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ECOTOXICITY OF SURFACE WATERS OF THE SEVERSKY DONETS RIVER BASIN (ROSTOV REGION) BY BIOASSAYS KIT RESULTS

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The article is devoted to the ecotoxicity study of water plots of the small rivers of the Eastern Donbass with various anthropogenic load in the years 2014-2015. Used with four bioassay test objects from among the autotrophs and heterotrophs and eight test parameters. Were revealed differences in the toxicity of surface water in both years of research. The features of the response of test objects and is proposed set of bioassays for obtaining an objective assessment of water toxicity.

Keywords: *bioassays, toxicity, test objects, autotrophs, heterotrophs, estuary, technogenic modified mine waters, surface waters, small rivers.*

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ABOUT THE DISPOSAL OF RADIOACTIVE WASTE FROM NUCLEAR REACTORS IN RUSSIA

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The article is devoted to the basic problem of trouble-free operation of nuclear power plants in Russia - storage and disposal of radioactive waste. Existing methods can handle only 15 % of the total annual nuclear waste produced, while the warehouse filled to 80-90 %. The condition of the many storage facilities are on the verge permissible. It requires special attention the issue of creating sites for the disposal of radioactive waste is not recyclable. Without solving this problem, the radiation contamination of water and soil can turn into an environmental disaster for many regions of the country and become the main cause of collapse of production of nuclear energy.

Keywords: nuclear energy, disposal problem, radiation contamination risks, Rostov region, radioactive waste storage, global energy consumption.

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CHEMICAL AND PHYSICAL CONTAMINATION OF URBAN ECOSYSTEMS BY AUTOMOBILE TRANSPORT

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We study the chemical and physical (noise) pollution of the city of Nalchik. Calculate the concentration of pollutant emissions into the atmosphere of the city by road. The maps of the migration of chemical elements (pollutants) entering the landscapes of the city on road transport. Determine the equivalent sound levels generated by traffic flow on the highways of the city. This article provides recommendations for the protection of the population, residential and public buildings from the traffic noise, which include urban planning, architectural planning, organizational and structural measures.

Keywords: automobile transport, pollutants, urban ecosystems, air pollution, pollution card, noise pollution.

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CADASTRAL ACTIVITIES DATA CAPTURING

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This article discusses and analyzes the domestic and foreign inventory system, characterized by a lack of data about the objects of city infrastructure, they are dominated by data on agricultural lands. It is shown that the majority of land and cadastral registration of information systems created on the basis of digital cadastral maps, while the studied model of information support cadastral registration contain a wide range of information of various kinds, provided spatially-oriented data. It proposes a conceptual model of information support of cadastral, which corresponds to the concept of a unified federal system of property information.

Keywords: read estate, cadastre, mapping, data, information system, registration of real estate.

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BALLOON STUDIES OF NEAR-EARTH SPACE

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The basic directions of geophysical measurements on drifting high-altitude balloons are considered in the article. Indicate the advantages and disadvantages of balloon research. Starts the project balloons "Omega" made it possible to receive the agreed time data on electromagnetic processes at the extreme points of a magnetic line of force. Its continuation and development was the project "SAMBO". These comprehensive studies have to figure out many of the issues relating to the nature and dynamics of the invasion of energetic particles in Earth's upper atmosphere. In addition was the discovery of a two-stage mechanism of acceleration of auroral electrons. Confirmed connection of the horizontal component of the electric field on board the drifting high-altitude balloons with ground-based observations of the vertical component of atmospheric electricity. For the first time registered substorm while on board the balloon and on the Earth's surface.

Keywords: balloon, magnetic and electric fields, ionosphere, pulsation, magnetic storm.

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ASSESSMENT OF ENVIRONMENTAL STATUS OF SOILS OF URBAN AREAS ON THE BASIS OF INDICATORS OF BIOLOGICAL ACTIVITY (FOR EXAMPLE, TAGANROG)

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The article analyzes the ecological condition of Taganrog soils. To do this, it has been selected 84 soil samples of different functional areas of the city. Soil assessment was carried out on the biological parameters: urease activity and catalase, soil respiration, soil cellulolytic activity. The study of biological indicators of soil showed that the soil is characterized mainly by low levels of enzymatic activity and a high degree of CO₂ loss, which indicates considerable potential in self-purification ability of the soils of these zones.

Keywords: urban soil, heavy metals, enzymes, cellulose, urea, urease, catalase, ecological state.

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THE COMPLEX ECOLOGICAL ASSESSMENT

OF THE ROSTOV REGION'S URBAN DISTRICTS

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The problem of complex ecological assessment of highly urbanized areas lies in the variety of original data which do not have a common ground and clear points of contact. The paper proposes a method for complex assessment of the ecological situation in the cities. The analysis of spatial differentiation of level of anthropogenic load in urban districts of the Rostov Region is given. It is reported the distribution level of environmental pollution. According to the proposed method, authors perform a complex assessment of the current environmental situation of cities.

Keywords: *complex ecological assessment, anthropogenic load, environmental pollution, urban districts, ecology of the urbanized areas, Rostov Region.*

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THE IMPACT OF STRATOSPHERIC AND TROPOSPHERIC OZONE IN THE THERMAL BALANCE OF THE PLANET AND THE ATMOSPHERE MOVEMENT

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The paper evaluated the role of stratospheric and tropospheric ozone in the existence of all life on our planet. We study its effect on the heat balance of the Earth and the movement of the atmosphere. This process is of great interest to meteorologists and climate scientists because of the ozone shield presence depend including climatic factors. The authors analyze the causes of the destructive process of ozone, natural and man-made. They offered recommendations for combating ground-level ozone. The article discusses the concept of spatial and temporal distribution of ozone and its variations. It also shows the presence of contradictions when reasoning the causes of the ozone hole.

Keywords: stratospheric ozone, tropospheric ozone, ozone layer, heat balance, anthropogenic impacts, solar activity, ozone holes.

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BOTTOM SEDIMENTS AS A SOURCE OF SECONDARY WATER POLLUTION BY METALS (According to the laboratory experiment)

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The study of migration processes in the system "water - bottom sediments" is especially important for the Eastern Donbas rivers, which were under the influence of the coal industry for many years. The results of an experiment to study the interaction between river waters and sediment by paddling are presented in the article. It is allowed to assess the possibility of secondary metal pollution of Tuzlov basin river waters. It is shown that bottom sediments can be the source of secondary water pollution by compounds of manganese, iron, copper and lithium.

Keywords: *bottom sediment, river waters, metal compounds, secondary pollution, Tuzlov basin.*

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**MONITORING OF THE GROUNDWATER DYNAMICS IN THE EASTERN DONBASS
BY RESULTS OF ELECTRIC PROSPECTING IN BOREHOLES**

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Presented are the results of electrical exploration performed by the method of a charged body in observational wells in the Shakhtinsky coal-mining district of the Eastern Donbas. Cartograms of groundwater flow distribution have been constructed. Monitoring of changes in the hydrogeological conditions in for the semi-annual period has been performed in one of the wells. Conclusion has been done that in the high transformed, little porous rocks of coal-bearing strata the intensity of salinization of groundwater movement occurs quicker and that's why the direction of this movement is recommended to perform by the space-time change of the electric field of the saline halo.

Keywords: observation wells, geoelectric methods, underground water, saline halo, direction, monitoring, fracture.

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