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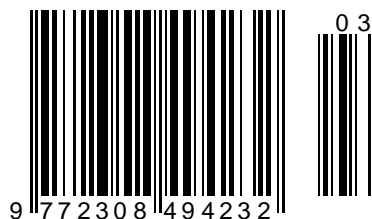
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Article



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STRUCTURAL DEPENDENCE OF NATIVE LANGUAGE AND NATIONAL IDEA IN SELF-AWARENESS

Abstract: *To the article of: "The structural interrelation of native language and national conception in national self-awareness" the problem of mutual structural connection between native language and national idea of every nation, exercising, nation entity, incarnated in native language as important factor, increasing spirit, nation spirituality was elucidated from scientific and theoretical points of view.*

Key words: *native language, state language, national idea, nation, customs, traditions, value, national spirituality, national consciousness, mentality, structural connection, national self, awareness.*

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Introduction

Any nationality – without native language will not exist. Language is the basis and criterion for the existence, living and functioning of a nation. The language of each nation has had a great influence on the perception of the national identity, providing spiritual connections between different generations over the centuries. Through the medium of language, people living in the same region have shaped their way of life, livelihood, traditions, customs and values. Our President Sh.M.Mirziyoev noted, "the mother tongue is a solid foundation of nation spirituality" [1].

The role of the native language in the development of the nation is extremely important. Because in the native language-the spirit of the nation is reflected. As the first president of Uzbekistan Islam Karimov wrote,- "consciousness, expression of national consciousness and thought, spiritual-moral connection between generations is manifested through language. The noble qualities are absorbed into the human soul, first of all, with the unique charm of the mother Alla, mother tongue. Mother tongue is the spirit of the nation"[2].

In the spiritual life of our society, the granting of the status of the state language to the Uzbek language has become of great importance. Our mother tongue, Uzbek, had fallen to the level of the local language by 1989. On October 21, 1989, the passage of the law "On the state language" raised Uzbek from the local language, to the level of the state language. The law "On the state language of the Republic of Uzbekistan" is instrumental in the development of the national consciousness of our people, the realization of the national identity, the rise of the national idea. First of all, each independent country must have a state language. Since the state language is made up of Uzbeks, more than 72% of the indigenous population of this country, the Uzbek language has been given the status of the state language for the fact that this people have long settled in this area and are the owner of rich cultural, spiritual resources. The decree of the first president of the Republic of Uzbekistan Islam Karimov "On the establishment of the Tashkent State University of Uzbek language and Literature named after Alisher Navoi" gives an opportunity for further development of our native language. About this, our

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first president Islam Karimov said that if we call ourselves a real free people, a free nation, first of all, we need to be truly proud of our native language, preserve it as an eyeball, deeply know the history of our language and trends in development, and protect it from the dangers in this regard. "Love for the mother tongue, the tuigus of understanding its incomparable wealth and greatness, is also our consciousness and consciousness, entering our hearts first of all with the works of Navoi. The more we enjoy this priceless legacy of our people, especially our youth, the more powerful spiritual weapons we have in raising our national morale, maturing noble human qualities in our society"[3]. This spirit gives life to our national idea.

Measures not to underestimate the interests and language of other nations living in our country at the same time as the granting of state status to the Uzbek language are taken into account in this law.

It is known that for thousands of years during Central Asia has become a center where incredibly diverse religions, cultures and lifestyles are adjacent and lived peacefully. It has become a tradition to respect the customs, culture, language, lifestyle, religion and values of the various ethnic groups, the rings. Therefore, ethnic patience, tolerance became a necessary natural heritage for survival and development from the vortex of life. This is the basis of our national idea. Even those who conquered these territories did not bow before the culture of the rings of Central Asia, but avidly accepted its most valuable traditions, the traditions of statehood that existed in this area[4]. The equal protection of the rights of all nationalities and elates in Uzbekistan is expressed in the Constitution of the Republic of Uzbekistan: "the Republic of Uzbekistan ensures that the languages, customs and traditions of all nationalities and elates living on its territory are respected, creates conditions for their development"[5].

The culture of any nation, the development of the national culture of the chunonchi Uzbeks is largely associated with the problems of the alphabet. It is known that during the reign of shohra, our Alphabet changed several times: in 1929, instead of the Arabic alphabet, the Latin alphabet was introduced, in 1934 it was partially reformed. From 1940, the Cyrillic script - based Alphabet was switched. At that time, the old Uzbek script was removed from consumption and first introduced Latin and then Cyrillic. By itself, it is known that literacy in the newly introduced writing does not immediately exceed. At the same time, words and phrases such as "Uzbeks are illiterate", "end illiteracy", "halfeducation" were distributed, which were all a deliberate discrediting of the Uzbek people and its spirituality, culture and enlightenment. This should be assessed as the impact of an alarming socio-historical event and phenomena. During the years of former Soviet power, our national spirituality and the notorious kulfat that fell on the head of the Uzbek

language indicate how terrible the dominant communist ideology was. The main goal of this policy was to sink the people's psyche, depriving it of the opportunity to think independently. True, the more languages he knows in addition to his native language for every citizen, this is a great fortune. But, forgetting his own language and adopting a language other than his native language was to turn the people into mangroves. Today, the need and opportunity for accelerated study of foreign languages has increased. Since September 2013, foreign language has been taught to students from the 1st grade of all secondary schools in Uzbekistan. Today, knowledge of a foreign language has reached the status of one of the qualities that everyone strives for. In our opinion, it is good to know a lot of languages, but it should not be at the expense of the native language. It is necessary not to forget that not knowing the native language or forgetting it leads people to alienation from the basis of a national idea from the realization of their identity.

Our first president, Islam Karimov, said in "Uzbekistan is on the verge of independence" that "it is very true that a person who does not know his native language knows his genealogy, a person who does not know his roots, a person who does not have a future, and a person who does not know his language does not know his language."[6]

When we analyze the structural dependence of the native language and the national idea, it is necessary to take into account that in today's ideological struggle there are also a number of problems regarding the indication and enhancement of the capabilities of our national language. For example, it is still a pity that among some layers the Russian language is considered a sign of "culture", that some young people deliberately distort the national language.

By losing language, the genetic code of a nation can also be altered. Scientists Z.Kadyrova, A.Sharipov, E.Karimova correctly wrote, "suppose an individual has mastered the language, customs, value system of another culture, or another paradigm of cognition. Through this, however, one ceases to live in the system of one's own values. In one world of culture and cognition, it is possible to move to the other, but at the same time there is no possibility to live in two different worlds (like one)"[7].

Taking into account this situation, the president of the Republic of Uzbekistan Shavkat Mirziyoyev notes, "to be a real diplomat, it is not enough only knowledge and experience, knowledge of foreign languages, for this it is necessary, first of all, an innate talent. The most important thing is that the diplomat must be a true patriot, a true devotee of his people, of his land.

... But tell yourself, How can an ambassador make Uzbekistan known to the world if a person does not know closely the rich history, culture, national values of the Uzbek people, the troubles of his

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compatriots, does not let them out of his heart? Let's say how to become a real ambassador if cannot say two lines of poems from Alisher Navai, Babur, Abdulla Oripov, Erkin Vohidov, and at worst, if he does not know our native language perfectly?"[8].

At this point, the following views of our first president Islam Karimov are noteworthy. "Any nation, regardless of whether it is older or younger, respects its native language. While Uzbeks respect Uzbek, Tajiks respect Tajik, Kazakh Kazakh, let's say, a representative of another nationality, their language, despite being large or small. But in order to unite all these peoples, the Russian language is an important tool in their harmony, like the members of one family. This language can provide invaluable assistance to the development of peoples united into a single family without underestimating the prestige of the language of any other nation, to move ties between people of different nationalities, to achieve the goals set. ... if a person of Russian nationality knew the Uzbek language, and Uzbek knew the Russian language, and on top of that, if our current youth also knew a third language, would there not be an excellent light on the light?"[9].

In the words of our great enlightened grandfather Abdulla Avloni, "the life of the oyinai, which shows the existence of each nation in the world, is language and literature. To lose the national language is to lose the spirit of the nation"[10]. Continuing these thoughts and seriously warning us of the dangers to our language, he wrote: "We Turkestanis keep the national language on one side, forgetting and losing day by day. The Arabic-Persian is connected to half of our language, and we glue the Russian language to one end of it. Until they get it from your good neighbor, they say, grieve your bad house. The sacred language and literature, which are Etung and broken to our forefathers, are not inferior to us. When we look for our own home, we will also find those lost. It is necessary to keep the language between our mouths, private, as well as to keep the national language"[11] in this regard, the following views of our first president, Islam Karimov, are noteworthy. "And the people will never agree that national identity will disappear"[12]. Such views are also supported by Mahmudhujja Behbudi in his time. In his opinion, "the scientist issued children, first of all a Muslim letter and literate, to be modern ... it is necessary to give the language of our own nation to the regular schools of our government after knowledge" [13].

It is quite appropriate that the right of people of different nationalities living in our country to choose the language of interethnic relations according to their wishes is established in Article 3 of the law "On the state language" in the new edition of the Republic of Uzbekistan "citizens have the right to choose the language of interethnic relations according to their wishes"[14].

It is especially noteworthy that the state language is becoming an active means of communication even internationally. In particular, we are all proud of the growing role and importance of the Uzbek language in meetings and conversations with leaders of foreign countries, negotiations, signing of relevant documents, prestigious summits, official press conferences.

In this regard, the fact that the Uzbek language also began to be widely used in fields that require special terms and concepts such as computer and the Internet, exact sciences, medicine, economics indicates how great its capabilities are. Also, special attention is paid to the further development of the native language and its role and role in ensuring the spiritual perfection of society, raising the psyche of peoples, nations.

Based on the analysis of the above points, the following conclusions can be made:

First, language is an important base of the national idea. The nation traces its national – cultural heritage, customs, traditions in various forms (written, oral, conversational, communicative, argumentative v.h.) transmitted from generation to generation, embodied in the national idea. It passes the tests of the period and serves social progress.

Secondly, through language, the psyche of the nation, features inherent in it is embodied. Diversity in the psyche of different nations and peoples is manifested through its language. In the world, the role of peoples, nations, their balance, the ability to manifest themselves and be able to reach are also determined by the degree to which their language has become a means of circulation.

