E-URAL project partners through *two types of questionnaires* (one for Russian researchers and one for stakeholders) developed under Work Package 2.

The questionnaire was sent to about 900 contacts which were identified under the task 2.1 (identification of Russian organizations in the environment sector), by contacting the most relevant research and policy authorities to get information (done by CBS RIP), and by producing a list of leading universities and research institutions. Contact list of universities and research institutions working in the field of environment in Russia for promoting E-URAL and its Questionnaires on EU-Russia Partnership in Environment for stakeholders is presented as Annex III.

The respondents are from All Russian Federal Districts - Centre, Far-East, South, Northwest, Siberia, Ural and Volga – which include 79 regional centres and large cities. The territorial distribution of Russian research organizations shows that the majority of available forms were received from Northwestern, Central and Southern Federal Districts. The overwhelming majority of questionnaires has been received from universities and research centres.

Dissemination schedule consists of three sessions: July 2010, February 2011, and July 2011. The total number of questionnaires received from Russian contacts is 379. Questionnaires from Russian researchers are 268, whereas the number of Questionnaires from stakeholders is 111.

The analysis of questionnaires demonstrates that research topics relevant to Russian scientific interest in Environment according to FP7 “Environment, including climate change” Work Programme accepted before 2012 version are quite in balance and there cannot be distinguished a “priority area”.

Thus, the activities ‘6.3 Environmental technologies’, ‘6.1 Climate Change, pollution and risks’, and ‘6.2 Sustainable management of resources’ do not really differ in their indicators. The percentage ratio of distribution among research interests is 28%, 27% and 26% respectively, whereas ‘6.4 Earth observation and assessment tools for sustainable development’ has 19% that is not dramatically less.

The distribution of the activities of the Work Programme according to research needs highlighted in each Russian Federal Districts are shown in the following tables.

Table 1. Northwestern Federal District (Saint-Petersburg, Arkhangelsk, Vologda, Murmansk, Kaliningrad regions, Komi, Karelia Republic)

Research areas according FP7 Environment Work programme	Percentage ratio
6.1 Climate Change, pollution and risks	18%
6.2 Sustainable management of resources	22%
6.3 Environmental technologies	46%
6.4 Earth observation and assessment tools for sustainable development	14%

Table 2. Central Federal District (Moscow, Voronezh, Belgorod, Orel, Tambov, Kaluga, Lipetsk, Kursk regions)

Research areas according FP7 Environment Work programme	Percentage ratio
6.1 Climate Change, pollution and risks	25%
6.2 Sustainable management of resources	21%
6.3 Environmental technologies	39%
6.4 Earth observation and assessment tools for sustainable development	15%

Table 3. Southern Federal District (Rostov, Volgograd, Krasnodar, Astrakhan regions)

Research areas according FP7 Environment Work programme	Percentage ratio
6.1 Climate Change, pollution and risks	17%
6.2 Sustainable management of resources	33%
6.3 Environmental technologies	25%
6.4 Earth observation and assessment tools for sustainable development	25%

Concerning the distribution of the Russian research priorities according to FP7 “Environment, including climate change” Work Programme within each activity, the following results can be observed.

Under the activity ‘6.1 Climate Change, pollution and risks’ the half (50%) of researchers choose sub-activity ‘Pressure on environment and climate’, 12% deal with ‘Natural hazards’, and 9% work in ‘Environment and health’, whereas the others (29%) conduct research in several areas and choose the activity on the whole.

As far as ‘6.2 Sustainable management of resources’ is concerned, ‘Conservation and sustainable management of natural and man-made resources and biodiversity’ sub-activity resulted the most popular (61%), followed by ‘Management of marine environments’ (8%); while remaining 31% of researchers choose few disciplines under the whole activities.

The overwhelming majority of scientists working on ‘6.3 Environmental technologies’ are specialized in ‘Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment’ (71%).

Finally, the most voted sub-activity under ‘6.4 Earth observation and assessment tools for sustainable development’ is ‘Forecasting methods and assessment tools for sustainable development taking into account differing scales of observation’ with 67% of preferences, while 6% of researchers are involved in ‘Earth and ocean observation systems and monitoring methods for environment and sustainable development’.

The lists of researchers and stakeholders having filled the questionnaire are presented in two different annexes: Annex IV and Annex V correspondently.

The analysis of questionnaires for stakeholders allows to identify environmental research topics of interest across all FP7 Themes and to support the roadmapping of activities in this field in the context of FP7 priorities evolution.

The core part of the questionnaire for stakeholders is the E-URAL Taxonomy in Environment – i.e. “Competences in Environment Sphere” – which is the result of the comprehensive analysis of ten thematic priorities of FP7 “Cooperation” programme including “Environment” theme, the EC Sixth Environment Action Programme and the Environmental Technologies Action Plan. Through responses to this part it is possible to identify overlapping areas of EU-Russia research interest. Moreover, this Questionnaire also provides the possibility to identify additional new topics.

The analysis of questionnaires for stakeholders indicates that the following fields of research are of particular interest:

- water and water resources;
- climate change and its consequences;
- impact of factors on human health other than climate change;
- soil and resources.

According to the results, the greatest interest for cooperation between Russia and EU was revealed in the following scientific spheres:

Environmental chemistry;
 Climate change and impacts;
 Earth and ocean observation systems and monitoring methods for the environment and sustainable development;
 ICT for Environmental Sustainability;
 Biodiversity. Prevention and control of invasive alien species including alien genotypes;
 Biodiversity. Threatened species;
 Biodiversity. Protection and restoration;
 Biodiversity. Sustainable use;
 Regional climate change, mechanisms and impacts;
 Cryosphere-climate interaction;
 Different-scale numerical modeling of climatic processes;
 Assessment and control of natural risks;

Mechanical-mathematical and computational modeling of hazardous natural processes, including landslides and mud flows;
 Underground water pollution – modeling, monitoring, risk mitigation.

During the survey among the stakeholders, additional scientific spheres, which are not listed in the questionnaire, were also revealed:

- Use of biotechnologies in pulp-and-paper industry;
- Assessment of forest ecosystems sustainability;
- Geothermal power;
- Permafrost study;
- Remote sensing;
- Snow cover-climate interaction;
- Atmosphere circulation in climate system;
- Mechanisms of climate change;

These additional spheres are related to stakeholders' competences and can be of interest for cooperation between Russia and EU in the area of environment (including climate change), even if not included yet into the existing Environment Work Programmes. This component of the questionnaires has been analysed and the full list of additional spheres is presented in the Annex VI.

Problems and obstacles related to Russia-EU scientific and technological cooperation

The analysis of all collected E-URAL questionnaires allows to achieve an overview of the problems and obstacles related to Russia-EU scientific and technological cooperation.

Considering the answers in the *questionnaires for researchers* about the question "**Which problems and obstacles related to Russia-EU S&T cooperation development could you mark?**", it results that the majority of Russian interviewees consider as main problems the lack of direct contacts with European researchers (58%), the low level of awareness about existent possibilities (49%) and the low language skills (41%). 42% of respondents marked that lack of experience in project and finance management of Russian researchers is among the most significant problems and obstacles. Only 12% of them think that there is a low level of Russian researchers' concern.

In contrast, those who have filled the *questionnaires for stakeholders* see the low level of awareness about existent possibilities as the main obstacle (81%) while the second main problem refers to lack of direct contacts with European researchers (63%). Concerning the low level of Russian researchers concern - only 13% of interviewees find that there is such a problem.

Regarding the question "**What, in your opinion, can facilitate Russia-EU S&T cooperation?**", in the *questionnaires for researchers* the majority of interviewees equally consider that "Russia association to FP7" (50%) and "detailed Guidance for Russian Participants in FP7 in Russian language" (47%) will facilitate Russia-EU S&T cooperation. "Training workshops" and "assistance in partner search" are considered to be equally helpful (43%). A bit less (33%) of interviewees regards "individual consultancy assistance" to be able to make a contribution to the issue. In the *questionnaires for stakeholders* "assistance in partner search" was marked by the most of interviewees (72%) almost equally with "detailed Guidance for Russian Participants in FP7 in Russian language" (71%), then goes individual consultancy assistance (34%) and "Russia association to FP7" and training workshops with 28% and 29% correspondently.

Stakeholders were additionally asked "**Which mechanisms of EU-Russia Scientific & Technological cooperation do you find the most prospective?**", and the answers show that the most prospective mechanisms are considered to be the FP7 Specific International Cooperation Action (SICA) calls targeted for Russia (75%) and twinning of European and Russian projects and European national programmes (63%). While the EU-Russia coordinated calls under FP7 and Russian Federal Targeted Programme (26%). The same percentage of preferences was given to FP7 general calls,.

Finally, the analysis shows that tasks undertaken by E-URAL project initially fully address the major needs of Russian research community, improve direct contacts with European researchers, raise awareness in FP7 Environment sector by providing tailor-made information, assistance and coaching (e.g., E-URAL training workshops, and detailed Guidance for Russian Participants in FP7 in Russian language developed and issued by CBS RIP).

Conclusions

In order to present a list of Russian research needs a combination of topics received from all data sources has been performed, considering the most promising topics for EU-Russia cooperation and also those which are of high interest and relevance to Russian research community. Moreover, main environmental problems that Russia is facing have also been considered for guiding the selection.

Taking into account the actuality of Work Programme 2012 in Environment, the identified research needs are assessed and distributed according to the current WP2012 structure.

Challenge 6.1 Coping with climate change

Pressures on environment and climate

- Budgets of global pollutants (carbon cycle - greenhouse gas, mercury, isoprene etc.)
 - Bio-indication of climatic changes in Russia including natural climate cycles' dynamics, carbon cycle dynamics, and anthropogenic influence on the Central forest-steppe
 - Implementation and replication of technologies for processing solid waste containing mercury
 - Mercury as global pollutant
- Climate change impacts at permafrost conditions
 - Permafrost Fate in North Eurasia
 - Climate Changes Influence on Permafrost Landscapes
- Response strategies: adaptation, mitigation, environmental legislation and policies
- Hydrometeorological extremes in changing climate and adaptation to them
- Regional climate change in Siberia – from local to global consequences

Environment and health

- System analysis of multifactorial health effects among population resided in environmentally unfavourable areas
 - Estimation of ecological consequences of global climatic changes and risk for health of the population of industrially developed cities

Future and past climate; reconstruction of climate changes from natural archives (ice core, bed sediments, tree rings, peat-mires and etc.)

- Obtaining high-resolution millennial scale paleo-records from natural archives in Siberia for predicting future climate change

Earth and ocean observation systems and monitoring methods

- Investigation, monitoring and forecast of cryosphere state, and variations in cryogenic conditions
- Physical and chemical processes in atmosphere; thermodynamics, radiation transport, variations in composition
- Study of atmospheric approach on climate change using remote sensing data over the West Siberia

Challenge 6.2 Sustainable use and management of land and seas

Conservation and sustainable management of natural and man-made resources and biodiversity

- Ecology of communities and organisms
 - Etological mechanisms of animal survival in anthropogenically transformed environments
 - Analysis of morphogenesis mechanisms in vertebrates and invertebrates, their changeability, dynamics and resistance to anthropogenic impacts
- Biodiversity as buffer

- Biodiversity of fields of oil and gas development: condition, tendencies, pressures
- Estimation of radionuclides in major components of surface and aquatic ecosystems
- Spatial-temporal organization (scaling) of aquatic ecosystems of inland waters
- Reproduction and preservation of forestry gene pool
- Indication of forest ecosystem conditions and forest stability in the view of climate change and other anthropogenic effects
- The role of forest ecosystems in climate change
- Assessment of the impact of land, water and forest management on biodiversity, human livelihood and global change at the catchment level of the biomes of northern Eurasia as a contribution to the development of a long-term strategy of sustainable development and climate change mitigation
- Theoretical bases and methods of restoration of soil cover of urbanized territories

Earth and ocean observation systems and monitoring methods

- The influence of industrial air pollution and global climate change on forest ecosystems; Processing and analyzing of spatial data, including remote sensing data
- Monitoring of air quality and presence of toxic and explosive gases in the air
- Monitoring and estimation of environmental components of urban landscapes

Management of marine environments

- The management of water resources under specific conditions and different impacts
- The study of natural ice and the dynamics of glaciers as the most important component of water resources
- Ocean biosphere and its role in the formation and evolution of the Earth biosphere, marine ecosystems and their changeability under the influence of natural and anthropogenic factors, extreme cases in marine ecosystems
- Research, modeling, calculation and assessment of impact of long-term and short-term changes of the sea level on river estuaries
- Analysis of interactions between marine ecosystems and human activities

Protection, conservation and enhancement of cultural heritage, including human habitat

- Environmental technologies for archeology and landscape shaping

Challenge 6.3 Improving resource efficiency

Environmental technologies

- Waste processing and disposal
 - Production of nanomaterials and adsorbents from industrial wastes
 - Complex low-waste or waste-free use and utilization of the components of wood biomass, products of its processing and secondary fiber resources
 - Methods of control of sewage sulphate-cellulose industry, assessment of lignin in sewage, methods of industrial sewage purification
- The use of natural raw materials as environmentally friendly building materials
- New and renewable power sources
- Environment-friendly mining and extraction of natural resources

Forecasting methods and assessment tools

- Assessment and forecasting of resources and condition of lithosphere and biosphere

Challenge 6.4 Protecting citizens from environmental hazards

Natural Hazards

- Risk reduction and mitigation of natural and technological accidents
- A long-term experiment on seismic monitoring in the most seismically active regions of Europe
- Study of the present-day volcanism effect on climate change by the example of North Eurasia
- Assessment of natural and anthropogenic risk factors of the oil field exploitation

Environment and health

- The complex study of living organism reactions on cellular, sub-cellular and molecular level in conditions of atmospheric air pollution by exhaust-gases of the motor transport

Environmental technologies

- Development of techniques for the operative forecast of seismic and volcanic processes on the basis of the dynamics equation of spontaneous natural processes
- Biogeochemical indication and monitoring, estimation and mitigation of eco-catastrophes; the study of processes and the development of methods for biota restoration in post-catastrophic period

Earth and ocean observation systems and monitoring methods

- Development of concept of complex environmental monitoring including the atmosphere, modeling of climatic and ecological effect of natural disasters
- The concept and methodology for monitoring the surface and aquatic ecosystems nearby large nuclear-fuel plants
- Post-fire satellite monitoring of forests

Forecasting methods and assessment tools

- Long-term prognosis of catastrophic forest fire dangers

Challenge 6.5 Mobilising environmental knowledge for policy, industry and society**Pressures on environment and climate**

- Political strategies development: networking strategies to consolidate society's and authority efforts to climate change consequences' overcoming
- Frameworks, strategies and processes for landscapes functioning of ecosystems in industrial region characterized by high anthropogenic pressures

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Federal Science and Innovation Agency: official site - <http://www.fasi.gov.ru>;

Russian education: federal website - <http://www.edu.ru>;

The State Institution Republican Research Scientific-Consulting Center for Expertise: official site - <http://www.extech.ru/index.php>;

ISI Web of Science - <http://apps.isiknowledge.com>;

Foresight for S&T development of Russia for long-term outlook (till 2030) - <http://www.inco-eeca.net>

Annex I. The key research institutes involved in environmental studies in Russia

Institutes and Research Centers of RAS located in European Part of Russia:

- Geophysical Survey (Obninsk, Kaluga Region)
- Institute of Water Problems (Moscow)
- Institute of Geography (Moscow)
- E.M.Sergeev Institute of Geoecology (Moscow)
- Institute of Limnology (St.-Petersburg)
- P.P.Shirshov Institute of Oceanology (Moscow)
- I.D.Papanin Institute of inland waters biology (Borok, Nekouz District, Yaroslavl region)
- Institute of Forestry (Uspenskoe, Moscow region)
- A.N.Severtsov Institute of Ecology and Evolution (Moscow)
- Botanical Institute (St.-Petersburg)
- Zoological Institute (St.-Petersburg)
- Kabardino-Balkaria Research Centre: Institute of Mountain Ecology
- Karelia Research Centre (Petrozavodsk): Institute of Biology, Northern Water Problems Institute, Institute of Forest
- Kola Research Centre (Apatity, Murmansk Region): Institute of North Industrial Ecology Problems, Murmansk Institute of Marine Biology
- Samara Research Centre: Institute of Volga Basin Ecology (Tolyatti, Samara Region)
- St.Petersburg Research Centre of Ecological Safety (St.-Petersburg).

The following research institutes from the Far Eastern Branch of RAS are involved in studying environmental problems:

- Institute of Biology and Soil Sciences (Vladivostok)
- A.V. Zhirmunsky Institute of Marine Biology (Vladivostok)
- Institute of Biological Problems of the North (Magadan)
- Pacific Institute of Geography (Vladivostok)
- V.I.Ilichev Pacific Oceanological Institute (Vladivostok)
- Institute of Water and Ecological Problems (Khabarovsk)

The Siberian Branch is the largest regional one of RAS. The institutions involved in studying environmental problems are as follows:

- Baikal Institute of Nature Management (Ulan-Ude, Republic of Buryatia)
- Institute of Biological Problems of Cryolithozone (Yakutsk, Republic of Sakha, Yakutia)
- Institute for Water and Environmental Problems (Barnaul, Altai Krai Region)
- V.B.Sochava Institute of Geography (Irkutsk)
- V.N.Sukachev Institute of Forest (Irkutsk)
- Institute of Monitoring of Climatic and Ecological Systems (Tomsk)

- Institute of Natural Resources, Ecology and Cryology (Chita, Zabaykalsky Krai Region)
- Institute of the Northern Development (Tyumen)
- Institute of Systematics and Ecology of Animals (Novosibirsk)
- Institute of Human Ecology (Kemerovo)
- Limnological Institute (Irkutsk)
- Department of industrial ecology, Krasnoyarsk Research Centre (Krasnoyarsk)
- Tuva Institute of Comprehensive Development of Natural Resources (Kyzyl, Republic of Tuva)
- Central Siberian Botanical Garden (Novosibirsk)

In the Ural Branch of RAS institutes involved in the study of ecological problems are:

- Institute of Steppe (Orenburg)
- Institute of ecology and genetics of microorganisms (Perm)
- Institute of Ecological Problems in the North (Arkhangelsk)
- Institute of Plant and Animal Ecology (Yekaterinburg)

The applied research of environmental problems in Russia is conducted by scientific organizations subordinating to the Ministry of Natural Resources and Ecology:

- Arctic and Antarctic Research Institute (St.Petersburg)
- All-Russian Research Institute of Hydrometeorological Information – World Data Center (Obninsk, Kaluga Region)
- All-Russian Research Institute for Nature Conservation (Moscow)
- All-Russian Research Institute of Agrarian Meteorological Research – state research institution (Obninsk, Kaluga Region)
- Mountain Geophysical Institute (Nalchik, Republic of Kabardino-Balkaria)
- HydroMetCenter of the Russian Federation (Moscow)
- A.I. Voeikov Main Geophysical Observatory (St.Petersburg)
- State Hydrological Institute (St.Petersburg)
- N.N. Zubov State Institute of Oceanography (Moscow)
- Far East Regional Hydrometeorological Research Institute (Vladivostok)
- Institute of Global Climate and Ecology of the RosHydroMet and RAS (Moscow)
- E.K. Fedorov Institute of Applied Geophysics (Moscow)
- PLANETA Research Center for Space Hydrometeorology (Moscow)
- TAIFUN Scientific Production Association (Obninsk, Kaluga Region)
- Russian Scientific and Research Institute for Comprehensive Management and Protection of Water Resources (Yekaterinburg)
- Siberian Regional Hydrometeorological Research Institute (Novosibirsk)

Top large universities engaged in solving environmental problems are:

- Far Eastern National University (Vladivostok)
- Kazan' State University

- Moscow State University
- Novosibirsk State University
- St.Petersburg State University
- Siberian Federal University (Krasnoyarsk)
- Southern Federal University (Rostov-on-Don)

At least two research Institutes of the Russian Academy of Medical Sciences (RAMS) are involved in environmental research:

- A.N. Sysin Research Institute of Human Ecology and Environmental Hygiene (Moscow)
- Research Center of Medical Ecology, East Siberian Scientific Center (Irkutsk)

Annex II. The extended list of research topics provided in the Plan of Russian Academy of Sciences**Ecology of communities and organisms**

- Description of different etological mechanisms of animal survival in the anthropogenically transformed environment.
- Analysis of morphogenesis mechanisms in vertebrates and invertebrates, their changeability, dynamics and resistance to anthropogenic impacts.
- Elaboration of general homeostasis concept, mechanisms of regulation and optimization of communities structure depending on climatic factors and anthropogenic loads for the development of principles and methods of ecological engineering including restorative technologies.
- Identification of bioproduction process control based on modeling the food chains structure and trophic level nets in diverse ecosystems under conditions of anthropogenic impact on populations and ecosystems.
- Determination of ecological and evolution mechanisms of natural systems' resistance to pessimal factors of different genesis.
- Reconstruction of structure and functioning dynamics of ecosystems in forest-tundra ecotones of Subarctic for the last 2-3 years. The analysis and simulation of shift in the upper and polar forest boundary in the North and Polar Ural in XX-XXI centuries caused by global climate warming. Construction of extra-long (up to 10 th.years) continuous wood-annular chronologies for the Russian Subarctic territories and related reconstruction of climatic conditions in the past.
- Variability assessment of pelagic and benthos communities as well as the role of sea organisms in homeostasis, marine ecosystems evolution in the off-shore areas of the World ocean.
- Determination of adaptation limits and mechanisms of sea invertebrates and fish to environment transformation.
- Prognostic simulation of surface ecosystems transformation caused by climate change.
- Scenario of biota development under different climatic situations in north-eastern Asia. Creation of a vegetation map of Asia.
- Assessment of phytocenosis resistance in the mid and upper basin of R.Amur to natural and man-made effects.
- Development of general model of self-organization of forest, steppe and forest-steppe ecosystems. Study of transformation and resistance of taiga ecosystems.
- Description of structure and current state of coastal and fresh-water ecosystems in the North Sea of Okhotsk area and related surface ecosystems.
- Evaluation of resistance parameters and peculiarities of restoration of natural and disturbed (by mining) soils and forest ecosystems in the Upper Kolyma area.
- Quantitative characteristics of biosphere role of boreal forest ecosystems of Siberia as a basis for evaluation of gas composition of the atmosphere.
- Revealing different adaptation strategies and major types of adaptive complexes of plants and living organisms to cyclic fluctuations and extreme effects of external factors.
- Development of conceptual framework of ecological-genetic monitoring of population stability to evaluate anthropogenic impact on a population gene pool.
- Analysis of human immune system functioning under conditions of man-made pollution.
- Revealing of mechanisms for population adaptation to extremely high toxic loads by means of comparative study of environmental features of different living forms, reproductive and ecological-evolution strategies.
- Determination of physiological mechanisms of adaptation to habitation under continuous man-made pollution.
- Analysis of biotic components and their ecological-biological and structural transformation caused by natural and anthropogenic factors.
- Assessment of state and abundance of mammals in seas of the Far East, Russia and identification of conditions for their stabilization.

- Revealing of mechanisms for adaptation, stability and factors defining microorganisms survival under extreme conditions (i.e. temperature, salinity, alkalinity/ acidity, heavy metal and radionuclide concentrations).
- Revealing of adaptation regularities in natural populations of plants and animals subject to long-term radiation.
- Identification of sources of radioactive contamination of various genesis.
- Estimate of radionuclides in major components of surface and aquatic ecosystems
- Working out the concept and methodology for monitoring the surface and aquatic ecosystems nearby large nuclear-fuel plants.
- Development of balance models of migration and radionuclides build-up in the basins of large rivers of Ural and West Siberia to be used for long-term forecasting the global, regional and local levels of the environment pollution.
- Assessment of deposit and migration rate of natural and industrial radionuclides in surface and aquatic ecosystems in natural zones of North Eurasia.
- Development of diagnostic technique for detection of radionuclides sources in the environment using isotopic ratio analysis.
- Analysis of adaptation regularities in natural populations of plants and animals to habitation under long-term radiation loads.
- Characteristics of chemical compounds effect including xenobiotics that disturb endocrine regulation of physiological functions in marine invertebrates and fish.
- Development of radioisotope and enzymatic methods for studying marine environment self-purification.
- Determination of physiological response and mechanisms of individual resistance to extreme climate-geographical, technogenic and social factors.
- Revealing of functional potential and its use for the maintenance of homeostasis within a person or an animal under environmental changes.

Environmental evolution and prediction of its development under rapid natural and anthropogenic changes

- Reconstruction and prediction of climatic and geoecological environmental changes in northern hemisphere and the Arctic using the study of Pliocene-Pleistocene-Holocene events; evaluation of contribution of natural and anthropogenic components to the climatic changes.
- Estimation of response of landscape systems and their components on climate fluctuation on the basis of paleoreconstruction and modeling. The study of landscape evolution under anthropogenic environment transformation.
- Reconstruction of rapid environment and climate changes, revealing of causes and effects of paleodisasters for natural risk assessment. Zoning of the Russia territory by the level of frequency of ecologically dangerous processes.
- The study, modeling and prediction of dynamics of ecosystems change in natural-climatic zones and provinces of Russia and the Earth under the influence of natural and anthropogenic factors.
- The study of possibility of human adaptation to extremal state of geosystems during global climatic extremes (according to data on Pleistocene-Holocene).

World ocean: bottom geology and mineral resources; physical processes in the ocean and their influence on the global climate formation; marine ecosystems and bioproductivity

- The study of physical processes in the ocean, the peculiarities of ocean circulation; modeling of the ocean influence on global climate.
- Ocean biosphere and its role in the formation and evolution of the Earth biosphere, marine ecosystems and their changeability under the influence of natural and anthropogenic factors, extreme cases in marine ecosystems.
- Ocean bioproductivity: mechanism of the formation and dynamics, environmental effect, biogeochemical cycles.

Water resources, water quality and problems of water availability in the country; dynamics and conservation of underground and surface water and glaciers

- Revealing of fundamental regularities of water systems' functioning under unstable hydrologic behavior, the changing climate and landscapes. Evaluation and mapping of underground water resources of Russia and prediction of their stability against anthropogenic impact.
- Development of a set of physical-mathematical models for the description of processes of surface water and heat exchange for the improvement of water resources management and the prediction of their change due to natural and anthropogenic factors; estimation of water resources in Russia in the future.
- Development of methods and technologies for the prevention of disastrous natural water pollution and desiccation. The study of underground water resources including the thermal ones and the improvement of methods and technologies for their conservation.
- Development of theory of water management, methodology of water supply enhancement in the regions experiencing the lack of water; substantiation of water-protective measures with regard to anthropogenic load.
- The study of natural ice and the dynamics of glaciers as the most important component of water resources.
- The study of dynamics and the assessment of resources potential of lakes in Russia; the development of scientific basis for lakes conservation, use and restoration.

Environment and climate change: environmental study, monitoring and forecast of environment state; natural disasters, analysis and evaluation of natural risk, volcanism

- Development of concept of complex environmental monitoring including the atmosphere, modeling of climatic and ecological effect of natural disasters.
- The study of relationship between global and regional climate change due to the influence of natural and anthropogenic factors, and its environmental aftereffects; assessment of frequency, intensity and duration of extreme hydrometeorological events.
- Estimation of components variation in heat, water and carbonic balance in different terrestrial ecosystems caused by climate change and anthropogenic impact.
- Evaluation, forecast and prevention of desertification and drought aftereffects. Problems of salt accumulation in landscapes of arid regions.
- The study of the present-day volcanism effect on climate change by the example of North Eurasia.
- Biogeochemical indication and monitoring, estimation and mitigation of eco-catastrophes; the study of processes and the development of methods for biota restoration in post-catastrophic period.
- Assessment of risk of anthropogenic impact on natural systems.
- Development of methods and tools for monitoring of potentially dangerous parts of engineering structures and objects of high risk.
- Development of methods for assessment and forecast of natural-anthropogenic fire risk for the territory.
- The study of basic processes of migration, scattering and concentration of natural and industrial radioelements for the creation of the forecasting models of natural landscapes transformation near large nuclear-radiation plants.
- The study of large natural disasters impact on ecosystems in different natural-landscape zones.

Investigation, monitoring and forecast of cryosphere state, and variations in cryogenic conditions

- Comprehensive analysis of cryolithozone dynamics in coastal and coastal-offshore zone of the Arctic seas to evaluate its state and to forecast the occurrence of dangerous processes in cryogenic layers. The analysis and assessment of risk of disastrous events and their environmental consequences.
- The study of cryolithozone south periphery state including mountain regions under the global climate change and the increasing industrial load.

- The study of response of snow cover and glaciers of Eurasia to climate change for the last century, the forecast of cryosphere state in 21st century including the activation of natural cryogenic processes.

Physical and chemical processes in atmosphere; thermodynamics, radiation transport, variations in composition

- The study and parameterization of physical, chemical, radiation and thermodynamic processes in the atmosphere for the improvement of the current models of atmosphere circulation and dynamics, and climate formation.
- The study of dynamics of atmosphere aerosol and ozone in troposphere and stratosphere using different methods in climatic and synoptic scales. Investigation of transcontinental aerosol transport and the assessment of its influence on bioproductivity of marginal seas.
- The study of climatic aspects of interrelation between the ocean and atmosphere: estimation of CO₂ и CH₄, revealing the causes and effects of greenhouse gas evasion/invasion in the arctic seas.
- The study of transboundary transport influence on the formation of atmosphere composition in different regions of Russia.
- Evaluation of the role of climate fluctuation in the dynamics of natural processes in different regions.
- Simulation of altitude explosive actions in the Earth ionosphere.
- Detection of sites of dusty flows occurrence and the creation of schemes of transregional transport of cyclonic air masses.
- The study of electromagnetic non-steady atmospheric processes of seismic and anthropogenic nature. Investigation of possible aftereffects of ionosphere change and the influence of radio wave propagation in the upper atmosphere on its composition and dynamics. Evaluation of how these changes influence the displacement of the Earth magnetic poles.

Changes of natural-territorial complexes of Russia in the zones of intensive technological impact; foundations of environmental management

- The study of influence of different types of nature management on the natural resource-ecological potential of the territory. Revealing and substantiation the indicators of landscape resistance in Eurasia to the intensive technological impact and climate change.
- Estimation of qualitative and quantitative change of natural-territorial complexes in the zones of intensive technological impact under field development. Development of scientific basis of regional mining ecology.
- The study and evaluation of the disturbed land in different natural zones; substantiation of revegetation methods including the restoration of natural landscapes in different natural zones.
- Development of method for the assessment of ecological danger on regional and local levels for sustainable development of Russia.
- Simulation of land tenure influence on the water geochemical and heat balance and local climate fluctuations.
- Assessment of anthropogenic and climatic influence on natural-territorial complexes of water bodies' coasts; the present-day hydromorphism and biodiversity in watersheds of the steppe zone of the European part of Russia.
- Evaluation of environmental radiation-chemical influence of enterprises of nuclear industry, the character and dynamics of radiation-chemical pollution of natural landscapes as a basis for rational managerial decision making.
- The study of environmental urbanization influence. Development of criteria for the environmental quality assessment in medium-sized and small towns
- Working out of long-term strategy of sustainable and balanced development of natural-resource complex in different natural-climatic zones of Russia

- Working out of the concept and scientific-organizational principles of the development of the unified network of special protected natural objects and the formation of the landscape-ecological framework of the regions in Russia.

New concepts and technologies for the study of the Earth surface

- Development of new methodologies, techniques and analytical methods for the study of the Earth surface, its hydrosphere and atmosphere
- Development of methods, data base and maps using GIS-technologies to assess the geological environment and to forecast the occurrence of dangerous geological processes near large cities.
- Development of the study and creation of models of natural processes within continents and oceans and their change under the anthropogenic impact.
- Development of methods for space and remote measurement to create models of terrestrial hydrological cycle, hydrological forecasts, water quality evaluation, environment state of water objects and natural complexes.

