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GEODESY AND MINE SURVEY

STRATEGIC LINES OF DEVELOPMENT FOR TOPOGRAPHIC, GEODETIC AND CARTOGRAPHIC SUPPORT IN RUSSIAN FEDERATION

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Analysis results of current state and development trends are presented as regards topographic, geodetic and cartographic support. Basic trends of development are shown as being closely associated with the growing demand of state and municipal management, economy, safety and defence in current reliable geospatial data. The structure of branch support and the drawbacks resulting from the reduced potential of the basic production structure (Roskartographia) are considered. Priority strategic trends of topographic, geodetic and cartographic support are presented. They include improvement and development of state administration, normative legal and scientific and technical regulation, supervisory and authorization-based forms of state management, R&D support, and development of international relations.

The necessity for completing the development, endorsement and implementation of the new Federal law «On geodesy and cartography» is substantiated.

Key words: geodesy, cartography, science, education, production, topography, management.

EXPERIENCE OF RUSSIAN FEDERATION IN ESTABLISHMENT OF NATIONAL COORDINATE SYSTEM 2011

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General information on the state geodetic coordinate system 2011 is presented. Main results of its practical realization on the territory of Russian Federation are given. The parameters of the transition from the coordinate system used in Russia at present to the coordinate system of 2011are shown. The prospects for further development of coordinate system 2011 up to 2020 are given.

Key words: coordinate system, state geodetic network, geodetic support.

MAIN PROBLEMS OF CARTOGRAPHIC APPLICATION CONVERSION TO COORDINATE SYSTEM GSK 2011

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The problems of state topographic maps and plans (in coordinate systems SK-95 and SK-42) conversion to the new state coordinate system GSK 2011are considered. The list of attendant technical, organizational and methodological measures to be taken is offered. The techniques and mathematical apparatus for coordinate transformation are presented. The values of coordinate offset due to the transition from Krasovsky ellipsoid to global ellipsoid are presented. Methodical documents regulating topographic maps and plans (in coordinate systems SK-95 and SK-42) transformation into the new state coordinate system GSK 2011are offered.

Key words: cartographic application, state coordinate system, cartographic projection, global ellipsoid, Krasovsky ellipsoid, geodetic coordinate.

GEODETIC MONITORING OF ROSREESTR BAIKAL GEODYNAMIC TESTING AREA

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Preliminary results of repeat GNSS observations on Baikal geodynamic testing area obtained in 2011–2014 are considered.

Key words: geodynamics, monitoring, Baikal rift zone, geodynamic testing area, earthquake, seismicity.

ANALYSIS OF ESTABLISHMENT OF UNIFORM STATE SYSTEMS OF COORDINATES

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For performance of cadastral shootings, at a land surveying of the land plots, production of engineering researches and other types of works the local systems of coordinates operating in the territory of this or that subject of the Russian Federation are used.

So far practically there is no the standard and legal and methodical base regulating use of modern state system of coordinates and an order of transformation to local systems of coordinates and back by production of cadastral works.

The review of introduction of uniform state systems of coordinates in the territory of the Russian Federation, comparison of parameters of a terrestrial ellipsoid in the state systems of coordinates, schemes of transformation of coordinates is presented in article, and also the problems arising when transforming coordinates from local systems of coordinates in the uniform state are formulated.

Key words: big half shaft of an ellipsoid, polar compression, reference ellipsoid, state systems of coordinates.

CARTOGRAPHY AND GEOINFORMATICS

ANALYZING OF MISTAKES APPEARANCE IN CREATION AND RENEWAL OF DIGITAL TOPOGRAPHICAL MAPS

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The paper deals with technology of digital topographical map creation and factors which have an influence on its accuracy.

Key words: Initial cartographical material, digital topographical map, orthophototranformation, generalization, error, sensitivity.

GEOMETRICAL MODELLING OF SYSTEMWS' MOVEMENT IN THE TASKS OF APPLIED GEOINFORMATICS

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In applied geoinformatics the study of systems' state in space and in time makes it necessary to define their movement and deformations. If the deformations are absent or negligible the system is viewed as an absolutely solid body. Any movement of such systems is determined by the movement of the point called the pole along with some rotation around the axis which goes through the pole. Various schemes of the systems' are studied in this article.

Key words: geometrical modeling, the state of systems in space and in time, applied geoinformatics, regular movement, rotation of the point.

TO THE QUESTION OF FORMALIZATION OF THE PROCESS OF CREATING THEMATIC MAPS IN GIS ENVIRONMENT

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The issue of thematic maps formalization for public at large is considered. Formalization of thematic map-making in GIS-environment is considered as explicit step-by-step description of the process based on a number of principles which determine characteristics of cartographic indices and digital mapping techniques.

Key words: formalization, thematic maps, natural resources, GIS.