Thirdly, in the national idea of peoples and nations, the knowledge of not only the native language, the languages of other peoples and nations, serves to make it more rich and perfect for the realization of the national identity of a particular nation. In the national idea, only one native language cannot be limited.

Fourth, the feeling of belonging to a national idea is a phenomenon associated with the perception, feeling of belonging to a particular nation, respect for national-cultural values, it has a transformative, renewing character. It is natural that this is also influenced by many factors, views on spiritual life, socio-economic life changes, the universal level of the nation, the worldview, life goals and interests.

Fifth, the realization of the national and universal essence of the national idea of people is objective in nature. But, in the life of different peoples, nations, it is manifested to different degrees. The fact that peoples or nations have a deep sense of national identity through their native language and come to confess to it remains a determining and guaranteeing factor for the native language in the perception of national identity. The existence of a nation is

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embodied in its national idea through the language of its spiritual being.

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Article



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CLOTHING NAMES AS THE LINGUISTIC OBJECTS

Abstract: In this article, the views of several world linguists about "clothing" are given, the stages of historical development of clothing names, and several clothing names from the beginning of their usage in linguistics until now are discussed.

Key words: collection of words, specific system, individuality, clothing, factor, marital status, roman style, trousers, codpiece, jeans, saree, apron, ballet costume, gender.

Language: English

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Introduction

It is known that the vocabulary of a language is not just a collection of words. It is also a specific system. Therefore, the description of the lexicon as a system requires significant linguistic research. Including clothing names, they contribute to enriching the vocabulary of the language.

Clothing is a factor that shows the individuality of its owner. It can provide information about a person's marital status, gender, age, as well as professional affiliation to a certain socio-economic group. In addition to expressing the state of mind, clothes can serve to reveal some part of each person's personality, his habits, tastes, intentions, attitudes and views. It is also used to assess the social status of the owner in society - whether he has nobility or not. [1]

Clothing reveals not only the listed universal indicators, but also secondary characteristics of social organization (for example, the clothes of a smith, a medical worker, a fireman, a military officer, etc.). It should be noted that clothes can be used not only for their own purpose, but also as a sign of prestige.

Any clothes reflect time, society, human habits and psychology. The semantics of clothing names is such that it reflects the marital side of people's lives, helps to determine national-specific cultural relations, and understand the associative thinking of the language community.

Clothing has not only a magical, but also a sacred symbolism that has a psychophysiological basis. "Outwardly, looking at the world, clothing primarily reflects social values; and the inward turn to the body is continuous in its attributes such as the magical power of the naked body and hair, human temperature and physiological functions. It appears as a mediator, passing from the inner to the outer, physiology and physical - to culture and sociality. Religious and magical ideas with their important ritual function are most strongly expressed in folk clothes. Clothing served as a protective cover for a person in every sense. Exactly like the visible ones, the holes in it had to be protected from hostile invisible forces, so protective signs were installed on the edges of the clothes.

In the 14th century, the development of clothing was influenced to some extent by styles in architecture and visual arts. For example, in Western Europe in the 10th-12th centuries, Roman style was reflected in the clothing style, that is, there was a tradition of a long dress and a veil thrown over the shoulders; In the 12th-15th centuries, they wore short and narrow clothes made in Gothic style. As a result of the mass production of clothes from the second half of the 19th century, new fashionable clothes became widespread even among the lower classes. [2]

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At the same time as learning a foreign language, a person "absorbs" a new culture and receives information collected by many generations and stored in the language. It is impossible to fully master the skills of communication in a certain language without comprehensively studying the culture of the people who are learning the language. [3]

V.I. Dahl defines clothing as: "everything that a person wears, whether it is a dress, a garment, or a hat, gloves, and shoes is clothes." [4]

In "The Oxford English Dictionary" "clothes - covering for the person; wearing apparel, dress, garment, vesture" [5]

Russian scientist E.G.Mikhaylovna said that everyday vocabulary and in particular the names of clothes have become the object of study several times in different fields, but these names are mainly mentioned that it is a development within the variants of the language. [6]

Clothing is a collection of material that covers the body to protect a person from the negative effects of the environment. The word "Clothes" was actively used in Russia in the XI-XVII centuries, and later, from 1704, it was replaced by Slavic-style clothing in the church, which was written in dictionaries. The word "clothes" together with the Old Russian clothes, ascended to the Proto-Slavic word, meaning "something worn around (the body)" [7] Clothing, by its essence, includes three types: 1. utilitarian

2. informative
3. sacred.

Clothing and its linguistic expression have a long history in Russian linguistics. Researchers traditionally distinguish the Old Russian stage of the activity of the clothing complex, in which the thematic group "clothing decorations" was established; 15th century - mid-17th century, traditions in clothing, wealth and grandeur, the emergence of urban fashion and the use of vocabulary units established in speech to indicate clothes and jewelry described as a period. [8] They contributed to the study of the local features of clothing nominations in different regions of Russia. In Russian linguistics, some names of uniforms and special clothes (royal and spiritual people military workers) were also studied. [9]

In the book which is called "Dictionary of the Russian language"

S.I. Ojegov gives the following definition about clothing: "a set of objects that cover, clothe the body: especially in winter." [10]

Any clothes reflect time, society, human habits and psychology. The semantics of clothing names is such that it reflects the material side of people's lives, helps to determine national-specific cultural relations, and to understand the associative thinking of the language community.

There has always been an interest in clothing names as research. In the 17th century, the German linguist Kircher in his book "A new invention for

reducing all the languages of the world to one" tried to compile a "table of basic concepts independent of language images" [11] here he showed 54 categories. He referred to divine, angelic and celestial beings, animals, plants, minerals, as well as clothes.

Clothing is a component of material and spiritual culture of society. On the one hand, as a product of human labor, it has a certain material value and satisfies certain needs, on the other hand, it is also an example of practical and decorative art. Like architectural structures, tools of work and life, clothes also provide information about a certain historical period, natural climatic conditions of the country, national characteristics of the people and their perception of beauty.

Clothing is a regulator of social behavior, a specific set of rules and guidelines for choosing clothing, interior design, food, musical compositions, and sometimes the direction of behavior in society. To explain the mechanism of influence of the institution of clothing on the consumer, let's turn to the works of clothing theorists who study this phenomenon in various fields of knowledge. Sociologists use several approaches to study this phenomenon: some consider clothing as an interpenetration of communication and innovation, while others focus on clothing as a source of social stratification; a number of researchers consider clothing as a collective behavior. [12]

French linguist Louis Alzusser in his article "Sur le phenomenon actuel de la Mode" talks about the ideological nature of clothing and its multi-functionality in social life: for example, "clothing is a part of ideology. We dress not only to protect our body from bad weather, but also to appear in clothes suitable for a certain profession and thus take a proper place in the division of labor. [13]

Analysis of Subject Matters

Trousers also spelled *trousers*, also called *pants* or *slacks*, an outer [garment](#) covering the lower half of the body from the waist to the ankles and divided into sections to cover each leg separately. In attempting to define trousers, historians often explain that if any portion of a garment passed between the legs, it was an ancestor of this garment. Thus defined, trousers can be traced to ancient times and were especially common among equestrian peoples such as the [Scythians](#) and [Mongols](#). Until the end of the 18th century, [bifurcated](#) European garments took forms such as breeches, knickerbockers, and pantaloons. By 1820 trousers as they are known today had come into general use among men. Since then they have been the basic style of dress for men, varying from the narrow cut to the extremely wide Oxford bags of 1924. [14] Within Western society, trousers were long regarded as masculine apparel. Although 19th-century dress reformers tried to introduce trousers for women (known as [bloomers](#)), the style was rejected as too radical. It was only in the 20th century that it was

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deemed [appropriate](#) for women to wear trousers-first for sport, then for casual attire, and finally for business and formal wear.

An *apron* is a piece of clothing that you put on over the front of your normal clothes and tie round your waist, [especially](#) when you are cooking, in order to prevent your clothes from [getting dirty](#), mistaken division (as if *an apron*) of earlier *a napron*, from Old French *naperon* a little cloth, from *nape* cloth, from

Latin *mappa* napkin by faulty separation of *a napron* < ME *napron* < OFr *naperon* < *nape*, a cloth < L *mappa*, napkin. [15]

Codpiece, pouchlike addition to men's long hose, located at the crotch, popular in [Europe](#) in the 15th and 16th centuries. It came into fashion with hose that were like tights and continued to be worn with breeches. [16]



Pic.1.

An earlier, narrower form of codpiece, worn with a belt or a [loincloth](#), was the basic fashion for men in the Aegean area during the [Bronze Age](#). The codpiece did not reemerge in Europe as a significant component of men's [dress](#) until the 15th century. Before then, European men's fashions were relatively open at the groin area, which was covered by the [tunic](#) or [doublet](#). The codpiece was created to address this issue as men's hemlines rose during the 15th century. Originally simply a wedge-shaped bag of fabric tied at the sides, codpieces became increasingly padded and enlarged in order to [emphasize](#) the male genitalia. They were also sometimes used as purses in which small items such as money and handkerchiefs were stored. In the early

and mid-16th century the codpiece was padded, prominent, and decorated, even with jewels, but by the end of the century it was mocked and thought indecent. After the pouch had disappeared, the name continued to be used into the 18th century for the front fastening of breeches. From the late 20th century codpieces were also worn by a number of [heavy metal](#) musicians known for their theatrical stage acts, including [Gene Simmons](#) of the band Kiss and [Alice Cooper](#).

Ballet costume, [clothing](#) designed to allow dancers freedom of movement while at the same time [enhancing](#) the visual effect of dance movements—for example, the ballerina's [tutu](#), a multilayered skirt that creates an impression of light flight.[17]



Pic.2.

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In the earliest ballets of the 17th century, dancers traditionally wore heeled shoes.

Men wore the costume *à la Romaine*, or *tonnelet*, a stiff, wired skirt of brocade or similar material, resembling in shape the modern tutu. Women wore heavy costumes reminiscent of court dress, with elaborate trains, and wigs and jewels. Male and sometimes female dancers wore leather [masks](#), comic or tragic in appearance, that represented the character portrayed and concealed all facial expression. In the early 18th century the dancer [Marie Camargo](#) shortened her skirts to midcalf length, invented heelless dance slippers, and wore close-fitting drawers to [facilitate](#) and exhibit her mastery of intricate dance steps. Also in the early 18th century, [Marie Sallé](#) danced in a simple muslin robe, with her hair loose and flowing, and abandoned the leather mask; she thus anticipated the reforms of [Jean-Georges Noverre](#), who, some 25 years later, succeeded in eliminating the [mask](#) and harmonizing every detail of costume with the whole production.

