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CONTENT

TRANSPORT AND LOGISTICS POTENTIAL OF THE NORTHERN SEA ROUTE IN THE EURASIAN ECONOMIC SPACE

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The Russian Northern Sea Route, combined with the European and Asia-Pacific sea transport corridors, can form the basis of the «Northern Sea Silk Route». Throughout the history, control over the «basic energy resource» and transport and logistics infrastructure provided competitive advantages in international trade. The formation of a system of bunkering bases with gas motor fuel and its own merchant fleet using LNG will ensure Russia's competitiveness in the international division of labor.

Keywords: Northern Sea Route, Northern Sea Silk Route, basic energy resource, gas fuel.

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THE STATE ECONOMIC POLICY IN THE FIELD OF PUBLIC ACCESS TO EDUCATION IN THE RUSSIAN ARCTIC ZONE'S REGIONS: SEARCHING FOR PRIORITIES

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This article is devoted to the problems of implementing a nationwide state economic policy that ensures the general availability of quality education in the regions of the Russian Arctic zone. Based on the analysis of the evolution of state approaches to the financing of the general education system and the analysis of regional practices of financial support of education, the author proposes possible measures to reduce the negative impact of the territorial factor on the level of accessibility of general education.

Keywords: Financing of education, state economic policy, budget financing, normative per capita financing.

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PREDICTIVE ESTIMATES OF CLIMATE CHANGES IN THE ARCTIC BASED ON THE COMBINED SCENARIO

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The article proposes a combined scenario of climate changes estimates based on the composition of "greenhouse" and "cyclical" effects. With its use, the causes of climate fluctuations in the Arctic were diagnosed. The scenario of its change in the XXI century was clarified and was given the scenario of changing of the Arctic ice cover for the long term. The latter will provide an opportunity to assess the development prospects of the Northern Sea Route.

Keywords: Arctic, Northern sea route, Atlantic, sea ice, forecast, climate changes, greenhouse effect, oscillations.

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CHANGE OF HEAT ADVECTION TO THE BARENTS SEA

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At the present day flux of warm Atlantic waters into the Barents Sea influences on the change in the area of its ice cover. This paper estimates and analyzes the advective heat flux coming through a meridional section along 16.5° E to the basin of the Barents Sea for the period from 1980 to 2015 based on ORAS4 reanalysis data. It was revealed that the Barents Sea entering heat flux is carried out by three jets in the southern, central and northern parts of the section and is 62, 65, and 11 TW respectively, which are provided by water flows of 1.7, 2.1 and 0.5 Sv. A significant increase trend in heat flux occurs in central and northern streams, which is determined by trends in both water temperature and flow rates. The total heat flux into the Barents Sea basin has a significant positive trend with a value of 0.80 TW/year. Estimation of the trend revealed, that the central heat flux increased by 31% over the studied period, the northern heat flux increased most significantly – by 42%, which indicates the core of thermal activity on the sea border transfers to the north.

Keywords: Barents sea, heat advection, atlantic water

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HIGHLIGHTS IN CYTOSKELETON STUDY

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The high risk of tumorogenesis due to migration to the Arctic from mid-latitude environment is one of the serious problems that limits the possibilities for efficient settlement of the Arctic region. One of the therapeutic ways to affect tumors is the cytoskeleton modification of the tumor cells. Therefore, cytoskeleton study is vital for cancer prevention. This paper presents the main highlights in history of the study of cell motility and cytoskeleton.

Index terms: cytoskeleton, cell biology, microtubules, cancerogenesis

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ISSUES OF RADIOECOLOGY OF THE ARCTIC REGION OF RUSSIA

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Information is presented on the main sources of radioactive contamination in the Arctic region of Russia, such as nuclear weapons testing, operation and dismantling of nuclear submarines, radioactive waste disposal in the seas of the Arctic ocean and others. Potentially dangerous objects are analyzed. The complex of the main radioecological problems which require urgent solution is defined. It is concluded that one of the necessary and mandatory components of the successful development of the region is to ensure radiation safety.

Index terms: *The Arctic region of Russia, radiation safety, radioactive waste, spent nuclear fuel, nuclear power plant*

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ISSUES OF LEGISLATION REGULATION OF WASTE MANAGEMENT IN THE ARCTIC REGION OF RUSSIA

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Accumulation of household waste on specialized and unauthorized landfills is an important problem in the Arctic and the Far North. The solid waste disposal system in the country, based on burying (dumping), burning, recycling, does not fully meet the climatic and socio-economic features of the Arctic zone of the Russian Federation. .

The article presents a study of the improvement of legislative measures in the field of solid municipal waste management with respect to the specifics of the northern regions of the country.

Keywords: the Arctic, ecology, waste, pollution, waste management, environmental legislation, international cooperation

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