



# **Cartographic Activities in the Russian Federation 2015-2019**

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## INTRODUCTION

In May 1993 on the 16<sup>th</sup> Conference of the International Cartographic Association (ICA) in Germany (Cologne) Russia was recognized to be a legal successor of the Soviet Union within the ICA.

The National Committee of Cartographers of the Russian Federation (NCC) was formed on June 22, 1994 as an interdepartmental agency representing Russia in the International Cartographic Association and other international organizations dealing with the issues connected with cartography.

The National Committee of Cartographers of the Russian Federation included the leading cartographers and specialists in geoinformatics of the Russian Academy of Sciences, universities, production, and non-governmental organizations which carry out research, production and other kinds of work and also the training of specialists in the sphere of cartography.

The main tasks of the National Committee of Cartographers of the Russian Federation were the following:

- Organization and realization of effective cooperation in the sphere of cartography between Russia and the International Cartographic Association, other international cartographic organizations, as well as national committees of cartographers in other countries;
- International popularization of Russian scientific and practical achievements in the sphere of cartography;
- Summarizing and spreading of foreign experience concerning the solving of scientific, technical, and technological economic problems in the sphere of cartography and working-out of recommendations to level up research and cartographic production in order to improve the quality of produced maps and atlases.

In accordance with the Decree of the Government of the Russian Federation as of 19.08.2009 No. 1190-r, the Federal Service for State Registration, Cadastre and Cartography (Rosreestr) is responsible for the participation of the Russian Federation in the ICA activities.

## OFFICIAL ORGANISATIONS

### THE FEDERAL SERVICE FOR STATE REGISTRATION, CADASTRE AND CARTOGRAPHY (ROSREESTR)

Since 2008 the Federal Service for State Registration, Cadastre and Cartography (Rosreestr, <http://www.rosreestr.ru>) has been the federal executive authority of the Russian Federation which executes the activities concerning provision of public services and management in the sphere of geodesy and cartography as well as geographic objects' naming. Besides that, land and real estate registers, cadastre and cadastral valuation are also under the supervision of this authority.

The Federal Service for State Registration, Cadastre and Cartography exercises among others the following authorities within the stated sphere:

1. Holds competitions and concludes state contracts on cartographic and geodetic work and provision of services, on carrying out research and development.
2. Exercises the functions of state geodetic supervision and licensing of geodetic and cartographic activities on the territory of the Russian Federation.
3. Organizes the execution of work concerning the public services in the sphere of geodetic and cartographic activities, the geographic objects' naming, and creation

of spatial data infrastructure including:

- establishment, standardization, use, registration, recording, and maintaining of geographical objects' names, formation and management of the State Catalogue of Geographical Names;
- formation and management of federal geographical information systems;
- mapping of Antarctica;
- geodetic, cartographic, and topographic support of the delimitation, demarcation, and inspection of the Russian Federation state boundary lines;
- designing, compilation, and publication of comprehensive, political and administrative, scientific and reference, and other thematic interdisciplinary maps and atlases, as well as cartography study guides.

On December 17, 2010 the Government of the Russian Federation approved "Development Concept of the Geodesy and Cartography Branch up to 2020".

Radical modernization is determined to be the main direction of development in the sphere of geodesy and cartography for the period up to 2020.

The main directions of development of the Russian Federation state cartographic support system:

- changes in technology of state topographic maps storage by means of their transformation into topographic objects' databases with their metadata, that will provide their quick updating;
- changes in technology of spatial data updating by using methods of topographic monitoring and informational interaction between federal executive authorities, executive state authorities of the Russian Federation entities, and local authorities in order to update the topographic objects' database;
- creation of a federal information system providing web-access for citizens and organizations to the state database of topographic maps and plans.

Since 2012 the state enterprises have passed the stage of corporatization and currently are commercial branches of the Joint-Stock Company "Roskartography" with partial state capital. JSC "Roskartography" is the only state-owned production company in production of federal cartographic works.

Several state institutions were consolidated to the Federal State Budgetary Institution "Federal Scientific and Research Centre of Geodesy, Cartography and Spatial Data Infrastructure" (FSBI "Centre of Geodesy, Cartography and SDI") which tasks include keeping and managing cartographic and geodetic data, research and development, works on the national standardization of geographical names of the Russian Federation.