Geoinformatics, development of geoinformation systems

- Simulation of natural processes using the geoinformation technologies; development of technologies and techniques for geoecological monitoring

Annex III Contact list of universities and research institutions working in the field of environment in Russia for promoting E-URAL and its Questionnaires on EU-Russia Partnership in Environment for stakeholders

Russian Federal District	Name of organisation	Department	City	Contact person (title, name, surname, position)
Centre	Russian Committee for the UNESCO Program on Man and the Biosphere (MAB)		Moscow	Dr.Valery Mikhailovich Neronov, Deputy Chairman
Centre	Moscow State University of Environmental Engineering (MSUEE)	UNESCO Chair "Ecologically clean engineering"	Moscow	Prof.Mikhail Georguevich Berengarten, first vice-rector, head of the department
Centre	Moscow State University of Environmental Engineering (MSUEE)	UNESCO Chair "Ecologically clean engineering"	Moscow	Prof.M.G.Berengarten-Chair holder; Prof.Igor Ivanovich Tyukhov, Director of the Chair
Centre	Moscow State University of Environmental Engineering (MSUEE)	UNESCO Chair "Environmental and Engineering Geology for Sustainable Development"	Moscow	Chair Holder- Prof. Alexander Alexandrovich Glushko
Centre	All-Russian Institute of Electrification of Agriculture (VIESH)	UNESCO Chair "Renewable Energy and Rural Electrification"	Moscow	Prof. acad.Dmitry Semenovich Strebkov, Director of VIESH and Chair-holder
Volga	Nizhny Novgorod State University of Architecture and civil Engineering (NNGASU)	UNESCO Chair "Ecologically Safe Development of Large Region: the Volga Basin"	Nizhny Novgorod	Chair Holder-Prof. Evgeny Vasilievich Koposov, Rector of NNGASU
Volga	Nizhny Novgorod State University of Architecture and civil Engineering (NNGASU)	Management of scientific researches, innovations and design works	Nizhny Novgorod	Vice- rector on scientific work Sobol Stanislav Vladimirovich, doctor of technical sciences, professor
South	North Ossetian State K.Khetagurov University	UNESCO Chair "Regional Studies for Environmental and Population Issues"	Vladikavkaz	President of the University, Chair Holder- Prof. Akhurbek Alikhanovich Magometov
Centre	Institute of Restoration Art	UNESCO Chair on Urban and Architectural Conservation, Moscow	Moscow	Chair Holder- Prof. Igor Ivanovich Makovetskiy
Siberia	The East State Siberian University of Technology	UNESCO Chair in Environmental Ethics	Ulan-Ude	Chair Holder- Prof. Viatcheslav Vladimirovich Mantatov
Ural	The Urga State University	UNESCO Chair "Environmental Dynamics and Global Climate Change"	Khanty-Mansiysk	Chair Holder – Sergey Vladimirovich Pikunov Chair Co-holder- Prof.Elena Dmitrievna Lapshina
Siberia	Novosibirsk State University	UNESCO Chair "Sustainable Development , Environmental Sciences and Social Problems"	Novosibirsk	Chair Holder- Prof. Vladimir Alexandrovich Sobyenin, Rector of NSU
Far-East	Far Eastern State University	UNESCO Chair "Marine Ecology"	Vladivostok	Chair Holder : Prof. Nadejda Konstatinovna Khristoforova

Siberia	Altai State Technical University	UNESCO Chair "Environmental Education in Siberia"	Barnaul	Chair Holder- Prof. Alexander Andreevich Tskhay
South	Kuban State University		Krasnodar	Michail Barischew, Prof. Dr. Biol., Vice President for Science and Innovations
South	Kuban State University		Krasnodar	Dr. Peskova Tatyana. Professor of dep. of zoology
South	Kuban State University	Faculty of Chemistry and High Technologies	Krasnodar	Tatiana Vasilyevna Kostyrina, Dr. Chem., Ass.-Prof., Dean of the Faculty
South	Kuban State University	Department for Physical Chemistry	Krasnodar	Wiktor Zabolotskij, Prof. Dr. Chem., Head of Department
South	Kuban State University	Department for Physical Chemistry	Krasnodar	Nikolaj Scheldeschow, Prof. Dr. Chem., Department for Physical Chemistry
South	Kuban State University	Department for Physical Chemistry	Krasnodar	Wiktor Nikonenko, Prof. Dr. Chem., Department for Physical Chemistry
South	Kuban State University	Department for Organic Chemistry	Krasnodar	Witalij Buikliskij, Prof. Dr. Chem., Head of Department for Organic Chemistry
South	Kuban State University	Department for General and Inorganic Chemistry	Krasnodar	Nikolaj Bukow, Prof. Dr. Chem., Head of Department for General and Inorganic Chemistry
South	Kuban State University	Department of genetics, microbiology and biotechnology	Krasnodar	Karaseva Emma, DSc, professor
Centre	TU Jaroslavl		Jaroslavl	Sergej Winiaminowitsch Gudkow, Dr.-Tech. Sc. Vice President for Further Education
Centre	TU Jaroslavl		Jaroslavl	Aleksander Anatoljewitsch Lomow, Prof. Dr. Tech. President
Centre	Lomonosov Moscow State University	Faculty of Geography	Moscow	Dean: Acad. Nikolai S. Kasimov
Centre	Lomonosov Moscow State University	Faculty of Geography	Moscow	Head - Prof. Aleksandr Kislov
Centre	Lomonosov Moscow State University	Faculty of Geography	Moscow	Head - Prof. A. Shnyparkhov
Northwest	The Scientific Foundation "Nansen International Environmental and Remote Sensing Centre"		Saint-Petersburg	Bobylev Leonid, Director
Siberia	Institute of Monitoring of Climatic and Ecological Systems, Siberian Branch of Russian Academy of Sciences		Tomsk	Director - Prof. Vladimir Krutikov
Siberia	Siberian center for Environmental Research and Training		Tomsk	Evgueni P. Gordov, director of the Center
Centre	Institute of Geography of RAS	Glaciology Department	Moscow	Director, Head of Glaciology Department - Academician of RAS Vladimir Kotlyakov

Centre	Institute of Geography of RAS	Laboratory of Climatology	Moscow	Shmakin Andrey, Head of Laboratory
Centre	Institute of Geography of RAS	Laboratory of Evolutional Geography	Moscow	Head of Laboratory - Andrey Velichko
Centre	Institute of Geography of RAS	Department of physical geography and land use	Moscow	Head - Prof. Dmitry Lyri
Centre	Institute of Geography of RAS	Laboratory of Hydrology	Moscow	Head of Laboratory - Prof. Nikolay Koronkevich
Centre	Institute of Geography of RAS	Laboratory of Geography and Evolution of Soil	Moscow	Head - Prof. Sergey Goryachkin
Centre	Institute of Geography of RAS	Laboratory of Biogeography	Moscow	Head - Arkady Tishkov
Centre	Institute of Geography of RAS	Earth remote sensing group of the Laboratory of geosystems experimental research	Moscow	Head of the group - Dr. Lev Desinov
Centre	Belgorod State University		Belgorod	Rector - Prof. Leonid Dyatchenko
Centre	Belgorod State University	Geology and Geography Faculty	Belgorod	Dean – Petin Aleksandr Nikolayevich, Candidate of Geographical science, professor
Centre	Belgorod State University	Geology and Geography Faculty	Belgorod	Head - professor, PhD in geography - J.G. Chendev
Centre	Belgorod State University	Geology and Geography Faculty	Belgorod	Kornilov Andrey, DSc (Geography), PhD (Economy), Head of Department
Centre	Belgorod State University	Federal And Regional Centre For Aerospace Monitoring Of Natural Resources	Belgorod	Director – Lisetsky Fedor Nikolaevich, Professor, Doctor of Geographical Sciences
Centre	Belgorod State University	Botanical Garden	Belgorod	Prof. Valeriy Tokhtar', Director of the Botanical Garden, Belgorod State University, Russia
Centre	Belgorod State University		Belgorod	
Centre	Belgorod State University	Faculty of Biology and Chemistry	Belgorod	Prof. Olga Lebedeva, Dean
Centre	Belgorod State University	Faculty of Biology and Chemistry	Belgorod	Prof. Aleksandr Vesentsev, Head of the Department
Centre	Belgorod State University	Faculty of Biology and Chemistry	Belgorod	Prof. Aleksandr Prisny, Head
Centre	Belgorod State University	Faculty of Biology and Chemistry	Belgorod	Prof. Marina Fedorova, Dr.Sci.Biol., Head of the Department
Centre	Belgorod State University	Faculty of Biology and Chemistry	Belgorod	Dr. Eduard Snegin, assistant professor
Centre	Belgorod State University		Belgorod	
Centre	Belgorod State Technological University named after V.G.Shukhov	Faculty of Environmental Engineering		Director Vyacheslav Ivanovich Pavlenko, doctor of science (technology), professor

Centre	Institute of Water Problems RAS		Moscow	Victor Danilov-Danilyan – Corresponding Member of the Russian Academy of Science, Director of the Institute of Water Problems, RAS
Centre	Institute of Water Problems RAS	Laboratory of Hydrological Cycle	Moscow	Head - Prof. Lev Kuchment
Centre	Institute of Water Problems RAS	Laboratory of interaction of land water with atmosphere	Moscow	Head - Prof. Gennady Panin
Centre	Institute of Water Problems RAS	Laboratory of soil water physics	Moscow	Head - Prof. Evgeny Gusev
Centre	A.M. Obukhov Institute of Atmospheric Physics of Russian Academy of Sciences	Laboratory of climate theory	Moscow	Prof. Igor Mokhov – Corresponding Member of the Russian Academy of Science, Director of the Institute, head of the laboratory
Centre	A.M. Obukhov Institute of Atmospheric Physics of Russian Academy of Sciences	Laboratory of upper atmosphere physics	Moscow	Prof. Anatoly Semenov, head of the laboratory
Siberia	The V.B. Sochava Institute of Geography SB RAS	Board	Irkutsk	Director - Prof. Viktor Plyusnin
Siberia	The V.B. Sochava Institute of Geography SB RAS	Laboratory of Hydrology and Climatology	Irkutsk	Head - Dr.Sc.(Geogr.) Anatoliy Vasilievich IGNATOV
Far-East	Melnikov Permafrost Institute	Board	Yakutsk	Rudolf Zhang, Director
Far-East	Melnikov Permafrost Institute	Laboratory of Groundwater in Permafrost	Yakutsk	Head of Laboratory: Nadezhda A. Pavlova, C.G.M.S.
Far-East	Melnikov Permafrost Institute	Laboratory of Permafrost Landscapes	Yakutsk	Head of Laboratory: Alexander N. Fedorov, C.G.S.
Northwest	State Hydrological Institute		Saint-Petersburg	Director - Prof. Vladimir Geordievsky
Northwest	State Hydrological Institute	Department of Climate Change Studies	Saint-Petersburg	Head - Prof. Oleg Anisimov
Northwest	State Hydrological Institute	Laboratory "Climate change and its consequences"	Saint-Petersburg	Head - Prof. Irena Borzenkova
Northwest	State Hydrological Institute	Laboratory of hydrological research	Saint-Petersburg	Head - Dr. Natalia Lemeshko
Northwest	State Scientific Center of the Russian Federation the Arctic and Antarctic Research Institute - AARI		Saint-Petersburg	Director -Prof. Ivan Frolov
Northwest	State institute Voeikov Main Geophysical Observatory (SI MGO)		Saint-Petersburg	Director - Prof. Vladimir Katsov
Northwest	State institute Voeikov Main Geophysical Observatory (SI MGO)	Department of Dynamic Meteorology	Saint-Petersburg	Head - Prof. Valentin Meleshko

Centre	The Hydrometeorological Research Centre of the Russian Federation (The Hydrometcentre Of Russia)		Moscow	Director - Roman M. Vilfand
Centre	The Hydrometeorological Research Centre of the Russian Federation (The Hydrometcentre Of Russia)	Laboratory of general circulation and climate modelling	Moscow	Head - Prof. Konstantin Rubinshtain
Centre	Institute of Numerical Mathematics RAS		Moscow	Director: Evgeny Evgenievich Tyrtysnikov, Dr. Phys.-Math. Sci., corr.member of Russ.Acad.Sci
Centre	Space Research Institute of the Russian Academy of Sciences		Moscow	Director - Prof. Lev Zeleny
Centre	Institute of Global Climate and Ecology of Hydromet and RAS		Moscow	Director - Prof. Yury Izrael
Northwest	Institute of Limnology of RAS		Saint-Petersburg	
Northwest	Institute of North Industrial Ecology Problems of KOLA SCIENCE CENTRE RAS, INEP		Apatity, Murmanskaya oblast	Director - Prof. Vladimir Masloboev
Northwest	Institute of North Industrial Ecology Problems of KOLA SCIENCE CENTRE RAS, INEP	Laboratory of Aquatic Ecosystems Ecology	Apatity, Murmanskaya oblast	Chief: Kashulin Nikolay Alexandrovich, Doctor of Biological Sciences
Northwest	Institute of North Industrial Ecology Problems of KOLA SCIENCE CENTRE RAS, INEP	Laboratory of global environmental changes	Apatity, Murmanskaya oblast	Head - Prof. Oleg Shumilov
Centre	Sergeev Institute of Environmental Geoscience Russian Academy of Sciences		Moscow	OSIPOV Viktor Ivanovich - Director of IEG RAS, Academician of RAS
Centre	Sergeev Institute of Environmental Geoscience Russian Academy of Sciences	International Projects Department	Moscow	Dr. Valentina Svalova, Ph.D, Leading Scientist
Centre	All-Russian Research Institute for Hydrogeology and Engineering Geology. (VSEGINGEO)		Zeleny, Moscow oblast	Director - Prof. Vladimir Krupoderov
Centre	Voronezh State Technical University		Voronezh	Rector - Prof. Vladimir Petrenko
Centre	Voronezh State Technical University	Faculty of Physics and Technics	Voronezh	Prof. Stanislav Rembeza, Head of the Dept.
Centre	Voronezh State Technical University	Faculty of Physics and Technics	Voronezh	Prof. Ekaterina Rembeza
Centre	Voronezh State University		Voronezh	Prof. Dmitry Endovitsky, Rector

Centre	Voronezh State University	Faculty Geography, Ecology and Tourism	Voronezh	Prof. Vladimir I. Fedotov, Dean of the Faculty, Head of the Dept.
Centre	Voronezh State University	Faculty Geography, Ecology and Tourism	Voronezh	Semion Kurolap, Professor, Dr. Sc (Chemistry)
Centre	Voronezh State University, Department of Biophysics and Biotechnology	Faculty of Biology and Soil Studies	Voronezh	Prof. Valery Artyukhov, Dean of the Faculty, Head of the Dept., Council chairman
Centre	Voronezh State University	Faculty of Biology and Soil Studies	Voronezh	Prostakov N. I. — professor, director of biological teaching and research center VSU «Venevitinovo»
Centre	Voronezh State University	Faculty of Biology and Soil Studies	Voronezh	Prof. Aleksandr Numerov, leading researcher
Centre	Voronezh State University	Faculty of Biology and Soil Studies	Voronezh	Prof. Oleg P. Negrobov - Head oh the Department, Head of the Laboratory, Committee chairman
Centre	Voronezh State University	Faculty of Biology and Soil Studies	Voronezh	Prof. Viktor Golub, Head of the Lab.
Centre	Voronezh State University	Faculty of Biology and Soil Studies	Voronezh	Prof. Vladimir A. Agafonov, head of the Department
Centre	Voronezh State University	Faculty of Biology and Soil Studies	Voronezh	Dr. Evgeny Moskalev, junior member of research staff
Centre	Voronezh State University	Faculty of Biology and Soil Studies	Voronezh	Dr. Olga Mashkina, assistant professor
Centre	Voronezh State University	Faculty of Biology and Soil Studies; B.M. Kozo-Polyanskiy Botanical Garden of Voronezh State University	Voronezh	Prof. Vladislav N. Kalaev, Department of Genetics, Cytology and Bioengineering, deputy director of B.M. Kozo-Polyanskiy Botanical Garden of Voronezh State University
Centre	Voronezh State University	Faculty of Biology and Soil Studies	Voronezh	Gaponov Sergey P. The head of the Dept., PhD, DSci, Full Professor Vice-Dean of International Relations
Centre	Voronezh State University	Faculty of Biology and Soil Studies	Voronezh	Prof. Aleksandr Eprintsev, head of the Dept.
Centre	Voronezh State University	Faculty of Biology and Soil Studies	Voronezh	Prof. Dmitry Scheglov, Head of the Dept.
Centre	Voronezh State University	Faculty of Biology and Soil Studies	Voronezh	Prof. Tatiana Devyatova, Head of the Dept.
Centre	Voronezh State University	Faculty of Geology	Voronezh	Prof. Viktor M. Nenakhov, Dean
Centre	Voronezh State University	Faculty of Geology	Voronezh	Prof. Viktor Bocharov, Head of the Dept.
Centre	Voronezh State University	Faculty of Geology	Voronezh	Prof. Irina Kosinova, Head
Centre	Voronezh Biosphere Reserve		Voronezh	Director - Dr. Aleksandr Masalykin, Deputy director for Research - Prof. Petr Vengerov
Centre	Kursk State University		Kursk	Prof. Vitaly Kudinov, Vice-rector for Research
Centre	Kursk State University	Research Office	Kursk	Dr. Sergey Loginov, Head

Centre	Kursk State University	Faculty of natural and geographic sciences	Kursk	Prof. Irina Balabina, Dean
Centre	Kursk State University	Faculty of natural and geographic sciences	Kursk	Dr. Natalia Trigub, Dean
Centre	Kursk State University	Faculty of natural and geographic sciences	Kursk	Prof. Natalia Malysheva
Centre	Kursk State University	Faculty of natural and geographic sciences	Kursk	Prof. Ilona Kometiani , PhD, Head of Department
Centre	Kursk State University	Faculty of natural and geographic sciences	Kursk	Prof. Lyudmila Popkova, Head
Centre	Kursk State University	Faculty of natural and geographic sciences	Kursk	Dr. Olga Lukashova, Head
Centre	South-West State University (till 12/05/2010 - Kursk State Technical University)	International projects and programmes department	Kursk	Head of Department - Lyudmila Sukhorukova
Centre	South-West State University (till 12/05/2010 - Kursk State Technical University)	Department of Biomedical engineering	Kursk	Prof. Korenevsky Nikolay Alekseevich, Dr.Sci.Tech., professor, Chair Biomedical engineering
Centre	Orel State University	Administration	Orel	Prof. Olga Saurina, Vice-Rector
Centre	Orel State University	Faculty of Natural Sciences	Orel	Prof. Tamara Puzina, Head
Centre	Orel State University	Faculty of Natural Sciences	Orel	Dr. Lyudmila Frolova, assistant professor
Centre	Orel State Agrarian University	Faculty of Agrobusiness and Ecology	Orel	Dr. Boris Voronichev, Daen
Centre	Orel State Agrarian University	Faculty of Agrobusiness and Ecology	Orel	Academician of RAAS, Prof. Nikolay Parakhin, Rector, professor
Centre	Orel State Agrarian University	Faculty of Agrobusiness and Ecology	Orel	Prof. Vasily Lobkov, Head
Centre	Orel State Agrarian University	Faculty of Agrobusiness and Ecology	Orel	Prof. Aleksandr Gurin, Head
Centre	Orel State Agrarian University	Faculty of Agrobusiness and Ecology	Orel	Prof. Nikolay Lysenko, Head
Siberia	The Baikal Institute for Nature Management (BINM)		Ulan-Ude, Republic of Buryatiya	Director, Corresponding-member RAS, Prof. A.K.Tulokhonov
Ural	Tyumen State University	Research Institute of Ecology and Natural Resource Management	Tyumen	Director - Dr. Andrey Soromotin
Centre	Voronezh State Agricultural University		Voronezh	Rector - Prof. Aleksandr Vostroilov
Centre	Voronezh State Agricultural University	Research department	Voronezh	Dr. Aleksey Aleschenko, Head

Centre	Voronezh State Agricultural University	Faculty of Agricultural Chemistry, Soil Studies and Ecology	Voronezh	Prof. Nikolay Myazin, Dean
	Voronezh State Agricultural University	Faculty of Agricultural Chemistry, Soil Studies and Ecology	Voronezh	Dr. Dmitry Golubtsov, Deputy-Dean
Centre	Voronezh State Agricultural University	Faculty of Agricultural Chemistry, Soil Studies and Ecology	Voronezh	Prof. Vasily Ivanov, professor of the Department
Centre	Voronezh State Academy of Forestry and Technologies		Voronezh	Rector - Prof Vladimir Bugakov; Prof. Michail Drapalyuk, Vice-Rector for Research
Centre	Voronezh State Academy of Forestry and Technologies	Research Office	Voronezh	Dr. Evgeniya Bashkardina, Head
Centre	Voronezh State Academy of Forestry and Technologies	Forestry Faculty	Voronezh	Prof. Nikolay Kharchenko, Head of the Department
Centre	Voronezh State Academy of Forestry and Technologies	Forestry Faculty	Voronezh	Prof. Yury Arefev
Centre	Voronezh State Academy of Forestry and Technologies	Forestry Faculty	Voronezh	Dr. Aleksey Sivolapov, Head of the department
Centre	Voronezh State Academy of Forestry and Technologies	Forestry Faculty	Voronezh	Dr. Igor Isakov, assistant professor
Centre	Voronezh State Academy of Forestry and Technologies	Forestry Faculty	Voronezh	Prof. Evgeny Titov, Head
Centre	Voronezh State Academy of Forestry and Technologies	Forestry Faculty	Voronezh	Prof. Sergey Matveev, professor
Centre	Voronezh State Academy of Forestry and Technologies	Faculty of Wood Processing Technologies	Voronezh	Prof. Larisa Belchinskaya, Head of Chemistry dept.
Centre	Voronezh State Technological Academy	Faculty of Ecology and Chemical Technology	Voronezh	Prof. Pavel Sukhanov, Dean
Centre	Voronezh State Technological Academy	Faculty of Ecology and Chemical Technology	Voronezh	Dr. Svetlana Zueva, PhD (Technology)
Centre	Moscow State University of Forest	Institute of Forest System Studies	Mytishi, Moscow oblast	Director - Prof. Valentin Shalaev
Centre	Paleontology Institute of RAS		Moscow	Director - Corresponding Member of RAS, Prof. Aleksey Rozanov
Centre	Institute of Forest Science of RAS		Uspenskoe, Moscow region	Director – Prof. Sirin, Andrey Arturovich
Centre	Institute of Microbiology of the Russian Academy of Sciences		Moscow	Director: Corresponding Member of RAS Valery F. Galchenko
Northwest	Institute of Biology, Komi Scientific Centre, Ural Branch, Russian Academy of Science		Syktvykar	Director of the Institute Taskaev Anatoly Ivanovich
Northwest	Institute of Biology, Komi Scientific Centre, Ural Branch, Russian Academy of Science	Soil Science Department	Syktvykar	Dr. Alexander Pastukhov

Northwest	Institute of Biology, Komi Scientific Centre, Ural Branch, Russian Academy of Science	Department of flora and vegetation of North	Syktvykar	Dr. Patova Elena, Senior researcher
Ural	Institute of Plant and Animals Ecology, Ural Branch of RAS		Ekaterinburg	Academician of RAS Vladimir Bolshakov, Director
Ural	Institute of Plant and Animals Ecology, Ural Branch of RAS		Ekaterinburg	Dr. Elena Kuzmina, research officer, secretary of the Foreign Affairs Department
Ural	Institute of Plant and Animals Ecology, Ural Branch of RAS	Department of functional ecology of terrestrial animals	Ekaterinburg	Prof. Vladimir Vershinin, Department of functional ecology of terrestrial animals
Ural	Institute of Plant and Animals Ecology, Ural Branch of RAS	Department of functional ecology of terrestrial animals	Ekaterinburg	Mrs Orlova Maria, postgraduate student, laboratory assistant
Ural	Institute of Plant and Animals Ecology, Ural Branch of RAS	Laboratory of population radiobiology	Ekaterinburg	Dr. Sci. Pozolotina Vera Nikolaevna, Head of the Laboratory
Ural	Institute of Plant and Animals Ecology, Ural Branch of RAS	Interdepartmental laboratory of synthesis and studying biologically active compounds	Ekaterinburg	Rasina Larisa Nikolaevna, Head; Orekhova Natalia Aleksandrovna, Researcher, Candidate of Biological Sciences
Volga	Institute of Ecology and Genetics of Microorganisms of the Ural Branch of the Russian Academy of Sciences (IEGM UB RAS)		Perm	Director - Prof. Vitaly Demakov
Far-East	Institute of Biology and Soil Sciences, Far Eastern Branch of Russian Academy of Sciences		Vladivostok	Director - Prof. Yury Zhuravlev
Far-East	Institute of Biology and Soil Sciences, Far Eastern Branch of Russian Academy of Sciences	Laboratory of Freshwater Hydrobiology (LFH); Scientific-Educational Ecological Center of IBSS FEBRAS & Scientific-Public Freshwater Biomonitoring Center (SPFBC IBSS FEBRAS)	Vladivostok	Dr. Vshivkova Tatyana S., Senior Researcher; Head of the Educational Ecological Center & Scientific-Public Freshwater Monitoring Center
Centre	The Centre for problems of ecology and productivity of forests (CEPF)		Moscow	Director of Center: Georgii Nicolaevich Korovin
Siberia	Institute of systematization and animal ecology		Novosibirsk	Director - Prof. Viktor Glupov
Northwest	Institute of Biological Problems of the North (Far-East Branch of RAS)		Magadan	Director - Igor Chernyshev
Far-East	Institute of Marine Biology (Far-East		Vladivostok	Director - Andrey Adrianov

	Branch of RAS)			
Northwest	Komarov Botanical Institute, RAS		Saint-Petersburg	Director - Vasily Yarmishko
Siberia	Research Institution Central Siberian Botanical Garden		Novosibirsk	Director – Sedelnikov Vyacheslav Petrovich
Centre	A.N. Severtsov Institute of Ecology and Evolution		Moscow	Director - Academician of RAS Dmitry S. Pavlov
Northwest	Murmansk Marine Biological Institute (MMBI), Russian Academy of sciences		Murmansk	Director - Academician of RAS Gennady Matishov
Siberia	The Institute of Cytology and Genetics, the Siberian Branch of the Russian Academy of Sciences		Novosibirsk	Director - Director Nikolay KOLCHANOV, Full Member of the Russian Academy of Sciences
Far-East	Institute for Complex Analysis of Regional Problems, Far Eastern Branch of the Russian Academy of Science (ICARP FEB RAS)		Jewish Autonomous Oblast, Birobidzhan city	Director - Frisman Efim J., D.Sci. (Biology), professor
Centre	N. I. Vavilova Institute of General Genetics, Russian Academy of Sciences		Moscow	Director - Corresponding Member of the Russian Academy of Science Nikolay Yankovsky
Centre	G.K.Skryabin Institute of Biochemistry and Physiology of Microorganisms, Russian Academy of Sciences		Moscow region, Puschino	Director - Corresponding Member of the Russian Academy of Sciences Alexander Boronin
Ural	Botanical Garden, Ural Branch of Russian Academy of Sciences		Ekaterinburg	Director - Prof. Sergey Shavnin
Centre	Institute of Market Problems, Russian Academy of Sciences		Moscow	Director - Academician of RAS, Prof. Nikolay Petrakov
Northwest	Saint-Petersburg State University	Faculty of Geography and Geoecology	Saint-Petersburg	Dean - Nikolay Kaledin
Northwest	Saint-Petersburg State University	Faculty of Geography and Geoecology	Saint-Petersburg	Prof. Foux Victor Robertovich, professor of the dept., head of the laboratory
Volga	Perm State University		Perm	Deputy head for Research - Prof. Nikolay Maksimovich
Ural	Ugra State Institute of Information Technologies	Laboratory of mathematical problems in ecology and nature management	Khanty-Mansiysk	Head of Laboratory - Dr. Mikhail Korotkov
Ural	Remote Sensing Centre		Khanty-Mansiysk	The Head: Vasily Kopylov
Volga	The Ural Environmental Research Institute		Perm	Director - Boris E. Shenfeld
Volga	Environmental technologies Ltd.		Penza region, Lunino	Director - Vladimir Bararajkin

Centre	Tambov State Technical University		Tambov	Tkachev Alexey, PhD, Professor, Head of Department
Centre	Tambov State University named after G.R. Derzhvina		Tambov	Prof. Vladislav Yuriev, Rector; Prof. Nikolay Boldyrev
Centre	Tambov State University named after G.R. Derzhvina	International Relations Office	Tambov	Dr. Yury Zusman, Deputy Head
Centre	Tambov State University named after G.R. Derzhvina	Research Office	Tambov	Dr. Natalia Kopytova, Leading specialist
Centre	Tambov State University named after G.R. Derzhvina	Institute of Natural Sciences	Tambov	Dr. Viktor Koryakin, Director
Centre	Tambov State University named after G.R. Derzhvina	Institute of Natural Sciences	Tambov	Prof. Georgiy A. Lada, Associated Professor
Centre	Tambov State University named after G.R. Derzhvina	Environmental Education and Research Center	Tambov	Kristina V. Nenastyeva, Head of the Science and Education Department
Centre	Ivanovo State University	Research Office	Ivanovo	Prof. Dmitry Polyvyannyj - Vice-rector for Research, Dr. Viktor Novikov, Head of Research Office
Centre	Ivanovo State University	Faculty of Biology and Chemistry	Ivanovo	Prof. Klyuev Michail, Dean
Centre	Ivanovo State University	Faculty of Biology and Chemistry	Ivanovo	Prof. Vladimir Isaev, Head of the Department, Chairman of the Centre
Centre	Ivanovo branch of Russian Bird Conservation Union		Ivanovo	Dr. Vladimir Melnikov, chairman
Volga	N.I. Vavilov Saratov State Agrarian University		Saratov	Rector - Prof. Nikolay Kuznetsov
	N.I. Vavilov Saratov State Agrarian University	Agronomy Department	Saratov	Dr. Ravil Gafurov
Volga	N.I. Vavilov Saratov State Agrarian University	Faculty of Ecological Conservation and forestry	Saratov	Prof. Aleksey Kravchuk, Head
Volga	N.I. Vavilov Saratov State Agrarian University	Faculty of Ecological Conservation and forestry	Saratov	Dr. Arkady Kuzin, Head
Centre	Lipetsk State Technical University		Lipetsk	Rector - Prof. Anatoly Pogodaev
Centre	Lipetsk State Technical University	Metallurgical Institute	Lipetsk	Dr. Sergey Saltukov, Head of the Dept., assistant professor
Northwest	Saint-Petersburg State Polytechnical University	The Faculty of Civil engineering	Saint-Petersburg	Prof. Alexander Ivanovich Al'khimenko, Dean of the Faculty, Head of the Department of Hydrotechnical Construction Engineering; Prof. Boris Vasilievich Balashov, Director of Water Security Center, Department of Hydrotechnical Construction Engineering