By the late 18th century, ballet costume had undergone sweeping reforms. The panniers (overskirts draped over an existing skirt to add volume) and hoop skirts [abhorred](#) by Noverre were finally discarded in favour of clinging tunics inspired by Grecian robes. Among other [innovations](#) were the invention of tights in 1790, which allowed the freedom of movement to develop new steps, and the introduction of shoes with blocked toes about 1820, enabling female dancers to dance on point.

[Jeans](#), also called [Blue Jeans](#), [Dungarees](#), [Denims](#), or [Levi's](#), [trousers](#) originally designed in the [United States](#) by [Levi Strauss](#) in the mid-19th century as durable work [clothes](#), with the seams and other points of stress reinforced with small [copper](#) rivets. They were eventually adopted by workmen throughout the United States and then

worldwide. Jeans are particularly identified as a standard item of "Western" apparel worn by the American cowboys. After the mid-20th century, various [adaptations](#) became internationally a characteristic part of clothing for both men and women. [18]

[Sari](#), also spelled [saree](#), principal outer [garment](#) of women of the [Indian subcontinent](#), consisting of a piece of often brightly coloured, frequently embroidered, [silk](#), [cotton](#), or, in recent years, [synthetic](#) cloth five to seven yards long. It is worn wrapped around the body with the end left hanging or used over the head as a hood. Sculptured reliefs from the 2nd century BC show men and women with unclothed upper bodies wearing the sari wrapped around their hips and drawn between the legs in such a fashion as to form a series of folds down the front. There was no major change in the costume until the 12th century, when the Muslims conquered north and central [India](#) and insisted that the body be covered. Hindu women wear the sari over a short blouse and a [petticoat](#) into which it is folded and tucked at the waist to form a long skirt.

Analysis and results

In conclusion, I believe that clothing names have a special place in linguistics, just as each term has a special place in the lexicon. During the study of the names of clothes, the assumptions about "clothes" of scientists from different countries are important. In the context of the rapidly developing globalization and the expansion of relations between representatives of different peoples, while studying their culture, language and customs, at the same time regarding their clothes. I believe that learning names is also important. As we can see, clothes are not only objects, but also images that communicate with us in a more complex and subtle language than most other objects.

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Article



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THE MAIN TRENDS IN THE SPATIAL DEVELOPMENT OF TERRITORIES INCLUDED IN THE ARCTIC ZONE OF THE RUSSIAN FEDERATION. MESSAGE 2

Abstract: *in the article, the object of research is the State Program of the Russian Federation "The main trends in the spatial development of territories included in the Arctic zone of the Russian Federation" for the period up to 2035 as an expression of the policy of the Federal Center pursued in relation to the regions. The subject of the study are the elements of the above program, which, in conflict with regional specifics, hinder the achievement of the goals set in government documents. The analysis of the conducted research is the formation of an understanding of how the regions of the Arctic zone should be taken into account when formulating federal policy aimed at their socio-economic development. In order to achieve this goal, it is necessary to solve a number of tasks, namely:*

*a) analyze the State Program, highlighting the main goals and methods for achieving the goals;
b) identify the specific features of the regions that impede the achievement of the goals set;
c) to propose specific ways to include the regional specifics of these regions in the model of the federal policy of the Arctic zone of the Russian Federation.*

Key words: *priority, technical regulation, certification, standardization, financial condition, profitability, profit, demand, preferences, relevance, competitiveness, social and economic well-being of the regions of the Arctic zone.*

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Introduction

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The global trends in spatial development at the beginning of the 21st century are the concentration of the population and the economy in the largest forms of settlement, among which the leading positions are occupied by the largest urban agglomerations.

About 40 large urban agglomerations and largest urban agglomerations have formed in the Russian Federation, in most of which the population has been steadily increasing since the early 2000s and, at present, has exceeded 73 million people.

Several large centers of economic growth have been formed in the Russian Federation, each of which provides more than one percent of the total increase in the gross regional product of the constituent entities of the Russian Federation. They include 19 large urban agglomerations and the largest urban agglomerations, as well as 4 mineral resource centers located in the Republic of Sakha (Yakutia), the Sakhalin Region, the Yamalo-Nenets Autonomous Okrug, the Khanty-Mansiysk Autonomous Okrug - Yugra.

In the constituent entities of the Russian Federation, centers of economic growth of a smaller scale have been formed, which are the administrative centers of the constituent entities of the Russian Federation, as well as individual urban settlements, agro-industrial and mineral resource centers and territories specializing in tourism. Against the background of the growing demographic burden on the able-bodied population and increasing migration mobility, the population is stabilizing in most subjects of the Russian Federation.

Over the past 10 years, there has been a gradual reduction in the migration outflow from Eastern Siberia and the northern regions of the European part of the Russian Federation, from the Far East.

There is a steady decline in the population of cities with a population of less than 100 thousand people, as well as rural areas, with the exception of most of the southern regions of the European part of the Russian Federation and territories and settlements that are part of large urban agglomerations and the largest urban agglomerations.

Reduction of inter-regional socio-economic disparities In the Russian Federation over the past 10 years as a result of the ongoing state policy regional development there is a reduction in inter-regional socio-economic disproportions.

The spatial organization of the economy of the Russian Federation, starting from the 1990s, is being transformed under the influence of changing factors in the location of the economy, the conditions of international trade, and scientific and technological development. The most significant changes in the spatial organization of the economy are:

accelerated development of the production of consumer goods in the central regions of the European part of the Russian Federation and subjects of the Russian Federation with access to the Baltic and Black Seas;

concentration of scientific, scientific, technical and innovative activities in large urban agglomerations and the largest urban agglomerations;

the shift of production facilities for the production of hydrocarbon raw materials to the underdeveloped territories of Eastern Siberia and the Far East and the offshore waters of the Far Eastern and Arctic basins;

concentration of agricultural production in areas with the most favorable agro-climatic and soil conditions and an advantageous position in relation to capacious consumer markets.

There are sections with limited capacity on the main railways and roads that form the international transport corridors "West-East" and "North-South":

on sections of federal highways in the central, southern and northwestern regions of the European part of the Russian Federation, in the Volga region, in the Urals, in the southern regions of Siberia and the Far East;

on separate sections of the Trans-Siberian and Baikal-Amur railways;

at the entrances to major seaports, major transport hubs and international checkpoints on the state border of the Russian Federation.

The low rates of development of the network of high-speed and high-speed traffic remain, hindering the realization of the transit potential of the Russian Federation and increasing the speed of movement between large urban agglomerations and the largest urban agglomerations and administrative centers of the constituent entities of the Russian Federation.

There are still transport and energy restrictions that prevent an increase in the scale of the economic development of the Arctic, as well as an increase in the importance of the Northern Sea Route as an international transport corridor.

A high level of centralization of air passenger traffic remains due to the insufficient development of large hub airports. In remote and hard-to-reach areas of the Far East and in the Arctic zone of the Russian Federation, a significant number of airports and airfields remain in critical operational condition.

Main part

The strengthening of the influence of scientific and technological progress on the spatial development of the Russian Federation is provoked by a significant improvement in the results of scientific research.

Remote forms of labor activity are actively spreading and the spatial availability of services is increasing due to the introduction of information and telecommunication technologies.

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Today, the main problems of the spatial development of the Russian Federation are:

high level of inter-regional socio-economic inequality;

insufficient number of economic growth centers to ensure the acceleration of the economic growth of the Russian Federation;

an increase in the demographic burden on the able-bodied population in most constituent entities of the Russian Federation, the threat of a deterioration in the demographic situation due to a decrease in the birth rate and a decrease in the migration influx of the population from neighboring countries;

a significant lag of inter-regional and intra-regional migration mobility of the population from the average values characteristic of developed countries, which leads to problems in regional and intra-regional labor markets;

a significant lag in key socio-economic indicators from the average Russian level of some of the constituent entities of the Russian Federation of geostrategic importance, including a number of constituent entities of the Russian Federation located in the Far East, from which a significant migration outflow of the population continues;

significant intra-regional differences in the level of socio-economic development, including the lag in the standard of living of a significant part of the population of rural areas from the standard of living of urban residents;

low level of comfort of the urban environment in most cities, including most large urban agglomerations and the largest urban agglomerations;

a high share of low-productivity and low-tech industries in the structure of the economies of the subjects of the AZ of the Russian Federation;

low level of entrepreneurial activity in most small and medium-sized cities, in rural areas outside large urban agglomerations and the largest urban agglomerations;

discrepancy between the current level of development of the main transport infrastructure to the needs of the economy and the population of the constituent entities of the Russian Federation and the country as a whole, the presence of infrastructural restrictions of federal significance on the backbone transport network and in the energy sector, low transport connectivity of economic growth centers among themselves and with other territories, insufficient level of integration of various modes of transport and unrealized transit potential of the Russian Federation;

unrealized potential of interregional and intermunicipal cooperation;

unbalanced spatial development of large urban agglomerations and the largest urban agglomerations;

unsatisfactory state of the environment in most cities with a population of more than 500 thousand people and industrial cities, lack of green resources,

fragmentation and violation of its integrity in these cities, continued accumulation and low level of processing and disposal of municipal solid waste, preservation of the unsatisfactory ecological state of river basins Amur, Volga and Ob, as well as transboundary rivers in the Asian part of the Russian Federation, degradation of some unique natural ecosystems of Altai, the Arctic, the Baikal basin, the Caspian basin, the Crimean peninsula and the North Caucasus;

the negative impact of global climate change, including the thawing of permafrost and an increase in the number of dangerous hydrometeorological phenomena, on the socio-economic development of the territories of the Russian Federation.

The purpose of the spatial development of the Russian Federation is to ensure sustainable and balanced spatial development of the Russian Federation, aimed at reducing interregional differences in the level and quality of life of the population, accelerating economic growth and technological development, as well as ensuring the national security of the country.