The legal framework for the geodetic and cartographic activities as well as in the sphere of geographic objects entitlement is provided by the Constitution of the Russian Federation, by the Federal Laws "On Geodesy and Cartography" and "On Names of Geographical Objects", and by other legal regulations of the Government of the Russian Federation.

A new pack of federal regulation acts was passed in 2017. The Law "On Geodesy and Cartography" No. 431 of 30.12.2015 (came into force on 01.01.2018), that was acknowledged as best practices by the United Nations Committee of Experts on Global Geospatial Information Management.

In 2019 the National Program "Digital Economy of the Russian Federation" was launched. This program envisages the creation of a state digital platform in the field of providing electronic maps and services in 2019 – 2024.

The present head of the Federal Service for State Registration, Cadastre and Cartography (Rosreestr) is Deputy Minister of Economic Development of the Russian Federation – Head of Rosreestr Mrs. Victoria Abramchenko.

### **ACTIVITIES OF ROSREESTR IN THE SPHERE OF CARTOGRAPHY**

In the field of cartographic support of the Russian Federation in 2015 – 2019 Rosreestr has carried out activities on creation and updating of digital topographic maps, digital topographic maps of open use and open digital navigation maps of scales 1:25 000 – 1:100 000.

As of 2019 digital topographic maps and digital topographic maps of open scale 1:25 000 are created on all the territory of the Russian Federation with high population density.

As a result of activities on mapping of the territory of the Russian Federation taking into account earlier performed works:

33 % of the territory of the Russian Federation is provided with digital topographic maps of scale 1:25 000;

99 % of the territory of the Russian Federation is provided with digital topographic maps of scale 1:50 000;

the entire territory of the Russian Federation, including the Islands of the Arctic ocean, is provided with digital topographic maps of scale of 1:100 000.

1072 cities of the Russian Federation are provided with digital navigation plans of scale 1:10 000, what is 98 % of the territories of cities with a population of less than 1 million people and they also cover 828 cities with a population of less than 50 thousand people.

By 2020, it is planned to create digital navigation plans on a scale of 1:2000 for the territory of 11 cities with a population of over 1 million people.

For the purpose of cartographic support of the territory of the Republic of Crimea and the city with federal status Sevastopol Rosreestr carried out the following cartographic works:

1318 nomenclature sheets of scale 1:10 000 for territorial planning and urban development zoning of territories of the Republic of Crimea and the city with federal status Sevastopol;

on the territory of the Republic of Crimea and the city with federal status Sevastopol digital topographic maps and digital topographic maps of open use of scale 1:50 000 and 1:100 000 in the amount of 107 and 34 nomenclature sheets respectively.

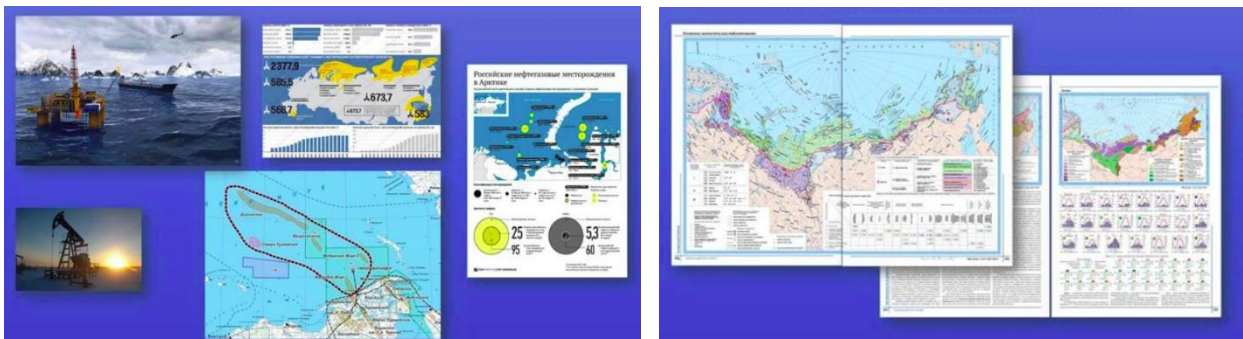
digital topographic plans and digital topographic plans of open use of scale 1:2000 for 1120 settlements.

orthophotos, digital topographic maps and digital topographic maps of open use in the amount of 1312 nomenclature sheets for cadastral activities.