Northwest	Saint-Petersburg State Polytechnical University	The Faculty of Civil engineering	Saint-Petersburg	Dr. Romanov Mikhail, Associate Professor, Vice-Dean of Civil Engineering Faculty on International Affairs
Northwest	Saint-Petersburg State Polytechnical University	The Faculty of Civil engineering	Saint-Petersburg	Prof. Vladimir Badenko,
Centre	State Oceanographic Institute		Moscow	Director - Vladimir Komchatov
Centre	P.P.Shirshov Institute of Oceanology of the Russian Academy of Sciences (IO RAS)		Moscow	Director - Robert. Nigmatulin
Centre	Scientific Research Center of Space Hydrometeorology "Planeta" (SRC "Planeta")		Moscow	Director: Vasily V. Asmus
Northwest	Kaliningrad State Technical University	Faculty of Bioresources and Nature Management	Kaliningrad	Dean - Prof. Konstantin Tylik
Northwest	Immanuel Kant Baltic Federal University / Department of Ocean Geography	Atlant Research Institute for fish industry and oceanography/ Department of Bioresources of World Ocean	Kaliningrad	Prof. Pavel Chernyshkov, professor/ leading researcher
Ural	Institute of Problems of Development of a North SB RAS		Tyumen	Director - Prof. Anatoly Bagashev
Northwest	Institute of Regional Economy of RAS		Saint-Petersburg	Acting as director - Prof. Mikhail Gusakov
Northwest	Institute of Regional Economy of RAS	Laboratory of Regions Sustainable development Problems	Saint-Petersburg	Deputy Director - Prof. Boris Zhikharevich
Far-East	Institute of Water and Environmental Problems of Far Eastern Branch of the Russian Academy of Sciences		Khabarovsk	Voronov Boris Aleksandrovich - Director, Doctor of Biological Sciences, Corresponding Member of the Russian Academy of Sciences
Far-East	Institute of Water and Environmental Problems of Far Eastern Branch of the Russian Academy of Sciences	Laboratory of Regional nature management optimization	Khabarovsk	Head - Prof. Zoya Mirzekhanova
South	All-Russian Research Institute for Agricultural and Forestry Melioration	Department of combating landscapes degradation	Volgograd	Dr. Aleksandr Manaenkov, Head
South	Southern Federal University		Rostov-on-Don	Vladislav G. Zakharevitch, Rector, Dr. Sc. (Techn), Professor
South	Southern Federal University	Faculty of Natural Sciences and Humanities	Taganrog, Rostov region	Vasily V. Vasilovskiy, Dean
South	Southern Federal University	Faculty of Natural Sciences and Humanities	Taganrog, Rostov region	Prof. Dr. Aleksey Korolev, Head

South	Southern Federal University	Faculty of Biology and Soil Studies	Rostov-on-Don	Prof. Vitold Parshin, Dean, Head of the Dept., assistant professor
South	Southern Federal University	Faculty of Biology and Soil Studies	Rostov-on-Don	Prof. Valery Vnukov, Head
South	Southern Federal University	Faculty of Biology and Soil Studies	Rostov-on-Don	Prof. Vladimir Kryschenko, Head
South	Southern Federal University	Faculty of Biology and Soil Studies	Rostov-on-Don	Prof. Sergey Kolesnikov, Head
South	Southern Federal University	Faculty of Geology and Geography	Rostov-on-Don	Prof. Nikolay Boiko, Dean
South	Southern Federal University	Faculty of Geology and Geography	Rostov-on-Don	Prof. Yury Fedorov
South	Southern Federal University	Faculty of Geology and Geography	Rostov-on-Don	Prof. Aleksandr Khavansky, Dean
Centre	Research Institute of Forest Genetics and Breeding		Voronezh	Prof. Gennady Panichev, Head
Centre	Research Institute of Forest Genetics and Breeding	Genetic laboratory	Voronezh	Dr. Olga Zemlianukhina, PhD (Biology), Senior researcher
Northwest	Institute of North's ecology problems	Department of natural compounds chemistry	Arkhangelsk	Dr. Natalia Shorina, senior researcher
Centre	Independent non-profit organization "Centre for social research "MICAR"		Zhukovskiy, Moscow region	Dr. Irina Krutiy, Head
Volga	Institute of Steppe, Russian Academy of Sciences		Orenburg	Dr. Mjachina Ksenya Viktorovna, the research assistant, Phd,
Centre	State Institution «All-Russian Research Institute of Hydrometeorological Information – World Data Centre»	State Water Cadastre Laboratory	Obninsk, Kaluga region	Prof. Veniamin A. Semenov, Doctor in Geography, leading researcher
Centre	All-Russian Institute of Scientific and Technical Information of Russian Academy of Sciences (VINITI RAS)	Department of Innovation and Oriented scientific and informational Researches	Moscow	Dr. Igor L. Petrov, Head
Centre	Russian regional Environmental Centre		Moscow	Expert on International Environmental Cooperation - Dr. Elena Ermolova
Ural	Ural Branch RAS	Department of Foreign Relations	Ekaterinburg	Tamara Deeva, Chief expert
Ural	Institute of Industrial Ecology Ural Branch of Russian Academy of Sciences (IIE UB RAS)	Laboratory of territories sustainable development	Ekaterinburg	Dr. Igor Manzhurov, Head of the Laboratory
Ural	Institute of Industrial Ecology Ural Branch of Russian Academy of Sciences (IIE UB RAS)	Radiation Laboratory	Ekaterinburg	Dr. Alexey Ekidin, PhD, The Head of Laboratory

Annex IV List of collected questionnaires for researchers

1.	"Peter Gaz" Ltd.	Mrs. Oksana Viktorovna Rodivilova, GIP in area ecology
2.	"Piter Gaz" Ltd.	Mr. David Darbinyan, chief specialist
3.	A.M. Obukhov Institute of Atmospheric Physics, Russian Academy of Sciences	Dr. Aleksandr N. Gruzdev, Lead Research Worker
4.	A.N. Severtsov Institute of Ecology and Evolution, Russian Academy of Science	Prof. Yury Yu. Dgebuadze, Deputy-director of SIEE RAS, correspondent member of RAS, Professor, DSc(BioL)
5.	Administration of Nature Inspectorate on the Arkhangelsk Region	Mr Anatoliy P. Minyaev, head
6.	All-Russia scientific research institute of a fish economy and oceanography	Dr. Lydmila Vasil'evna Semenyak, Chief Scientific Officer
7.	All-Russian Institute of Scientific and Technical Information of Russian Academy of Sciences (VINITI RAS)	Dr. Igor L. Petrov, Head of Department of Innovation and Oriented scientific and informational Research
8.	Altai State University	Dr. Kharlamova Natalia
9.	Angarsk branch of East- Siberian research centre human ecology SB RAMS – Researc institute Occupational Medicine and Human Ecology	Professor Natalia Efimova, head of laboratory
10.	Arctic and Antarctic Research Institute	Dr. Irina V. Fedorova, Chief of OSL, PhD. in Geography, Associate Professor
11.	Arctic and Antarctic Research Institute	Mr. Alexey K. Pavlov
12.	Arkhangelsk International School of Public Health (ISPHA), Northern State Medical University	Dr. Yury Sumarokov
13.	Arkhangelsk regional public organization "Arkhangelsk Green Cross"	Mr. Andrey Aleksandrovich Shchegolev
14.	Arkhangelsk Scientific Centre Ural Branch RAS	Mr. Felix Yudakhin, chairman of the Arkhangelsk Scientific Centre
15.	Arkhangelsk State Technical University	Dr. Chukhchin Dmitry Germanovich, PhD (Chem.), Department of Biotechnology
16.	Arkhangelsk State Technical University	Dr. Gurjev Alexander Vladislavovich, Head of the scientific-research department, PhD (Technical Sciences), Senior lecturer
17.	Arkhangelsk State Technical University	Dr. Kazakov Yakov Vladimirovich, PhD (TechSciences), Department of Pulp and Paper Technology
18.	Arkhangelsk State Technical University	Prof. Nevzorov Alexander, Department of engineering geology and foundations
19.	Arkhangelsk State Technical University	Prof. Evgeny Novozhilov, Head of the Department of Biotechnology, Professor, DSc
20.	Arkhangelsk State Technical University	Dr. Natalia Popova, PhD, Professor of the Department of Theoretical and Applied Chemistry
21.	Arkhangelsk State Technical University	Prof. Tatiana Skrebets, PhD (Chemistry), Professor of the Department of theoretical and applied chemistry
22.	Astrakhan State Nature Biosphere Reserve	Dr. Alexander K. Gorbunov, Deputy director
23.	Astrakhan State Technical University	Prof. Irina Dzerzhinskaya, Doctor of Biology, Professor
24.	Astrakhan State Technical University	Prof. Vyacheslav Zaitsev, Head of hydrobiology and general biology department, Professor, Doctor of Agricultural sciences
25.	Astrakhan State Technical University	Prof. Olga Soprunova, Head of Applied biology and microbiology department, Professor, Doctor of Biology
26.	Baikal institute of nature management Siberian branch of RAS	Mr. Tulokhonov Arnold Kirillovich, Director
27.	Belgorod Shukhov State Technological University	Dr. Andrey Lyutenko, Department of City Cadastre and Engineering Research
28.	Belgorod State Technical University	Dr Valerie K. Tokhtar', Director of the Botanical Garden
29.	Belgorod State University	Prof. Marina Fedorova, DSc (Biology), Head of Anatomy and Physiology of Live Organisms Chair
30.	Belgorod State University	Prof. Yury Chendev, DSc, Dept. of Geography and

		Geocology, Geologic-Geographical Faculty
31.	Boreskov Institute of Catalysis SB RAS	Dr. Alexei M. Sorokin, researcher, PhD
32.	Branch of St.-Petersburg State Sea Technical University in Severodvinsk "Sevmashvtuz"	Mr. Ain Yevgeniy Mikhailovich, Head of department engineering preservation of the environment
33.	Branch of Saint-Petersburg State Sea Technical University in Severodvinsk	Mr. Valery Alexandrovich Stenin
34.	Caspian Regional Center "Environment and Law" Ltd.	Alexander A. Aldabaev, General Director
35.	Central Aerological Observatory	Dr. Boris M. Kiryushov, senior researcher, head of laboratory
36.	Central Aerological Observatory (CAO)	Dr. Alexander N. Lukyanov, senior researcher, head of laboratory
37.	Central Economics and Mathematics Institute Russian Academy of Sciences	Mr. Mikhail Afanasyev, head of the laboratory
38.	Closed Joint Stock Company «Biooil» (ZAO «Biooil»)	Dr. Nataliya Kikhtenko, program coordinator
39.	Dagestan State University	Dr. Zarema Alieva, associate professor of Sustainable Development and Nature Management Department the Dagestan State University, PhD in Biology
40.	Dagestan State University	Prof. Gayirbeg Abdurakhmanov, Dean of Faculty of Ecology and Geography, professor, Doctor of Biological Sciences, Academician of the Russian Ecology Academy
41.	Dagestan State University	Dr. Leyla Akhmedova, Head of Geocology Department of the Dagestan State University, PhD in Biology
42.	Dagestan State University	Dr. Gulnara Akhmedova, associate professor of Geography Department of the Dagestan State University, PhD in Geography
43.	Dagestan State University	Dr. Nadira Guseynova, associate professor of Geocology Department, PhD in Biology
44.	Dagestan State University	Dr. Saygydat Magomedova, senior lecturer, Sustainable development and Nature management Department, PhD in Biology
45.	Dagestan State University	Dr. Eleonora Medzhydova, senior lecturer, Sustainable development and Nature management Department, PhD in Biology
46.	Dagestan State University	Dr. Galina Monakhova, associate professor of Geocology Department, PhD in Biology
47.	Dagestan State University	Dr. Raisat Radzhabova, associate professor of Geocology Department, PhD in Biology
48.	Dagestan State University	Mrs. Marzhana Rasulova, PhD student (Biology and Biodiversity Department), lecturer of the Geocology Department of the Dagestan State University
49.	Dagestan State University	Dr. Elmira Saydieva, associate professor, Sustainable development and Nature management Department, PhD in Biology
50.	Department of Physics problem of Buryat Science centre of Siberian Branch of Russian Academy Sciences	Dr. Zhamsueva Galina, Head of laboratory
51.	East-Siberian State Technological University, Institute of Sustainable Development	Professor Viacheslav Mantatov, Director of the Institute of Sustainable Development, Head of UNESCO Department on Environmental Ethics at East-Siberian State Technological University (ESSTU)
52.	Environmental Centre IFPA	Dr. Pavel Muzychenko, Senior Environmental manager, PhD in technical sciences
53.	Environmental Education and Research Center Tambov State University	Kristina V. Nenastyeva, Head of the Science and Education Department
54.	Far Eastern National University	Dr. Larisa Savinkina, PhD (Geography), Institute of International Tourism and Hospitality
55.	Far Eastern National University	Mrs. Nina Popova, Institute of International Tourism and Hospitality
56.	Federal Forest Agency Northern Research	Surina Elena

	Institute of Forestry	
57.	Federal Forest Agency Northern Research Institute of Forestry	Senkov Aleksandr, senior researcher
58.	Federal State Institution "State oceanographic institute named after N.Zubov", Laboratory of Marine estuaries	Mrs. Lyubov Ostroumova, senior research worker, associate professor
59.	Federal State Unitary Enterprise "Caspian Fisheries Research Institute" FSUE «CaspNIRKh»	Mr. Valery Paltsev, Head of department of international and external relations
60.	FGU "Institute of Nature" - All-Russian Research Institute for Nature Protection	***!Mrs. Regina Nazyrova, chief researcher, Laboratory Reserves!***
61.	GeoTochka, Ltd. Co	Mr. Nicolai Terskii, general director
62.	Gorno-Altai State University	Prof. Maria Sukhova, Dr. Sci., Prof.
63.	Independent non-profit organization "Centre for social research "MICAR"	Dr. Irina Krutiy, Independent non-profit organization "Centre for social research "MICAR"
64.	Institute for Complex Analysis of Regional Problems Far Eastern Branch Russian Academy of Sciences (ICARP FEB RAS)	Dr. Elena Grigoreva, scientific secretary, PhD (Ecology), associate professor
65.	Institute for Water and Environmental Problems SB RAS	Ms Bender Julia, post-graduate student
66.	Institute for Water and Environmental Problems SB RAS	Mrs. Zhukova Olga, post-graduate student
67.	Institute for Water and Environmental Problems SB RAS	Dr Vladimir Kirillov (Ph.D. in Biology), Head of Laboratory
68.	Institute for Water and Environmental Problems SB RAS	Dr. Elena Mitrofanova, senior researcher
69.	Institute for Water and Environmental Problems SB RAS (IWEP SB RAS)	Dr.Sci. Tatyana Papina, Head of Chemical Analytical Center
70.	Institute for Water and Environmental Problems SB RAS (IWEP SB RAS)	Dr. Dmitry Troshkin, PhD, senior researcher
71.	Institute for Water and Environmental Problems SB RAS (IWEP SB RAS)	Mr. Kaisin Epishev, researcher
72.	Institute for Water and Environmental Problems SB RAS (IWEP SB RAS)	Dr. Stella Eyrikh, Senior Researcher
73.	Institute of Applied Physics	Prof. Efim Pelinovsky, Chief Scientist
74.	Institute of Biology and Soil Science Far-East Branch of Russian Academy of Science	Dr. Olga Ukhvatkina
75.	Institute of Biology and Soil Science, Far East Branch, Russian Academy of Sciences	Academician of RAS Yuri N. Zhuravlev, Head of the Institute
76.	Institute of Biology and Soil Sciences, Far Eastern Branch of Russian Academy of Sciences	Dr. Vshivkova Tatyana S., Senior Researcher; Head of the Educational Ecological Center & Scientific-Public Freshwater Monitoring Center
77.	Institute of Biology Komi SC UB RAS	Dr. Alexander Pastukhov, Soil Science Department
78.	Institute of biology Komi Sci. Center Ural Div. Russian Academy of Science	Dr. Patova Elena, Senior researcher
79.	Institute of Building and Architecture Northern (Arctic) Federal University	Dr. Korshunov Alexey, Geotechnical Department
80.	Institute of Building and Architecture Northern (Arctic) Federal University	Mrs. Galina Vitalevna Severova, Associate Dean of Institute of Building and Architecture
81.	Institute of Building and Architecture Northern (Arctic) Federal University	Dr. Viktor Ivanovich Rakovskiy, Dean of Institute of Building and Architecture
82.	Institute of Building and Architecture Northern (Arctic) Federal University	Mrs. Ekaterina Victorovna Kriger, Lecturer of Geotechnical Department
83.	Institute of Building and Architecture Northern (Arctic) Federal University	Dr. Irina Yurjevna Zaruchevnyh, Associate professor of Geotechnical Department
84.	Institute of Building and Architecture Northern (Arctic) Federal University	Mr. Victor Alexandrovich Veshnyakov, Assistant of Geotechnical Department
85.	Institute of Building and Architecture Northern (Arctic) Federal University	Dr. Andrey Victorovich Nikitin, Associate professor of Geotechnical Department
86.	Institute of Building and Architecture Northern (Arctic) Federal University	Mr. Anatoliy Alexandrovich Shestakov, Lecturer of Geotechnical Department

87.	Institute of Building and Architecture, Northern (Arctic) Federal University	Dr. Sergey E. Aksenov, Associate professor of of Geotechnical Department
88.	Institute of Building and Architecture, Northern (Arctic) Federal University	Dr. Victor V. Koptyaev, Associate professor of of Geotechnical Department
89.	Institute of Building and Architecture, Northern (Arctic) Federal University	Mr. Yuri Alexandrovich Dementev, Lecturer of Geotechnical Department
90.	Institute of Building and Architecture, Northern (Arctic) Federal University	Mr. Ilya Valentinovich Telminov, Lecturer of Geotechnical Department
91.	Institute of Ecological Problems in the North, Ural Division RAS	Prof. Malov Alexander Ivanovich, Chief Scientific Collaborator, Doctor of Geology
92.	Institute of Ecological Problems of the North, Ural Branch of Russian Academy of Sciences	Dr. Nikolay Larionov, advisor for International affairs researcher, PhD (Chem.)
93.	Institute of Ecological Problems of the North, Ural Branch, Russian Academy of Sciences	Mrs Lichutina Tatyana Fedorovna, Senior Researcher Ph.D. in Engineering
94.	Institute of Environmental Geoscience RAS	Dr. Svalova Valentina, Head of International Projects Dep.
95.	Institute of fishery, biology and environmental management	Prof. Nevalenny Alexander Nickolaevich, Doctor of Biology, Professor
96.	Institute of Geography	Dr. Andrey Shmakin, Head of Laboratory
97.	Institute of Geology and Mineralogy SB RAS	Prof. Sergey Krivonogov, Doctor of Sciences, Professor
98.	Institute of Geology and Mineralogy SB RAS	Dr. Stanislav Palesskiy, Senior Researcher
99.	Institute of Global Climate and Ecology of Roshydromet and Russian Academy of Sciences (IGCE)	Dr. Sergey A. Gromov, Head of Sci Sector, PhD, Environmental Pollution Department
100.	Institute of Global Climate and Ecology of Roshydromet and Russian Academy of Sciences (SI IGCE)	Dr. Mikhail Korzukhin, senior research officer, PhD
101.	Institute of Global Climate and Ecology of Roshydromet and Russian Academy of Sciences (IGCE), Department for monitoring greenhouse gases flows in natural and man-disturbed ecosystems	Prof. Anna Romanovskaya, leading research officer
102.	Institute of Industrial Ecology Ural Branch of Russian Academy of Sciences (IIE UB RAS)	Dr. Igor Manzhurov, PhD, The Head of Laboratory Dr. Boris Korobitsin, PhD, Senior Researcher Dr. Konstantin Antonov, Phd, Senior Researcher
103.	Institute of Industrial Ecology Ural Branch of Russian Academy of Sciences (IIE UB RAS)	Dr. Alexey Ekidin, PhD, The Head of Laboratory, Dr. Ilya Yarmoshenko, Phd, ViceDirector
104.	Institute of Industrial Ecology Ural Division of RAS	Dr. Panov V.G., Senior Researcher
105.	Institute of Monitoring of Climatic and Ecological Systems (IMCES) SB RAS	Dr Alexey Pushkin, Self-organization of geosystems
106.	Institute of Monitoring of Climatic and Ecological Systems SB RAS	Sergey Loginov, Siberian Branch of RAS
107.	Institute of Monitoring of Climatic and Ecological Systems SB RAS	Prof. Ivan Ippolitov, Siberian Branch of RAS
108.	Institute of Monitoring of Climatic and Ecological Systems SB RAS	Dr. Vladimir Krutikov, Doctor of Sci. (Phys.&Math.)
109.	Institute of monitoring of climatic and ecological systems Siberian branch of Russian Academy of Sciences (IMCES SB RAS)	Dr. Tatiana Artemevna Blyakharchuk
110.	Institute of North Industrial Ecology Problems, Kola Science Centre RAS	Dr. Oleg Shumilov, Head of Laboratory for Global Environmental Change, DSc
111.	Institute of North's ecology problems	Mrs. Natalia Shorina, Laboratory of fresh-water and sea ecosystems
112.	Institute of oceanology RAS	Dr. Nikolay Pykhov
113.	Institute of oceanology RAS	Mrs Natalya Belchitskaya, researcher
114.	Institute of oceanology RAS	Mrs. Marina Krylenko , senior research assistant
115.	Institute of oceanology RAS	Dr. Divinsky Boris, leading research assistant
116.	Institute of Oil and Gas, Northern (Arctic) Federal University	Dr. Vyacheslav Rostislavovich Ivko, Head of Department of opencut mining

117.	Institute of Plant and Animal Ecology of the Russian Academy of Sciences, Ural Division	Prof. Vladimir Vershinin, Department of functional ecology of terrestrial animals
118.	Institute of plant and animal ecology of the Ural Branch of the Russian Academy of Sciences (IPAE UB RAS) Ural State Forest Engineering University	Dr Valery Fomin, Joint (IPAE UB RAS & Ural State Forest Engineering University) GIS-technology Research Laboratory for Forest Sciences and Ecology
119.	Institute of Plant and Animal Ecology UD RAS	Dr. Galina Talalaeva, leading scientist
120.	Institute of Plant and Animal Ecology Ural Branch of Russian Academy of Sciences (IPAE UB RAS)	Dr. Natalia Orekhova, Researcher, PhD of Biological Sciences
121.	Institute of Plant and Animal Ecology Ural Branch of Russian Academy of Sciences (IPAE UB RAS)	Mrs. Maria Orlova, PhD Student, Laboratory of functional ecology of terrestrial animals
122.	Institute of Plant and Animal Ecology Ural Branch of Russian Academy of Sciences (IPAE UB RAS)	Dr. Vera Pozolotina, Head of Laboratory of population radiobiology
123.	Institute of Plant and Animal Ecology Ural Division of Russian Academy Sciences (IPAE UD RAS)	Dr. Elena Kuzmina, research officer, secretary of the Foreign Affairs Department
124.	Institute of Steppe, RAS	Dr. Mjachina Ksenya Viktorovna, the research assistant, Phd, Institute of Steppe, Russian Academy of Sciences
125.	Institute of Water and Ecology Problems, Far Eastern Branch, Russian Academy of Sciences (IWEF FEB RAS)	Prof. Zoya G. Mirzekhanova, Head of the Laboratory of the Regional Natural Resource Use
126.	Karelian Research Center of RAS	Mr. Yury Pavlov, head of laboratory
127.	Kuban state agrarian university	Dr. Leonid Yarmak, Prof., Scientific research institute of applied and experimental ecology
128.	Kuban State University	Dr. Lidiya Bolgova, Novorossiysk educational and research marine biological center of the Kuban State University
129.	Kuban State University	Dr. Peskova Tatyana, Professor of dep. of zoology
130.	Kuban State University	Prof. Emma Viktorovna Karaseva, PhD, professor, head of scientific centre "Biotechnology"
131.	Kuban State University	Mr. Alexander Khudokormov
132.	Kursk State University	Prof. Natalia Malisheva, Doctor of Biological Sciences, professor, the head of the Department of Zoology and Theory of Evolution, the head of the Scientific Research Laboratory "Parasitology"
133.	Limnological Institute SB RAS	Dr. Eduard Osipov, Senior researcher
134.	Lipetsk state pedagogic university	Dr. Gerard Rostom, associate professor
135.	Lomonosov Moscow State University	Dr Sergey Chalov
136.	Lomonosov Moscow State University	Mr. Sergey Mukhametov, researcher
137.	Melnikov Permafrost Institute SB RAS	Dr. Alexander Fedorov, Head of Cryogenic landscape laboratory
138.	Moscow State Civil Engineering University	Dr. Izmail Kantardgi, full professor
139.	Nikolaev Institute of Inorganic Chemistry SB of the RAS	Dr. Boris Smolyakov
140.	Nikolaev Institute of Inorganic Chemistry, SB of the RAS	Prof. Ljudmila M. Levchenko, head of laboratory, Doctor (in chemical science)
141.	Nizhnevartovsk State Humanitarian University (NGGU)	Dr. Sergey Korkin, senior lecturer
142.	Nizhny Novgorod State University of Architecture and Civil Engineering	Prof. Evgeny Koposov, rector
143.	Northern (Arctic) Federal University	Mr. Mikhail Vladimirovich Bogdanov
144.	Northern (Arctic) Federal University	Dr. Alexandra S. Pochtovalova, Department of Theoretical and Applied Chemistry, PhD
145.	Northern (Arctic) Federal University	Dr. Olga A. Samylova, Associate professor, PhD in Chemistry
146.	Northern (Arctic) Federal University	Mrs. Anna A. Shinkaruk, senior lecturer
147.	Northern (Arctic) Federal University	Mr. Victor S. Kuznetsov
148.	Northern (Arctic) Federal University	Mr. Mikhail Yevgenevich Plechov
149.	Northern (Arctic) Federal University	Mrs. Olga Yurevna Kalinina
150.	Northern (Arctic) Federal University	Mrs Tatyana Alekseevna Koroleva

151.	Northern (Arctic) Federal University	Mr. Vasiliy Frolovich Tsvetkov
152.	Northern (Arctic) Federal University	Mr. Moisey Khaymovich Shraga
153.	Northern (Arctic) Federal University	Mrs. Olga Garrievna Avakova
154.	Northern (Arctic) Federal University	Mrs Makhova Tatyana Anatolyevna, Senior lecturer
155.	Northern (Arctic) Federal University	Mr Tutygin Aleksandr Sergeevich, Head of Laboratory
156.	Northern (Arctic) Federal University	Dr. Anton Kalashnikov, associate professor
157.	Northern (Arctic) Federal University	Mrs. Ludmila Alexandrovna Veshnyakova, Assistant Department of Composite materials and Environmental Engineering
158.	Northern (Arctic) Federal University, Department of technology of pulp-and-paper industry	Prof. Galina Komarova, Doctor of technical science, professor, member of Russian Academy of Natural Science, Russian Federation
159.	Northern Arctic Federal University, Department of Oil and Gas Transport and Storage	Prof. Marsel Gubaidullin, Head of Department of Oil and Gas Transport and Storage, Dr., Professor
160.	Northern interregional territorial department of the Federal Service for Hydrometeorology and Environmental Monitoring	Sobolevskaya Alvin P. - Chief of the Centre for Monitoring of environmental pollution, Gryshchenko Irina - Chief Hydrometeorological Center
161.	Northern Research Institute of Forestry	Zaharov Andrey, Laboratory of taiga forest and biodiversity/ forestry sector and forest science
162.	Northern Research Institute of Forestry	Dr. Natalia Demidova, Deputy Director on Sciences
163.	Northern State Medical University	Dr. Tatyana Nikolaevna Zaitseva
164.	Northern State Medical University (Arkhangelsk)	Prof. Lyubov Victor Konstantinovich, head of department of industrial heat-and-power engineering doctor of engineering science
165.	Northern State Medical University (Arkhangelsk)	Prof. Tatiana Vilova, Chair of Therapeutic Dentistry
166.	Obukhov Institute of Atmospheric Physics, RAS	Dr. Anatoly Semenov, Head of Laboratory of the Upper Atmospheric Physics
167.	Obukhov Institute of Atmospheric Physics, RAS	Prof. Vladislav Polnikov, Leading scientist of Air-sea Dep. of Obukhov institute of RAS
168.	Official body «South regional academic scientifically-creative center»	Mr. Nikolay Grishin, vice-president
169.	Open joint-stock company SRC "VODGEO"	Dr. Roksana Avtandilovna Davlyaterova
170.	Orel State University	Prof. Saurina Olga, Chair of Social Health
171.	P.P. Shirshov Institute of Oceanology RAS	Mr. Igor' O. Leont'ev, Chief Scientific Officer
172.	P.P. Shirshov Institute of Oceanology of the Russian Academy of Sciences (Caspian branch)	Dr. Vladimir Uschivtsev, PhD in Biology, Director
173.	P.P. Shirshov Institute of oceanology RAS	Dr. Tatiana Akivis, senior researcher, V.P. Zenkovich Laboratory of shelf and coast research
174.	P.P. Shirshov Institute of Oceanology of Russian Academy of Sciences	Dr. Boris Chubarenko, Deputy Director for Science
175.	Pacific Geographical Institute FEB RAS	Prof. Boris Gartsman, Lab. for Land Hydrology and Climatology
176.	Peter Gas LLC	Mrs. Olga Verbitskaya, GIP in area ecology
177.	Peter Gas LLC, Metocean Survey Department	***!Mrs. Olga Verbitskaya, researcher!***
178.	Petrozavodsk State University	Mrs. Viktoriya Golubenko, junior researcher fellow
179.	RAS Institute of water problems	Prof. Bukharitsin P.I.
180.	Research Institute of Forest Genetics and Breeding	Dr. Olga Zemlianukhina, PhD (Biology), Genetic laboratory
181.	Research Institute of the Caspian Sea problems" Ltd.	Dr. Stepan A. Zubanov, General director, Management department
182.	Russian Federal Research Institute of Fisheries & Oceanography	Mrs. Ekaterina Mikodina, Head Scientist
183.	Russian Federal Research Institute of Fisheries & Oceanography	Mrs. Anna M. Savoskina, leading engineer
184.	Russian Federal Research Institute of Fisheries and Oceanography (VNIRO)	Mr. Krovnin Andrey Senior research scientist
185.	Russian Federal Research Institute of Fisheries and Oceanography (VNIRO)	Mr. Kirill Kivva, research associate
186.	Russian Federal Research Institute of Fisheries and Oceanography (VNIRO)	Mrs. Galina Zelenikhina, scientist
187.	Russian State Hydrometeorological University	Prof. Nikolay Plink, Department of Integrated Coastal

		Management (ICM)
188.	Saint Petersburg State University	Prof. Foux Victor Robertovich, Laboratory of regional oceanography, Saint Petersburg State University
189.	Saint-Petersburg State Polytechnic University	Prof. Vladimir Badenko, Water Engineering and Landscape Architecture Department
190.	Saint-Petersburg State Polytechnical University	Dr. Romanov Mikhail, Associate Professor, Vice-Dean of Civil Engineering Faculty on International Affairs
191.	Saratov State Agrarian University	Dr. Ravil Gafurov
192.	Saratov State Agrarian University named after N.I.Vavilov	Dr. Tatiana Nikolaevna Kovaleva, The organization of the use of land (Land management)
193.	Saratov State Agrarian University named after N.I.Vavilov	Prof. Pronko Nina Anatolyevna, Faculty «Land improvement, reclamation and land protection»
194.	Scientific Research Institute of Biology of Southern Federal University	Dr. Marina Sazykina, PhD Biology, Head of Industrial microorganisms Laboratory Mr. Ivan Sazykin, research officer
195.	Scientific research institute of mountain forestry and forest ecology	Prof. Nikolay Bitjukov, Department of mountain forestry, forest restoration and forest ecology
196.	SI "All-Russian Research Institute of Hydrometeorological Information - World Data Center" (SI "RIHMI-WDC"), National Center of Oceanography Data	Prof. Evgeniy Vyazilov, Chief of Laboratory of Automated systems for oceanography data processing Doctor of Technical Sciences
197.	SI "All-Russian Research Institute of Hydrometeorological Information - World Data Center" (SI "RIHMI-WDC")	Dr. Alexander Vorontsov, Head of Sea research laboratory, PhD
198.	Siberian Center for Environmental Research and Training	Prof. Evgeny Gordov, Director
199.	Siberian Regional Research Hydrometeorological Institute	Dr. Marina Zdereva, Head of Laboratory of adaptive synoptic-hydrodynamic weather prediction, PhD in Geography
200.	Sochi State University	Prof. Galina Bryukhanova, Dr of medicine
201.	Sochi State University	Mrs. Victoriya Vaytman
202.	Sochi State University for Tourism and Recreation	Makarov Konstantin N., Chair of City construction
203.	Sochi State University for Tourism and Recreation	Prof. Nina Pestereva, DSc (Geography), vice-rector
204.	Sochi State University for Tourism and Recreation	Prof. Natalia Matyuschenko, Department of economic and enterprise management
205.	Sochi State University for Tourism and Recreation	Dr. Alexander Volkov, Head of Research department PhD
206.	Sochi State University for Tourism and Recreation	Prof. Victor Shevtsov, PhD, Professor
207.	Sochi State University for Tourism and Recreation	Prof. Michail Bokov, Dean of the Faculty
208.	Sochi State University for Tourism and Recreation	Prof. Yury Dreyzis, head of information technology department, PhD (in technical science)
209.	Sochi State University for Tourism and Recreation	Mr. Anatolii Evdokimovich Rybalko
210.	Sochi State University for Tourism and Recreation	Mr. Aexander Ivanovich Tkachev
211.	Sochi State University for Tourism and Recreation	Dr. Elena Vorobey, Associate Professor
212.	Sochi State University for Tourism and Recreation	Dr. Irina Makarova, Head of Department of Applied mathematics
213.	Sochi State University for Tourism and Recreation	Mrs. Elena Shvecova, Associate Professor
214.	Sochi State University for Tourism and Recreation	Prof. Aleksandr Fedyakin
215.	Sochi State University for Tourism and Recreation	Dr. Aleksey Popov, PhD
216.	Sochi State University for Tourism and Recreation	Professor Tat'yana Gvarliani

