

Abstracts

Key Aspects of Science in Yamalo-Nenets Autonomous Region

D. Kobylkin

Undoubtedly, the Yamalo-Nenets Autonomous Region (YNAO) becomes a leader of sustainable development of the Russian Arctic. The large-scale and innovative projects concerning the development of unique natural resource fields and development of the infrastructure of their processing and transportation are now embodied in reality at the area of YNAO: the arrangement and commission of the Bovanenkovsky oil and gas condensate fields, production of liquefied gas on Yamal Peninsula, construction of the railroad direction (Northern latitudinal course) and the main oil pipeline (Zapolyarie-Purpe-Samotlor). Going over to the resource-innovative course of development the Yamal introduces projects in the wind energetic, oil and gas chemical production. By forming innovative infrastructure the conditions for the organization of new small and average productions are being created.

Problems of Study and Development of Raw Materials Resource of the Arctic

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The reasonability of modernization and increase of efficiency of mineral resources application in the Arctic zone of the Russian Federation at the expense of competitive clusters formation and the deep complex multicomponent ecologically balanced processing of extracted raw materials with development of strategic materials with a high share of added cost, competitive in the world market is proved in the article

Economical Development of the Arctic and Nuclear Ice-Breaking Fleet of Russia

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The brief overview of economy and prospects of the Russian Arctic development in connection with development of mineral resources is given in the article. There is the analytical review of current condition and prospects of nuclear icebreaking fleet development in Russia. The crucial role of nuclear icebreaking fleet in navigation along the Northern sea route to develop the economy of the Arctic of Russia is also shown.

Marine Economics in the Russian Arctic under Conditions of Current Climate Changes

G. Matishov, S. Dzhenyuk

Present climatic changes in the Russian Arctic are characterized by published and Murmansk Marine Biological Institute (MMBI) own investigation data. The influence of these changes on the marine economics, social and demographical situation is shown. In conditions of uncertainty of climatic forecasts and strengthening of international competition in the Arctic it is necessary to modernize the transport and research infrastructure and to develop the complex system of oceanological and ecological monitoring.

Amphibians with Chassis on Pneumocushion – Key to the Arctic

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The article deals with challenge concerning the transport availability of the Arctic regions as the most difficult and unresolved one. There are results of long-term researches of flying vehicles and construction of transport facilities with chassis on pneumocushion. The use of pneumocushion is the most radical means of ultrahigh passability provision, amphibians and all-the-year-round operation of vehicles, planes, high-speed Ships and ekranoplanes.

The economic potential of application of flying vehicles and transport facilities with chassis on pneumocushion is considered. There is the comparison of domestic developments with foreign ones. There is also a conclusion that Russia reserved main positions in this matter providing the leadership in many directions e.g. passability and stability of chassis on pneumocushion.

Potential economic effect of programs implementation concerning amphibians in short-term prospect is also estimated in the article.

Radioecological Conditions at Novaya Zemlya Archipelago

Yu. Sych, L. Dubinko,

The radioecological effects of nuclear tests at Novaya Zemlya archipelago are considered in the article. The radiation situation of adjacent water areas is estimated and radiation sources are determined.

Exploration of Bottom Relief of the Arctic Basin for Multi-Purpose Programs of the Environmental Safety

G. Naryshkin, D. Petrov

The article deals with the environmental research guidelines of the Arctic basin presented in Project concerning the implementation of “Technologies of the Environmental Development” technological platform. Specificity of research of integrated environmental system of basin from a shelf to abyssal deeps, which dynamics processes are controlled by forms of bottom relief in wide bathymetric range is considered. The optimum alternatives of the solution of environmental problems of the Arctic by results of geomorphologic research of bathymetric data base of national hydrography are also presented in the article.

Explosive Objects at the Bottom of the Arctic Seas – Risk Factor for Economic Activity in Seas

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The availability of the explosive objects at the bottom of the Arctic, first of all, the mine weapons remained after the Great Patriotic War and its influence on navigation and works on the Arctic shelf is considered in the article.

Methodical Approach to the Estimation of Ice Conditions of Navigation and Trends of Change as an Example of the Asian Coast of the Bering Sea

S. Mastrukov

The article deals with the foreign methodical approach to the estimation of ice conditions of navigation. There is the estimation of modern trends of ice conditions change in navigation as an example of the area to the west of the Bering Sea from 1996 till 2011.