To achieve the goal of the spatial development of the Russian Federation, it is necessary to solve the following tasks:

elimination of infrastructural restrictions of federal significance and increasing the availability and quality of the main transport, energy, information and telecommunications infrastructure;

reduction in the level of interregional differentiation in the socio-economic development of the constituent entities of the Russian Federation, as well as a decrease in intra-regional socio-economic differences:

by increasing the sustainability of the settlement system through the socio-economic development of cities and rural areas;

by increasing the competitiveness of the economies of the constituent entities of the Russian Federation by providing conditions for the development of the production of goods and services in the sectors of promising economic specializations of the constituent entities of the Russian Federation;

by improving the territorial organization of the provision of services to social sectors;

by strengthening inter-regional cooperation and coordinating the socio-economic development of the subjects of the Russian Federation within the macro-regions of the Russian Federation;

due to the formation and development of mineral resource centers;

ensuring the expansion of geography and the acceleration of economic growth, scientific, technological and innovative development of the Russian Federation through the socio-economic development of promising centers of economic growth;

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ensuring the national security of the Russian Federation through the socio-economic development of the geostrategic territories of the Russian Federation, including through outstripping the average Russian pace of socio-economic development of the constituent entities of the Russian Federation located in the Far East, and ensuring a sustainable increase in the number of resident population in the specified macro-region.

The strategy is aimed at ensuring coordinated actions of federal executive authorities, state authorities of the constituent entities of the Russian Federation, local governments, natural monopoly entities to implement the priorities of the spatial development of the Russian Federation.

The priorities for the spatial development of the Russian Federation until 2035 are:

priority development of territories with a low level of socio-economic development, which have their own potential for economic growth, as well as territories with a low population density and a predictable increase in economic potential;

development of promising centers of economic growth with an increase in their number and maximum dispersal throughout the territory of the Russian Federation;

social arrangement of territories with low population density with insufficient own potential for economic growth.

Principles of Spatial Development of the Russian Federation are:

ensuring the territorial integrity, unity of the legal and economic space of the AZ of the Russian Federation;

ensuring equal opportunities for the exercise of the constitutional rights and freedoms of citizens of the Russian Federation throughout the territory of the AZ of the Russian Federation;

a differentiated approach to the directions and measures of state support for the socio-economic development of territories, taking into account the demographic situation, the characteristics of the settlement system, the level and dynamics of economic development and specific natural conditions;

an integrated approach to the socio-economic development of territories;

promoting the development of interregional and intermunicipal cooperation;

taking into account the ethno-cultural factor in ensuring the socio-economic development of the constituent entities of the Russian Federation;

ensuring guarantees of the rights of indigenous peoples, including support for their economic, social and cultural development, protection of their original habitat and traditional nature management and lifestyle;

rational nature management, preservation of natural and historical and cultural heritage, ensuring access to natural and cultural values;

taking into account the interests and opinions of the population and business when planning the socio-economic development of territories.

In addition, the main directions of the spatial development of the Russian Federation are:

elimination of infrastructural restrictions of federal significance and increasing the availability and quality of the main transport, energy, information and telecommunications infrastructure;

reduction in the level of interregional differentiation in the socio-economic development of the constituent entities of the Russian Federation and a decrease in intra-regional socio-economic differences;

ensuring the expansion of geography and acceleration of economic growth, scientific, technological and innovative development of the AZ of the Russian Federation due to the socio-economic development of promising large centers of economic growth of the AZ of the Russian Federation - large urban agglomerations and largest urban agglomerations;

ensuring the national security of the Arctic Zone of the Russian Federation through the socio-economic development of the geostrategic territories of the Russian Federation.

The basis for ensuring sustainable transport links between the constituent entities of the Russian Federation, promising centers of economic growth, as well as for foreign economic relations is the backbone transport network of the Russian Federation - a set of main lines of communication and transport hubs.

The principles and directions for improving the core transport network and its coordinated development with the transport infrastructure of regional and municipal significance are determined in sectoral strategic planning documents, taking into account the provisions of the Strategy.

To ensure the elimination of infrastructural restrictions of federal significance and increase the availability and quality of the main transport, energy and information and telecommunications infrastructure, it is proposed:

develop the main transport infrastructure by:
development of international transport corridors "West-East" and "North-South" to ensure the effective entry of Russian enterprises and organizations to foreign markets, increase the volume of transit of goods between Asia and Europe through the territory of the AZ of the Russian Federation, increase the export of transport services with the involvement of promising large centers economic growth and centers of economic growth of the subjects of the AZ of the Russian Federation:

due to the priority development of high-speed transport communications, including the construction

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of sections of high-speed highways Moscow - Kazan and Yekaterinburg - Chelyabinsk, the Europe - Western China road route, the railway and road routes of the North - South corridor, which, among other things, provides transport connection of Iran and India, as well as other countries of the Caspian region, Western and South Asia, with the countries of Europe through the territory of the AZ of the Russian Federation;

by increasing the throughput capacity of the Baikal-Amur and Trans-Siberian railways, as well as by eliminating sections with limited throughput on cargo-loaded sections of railways, including approaches to key seaports of the Azov-Black Sea, Baltic, Far Eastern, Arctic and Caspian basins;

by increasing the capacity of the seaports of the Russian Federation, including the ports of the Azov-Black Sea, Baltic, Far Eastern, Arctic and Caspian basins;

by ensuring the functioning and growth of the traffic of the Northern Sea Route as a full-fledged international transport corridor, including the development of the icebreaker fleet;

by eliminating logistical restrictions in the export of goods using rail, road and sea transport and the construction (modernization) of checkpoints across the state border of the AZ of the Russian Federation;

due to the growth in volumes and reduction in the time of transportation of containers, including transit, by rail, in particular from the Far East to the western borders of the Russian Federation up to 7 days;

by creating a network of nodal cargo multimodal transport and logistics centers, organizing scheduled cargo routes and high-speed routes between them;

increasing the level of economic connectivity of the territory of the Russian Federation through the expansion and modernization of the railway, aviation, road, sea and river infrastructure;

through the development of transport communications between promising large centers of economic growth and promising centers of economic growth of the constituent entities of the Russian Federation, including the construction of city bypasses and the organization of high-speed road and rail links between large urban agglomerations and the largest urban agglomerations;

due to the integrated development of large transport hubs, located, among other things, within or near promising large centers of economic growth, and the coordinated formation and development of terminal and logistics facilities near them;

through the formation of international hub airports, the creation and development of hub airports in large urban agglomerations and the largest urban agglomerations, the reconstruction of the infrastructure of regional airports and the expansion of

the network of interregional regular passenger aviation routes, bypassing Moscow;

by increasing the capacity of inland waterways, developing the Unified Deep Water System of the European part of the Russian Federation, aimed at partial unloading of roads and railways in directions where cargo can be transported by inland water transport;

by providing sustainable year-round transport links between sparsely populated and island territories of the Arctic zone, the Far East, isolated from the unified transport system of the Russian Federation, with the administrative centers of the relevant constituent entities of the Russian Federation and other constituent entities of the Russian Federation, including through the reconstruction and construction of airfields and local airports importance in sparsely populated geostrategic territories of the Russian Federation;

by ensuring coordinated planning for the development of all types of transport and transport infrastructure in the territories of the subjects of the AZ of the Russian Federation;

develop energy infrastructure by:

organization of guaranteed provision of the territories of the Russian Federation with affordable electricity:

through the modernization and expansion of the main infrastructure with priority provision of promising large centers of economic growth and large mineral resource centers;

through the electrification of transport corridors in conjunction with the development of transport infrastructure, as well as through the provision of electricity to large projects in the field of pipeline transport in Siberia and the Far East;

through the development of centralized energy systems, including stimulating the modernization of the generating capacities of thermal, nuclear and hydroelectric power plants;

by ensuring sustainable energy supply to consumers located in the geostrategic territories of the Russian Federation, primarily the Republic of Crimea, the city of Sevastopol, the Kaliningrad region, as well as the constituent entities of the Russian Federation located in the Far East, including through the connection of the Western and Central energy regions of the Republic of Sakha (Yakutia) to the Unified Energy System of the Russian Federation;

by promoting the development of distributed generation, including based on renewable energy sources, primarily in remote and hard-to-reach areas with the necessary natural conditions and resources;

by promoting the introduction of smart grid management systems based on digital technologies;

by stimulating accelerated development and the introduction of energy-saving and energy-efficient technologies, primarily in the Arctic zone of the

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Russian Federation and in the Far North and equivalent areas;

ensuring the expansion, modernization and optimization of the capacities of the Unified Gas Supply System, taking into account the need to create new export routes and further gasification of the constituent entities of the Russian Federation, the creation of gas transmission infrastructure in Eastern Siberia and the Far East with the possibility of its integration into the Unified Gas Supply System, including the implementation of a comprehensive project for development of the gas transportation infrastructure "Power of Siberia", development of infrastructure for the use of liquefied natural gas in the domestic market and its export;

ensure the expansion and modernization of the system of main oil pipelines and oil product pipelines, taking into account the need to ensure exports and the development of oil refining and petrochemical industries on the territory of the Russian Federation, including an increase in the throughput capacity of the Eastern Siberia - Pacific Ocean - I pipeline system and the Eastern Siberia - Pacific pipeline system Ocean - II";

develop information and telecommunication infrastructure by:

eliminating the "digital divide" of the constituent entities of the Russian Federation by creating an information and telecommunications infrastructure to ensure high-speed data transmission available to the population of the Russian Federation;

increasing the information and telecommunications connectivity of the territory of the Russian Federation through the widespread use of satellite communication systems in remote and hard-to-reach areas and ensuring the availability of communication services, including services providing high-speed data transmission, for the population of such areas;

ensuring the creation of a communication infrastructure for wireless data transmission on federal highways and railways, which are primarily included in the West-East and North-South transport corridors;

promoting the creation of modern communication networks and the introduction of narrow-band access for the collection and transmission of telemetry information in all major urban agglomerations and the largest urban agglomerations;

development of a network of centers for storage and processing of large data arrays (data centers) in territories with a significant electricity surplus, the availability of the necessary capacity of information and telecommunications infrastructure, special natural and climatic conditions (low average annual temperatures) and promoting the export of data processing and storage services.