217.	Sochi State University for Tourism and Recreation	Dr. Tat'yana Volkova-Goncharova
218.	Sochi State University for Tourism and Recreation	Dr. Alexandr Netrebko, PhD, associate professor
219.	Sochi State University for Tourism and Recreation	Dr. Anna Davydovich, PhD in economy
220.	Sochi State University for Tourism and Recreation	Dr. Kovalenko, Vladimir, Associate Professor, Phd.
221.	Sochi State University for Tourism and Recreation	Dr. Elena Bondareva, senior lecturer, PhD
222.	Southern branch of the P.P.Shirshov Institute of oceanology, Russian Academy of sciences	Prof. Ruben Kosyan, Head of the Department of the coastal zone
223.	Southern Federal University	Prof. Kolesnikov Sergey Ilyich, Head of the Department of Ecology and Nature Management
224.	Southern Federal University	Dr. Vera Khrenkova, Academic secretary, PhD Biolo Training Scientific Research Institute of Valeology
225.	Southern Scientific Centre of Russian Academy of Sciences	Prof. Sergey Berdnikov, Chief Academic Secretary of Southern Scientific Center of the Russian Academy of Sciences, Head of Department of Information technologies and mathematical modelling, Doctor of Geography
226.	Specialised research-and-production enterprise "Krasnodar-begozashchita"	Dr. Svetlana Fedorova, Research department
227.	St.-Petersburg State Technological University of Vegetative Polymers	Prof. Alla B. Dyagileva, Associate ptofessor, Doctor Chemistry
228.	St.Petersburg State University	Ivan Sudakov, PhD Student, Department of Climatology
229.	St.Petersburg State University	Dubrava Kirievskaya, M.Sc., PhD Student, Department of Geoecology
230.	State Educational Establishment of Higher Professional Education, Saratov State University named after N.G. Chernyshevsky	Prof. Leonid Yurievich Kossovich, rector, Geography Department
231.	State Institution "Arctic and Antarctic Research Institute"	Dr. Yuri Gudoshnikov, Chief of laboratory, PhD. in Geography
232.	State Institution "Caspian Marine Scientific Research Center" (SI "KaspMNIZ"), ГУ «Каспийский морской научно-исследовательский центр» (ГУ «КаспМНИЦ»)	Dr. Olga Esina, Academic secretary
233.	State Institution "Caspian Marine Scientific Research Center" (SI "KaspMNIZ")	Dr. Sergey Monakhov, Director
234.	State Institution «All-Russian Research Institute of Hydrometeorological Information – World Data Centre»	Prof. Veniamin A. Semenov, Doctor in Geography, leading researcher
235.	State Oceanographic Institute named after N.Zubov, Laboratory of marine estuaries	Dr. Vadim Polonsky, Head of Marine Estuaries Laboratory, PhD in Geography
236.	State Oceanographic Institute RAS	Prof. Ilya Michailovich Kabatchenko, head of laboratory, Doctor (in technical science), senior research scientist
237.	State Research Center of Virology and Biotechnology VECTOR (SRC VB VECTOR)	Dr. Alexander Shestopalov, Ph.D., D.Sci Head of Division to Investigate Emerging Zoonotic Diseases and Influenza
238.	State scientific institution "the all-Russian Institute of electrification of agriculture"	Prof. Aleksey N. Vasiliiev, Deputy Director on Science doctor of technical sciences, Professor
239.	Stavropol State Agrarian University	Prof. Kornilov, Ecology and Landscape Construction Department, DSc (Chemistry)
240.	Stavropol State Agrarian University	Prof. Valery Tshovrebov, Doctor of agriculture sciences, professor
241.	Stavropol State Agrarian University	Prof. Alexander Esaulko, Doctor of agriculture sciences, professor Dean of the Agronomy faculty
242.	Stavropol State Agrarian University	Dr. Izolda Olegovna Lysenko, Dr.Sci.Biol., the senior lecturer

243.	Taganrog Institute of Technology- Southern Federal University	Dr. Tatiana Nazarova, associate professor
244.	Taganrog State Pedagogical Institute	Mrs. Irina Yakovenko, senior lecturer
245.	Tambov State University named after G.R. Derzhavin	Prof. Georgiy A. Lada, Department of Biology
246.	The All-Russia Research Institute for Electrification of Agriculture	Dr. Irina Mitina, Head of the sector, PhD
247.	The All-Russian Research Institute of the Agrosilviculture	Prof. Alexander Manayenkov, Doctor of Agr. Science, Chief of Department
248.	The Atlantic Branch of the P.P.Shirshov Institute of Oceanology, RAS	Dr. Lukashina Nadezda, Senior staff scientist Mrs. Bashirova Leyla, junior staff scientist Mrs.Kandiano Eugenia, staff scientist
249.	The Fire test laboratories of Archangelsk region (The Ministry of the Russian Federation for Civil Defence, Emergencies and Elimination of Consequences of Natural Disasters)	Mr. Alexey Andreevich Stenin
250.	The Russian state hydrometeorological university	Prof. George Gogoberidze, Main researcher, profes
251.	The Southern Branch of the P.P. Shirshov Institute of Oceanology	Mr. Vyacheslav Krylenko
252.	Tyumen State University, Research Institute of Ecology and Natural Resource Management	Mr. Svanidze Igor Gennadievich, Senior research scientist
253.	V.B. Sochava Institute of Geography Siberian Branch RAS	Dr. Anna Balybina, researcher
254.	V.B.Sochava Institute of Geography SB RAS	Dr. Gustokashina Nadezda
255.	V.N.Sukachev Institute of Forest SB RAS (IF SB RAS)	Dr. Eugene I. Ponomarev, senior staff scientist, Ph.D
256.	V.N.Sukachev Institute of Forest SB RAS (IF SB RAS)	Dr. Dmitriy Ovchinnikov, research scientist
257.	Vologda State Technical University	Prof. Leonid I. Sokolov, Rector, Dr.Sci.Tech., Profes
258.	Voronezh State Academy of Forestry Engineering	Dr. Igor Isakov, Dep. of forest stands and breeding
259.	Voronezh State Academy of Forestry Engineering	Prof. Larisa Belchinskaya, Head of Chemistry dept.
260.	Voronezh State Academy of Forestry Engineering	Prof. Sergey Matveev, Department of Forestry
261.	Voronezh State Agricultural University	Mrs. Golenskaya Tamara Anatolevna, assistant
262.	Voronezh State Technical University	Dr Stanislav Rembeza, Head of the Dept. Semiconductor Electronics and Nanoelectronics
263.	Voronezh State Technical University	Prof. Ekaterina Rembeza, Physics Department
264.	Voronezh State Technological Academy	Dr. Svetlana Zueva, PhD (Technology), Ecology and Chemical Technology
265.	Voronezh State University	Dr. Olga Mashkina, Department of Genetics, Cytology and Bioengineering
266.	Voronezh State University	Prof. Vladislav N. Kalaev, Department of Genetics, Cytology and Bioengineering, deputy director of B.M. Kozo-Polyanskiy Botanical Garden of Voronezh State University
267.	Water Problems Institute of the Russian Academy of Sciences	Prof. Lev S. Kuchment
268.	State Institution "Hydrometeorology research center of the Russian Federation" Laboratory of Marine applied research of SI "Hydrometcentre of Russia"	Dr. Sergey Popov, Chief of Laboratory, PhD in Physics and Mathematics

Annex V List of collected questionnaires for stakeholders

1.	«Atlantic Scientific Research Institute of Marine Fisheries And Oceanography» (FSUE «AtlantNIRO»)	Prof. Elena Naumenko, DSc, Leading Scientist
2.	«Southern research-and-production association on sea prospecting works» (Yugmorgeologiya)	Mr. Artur Pronkin
3.	All-Russia scientific research institute of olive cultures	Mr. Vyacheslav Lukomets, director
4.	All-Russia scientific research institute of selection of fruit crops of the Russian academy of agricultural sciences	Dr. Natalia Karpun, deputy director on science, Ph
5.	Altai State University	Dr. Tatyana V. Antyufeeva, depute of the dean
6.	Altai territory and Altai Republic Department of Russian Natural Inspection	Nadezhda V. Bushmina, the head of the state ecological assessment and standardization department
7.	Astrakhan Center for Hydrometeorology and Environment Monitoring	Mr. L.G.Sinenko, Director
8.	Astrakhan State Nature Biosphere Reserve	Dr. Alexander K. Gorbunov, Deputy director (scientific)
9.	Astrakhan state technical university	Prof. Nevalenny Alexander Nickolaevich, Institute fisheries, biology and nature management
10.	Astrakhan State Technical University	Prof. V.F.Zaitsev, Chief of department, Doctor of Agricultural sciences
11.	Astrakhan State Technical University	Dr. Victoria Sainova, Doctor of Technical Sciences, Chief of department
12.	Astrakhan State Technical University	Prof. Vladimir Pilipenko, Doctor of Biology, Director
13.	Astrakhan State Technical University (Dmitrov branch)	Prof. N.A.Golovina, Doctor of Biology
14.	Astrakhan State University	Prof. M. Egorov, Doctor of Biology, Chief of Laboratory
15.	Baikal institute of nature management SB RAS	Prof. Mikheeva Anna Semenovna, chief scientist, Doctor of Economics
16.	Caspian Regional Center "Environment and Law" Ltd.	Mr. Alexander Aldabaev, General Director
17.	Center "BIOS", Federal State Unitary Enterprise Caspian Fisheries Research Institute	Mrs. N.V.Bychkova, Deputy Director
18.	Closed Joint Stock Company «Biooil» (ZAO «Biooil»)	Dr. Nataliya Kikhtenko, program coordinator
19.	Department of natural resources and environmental protection of Altai krai	Vladimir N. Gorbachev, deputy director of Department of natural resources and environment protection
20.	East-Siberian State Technological University	Dr. Zhargal Aiushievna Aiakova, specialist on development, PhD
21.	Environmental Education and Research Center Tambov State University	Kristina V. Nenastyeva, Head of the Science and Education Department
22.	Establishment of the Russian Academy of Sciences INSTITUTE OF WATER AND ECOLOGY PROBLEMS of the RAS (IWEP FEB RAS)	Dr. Maria Kryukova, Senior researcher of the Plan Ecology Lab. Botany, PhD
23.	Establishment of the Russian Academy of Sciences the V.B. Sochava Institute of Geography Siberian Branch RAS	Dr. Lidia V. Danko, Deputy Director for Research SB RAS, Ph.D. (Geography)
24.	Federal Service for Supervision of Consumer Rights Protection and Human Welfare in the Altai Territory	Oksana N. Korshunova, the head of department
25.	Federal Service for Veterinary and Phytosanitary Inspectorate Services of the Altai Krai and Altai Republic	Dr. Sergei V. Pishchyulin, depute head of department, PhD in agriculture
26.	FSUE «CaspNIRKh»	Mr. D.V.Kashin, Chief of department for environmental research
27.	Institute of Basic Biological Problems RAS	Prof. Anatoly S. Kerzhentsev, Laboratory of Functional Ecology
28.	Institute of Biology and Soil Sciences, Far Eastern Branch of Russian Academy of Sciences (IBSS	Vshivkova Tatyana S., Senior Researcher; head of the EEC&SPCFM

	FEBRAS)	
29.	Institute of Environmental Geoscience RAS	Dr. Svalova Valentina, Ph.D, Leading Scientist
30.	Institute of Geography, Russian Academy of Sciences	Dr. Andrey Shmakin, Laboratory of Climatology
31.	Institute of Monitoring of Climatic and Ecological Systems SB RAS	Dr. Vladimir Krutikov, Doctor of Sci. (Phys.&Math.
32.	Institute of Water and Ecology Problems, Far Eastern Branch, Russian Academy of Sciences (IWEF FEB RAS)	Prof. Zoya G. Mirzekhanova, Head of the Laboratory of the Regional Natural Resource Use
33.	JSC "VNIIZARUBEZHGEOLOGIA	Eugeny Vostokov
34.	Karelian Research Center of RAS	Prof. Vladimir Mazalov, professor, director
35.	Kola Regional Seismological Centre of the Geophysical Survey of the RAS	Dr. Vinogradov Anatoly, Director, Full member of Russian Academy of Natural Sciences
36.	Krasnodar scientific research institute of a vegetable and potato economy	Dr. Viktor Samodurov, Head of institute
37.	Kuban state agrarian university	Prof. Yuriy Fedulov
38.	Kuban state university	Prof. Yury Volchkov, the professor, Dr.Sci.Biol
39.	Kuban state university	Dr. Sergey Shatilov, PhD on geographical sciences, the senior lecturer
40.	Kuban State University	Dr. Tatyana Kostirina, dean, Ph.D., Associate Professor
41.	Kursk State Technical University	Prof. Korenevsky Nikolay Alekseevich, Dr.Sci.Tec professor, Chair Biomedical engineering
42.	Kursk State University	Prof. Natalia Semenovna Malisheva
43.	Ltd. Design, Survey and Research Institute of Maritime Transport "NovomorNIiproekt"	Mr. Vladimir Troilin, Deputy director on Science
44.	Ltd. Design, Survey and Research Institute of Maritime Transport "NovomorNIiproekt"	Vladimir Troilin, Deputy Director on Science
45.	Lukoil, ArkhangelskGeolDobucha	Sukhanevich Maria, engineer on preservation of the environment
46.	Moscow State University of Environmental Engineering	Dr. Igor Tyukhov, Executive director of UNESCO Chair "Ecologically clean engineering"
47.	Nizhny Novgorod State University of Architecture and Civil Engineering	Dr. Dmitry V. Monich, candidate of technical sciences, associate professor, Head of the department of scientific researches, innovations and design work
48.	Novorossiysk Training and Research, Marine Biological Center	Dr. Lidia Bolgova, Head of Centre
49.	Novosibirsk State University	Dr. Ludmila Belchenko, Assistant Professor
50.	Open Society the Krasnodar scientific research institute of a fish economy KrasNIIRH	Mr. Viktor Sklyarov, director
51.	Petrozavodsk State University	Prof. Ernest Ivanter, The dean, member the correspondent of the Russian Academy of Sciences, the professor, Dr.Sci.Biol
52.	Research Design and survey institute "InjGeo"	Mr. Andrey Shauro, director
53.	Research-and-production association "AVTEK"	Mr. Nikolai Verem'ev, director
54.	Research-and-production firm "Solar wind"	Mr. Oleg Rummyantsev, director
55.	Russian Federal Research Institute of Fisheries and Oceanography (VNIRO)	Dr. Boris Krovnin
56.	Russian Federal Research Institute of Fisheries and Oceanography (VNIRO)	Dr. Ludmila Dukhova
57.	Saint-Petersburg State Forest Technical Academy	Prof. Solov'ev Viktor Alexandrovich, Head of department, Doctor of Science (Biology), Department of General Ecology, Plant Anatomy and Physiology
58.	Saint-Petersburg State Polytechnical University	Dr. Mikhail V. Romanov, PhD, Associate Prof., Vice Dean on International Affairs
59.	Saratov State Agrarian University named after N.I.Vavilov	Dr. Tatiana Nikolaevna Kovaleva
60.	Saratov State University	Prof. Elena G.Kulapina
61.	Saratov State University	Dr. Sergey Ovchinnikov, Chief of department, Physics and Mathematics
62.	Saratov State University	Prof. Yury A.Sklyarov, Doctor of Technical sciences, Academician

63.	Saratov State University	Prof. Olga Fedotova, Doctor of Chemistry
64.	Saratov State University	Prof. Andrey Guzhikov, Chief of laboratory, Doctor of Geology and Mineralogy
65.	Saratov State University named after N.G. Chernyshevsky	Prof. Leonid Y. Kossovich, rector
66.	Science-Research Association "Pleyada"	Mr. Sergey Soloviev, Director
67.	Scientific and design center "Shore protection"	Dr. Edward Kushu, a civil engineer, PhD. tech. Science, Director
68.	Scientific research institute of mountain forestry and forest ecology	Mr. Konstantin Saitzev, Deputy director on scientific work
69.	Scientific research institute of mountain forestry and wood ecology	Prof. Vladimir Ivonin, Doctor of Agricultural Sciences, Honored Scientist of Russian Federation
70.	Sergeev Institute of Environmental Geoscience (IEG RAS)	Dr. Olga Trapeznikova, chief researcher, Ph.D.
71.	Severtsov Institute of Ecology & Evolution, Russian Ac. Sci.	Mr. Yury Dgebuadze
72.	SI "Dagestan Center for Hydrometeorology and Environment Monitoring"	Mr. P. Postavik, Director
73.	Siberian Center for Environmental Research and Training	Prof. Evgeny Gordov, Doctor of Sci. (Phys.&Math.)
74.	Sochi Science- Research Centre Russian Academy of Sciences	Dr. Garnik Simonyan, Deputy director on scientific work, PhD (economy)
75.	South Russian Regional Centre for Preparation and Implementation of International Projects, Limited (CPPI - S Ltd.)	Dr. Alexander Zhulidov, Director, Research and Development
76.	Southern Federal University	Prof. Tatiana V.Aleinikova
77.	Southern Federal University	Prof. Victor P.Belik
78.	Southern Federal University	Prof. Sergey I. Kolesnikov, Doctor of Agricultural Sciences
79.	Southern Federal University	Prof. Vladimir Zakrutkin, Doctor of Geology and Mineralogy
80.	Southern Federal University	Prof., Fedorov Yury, Doctor of Geography
81.	Southern Federal University	Prof. Alexander D. Khovansky, Doctor of Geography
82.	Southern Federal University	Prof. Vladimir I.Korobkin, Doctor of Geology and Mineralogy
83.	Southern Federal University	Prof. Rostislav G.Matukhin, Doctor of Geology and Mineralogy, Academician of RANS and IAMR
84.	Southern Federal University	Prof. Alexey A.Burikov, Doctor of Biology
85.	Southern Federal University	Prof. Sergey Berdnikov, Doctor of Geography
86.	Southern Federal University	Prof. Olga V. Ivlieva, Doctor of Geography
87.	Southern Federal University	Dr. Tatyana Shkurat, Director, Doctor of Biology
88.	Southern Federal University	Dr. Vera Khrenkova, Academic secretary, PhD Biology
89.	Southern federal university	Mr. Boris Konoplev
90.	Southern federal university	Dr. Aleksandr Druzhinin, director
91.	Southern federal university	Dr. Viktor Zakrutkin, director
92.	Southern Scientific Center of Russian Academy of Sciences	Dr. Sergey Berdnikov, Head of laboratory
93.	State educational institution of higher education. Yaroslavl State Technical University	Dr. Olga Filippova, Ph.D., professor
94.	State Institution "Caspian Marine Scientific Research Center" (SI "KaspMNIZ")	Dr. Olga Esina, Doctor of Biology, Academic secretary
95.	State Institution of Arkhangelsk Region «Centre of Nature Management and Environmental Protection»	Mr. Alexander Gornikh
96.	State Research Center of Virology and Biotechnology VECTOR (SRC VB VECTOR)	Dr. Alexander Shestopalov, Ph.D., D.Sci Head of Division to Investigate Emerging Zoonotic Diseases and Influenza
97.	State scientific institution "the all-Russian Institute of electrification of agriculture"	Prof. Aleksey N. Vasiliev, Deputy Director on Scientific work, doctor of technical sciences, Professor
98.	State Unitary Enterprise «The Kuban regional research-and-production company of mineral	Mr. Aleksandr Dol'skiy

	resources and geoecology "Kubangeologiya"	
99.	Stavropol State Agrarian University	Dr. Nikolai I. Kornilov, Doctor of Science (Chemistry), Professor of Ecology and Landscape Construction Department
100.	Stavropol State Agrarian University	Dr. Vitaly Morozov, Vice-rector for scientific and innovative activity, PhD in Veterinary Sciences, Associate Professor
101.	The All-Russian scientific research institute of rice	Prof. Evgeniy Haritonov, head of institute, Academician of Agricultural Sciences, dr., Professor
102.	The All-Russian Research Institute of the Agrosilviculture	Dr. Anna Pugacheva, Candidate of Agr. Sciences, Scientific worker
103.	The All-Russian Society for Nature Protection	Prof. Arkady Sokolsky, Doctor of Science (Biology)
104.	The All-Russian Society for Nature Protection	Prof. Arkady F. Sokolsky. Doctor of Science (Biology)
105.	The Caucasian state natural biospheric reserve	Mr. Nikolay Eskin, vice-rector on scientific work
106.	The Institute of Ecological Problems in the North UB RAS	Dr. Nikolay S. Larionov, Section of Chemistry of Natural Compounds
107.	The North Caucasian scientific research institute of animal industries	Dr. Leonid Gorkovenko, head of the institute
108.	Water agency for the Upper-Ob basin management	Galina A. Gryazeva, main expert
109.	Water agency for the Upper-Ob basin management	Vladimir S. Maltcev, main expert
110.	All-Russian scientific-research institute of fisheries and oceanography	Dr. Maria V. Mediankina, the acting head of the laboratory, Ph.D.
111.	"Research Institute of the Caspian Sea problems" Ltd.	Dr. Stepan A. Zubanov, General director

Annex VI - Additional topics proposed by Russian stakeholders

1. Implementation and replication of technologies for processing solid waste containing mercury. Researching of methods and development of recommendations for the remediation and recycling of ash dumps of thermal coal-fired power stations in the North.
2. Environmental Law. Environmental legislation
3. The Law of the Sea
4. Revealing of functional interrelation of fields of hydrophysical properties of soil in an agrolandscape and a theoretical substantiation of their spatial distribution within the frame of fundamental natural-science representations
5. Assessment of possible climate and land use changes impact on agrolandscapes sustainable development at regional level
6. Bioindication in salt lake using brine shrimp *Artemia salina*, its resting stages named cysts. The study of cyst walls from different salt lakes
7. Palaeoecology, Palaeoclimatology, Palaeogeography, Genetic investigations
8. Development of ecologically safe technologies of construction and operation of hydraulic engineering constructions, in particular underwater pipeline systems
9. Ecological examination of projects, including transboundary territories; Support of the project documentation in the field of protection of water objects on the basis of modern legal data of the Russian Federation; Peculiarities of development, organization and engineering protection of water security zones of small rivers; working out and testing of highly effective reagents in water treating technology. Composite coagulant-flocculating Ado foam, on the basis of waste nepheline concentrates. Development of knowledge about mechanisms of formation of a disperse phase in the course of water treating, obtaining new organic-mineral structures
10. Mercury as global pollutant
11. Renewable energy sources
12. Ice cores of high mountain glaciers as indicators of climate change
13. Mercury as global pollutant
14. Permafrost condition monitoring in East Siberia
15. Complex low-waste or waste-free use and utilization of the components of wood biomass, products of its processing and secondary fiber resources
16. Integrated Coastal Area Management; Forecasting of the Natural Catastrophes and Minimization of the Related Damage; Environmental Impact Assessment of the Global Projects.
17. Climate change in Siberia, Altai and adjoining territory (Mongolia, China, Kazakhstan)
18. Psychophysiological background of cognitive activity; Physiological mechanisms for forming functional status, methods and means of its management; Mechanisms for forming, developing and preserving health in ontogenesis
19. Spatial-temporal organization (scaling) of aquatic ecosystems of inland waters
20. Intensification and ecological danger reduction of bleaching processes.
21. Dynamical processes in the coastal zone)
22. Establishment and integrated study of protected areas systems in semi-arid and arid regions of the temperate zone; Development of methodology of integrated territorial analysis using GIS technologies and data of the Earth remote sensin)
23. The melioration, recultivation and protection of soils; the adaptation of agrarian landscapes to environment
24. Comprehensive (not only climatic) paleoenvironmental reconstructions
25. Transnational structures and transcultural relationships facing environmental risks and challenges; transnational networks in environmental risks' assessment; NGO activity in overcoming ecological crisis; "eco-society" development strategies
26. Northern Eurasia ecosystems structure, functioning and climate palaeoreconstructions during the last 20-30 thousand years
27. Influence of sea on the shore under climate change
28. Uranium isotopes in the Groundwater; Water-Rock Interaction; The Role of Exogenic Groundwaters in Kimberlite Formations
29. Reproduction and preservation of forestry gene pool
30. Dendrochronology, Dendroclimatology, Dendroindication
31. Tourism and recreation industry management, economics and legislation in the tourism region
32. Strategic research of urban environment; Long-term prognosis of catastrophic forest fire dangers

33. Paleomnological study of diatoms and chrysophycean cysts in bottom sediments of lakes and ice cores of high mountain glaciers as indicators of climate change
34. The complex analysis of factors of differentiation of modern landscapes of a steppe zone and adjacent territories (including definition of parameters of a drain, a deflation and desertification)
35. "Investigation of past climatic and environmental changes in Altai-Sayany ecoregion by methods of complex bioindication analyses of sediments from modern lakes, peat-mires and glaciers"
36. Complex analysis of the natural and agrotechnogenic evolution of soils within different regions of Europe and other territories
37. Assessment of the life quality of the population of urban and rural territories of the region which was exposed of technogenic mercury.
38. Elaboration of electronic indicator for control of air pollution (measurements of toxic and explosive contamination gases).
39. Influence of renewable energy sources (micro hydro power, solar, wind) on environment and sustainable development of mountain region
40. Study and comparison of the contribution of the regional components on mercury pollution based on ice core glacier's paleoarchive data.
41. «Climate Changes Influence on Permafrost Landscapes in East Siberia»
42. The influence of industrial air pollution and global climate change on forest ecosystems;
43. Processing and analyzing of spatial data, including remote sensing data;
44. Investigation of a role of intraspecific and interspecific competition in forming and developed stratified forest cenosis stable in time with the help of the stand dynamics individually-oriented model. Evaluation of dynamics in fodder reserves effecting a reproduction, survival and seasonal migration for game animal species in changing climatic conditions.
45. Variability of natural populations of birch and pine by the rate of self-fertility (including the possibility of obtaining pure lines in birch and ordinary pine, and on their basis of hybrid heterosis)
46. The complex study of living organism reactions on cellular, sub-cellular and molecular level in conditions of atmospheric air pollution by exhaust-gases of the motor transport.
47. Comparative study of a suite of lakes in South of the West Siberia
48. "Influence of a climate on formation of the Central part of Western Siberia: the past, present, future"
49. Assessment of man-induced impact on the quality of natural waters (chemical pollution and the impact of physical fields)
50. Medical and geographical analysis of urban environment; Assessment of natural and anthropogenic risk factors of the oil field exploitation
51. To study climate change in Late Pleistocene and Holocene from dammed lakes in Central Asia and Siberia
52. Societal changes as a result of climate change (potentiality for emerging rumors threaten the society and the ways to overcome this challenge; new migration flows tendencies; adapting existing social institutes to the new stage of society development – eco-social structures)
53. Political strategies development: networking strategies to consolidate society's and authority efforts to climate change consequences' overcoming.
54. "Improving of the physically based and dynamic-stochastic models taking into account of differences in the mechanisms of runoff generation in different runoff physiographic zones of EU"; "Testing of developed models and corresponding methods of estimation of extreme flood characteristics taking into account of climate and land use change for different regions of EU and Russia"; "Estimation of possible extreme flood characteristic changes caused by climate change for different regions of EU and Russia"
55. Formation of radioactive waters in the Baltic Shield and Mezen Syncline junction
56. Bio-indication of climatic changes in Russia including natural climate cycles' dynamics, carbon cycle dynamics, and anthropogenic influence on the Central forest-steppe
57. Tourism and recreation in Russia
58. Preserving and sustainable development of droughty (steppe) landscapes in fields of oil and gas development
59. Monitoring and assess the impact of oil and gas development in droughty (steppe) landscapes, ecosystem-based strategies
60. Biodiversity of fields of oil and gas development: a condition, tendencies, pressure and preservings of priorities
61. The landscapes infrastructure footprint of oil and gas development: Orenburg's oil and gas belt
62. Reducing uncertainty and quantifying risk through an integrated monitoring of landscapes in industrial region characterized by a high anthropogenous press

63. Frameworks, strategies and processes for landscapes functioning of ecosystems in industrial region characterized by a high anthropogenous press
64. Theoretical bases and methods of restoration of a soil cover of the urbanized territories
65. Monitoring and estimation of a condition of components of environment of city's landscapes
66. The analysis of integration regional processes for the purpose of optimization of ecologo-economic bases of a sustainable development of territories
67. System analysis of multifactorial health effects among population resided in environmentally unfavourable areas
68. Problem of radon in residence buildings
69. Processes and patterns of heavy metal and radionuclid migration under conditions of urban environment
70. Eco-social adaptation of human collectives in the centre of Northern Eurasia in the late Neopleistocene – early Holocene (a determinism of natural and social processes)
71. Emissions and pressures: Natural and anthropogenic
72. Health effects of environmental stressors other than climate change
73. Climate change natural and socio-economic impacts
74. Health impacts of climate change
75. Assessment and conservation of cultural heritage
76. Environmental technologies for archeology and landscape shaping
77. Co-evolution of ancient and traditional societies and the nature, experience of millennium
78. Climate change role in ethnological and demographical history of Finno-Ugric peoples
79. Study of content and distribution of natural and man-caused radionuclids in zones contaminated
80. Development of a technique of the operative forecast of seismic and volcanic processes on the basis of the dynamics equation of spontaneous natural processes
81. Desorption of waste smelter slag into soil
82. Processes of soil formation with interference of waste smelter slag
83. Neuro-immune-endocrine regulations of human homeostasis in the conditions of the changing environment

Annex VII. List of projects funded by the Russian Federal Target Programme «R&D in priority fields of S&T complex of Russia in 2007-2012», concerning environmental research topics, and structured according to the main domains of FP7 theme “Environment (including climate change)”

No	Serial number	Project Title	Principal Investigator	Budget (mln Rub)			
				2007	2008	2009	2010
6.1 Climate Change, pollution and risks							
6.1.1 Pressures on environment and climate							
1	02.515.11.0002	Development of scientific - methodological bases for ecological-geochemical estimation and forecast of natural and technogenic landscapes	Geographical Department of Lomonosov Moscow State University		1,2		
2	02.515.11.5031	Modelling and forecasting of climate change in the European part of Russia with regard to circulation processes in Northern Atlantic	Obukhov Institute of Atmospheric Physics RAS, Moscow	3,5	6,5		
3	02.515.11.5032	Study of mechanisms of long-term change of Atlantic water circulation to forecast climate change in the European part of Russia	P.P.Shirshov Institute of Oceanology RAS, Moscow	3,5	6,36		
4	02.515.11.5081	The influence of regional urbanization on air quality and ecology of the environment	A.M.Obukhov Institute of Atmospheric Physics RAS, Moscow	0,7	0,8		

