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Review of Scientific Publications on the Study of Population Migration in the Russian Arctic

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Abstract. The purpose of the article is to conduct a quantitative and qualitative analysis of Russian-language publications on the topic of population migration in the Arctic zone of Russia. The national bibliographic database of scientific citation hosted on the eLIBRARY.RU platform was used as a source of information. The research methodology is based on the use of structural-semantic analysis of texts in combination with general scientific methods (analysis, generalization and systematization). The time period of 2010–2022 is characterized by an increase in the number of publications on migration issues in the Arctic zone of Russia, which was most clearly manifested during the adoption of Russia’s Arctic strategies. During the period under review, Russian authors prepared about 300 articles on the study of population migration in the Russian Arctic. However, the number of researchers who regularly publish papers on this topic is small. The analysis made it possible to identify an objective list of authors groups (scientific schools) that are leading in terms of the number of publications in this subject area. The main directions of the population migrations study in the Russian Arctic zone are considered according to six key scientific schools, general and special approaches of the authors to the study of Arctic migrations are highlighted. The study results will be useful and interesting to scientists, whose research area is related to population migration, including in the Russian Arctic regions; specialists dealing with social issues of the development of the Arctic territories; postgraduates and students involved in this field.

Keywords: *population migration, the Arctic zone of Russia, publication, migration study*

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Introduction

Unique Arctic territories have always attracted attention of Russian and foreign scientists. Russia, being the largest Arctic state with the longest border in this part of the world, makes an extremely important contribution to the scientific study of the Arctic [1, Pestsov S.K., p. 6]. The

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Arctic as an object of modern research is multifaceted and covers geopolitical, climatic, biological, economic, military and other aspects.

Currently, there is increasing interest in the Arctic, not only from an economic point of view, but also from the perspective of national security. On the other hand, “the Arctic should be looked at not only as a huge storehouse of natural resources and a strategic base, but also as a place of residence for people who will ensure appropriate economic relations” [2, Stepus I.S., Simakova A.V. , p. 117]. Yu.F. Lukin rightly notes that the Arctic is not only “natural resources, oil and gas reserves, transport communications, but first of all, it is people, human, creative and intellectual capital, which are the main resource of the Arctic regions” [3, Lukin Yu. F., p. 4]. The relevance of scientific research in the field of social processes in the Arctic zone of the Russian Federation (hereinafter referred to as AZRF) is beyond doubt and is only intensifying in new socio-economic circumstances. Taking into account the economic and geopolitical significance of the Arctic territories, “it is extremely important for Russia to expand its presence in the Arctic not only with new infrastructure and industrial projects, but also with human resources” [2].

Migration processes have historically played an important role in the formation of the permanent population and social and labor potential of the Russian Arctic. If during the Soviet period of Arctic development the population of the Russian Arctic was replenished due to migration, now migration outflow is the main reason of population decline. Over the past 25 years, the population of the Russian Arctic has decreased by 20%, primarily due to large-scale migration to the central regions of the country [4, Ukhanova A.V., Smirennikova E.V., Voronina L.V., p. 123].

Within the framework of this article, we will focus specifically on migration processes out of the many social aspects of studying the Arctic. Population migration in the Arctic is the subject of scientific research by domestic and foreign authors who devote their works to studying various aspects of the exploration and development of the Arctic. Researchers from various fields of science conduct statistical analysis of migration indicators, sociological studies, forecast migration flows, study patterns and factors contributing to the outflow or influx of various population groups to the Arctic territories.

The aim of the article is to analyze the dynamics of research on the topic of migration processes in the Russian Arctic in the National Bibliographic Database of Science Citation (RSCI), to compile a list of scientific editions that most often publish articles on this topic, as well as a list of scientific teams with the largest number of publications in this subject area. The second part of our review will be devoted to a qualitative analysis and systematization of approaches to the study of migration processes in the Arctic territories in the selected set of publications, as well as to the identification of practices in the field of migration research in the Arctic zone.

The eLIBRARY.RU platform, which is one of the largest Russian-language databases, currently provides wide opportunities for this kind of research. For example, a similar approach to the summarizing analysis of Russian scientific publications on the topic of sustainable development is presented in a collective monograph edited by V.V. Fauser [5].

this array of publications went through several stages of modification. At the first stage, publications from non-core branches of science (migration of birds, fish, mammals in the Arctic) were removed. Next, publications on migration and similar topics that were included in the sample but not related to the Arctic zone of Russia were excluded. At the third stage, the remaining array of publications was expertly verified for compliance with the search topic by checking the title of the article, abstract, keywords, and, in some cases, the text of the publication itself. Structural-semantic analysis was used, as well as various text processing algorithms, including stemming and text lemmatization.