To ensure the reduction of the level of interregional differentiation in the socio-economic

development of the constituent entities of the Russian Federation and the reduction of intra-regional socio-economic differences, it is proposed:

increase the sustainability of the settlement system through the socio-economic development of cities by:

ensuring the improvement of the quality and comfort of the urban environment through the overhaul of the housing stock, resettlement from dilapidated and dilapidated housing, modernization of communal infrastructure, development and improvement of public (public) spaces, restoration and adaptation of cultural heritage sites for modern use;

development of public transport, including lines of high-speed off-street modes of transport, suburban communication, and optimization of the route network;

ensuring a balanced development of urban areas, including through the development of abandoned and inefficiently used territories, the coordinated and integrated development of built-up and planned areas for development;

improving the state of the environment, preserving and developing the green fund of cities and suburban areas, stimulating the introduction of innovative and environmentally friendly technologies aimed at reducing the negative impact on the environment, expanding the use of environmentally friendly transport to serve the population and sectors of the economy, implementing measures to protect against noise pollution, development of a system for efficient handling of production and consumption waste, including the development of the waste treatment and disposal industry;

implementation of additional areas of socio-economic development of cities characterized by a special status of mono-profile municipalities of the Russian Federation (mono-industrial towns), historical settlements and science cities:

through the preservation and restoration of historical and cultural monuments and historically valuable city-forming objects in historical settlements;

through the development of a research and production complex in science cities and the formation of a favorable environment, including for attracting highly qualified personnel;

by diversifying the economy of mono-profile municipalities of the Russian Federation (single-industry towns) that have the potential for socio-economic development, or by optimizing housing and communal services, the system for providing services to social sectors, and ensuring labor mobility of the population;

increase the stability of the settlement system through the socio-economic development of rural areas, taking into account the population density, the different nature of the development and use of such

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territories, natural conditions, remoteness from large cities, by:

improving the living conditions of residents of rural settlements, including by ensuring a steady reduction in the share of uninhabitable housing stock, increasing the level of improvement of rural settlements, providing communal infrastructure, including central water supply and sanitation, gas and energy supply;

promoting the development of small and medium-sized cities and large rural settlements as inter-municipal service centers for rural areas, providing the population and entrepreneurs with various types of services (social sectors, service maintenance of agricultural machinery and equipment, information and consulting services, services in the field of storage and processing of local agricultural raw materials and other services);

increasing the transport accessibility of rural areas to the nearest inter-municipal service centers through the development and bringing the network of regional and local roads to a standard state, stimulating the development of public transport;

increasing the competitiveness of the economy of rural areas, which are, among other things, promising agro-industrial centers, by promoting unique local brands, promoting the development of consumer, credit and other forms of cooperation, farming, increasing the availability of agricultural markets for small and medium-sized producers, supporting the development of specialized infrastructure storage of agricultural products, introduction of technologies and equipment for deep processing of agricultural raw materials, assistance in the development of land reclamation facilities, involvement in agricultural circulation of unused lands and arable lands in rural areas suitable for efficient agriculture;

promoting the diversification of employment and expanding support for initiatives of the population in the field of entrepreneurship, including those not related to agriculture;

support for activities aimed at preserving and increasing the fertility of agricultural lands, restoring forests and aquatic biological resources;

preservation of natural and cultural heritage, as well as promoting the preservation, revival and development of folk arts and crafts;

promoting the development of tourism and supporting infrastructure (transport, energy, utilities, engineering protection facilities) in rural areas and promoting their tourism resources in the domestic and international tourism markets;

ensure the improvement of the territorial organization of the provision of services to social sectors (health, education, culture, physical culture and sports, social services) by:

ensuring optimal accessibility for the population of services from social sectors that do not require

narrow competencies and specialized high-tech equipment and premises, through the use of a differentiated approach:

in areas with high population density and good transport accessibility - the provision of the entire range of services to social sectors;

in sparsely populated territories - the development of exit (mobile) forms of services in the field of culture, health and social services;

planning a network of outpatient clinics, feldsher and feldsher-obstetric stations in settlements with a population of 100 to 2 thousand people, taking into account the demographic forecast and transport accessibility to large settlements, in settlements with a population of less than 100 people (providing primary health care -sanitary care) taking into account the use of mobile medical complexes, as well as using telemedicine technologies;

ensuring optimal accessibility of medical care to the population within the constituent entities of the Russian Federation by forming a 3-level system for organizing the provision of medical care, taking into account the specified differentiated approach, including:

the first level - medical organizations that provide the population of the municipality on whose territory they are located, primary health care, and (or) palliative care, and (or) ambulance, including emergency specialized, medical care, and (or) specialized (except for high-tech) medical care;

the second level - medical organizations that have departments and (or) centers in their structure, providing mainly specialized (with the exception of high-tech) medical care to the population of several municipalities in a wide range of medical care profiles, as well as palliative care, and (or) dispensaries (anti-tuberculosis, neuropsychiatric, narcological and others);

the third level - medical organizations that have subdivisions in their structure that provide specialized, including high-tech medical care;

formation and development in each subject of the Russian Federation of intermunicipal (interdistrict) centers for the provision of services and support for the activities of social sectors (methodological, informational and personnel support);

increase the competitiveness of the economies of the constituent entities of the Russian Federation by realizing the competitive advantages of the constituent entities of the Russian Federation and individual territories through the development, including in the promising centers of economic growth of the constituent entities of the Russian Federation, provided for in Appendix No. 3 to the Strategy, of promising economic specializations of the constituent entities of the Russian Federation, the list of which is formed in accordance with the All-Russian Classifier of Economic Activities OK 029-2014

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(NACE Rev. 2) and provided for in Appendix No. 1 to the Strategy, which include both effective existing and potentially effective branches of economic specialization, and which are defined in the Strategy based on a combination within the constituent entities of the Russian Federation of spatial factors of economic location (number and density of population, quality of human capital, transport and geographical location, infrastructure provision, climatic conditions, natural resource potential and other factors);

ensure the formation and development of mineral resource centers by:

facilitating the creation and development of transport, energy and other infrastructure that ensures the formation of mineral resource centers, within which lie large and unique reserves of highly liquid and (or) scarce minerals, domestic consumption of which is largely provided by imports, and there is also a long-term global and (or) domestic demand for the relevant type of mineral;

formation of minimum standards for receiving services from social sectors for citizens engaged in labor activities on a rotational basis in mineral resource centers;

stimulating the reduction of the negative consequences of technogenic impact on the environment, especially in areas of traditional nature management of indigenous peoples;

ensure the strengthening of interregional cooperation and coordination of the socio-economic development of the constituent entities of the Russian Federation within the framework of macro-regions, the main principles for distinguishing which are the neighboring position of the constituent entities of the Russian Federation, similar natural, climatic and socio-economic conditions for life and economic activity, the presence of sustainable passenger traffic within the macro-region from the constituent entities of the Russian Federation to large urban agglomerations and the largest urban agglomerations, the presence (or the need to create) large interregional facilities of social sectors of federal significance, contributing to an increase in the availability and quality of services to the population living within the macroregion, significant potential for interregional cooperation in the framework of the implementation of promising economic specializations of the constituent entities of the Russian Federation and the completion of value chains within macroregions, including for the implementation of large interregional investment projects, the availability (the need to create) objects of transport, energy, information and telecommunications infrastructure, ensuring the strengthening of economic connectivity of the subjects of the Russian Federation included in the macroregion, as well as access to international markets and (or) transport corridors "West-East" and "North-South", and within which the coordination of the socio-economic development of the subjects of the

Russian Federation included in them can be carried out, including:

when developing strategies for the socio-economic development of the constituent entities of the Russian Federation;

when planning the development of transport and energy infrastructure, optimizing the placement of objects of social sectors;

in the development of industries of promising economic specializations of the constituent entities of the Russian Federation that are part of the macroregion, in order to prevent duplication of investment projects;

when planning and implementing large interregional investment projects;

when creating territories (investment sites) with a special regime for doing business;

ensure the improvement of the state of the environment, the conservation and restoration of the biological diversity of the Russian Federation, cultural landscapes and the reduction of the negative consequences of climate change by:

creation of new specially protected natural territories of different status on land and water surfaces, where natural complexes and objects of special environmental, scientific, cultural, aesthetic, recreational and health significance are located in order to form and develop a system of ecologically interconnected natural territories (especially protected natural territories, forest and swamp ecosystems, ecosystems of river valleys that do not have a protected status, green areas of settlements);

development of a network of historical and cultural reserves, contributing to the preservation of the ethno-cultural identity of the peoples of the Russian Federation and unique cultural landscapes;

environmental rehabilitation of water bodies, including the Volga River, and conservation of unique water systems, including Lake Baikal and Lake Teletskoye;

improvement of systems for monitoring and forecasting dangerous hydrometeorological phenomena (hurricanes, hail, mudflows, floods, droughts, natural fires, tsunamis and other dangerous hydrometeorological phenomena), including the development of a ground-based hydrometeorological network and the expansion of the use of remote monitoring and forecasting methods and technologies.

To ensure the expansion of geography and acceleration of economic growth, scientific, technological and innovative development of the AZ of the Russian Federation through the socio-economic development of promising large centers of economic growth of the Russian Federation - large urban agglomerations and the largest urban agglomerations, it is proposed:

ensure the acceleration of economic, scientific, technological and innovative development of these territories:

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through priority support for high-tech and knowledge-intensive sectors of the production of goods, services, creative (creative) industries;

by facilitating cooperation between scientific institutions and educational organizations of higher education with business, including as a result of the formation of at least 15 world-class scientific and educational centers that unite the leading educational institutions of higher education in the Russian Federation and scientific institutions, scientific centers (including mathematical and genomic), competence centers of the National Technology Initiative, as well as innovative scientific and technological centers, creation and development of advanced research and innovation infrastructure at world-class scientific and educational centers and innovative scientific and technological centers (including unique scientific installations of the "megascience" class);

develop social sectors:

by planning the development of a network of organizations of social sectors within large urban agglomerations and largest urban agglomerations, taking into account the transport accessibility of the services of these industries, the forecast of the population and labor resources of settlements that are part of large urban agglomerations and largest urban agglomerations;

through the creation and development in large urban agglomerations and the largest urban agglomerations of interregional centers for the provision of services to social sectors of federal significance through:

formation and development of multidisciplinary medical centers for specialized and high-tech medical care, including national medical research centers that carry out research and educational activities, the development and implementation of innovative medical technologies, the export of medical services, the provision of high-tech medical care;

development of leading educational organizations of higher education and use of their potential in the provision of services in the field of innovative development of large urban agglomerations and the largest urban agglomerations;

creation of interregional competence centers on the basis of leading professional educational organizations;

creation of large interregional centers for identifying, supporting and developing the abilities and talents of children and youth;

improve the quality and comfort of the urban environment:

through the development of the rental housing market, the implementation of social recruitment programs;

through infrastructural support for the implementation of renovation projects for existing urban residential areas;

by facilitating the withdrawal of large industrial enterprises from the central parts of cities, which are primarily major sources of air pollution, and the development of new functions in these territories;

through coordinated planning and development of green spaces, which form, among other things, recreational areas of large urban agglomerations and major urban agglomerations;

ensure the removal of the main transport restrictions on socio-economic development:

through joint planning of the development of transport infrastructure, traffic and transport services to the population by municipalities that are part of large urban agglomerations and major urban agglomerations;

through the creation of transport hubs and the use of effective parking policy tools;

through the construction of city bypasses for the withdrawal of transit transport;

by expanding the radius within a 2-hour transport accessibility to major cities of large urban agglomerations and the largest urban agglomerations through the construction of highways, lines of high-speed off-street modes of transport, high-speed suburban transport;

through the introduction of intelligent transport systems;

introduce information and telecommunication technologies, platform solutions and intelligent systems for managing urban infrastructure ("smart city");

ensure a balanced spatial development of territories that are part of large urban agglomerations and major urban agglomerations by promoting inter-municipal cooperation in order to form strategic planning documents, form a unified urban policy, and solve common socio-economic problems, including infrastructure and environmental ones.