5	02.515.11.5088	Study of regional environmental consequences induced by climate change and the development of measures on population and economy adaptation	Geographical Department of M.V.Lomonosov Moscow State University			4,92	4,92		
6	02.515.12.0002	Quantifying the indices of ocean processes influence on climate change in Europe for climate forecast (from several years up to a century)	P.P.Shirshov Institute of Oceanology RAS Moscow			1,15			
7	02.515.12.0017	Study of the Earth cryosphere response to technogeneous environmental transformation	Geographical Department of M.V.Lomonosov Moscow State University			1,2			
8	02.515.12.0019	Impact of natural and anthropogenic factors on the Earth's e-field and its role in operating technological systems.	Institute of Applied Physics, RAS Nizhny Novgorod			1,2			
9	02.512.11.0012	Migration analysis of major pollutants (heavy metals, radionuclides) in agrolandscapes and assessment of their effect on agrosystem components	Russian Institute of Agricultural Radiology and Agroecology RAAS Obninsk			1,2			
6.1.2 Environment and health									
10	02.512.11.2171	Biological features of natural-foci diseases in man and animals of East Fennoscandia: problems and ways of population protection	Institute of Biology, the Karelian Research Centre of RAS, Petrozavodsk		0,75	0,75			
6.1.3 Natural Hazards									

11	02.515.11.5093	Studying and modeling of mechanisms of occurrence of catastrophic rocky landslips for the development of technology for integrated evaluation of slide and seismic threat to the mountain areas of Russia	Geological Department of M.V.Lomonosov Moscow State University			3,0	7,0	
12	02.515.12.0003	Mitigation of risk and aftereffects of dangerous nival-glacial impacts	Institute of Geography, RAS Moscow			1,2		
6.2 Sustainable management of resources								
6.2.1 Conservation and sustainable management of natural and man-made resources and biodiversity								
13	02.515.11.0001	Analysis of structurally functional organization of populations and biotic communities for forecasting of ecological system state	Institute of plant and animal ecology, Ural Branch of the Russian Academy of Sciences Yekaterinburg			1,2		
14	02.515.11.0007	Thermophysical methods and means for energy- and resource-saving in oil and gas production and heat engineering	Kazan Research Center RAS			1,2		
15	02.515.11.5015	Development of methodology for environmental assessment of inland water bodies with delayed water cycle to create the scientifically-based technologies of resource restoration	I.D.Papanin Institute of Inland Waters Biology RAS Borok settl., Yaroslavl region		4,4	4,4		
16	02.515.11.5016	Development of scientific - methodical and technical bases for resource management in ecological region of Central Russia (the Oka	Moscow State University of Geodesy and Cartography		4,7	4,8		

		basin as a case study)					
17	02.515.11.5029	Development of a technique of direct search of hydrocarbons deposits by ground geochemical and geophysical methods	Trofimuk Institute of Petroleum Geology and Geophysics SB RAS Novosibirsk	8,0	9,0		
18	02.515.11.5030	Conducting of problem-oriented research and laying the groundwork for substantiation of a new differential-normalizing method of geoelectroprospecting.	RRC Kurchatov Institute Moscow	9,0	9,0		
19	02.515.11.5033	Hydrogeological substantiation of schemes and regimes of operation of combined water-supply points on the developed sites rivers	Geological Department, Lomonosov Moscow State University	2,5	2,5		
20	02.515.11.5052	Estimation of microbe variety and revealing of key agents of biogeochemical processes in natural ultrafresh reservoirs in the north of Russia	Vinogradsky Institute of Microbiology Moscow	1,2			
21	02.515.11.5055	Electrodynamic processes in geological environments under the solution of problems of prospecting, trade and engineering geophysics	Trofimuk Institute of Petroleum Geology and Geophysics SB RAS Novosibirsk	1,2			
22	02.515.11.5058	Technology of assessment, forecasting and rational use of biological resources of natural water bodies	Biological Department, Lomonosov Moscow State University	1,2			

23	02.515.11.5068	Development of technology of express and effective detection and estimation of resources of competitive deposits of strategic minerals (Ni, Co, Cu, Cr, Ti, etc.)	Institute of Geology, Kola Research Center Apaptity, Murmansk region	1,2			
24	02.515.11.5082	Development of technology for integrated water resources management in Volga and Rhein basins by the example of problem regions	A.N.Kostyakov Russian Research Institute of Hydraulic Engineering and Land Improvement Moscow	0,75	0,75		
25	02.515.11.5089	Development of criteria for revealing lithosphere layers prospective for exploration of strategic minerals deposits in the non-conventional for Russia geological environment	Institute of Geology of Ore Deposits, Petrography, Mineralogy and Geochemistry, RAS Moscow		3,8	3,8	
26	.515.12.0009	Development of a new technology for forecasting of diamond-bearing kimberlites in the East Europe platform	Institute of geology of ore deposits, petrography, mineralogy and geochemistry, RAS Moscow		1,2		
27	02.515.12.0010	Structure and sources of ore-forming magma and geodynamics of its formation	Institute of geology of ore deposits, petrography, mineralogy and geochemistry, RAS Moscow		1,2		
28	02.515.12.5001	Study of deep structure of Tien Shan mountains and adjacent territories using the methods of active seismic prospecting	Bishkek research station, RAS Bishkek, Kyrgyzstan	8,2			

29	02.515.12.5002	Development of remote sensing procedure due to use of powerful stationary sources of extremely low-frequency e-field.	Polar Geophysical Institute of Kola Research Centre, RAS Murmansk			3,0	7,0	
30	02.515.12.5003	Development of techniques for preservation of diversity of exploited populations of migratory salmon fish in the northern and Far East regions of Russia.	Murmansk Marine Biological Institute of Kola Research Centre, RAS			3,0	7,0	
31	02.515.12.5005	Development of scientific basis for sustainable development of fuel-energy complex in northern regions of Russia under change of natural environment and climate	Moscow Power Engineering Institute (Technical University)				5,5	5,5
32	02.515.12.5008	Study of sea gas-hydrates deposits by passive seismic methods of monitoring jointly with scientific organizations from India	Experimental Design Bureau for Oceanological Engineering, RAS Moscow				1,9	2,0
33	02.515.12.5009	Development of advanced geophysical methods for aquifers exploration under hard geological conditions; creation of a pilot hardware - technological complex in collaboration with Greek scientific organizations	O.J.Shmidt Institute of Physics of the Earth Moscow				1,5	1,4
34	02.525.11.5005	Technologies for evaluation of vegetation and dynamics in the surface ecosystems using remote monitoring	"AEROSPACE" Research Centre for Space Monitoring Moscow		49,5	50,0	50,0	

6.2.2 Management of marine environments							
35	02.515.11.5011	The concept of sustainable development and strategy of nature management on shelves and in coastal zones of the Arctic seas.	Gramberg All-Russia Research Institute for Geology and Mineral Resources of the World Ocean St.-Petersburg	3,0			
36	02.515.11.5012	Development of integrated technologies for nature management on shelves and in coastal zones of the Arctic and southern seas.	Kola Research Center, Murmansk Institute of Marine Biology	5,0			
37	02.515.12.0012	Geochemistry and ore occurrence in the inter-plate magmatism of the World ocean	V.I.Vernadsky Institute of Geochemistry and Analytical Chemistry, RAS Moscow		1,2		
38	02.515.12.0014	Tectonics, geodynamics, metallogeny of large segments of the World Ocean including the Arctic and Far East continental edges of Russia as a scientific basis for their rational use and applied developments in the field of natural resources forecast	Institute of Geology, RAS Moscow		1,2		
6.3 Environmental technologies							
6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment							
39	02.515.11.0003	Use of petrological indicators of geodynamic	Institute of the Earth's crust,		1,2		

		evolution of ancient cratons and folded areas for the revealing of ore control factors and dating of the basic ore generating processes	Siberian Branch of the Russian Academy of Sciences Irkutsk					
40	02.515.11.0005	Development of new scientific - methodical approach to the study of differential, integral and functional equations of the Earth geodynamics in terms of the basic physical-mechanical factors to forecast the seismological hazard	Kuban State University Krasnodar			1,2		
41	02.515.11.0006	Technologies for assessment, forecast and rational use of biological resources of reservoirs based on the study of hydrobionts population organization and adaptation	Biological Department, Lomonosov Moscow State University			1,2		
42	02.515.11.5001	Fundamental experimental and theoretical research, creation of a model and optimization of electroarc plasmachemical reactor for the destruction of chlororganic wastes	Moscow Institute of Physics and Technology		3,0			
43	02.515.11.5002	Development of technology of biodegradation and utilization of wastes of deacidification of organophosphorous pesticides and poisonous substances using immobilized biocatalysts	Chemical Department, Lomonosov Moscow State University		3,0			
44	02.515.11.5003	Development of ecologically safe technology for primary enrichment of difficult natural and industrial deposits with fine metal using the pulse electrodynamic separation.	Institute of High Current Electronics SB RAS Tomsk		2,7			

45	02.515.11.5004	Development of technological bases for recycling of organic waste products with production of pyrocarbon and hydrogen-enriched gas.	Tver State University	2,97			
46	02.515.11.5009	Development of methods of processing and recycling of solid wastes from power stations and industrial enterprises.	Novosibirsk State Technical University	2,4			
47	02.515.11.5010	Study and development of plasma electrotechnical equipment and technologies for processing and recycling of technogenic wastes.	Kutateladze Institute of Thermophysics SB RAS Novosibirsk	3,0			
48	02.515.11.5017	Conditions for formation and destruction of gas-hydrates in sea of Okhotsk, their modelling and the feasibility report on methane extraction from gas-hydrates	V.I.Ilichev Pacific Oceanological Institute, Far East Branch of RAS Vladivostok	8,0	10,0		
49	02.515.11.5018	Development of scientific bases for new technologies of natural gas extraction from gas-hydrate deposits	Gubkin Russian State University of Oil and Gas Moscow	8,0	10,0		
50	02.515.11.5019	Development of ways of rational use of products of aerobic fermentation of solid municipal wastes	All-Russian Research Institute for Agricultural Microbiology St.-Petersburg	3,0	3,0		
51	02.515.11.5020	Development of ways of fertilizers and substrata preparation by biodegradation of biologically decomposed part of solid municipal wastes for forestry and landscape	Mari State Technical University Yoshkar-Ola	3,0	3,0		

		engineering					
52	02.515.11.5021	Development of technique for wasteless processing of ballast fraction of solid municipal wastes in synthesis - gas in metal melt with the production of composite building material	Moscow State University of Environmental Engineering	5,0	5,0		
53	02.515.11.5022	Development of techniques for processing of ballast fraction of solid municipal wastes with the production of composite building material	NIKKOM-Group Ltd. Moscow	5,0	5,0		
54	02.515.11.5023	Development of techniques for agricultural wastes recycling and packing of food products with production of secondary raw material and finished product	“Compomash” Corporation Moscow	4,0	4,0		
55	02.515.11.5024	Development of techniques for complex modification of agricultural wastes and packing of food products with production of secondary raw material and finished product	Moscow State University of Food Production	4,0	4,0		
56	02.515.11.5025	Development of technique for integrated treatment of biogases at landfills of solid municipal wastes and production of ecologically clean energy resource	St.-Petersburg State Polytechnical University	5,0	5,0		
57	02.515.11.5026	Development of technique for integrated treatment of natural and sewage water containing cancerogenic and bioresistant pollutants	All-Union Scientific Research Institute of Water Supply, Sewage Systems, Hydrotechnical Works and Engineering Hydrogeology	5,0	5,0		

			Moscow				
58	02.515.11.5027	Development of a system of technological solutions to provide the ecological and geodynamic safety of effective development of bowels and the Earth surface	Interbranch Research Center VNIMI St.-Petersburg	8,0	8,0		
59	02.515.11.5028	Development of technological solutions on monitoring and prevention of catastrophic displays of geodynamic processes with simultaneous increase of efficiency of oil and gas through the effect of nanoamplitude seismic fields on massif disturbed by mining operations.	The Mining Institute, SB RAS Novosibirsk	8,0	8,0		
60	02.515.11.5038	Construction of safe chemically-initiated solid-propellant gas generator to increase the well size that eliminates the well blockage by combustion products	D.I.Mendeleev Russian Chemical-Technological University Moscow	2,5			
61	02.515.11.5039	Development of physical methods to increase the productivity of gas-condensate fields	The United Institute of High Temperature RAS Moscow	2,5			
62	02.515.11.5040	Development of methods of industrial recycling of accompanying oil gas	Moscow Institute of Physics and Technology	4,5	8,5		
63	02.515.11.5041	Creation of scientific and technical groundwork on the development of modern highly effective competitive technology of accompanying oil gas conversion in methanol and other valuable products of	Topchiev Institute of Petrochemical Synthesis RAS Moscow	4,5	8,5		

		petrochemistry, including motor fuel					
64	02.515.11.5056	Development of new methods for complex assessment of natural pasture ecosystems and formation of scientific and technical groundwork for the creation of biogeocenotic technology for restoration of biodiversity and desert productivity	V.R.Williams All-Russian Fodder Research Institute, Russian Academy of Agricultural Sciences Moscow	1,1			
65	02.515.11.5057	Development of model of the top lithosphere layer using geophysical and geochemical studies to minimize the industrial and environmental risks under the construction and operation of oil and gas pipelines	Far East Institute of Geology Vladivostok	1,2			
66	02.515.11.5060	Development of technology for recycling of industrial gaseous wastes into polymeric coating for various materials using the pulsed electron beam	P.N. Lebedev Institute of Physics Moscow	1,2			
67	02.515.11.5061	Development of technology for strong sewage treatment in membrane bioreactors	Moscow Institute of Physics and Technology	1,2			
68	02.515.11.5062	The study of regularities of natural and anthropogenic disasters under mineral prospecting; development of technologies of risk mitigation	Institute of Mining, Ural Branch of RAS Yekaterinburg	1,2			
69	02.515.11.5063	Substantiation of new effective technology of isolation of underwater ecologically dangerous objects	Russian State Geological Prospecting University Moscow	1,2			

70	02.515.11.5067	Development of complex technology for use of geomechanical and seismotectonic methods for mitigation of risk and aftereffects of seismic and geodynamic catastrophic events	Institute of Geosphere Dynamics RAS Moscow	1,2			
71	02.515.11.5069	Development of thermal ecologically safe techniques to increase the efficiency of oil and bitumen layers	Kazan Research Center, RAS	1,2			
72	02.515.11.5070	Problem-oriented basic research and laying the scientific- technical groundwork for the development of ecologically safe microbial biotechnology to improve oil extraction from high-temperature oil deposits.	S.N.Vinogradsky Institute of Microbiology, RAS Moscow	1,2			
73	02.515.11.5071	Development of innovative biological technologies for sea water treatment from hydrocarbonic pollution and creation of techniques for fast control of treated water	Independent nonprofit organization "National committee on science and industry" Moscow	2,5	7,5		
74	02.515.11.5085	Development of an aggregate technology for chemical treatment and filtrate neutralization from solid domestic waste landfills "	Moscow State University for Engineering Ecology		5,0	5,0	
75	02.515.11.5087	Development of technology for on-line testing air quality in seaside cities and resorts	"Vector", State Research Centre of Virology and Biotechnology of the Federal Service on supervision in the sphere of protection of consumers and human well-being		4,6	4,8	

			Novosibirsk					
76	02.515.11.5090	Creation of manufacturing science for natural inorganic sorbents use for protection of subsoil waters from technogeneous and anthropogenous impacts	Obninsk Center for Science and Technologies, Ltd.			6,0	8,0	
77	02.515.11.5092	Elaboration of an effects theory under vibration and pulse influence on natural and technogeneous materials to create an energy-saving technology for their processing.	Institute of Problems of Mechanical Engineering, RAS St.-Petersburg			3,0	7,0	
78	02.515.11.5094	Development of process technology of chlororganic industrial wastes for chlormonomer and polymers production	Russian research centre " Applied chemistry ", Federal state unitary enterprise St.-Petersburg			3,0	7,0	
79	02.515.11.5095	Problem-oriented research in the field of processing and recycling industrial wastes	"DUKRA" Dagestan Research Institute of Food Industry, close corporation Makhachkala, Dagestan			0,85	1,15	
80	02.515.11.5096	Development of a complex hardware-software technique for integration of microseismic, geoelectric and geochemical studies to forecast hydrocarbon resources in the continental shelf of the Arctic.	"ANCHAR" Scientific-production complex, Ltd Moscow				5,0	5,0
81	02.515.11.5097	Technological solutions for mining natural gas deposits under production decline	I.M.Gubkin Russian State University of Oil and Gas Moscow				5,9	5,9

82	02.515.11.5098	Creation of scientific- technical groundwork in the field of technologies and equipment for ecologically safe dry enrichment of thinly impregnated ores of nonferrous and precious metals	"Mekhanobrtekhnika" Scientific production corporation St.-Petersburg				6,0	6,0
83	02.515.11.5099	Development of scientific and technical solutions to increase energy efficiency of major technological and transport units used for processing mineral and industrial raw material in mining and metallurgy	A.A.Blagonravov Institute of Machine Science, RAS Moscow				6,0	6,0
84	02.515.11.5100	Development and testing of electron-physical effect of a pilot device on natural and anthropogenic air - drop dispersions.	Center for ultrasonic technologies and devices, Ltd. Biisk, Altai Krai				2,5	
85	02.515.11.5101	Development of technological basics for output of light aggregates of concrete using mining wastes	" Interstroiproject" Closed joint-stock company				3,0	
86	02.515.11.5102	Development of microbiological "know-how" of ecologically safe biological fertilizers on the basis of poultry farming wastes	"NIKA" Ltd. Moscow				2,8	
87	02.515.11.5103	Development of technological solutions on gel technology application to increase the drill- holes efficiency	"Drilling materials" Ltd. Moscow				3,0	
88	02.515.11.5104	Scientific - methodical basis for innovative technology of heavily extracted hydrocarbon reserves in view of technogeneous	"ANOKO" Ltd. Moscow				3,0	

		transformation of the system					
89	02.515.11.5105	Scientific and technical groundwork for the development of a new gyroscopic rocks abrasion and technogeneous materials	"Profile-T" Scientific-production center, Ltd. Moscow			3,0	
90	02.515.12.0001	Development of new plasma-optical methods and technique for treatment of liquid radioactive wastes of nuclear industry	N.E.Bauman Moscow State Technical University			1,2	
91	02.515.12.0013	Methane and mercury in bottom sediments of early diagenesis of water flows and fresh-water reservoirs	Southern Federal University" Rostov-on-Don			1,2	
92	02.515.12.0016	Research and development of environmentally safe physical-chemical technologies under the development of copper-sulfur deposits and accompanying formations	Institute of Problems of the Earth Complex Development, RAS Moscow			1,2	
93	02.515.12.0018	Development of geophysical technologies for monitoring under mining of potassium-magnesian salts sites and procedures for interpretation of carbonate collectors of petroleum deposits	Perm State University			1,2	
94	02.515.12.0020	Development of combined physical - chemical and energy methods of disintegration and extraction of precious components from hard-cleaning raw material and hypochlorite extraction from recycled water of tailing dumps	Institute of Problems of the Earth Complex Development, RAS Moscow			1,2	

95	02.515.12.0021	Innovative processing of hard-cleaning and thrust ores of strategic metals	Institute of Chemistry and Chemical Technology, RAS Krasnoyarsk			1,2		
96	02.515.12.5004	Development of technological bases for recycling of industrial plumbous wastes	Institute of High-Temperature Electrochemistry, the Ural Branch of RAS Yekaterinburg				6,0	6,0
97	02.515.12.5006	Development of alternative technology for unfired glass production from broken glass	"EKODOT " Research-and-production company, Ltd. St.-Petersburg				3,0	
98	02.515.12.5007	Development of ecologically safe technology of recycling microbiological brewing wastes for agricultural purposes	"BIOTROF" Ltd. St.-Petersburg				3,0	
99	02.515.12.5012	Construction of an electromagnetic separator mockup for ecologically safe water-free enrichment of low-magnetic ferrous ores with participation of scientific organizations of Australia	"Mekhanobrtexhnika" Scientific production corporation St.-Petersburg				1,5	1,5
100	02.515.11.5085	Development of aggregate technology for chemical treatment and filtrate neutralization from solid domestic waste landfills	Moscow State University of Engineering Ecology, Coauthor- "InzhTechEco" Ltd Moscow				5,0	5,0
101	02.525.11.5003	Development of technology and the universal	"Turmalin" , closed joint-		50,0	55,0		

		efficient complex for thermal destruction of solid and liquid hazardous chemical and medical wastes	stock company St.-Petersburg				
102	02.525.11.5004	Development of ecologically safe combined physico-technical and physico- chemical technologies of ore extraction and complex processing	St.-Petersburg State Mining Institute named after G.V.Plekhanov (Technical University)	50,0	50,0	50,0	
103	02.525.12.5001	Creation of industrial closed water supply systems based on membranes and sorption-catalytic procedures for sewage treatment	D.I.Mendeleev Russian Chemical- Technological University Moscow	50,0	50,0		
104	02.512.11.2003	Sedimentation of heavy metal ions under the influence of sulfate-reducing bacteria	Tomsk State University	4,5			
105	02.512.11.2011	Development of technology for microalgae optical monitoring and creation of an independent measuring complex for bioindication of natural waters	Biological Department of M.V.Lomonosov Moscow State University	4,5			
106	02.512.11.2014	Development of biocatalysts using non-pathogenic actinobacteria to produce biologically active compounds and to protect the environment.	Institute of Ecology and Genetics of Microorganisms, the Ural Branch of RAS Perm	4,5			
6.3.2 Protection, conservation and enhancement of cultural heritage, including human habitat							
6.3.3 Technology assessment, verification and testing							

6.4 Earth observation and assessment tools for sustainable development

6.4.1 Earth and ocean observation systems and monitoring methods for the environment and sustainable development

107	02.515.11.0004	Solution of topical problems of ground-based, marine and well geoelectricians using the modern methods of multidimensional mathematical and physical modelling of electromagnetic fields in structurally complex environments	A.A. Trofimuk Institute of Petroleum Geology and Geophysics, Siberian Branch of the Russian Academy of Sciences Novosibirsk			1,2		
108	02.515.11.5005	Lux-biosensors for environmental monitoring: detection of toxic substances in air, water, surface, food products.	State Research Institute of Genetics and Selection of Industrial Microorganisms Moscow		3,0			
109	02.515.11.5006	Development of new methods for monitoring of radiation-active air components and the study of climate forcing influence marine ecosystems.	Institute for Automation and Control Processes, Far Eastern Branch of RAS Vladivostok		2,65			
110	02.515.11.5013	Interdisciplinary multiscale study of models and characteristics of seismic excitation of upper Earth's spheres and development of methods, techniques and technologies for complex diagnosing of foreshocks in active geodynamic zones of Northern Eurasia.	Institute of Physics of the Earth RAS Moscow		5,0	5,0		
111	02.515.11.5014	Development of modern system of electromagnetic monitoring of intense - deformation processes in the earth's crust of seismically active zones	Research station of RAS in Bishkek Bishkek, Kyrgyzstan		5,0	5,0		

112	02.515.11.5034	Research and development of methods of processing and use of oceanographic data for marine management in the Arctic regions	State Research Institute of Navigation and Hydrography, Ministry of Defence of the Russian Federation St.-Petersburg	3,5	6,5		
113	02.515.11.5035	Research and development of methods of processing and use of oceanographic data for sea management in the Arctic areas	Scientific Production Association "Okeanpribor" St.-Petersburg	3,4	6,4		
114	02.515.11.5036	Development of methodological basis for the assessment of terrestrial ecosystems and land water resistance to the influence of hydrocarbon raw material production and transportation to create a system of complex environmental monitoring under different landscape-climatic conditions.	Geographical Department, Lomonosov Moscow State University	3,0	2,9		
115	02.515.11.5037	Development of methodological basis for the assessment of resistance of marine ecosystems to the influence of hydrocarbon raw material production and transportation to create a system of complex environmental monitoring under different climatic conditions	P.P.Shirshov Institute of Oceanology RAS Moscow	3,0	3,0		
116	02.515.11.5042	Technology for on-line monitoring of strontium - 90 concentration in hydrosphere "the Strontic label "	RCC Kurchatov Institute Moscow	1,2			
117	02.515.11.5043	On-line estimation of spatial-temporal variability of aquatic environment and surface layer using remote radiophysical sensing for	Institute of Applied Physics RAS Nizhny Novgorod	1,2			

		environmental monitoring of coastal sea water areas and forecasting of anthropogenic and natural impact						
118	02.515.11.5044	Data-computing system of variational assimilation of observation data for monitoring and forecasting of the state of the World ocean water areas, boundary atmosphere layer and the environment	Institute of Computational Mathematics RAS Novosibirsk	1,2				
119	02.515.11.5045	The study of spatial-temporal variations of muon stream on the Earth surface during active atmospheric processes	Moscow Institute of Physics and Technology	1,2				
120	02.515.11.5046	Development of the software for calculation of greenhouse gas flow between atmosphere and hydrosphere under predicted climate change	Obukhov Institute of Atmospheric Physics Moscow	1,2				
121	02.515.11.5059	Tantalum – niobium mineralization of alkaline-ultrabasic formations (Lovozerk and Tomtorsk area as a case study)	V.I. Vernadsky Institute of Geochemistry and Analytical Chemistry RAS Moscow	1,2				
122	02.515.11.5064	Development and research of intellectual and adaptive systems of monitoring of seismoacoustic and deformation processes to forecast the catastrophic events in natural and industrial objects	Institute of automation and Control Processes, Far East Branch of RAS Vladivostok	1,2				
123	02.515.11.5066	Geophysical processes in block and heterogeneous environments	Trofimuk Institute of Petroleum Geology and	1,2				

			Geophysics SB RAS Novosibirsk				
124	02.515.11.5072	Study and monitoring of basic radio- active components of the atmosphere in the central part of Eurasia	TAIFUN Scientific Production Association Obninsk	0,75	0,75		
125	02.515.11.5073	Development of international seismological -geodynamic monitoring net in the Caucasus based on national systems of monitoring, modeling and forecasting of seismic and geodynamic processes of Russia and Armenia	Geophysical Service of RAS Obninsk	0,75	0,75		
126	02.515.11.5074	Development of new techniques and technologies for seismic threat estimation and earthquakes forecast in cooperation with leading seismological organizations of China	O.J.Shmidt Institute of Physics of the Earth , RAS Moscow	0,75	0,75		
127	02.515.11.5075	The Kuril - Kamchatka and Aleutian systems: geodynamics and climate interaction in space and time	P.P.Shirshov Institute of Oceanology, RAS Moscow	0,7	0,8		
128	02.515.11.5076	Mitigation of tsunami risk:innovative technology for processing the records from deep-water hydrophysical stations	S.L.Sobolev Institute of Mathematics, RAS Novosibirsk	0,75	0,75		
129	02.515.11.5077	Study of solar space beams of high energy using wide-aperture position detector DECOR-2	State Moscow Engineering Physics Institute	0,75	0,75		

130	02.515.11.5078	Correlation of late triassic structural-lithologic complexes of Primorye and northeast China	B.B. Kuibyshev Far East State Technical University Vladivostok	0,75	0,75		
131	02.515.11.5079	Development of deep-water stationary diagnostic and software of neutrino telescopes on Lake Baikal and interdisciplinary research of natural processes within the framework of the Baikal neutrino project	Irkutsk State University	0,7	0,7		
132	02.515.11.5080	Nature and its transformation in the Laptev Sea region as a reflection of global climatic processes	Arctic and Antarctic Research Institute St.-Petersburg	0,75	0,75		
133	02.515.11.5083	Geodynamics of Central -Atlantic Range and ore -forming processes	I.S.Gramberg All-Russian Research Institute of Geology and Mineral Resources of World Ocean St.-Petersburg	0,75	0,75		
134	02.515.11.5086	Development of scientific and technical solutions on sequestration of greenhouse gases in geological formations	I.M.Gubkin Russian State University of Oil and Gas Moscow		5,0	5,0	
135	02.515.12.0004	Advanced monitoring of marginal filters and biofilters of seas and oceans	P.P.Shirshov Institute of Oceanology, RAS Moscow		1,2		
136	02.515.12.0006	Development of wave electronics techniques based on nanomaterials for solving the problems of environmental monitoring	V.A.Kotelnikov Institute of Radio Engineering and Electronics, RAS		1,2		

			Moscow					
137	02.515.12.0007	Study of local atmospheric perturbations by means of muon hodoscopes	Moscow State Engineering Physics Institute			1,2		
138	02.515.12.0008	Study of mechanisms of solar-terrestrial relations forming physical agents of human environment	Tomsk State University			1,2		
139	02.515.12.0015	Elaboration of a theory and technique for dynamic mapping of the Earth surface based on space images.	Moscow State University of a Geodesy and Cartography			1,2		
140	02.515.12.5010	Development of GIS with a layout of international metallogenic map of Europe (scale 1:5000000 with insets up to 1:1500000) jointly with scientific organizations of France	"Russian-French Laboratory of Metallogeny", independent nonprofit organization Moscow				1,8	2,0
6.4.2 Forecasting methods and assessment tools for sustainable development taking into account differing scales of observation								
141	02.515.11.5007	Ecological-geological risk for urban territories, their assessment and development on the basis of nonlinear dynamics of system of forecasting and prevention of catastrophic events (MidVolga region as a case study).	N.G.Chernyshevsky Saratov State University			2,7		
142	02.515.11.5047	Maturity of lithosphere as the basic parameter for estimation of its potential raw materials and forecasting of the state of single lithosphere blocks under their	Institute of the Earth's Crust SB RAS Irkutsk			1,2		

		interaction with biosphere					
143	02.515.11.5048	Development of the new approach for the estimation of lithosphere plates state and the forecast of seismicity	Kuban State University Krasnodar	1,2			
144	02.515.11.5049	Regularities of formation of methane content and flow in bottom sediments-water-atmosphere system, to monitoring the estimation and the forecast of its removal by rivers into seas of European part of Russia	South Federal University Rostov-on-Don	1,2			
145	02.515.11.5050	Ocean lithosphere and continental outskirts: tectonic and geodynamic processes, scientific bases for estimation and forecast of mineral resources, recommendations on their development.	Geological Institute RAS St.-Petersburg	1,2			
146	02.515.11.5051	Key stages of lithosphere formation in the Baikal region as a basis for the forecast of gold mineralization occurrence and evaluation of geological and climatic factors in biosphere development	Vinogradov Institute of Geochemistry SB RAS Moscow	1,2			
147	02.515.11.5053	Forecast of ocean lithosphere and biosphere using nanotechnologies	Shirshov Institute of Oceanology RAS Moscow	1,2			
148	02.515.11.5054	Development of technique for ecological-biochemical evaluation of aquatic organisms	Institute of Biology, Karelia Research Center Petrozavodsk	1,2			

149	02.515.11.5065	Methods for forecasting the development of sea coastal zone and prevention of aftereffects of natural and industrial disasters	P.P. Shirshov Institute of Oceanology RAS	1,2			
150	02.515.11.5084	Development of techniques for risk assessment and mitigation of consequences of natural-technogeneious disasters to fulfill commitments of the Russian Federation under the Helsinki Convention on minimization of " hot spots " effect on the Baltic Sea environment (by the example of "Krasny Bor" landfill for highly toxic wastes	Russian State Hydrometeorological University St.-Petersburg	0,75	0,7		
151	02.515.11.5091	Development of methods for diagnostics and forecast of threats to ecological safety related to realization of strategic projects on territorial and branch development	O.J.Shmidt Institute of Physics of the Earth, RAS Moscow		5,0	5,0	
152	02.515.12.0005	Assessment of harmful anthropogenic effects on a global climatic system and forecast of regional climate change aftereffects on Russia territories	Institute of Global Climate and Ecology, Federal Service on Hydrometeorology and Environmental Monitoring, RAS Moscow		1,2		
153	02.515.12.5011	Creation of resources evaluation system and state forecast of natural environment components in northern territories with participation of scientific organizations of Norway	Institute of Geography, RAS Moscow			2,0	2,0

		Total	1198,72		441,27	470,07	244,08	43,3
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Annex VIII. List of research topics provided in the plan and annual scientific reports of Research Centers and Research Institutes of the Russian Academy of Sciences (RAS)