As a result of “clearing” the initial publication array from irrelevant papers, a list of 286 journal articles on the subject of population migration in the regions of the Arctic zone of Russia was formed. It can be noted that 171 articles are directly devoted to the study of population migration in the Arctic territories, while 115 publications consider migration processes more concisely in the context of the peculiarities of socio-economic development of the AZRF, human capital, demographic and personnel problems in the development of the Arctic territories.

Fig. 2 visualizes the number of Russian-language publications on the topic of interest in the database of scientific publications on the eLIBRARY.RU platform in the period from 2010 to 2022. In general, the dynamics of publications shows steady growth. At the same time, two waves can be distinguished, possibly related to increased attention to the Arctic and the adoption of Russia’s Arctic strategies in 2013 and 2020, which led to an increase in the number of publications on the topic of population migration to the Russian Arctic.

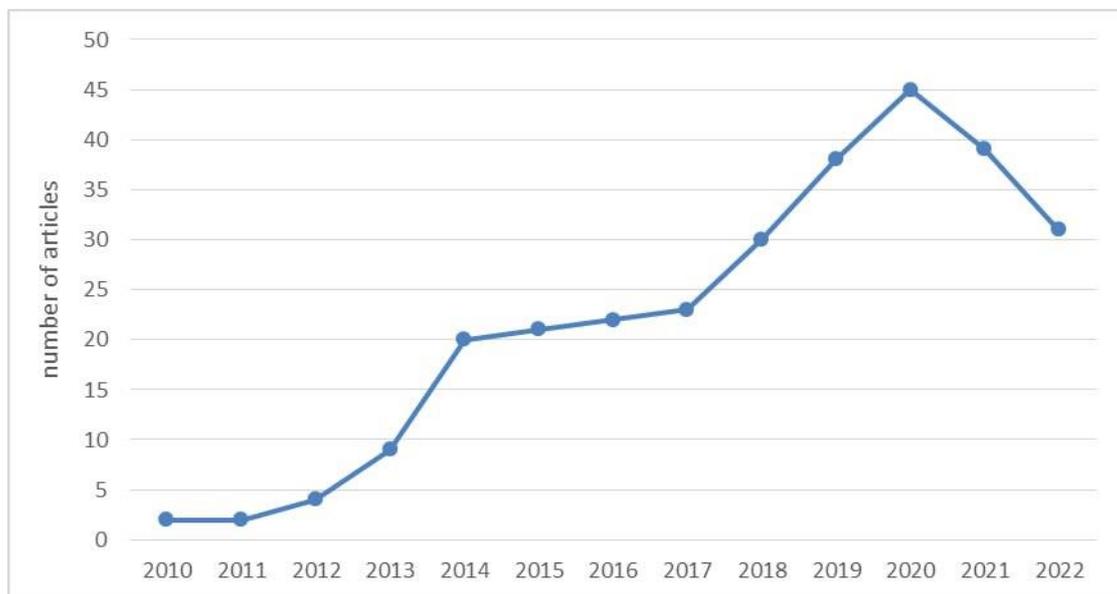


Fig. 2. Dynamics of the number of publications on population migration in the Arctic zone of Russia, 2010–2022. ²

Based on the analysis of publication activity, a list of TOP 5 scientific journals was identified, in which the results of research on migration processes in the Russian Arctic are most often published (Table 1).

² Note: data for 2022 does not claim to be complete, since the collection of publications was carried out in December 2022.

Table 1

List of journals that most frequently publish the results of research on population migration in the Arctic (2010–2022)

Journal title	Number of articles from 2010 to 2022
Arctic and North	26
The North and the Market: Forming the Economic Order	12
Corporate Governance and Innovative Economic Development of the North. Bulletin of Research Center of Corporate Law, Management and Venture Investment of Syktyvkar State University	12
Regional Economics: Theory and Practice	8
Economics and Management: Problems, Solutions	7

The presented list was determined by summing the number of publications that address the topic of population migration in the Arctic for the period from 2010 to 2022. The journal “Arctic and North” is clearly in the lead among the presented publications. The journal publishes articles on economic, sociological and political science, the founder is the Northern (Arctic) Federal University named after M.V. Lomonosov.