LAND MANAGEMENT, CADASTRE AND LAND MONITORING

TECHNIQUE FOR MAINTAINING CADASTRE FOR STATE INDUSTRIAL- AND OTHER SPECIAL-PURPOSE LANDS BY EXAMPLE OF CIVIL DEFENSE PROTECTIVE STRUCTURES

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The problem of civil defense protective structures management has not been solved as yet. The technique for maintaining cadaster for industrial- and other special-purpose lands is presented by the example of civil defense protective structures. It may serve as a manual for training young specialists.

Key words: industrial and other special-purpose lands, civil defense protective structures, cadaster of other special-purpose lands.

ECOLOGY AND ENVIRONMENTAL MANAGEMENT

THE IMPORTANCE OF HYGIENE AND SOIL REQUIREMENTS TO THE WASTE OF LIFE IN ECONOMIC AND SPATIAL PLANNING

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The regulatory impact assessment of the sanitary legislation on hygiene of soils, evaluation of hazardous waste in relation to environmental and planning legislation and technical regulation. Proved the leading role of sanitary and epidemiological requirements to evaluate the effectiveness of the development and application of town planning regulations. It is shown that the basis of town-planning activity is health legislation.

Key words: soil, waste, landfills, planning, hazard class, town-planning regulations, health legislation, house territory.

GEOLOGICAL CLASSIFICATION OF NATURAL OBJECTS FOR TAKING INTO ACCOUNT AND ANALYSIS OF CURRENT GEOLOGICAL PROCESSES CHARACTERISTICS

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Basic statements on geoecological monitoring and classification of natural objects are presented. They are to be applied for the research and determination of characteristics of geodynamic stresses caused by current geological processes due to anthropogenic factors. These characteristics determine conditions and efficiency of various fields of human activities. The results of the above mentioned monitoring presented as passports of natural objects and certain territories make up a unique database analogous to cadastral registration systems which are now used for certain natural resources including land resources.

Key words: geoecological monitoring, natural object, parameters, geodynamic stresses, anthropogenic factors.

ECONOMICS AND MANAGEMENT OF NATIONAL ECONOMY

PUBLIC-PRIVATE PARTNERSHIP IN REGIONAL TOURISM

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In modern conditions it is required to intensify the activity of the state and business to improve the state of the economy. One of the priorities in this context becomes a public-private partnership. And the tourism industry is no exception.

The author has made an attempt to form a mechanism to build relations on the basis of cluster approach in public-private partnership where a leading role belongs to the business.

The article gives examples of successful interaction of subjects, participants in the management of tourism and identifies the main problems of the industry. The role of public-

private partnerships is a development of management models for regional tourism. It is shown disadvantages of governance of regional tourism in Russia, including the uncertainty of conditions and mechanisms of state-private partnership.

Key words: public-private partnerships, cluster, regional tourism.

METHODOLOGY AND ORGANIZATION OF SCIENTIFIC RESEARCHES

METHODOLOGICAL ASPECTS OF MANAGERIAL DECISIONS FOR ENGINEERING PROBLEMS

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The problem of using intuitive and quantitative methods is considered. They are to determine the contents of system analysis for planning at the municipal level of managerial decisions. It is important for urban development, with information on the developed territories state being incomplete. The problem is urgent now when innovative decisions are demanded as concerns efficient use of limited land- and other resources.

Key words: system analysis, managerial decision, engineering problem, criterion, objective function, optimization.

SOCIO-HUMANITARIAN RESEARCHES

GERMANNESS AS AN INCARNATION OF ORDER IN RUSSIAN LITERATURE: FROM N. V. GOGOL TO S. CHORNY

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The article deals with a motive of order personified in German characters in the Russian literature of the XIX – early XX centuries. Some variants of the motive are analyzed on the ground of a rather wide corpus of literary texts which includes works by N. V. Gogol, K. Prutkov, I. S. Turgenev, L. N. Tolstoy, F. M. Dostoyevsky, N. S. Leskov, A. P. Chekhov, S. Chorny. Thus, there is a settled tradition of representing Germans, so-called literature character types which personify Russian conceptualization of Germanness. The motive of order is surely one of the significant elements of this concept. German character in the Russian literature acts often as a regulator. What is more, the process of regulation affects both external and inner character's space. This German characters are characters of a static and constant locus according to the Y. M. Lotman's classification.

Key words: Russian literature, imagology, Russianness, Germanness, chronotope, character type, order.

HEROIC DEEDS OF MILITARY TOPOGRAPHERS DURING GREAT PATRIOTIC WAR

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The author presents brief information on the work of military topographers during Great Patriotic war in 1941–1945. Some deeds of officers and soldiers who served in military-topographic and artillery units are described. To win the enemy topographers, cartographers and photointerpreters worked both at the front and the home front at the hazard of their life.

Key words: military-topographic service, military topographers, topographic map, artillery survey.