1. Siberian Branch of RAS

№	Title of project/Research	University/ Research institute	Topic in FP7
1.	Information telecommunication technologies and resources for interdisciplinary basic research of geosystems and biodiversity in the Baikal and Transbaikalia Region based on thematic and geospatial data. Prerequisites, problems and geoinformation basis for sustainable nature management in transboundary regions of Asian Russia and contiguous countries.	Baikal Institute of Nature Management SB RAS, Ulan-Ude http://www.binm.ru	6.2.1.4 Biodiversity 6.4.2 Forecasting methods and assessment tools for sustainable development taking into account differing scales of observation
2.	Physical simulation of deformation processes of different level in lithosphere based on the studies of ice cover of Lake Baikal. Development of multidisciplinary mathematical models and experimental methods for studying the zones exposed to earthquakes and volcano activity.	Geological Institute SB RAS, Ulan-Ude http://geo.stbur.ru	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment 6.1.3.2 Vulnerability assessment and societal impacts
3.	Models of biosphere change based on carbon-gas balance (by field and satellite data, taking into account the contribution of boreal ecosystems). Integrated studies of stratification of biological, chemical and physical components of aquatic ecosystems as a basis for water quality prediction and management. The impact of global temperature change on functioning of plankton communities of waters in different natural zones.	Institute of Biophysics SB RAS, Krasnoyarsk http://www.ibp.ru	6.1.1.3 The Global Carbon Cycle - greenhouse gas budgets 6.2.1.1 Integrated resource management 6.1.1.1 The Earth System and Climate: Functioning and abrupt changes

№	Title of project/Research	University/ Research institute	Topic in FP7
4.	Forecast of climate change in Central Asia based on the analysis of annual records on lacustrine sediments, growth rings and glaciers. Co-evolution of climate, the environment and a man in the Pleistocene and Holocene of Siberia. Mechanisms for synchronization of regional climate and the environment of Sea of Okhotsk and West Siberia (Lake Baikal) at the orbital and thousand-year scale: role of global atmospheric processes of the northern hemisphere.	Institute of Archaeology and Ethnography SB RAS, Novosibirsk http://www.archaeology.nsc.ru	6.1.1.4 Future climate 6.1.1.5 Climate change natural and socio-economic impacts 6.1.1.1 The Earth System and Climate: Functioning and abrupt changes
5.	Cryosphere as the environment for survival and preservation of biodiversity.	Institute for Biological Problems of Cryolithozone SB RAS, Yakutsk	6.2.1.4 Biodiversity

		http://www.ibpc.ysn.ru	
6.	<p>Risk analysis of morbidity in Siberian population based on few-parameter reconstructions of fields of chemical and radioactive contamination.</p> <p>Forecast of climate change in Central Asia based on the analysis of annual records on lacustrine sediments, growth rings and glaciers.</p> <p>Integrated studies of stratification of biological, chemical and physical components of water ecosystems as a basis for water quality prediction and management.</p> <p>Prerequisites, problems and geoinformation basis for sustainable nature management in transboundary regions of the Asian Russia and contiguous countries.</p>	<p>Institute for Water and Environmental Problems SB RAS, Barnaul http://www.iwep.ru</p>	<p>6.1.2.2 Health effects of environmental stressors other than climate change</p> <p>6.1.1.4 Future climate</p> <p>6.2.1.1 Integrated resource management</p> <p>6.4.2 Forecasting methods and assessment tools for sustainable development taking into account differing scales of observation</p>
7.	<p>Models of biosphere change based on carbon-gas balance (by field and satellite data, taking into account the contribution of boreal ecosystems).</p> <p>Integrated studies of stratification of biological, chemical and physical components of water ecosystems as a basis for water quality prediction and management.</p>	<p>Institute of Computational Modelling SB RAS, Krasnoyarsk http://icm.krasn.ru</p>	<p>6.1.1.3 The Global Carbon Cycle - greenhouse gas budgets</p> <p>6.2.1.1 Integrated resource management</p>

№	Title of project/Research	University/ Research institute	Topic in FP7
8.	<p>Development of scientific and technological basis for monitoring and modeling natural-climatic processes of the Great Vasyugan Mire.</p> <p>Risk analysis of morbidity in Siberian population based on few-parameter reconstructions of fields of chemical and radioactive contamination.</p> <p>Forecast of climate change in Central Asia based on the analysis of annual records on lacustrine sediments, growth rings and glaciers.</p> <p>Development of computational methods, algorithms and software tools for concurrent simulation of natural processes.</p> <p>Development of multidisciplinary mathematical models and experimental</p>	<p>Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Novosibirsk http://www.sccc.ru</p>	<p>6.3.1.1 Water</p> <p>6.1.2.2 Health effects of environmental stressors other than climate change</p> <p>6.1.1.4 Future climate</p> <p>6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the</p>

	methods for studying the zones of potential earthquakes and volcano activity.		natural and man-made environment
9.	<p>Models of biosphere change based on carbon-gas balance (by field and satellite data, taking into account the contribution of boreal ecosystems).</p> <p>Development of computational methods, algorithms and software tools for concurrent simulation of natural processes.</p> <p>Anthropogenic risks induced by coal and oil-gas production in Siberia.</p> <p>Information telecommunication technologies and resources for interdisciplinary basic research of geosystems and biodiversity in the Baikal and Transbaikalia Region based on thematic and geospatial data.</p> <p>Distributed system of collecting, storing, processing and access to the remote-sensed Earth data for monitoring of social-economic processes and the environment state of Siberia and the Far East.</p>	<p>Institute of Computational Technologies SB RAS, Novosibirsk http://www.ict.nsc.ru</p>	<p>6.1.1.3 The Global Carbon Cycle - greenhouse gas budgets</p> <p>6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment</p> <p>6.2.1.4 Biodiversity</p> <p>6.4.2.3 Interplay between social, economic and ecological systems</p>

№	Title of project/Research	University/ Research institute	Topic in FP7
10	<p>Information technologies, mathematical models and methods for monitoring and management of ecosystems under stationary, mobile and remote observations.</p> <p>Models of biosphere change based on carbon-gas balance (by field and satellite data, taking into account the contribution of boreal ecosystems).</p> <p>Information telecommunication technologies and resources for interdisciplinary basic research of geosystems and biodiversity in the Baikal and Transbaikalia Region based on thematic and geospatial data.</p> <p>Prerequisites, problems and geoinformation basis for sustainable nature management in transboundary regions of Asian Russia and contiguous countries.</p>	<p>V.B. Sochava Institute of Geography SB RAS, Irkutsk http://irigs.irk.ru</p>	<p>6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment</p> <p>6.1.1.3 The Global Carbon Cycle - greenhouse gas budgets</p> <p>6.2.1.4 Biodiversity</p> <p>6.4.2 Forecasting methods and assessment tools for sustainable development taking into account differing scales of observation</p>
11	<p>Information technologies, mathematical models and methods for monitoring and management of ecosystems under stationary, mobile and remote observations.</p> <p>Physical simulation of deformation processes of different level in the lithosphere based on the studies of ice cover of Lake Baikal.</p> <p>Risk analysis of morbidity in Siberian population based on few-parameter</p>	<p>V.S. Sobolev Institute of Geology and Mineralogy SB RAS, Novosibirsk http://www.igm.nsc.ru</p>	<p>6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment</p> <p>6.1.2.2 Health effects of environmental stressors other than climate change</p>

reconstructions of fields of chemical and radioactive contamination. Forecast of climate change in Central Asia by analyzing the annual records on lacustrine sediments, growth rings and glaciers of the region.		6.1.1.4 Future climate
Integrated studies of stratification of biological, chemical and physical components of aquatic ecosystems as a basis for water quality prediction and management.		6.2.1.1 Integrated resource management
Comparative analysis of migration ability, concentration and toxicity of uranium isotopes in aquatic ecosystems of Eurasia.		6.1.2.2 Health effects of environmental stressors other than climate change

№	Title of project/Research	University/ Research institute	Topic in FP7
12	Forecast of climate change in Central Asia by analyzing the annual records on lacustrine sediments, growth rings and glaciers of the region. Late Neozoic evolution of lithosphere, Central Asia orogenesis and their influence on the environment and climate change: studies of intra-slab volcanism and deepwater sedimentary cores from Lakes Baikal and Khubsugul.	A.P. Vinogradov Institute of Geochemistry SB RAS, Irkutsk http://www.igc.irk.ru	6.1.1.4 Future climate
13	Theoretical, instrumental-experimental and geoinformation basis for monitoring of stressedly-deformed rock masses in the areas exposed to severe technogeneous impact.	Lavrentyev Institute of Hydrodynamics SB RAS, Novosibirsk http://www.hydro.nsc.ru	6.1.3.1 Hazard assessment, triggering factors and forecasting
14.	Metastability and probable catastrophe scenarios in structured geological environments. Theoretical, instrumental-experimental and geoinformation basis for monitoring of stressedly-deformed rock masses in the areas exposed to severe technogeneous impact. Earthquakes, rock bumps, sudden outbursts of rock, oil and gas: formation mechanisms and criteria for disasters forecast.	Chinakal Institute of Mining SB RAS, Novosibirsk http://www.misd.nsc.ru/	6.1.3.1 Hazard assessment, triggering factors and forecasting
15.	Integrated study of languages development, ethnic culture and history of peoples from the northern-east Russia.	Institute of the Humanities and the Indigenous Peoples of the North SB RAS, Yakutsk http://igi.ysn.ru/	6.3.2.1 Assessment and conservation in cultural heritage
16.	Anthropogenic risks induced by coal and oil-gas production in Siberia. Information telecommunication technologies and resources for interdisciplinary	Institute for System Dynamics and Control	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the

	basic research of geosystems and biodiversity in the Baikal and Transbaikalia Region based on thematic and geospatial data.	Theory SB RAS, Irkutsk http://www.idstu.irk.ru	natural and man-made environment 6.2.1.4 Biodiversity
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№	Title of project/Research	University/ Research institute	Topic in FP7
17.	Theoretical, instrumental-experimental and geoinformation basis for monitoring of stressedly-deformed rock masses in the areas exposed to severe technogeneous impact. Forecast of climate change in Central Asia by analyzing the annual records on lacustrine sediments, growth rings and glaciers. Earthquakes, rock bumps, sudden outbursts of rock, oil and gas: formation mechanisms and criteria for disasters forecast.	Institute of the Earth's Crust SB RAS, Irkutsk http://www.crust.irk.ru/	6.1.3.1 Hazard assessment, triggering factors and forecasting 6.1.1.4 Future climate 6.1.3.1 Hazard assessment, triggering factors and forecasting
18.	Diagnostics of dynamic processes in the mid-latitude and subpolar atmosphere. Spatial-temporal changeability of major radioactive components of the atmosphere in the transition zone "land-ocean" and continental regions; their role in formation of regional climatic peculiarities of the Far East and Siberia.	Yu.G. Shafer Institute of Cosmophysical Research and Aeronomy SB RAS, Irkutsk http://ikfia.ysn.ru/	6.3.1.7 Air technologies
19.	Cryosphere as the environment for survival and preservation of biodiversity.	Institute of the Earth Cryosphere SB RAS, Tyumen http://www.ikz.ru/	6.2.1.4 Biodiversity
20.	Theoretical, instrumental-experimental and geoinformation basis for monitoring of stressedly-deformed rock masses in the areas exposed to severe technogeneous impact.	Institute of Laser Physics SB RAS, Novosibirsk http://www.laser.nsc.ru/	6.1.3.1 Hazard assessment, triggering factors and forecasting

№	Title of project/Research	University/ Research institute	Topic in FP7
21.	Models of biosphere change based on carbon-gas balance (by field and satellite data, taking into account the contribution of boreal ecosystems). Development of scientific and technological basis for monitoring and modeling natural-climatic processes of the Great Vasyugan Mire.	V.N. Sukachev Institute of Forest SB RAS, Krasnoyarsk http://forest.akadem.ru	6.1.1.3 The Global Carbon Cycle - greenhouse gas budgets 6.3.1.1 Water

	Forecast of climate change in Central Asia by analyzing the annual records on lacustrine sediments, growth rings and glaciers of the region. Co-evolution of climate, the environment and a man in the Pleistocene and Holocene in Siberia. Ecological-geographical regularities of morphological-genetic structure, differentiation and coniferous populations productivity of forest-marsh ecosystems of West Siberia and the Urals. The gene pool of coniferous populations in West Siberia and the Urals: structure, principles of their preservation and use in selection programs. Genetic and ecosystem diversity of larch of Siberia and the Far East.		6.1.1.4 Future climate 6.1.1.5 Climate change natural and socio-economic impacts 6.2.1.6 Integrated forest research
22.	Cryosphere as the environment for survival and preservation of biodiversity	P.I. Melnikov Permafrost Institute SB RAS, Yakutsk http://mpi.ysn.ru	6.2.1.4 Biodiversity

No	Title of project/Research	University/ Research institute	Topic in FP7
23.	Information technologies, mathematical models and methods for ecosystems monitoring and management under stationary, mobile and remote observations. Models of biosphere change based on carbon-gas balance (by field and satellite data, taking into account the contribution of boreal ecosystems). Development of scientific and technological basis for monitoring and modeling natural-climatic processes of the Great Vasyugan Mire. Gene pool of coniferous populations in West Siberia and the Urals: structure, principles of their preservation and use in selection programs.	Institute of Monitoring of Climatic and Ecological Systems SB RAS, Tomsk http://www.imces.ru	6.2.1.1 Integrated resource management 6.1.1.3 The Global Carbon Cycle - greenhouse gas budgets 6.3.1.1 Water 6.2.1.6 Integrated forest research
24.	Risk analysis of morbidity in Siberian population based on few-parameter reconstructions of fields of chemical and radioactive contamination	A.V. Nikolaev Institute of Inorganic Chemistry SB RAS, Novosibirsk http://www.niic.nsc.ru/	6.1.2.2 Health effects of environmental stressors other than climate change
25.	Spatial-temporal changeability of major radioactive-components of the atmosphere in the transition zone "land-ocean" and continental regions; their role in formation of regional climatic peculiarities of the Far East and Siberia	V.E. Zuev Institute of Atmospheric Optics SB RAS, Tomsk	6.1.1.1 The Earth System and Climate: Functioning and abrupt changes

		http://www.iao.ru	
26.	Models of biosphere change based on carbon-gas balance (by field and satellite data, taking into account the contribution of boreal ecosystems) Development of scientific and technological basis for monitoring and modeling natural-climatic processes of the Great Vasyugan Mire.	Institute of Soil Science and Agrochemistry SB RAS, Novosibirsk http://soilsib.nsc.ru	6.1.1.3 The Global Carbon Cycle - greenhouse gas budgets 6.3.1.1 Water

No	Title of project/Research	University/ Research institute	Topic in FP7
27.	Development of scientific and technological basis for monitoring and modeling natural-climatic processes of the Great Vasyugan Mire. Metastability and probable catastrophe scenarios in structured geological environments. Theoretical, instrumental-experimental and geoinformation basis for monitoring of stressedly-deformed rock masses in the areas exposed to severe technogeneous impact. Anthropogenic risks induced by coal and oil-gas production in Siberia Earthquakes, rock bumps, sudden outbursts of rock, oil and gas: formation mechanisms and criteria for disasters forecast. Development of multidisciplinary mathematical models and experimental methods for studying the zones exposed to earthquakes and volcano activity. Development of fundamentals for integrated sorption, catalytic and microbiological methods to protect the environment.	A.A. Trofimuk Institute of Petroleum-Gas Geology and Geophysics SB RAS, Novosibirsk http://www.ipgg.nsc.ru	6.3.1.1 Water 6.1.3.1 Hazard assessment, triggering factors and forecasting 6.3.1 Environmental technologies
28.	Diversity, biogeographic relations and history of biota formation in old Asian lakes. Cryosphere as the environment for survival and preservation of biodiversity. Forecast of climate change in Central Asia by analyzing the annual records on lacustrine sediments, growth rings and glaciers. Prerequisites, problems and geoinformation basis for sustainable nature management in transboundary regions of Asian Russia and contiguous countries.	Institute of Natural Resources, Ecology and Cryology SB RAS, Chita http://inrec.chita.ru	6.2.1.4 Biodiversity 6.1.1.4 Future climate 6.4.2 Forecasting methods and assessment tools for sustainable development taking into account differing scales of observation
29.	The Eurasian intermediate zone as an arena for interaction of numerous ethnogenetic lines. Problems of formation of modern ethno-social and religious-confessional communities in West Siberia.	Institute of Problems of Development of the North SB RAS, Tyumen	6.3.2 Protection, conservation and enhancement of cultural heritage, including human habitat

	Regularities of biogeocenosis dynamics of West Siberia and their monitoring in the oil and gas production zones.	http://www.ipdn.ru	6.3.1.5 Built environment
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№	Title of project/Research	University/ Research institute	Topic in FP7
30.	The gene pool of coniferous populations in West Siberia and the Urals: structure, principles of their preservation and use in selection programs.	Institute of Systematics and Ecology of Animals SB RAS, Novosibirsk http://www.eco.nsc.ru	6.2.1.6 Integrated forest research
31.	Metastability and probable catastrophe scenarios in structured geological environments	S.A. Khristianovich Institute of Theoretical and Applied Mechanics SB RAS, Novosibirsk http://www.itam.nsc.ru	6.1.3.1 Hazard assessment, triggering factors and forecasting
32.	Models of biosphere change based on carbon-gas balance (by field and satellite data, taking into account the contribution of boreal ecosystems) Theoretical, instrumental-experimental and geoinformation basis for monitoring of stressedly-deformed rock masses in the areas exposed to severe technogeneous impact Anthropogenic risks induced by coal and oil-gas production in Siberia	Institute of Coal SB RAS, Kemerovo http://www.icc.kemsc.ru	6.1.1.3 The Global Carbon Cycle - greenhouse gas budgets 6.1.3.1 Hazard assessment, triggering factors and forecasting 6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
33.	Development of computational methods, algorithms and software tools for concurrent simulation of natural processes.	Institute of Strength Physics and Materials Science SB RAS, Tomsk http://www.ispms.ru	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment

№	Title of project/Research	University/ Research institute	Topic in FP7
34.	Anthropogenic risks induced by coal and oil-gas production in Siberia	V.P. Larionov Institute of the Physical-Technical Problems of the North SB RAS, Yakutsk http://iptpn.ysn.ru/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment

35.	Development of fundamentals for integrated sorption, catalytic and microbiological methods to protect the environment	Institute of Petroleum Chemistry SB RAS, Tomsk http://www.ipc.tsc.ru/	6.3.1 Environmental technologies
36.	Development of fundamentals for integrated sorption, catalytic and microbiological methods to protect the environment	Institute of Chemical Biology and Fundamental Medicine SB RAS, Novosibirsk http://www.niboch.nsc.ru	6.3.1 Environmental technologies
37.	Models of biosphere change based on carbon-gas balance (by field and satellite data, taking into account the contribution of boreal ecosystems). Development of computational methods, algorithms and software tools for concurrent simulation of natural processes. Cryosphere as the environment for survival and preservation of biodiversity. Gene pool of coniferous populations in West Siberia and the Urals: structure, principles of their preservation and use in selection programs.	Institute of Cytology and Genetics SB RAS, Novosibirsk http://www.bionet.nsc.ru/	6.1.1.3 The Global Carbon Cycle - greenhouse gas budgets 6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment 6.2.1.4 Biodiversity 6.2.1.6 Integrated forest research

№	Title of project/Research	University/ Research institute	Topic in FP7
38.	Risk analysis of morbidity in Siberian population based on few-parameter reconstructions of fields of chemical and radioactive contamination.	Institute of Human Ecology SB RAS, Kemerovo http://www.nsc.ru	6.1.2.2 Health effects of environmental stressors other than climate change
39.	Development of computational methods, algorithms and software tools for concurrent simulation of natural processes.	G.I. Budker Institute of Nuclear Physics SB RAS, Novosibirsk http://www.inp.nsk.su	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
40.	Diversity, biogeographic interactions and history of biota formation of old Asian lakes. Spatial-temporal changeability of major radioactive-components of the atmosphere in the transition zone "land-ocean" and continental regions; their role in formation of regional climatic peculiarities of the Far East and Siberia. Mechanisms for synchronization of regional climate and the environment of	Limnological Institute SB RAS, Irkutsk http://www.lin.irk.ru	6.2.1.4 Biodiversity 6.1.1.1 The Earth System and Climate: Functioning and abrupt changes

	Sea of Okhotsk and West Siberia (Lake Baikal) at the orbital and thousand-year scale: role of global atmospheric processes of the northern hemisphere.		
41.	The gene pool of coniferous populations in West Siberia and the Urals: structure, principles of their preservation and use in selection programs.	N.N. Vorozhtsov Novosibirsk Institute of Organic Chemistry SB RAS, Novosibirsk http://www.nioch.nsc.ru/	6.2.1.6 Integrated forest research
42.	Information telecommunication technologies and resources for interdisciplinary basic research of geosystems and biodiversity in the Baikal and Transbaikalia Region based on thematic and geospatial data.	Siberian Institute of Plant Physiology and Biochemistry SB RAS, Irkutsk http://www.sifibr.irk.ru	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment

No	Title of project/Research	University/ Research institute	Topic in FP7
43.	Prerequisites, problems and geoinformation basis for sustainable nature management in transboundary regions of Asian Russia and contiguous countries.	Tuva Institute for Exploration of Natural Resources SB RAS, Republic of Tyva, Kyzyl http://www.mert.tuva.ru/	6.4.2 Forecasting methods and assessment tools for sustainable development taking into account differing scales of observation
44.	Biodiversity of the Siberian plant life, its structural-dynamic organization; development of a concept of biodiversity conservation at different levels of its organization. Ecological basics of the rational use of plant resources; development of the methods of conservation of the gene pool of natural flora in Botanical Gardens. Acclimatization, introduction and breeding of plants for preservation and enrichment of the gene pool of useful plants.	Central Siberian Botanical Garden SB RAS, Novosibirsk http://www.csbg.narod.ru/	6.2.1.4 Biodiversity

2. Ural Branch of RAS

Research centers and research institutes of the Ural Branch (RAS), Ekaterinburg

No	Title of project/Research	University/ Research institute	Topic in FP7
1.	Monitoring of aerosols and spectral transparency of the atmosphere. Scientific grounds for ecologically safe and steady development of territories. Ecologically significant natural physical-chemical processes.	Institute of Industrial Ecology UB RAS, Ekaterinburg http://www.iae.uran.ru	6.3.1.7 Air technologies 6.2.1 Conservation and sustainable management of natural and man-made resources and biodiversity

2.	Studies of biological diversity at the population, species and ecosystem level. Determination of the strategy for biodiversity conservation and restoration. Development of biota diversity in the Urals and West Siberia. Development of theoretical grounds for nature protection (environmental standardization, bioindication, biomonitoring, ecotoxicology, radioecology). Studies of biospheric forest functions and their change caused by global and regional climatic processes and anthropogenic impact. Reconstruction of climate, structure and ecosystem functioning in the late Cainozoic.	Institute of Plant and Animal Ecology UB RAS, Ekaterinburg http://ipae.uran.ru/	6.2.1 Conservation and sustainable management of natural and man-made resources and biodiversity 6.2.1.6 Integrated forest research 6.1.1.1 The Earth System and Climate: Functioning and abrupt changes
3.	Theoretical problems of ecological risk based on the environmental-economic evaluation of forest ecosystems. Classification of ecological risk. Assessment and peculiarities of ecological risk formation in different climatic zones. Ecological forest monitoring based on the unified method considering zonal and other peculiarities of the Urals forests; development of the method for assessment of forest damage by emissions; development of scientifically grounded economic activities in partially degraded forests.	Botanical Garden UB RAS, Ekaterinburg http://www.uran.ru	6.2.1.6 Integrated forest research

No	Title of project/Research	University/ Research institute	Topic in FP7
4.	Geodynamics, the Earth stressed state, catastrophic processes.	A.N Zavaritsky Institute of Geology and Geochemistry UB RAS, Ekaterinburg http://www.igg.uran.ru	6.1.3.1 Hazard assessment, triggering factors and forecasting
5.	Creation and perfection of geophysical methods and complexes for the purpose of forecast and prospecting of ore and other types of mineral deposits; the forecast of earthquakes; working out alternative technologies; environmental monitoring.	Institute of Geophysics UB RAS, Ekaterinburg http://www.igeoph.net	6.1.3.1 Hazard assessment, triggering factors and forecasting
6.	Elaboration of a modern concept on geodynamics, deflected model of interiors and sources, mechanisms and control over natural-anthropogenic disasters in mining industry.	Institute of Mining UB RAS, Ekaterinburg http://www.igduran.ru	6.1.3.1 Hazard assessment, triggering factors and forecasting

Research institutions of the Perm Research Center

No	Title of project/Research	University/ Research institute	Topic in FP7
1.	Molecular-genetic mechanisms of microorganisms adaptation to stressor factors. Regulation of growth and development of microorganisms under experimental conditions and in natural ecosystems. Examination of natural and modified microorganisms being promising for	Institute of Ecology and Genetics of Microorganisms UB RAS, Perm	6.1.2.3 Methods and decision support tools for environmental health risk analysis and policy development

	biotechnology of obtaining the chemical substances and for environmental protection from pollution. Study of mechanisms for the immune system functioning under different effects and macroorganisms state. Working out new methods for immune diagnostics and correction.	http://www.iegm.ru	
2.	Working out the scientific grounds for rational interior use under the complex development of strategic georesources and underground space nearby the agglomerations of large industrial cities. Elaboration of scientific-methodical basis for monitoring of geosystems and study of their spatial-temporal transformation caused by the interior development.	Mining Institute UB RAS, Perm http://www.mi-perm.ru	6.2.1 Conservation and sustainable management of natural and man-made resources and biodiversity

Research institutions of the Komi Research Center

№	Title of project/Research	University/ Research institute	Topic in FP7
1.	The study of biodiversity, structural and functional organization, stability and productivity of taiga and tundra ecosystems. Identification of biological effect of ionizing radiation, physical and chemical factors on cells, living organisms and natural ecosystems. Problems of radiation and ecological genetics. The study of physiological-biochemical basis of plant adaptation and reproduction in conditions of cold climate. Development of methods for monitoring and bio-indication. Creation of cadastres and databases on biological resources of the European Northeast using remote sensing methods and GIS technologies.	Institute of Biology Komi Sciences Centre UB RAS, Syktyvkar http://ib.komisc.ru	6.2.1.4 Biodiversity 6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment

Research institutions of the Archangelsk Research Center

№	Title of project/Research	University/ Research institute	Topic in FP7
1.	Research of chemical monitoring methods for monitoring of anthropogenic impact on the European Center environment (Center for cooperative use of scientific equipment, the Barentsev Sea Region). Research works on chemical monitoring of toxic components of rocket fuel in environment objects. Mitigation of ecological risks induced by the rocket-space activities.	Institute of Ecological Problems of the North UB RAS, Arkhangelsk http://www.iepn.ru	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
2.	Endocrine and immune mechanisms of human and animal adaptation to the changing environment.	Institute of Physiology of Natural Adaptations UB RAS, Arkhangelsk http://www.ifpa.uran.ru	6.1.2.2 Health effects of environmental stressors other than climate change

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Research institutions of the Chelyabinsk Research Center

№	Title of project/Research	University/ Research institute	Topic in FP7
1.	Development of scientific grounds for biodiversity and ecosystem conservation.	Ilmen State Reserve UB RAS, Miass http://igz.ilmeny.ac.ru	6.2.1.4 Biodiversity

Research institutions of the Orenburg Research Center

№	Title of project/Research	University/ Research institute	Topic in FP7
1.	Creation of new medical-laboratory technologies based on studying the mechanisms of micro- and macroorganisms interaction; development of scientific grounds for microecological monitoring of the environmental objects.	Institute of Cellular and Intracellular Symbiosis UB RAS, Orenburg www.uran.ru/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
2.	Development of scientific basis for steppe science, optimization of steppe and land nature management. Working out the strategy for conservation of landscape and biological diversity, the objects of natural and historical-cultural heritage in the steppe zone of the South Urals. Studies of morphology, structure and dynamics of landscapes using GIS-technologies for monitoring and forecasting provision.	Institute of Steppe UB RAS, Orenburg www.uran.ru/	6.2.1 Conservation and sustainable management of natural and man-made resources and biodiversity

3. The Far East Branch of RAS

№	Title of project/Research	University/ Research institute	Topic in FP7
1.	The studies of fundamental problems of functioning the marine ecosystems with based on mathematical models and technique. Development of methods for monitoring of ecological safety of sea water and marine biocenoses using underwater technique. Development of automated information data systems for collecting and processing the environmental data from underwater technique. Creation of databases on component ecological information integrated with mathematical, statistical packs and geoinformation systems for thematic mapping and evaluation of the marine ecosystems state. Development of control system in technological processes for industrial	Institute of Marine Technology Problems FEB RAS, Vladivostok http://www.imtp.febras.r	6.3.1.6. Marine environment

	hydrocole cultivation with the use of module hydrotechnical structures and underwater technique.		
2.	Studies of biodiversity, ecology and evolution of animals, plants and soils in the Asian-Pacific Region.	Institute of Biology and Soil Sciences FEB RAS, Vladivostok http://ibss.febras.ru	6.2.1.4. Biodiversity
3.	Studies of the flora, fauna, ecology and productivity of biota in the seas of the Russian Far East and the adjacent waters of the Pacific Ocean. Research and development of scientific grounds for conservation, reproduction and sustainable management of biological resources in the shelf zone. Studies of adaptation, ontogenesis and evolution of marine organisms; medico-biological studies.	A.V. Zhirmunsky Institute of Marine Biology FEB RAS, Vladivostok http://www.imb.dvo.ru	6.2.1.4. Biodiversity
4.	Global climate and the environment change. Integrated studies of oceans and seas, the Arctic and Antarctic.	Pacific Institute of Geography FEB RAS, Vladivostok http://www.tig.dvo.ru/	6.1.1.1 The Earth System and Climate: Functioning and abrupt changes

No	Title of project/Research	University/ Research institute	Topic in FP7
5.	Dynamics of Ecosystems, Formation of Bio-Productivity and Bio-Resources of the World Ocean. Composition and Structure of the Earth's Crust in the World Ocean. Complex Studies of Processes, Characteristics and Resources of the Arctic Seas of Russia and the Arctic Ocean. Sub-Program "ESIMO" (the Federal Purpose Program "The World Ocean"): Development of Informational, Technological, and Organizational-Normative Provision of Basic Infrastructure of the ESIMO. Development of the Procedure for Data Collecting, Initial Processing and Databases Formation, Accumulation and Maintenance of Data on the World Ocean and the Adjacent Areas. Development Technologies of Integration and Complex Informational Provision of the Marine Activity, including the ESIMO Interaction with the National and Foreign Information Systems.	V.I. Il'ichev Pacific Oceanological Institute FEB RAS, Vladivostok http://www.poi.dvo.ru	6.3.1.6 Marine environment 6.4.1 Earth and ocean observation systems and monitoring methods for the environment and sustainable development
6.	Studies of dynamics of forest-forming processes and coenotic forest structure under natural and anthropogenic succession for provision of environmental surface monitoring	Komarov Mountain-Taiga Station, Primorsky Krai Gornotaezhnoe http://www.gts.febras.ru	6.2.1.6 Integrated forest research