Along with the growing number of papers, the range of authors publishing on these topics is also expanding. The authors of the selected 286 articles on the topic of migration processes in the Russian Arctic were 519 Russian scientists. Thus, taking into account the fact of co-authorship, there are on average two authors per article. At the same time, only 20 Russian authors are regular authors (with 5 or more publications), 60 authors have 2–4 publications in this subject area, and for the vast majority (218 authors) such publications are single.

An analysis of the profiles of the authors of articles on migration topics in the Arctic allows us to identify a number of author collectives (scientific schools) that regularly publish on migration topics in the Russian Arctic and are leaders in the number of publications in this subject area. The second part of the article will present an overview of scientific works, revealing the main approaches to the study of population migration in the Arctic regions of Russia.

Population migration in the Russian Arctic in publications of leading research teams

A research team from the *Institute of Socio-Economic and Energy Problems of the North of the Komi Scientific Center of the Ural Branch of the Russian Academy of Sciences* under the leadership of V.V. Fauzer studies migration processes in the context of their influence on population size and the transformation of socio-demographic structures [9], as well as on the processes of population settlement in the Arctic zone of Russia [10]. Using official statistics from Rosstat and population census materials, the authors analyze the dynamics, structure and spatial differentiation of migration processes, as well as the contribution of the migration component to population changes [11; 12]. The publications of the scientific team present not only a statistical analysis of demographic and migration indicators, but also deeply consider theoretical approaches to determining population migration, factors and causes of migration mobility of the population, issues of population settlement in the Russian Arctic, special attention is paid to the historical overview of the de-

velopment of the North and the Arctic through migration processes [13]. When studying migration processes, the authors do not ignore the ethnic component that is special for the North and the Arctic, analyzing the impact of migration on the number and composition of indigenous ethnic groups [14].

The objects of research of this research team are both the northern and Arctic regions of the country, as well as individual settlements located there. The possibilities of such research are significantly expanded by the emergence of new sources of information that are accumulated in the digital environment (data from social networks and other digital platforms). Using digital traces of the population, the authors obtain detailed and timely data on migration processes in urban districts and municipal areas of the Russian Arctic, comprehend and systematize this information, analyze the connectivity of Arctic territories, and build models of migration flows [6; 15].

It is worth noting that the works of this research team are the most highly cited among all selected publications on migration topics in the Russian Arctic, the average number of citations among the articles of the team of authors for 2010–2020 amounted to 25, the most highly cited works were publications [10; 16], having more than 50 citations in the RSCI.

A team of scientists from *the Federal Center for Integrated Arctic Research named after Academician N.P. Laverov of the Ural Branch of the Russian Academy of Sciences* under the leadership of A.G. Shelomentsev used various approaches to analyze migration processes in the Arctic zone of Russia. In their studies, the authors assess the impact of population migration on the socio-economic development of the Arctic territories, employment, socio-demographic structure, using a wide mathematical apparatus: methods of approximation and correlation-regression analysis of statistical data [17], construction of a set of econometric models of migration dynamics based on time series aggregation [18]. The Arctic municipalities of all regions of the Russian Arctic within the boundaries established by the Decree of the President of the Russian Federation are in the field of scientific attention of researchers. The source base of the research is official data from Rosstat, municipal statistics provided by the administrations of municipalities of the Russian Arctic, as well as information posted on their official websites.

Among the qualitative approaches used by the authors in research on Arctic migrations, one can highlight: content analysis of strategic planning documents for the regulation of the migration situation, development of directions for improving state regulation of migration flows in the regions of the Russian Arctic [19], as well as the construction of classification systems of factors of migration of the Russian Arctic population based on an in-depth analysis of scientific literature [20].

Scientists from *the Institute for Economic Studies named after G.P. Luzin of the Federal Research Center "Kola Science Center of the Russian Academy of Sciences"* consider migration processes in the regions of the Russian Arctic through the prism of sustainable balanced development of the Arctic territories and various aspects of the socio-economic systems of the North and the Arctic. A number of recent studies by this scientific team led by T.P. Skufyina is devoted to the

analysis of migration attitudes of Arctic residents, including in the context of the impact of the pension reform of 2018, and is based on a series of representative sociological surveys of the population, including employees of city-forming enterprises in the Arctic regions [21].