To ensure the national security of the AZ of the Russian Federation through the socio-economic development of the geostrategic territories of the Russian Federation, it is proposed:

ensure the strengthening of cross-border cooperation between the border regions of the Russian Federation and neighboring countries:

by stimulating cooperation between the border regions of the Russian Federation and neighboring countries, aimed at reducing unequal interaction in terms of exports of raw materials and low value-added products from the border regions of the Russian Federation and imports of finished products;

by reducing the time it takes for goods and passengers to pass through border checkpoints;

by stimulating the development of small and medium-sized businesses participating in cross-border cooperation;

by promoting interregional cooperation with the border regions of neighboring countries in the scientific, technical, social, environmental spheres,

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tourism, labor market regulation, infrastructure development, emergency prevention, elimination of the consequences of catastrophes and natural disasters, the fight against epidemics and the elimination of their consequences;

by promoting interregional coordination in the field of strategic and territorial planning of border regions of the Russian Federation and municipalities with border regions of neighboring countries;

to ensure the socio-economic development of the priority geostrategic territories of the Russian Federation, the general directions of the socio-economic development of which are:

assistance in increasing the competitiveness of regional economies, taking into account the promising economic specializations of the constituent entities of the Russian Federation, centers of economic growth, international markets and the existing specialization of border areas of neighboring countries;

development of social sectors at a rate higher than the average Russian indicators;

expanding the practice of using the existing and creating a new dual-purpose infrastructure.

The main directions of socio-economic development of the constituent entities of the Russian Federation, which belong to the priority geostrategic territories of the Russian Federation, characterized by an exclave position, are:

ensuring transport, energy and information and telecommunications security;

ensuring a standard of living comparable (or higher) with the standard of living in the Russian Federation (for the Kaliningrad region - comparable (or higher) with the standard of living in the border countries of the European Union);

ensuring economic growth rates comparable (or higher) with the economic growth rates of the Russian Federation (for the Kaliningrad region - comparable (or higher) with the economic growth rates in the border countries of the European Union);

preservation of existing special regimes for doing business.

The main directions of socio-economic development of the constituent entities of the Russian Federation, related to the priority geostrategic territories of the Russian Federation, located in the North Caucasus, are:

increasing the availability of quality education at all levels of the educational process, including through the construction and reconstruction of objects of general educational organizations and the creation of new places in general educational institutions;

assistance in increasing the mobility of labor resources in order to reduce tension in local labor markets by stimulating the attraction of labor resources to the constituent entities of the Russian Federation, which are a priority for attracting labor resources;

creation of a management system in the field of tourism in the North-Eastern macroregion;

improvement of existing and creation of new development institutions, including special regimes for doing business;

assistance in the identification, preservation and development of traditional folk crafts;

promoting an increase in passenger and cargo turnover through seaports and international checkpoints across the state border of the Russian Federation, located in the constituent entities of the Russian Federation with access to the Caspian Basin, through the expansion of interstate socio-economic cooperation with countries included in the international transport corridor "North - South" ", as well as the development of appropriate port infrastructure, railway and road approaches to seaports;

improving the efficiency of energy supply to consumers in the constituent entities of the Russian Federation located in the North Caucasus, including through the modernization of gas and electricity supply networks;

elimination of problems in the field of security of the population living in areas subject to a high risk of natural emergencies.

The main directions of socio-economic development of priority geostrategic territories of the Russian Federation located within the Arctic zone of the Russian Federation are:

infrastructure support for the development of mineral resource centers;

modernization and development of seaports that ensure the operation of the Northern Sea Route;

promoting the socio-economic development of settlements that are strategically important for the development of the Northern Sea Route and the economic development of the Arctic.

The main directions of the priority socio-economic development of the subjects of the Russian Federation, related to the priority geostrategic territories of the Russian Federation, located in the Far East, are:

promotion of socio-economic development of Vladivostok as a center of international economic cooperation with the countries of the Asia-Pacific region;

creation of conditions and incentives for reducing the migration outflow of the permanent population and attracting specialists from other subjects of the Russian Federation to territories experiencing a shortage of labor resources;

creation of new and development of existing territories of priority social and economic development, improvement of the mechanisms of state support for entrepreneurial activity established by the legislation of the Russian Federation on the free port of Vladivostok and the special economic zone in the Magadan region;

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creation on Russky Island of an innovative scientific and technological center, a technology park, a unique megascience class scientific installation, engineering departments of state corporations and interested organizations implementing investment projects in the Far Eastern macroregion, as well as research and development centers;

improvement of the mechanism of social development of economic growth centers;

improvement of the mechanism of state infrastructure support for investment projects aimed at advancing the socio-economic development of the Far East;

extension of the mechanism for equalizing prices (tariffs) for electricity to the average Russian level for individual consumers of electricity in the Far East macroregion;

implementation of a mechanism for long-term regulation of tariffs (prices) for electricity supply, gas supply, water supply and sanitation in the constituent entities of the Russian Federation that are part of the Far East macroregion;

creation of infrastructure for the development of territories with a compact location of land plots provided to citizens of the Russian Federation for free use, taking into account the peculiarities established by the legislation of the Russian Federation for providing citizens with land plots that are in state or municipal ownership and located on the territories of the constituent entities of the Russian Federation that are part of the Far East macroregion. The implementation of the Strategy is carried out in one stage.

The Strategy provides for 2 scenarios for the spatial development of the Russian Federation - inertial and priority (target).

The scenarios take into account the parameters of the demographic forecast for the Russian Federation until 2035, including for the constituent entities of the Russian Federation and municipalities, the forecast for the scientific and technological development of the Russian Federation for the period up to 2035, and the forecast for the socio-economic development of the Russian Federation for 2022-2025.

The inertial scenario of the spatial development of the Russian Federation assumes the preservation of current trends in the development of the settlement system and the economy, provided that the planned measures are not implemented and the mechanisms for sustainable and balanced spatial development of the Russian Federation are not implemented.

The priority (target) scenario for the spatial development of the Russian Federation assumes a decrease in differences between the subjects of the Russian Federation in terms of the main socio-economic indicators.

Bringing the network of regional and local roads to a standard state will increase the transport

accessibility of small and medium-sized cities, rural areas, which will contribute, among other things, to an increase in the economic connectivity of these cities and territories with centers of economic growth. The development of transport infrastructure in the geostrategic territories of the AZ of the Russian Federation will ensure sustainable year-round transportation of such territories with the rest of the Russian Federation, and will also contribute to the activation of the socio-economic development of the geostrategic territories of the Russian Federation, including cross-border interaction.

Increasing the transport connectivity of economic growth centers will help accelerate the economic development of the territories within which transport infrastructure facilities will be located to ensure the specified connectivity.

Increasing the throughput capacity on transport routes, increasing the speed of cargo transportation, as well as developing the container transportation market will create conditions for the outstripping growth of exports and the realization of the transit potential of the Russian Federation. By 2025, the volume of transportation of export goods carried out by all modes of transport, with the exception of pipelines, will increase by more than 30 percent. As a result, the weight of non-commodity non-energy goods in total export traffic (excluding goods transported through pipelines) will increase from 39 percent to 50 percent by 2025.

Implementation of measures for the socio-economic development of territories, increasing the availability of services from social sectors, including through the development of modern methods of providing services, improving transport accessibility and positive changes in the territorial organization of the provision of social services, as well as increasing the connectivity of economic growth centers with small and medium-sized cities, rural areas located outside large urban agglomerations and major urban agglomerations will contribute to the preservation and development of human capital.

As a result of the formation of new centers of economic growth in the constituent entities of the Russian Federation, by 2035 conditions will be provided for expanding the geography of economic growth, which will make it possible to find additional resources for the socio-economic development of the geostrategic territories of the Russian Federation, as well as small and medium-sized cities and rural areas.

The main mechanism for implementing the Strategy is its implementation plan, which is approved by the Government of the Russian Federation (hereinafter referred to as the Strategy implementation plan).

In order to coordinate, control and monitor the implementation of the Strategy, the federal executive body responsible for the development of state policy and legal regulation in the field of socio-economic

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development of the constituent entities of the Russian Federation and municipalities is empowered to:

to coordinate and control the activities of subjects of natural monopolies, state corporations, state companies and joint-stock companies with state participation in the integrated socio-economic development of territories;

on methodological support of spatial development;

to ensure the development of statistical tools for monitoring and evaluating the implementation of the Strategy, including at the municipal level;

to generalize and promote the best practices for the implementation of territorial development projects;

on the formation and maintenance of the functioning on a permanent basis of the center for analysis and monitoring of spatial development.

Infrastructural support for the socio-economic development of the territories is carried out as part of the implementation of a comprehensive plan for the modernization and expansion of the main infrastructure for the period up to 2035, approved by Decree of the Government of the Russian Federation dated September 30, 2018 No. 2101-r (hereinafter referred to as the comprehensive plan), and national projects of the Russian Federation.