№	Title of project/Research	University/ Research institute	Topic in FP7
7.	<p>The World Ocean: physical, chemical and biological processes, geology, geodynamics and mineral resources of the ocean lithosphere, role of the ocean in formation of the Earth climate.</p> <p>Dynamics and protection of surface and underground water; glaciers; problems of water supply.</p> <p>Evolution of the environment and climate under the influence of natural and anthropogenic factors; scientific grounds for rational nature management; the use of traditional and alternative sources of energy</p> <p>Development of methods, techniques, technologies, technical and analytical tools for studying the Earth surface and interior; hydrosphere, atmosphere, geoinformatics.</p> <p>The environment under climate change</p> <ul style="list-style-type: none"> - extreme natural events and disasters; - studies on mitigation of risk and anthropogenic effects in mining industry based on mineralogical-geochemical surveying of ore deposits and tailing dumps in the Far East: assessment and forecast of potential ecological hazard of the environmental contamination by toxic elements. 	<p>Far Eastern Geological Institute FEB RAS, Vladivostok http://www.fegi.ru/</p>	<p>6.4.1 Earth and ocean observation systems and monitoring methods for the environment and sustainable development</p> <p>6.1.1.1 The Earth System and Climate: Functioning and abrupt changes</p> <p>6.1.3.3 Risk assessment and management</p>
8.	<p>Space monitoring of natural and technogeneous processes</p> <p>Development of the methods for natural processes monitoring.</p> <p>Physical and mathematical simulation of nival, avalanche and mud processes.</p> <p>Development of theoretical grounds and methodological principles for managing the nival, avalanche and mud processes.</p> <p>Development of theoretical grounds and methodological principles for assessment of economic risks caused by exogenous geodynamic processes.</p> <p>Development of theoretical grounds and methodological principles for long-term forecast of intensity of avalanche and mud processes.</p> <p>Development of methods for active combat with avalanche processes.</p>	<p>Sakhalin Branch of the Far Eastern Geological Institute FEB RAS, Yuzhno-Sakhalinsk http://www.sakhgu.ru/Expert/SdFeGi/Index.html</p>	<p>6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment</p>

№	Title of project/Research	University/ Research institute	Topic in FP7
9.	<p>Development of techniques for ecological-economic assessment of anthropogenic activities in view of extreme natural effects on ecosystems.</p>	<p>Kamchatka Branch of Pacific Institute of Geography FEB RAS, Petropavlovsk-Kamchatsky http://www.terrakamchatka.org</p>	<p>6.4.2.3 Interplay between social, economic and ecological systems</p>
	<p>Geological-economic evaluation of natural resources in the Far East, ecological</p>	<p>Institute of Geology and Nature</p>	<p>6.3.1 Environmental technologies for</p>

10.	safety, development of alternative technologies for the interior development; elaboration of scientific grounds for rational nature management, development of physico-chemical research methods Modern geodynamics and seismic activity.	Management FEB RAS, Amur region, Blagoveshchensk http://www.ignm.ru/	observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
11.	Ecological –geochemical assessment of soils at the mining enterprises in the south Far East. Development of new methods and techniques to mitigate adverse mining effects on the environment.	Mining Institute FEB RAS, Khabarovsk http://www.igd.khb.ru	6.3.1.2 Soil 6.3.1.5 Built environment
12.	Establishment of regularities in surface water formation, integrated evaluation of water resources, development of scientific basis of rational use and management of inland water resources. Study of the Far East ecosystems for provision of biological resources conservation; ecological assessment of anthropogenic impact on the terrestrial and aquatic ecosystems.	Institute for Water and Environmental Problems FEB RAS, Khabarovsk http://livep.as.khb.ru/	6.2.1.2 Water resources 6.3.1.1 Water
13.	Complex analysis and simulation of development of natural and nature-economic regional systems. Investigating the character of interactions between nature and society in regional systems.	<i>Institute for Complex Analysis of Regional Problems FEB RAS,</i> <i>Birobidzhan</i> http://icarp.ru	6.4.2.3 Interplay between social, economic and ecological systems

№	Title of project/Research	University/ Research institute	Topic in FP7
14.	Hazardous natural and anthropogenic processes, seismicity : studies and forecast.	Yu. A. Kosygin Institute of Tectonics and Geophysics FEB RAS, Khabarovsk http://itig.as.khb.ru/	6.1.3.1 Hazard assessment, triggering factors and forecasting
15.	Research of natural and anthropogenic impact on major components of island ecosystems. Development of scientific basis for seismic activity monitoring in the region of the Kuril Islands and Kamchatka.	Institute of Marine Geology and Geophysics FEB RAS, Yuzhno-Sakhalinsk http://www.imgg.ru/	6.4.1 Earth and ocean observation systems and monitoring methods for the environment and sustainable development
16.	Seismicity, tectonics, geodynamics, structure and evolution of volcanic zones, earthquake and eruption forecast; seismic, volcanic and tsunami hazard.	Institute of Volcanology and Seismology FEB RAS, Petropavlovsk-Kamchatsky www.kscnet.ru/ivs/	6.1.3.1 Hazard assessment, triggering factors and forecasting

17.	Study of physics of electromagnetic and acoustic foreshocks.	Institute of Cosmophysical Researches and Radio Wave Propagation FEB RAS, Kamchatka Region., Paratunka http://kcs.dvo.ru/ikir/index.htm	6.1.3.1 Hazard assessment, triggering factors and forecasting
18.	Studies of biological diversity in North-East Asia. Development of scientific basis for safety, reproduction and rational use of biological resources of the North.	Institute of Biological Problems of the North FEB RAS, Magadan http://www.ibpn.ru/	6.2.1.4 Biodiversity
19.	Integrated development of basic and applied research of morphophysiology, human and animal ecology; creation of medical-social grounds for life activity of indigenous population and newcomers in the Arctic and Sub-Arctic zones of the Asian Pacific Region. Integrated development of basic and applied research of morphophysics, human and animal ecology; creation of mathematical models of human state during adaptation and life activity in extreme conditions.	International Scientific Center «ARKTIKA» FEB RAS, Magadan http://www.arktika.north-east.ru/	6.1.2.3 Methods and decision support tools for environmental health risk analysis and policy development

**4. Regional Scientific Centers of RAS
Research Institutions of RAS, Moscow**

№	Title of project/Research	University/ Research institute	Topic in FP7
1.	Factors of global environmental changes. Natural cryogenic systems, dynamics of cryosphere processes. Geographical problems of nature management and environment conservation. Interplay between environment and society under high anthropogenic environmental impact. Regional bases for sustainable environmental and social development. Geoinformation technologies and mapping.	Institute of Geography RAS, Moscow http://www.igras.ru/	6.1.1.1 The Earth System and Climate: Functioning and abrupt changes 6.2.1 Conservation and sustainable management of natural and man-made resources and biodiversity 6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment 6.4.2.3 Interplay between social, economic and ecological systems
	Study of mechanism of river flow formation, simulation of land hydrological	Water Problems Institute of RAS,	6.3.1 Environmental technologies for

2.	<p>cycle, processes of interaction between water objects and land surface and atmosphere; evaluation and forecast of resources, state and quality of surface, underground and soil waters under climate change and anthropogenic impact. Simulation of hydrophysical, hydrodynamic, hydrochemical, hydrobiological, intrawater and other processes in aquatic environment; forecast of their environmental impact.</p> <p>Assessment of climate change, water bodies regime and water quality impact on the environment, water ecosystems, land biogeocenoses and human health.</p> <p>Working out of scientific bases for inland waters protection; improvement of methods and models of water systems development and functioning.</p>	<p>Moscow http://www.iwp.ru/</p>	<p>observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment</p>
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№	Title of project/Research	University/ Research institute	Topic in FP7
3.	<p>Diagnostics and simulation of climate, parametrization of climate-forming processes, the study of interrelation between cloudiness, aerosol and radiation, interplay between atmosphere and underlying surface, the study of regional manifestations of global climate change.</p> <p>The study and monitoring of atmospheric composition and air pollutants, their long-term variations and their potential impact on the environment and the Earth's climate.</p> <p>Satellite and refractometric sounding of atmosphere.</p> <p>Monitoring and forecast of temporal and spatial variations of upper atmosphere.</p>	<p>A.M. Obukhov Institute of Atmospheric Physics RAS, Moscow http://ifaran.ru/</p>	<p>6.1 Climate Change, pollution and risks</p> <p>6.1.1.2 Emissions and pressures: Natural and anthropogenic</p>
4.	<p>Mathematical theory of climate; numerical modeling of general circulation of the atmosphere and ocean; global climate models.</p> <p>Analysis and modeling of complex systems (environment, medicine, immunology, bioinformatics).</p>	<p>Institute of Numerical Mathematics RAS, Moscow http://www.inm.ras.ru</p>	<p>6.1 Climate Change, pollution and risks</p>
5.	<p>Climate change, aftereffects and impact on ecosystems.</p> <p>Research of concentration variations of greenhouse gases and climate impact.</p> <p>Anthropogenic impact on atmospheric chemistry, continental surface water and soil, environmental aftereffects. Trends and dynamics.</p> <p>Anthropogenic impact on World ocean (pollution, environmental aftereffects, climate change).</p> <p>Radioactive environmental pollution.</p>	<p>Institute of Global Climate and Ecology, Roshydromet and RAS, Moscow http://www.igce.ru/</p>	<p>6.1 Climate Change, pollution and risks</p>

6.	Development of theory and methods of predicting and monitoring natural and human-induced disasters. Development of the theory of soil and rock properties formation and transformation under the effect of natural and anthropogenic factors.	Sergeev Institute of Environmental Geoscience RAS, Moscow http://www.geoenv.ru/	6.1.3.1 Hazard assessment, triggering factors and forecasting
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№	Title of project/Research	University/ Research institute	Topic in FP7
7.	Estimation of biosphere role of forests of Russia. Research of biological diversity, productivity and stability of forest ecosystems. Monitoring of forests with the use of aerospace methods and GIS-technologies.	Centre for problems of ecology and productivity of forests RAS, Moscow http://www.cepl.rssi.ru	6.2.1.6 Integrated forest research
8.	Biological diversity and sustainable use of biological resources. Fundamental problems of nature conservation. Ecology of organisms and mechanisms of adaptation.	A.N. Severtsov Institute of Ecology and Evolution RAS, Moscow http://www.sevin.ru/	6.2.1.4 Biodiversity
9.	Analysis of molecular genetic changes and assessment of genetic public risk under radioactive environmental pollution. Monitoring of genetic processes in continuously irradiated plant populations in the zones of radioactive pollution.	Vavilov Institute of General Genetics RAS, Moscow http://www.vigg.ru	6.1.2.2 Health effects of environmental stressors other than climate change
10.	Physics of seas and oceans, climatology. Hydrochemistry of seas and oceans, pollution of World ocean. Biology and ecology of seas and oceans, anthropogenic variability of marine ecosystems. Natural disasters in World ocean (earthquakes, tsunami, underwater eruptions and landslides).	P.P.Shirshov Institute of Oceanology RAS, Moscow http://www.ocean.ru	6.3.1.6 Marine environment

11.	Neotectonics and modern geodynamics as a basis for forecasting natural and man-made disasters. Global correlation and models of geological processes and events, controlled changes and the role of quick changes and disasters in the Earth history. Paleoclimate of late Precambrian-Phanerozoic: zonality evolution, dynamics, climate change.	Geological Institute RAS, Moscow http://www.ginras.ru/	6.1.3.1 Hazard assessment, triggering factors and forecasting 6.1 Climate Change, pollution and risks
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No	Title of project/Research	University/ Research institute	Topic in FP7
12.	Assessment and ways for reduction of negative aftereffects of extreme natural events and man-made disasters including the problems of accelerated development of nuclear-power engineering.	Institute of Geology of Ore Deposits, Petrography, Mineralogy, and Geochemistry RAS, Moscow http://www.igem.ru/	6.1.3.1 Hazard assessment, triggering factors and forecasting
13.	Origin and evolution of biosphere, organic chemistry, geochemistry of carbon. Biogeochemistry, geochemical ecology and evolution of biogeochemical cycles. Geochemistry of sediment shell, hydrochemistry, geological-geochemical and eco-geochemical research of World ocean bed. Development of methods and instruments for the analysis, monitoring and forecasting of environmental, natural and industrial conditions.	Vernadsky Institute of Geochemistry and Analytical Chemistry RAS, Moscow http://www.geokhi.ru/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
14.	Natural and anthropogenic disasters, seismicity – research and forecasting. Technologies for decrease of risk and mitigation of aftereffects of natural and man-made disasters. Technologies for monitoring and forecasting of atmosphere and hydrosphere conditions.	Institute of Geosphere Dynamics RAS, Moscow http://idg.chph.ras.ru/	6.1.3.1 Hazard assessment, triggering factors and forecasting
15.	Evolution of environment and climate under natural and anthropogenic impact. Development of methods, technologies, technical and analytical tools for investigation of the Earth's surface and interior, hydrosphere and atmosphere.	Institute of Comprehensive Exploitation of Mineral Resources RAS, Moscow http://www.ipkonran.ru/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
16.	Natural, natural-manmade disasters and seismicity of the Earth.	O. Yu. Schmidt Institute of Physics of the Earth RAS, Moscow http://www.ifz.ru/	6.1.3.1 Hazard assessment, triggering factors and forecasting

No	Title of project/Research	University/ Research institute	Topic in FP7
	Biosphere role of forest cover, investigation of its environment-forming functions for	Institute of Forest Science RAS,	6.2.1.6 Integrated forest research

17.	nature management improvement; natural and anthropogenic dynamics of forests, influence of cutting, pollution and economic activities on forests. Development of principles of ecological forest monitoring, conservation of gene pool and natural diversity of forest ecosystems.	Moscow region, Uspenskoe http://ilan.ras.ru	
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Vladikavkaz Scientific Center of RAS

No	Title of project/Research	University/ Research institute	Topic in FP7
1.	Biomedical research of ecopathogenic factors influence on human organism in Republic of North Osetia-Alania. Development of biomedical technologies and countermeasures for improvement of demographic situation.	Institute of Biomedical Research VRC RAS and RNO-A, Vladikavkaz http://vncran.ru/	6.1.2.2 Health effects of environmental stressors other than climate change
2.	Study and assessment of seismic danger and risk for urban territory. Development of systems for integrated geophysical observation in the region. Development of geological-geophysical aspects of sustainable development of mountain territories. Study of stress-deformed state of the Earth interior under anthropogenic impact. Study of dangerous endogenous and exogenous processes and concurrent hazardous geological processes.	Center of Geophysical Investigations of VSC RAS and RNO-A, Vladikavkaz http://vncran.ru/	6.1.3.1 Hazard assessment, triggering factors and forecasting
3.	Arrangement of research and methodological activities in the field of seismology and geophysics for development and improvement of geophysical and geodynamic observations. Creation of database of seismological, geophysical and other observations carried out by RAS in fundamental and applied fields of Earth sciences.	North Osetian branch of the Geophysical Service of RAS VSC RAS and North Ossetia-Alania, Vladikavkaz http://vncran.ru/	6.1.3.1 Hazard assessment, triggering factors and forecasting

Dagestan Scientific Center of RAS

No	Title of project/Research	University/ Research institute	Topic in FP7
1.	Theoretical and applied aspects of seismicity of large tectonic structures, development of principles and zoning of earthquake territories, revealing of earthquake precursors. Geology of mountain, lowland and marine territories of the South Russia, anthropogenic environmental impact.	Institute of Geology Dagestan Scientific Center of RAS, Makhachkala http://www.dncran.ru/	6.1.3.1 Hazard assessment, triggering factors and forecasting
2.	Organization and stability of populations and communities of land and aquatic ecosystems under natural and anthropogenic environmental dynamics. Resource potential of soils, animal and vegetable life of the East Caucasus. Biodiversity of ecosystems of Caspian Sea and East Caucasus, scientific bases of biological conservancy in the region. Biochemical and biophysical mechanisms of adaptation and stability of plants and	Caspian Institute of Biological Resources Dagestan Scientific Center of RAS, Makhachkala http://www.dncran.ru/	6.2.1.4 Biodiversity

	microorganisms to environmental factors.		
3.	Revealing, conservation and use of genetic resources of natural and cultivated flora. Population and evolutionary biology, eco-physiology and genetics of alien plants.	Mountain Botanical Garden Dagestan Scientific Center of RAS, Makhachkala http://www.dncran.ru/	6.2.1.4 Biodiversity
4.	History and culture of Dagestan peoples in scriptural and archeological monuments. Peoples of Dagestan in ethnocultural relationships (ancient times, middle ages, modern times). Traditional culture of Dagestan peoples.	Institute of History, Archeology and Ethnography Dagestan Scientific Center of RAS, Makhachkala http://www.dncran.ru/	6.3.2.1 Assessment and conservation in cultural heritage
5.	Scientific bases of regional policy and sustainable development of regions and cities. Problems and mechanisms of provision of economic, social and ecological safety of Russia.	Institute for Social and Economic Research Dagestan Scientific Center of RAS, Makhachkala http://www.dncran.ru/	6.2.1.5 Urban development 6.4.2 Forecasting methods and assessment tools for sustainable development taking into account differing scales of observation

Kabardino-Balkar Scientific Center of RAS

No	Title of project/Research	University/ Research institute	Topic in FP7
1.	Biological resources of Russia: fundamental principals of conservation. Biodiversity and dynamics of gene pools.	Institute of Ecology of Mountain Territories, Kabardino-Balkar Scientific Center of RAS, Nalchik http://www.iemt.ru	6.2.1.4 Biodiversity

Karelian Research Center of RAS

No	Title of project/Research	University/ Research institute	Topic in FP7
1.	Natural development of lake and river systems located in North-Western Russia, study of their stability and variability with regard to climatic and anthropogenic factors. Scientific assessment of the state and forecast of water ecosystems; development of measures on nature conservation and restoration. Assessment of water ecological potential; development of the scientific basis for management of water resources within European North of Russia. Optimization of use and conservation of water resources of Karelia.	Northern Water Problems Institute, Karelian Research Center of RAS, Petrozavodsk http://nwpi.krc.karelia.ru	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
2.	Ecological-physiological evaluation of grassland vegetation in Karelia under anthropogenic environmental pollution by heavy metals.	Institute of Biology, Karelian Research Center of RAS,	6.3.1 Environmental technologies for observation, simulation, prevention,

		Petrozavodsk http://biology.krc.karelia.ru/ http://ib.krc.karelia.ru/	mitigation, adaptation, remediation and restoration of the natural and man-made environment
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No	Title of project/Research	University/ Research institute	Topic in FP7
3.	Neotectonics, seismicity and geoecology of North-West Russia. Simulation of processes of toxic elements migration in lithosphere and adjacent geospheres. Geochemical integrated research and interpretation of technogenic pollution of urban and mining regions. Mining impact on the environment and assessment of environmental risks: -methodology of geochemical regional assessment of environmental risks and their simulation; -development of GIS-oriented ecological projects.	Institute of Geology, Karelian Research Center of RAS, Petrozavodsk http://igkrc.ru/	6.1.3.1 Hazard assessment, triggering factors and forecasting 6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment 6.1.3.3 Risk assessment and management
4.	Study of structural and functional organization and dynamics of forest ecosystems. Scientific bases for biodiversity conservation, use and reproduction of bioresource potential of taiga forests. Study of ecology and mechanisms of regulation of growth and development of woody plants. Study of the genesis, functioning and biosphere role of forest soils.	Forest Institute of Karelian Research Centre of RAS, Petrozavodsk http://forestry.krc.karelia.ru/	6.2.1.6 Integrated forest research 6.3.1.2 Soil

Kola Scientific Centre of RAS

No	Title of project/Research	University/ Research institute	Topic in FP7
1.	Evolution of cryosphere in changing climate. Dynamics of surface glaciation of Kola region in late valday-Holocene and marine transgressions.	Geological Institute, Kola Scientific Centre of RAS, Apatity http://geoksc.apatity.ru/	6.1.1.1 The Earth System and Climate: Functioning and abrupt changes

No	Title of project/Research	University/ Research institute	Topic in FP7
2.	Study of features and parameters of natural systems of Euro-Arctic region, determination of their position and role in global geosphere processes. Evaluation of scale of matter geochemical transformation in the arctic geobiosphere systems, investigation of their temporal and spatial variability to define the trends of natural evolution and forecast their disturbance caused by anthropogenic impact. Working out scientific bases of nondestructive nature management, development of	Mining Institute, Kola Scientific Centre of RAS, Apatity http://www.kolasc.net.ru/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment

	environmentally sound technologies for efficient use of natural and man-triggered raw materials, the development of underground space of Euro-Arctic region and the conservation of environmental conditions and livelihood in view of specific features of the North. Development and improvement of methods and systems of control and stabilization of balance between technosphere and environment.		
3.	Determination of allowable load on land and aquatic ecosystems under anthropogenic impact of mining and smelting plants. Assessment and long-term forecasting of probable changes of environmental and natural-economic systems under different scenarios of nature management. Development of environmentally sound technologies for mineral resources development. Development of scientific bases for restoration of technologically disturbed landscapes. Information support of environmental research and forecasting using mathematical simulation.	Institute of North Industrial Ecology Problems, Kola Scientific Centre of RAS, Apatity http://inep.ksc.ru/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
4.	Study of anthropogenic impact on geophysical environment and development of methods for seismic risk mitigation in the regions of intensive engineering development of the arctic zone.	Kola Regional Seismological Centre, Kola Scientific Centre of RAS, Apatity http://www.krsc.ru/	6.1.3.3 Risk assessment and management

№	Title of project/Research	University/ Research institute	Topic in FP7
5.	Spatial-temporal dynamics of radionuclides accumulation in the components of marine ecosystems (by the example of arctic seas and the seas of Azov-Black Sea basin). Investigation of marine ecosystems and development of technologies for conservation of biological resources of seas in Russia under the increasing natural and anthropogenic impact on marine environment.	Murmansk Marine Biological Institute, Kola Scientific Centre of RAS, Murmansk http://mmbi.info/	6.3.1.6 Marine environment
6.	Study of local flora and fauna, and population structure on the Kola North under air-technogenic pollution. Study of genetic trait of soils and current soil processes in different landscapes of North Fennoscandia. Soil microbiology, agrochemistry, rehabilitation of disturbed territories.	Polar-Alpine Botanical Garden – Institute, Kola Scientific Centre of RAS, Kirovsk http://www.kolasc.net.ru/	6.3.1.2 Soil
7.	Research, monitoring and forecasting of atmospheric conditions and climate change.	Polar Geophysical Institute, Kola Scientific Centre of RAS, Murmansk http://www.kolasc.net.ru/	6.1.1.1 The Earth System and Climate: Functioning and abrupt changes

Nizhny Novgorod Scientific Center of RAS

№	Title of project/Research	University/ Research institute	Topic in FP7
1.	Acoustic tomography of ocean. Radiophysical methods for diagnostics of atmosphere and other natural objects.	Institute of Applied Physics RAS, Nizhny Novgorod http://www.iapras.ru/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment

Yaroslavl Scientific Center of RAS

№	Title of project/Research	University/ Research institute	Topic in FP7
1.	Comparative study of development and adaptation of aquatic organisms and communities to the environment of different genesis in natural and model ecosystems. Biology of species and communities of water invertebrates in natural and anthropogenically changed environment. Physiological, biochemical and immunological mechanisms of aquatic organisms adaptation to natural and anthropogenic environmental factors.	I. D. Papanin Institute for Biology of Inland Waters, RAS, Borok, Yaroslavl Region http://ibiw.ru/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment

Pushchino Scientific Center of RAS

№	Title of project/Research	University/ Research institute	Topic in FP7
1.	Physical-chemical and biological processes of soil formation and transformation of natural and exogenous chemical substances in soils and ecosystems. Role of soil in biochemical cycles of biophil, lithophil and technogenic elements. Role of cryosphere in global cycle of matter and energy and conservation of genetic resources. Spatial-temporal organization and functioning of soils in biosphere as a basis for sustainable development. Mathematical simulation of soil processes and ecosystems.	Institute of Physicochemical and Biological Problems in Soil Science, Moscow Region., Pushchino http://www.issp.psn.ru/	6.3.1.2 Soil
2.	The study of forest biodiversity in Europe.	Institute of Mathematical Problems of Biology RAS, Moscow Region., Pushchino http://www.impb.ru/	6.2.1.4 Biodiversity

Samara Scientific Center of RAS

№	Title of project/Research	University/ Research institute	Topic in FP7
1.	Regularities of formation and functioning, and principles of water ecosystems stability in the Mid and Low Volga. Spatial-structural organization, functioning and forecast of land ecosystem change in the Volga Region under different environmental transformations. Biodiversity of organisms in different aquatic ecosystems of the Volga basin. Creation and approval of model of ecological-economic system of the Volga basin with the view of sustainable development.	Institute of Ecology of Volga Basin RAS, Togliatti http://www.ssc.smr.ru/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment 6.2.1.4 Biodiversity

Saratov Scientific Center of RAS

№	Title of project/Research	University/ Research institute	Topic in FP7
1.	Role of plant-microbial communities and fungi in the environmental transformation and degradation of pollutants.	Institute of Biochemistry and Physiology of Plants and Microorganisms RAS, Saratov http://ibppm.ru/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, re-mediation and restoration of the natural and man-made environment

Ufa Scientific Center of RAS

№	Title of project/Research	University/ Research institute	Topic in FP7
1.	Study and conservation of archeological heritage of the Urals-Volga Region as a component part of North Eurasia.	R.G. Kuzeev Institute of Ethnological Studies, Ufa Scientific Centre RAS, Ufa http://kuzeev-center.rb7.ru/	6.3.2.1 Assessment and conservation in cultural heritage
2.	Dynamics of ecosystems under anthropogenic impact, optimization of their functioning. Development of conceptual and methodological bases for biodiversity conservation and resources sustainability at the level of populations, species and plant communities (South-Ural region as a case study).	Institute of Biology, Ufa Scientific Centre RAS, Ufa http://ib.anrb.ru/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, re-mediation and restoration of the natural and man-made environment

St. Petersburg Scientific Center of RAS

№	Title of project/Research	University/ Research institute	Topic in FP7
1.	Study of influence of zones of active fault on human health and the environment, and the problems of remote and computer-aided mapping search of favorable nuclear and toxic	Institute of Precambrian Geology and	6.3.1.3 Waste

	waste disposal sites in Precambrian geological formations.	Geochronology RAS, St. Petersburg http://www.ipgg.ru/	
2.	Development of the theory of eutrophication of internal reservoirs and the scientific forecast of its restraining in view of natural climatic and anthropogenic factors. Studying a history of origin and development of lakes (paleolimnological research). Estimation of mineral natural resources of lake origin.	Institute of Limnology RAS, St. Petersburg http://www.limno.org.ru/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment

№	Title of project/Research	University/ Research institute	Topic in FP7
3.	Geoecological bases for provision of ecological safety of natural-economic systems and urban territories. Scientific bases for creation of special systems for geoecological monitoring and observatories of ecological danger. Methods for assessment of environmental risk and damage as a result of economic activity. Study of ecotoxicants migration in the environment. Search and investigation of ecological risk zones. Methods and processes of rehabilitation of contaminated soil and industrial landscapes.	St. Petersburg Research Center for Ecological Safety RAS, St. Petersburg http://ecosafety-spb.ru/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
4.	Investigations in the field of environment for evaluation of ecological risk due to industrial pollutants including radioactive and toxic ones. Investigations in the field of mathematical and computer software development for environment conservation. Organization and provision of ecological forecasting and expertise of scientific and technical projects. Investigation of transboundary toxic pollution and intercalibration of methods of their estimation in the environment. Research in the field of ecological medicine. Collection and evaluation of information on environmental conditions and human health.	Research Center for Interdisciplinary Environmental Cooperation RAS, St. Petersburg http://www.inenco.org/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment

Southern Scientific Center of RAS

№	Title of project/Research	University/ Research institute	Topic in FP7
1.	Adaptation of peoples and cultures to environment modification, social and technogenic transformations. Development of technologies for monitoring, ecosystem modeling and forecasting under the development of natural resources in arid climate.	Kalmyk Institute for Humanities Research RAS, Elista http://www.kigiran.com/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
2.	Processes influencing the formation of ecosystems in southern seas. Paleogeographical reconstruction of climate conditions in Pleistocene and Holocene. Formation of biota in arid zones, the study of its adaptation to climate change. Information technologies mathematical models for natural resources forecasting and management. Forecasting of biological resources change and management in Southern region.	Institute of Arid Zones, Southern Scientific Center RAS, Rostov-on-Don http://www.ssc-ras.ru/	6.3.1.6 Marine environment 6.1.1.1 The Earth System and Climate: Functioning and abrupt changes 6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
3.	Investigation of aggressive natural factors impact on safety operation of main facilities in southern macro-region. Ecological-economic problems of maritime regional systems and improvement of natural recreational resources management in the regions with recreation-oriented economy. Problems of manifestation of global climate processes on regional level.	Sochi Research Center of RAS, Sochi www.snrc.ru/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment

№	Title of project/Research	University/ Research institute	Topic in FP7
4.	Study of hydrological structure and its changeability, convective processes caused by atmospheric impact and their role in the formation of air masses. Study of sea and ocean currents, regularities of their spatial and temporal variability, transport of water masses, heat and salt, vortex formations and their role in the variability of hydrophysical characteristics and marine ecology. Role of hydrological and biological processes in anthropogenic self-purification of sea. Study of the formation and changeability of water hydrochemical structure, the dynamics of oxygen and hydrogen sulfide, hydrogen ion exponent, nitrogen and phosphate forms, and alkalinity.	The Southern Branch of the P.P. Shirshov Institute of Oceanology RAS, Gelendjik www.ocean.ru/content/view/170/105	6.3.1.6 Marine environment

Annex IX. List of research topics provided in the plan and annual scientific reports of Universities and Departmental and Applied Research Institutes of the RF

1. Universities

№	Title of project /Research	University/Research institute	Topic in FP7
1.	Geoecological justification of environmental management and spatial planning in new social and economic conditions. Study of species and population diversity in the south of the Central Russian Upland. Study of natural and technogenic ecogeosystems for sustainable development of regions. Integrated study of genetic structure, environmental factors and their impact on human health in Central Russia.	Belgorod State University http://www.bsu.edu.ru/	6.2.1 Conservation and sustainable management of natural and man-made resources and biodiversity 6.1.2.2 Health effects of environmental stressors other than climate change
2.	Development of principles of recycling of mining wastes in road construction.	Belgorod Shukhov State Technological University http://www.bstu.ru	6.3.1.3 Waste
3.	Ecological-physiological and physical-chemical bases of interplay between biosystems and environment. Ecological-geographical aspects of interplay between environment and society. Genesis and evolution of soils under natural and anthropogenic impact.	Voronezh State University http://www.science.vsu.ru	6.4.2.3 Interplay between social, economic and ecological systems 6.3.1.2 Soil
4.	Vital activity security, ecology and forecasting of emergency situations.	Voronezh State Technical University http://www.vorstu.ru/	6.1.3.2 Vulnerability assessment and societal impacts

№	Title of project /Research	University/Research institute	Topic in FP7
5.	Forest restoration, improvement of their resistance, productivity and environment-forming function. Integrated and sound management of forest resources. Development of energy-saving and environmentally promising technologies for forest complex.	Voronezh State Academy of Forestry and Technologies http://www.vglta.vrn.ru	6.2.1.6 Integrated forest research
6.	Technologies for provision of protection and vital activity of population. Environmental management. Technologies of monitoring.	Voronezh State University of Engineering Technology http://www.vgta.vrn.ru/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment

7.	Regional environmental problems.	Ivanovo State University http://w3.ivanovo.ac.ru/	6.2.1 Conservation and sustainable management of natural and man-made resources and biodiversity
8.	Structure and Evolution of Environmental Systems. Environmental impact. Sustainable Management of Resources. Interaction between the Atmosphere, Hydrosphere and Lithosphere.	Lomonosov Moscow State University http://www.geogr.msu.ru/	6.2.1 Conservation and sustainable management of natural and man-made resources and biodiversity
9.	Using, conservation and reproduction of forest resources, landscape architecture with the development of optimal technologies of forest use in terms of forest industry intensification. Development of new composite materials on the basis of complex and rational use of forest resources and wood products.	Moscow State Forest University http://www.msfu.ru/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
№	Title of project /Research	University/Research institute	Topic in FP7
10.	Vegetation cover of central forest-steppe and its conservation. Ecological-hygienic environmental research.	Orel State University http://www.univ-orel.ru/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
11.	Development and improvement of systems of soil fertility reproduction, intensive soil conservation and moisture-saving zonal technologies for crop cultivation and integrated pest suppression, technologies for primary processing, transportation and storage of crops.	Orel State Agrarian University http://www.orelsau.ru/	6.3.1.2 Soil
12.	Radiation-ecological research with evaluation of gamma background, estimation of radiation level of water-supply sources, evaluation of radon concentration. Identify and assess sources of external gamma-radiation with the use of radiation survey and estimation of power of equivalent dose of external gamma-radiation, radiometric testing followed by gamma-spectrometric or radio-chemical analysis of samples including the estimation of radionuclides composition and their activity.	Research Institute of Ecology and Natural Resource Management Tyumen State University, Tyumen http://www.niiecolology.ru/	6.3.3.1 Risk assessment of chemicals and alternative strategies for testing
13.	Decrease of risk and reduction of consequences of natural and technogenic catastrophes. Environmental monitoring. Nature protection technologies, processing and recycling of technogenic formations and wastes.	Southwest State University, Kursk http://www.swsu.ru/	6.1.3.2 Vulnerability assessment and societal impacts 6.3.1 Environmental technologies
14.	Monitoring of natural and anthropogenic dynamics of natural ecosystems under global climate change. Study of carbon balance and other biogeochemical cycles in biosphere. Study and monitoring of biological diversity of natural ecosystems.	Ugra State University, Khanty-Mansiysk http://www.ugrasu.ru/	6.1.1.5 Climate change natural and socio-economic impacts 6.1.1.3 The Global Carbon Cycle - greenhouse gas budgets 6.2.1.4 Biodiversity