Another aspect of migration research in the Russian Arctic is devoted to studying the role of the migration factor in the formation of labor resources and socio-labor potential of the Arctic territories of Russia [22; 23]. Korchak E.A., Ivanova M.V. focus on such causes of migration outflow as difficulties in finding employment, low satisfaction with living conditions, supporting these conclusions not only by statistical analysis of socio-economic indicators, but also by the results of long-term sociological studies of living conditions and quality of life of the population, including young people [24]. The objects of research in most of the works of the scientific team of the Luzin Institute for Economic Studies, dedicated to migration to the Russian Arctic, are regions of the country that are entirely part of the Arctic zone of the Russian Federation. The Murmansk Oblast occupies a special place in the pool of these studies [25; 26].

The topic of migration processes in the Arctic is one of the areas of research by scientists from *the Northern (Arctic) Federal University named after M.V. Lomonosov*. Sokolova F.H. analyses the dynamics of population migration indicators in the Russian Arctic on the basis of census materials and statistical data, based on historical excursions [27]. *Arctic Center for Strategic Studies of the Northern (Arctic) Federal University named after M.V. Lomonosov* conducts monitoring and analytical studies to assess the state of development of the Arctic region, including sociological studies to identify the migration intentions of residents of the Arctic regions, the causes and motives of possible migration [28]. For example, work [29] analyzes the migration attitudes of students of higher education programs with an Arctic focus in the cities of Arkhangelsk, Murmansk, Krasnoyarsk and Yakutsk. The research of A.A. Dregalo and V.I. Ulyanovsky, who adhere to the paradigm of “settling” of the northern and Arctic territories, is devoted to the issues of population migration there. The authors pay special attention to the problems of motivation, social and cultural adaptation of labor migrants, using data from sociological surveys and standardized interviews accumulated over several decades as a source of information [30].

A.N. Pilyasov and N.Y. Zamyatina, founders of *the Institute of Regional Consulting*, a leading research centre in the field of development of the Arctic and northern regions, and employees of *Moscow State University named after M.V. Lomonosov*, study the specifics of settlement and modern arrangement of the Arctic territories, paying attention to the migration factor. Summarizing the best achievements of the Soviet northern studies, foreign works on the frontier and a number of other modern directions in the study of resource territories, the authors set themselves the task of developing a new comprehensive theory of the development of the North and the Arctic [31; 32]. In their research they address both the Russian Arctic as a whole and its individual regions or municipalities.

When studying migration processes in the Arctic regions, N.Yu. Zamyatina relies on such a phenomenon as “social translocal connections”, thanks to which constant and intense migration

flows are maintained between pairs of regions (north–south) [33]. The author’s approach to analyzing the connection between migration processes among young people and the symbolic capital of territories is also interesting [34]. These studies are based on a combination of statistical analysis of migration indicators, the study of migration behavior and motivation using questionnaires and qualitative anthropological methods.

Scientists from *the Institute of Economic Forecasting of the Russian Academy of Sciences* are making a significant contribution to the study of Arctic migrations. The publications of the team of authors under the leadership of A.G. Korovkin assess the intensity, directions, and probability of migration of the population in the regions of the Russian Arctic, and also examine the socio-economic factors influencing this process [35]. Another layer of work by the team is devoted to research of labor migration trends in the context of analyzing indicators of regional labor markets [36]. These studies are based on the author’s methodology of balances of population movement and labor resources; Rosstat data, as well as reported and forecasted balances of labor resources of the regions of the Russian Arctic, serve as the information base for the research. The authors focus on the Arctic regions as a whole, without singling out Arctic parts, presenting the results of calculations for the Asian and European parts of the Russian Arctic.

The table summarizes and systematizes information about the methods that are dominant in the study of migration processes in the Russian Arctic by the above-mentioned research teams.