The procedure for selecting projects proposed for inclusion in the comprehensive plan should take into account the parameters of long-term and medium-term forecasts of the socio-economic development of the Russian Federation, including in terms of sectoral and regional forecasts, forecasts of passenger and cargo flows along the transport network of the Russian Federation, the results of the analysis of social and economic effects from the implementation of each project.

In order to ensure synchronization in time and space of the construction or modernization of the main transport infrastructure with the construction or modernization of transport infrastructure facilities of regional and local significance, the Government of the Russian Federation determines the appropriate authorized federal executive body and the procedure for coordinating the activities of state authorities of the constituent entities of the Russian Federation and local governments for approval (adjustment) by the subjects of the Russian Federation of comprehensive plans for the development of infrastructure of regional importance.

For the purpose of mandatory inclusion of the activities of the comprehensive plan and comprehensive plans for the development of the infrastructure of the subjects of the Russian Federation in the investment programs of subjects of natural monopolies, the Government of the Russian Federation is developing a procedure for agreeing and approving investment programs (plans) of subjects of natural monopolies, which, among other things,

provides for participation in such approval by the executive authorities of the subjects Russian Federation.

The implementation of the Strategy will require the interested federal executive authorities to clarify the procedures for planning the placement of new or modernization of existing facilities in social sectors, meaning taking into account the parameters of the demographic forecast of the Russian Federation for macro-regions, constituent entities of the Russian Federation and municipalities, forecasting the balance of labor resources, the level of employment of the population and employment patterns by types of economic activity, as well as the needs of the population for relevant services, transport accessibility of facilities, the availability of qualified personnel and related infrastructure.

In order to implement the national tasks defined in the Strategy, interested federal executive authorities may develop long-term plans for the socio-economic development of certain territories, including constituent entities of the Russian Federation, their parts and cities. Priority areas for the socio-economic development of such territories are determined in the relevant strategies for socio-economic development.

In relation to urban areas, priority areas of socio-economic development are determined taking into account the urban development index (an integral assessment of the quality of human capital, the state of the economy and the comfort of the urban environment).

The composition of measures for long-term plans for the socio-economic development of cities is differentiated depending on the presence of a special status (single-profile municipality (single-industry city), science city, historical settlement), population and the role of the city in the settlement system. On the proposal of the state authorities of the constituent entities of the Russian Federation and local governments, the plans may include activities carried out by them within their own powers for the integrated development of the respective territories.

The implementation of the Strategy involves the development and approval of the state program of the Russian Federation in the field of integrated development of rural areas.

As part of the implementation of the Strategy, it is also planned to develop and approve a set of measures to attract the population to territories with significant economic potential, characterized by an unfavorable demographic situation, by stimulating internal and external migration, taking into account the parameters of the demographic forecast of the Russian Federation, including for the constituent entities of the Russian Federation and municipal entities, and labor force balances:

through organizational and financial support for the social and welfare arrangements of citizens, including the provision of tax benefits, as well as

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through the accelerated development of the market for affordable rental housing;

by facilitating the voluntary resettlement of compatriots living abroad.

The stimulation of the development of promising economic specializations of the constituent entities of the Russian Federation, provided for by the Strategy, will be carried out through:

creation of a new mechanism for the development of territories (investment sites) with a special regime for doing business, taking into account the promising specializations of the constituent entities of the Russian Federation and other features of the territories;

development and approval of the procedure for the implementation of priority investment projects, which includes, among other things, requirements for the composition and content of agreements on the implementation of such projects, the rights and obligations of project participants;

conducting an inventory of sectoral rules for granting subsidies and other targeted transfers from the federal budget to the budgets of the constituent entities of the Russian Federation and (or) economic entities for federal state support of economic sectors and introducing changes to them in terms of the mandatory consideration of promising economic specializations of the constituent entities of the Russian Federation and parameters of the demographic forecast of the Russian Federation for the subjects of the Russian Federation and municipalities;

development and approval of a methodology for assessing the effectiveness of tax incentives provided to product manufacturers in accordance with the promising economic specializations of the constituent entities of the Russian Federation, for regional and local taxes, as well as federal taxes in the part credited to regional and local budgets for the purpose of their accounting when provided from the federal budget subsidies to equalize the level of budgetary security of the constituent entities of the Russian Federation;

taking into account by federal government bodies in the implementation of state support for the sectors of the economy of each specific subject of the Russian Federation, promising economic specializations of the constituent entities of the Russian Federation bordering it and (or) included in the same macro-region with it in order to avoid duplication of state support measures;

development and approval of methodological recommendations for determining by the subjects of the Russian Federation the priorities for the innovative development of industries with promising economic specializations ("smart specialization").

The implementation of the Strategy will require the development and approval of strategies for the socio-economic development of macroregions, as well as plans for their implementation in the form of analytical programs for the territorial development of macroregions, which should ensure synchronization in time and space of the implementation of activities provided for by sectoral strategic planning documents of the Russian Federation, state programs of the Russian Federation, territorial planning schemes of the Russian Federation, investment programs for the development of subjects of natural monopolies.

The strategy provides for the development (adjustment) of mechanisms for the socio-economic development of the geostrategic territories of the Russian Federation through:

development and approval of a set of measures to stimulate cross-border cooperation between the border regions of the Russian Federation and neighboring countries;

improving the mechanism for implementing state programs for the socio-economic development of priority geostrategic territories of the Russian Federation, developing and approving a national program for the development of the Far East for the period up to 2025 and for the future up to 2035;

inclusion in national and federal projects (programs), state programs of the Russian Federation, plans and programs for the development of companies with state participation of sections on the socio-economic development of priority geostrategic territories of the Russian Federation, including the priority socio-economic development of the Far East;

subsidizing air transport organizations in order to ensure the availability of air transportation to passengers living in the Kaliningrad region, the Far Eastern macroregion, the Arctic zone of the Russian Federation, on routes from these territories to other territories of the Russian Federation and in the opposite direction, as well as on routes within the boundaries of the Far Eastern macroregion, to passengers from other territories of the Russian Federation to the Republic of Crimea and the city of Sevastopol and in the opposite direction, to passengers residing in remote and hard-to-reach territories, on routes within the constituent entities of the Russian Federation.

The provisions of the Strategy are taken into account when developing and amending national and federal projects (programs) of the Russian Federation.

The main directions of development of the territories that are part of the Arctic zone or provide its study and development.

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Figure 1. Map of the Murmansk region

The main directions of development of the Murmansk region are:

a) the comprehensive development of the seaport of Murmansk as the only non-freezing Russian port in the Arctic, including the development of the Murmansk transport hub as a multimodal transport hub, the construction of new terminals and transshipment complexes;

b) the comprehensive development of closed administrative-territorial formations and settlements of the Murmansk region with the deployment of 19 military formations, including the development of infrastructure and dual-use facilities;

c) formation and development of a marine economic service complex, including ship repair, ship supply, bunkering of ships, development of coastal project support bases to provide competitive services to companies engaged in navigation along the Northern Sea Transport Corridor and / or implementation of projects in the Arctic zone;

d) creation and development of a center for the construction of large-capacity offshore facilities for the production, storage and shipment of liquefied natural gas, as well as enterprises for the repair and maintenance of marine machinery and equipment used for the development of offshore hydrocarbon deposits;

e) geological study of the mineral resource base of the Kola Peninsula, formation of new and development of existing mineral resource centers specializing in the extraction and enrichment of phosphorus-containing raw materials, apatite, iron, copper-nickel, loparite, perovskite-titanomagnetite, platinum-metal, platinum-palladium, eudialyte and chromium ores, rare metal pegmatites, gold, lithium and other minerals;

f) development of energy infrastructure, including the modernization of inefficient fuel oil heat generation by switching to other types of energy resources;

g) development of airport complexes in the Murmansk region, including the international airport of Murmansk;

h) formation and development of a scientific and educational center on the basis of the Kola Scientific Center of the Russian Academy of Science, the Polar Research Institute of Marine Fisheries and Oceanography, the Murmansk State Technical University, the Murmansk Arctic State University, the Murmansk Marine Biological Institute, the North-West Scientific Center for Hygiene and Public health and other scientific and scientific-educational organizations of the Murmansk region and the Russian Federation;

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i) development of congress, exhibition and business infrastructure in Murmansk to realize the competitive advantages of the Russian Federation in the field of international cooperation and business tourism in the Arctic;

j) development of a fishery complex focused on the preservation and development of the resource potential of the fisheries and the implementation of measures for technical re-equipment, including the construction of ships, and the commissioning of new capacities for the deep processing of aquatic biological resources on a modern technological and organizational basis, as well as the development of aquaculture;

k) development of tourist and recreational clusters, including in the territories of the city of Kirovsk (“Khibiny”), the village of Teriberka (“Kolsky”), Tersky (“Belomorje”), Pechenga (“Liinakhamari Port”) and Kovdorsky districts.

The Government of the Russian Federation, by its order, provided for a strategy for spatial developmentMurmansk region the same until 2035, namely: a promising economic specialization, including the following industries:

- mining;
- metallurgical production; production of other finished products;
- production of other vehicles and equipment;
- production of chemicals and chemical products;
- fishing and fish farming;
- activities in the field of information and communication;
- transportation and storage;
- tourism - activities of hotels and public catering establishments, administrative activities and related additional services (activities of travel agencies and other organizations providing services in the field of tourism).