№	Title of project /Research	University/Research institute	Topic in FP7
15.	Development of space and information technologies for monitoring of natural resources and environment.	Ugra Research Institute of Information Technologies, Khanty-Mansiysk http://www.uriit.ru/	6.3.1 Environmental technologies
16.	Integrated chemical wastes management.	Yaroslavl State Technical University, Yaroslavl http://www.ystu.ru	6.3.1.3 Waste
17.	Environmental management in the system of regional environmental safety. Research and conservation of animal biodiversity in Pre-Caucasian region. Creation of network of special protected natural territories in the north Caucasus ("Green Corridor") of the WWF program. GIS-technologies in environmental assessment. Development of methods of geozoological identification of territories using geoinformation and aerospace technologies.	Stavropol State University, Stavropol http://www.stavsu.ru/	6.2.1 Conservation and sustainable management of natural and man-made resources and biodiversity 6.3.2 Protection, conservation and enhancement of cultural heritage, including human habitat 6.4.1 Earth and ocean observation systems and monitoring methods for the environment and sustainable development
18.	Evaluation of composition and quality of natural mineral water in the North Caucasus and the south of Russia. Estimation of soil composition and quality, development of methods for soil enrichment. Integrated environmental survey of special protected territories of regional importance. Estimation of ecosystem degradation in arid regions. Monitoring and assessment of vegetation of technogenically disturbed territories.	Stavropol State Agrarian University, Stavropol http://www.stgau.ru/	6.2.1 Conservation and sustainable management of natural and man-made resources and biodiversity 6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
№	Title of project /Research	University/Research institute	Topic in FP7
19.	Development of apparatuses for wastewater treatment by air flotation. Technology of ecologically clean water supply based on the achievements in nanotechnology.	Pyatigorsk State Technological University, Pyatigorsk http://www.pgtu.ru/	6.3.3 Technology assessment, verification and testing
20.	Self-rating of national potential needs for global environment management. Ecological-geographical aspects of malignant neoplasms dissemination in Republic of	Dagestan State University,	6.2.1.1 Integrated resource management

	Dagestan. Structural-functional organization and stability of marine and land ecosystems of different types in terms of environmental dynamics and anthropogenic impact. Monitoring of coastal zone and open water of the Caspian Sea. Bioecological bases for biodiversity conservation in the Dagestan part of the Caspian Sea. Structural-functional organization and stability of mountain ecosystems and regularities of man-made changes. Assessment of the existing and anticipated pipelines impact on the environment.	Makhachkala http://www.dgu.ru/	6.1.2 Environment and health 6.2.2 Management of marine environments 6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
21.	Phytosanitary monitoring. Evaluation and development of new chemical weed and pest killers.	Dagestan State Agricultural Academy, Makhachkala http://dgsha.ru/	6.2.1 Conservation and sustainable management of natural and man-made resources and biodiversity 6.3.1 Environmental technologies

No	Title of project /Research	University/Research institute	Topic in FP7
22.	Assessment of oil products impact on vegetative ground cover. Mathematical simulation and forecast of hydraulic and erosion processes in river beds with the use of computer and geoinformation technologies.	Dagestan State Technical University, Makhachkala http://www.dstu.ru/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
23.	Assessment of economic activities impact on the environment and human health in Chechen Republic. Ecological-microbiological monitoring of drinking water quality in Chechen Republic. Study of genetic variations resulting from chemical mutagens impact. Ecological-geographical analysis of anthropogenic landscape change in Chechen Republic.	Chechen State University, Grozny http://www.chesu.ru/	6.1.2 Environment and health 6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
24.	Study of population-genetic traits of native people of Kabardino-Balkar Republic; investigation of genetic risk factors of a number of multifactorial diseases associated with DNA polymorphism. Forecast of conditions for the occurrence of large natural disasters. Study of biodiversity of the Central Caucasus.	Berbekova Kabardino-Balkar State University, Nalchik http://www.kbsu.ru/	6.1.2 Environment and health 6.1.3.1 Hazard assessment, triggering factors and forecasting 6.2.1.4 Biodiversity

No	Title of project /Research	University/Research institute	Topic in FP7
25.	Investigation of ecological safety and operating reliability of main gas pipelines. Development of innovative technologies for recycling and utilization of polymetallic washery refuse in resource-saving production of welding electrodes.	North-Caucasian Mining and Metallurgical Institute,	6.1.1.2 Emissions and pressures: Natural and anthropogenic 6.3.1.3 Waste

		Vladikavkaz http://www.skgmi-gtu.ru/	
26.	<p>Development of scientific bases for production of ecologically safe products in the piedmont zone of North Ossetia-Alania.</p> <p>Control of soil fertility and realization of potential productivity of regular crops in Central Pre-Caucasian region. Improvement of energy- and resource-saving soil-protection technologies of cereal and fodder cropping.</p> <p>Complex study of flora of North Ossetia including the inventory of biodiversity of naturally occurring flora and cultivated plants.</p> <p>Development and introduction of advanced technologies for application of fertilizers, improvers and other chemical agents ensuring the improvement of soil fertility and environment conservation.</p> <p>Study of dynamics of atmospheric chemistry, lysimetric, ground, river and pond water for the development and ecologically safe use for drinking, fish-breeding, irrigation etc.</p>	<p>Gorsky State Agrarian University, Vladikavkaz http://www.gorskigau.ru/</p>	<p>6.1.2 Environment and health</p> <p>6.3.1.2 Soil</p> <p>6.2.1.4 Biodiversity</p> <p>6.3.3 Technology assessment, verification and testing</p> <p>6.4 Earth observation and assessment tools for sustainable development</p>

No	Title of project /Research	University/Research institute	Topic in FP7
27.	<p>Development of methods for minimization of mining waste load on ecosystems.</p> <p>Study of environmental impact on the cytology of body cells and higher functions of human and animal brain. Research of conditions for the formation and development of natural disasters. Study of problems of forest management and forest regeneration. Study of biodiversity of birds and animals in North Ossetia.</p> <p>Ecological aspects of weeding; influence of pesticides on biological properties of soil. Ecological aspects of land erosion control, geoinformation research of land management. Study of environmental load on recreational territories; sound pollution.</p>	<p>North Ossetian State University named after Costa Levanovich Khetagurov, Vladikavkaz http://www.nosu.ru/</p>	<p>6.1.1.2 Emissions and pressures: Natural and anthropogenic</p> <p>6.1.2 Environment and health</p> <p>6.1.3.1 Hazard assessment, triggering factors and forecasting</p> <p>6.2.1.4 Biodiversity</p> <p>6.3.1.2 Soil</p> <p>6.4.2.1 Tools for impact assessment</p>
28.	<p>Ecological resistance of cryolithozone soil in the Baikal region and adjacent territories to chemical pollution. Influence of mining industry on soil properties.</p>	<p>North-Eastern Federal University named after M.K. Ammosov, Yakutsk</p>	<p>6.3.1.2 Soil</p>

	<p>Assessment of transformation of ecosystem biotic components resulting from the operation of diamond-mining plants.</p> <p>Anthropogenic transformation of forest vegetation in the diamond province (Nyurbinsk ulus and Mirninsky region) of Yakutia.</p> <p>Investigation of molecular mechanisms providing the adaptive potential and biological productivity of organisms under extreme climatic-geographical and anthropogenic factors.</p> <p>Investigation of molecular mechanisms of pathogenesis of the most common human diseases in the North under the combined impact of exogenous and endogenous stress factors.</p> <p>Study of functioning and evolution of lake ecosystem under the impact of natural and anthropogenic factors; development of ecological program on nature conservation monitoring including the determination of ecological risk zones, management policy, conservation and sustainable use of lake resources in Republic of Sakha (Yakutia).</p>	<p>http://www.s-vfu.ru/</p>	<p>6.3.1.5 Built environment</p> <p>6.1.2 Environment and health</p> <p>6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment</p>
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№	Title of project /Research	University/Research institute	Topic in FP7
29.	<p>Development of the methods for estimation of permissible amounts of hydrocoles extraction; development of new gears; solving technical problems for ensuring the conservation of aquatic biological resources.</p>	<p>Kamchatka State Technical University, Petropavlovsk-Kamchatsky http://www.kamchatgtu.ru</p>	<p>6.2.1 Conservation and sustainable management of natural and man-made resources and biodiversity</p>
30.	<p>Study of spatial-temporal peculiarities of seismic continental outskirts.</p> <p>Holocene geological disasters in Kamchatka as a reflection of endogenous processes in the transitional zone "ocean-continent".</p> <p>Sub-soil radon monitoring for the assessment of geodynamic activity in the Petropavlovsk-Kamchatsky testing area.</p> <p>Radiation- environmental monitoring in Kamchatka and Petropavlovsk-Kamchatsky.</p> <p>Monitoring of wave disturbance in the atmosphere induced by natural sources.</p>	<p>V. Bering Kamchatka State University, Petropavlovsk-Kamchatsky http://www.kamgu.ru/</p>	<p>6.1.3.1 Hazard assessment, triggering factors and forecasting</p> <p>6.3.3.1 Risk assessment of chemicals and alternative strategies for testing</p>
31.	<p>Study of adaptive species in the Far East: peculiarities of nourishment, physical development, immune and enzyme systems functioning, special characteristics of metabolism and energy exchange dependent on internal (genetic) and external (natural-climatic, biogeochemical and anthropogenic) factors.</p> <p>Interrelation between traditional nourishment and health of Amur aborigines at the ecosystem pollution.</p>	<p>Far Eastern State University of Humanities, Khabarovsk http://www.khspu.ru/</p>	<p>6.1.2 Environment and health</p>
32.	<p>Study of Komsomolsk-on-Amur contamination by lead from the accumulator batteries plant operating for 60 years.</p>	<p>Komsomolsk-on-Amur State</p>	<p>6.3.3.1 Risk assessment of chemicals and alternative strategies for testing</p>

	Development of the techniques using the up-to-date computer-based technologies for analyzing the distributional patterns and velocity of forest fire spread that causes the atmosphere quality change in settlements and allows to define pollution trend and hazard level, and, thus, to take leading adequate measures.	Technical University, Komsomolsk-on-Amur http://www.knastu.ru/	6.3.3.3 Environmental technologies verification and testing
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No	Title of project /Research	University/Research institute	Topic in FP7
33.	Study of anthropogenic contamination by heavy metals and radionuclides of natural objects including soils and plants for ensuring the environmental safety. Study of technologic processes and utilization of large-tonnage hazwastes; development of optimal control system over wastes in Khabarovsk Krai..	Pacific National University, Khabarovsk http://www.khstu.ru/rus/	6.3.3.1 Risk assessment of chemicals and alternative strategies for testing 6.3.1.3 Waste
34.	Influence of cutting area works on forest resources conservation. Forest pathological monitoring in Amur oblast'. Development of systems of complex reclamation of lands anthropogenically disturbed and withdrawn from the agricultural turnover for restoration of their natural fertility and further agricultural use.	Far East State Agrarian University, Blagoveshchensk http://www.dalgau.ru/	6.2.1.6 Integrated forest research 6.3.2.3 Environment technologies for archaeology and landscapes
35.	Methods of mathematical modeling of natural water bodies contamination. Ecologically-friendly and alternative technologies for food production and processing of animal and plant feedstock.	Far Eastern State Technical Fisheries University, Vladivostok http://dalrybvtuz.ru.	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
36.	Scientific and applied basis for the development of the system ensuring protection of population and territories from emergency situations arisen from oil spill in the seas of the Far East. Geoecological monitoring of the Far East seas involved in the development of the oil-and-gas production. Development of laser technologies for navigation and the environmental monitoring.	G.I. Nevelsky Maritime State University, Vladivostok http://www.msun.ru/	6.2.2 Management of marine environments 6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment

No	Title of project /Research	University/Research institute	Topic in FP7
37.	Development of rapid methods for monitoring the sources of atmospheric pollution. Flood models for mountain-plains rivers and their adaptation to the rivers of Krasnodar Krai.	Kuban State University, Krasnodar http://www.kubsu.ru/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and

	Problems of eco-analytical monitoring and evaluation of total content and distribution of heavy metals in the environment. Earthquake forecast.		restoration of the natural and man-made environment 6.1.3.1 Hazard assessment, triggering factors and forecasting
38.	Study of pollutants in the environment. Engineering and ecological survey.	Research Institute of Applied and Experimental Ecology of the Kuban Agricultural University, Krasnodar http://www.instecology.ru/	6.3.1 Environmental technologies
39.	Waste treatment and recycling. Forecast of emergency situations. Evaluation and mitigation of risk of emergency situations arisen in the hazardous industrial objects.	Kuban State University of Technology, Krasnodar http://www.kubstu.ru/	6.3.1.3 Waste 6.1.3.1 Hazard assessment, triggering factors and forecasting

No	Title of project /Research	University/Research institute	Topic in FP7
40.	<p>Study of the atmospheric processes and phenomena, assessment of climate change induced by natural and anthropogenic factors for the national economy development and environment protection.</p> <p>Theoretical and experimental research of hydrophysical, hydrochemical and hydrobiological processes of seas and adjacent areas. Study of dynamics of water resources and water quality in natural hydrometeorological processes for creating the best conservation system of the inland surface waters. The environment protection, monitoring and simulation of the onset and development of natural and anthropogenic processes in water objects and in the atmosphere.</p> <p>Creation of the diagnostic and prediction models of natural and technogenous extreme situations in water objects and the surface layer. Multisensor geoinformation systems for remote environmental monitoring. Technology of data collection, processing, conversion and geoinformation modeling;</p>	<p>Russian State Hydrometeorological University, St.-Petersburg http://www.rshu.ru/university/science/</p>	<p>6.1.1.1 The Earth System and Climate: Functioning and abrupt changes</p> <p>6.2.2 Management of marine environments</p> <p>6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment</p> <p>6.1.3.1 Hazard assessment, triggering factors and forecasting</p>

	information security in geoinformation systems. Study of the system for integrated management of the Russian coastal zones, steady social-economic development of seashores, rational use of natural resources.		
41.	Assessment, forecast, increase of industrial and ecological safety. Scientific basis, alternative and ecologically friendly technologies for mining operations.	South Russian State Technical University, Novocherkassk http://www.npi-tu.ru/	6.1.3.1 Hazard assessment, triggering factors and forecasting 6.3.1 Environmental technologies

No	Title of project /Research	University/Research institute	Topic in FP7
42.	Study of regional peculiarities of global climate change and its influence on sustainable development of tourist-recreation zones. Regional aspects of the integrated use of natural resources. Development of theoretical basis for the environmental monitoring of ecological parameters of engineering structures for coastal protection from dangerous natural disasters. Development of methods and mathematical models for water quality in the coastal zone. Development of methodical approaches to the restoration of the areas with endangered and valuable commercial plants in the Caucasus using biotechnologies (culture in vitro) Development of scientific basis for the ecological-economic assessment of sustainable development of special protected areas exposed to tourist-recreation activities. Ecological aspects of the population health. Influence of biological factors on the population.	Sochi State University for Tourism and Recreation, Sochi http://www.sutr.ru/	6.1.1.5 Climate change natural and socio-economic impacts 6.2.1 Conservation and sustainable management of natural and man-made resources and biodiversity 6.4.2 Forecasting methods and assessment tools for sustainable development taking into account differing scales of observation 6.1.2.1 Health impacts of climate change
43.	Biodiversity assessment and the insect cadastre creation (Insecta) in Republic of Adygei.	Adygei State University, Maykop http://www.adygnet.ru/	6.2.1.4 Biodiversity
44.	Development of ecologically adaptive technologies for sprinkling the open and closed grounds (including by livestock wastes for preservation and restoration of soil fertility and ensuring environmental safety of adjacent agricultural landscapes). Restoration of small reservoirs for irrigation purposes and fishery. Economic evaluation of soil quality in the Volgograd region.	Volgograd State Agricultural Academy, Volgograd http://www.vgsha.ru/	6.3.1.2 Soil

№	Title of project /Research	University/Research institute	Topic in FP7
45.	<p>Assessment of the environmental factors' effect on the environment and human health.</p> <p>Risk assessment of anthropogenic impact on living systems; development of the methods for rehabilitation of the environment disturbed by chemical contamination.</p> <p>Development of environmentally friendly technologies; control techniques; treatment and decontamination of water and soil; wastes recycling.</p>	<p>Saratov State Technical University, Saratov http://nich.sstu.ru/</p>	<p>6.1.2.1 Health impacts of climate change</p> <p>6.3.3.1 Risk assessment of chemicals and alternative strategies for testing</p> <p>6.3.1.3 Waste</p>
46.	<p>Development of rapid methods and software for the environmental monitoring with the use of 3D models for differential backscattering in view of luminescence and non-linear phenomena.</p>	<p>Samara State Aerospace University named after academician S.P. Korolyov, Samara http://www.ssau.ru/english/</p>	<p>6.3.1 Environmental technologies</p>
47.	<p>Bioecological assessment of prospects for protection and use of native and introduced species of higher plants in natural and anthropogenic ecosystems of forest-steppe and steppe of the Mid Volga region.</p> <p>Modeling of critical situations in chemical and biological systems.</p>	<p>Samara State University, Samara http://www.ssu.samara.ru/</p>	<p>6.2.1 Conservation and sustainable management of natural and man-made resources and biodiversity</p>
48.	<p>Complex monitoring and forecasting the state of atmosphere and hydrosphere in the Volga basin; creation of contamination atlas.</p> <p>Environmental monitoring of physical pollution in Samara oblast'.</p> <p>Development of theoretical basis for integrated monitoring and mitigation of physical pollution of the biosphere.</p>	<p>Tolgiatti State University, Tolgiatti http://www.tltsu.ru/</p>	<p>6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment</p>

№	Title of project /Research	University/Research institute	Topic in FP7
49.	<p>Study and assessment of the plains reservoirs' effect on urban territories.</p> <p>Study of interaction of hydraulic facilities with river bed and banks under severe natural conditions.</p> <p>Development of scientific and methodical grounds for waste treatment.</p> <p>Development of methods for assessment of health risk in urban population related to water quality for managing and technological decision making.</p> <p>Development of scientific and technological grounds for protection of urban</p>	<p>Nizhny Novgorod State University of Architecture and Civil Engineering, Nizhny Novgorod http://www.nngasu.ru/</p>	<p>6.2.1 Conservation and sustainable management of natural and man-made resources and biodiversity</p> <p>6.3.1.3 Waste</p> <p>6.1.2.3 Methods and decision support tools for environmental</p>

territories from natural and anthropogenic disasters including detrimental effects. Development of methods for evaluation of risks induced by dangerous slide, erosion and karst processes in the urban territories.	health risk analysis and policy development 6.1.3.1 Hazard assessment, triggering factors and forecasting
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2. Departmental and Applied Research Institutes

No	Title of project/Research	University/ Research institute	Topic in FP7
1.	Research on the development of theory of hydrogeoinformation field of the Earth and seismogeodynamic activity, hydrogeochemical basis management of underground water quality. Forecast of earthquakes based on the study of hydrogeoinformation field of the Earth. Risk assessment, forecast of natural and technogenic exogenous geological processes (landslides, mud flows, karst, abrasion, impoundment etc.).	Russian Research Institute of Hydrogeology and Engineering Geology, Moscow region, Zeleny settlement http://www.vsegingeo.ru/	6.1.3 Natural Hazards
2.	Study of climate change based on high-quality hydrometeorological information and the use of empirical-statistical methods of data analysis.	All-Russian Research Institute of Hydrometeorological Information - World Data Center, Obninsk http://meteo.ru/institute/	6.1.1.1 The Earth System and Climate: Functioning and abrupt changes
3.	Development of basic technologies for processing and dissemination of observation data, forecast of the state of the environment and environmental pollution. Development of the Unified State Fund of Data on the State of the Environment and Environmental Pollution and other data funds.	Hydrometeorological Research Center of Russian Federation, Moscow http://meteoinfo.ru/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
4.	Engineering hydrometeorological and environmental survey on sea water and coasts of Russia. Monitoring of the state of the environment and environmental pollution and carrying-out of quantitative chemical analysis. Environmental monitoring of design and construction of industrial projects.	State Oceanographic Institute, http://www.oceanography.ru/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment

No	Title of project/Research	University/ Research institute	Topic in FP7
5.	Development of national space systems for hydrometeorological, oceanographic, heliogeophysical and environmental monitoring.	Scientific Research Center of Space Hydrometeorology "Planeta", Moscow http://planet.iitp.ru/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
6.	Scientific basis for biologization and ecologization of plant cultivation. Monitoring of phytosanitary and ecotoxicological situation in crop agrocenoses under	All-Russian Scientific Research Institute of Biological Plant	6.3.1 Environmental technologies for observation, simulation,

	storage. Fundamental research in taxonomy, cenology and ecology of entomophages and other representatives of useful biota.	Protection, Krasnodar http://www.agrocs.ru/	prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
7.	Agroecological zoning of territories in the south of Russia. Monitoring and development of program method for control of horticultural crops production.	North-Caucasian Zonal Research Institute of Horticulture and Viticulture, Krasnodar http://www.kubansad.kubannet.ru/	6.2.1 Conservation and sustainable management of natural and man- made resources and biodiversity
8.	Conservation of grapes gene pool to reveal and create the donors and sources of economic characters. Development of integrated and biological methods for protection of vineyards against pests and diseases. Research and comprehensive assessment of soil-climatic conditions for substantiation of criteria of land evaluation for quality wine-growing and wine-making.	Anapa Zonal Experimental Station of Viticulture and Winemaking, Krasnodar http://kubansad.ru/ru/content/zonalnye-stancii/	6.2.1 Conservation and sustainable management of natural and man- made resources and biodiversity

№	Title of project/Research	University/ Research institute	Topic in FP7
9.	Breeding of high-yielding oil and essential-oil crops varieties and hybrids with improved quality of oil, proteins, essential oils and resistant to main diseases and pests. Development of adaptive, ecologically sound technologies of oil and essential-oil crops management for different zones of the country.	All-Russia Research Institute of Oil Crops by V.S. Pustovoit, Krasnodar http://www.vniimk.ru/	6.2.1 Conservation and sustainable management of natural and man- made resources and biodiversity
10.	Conservation and study of global rice gene pool for its use in breeding. Development of theory of productivity and rice resistance to environmental stress. Breeding of high-yielding, resistant to unfavorable environmental conditions varieties as well as the ones of special purpose. Development of intensive, energy-efficient environmentally friendly technologies of rice cultivation.	All-Russian Research Institute of Rice, Krasnodar http://www.vniirice.ru/	6.2.1 Conservation and sustainable management of natural and man- made resources and biodiversity
11.	Development of genetic-biochemical model of animal and plant bodies resistance to extreme environmental factors. Monitoring of environmental pollution with the use of bacterial lux-bio-sensors. Development of systems for health monitoring of schoolchildren, students, and teachers in Rostov oblast based on molecular-genetic and biochemical markers.	Research Institute for Biology of Southern Federal University, Rostov-on-Don www.niib.sfedu.ru/	6.2.1 Conservation and sustainable management of natural and man- made resources and biodiversity 6.1.2.2 Health effects of environmental stressors other than

	Forecasting of soil pollution based on the indices of group composition of heavy metal compounds.		climate change 6.3.1.2 Soil
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No	Title of project/Research	University/ Research institute	Topic in FP7
12.	<p>Methods and tools for comprehensive study, assessment and forecast of environmental changes in Arctic and Antarctic.</p> <p>Methods and technologies for assessment of economic and other man-induced impact on the environment in waters and territories of the Arctic basin.</p> <p>Information systems and hardware and software systems for monitoring and forecast of hydrometeorological processes and extreme phenomena in atmosphere, hydrosphere and ionosphere.</p> <p>Methods and technologies for safety of objects and minimization of environmental aftereffects of anthropogenic impact in the Arctic region, in the North of Russia and Antarctic.</p> <p>Medical-biological provision of human capacity of work under extreme conditions of polar regions.</p>	<p>Arctic and Antarctic Research Institute, St. Petersburg http://www.aari.ru/main.php</p>	<p>6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment</p> <p>6.1.2 Environment and health</p>
13.	<p>Scientific support of the Rosprirodnadzor permitting activities in the field of biodiversity conservation.</p> <p>Development of methods for evaluation of control and surveillance efficiency in the field of nature management and environment conservation.</p> <p>Development of methods for assessment of environmental conditions.</p> <p>Assessment of environmental aftereffects of global atmosphere pollution.</p> <p>Evaluation of environmental hazard of new agricultural chemicals.</p>	<p>All-Russian Research Institute for Nature Protection, Moscow http://www.vniiprirody.ru/</p>	<p>6.2.1 Conservation and sustainable management of natural and man-made resources and biodiversity</p> <p>6.1.1.2 Emissions and pressures: Natural and anthropogenic</p> <p>6.3.3.1 Risk assessment of chemicals and alternative strategies for testing</p>
14.	<p>Development of theoretical bases for assessment of agrometeorological conditions impact on the growth, development and productivity of crops. Development of methods for evaluation of impact of climate change, greenhouse gases concentration and other features of global environment on agroecosystem productivity.</p>	<p>All-Russian Research Institute of Agricultural Meteorology, Kaluga region, Obninsk http://www.admobninsk.ru/obninsk/naukograd/scientific-centers/cxm/</p>	<p>6.1.1.5 Climate change natural and socio-economic impacts</p>

No	Title of project/Research	University/ Research institute	Topic in FP7
15.	Microclimate peculiarities of high mountain systems, geography of hazard natural processes spreading, the study of urban environment.	High Mountain Geophysical	6.1.3.1 Hazard assessment, triggering factors and forecasting

	Monitoring of heavy metals, sulfur and nitrogen compounds in environmental objects of Central Caucasus.	Institute of ROSHYDROMET, rep. Kabardino-Balkaria, Nalchik http://vgistikhiya.ru/frames	6.3.3.1 Risk assessment of chemicals and alternative strategies for testing
16.	Theories of climate, general and applied climatology, cloud physics and active influence on atmospheric processes, monitoring of atmospheric conditions and pollution, and precipitation composition. Methodologies of construction and operation of meteorological observation networks and networks of monitoring of atmospheric conditions and pollution, and precipitation composition; development of methods, instruments, measuring and information systems, information technologies, metrological provision, standardization and certification in the field of meteorology as well as meteorological service to aviation.	A.I. Voeikov Main Geophysical Observatory, St. Petersburg http://voeikovmgo.ru/	6.1.1.1 The Earth System and Climate: Functioning and abrupt changes 6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
17.	Investigation of hydrological events and processes, regime and balance of inland waters, improvement of theory and methods of hydrological research, calculations and forecast of channel operation, water, ice-thermal and hydrochemical regimes of surface water bodies (rivers, lakes, reservoirs, mires). Assessment of current environmental state of major aquatic systems of Russia (the Neva aquatic system, Volga-Caspian water complex, Peipus-Pskov lakes etc.) and development of measures on water resources management and conservation.	State Hydrological Institute, St. Petersburg http://www.hydrology.ru/	6.3.1 Environmental technologies for observation, simulation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
18.	Development of scientific bases and methods for monitoring of coastal dynamics and sea level fluctuation for introduction to Federal Service for Hydrometeorology and Environmental Monitoring. Mitigation of risks and aftereffects of emergency natural and anthropogenic situations.	Zubov State Oceanographic Institute, Moscow http://www.oceanography.ru/	6.2.2 Management of marine environments 6.1.3.3 Risk assessment and management

No	Title of project/Research	University/ Research institute	Topic in FP7
19.	Investigation of factors and mechanisms of climate changes and greenhouse effect. Investigation and simulation of different-scale atmospheric processes (including typhoons). Study of climate change in East Siberia and Far East of Russia, at Pacific Ocean and adjacent seas. Monitoring of atmosphere pollution in background regions of Primorye and Pacific Ocean. Geochemical and biological monitoring of the ocean and the marginal seas.	Far Eastern Regional Hydrometeorological Research Institute, Vladivostok http://rus.ferhri.ru/	6.1.1.1 The Earth System and Climate: Functioning and abrupt changes
20.	Climate changes, aftereffects and impact on ecosystems. Investigation of variations in greenhouse gas concentration and their climate impact. Anthropogenic variations in atmospheric chemistry, continental surface water and soil,	Institute of Global Climate and Ecology of RosHydromet and RAS, Moscow http://www.igce.ru/about/	6.1.1.5 Climate change natural and socio-economic impacts

	their environmental impact. Tendencies and dynamics. Anthropogenic impact on World ocean (pollution, environmental ecological effect, climate change). Radioactive environmental pollution.		6.4.1 Earth and ocean observation systems and monitoring methods for the environment and sustainable development
21.	Development of monitoring system of geophysical environment pollution (the Earth surface, atmosphere and near-Earth environment) by radioactive products under nuclear tests.	Acad. E.K. Fedorov Institute of Applied Geophysics, Moscow http://ipg.geospace.ru/	6.4.1 Earth and ocean observation systems and monitoring methods for the environment and sustainable development

No	Title of project/Research	University/ Research institute	Topic in FP7
22.	Investigation of climatic processes response to anthropogenic environment pollution and development of scenarios of long-term climate change. Radioactive pollution of atmosphere, soil, surface and sea waters, assessment and forecast of environmental impact. Chemical pollution of atmosphere, soil, agricultural lands and surface water by industrial and agricultural chemicals (pesticides, fertilizers, weed and pest-killer chemicals), forecast of pollution. Critical ecological-toxicological situations caused by acute environmental pollution or other factors of unknown nature. Development of new methods for meteorological, hydrological, oceanological and heliophysical measurements and methods of processing of data obtained on environmental characteristics. Medical-ecological research.	Research and Production Association 'Typhoon', Obninsk http://www.typhoon.obninsk.ru/	6.1.1.1 The Earth System and Climate: Functioning and abrupt changes 6.3.3.1 Risk assessment of chemicals and alternative strategies for testing 6.1.3.1 Hazard assessment, triggering factors and forecasting 6.4.1 Earth and ocean observation systems and monitoring methods for the environment and sustainable development 6.1.2.2 Health effects of environmental stressors other than climate change
23.	Research and scientific support of integrated management of water resources use, reproduction and conservation. Development of methods and tools for nature management in watersheds and water protection zones. Information-analytical provision of water objects, water protection and water resources management.	<i>Russian Research Institute for Complex Use and Protection of Water Resources</i> , Ekaterinburg http://www.wrm.ru/	6.2.1 Conservation and sustainable management of natural and man-made resources and biodiversity
24.	Modelling of surface climate dynamics and vegetation. Exchange between atmosphere and surface of heat, water, radiation, momentum, biophysical consistency, biogeochemistry, particularly as it affects atmospheric CO ₂ . Treatment of human land use (e.g., agriculture) and land-use change. Vegetation distribution changes consistently with climate.	<i>Siberian Regional Research Hydrometeorological Institute</i> , Novosibirsk	6.1.1.1 The Earth System and Climate: Functioning and abrupt changes