In accordance with the instructions of the President of the Russian Federation and the Government of the Russian Federation on the effective exploration of the Arctic Rosreestr completed work on creation of the National Atlas of the Arctic in 2017. The Atlas is a special kind of fundamental complex cartographic work that summarizes modern knowledge about the geographical, climate, ecological, economic, historical, ethnographic, cultural and social features of the Russian Arctic; about the peoples inhabiting this territory, with their culture, national characteristics of life and activity, natural conditions and resources, monuments of history and culture. Famous Russian scientists and researchers with the highest subject qualification worked on the creation of the National Atlas of the Arctic together with the

cartographers of JSC "Roskartography". In total, more than 200 leading Russian specialists from 26 research, higher education and industrial organizations, including the Russian Academy of Sciences, the Russian Geographical Society, 11 ministries and agencies took an active part in the work on the publication. The Atlas is published in A3 format on 496 pages in hardcover. An electronic extended version of the Atlas was released in 2018, which included more than 300 additional thematic maps.



In 2019 Rosreestr has started creation of the Unified Digital Cartographic Framework (EECO) in the form of digital orthophotoplans of scales 1:2000 and 1:10 000, carrying out within the framework of the event "Creation and updating of the Unified Digital Cartographic Framework (EECO), including large-scale, in order to complete the State Information System of Maintaining a Unified Digital Cartographic Framework (GIS EECO)" of the Federal Project "Information Infrastructure", which is included as part of the National Program "Digital Economy of the Russian Federation", approved by the Protocol of the Presidium of the Council under the President of the Russian Federation on strategic development and national projects No. 16 of 24.12.2018.

By the end of 2024, a 1:2000 scale EECO is planned to be established on all the territories of settlements of the Russian Federation, as well as a 1:10 000 scale on the territory of the Russian Federation with a high population density.

## **ACTIVITIES OF ROSREESTR IN THE SPHERE OF KEEPING AND MANAGING OF SPATIAL INFORMATION**

Federal State Budgetary Institution "Federal Scientific and Research Centre of Geodesy, Cartography and Spatial Data Infrastructure" (FSBI "Centre of Geodesy, Cartography and SDI") was established in accordance with the Decree of the Government of the Russian Federation No. 220-r of 19.02.2013.

FSBI "Centre of Geodesy, Cartography and SDI" is the only authorized organization for the maintenance, storage, and issuance of cartographic data of the state fund of spatial data. In the Fund there are more than 65 mln units of cartographic products in digital and analog form. The provision of cartographic materials to applicants is performed under the license agreements.

## **WORKS ON THE NATIONAL STANDARTIZATION OF GEOGRAPHICAL NAMES OF THE RUSSIAN FEDERATION**

### **LEGISLATION OF THE RUSSIAN FEDERATION IN THE FIELD OF GEOGRAPHICAL NAMES**

The authorized federal executive bodies in the field of names of geographical objects are the Ministry of Economic Development of the Russian Federation (the Ministry of Economic Development of Russia) and the Federal Service for State Registration, Cadastre and Cartography (Rosreestr).

The Ministry of Economic Development of Russia performs the functions of developing state policy and legal regulation in the field of naming geographical objects.

Rosreestr develops and maintains the State Catalogue of Geographical Names, provides for standardization of geographical names in Russian, and prepares experts reports for proposals on naming and renaming of geographical objects.

Activities in the sphere of geographic feature names are implemented by Rosreestr jointly with other executive authorities within their competence.

In some entities of the Russian Federation, toponymic commissions were organized to regulate use of geographical names of urban objects, their registration and conservation as a constituent part of historical and cultural heritage.

One of these commissions' works in the Moscow branch of the Russian Geographical Society. In 2015, the Commission organized Students' conference on toponymy.

### **Legal base on the setting up, normalization and implementation of geographic names**

Legal framework for naming and renaming of geographical objects as well as for standardization, use, registration, and storage of geographical names is set by the Federal Law No. 152-FZ "On Names of Geographical Objects" that was passed on December 18, 1997 and adopted according to it other legal acts.