Table 2

Leading research teams in the field of population migration in the Russian Arctic and the dominant methodologies in the study of migration processes

Organizations whose employees are regular authors of articles on the subject of migration processes in the Arctic Zone of the Russian Federation	Descriptive Analysis of Statistics	Mathematical Modeling	Content Analysis	Surveys	Interview	Review (theoretical, historical, etc.)
Institute of Socio-Economic and Energy Problems of the North, Komi Science Center Ural Branch of Russian Academy of Sciences	✓	✓	✓			✓
N. Laverov Federal Center for Integrated Arctic Research of the Ural Branch of the Russian Academy of Sciences	✓	✓	✓			
Luzin Institute for Economic Studies — Subdivision of the Federal Research Centre “Kola Science Centre of the Russian Academy of Sciences”	✓	✓		✓		✓
Northern (Arctic) Federal University named after M.V. Lomonosov	✓			✓	✓	✓
Institute for Regional Consulting			✓	✓	✓	✓

The Institute of Economic Forecasting of the Russian Academy of Sciences	✓	✓				
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In addition to the works of the above-mentioned research teams, the topic of migration processes in the Russian Arctic is touched upon in the publications of V.V. Markin, A.N. Silin (*Federal Center of Theoretical and Applied Sociology of the Russian Academy of Sciences*), one of the areas of scientific interests of which is related to the human and social potential of the Arctic regions and is expressed in studies of the socio-demographic characteristics of the quantity and quality of people intending to live and (or) work in the Arctic, their professional competencies, health, social trust, etc. [37]. Another direction of the authors' research concerns the study of rotational labor migration characteristic of many Arctic territories [38]. As an empirical basis for research, the authors use statistical data, as well as the results of mass public surveys, focus groups, and expert surveys using proprietary methods.

A number of studies in the field of population migrations in the Russian Arctic, reflected in a large number of scientific publications, are local in nature and are limited to the analysis of these processes in specific Arctic regions. Among such authors we can single out S.A. Suknyova (*Eastern Federal University named after M.K. Ammosov*), who analyzes migration processes in the Republic of Sakha (Yakutia) in the context of their impact on the economic and demographic development of the region and the formation of labor resources [39]. In the works of E.N. Sharova (*Murmansk State Arctic University*), special attention is paid to the study of youth migration in the Murmansk Oblast in the sociological dimension: life strategies and professional and educational attitudes of young people in the conditions of migration outflow of the population are analyzed, as well as the level of regional identity among young people as a factor influencing migration attitudes [40].

Conclusion

The problem of population migration in the Arctic is currently a relevant subject of research and is reflected in the publications of researchers studying various aspects of the development of Arctic territories.

This article analyzes the dynamics of research on population migration in the Russian Arctic in journal publications in the scientific citation database on the eLIBRARY.RU platform. Over the past ten years, research on population migration in the Arctic has been developing, expanding the range of authors and increasing the number of works in this subject area. However, the number of regular authors publishing on this topic is small.

Based on the results of the analysis, we have identified a list of scientific publications that most frequently publish articles on the problems of population migration in the Arctic region. The analysis of the publication activity of the authors of these articles made it possible to identify a circle of regular authors (teams of authors) whose scientific interests are concentrated on the study of population migration in the Arctic regions of the country. Among these authors are scientists of various specializations: economists, sociologists, geographers, demographers, mathemati-

cians, historians, who demonstrate a complex of different methods and approaches to the study of migration processes in the Russian Arctic. The authors of most of the analyzed works agree that the migration outflow of the population from the Arctic regions of the country is a problematic phenomenon that creates a number of objective risks and threats to the implementation of strategic plans for the development of the Arctic macroregion. As basic recommendations for overcoming these threats, the authors propose the formation of an effective population settlement system in combination with the use of a rotational method of labor organization in relation to underdeveloped Arctic territories, as well as a set of measures aimed at improving the quality of life of the population in the Russian Arctic.

It is worth noting that solving the problem of migration outflow requires objective scientific knowledge not only about migration mobility in the Russian Arctic, but also about the patterns of spatial distribution of flows of various social groups against the backdrop of a comprehensive study of the Arctic macroregion. One cannot but agree with the opinion of A.A. Dregalo, V.I. Ulyanovskiy that “modern migration policy in the region should be targeted, specific, focused on various types of migrants, and built taking into account the new paradigm for the development of the North — the settlement of territories” [30]. Of course, each of the social groups (youth, labor migrants, pensioners, rotation workers) influences the economy and social and labor potential of the territory of residence, and it is important to consider and regulate the interests of each group in the light of the prospects of development of the Arctic regions [41, Andreeva Yu.V., Magomedov A.K., Omarov M.A., p. 46]. This determines the field of promising directions for the study of migration processes in the Arctic zone of Russia.

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