In 2015 – 2019 the following legal acts were adopted:

1. Decree of the President of the Russian Federation No. 681 of 28.11.2018 "About the Assignment of Individual Geographical Objects, the Names of Persons Who Have Special Merits to the Fatherland";

2. Resolution of the Government of the Russian Federation No. 492 of 22.05.2015 "On the Addresses Input to the State Address Register, Procedure for Inter-departmental Information Cooperation to Maintain the State Address Register, on the Procedure for Alternation and Annulment of Some Acts of the Government of the Russian Federation

which Approved the Rules for Inter-departmental Information Cooperation to Maintain the State Address Register, including Providing Information from the State Catalogue of Geographical Names";

3. Resolution of the Government of the Russian Federation No. 245 of 07.03.2009 "On approval of the Rules of consideration of proposals for the assignment of individual geographical objects names of persons with special services to the Fatherland, and the use of these names";

4. Decree of the Ministry of Economic Development of the Russian Federation of 29.05.2015 № 322 "On approval of the procedure for identification of the available names of geographical objects in the Russian Federation, on its continental shelf and in the exclusive economic zone of the Russian Federation as well as of features discovered or specified by the Russian explorers in the World Ocean and Antarctica".

The enlisted normative-legal documents relating to names of geographical objects are accessible on the official website of Rosreestr: <https://rosreestr.ru/site/activity/geodeziya-i-kartografiya/naimenovaniya-geograficheskikh-obektov/zakonodatelstvo-rf-o-naimenovaniyakh-geograficheskikh-obektov/>.

## **WORKS ON CREATION OF NATIONAL DATABASES OF GEOGRAPHICAL NAMES**

Rosreestr in the field of names of geographical objects carries out functions: on creation and maintenance of the State Catalogue of Geographical Names; normalization of names of geographical objects in Russian; examination of proposals on the assignment of names to geographical objects and the renaming of geographical objects, the issuance of opinions on these proposals; coherence of the dictionaries and manuals of names of geographical objects, the preparation and publication by federal executive authorities and public authorities of subjects of the Russian Federation in part of the competence before they were published.

Taking into account the examination carried out by Rosreestr in the period 2014 – 2019, the Government of the Russian Federation adopted more than 160 decisions on the assignment of names and renaming of geographical objects.

The State Catalogue of Geographical Names is based on the information search system, which ensures the formation of a database of objects and their names, its storage, processing and issuance of the information registered in it at the request of interested persons free of charge. The information search system created in 2016 was registered by the Federal Service for Intellectual Property in the Register of computer programs. The right holder of the system is the Russian Federation, on behalf of which Rosreestr acts.

The State Catalogue of Geographical Names created in the Russian Federation consists of two separate sections:

the first section – geographical objects of the land part of the Russian Federation;  
the second section – geographical objects of the continental shelf of the Russian Federation, the exclusive economic zone of the Russian Federation, as well as geographical objects discovered or allocated by Russian researchers on the high seas or in Antarctica.

In the database of the State Catalogue of Geographical Names, each geographical object is characterized by indicators, most of which constitute the information necessary for the registration and unambiguous identification of the geographical object.

When placing in the database of the State Catalog of Geographical Names above



the given complex of information indicators, automatic registration is carried out, which is accompanied by the assignment of individual registration numbers to the names of geographical objects with the fixation of the date of registration in the database.

The database of the State Catalogue of Geographical Names already contains information on the names of 787,800 geographical objects, including information on 1,806 names of geographical objects of the continental shelf and the exclusive economic zone of the Russian Federation, as well as names of geographical objects discovered or allocated by Russian researchers within the high seas and Antarctica.

In the database of the State Catalogue, each geographical object is specified by parameters most of which are mandatory for its registration and unique identification (name, generic term, administrative status of a populated place, administrative affiliation, geo coordinates, sheet nomenclature of 1:100,000 scale topographic map where an object is shown, location of an object relative to other large objects). The other portion of parameters covers additional information on a name and object (versions of a name, versions of a generic term, name origin, etymology, etc.).

In response to requests of individuals and legal entities, public authorities, local governments, the information registered in the State Catalogue of Geographical Names is provided free of charge both in hard copy and electronic format.

The State Catalogue of Geographical Names is used to maintain the e-Bulletin of official changes of geographical names made in the Russian Federation since 1997.

The e-Bulletin is accessible on the official website of Rosreestr: <https://rosreestr.ru/site/activity/geodeziya-i-kartografiya/naimenovaniya-geograficheskikh-obektov/raboty-v-oblasti-naimenovaniy-geograficheskikh-obektov/>

## **CARTOGRAPHICAL EDUCATION IN RUSSIA**

### **HIGHER CARTOGRAPHICAL EDUCATION**

Students of cartography in classical universities are trained at geographical departments. There are departments of cartography and geoinformatics (sometimes combined with geodesy) in universities of Moscow, St. Peterburg, Tver', Irkutsk, Mordovia, Udmurtia, the Far East, Astrakhan', Saratov, Smolensk, Kazan', the Kuban', and Stavropol'.

The Section of cartography and geoinformatics at the Geography educational and methodological association (EMA) of Russia's classical universities is in charge of the education and methodology activities of Russian universities. The tasks of the EMA include: the creation of state educational standards for the specialties "Cartography" and "Geoinformatics" of the bachelor, specialist, and magister level; the development of unified standard educational programs for these educational fields; the defining of contents of educational and industrial practices and of entrance examination programs for magister and postgraduate courses, qualifying examinations for scientific degrees, etc.

## **CARTOGRAPHICAL EDUCATION IN SPECIALIZED UNIVERSITIES AND ACADEMIES**

Specialists in cartography are also trained in specialized universities which include the Moscow State University of Geodesy and Cartography (MIIGAİK, celebrated its 240<sup>th</sup> anniversary in 2019) (<http://www.miigaik.ru>) with the Department of Cartography, and also the Siberian State University of Geosystems and Technologies (SSUGT) (<https://sgugit.ru/>) that has the Institute of Remote Sensing and Nature Management training specialists with the qualification "Cartography".

## **SECONDARY VOCATIONAL CARTOGRAPHICAL EDUCATION**

There are the following educational institutions of the secondary vocational cartographical education in Russia: Moscow College of Geodesy and Cartography (<http://mkgik.org>), St. Petersburg Technical School of Geodesy and Cartography affiliated to the Department of secondary vocational education of the St. Petersburg Plekhanov State Mining Institute (<http://www.spbtgik.ru>), Novosibirsk Technical School of Geodesy and Cartography (<http://xn--c1akgjz.xn--p1ai/>), the Far East Technical School of Geodesy and Cartography in Khabarovsk (<http://dvtgik.ru>), and Tomsk State University of Architecture and Building (Faculty of Secondary Vocational Education) (<http://www.tsuab.ru>). All of them are united with universities and are their subdivisions.

## **BRANCH MAPPING**

Together with cartographic work of the federal importance some ministries and agencies of the Russian Federation carry out cartographic works supporting specific branches of science and production.

The main authorities which perform state mapping in different branches within the territory of Russia are the following:

The Ministry of Natural Resources of the Russian Federation (geological and geoecological mapping);

The Ministry of Defense of the Russian Federation (maps and plans to support defense capability and navigation maps);

The Federal Agency on Hydrometeorology and Environmental Monitoring (meteorological charts, radioecological mapping);

The Ministry of Transport of the Russian Federation (navigation road maps, aero navigation maps);

other federal executive authorities.

## **NONGOVERNMENTAL CARTOGRAPHIC INSTITUTIONS**

According to the Russian legislation, the compilation and publishing of maps and atlases may be performed without limitations by institutions in nongovernmental ownership if they have a license for this activity from the Federal Service for State Registration, Cadastre and Cartography.

Today, there are about 400 publishing houses, firms, and companies issuing cartographic products in the Russian Federation.

As a rule, these institutions are specialized in creation of cartographic works for broad public use or in compilation of works to orders of organizations for their production

activities. The geographical basis of these products is official cartographic publications issued by the Federal Service for State Registration, Cadastre and Cartography.

Among the most known and productive nongovernmental institutions can be mentioned the following:

Joint-Stock Company "Roskartography";

"Atlas Print Company" specializing in issuing road maps and atlases as well as city maps;

"Feoria Publishing House" specializing in issuing of large complex and thematic atlases including historical and cultural atlases of Russia's regions and adjoining countries as well as atlases devoted to specific themes;

"Tsifrovye karty mestnosti" (TsKM, Digital Terrain Maps) stock company specializing in creation of digital city maps and digital land cadastre maps.

Web-mapping has experienced a broad development in the recent years.

The private companies, projects of which are most successful in this sphere:

Yandex maps <http://maps.yandex.ru/> and <http://n.maps.yandex.ru/>;

Kosmosnimki (Space Images) [www.kosmosnimki.ru](http://www.kosmosnimki.ru)

## INTERNATIONAL COOPERATION OF RUSSIA IN THE SPHERE OF CARTOGRAPHY AND ADJACENT DISCIPLINES

The Russian Federation is a full member of many public and intergovernmental international scientific and technical organizations, including:

- International Cartographic Association (ICA), <http://icaci.org/>
- International Geographical Union (IGU), <http://www.igu-online.org/>
- International Association of Geodesy (IAG), <http://www.iag-aig.org/>
- International association of Surveyors (FIG), <http://www.fig.net/>
- International Society for Photogrammetry and Remote Sensing (ISPRS), <http://www.isprs.org/>
- Intergovernmental Oceanographic Commission (IOC) of UNESCO, <http://ioc-unesco.org/>
- International Hydrographic Organisation (IHO), <http://www.iho.int/>
- Interstate Council for Geodesy, Cartography, Cadastre and Remote Sensing of the Earth of the CIS Member States
- Scientific Committee on Antarctic Research (SCAR), <http://www.scar.org/>
- United Nations Group of Experts on Geographical Names (UNGEGN), <https://unstats.un.org/unsd/ungegn/>
- United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM), <http://ggim.un.org/>.

Russian delegations took part almost in all events organized by these institutions. Russia's participation in the activities of international organizations permits to pursue the policy of the Russian Federation in the sphere of cartography and adjacent areas of knowledge, to keep track of the trends of cartography development in the world, to take part in international projects, to adopt the advanced experience of other countries, and to promote the experience of domestic science and practices.

Besides participation in activities of the international organizations Russia carries out works aimed at the implementation of some multilateral and bilateral international projects.

On September 21 – 23, 2017 in Irkutsk Rosreestr held the XXXIX session of the Interstate Council for Geodesy, Cartography, Cadastre and Remote Sensing of the CIS Member States (hereinafter – the Interstate Council).

Interstate Council was created to implement the provisions of the Agreement on the Interaction of the CIS Member States in the field of Geodesy, Cartography, Cadastre and Remote Sensing of the Earth of October 9, 1992 and is a body of sectoral cooperation of the CIS. The members of the Interstate Council are the heads of government authorities in the field of geodesy, cartography, cadastre and remote sensing of the CIS Member States.

According to the decision taken at the XXXVIII session of the Interstate Council, the chairmanship of the Interstate Council in 2017 was carried out by the Head of Rosreestr on behalf of the Russian Federation.

During the event, reports of representatives of participating organizations from Armenia, Belarus, Kazakhstan, Kyrgyzstan, Russia, Tajikistan and Uzbekistan on the implementation of decisions taken at the XXXVIII session of the interstate Council were heard.

The session also discussed the following issues:

- implementation of the pilot project on spatial data infrastructure;
- main approaches to the creation of a unified geodetic coordinate system and a unified system of heights of the CIS Member States;
- updating in the Electronic Bulletin on Changes of Geographical Names in the CIS Member States;
- creation of the Interstate Technical Committee on Standardization "Geographical information/Geomatics" within the Interstate Council for Standardization, Metrology and Certification of the CIS Member States;
- development of the dictionary of the modern terms applied in the field of geodesy, cartography, geoinformation systems, the cadastre and remote sensing of the Earth within the Interstate Council;
- work of the basic educational organization of the CIS – Moscow State University of Geodesy and Cartography (MIIGAIK) and prospects of cooperation in the field of training in geodesy, cartography, cadastre and remote sensing;
- strengthening cooperation of the CIS Member States in the field of geospatial information management at the regional level;
- innovative projects of Russia in the field of geodesy, cartography, cadastre and remote sensing: best practices of the CIS Member States.

In addition, the day before the XXXIX session (September 20, 2017), a meeting of the Interstate Council Working Group on Spatial Data Infrastructure, a meeting of the Interstate Council Working Group on Geographical Names, as well as the 14th meeting of the Eastern Europe, Northern and Central Asia Division of the UN Group of Experts on Geographical Names were held.

On April 24, 2019 Rosreestr with the assistance of the Department of Surveying, Mapping and Geoinformation of Vietnam, as well as the Vietnamese Association of Geodesy, Cartography and Remote Sensing, organized the first Russian-language session "Modern Geospatial Challenges" within the FIG Working Week held on April 22 – 26, 2019 in Hanoi (Vietnam).

During the session, experts from Russia, Vietnam and Belarus made presentations on the main achievements of their countries in the field of geodesy, cartography, spatial data and discussed with the participants the prospects of cooperation in these areas. Special attention was paid to the issues of digitalization, implementation of joint research projects, training specialists for work in Russia and abroad on the basis of Russian specialized universities.

Representatives of the Federal State Budgetary Institution "Center of Geodesy, Cartography and SDI" subordinated to Rosreestr told about the implementation of projects in Russia with the use of digital technologies in the field of geodata. In particular, about modern geodetic support of the territory of Russia, creation of a platform of

geospatial information with modern services as a basis for economic development, providing services to both citizens and business.

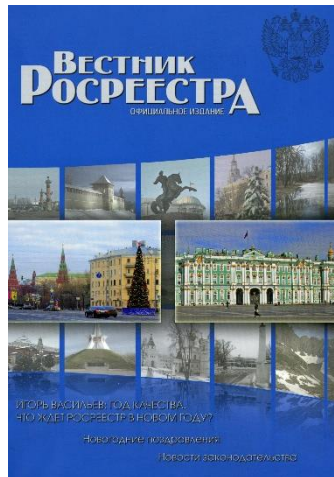
Representatives of the leadership of Russian universities – Moscow State University of Geodesy and Cartography (basic educational organization of the CIS), State University of Land Use Planning and Siberian State University of Geosystems and Technologies told about the Russian system of training in the field of geodesy, cartography, land management, cadastre and geoinformation technologies, the role of specialists from Russia in the development of these areas in other countries. In particular, it was noted that graduates of Russian higher education institutions work in more than 90 countries.

Experts of the Department of Surveying, Mapping and Geoinformation of Vietnam shared their experience in the development of geodetic and mapping technologies, as well as the basic geodetic infrastructure of Vietnam.

The session was also attended by representatives of government agencies, business, universities and other organizations from Belarus, China, Czech Republic, Denmark, France, Ghana, Germany, Kyrgyzstan, Malaysia, Moldova, Norway, Russia, Slovakia, Sweden, Tanzania and Turkey.

The total number of participants was more than 110 people.

## JOURNALS ON CARTOGRAPHY AND GEOINFORMATICS



Several journals on cartography, geoinformatics, and remote sensing are published in Russia; they are issued both by state authorities and by nongovernmental companies and public organizations.

The Federal Service for State Registration, Cadastre and Cartography issues the journals "Geodeziya i kartografiya" ("Geodesy and Cartography") and "Vestnik Rosreestra" ("Bulletin of Rosreestr").



The GIS-Association issues the magazine "Informational Bulletin of GIS-Association" (more info on <http://www.gisa.ru/ib.html>), the magazine "Spatial Data" (more info on <http://www.qisa.ru/pd.html>), the magazine "Territory Development Management" (more info on <http://www.qisa.ru/urt.html>). The later ones are delivered to the GIS-Association members and to a number of other information providers according to a subscribers' database. They provide information on the recent achievements in the digital mapping field, topography, navigation, GIS education and training, GIS - aided regional planning and so forth.

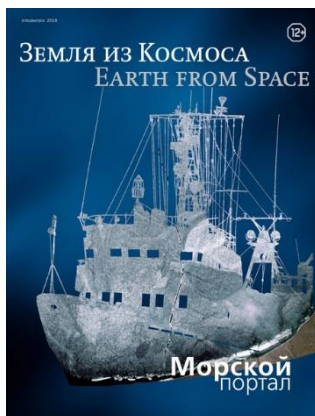


The journal "Geoprofi" is established by a private person and is oriented to engineering and technical staff of production establishments, developers and makers of equipment, software, and technologies, instructors and post-graduate students of educational institutions. Articles on methods of geodetic, cartographical, and photogrammetric works, on legal regulations of geodetic and cartographical activities, on new tools and software for geodetic, cartographical, and photogrammetric works, on the Internet resources, on the education in the sphere of geodesy, cartography, and the Earth remote sensing, land and urban cadastre, and navigation are published in the journal.

Periodicity: 6 issues a year. Circulation of the journal: 3000 copies. The complete contents of the journal issues are accessible at its website: <http://www.geoprofi.ru/>. It has been issued since 2003.



The journal "Geomatics" is the worldwide source of information, news and opinion on geospatial and remote sensing technologies focused on Russia and CIS countries. Founder: Sovzond Company. Circulation of the journal: 3000 copies. Periodicity: 4 issues a year. The complete contents of the journal issues are accessible at its website: <http://www.geomatica.ru/rus/archive.html>. It has been issued since 2008.



The journal "Zemiya iz kosmosa" ("The Earth from Space") <http://zikj.ru/>. Periodicity: 2 issues a year. It has been published by group of companies "ScanEx" since 2009. Some materials are accessible at the website: <http://www.scanex.ru/company/about/>.