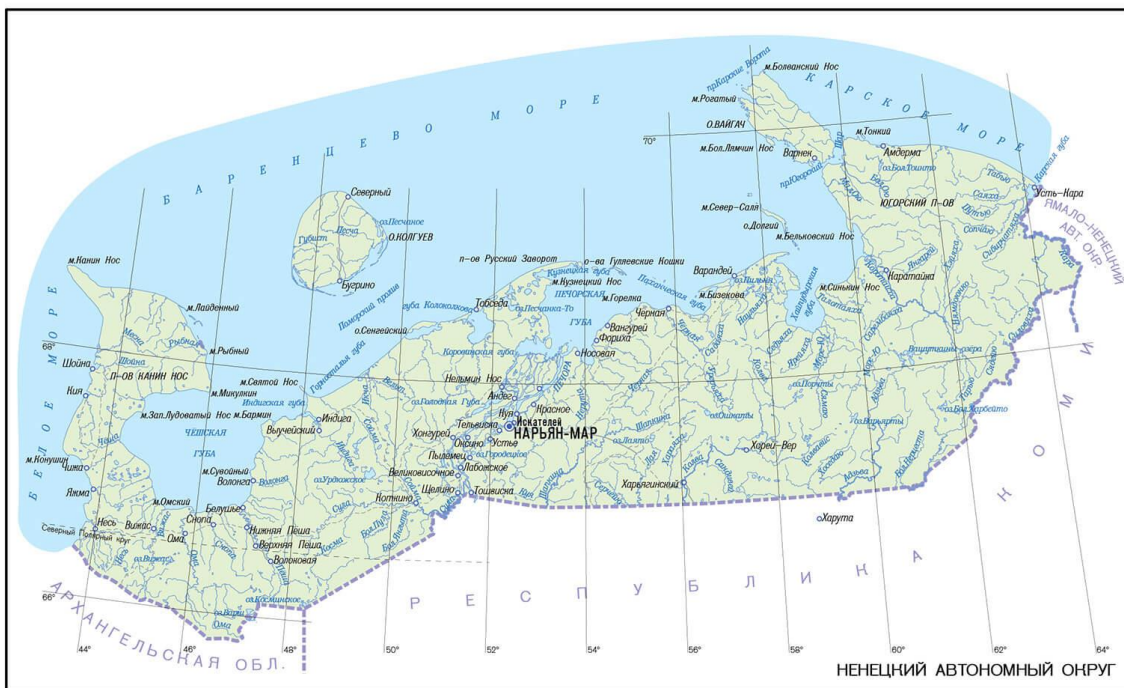


Figure 2. Map of the Nenets Autonomous Okrug

The main directions of development of the Nenets Autonomous Okrug are (Figure 2):

a) construction of the deep-water seaport of Indiga and the Sosnogorsk-Indiga railway line in order to form a transit transshipment base, ensure the shortest route for goods from Kazakhstan, Kyrgyzstan and China;

b) increasing transport accessibility, including the reconstruction of the seaport of Naryan-Mar, the airports of Naryan-Mar and the village of Amderma, dredging on the Pechora River, construction of the Naryan-Mar-Usinsk highway;

c) development of Varandey, Kolguev, Kharyago-Usinsk and Khasyreya oil mineral resource centers;

d) formation of gas condensate mineral resource centers based on the fields of the Nenets Autonomous Okrug, including the implementation of the project for the development of the Kumzhinskoye and Korovinskoye gas condensate fields, the development of the Vaneivisskoye and Layavozhskoye oil and gas condensate fields;

e) geological study and development of the mineral resource base of solid minerals in order to

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diversify the economy of the Nenets Autonomous Okrug;

f) construction of an agro-industrial park and implementation of export-oriented projects in the field of deep processing of venison;

g) development of cultural-religious and ethnic tourism cluster.

The Government of the Russian Federation, by its order, provided for a strategy for the spatial development of the Nenets Autonomous Okrug until 2035, namely:

mining;

production of other finished products;
activities in the field of information and communication;

transportation and storage;

not a promising economic specialization, critical for the economy of the Nenets Autonomous Okrug, including the following industries:

plant growing and animal husbandry;

providing relevant services in these areas

(reindeer herding);

fishing and fish farming.



Figure 3. Map of the Chukotka Autonomous Okrug

The main directions of development of the Chukotka Autonomous Okrug are (Figure 3):

development of the seaport of Pevek and its terminals;

creation of a transport and logistics hub in the deep-sea year-round seaport of Provideniya;

modernization of the Chaun-Bilibinsky energy center;

increasing transport accessibility, including the construction of the Kolyma-Omsukchan-Omolon-Anadyr interregional highway;

joining the district to the unified telecommunications of the Russian Federation by building a submarine fiber-optic communication line along the route Petropavlovsk-Kamchatsky - Anadyr;

development of the Baimsky and Pyrkakaysko-Maysky mineral resource centers of precious and non-ferrous metals;

development of the Bering coal mineral resource center with the construction of a year-round terminal in the Arinai deep-water lagoon;

creation of an emergency rescue unit and an Arctic crisis management center in Pevek;

creation and development of the International University of Chukotka based on modern distance learning technologies;

development of Arctic cruise tourism with the formation of ethnic-ecological tourist clusters in the territory of Anadyr, Pevek, Provideniya.

The Government of the Russian Federation, by its order, provided for a strategy for spatial

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development Chukotka Autonomous Okrug the same until 2035, namely:

- mining;
- production of leather and leather products;
- production of other finished products;

- fishing and fish farming;
- plant growing and animal husbandry;
- provision with related services in these areas (reindeer herding);
- transportation and storage



Figure 4. Map of Yamalo-Nenets Autonomous Okrug

The main directions of development of the Yamalo-Nenets Autonomous Okrug are (Figure 4):

a) development of the seaport of Sabetta with shipping terminals and a maritime navigation channel in the Gulf of Ob;

b) construction and development of the railway lines Obskaya-Salekhard-Nadym-Pangody-Novy Urengöy-Korotchaev (Northern latitudinal route) and Obskaya-Bovanenkovo-Sabetta (Northern latitudinal route-2);

c) expansion of liquefied natural gas production on the Yamal and Gydan peninsulas;

d) development of gas fields in the Gulf of Ob with the development of a pipeline transportation system;

e) development of the Novoportovskoye oil and gas condensate and Bovanenkovo gas condensate mineral resource centers, development of the Tambey group of fields and preparation for the development of offshore fields;

f) development of oil and gas chemical industries in the area of the settlements of Sabetta, Yamburg, the city of Novy Urengöy and the formation of a diversified industrial and technological complex for gas processing and petrochemistry;

g) maintenance and development of gas and oil pipeline networks and the development of gas and oil mineral resource centers connected to pipelines in the Nadym-Pur and Pur-Tazov oil and gas regions, including through the use of new technologies for the extraction and development of underlying layers, as well as hard-to-recover reserves;

h) ensuring the rational development of the Sandibinsky oil mineral resource center;

i) development of technologies for involving low-pressure gas into industrial circulation, including through the development of gas compression technologies;

j) expansion of the centralized power supply zone by connecting the settlements of the district to the unified power system;

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k) development of oil and gas services through the creation of industrial zones in key settlements;

l) organizing the production of building materials in order to meet the needs of the fuel and energy complex and civil engineering;

m) creation of an emergency rescue unit and an Arctic crisis management center in the village of Sabetta;

o) formation of a tourist cluster in the region of the regional agglomeration uniting the cities of Salekhard, Labytnangi and the village of Kharp.

The Government of the Russian Federation, by its order, provided for a strategy for the spatial development of the Yamalo-Nenets Autonomous Okrug, the same until 2035, namely:

- mining;
- production of petroleum products;

production of other finished products;
 production of chemicals and chemical products;
 activities in the field of information and communication;

transportation and storage.

unpromising economic specialization, critically important for the economy of the Yamalo-Nenets Autonomous Okrug, including the following sectors:

forestry and logging (logging);
 woodworking and production of wood products, except for furniture;

crop and animal husbandry,
 providing relevant services in these areas (reindeer herding);

fishing and fish farming



Figure 5. Map of the Republic of Karelia

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The main directions of development of the municipalities of the Republic of Karelia, which are part of the Arctic zone, are (Figure 5):

- a) development of the White Sea-Baltic Canal;
- b) development of the industry of building materials on the basis of deposits of building stone, including for the purpose of ensuring construction work in neighboring constituent entities of the Russian Federation;
- c) development and development of mineral resource centers on the basis of the East Karelian copper-gold-molybdenum ore zone;
- d) formation and development of a cluster for advanced wood processing;
- e) development of the fishery cluster, including aquaculture;
- f) development of cultural, historical and ecological tourism;
- g) development of cascades of small hydroelectric power plants in case of confirmation of the prospective demand for electricity and their economic efficiency;
- h) formation of a scientific and educational center for training and retraining of specialists to meet the staffing needs of the economy and social sphere of the Arctic zone;
- i) creation of a network of data processing and storage centers based on domestic high-speed, ultra-dense solutions for data processing and storage.

The Government of the Russian Federation by its order provided for the spatial development strategy of the Republic of Karelia until 2035, namely:

- mining;
- forestry and logging (logging);
- woodworking and production of wood products, except for furniture;
- production of paper and paper products;
- production of finished metal products, except for machinery and equipment;
- production of machinery and equipment not included in other groups;
- metallurgical production;
- production of other finished products;
- fishing and fish farming;
- tourism - activities of hotels and catering establishments,
- administrative activities and related additional services (activities of travel agencies and other organizations providing services in the field of tourism)

The main directions of development of the municipalities of the Komi Republic, which are part of the Arctic zone, are (Figure 6):

- a) diversification of the economy and integrated socio-economic development of mono-profile municipalities - the urban districts of Vorkuta and Inta;
- b) development of coal mineral resource centers on the basis of the Pechora coal basin, including the creation on their basis of complexes for deep processing of coal raw materials, coal chemistry;
- c) formation and development of oil and gas mineral resource centers on the basis of the Timan-Pechora oil and gas province, including the creation of oil and gas processing facilities;
- d) geological study and development of the mineral resource base of solid minerals (barite, chromium, bauxite ores, primary and placer gold, vein quartz, silver, copper, phosphorites, lead, zinc, limestones, dolomites and others);
- e) creation and development of a vertically integrated mining and metallurgical complex for the processing of titanium ores and quartz (glass) sands of the Pizhma deposit;
- f) formation and development of the Parnok ferromanganese mineral resource center;
- g) development of railway infrastructure to ensure communication with railway lines under construction and planned for construction, including the construction of the Sosnogorsk-Indiga railway line, the reconstruction of the Konosha-Kotlas-Chum-Labytnangi section, the study of the feasibility of reconstructing the Mikun-Vendinga section and the construction of the Vendinga-Karpogory section;
- h) increasing transport accessibility, including the construction and reconstruction of sections of the Syktyvkar-Ukhta-Pechora-Usinsk-Naryan-Mar highway, as well as dredging on the Pechora River, which is a non-alternative source of transport support for certain territories;
- i) reconstruction and modernization of the airport network in the region, including the joint airport of Vorkuta;
- j) creation and development of a scientific and educational center on the basis of the Komi Scientific Center of the Ural Branch of the Russian Academy of Sciences and Syktyvkar State University;
- k) development of a cultural-ethnographic and cultural-historical tourism cluster, as well as the formation of an active nature tourism cluster.

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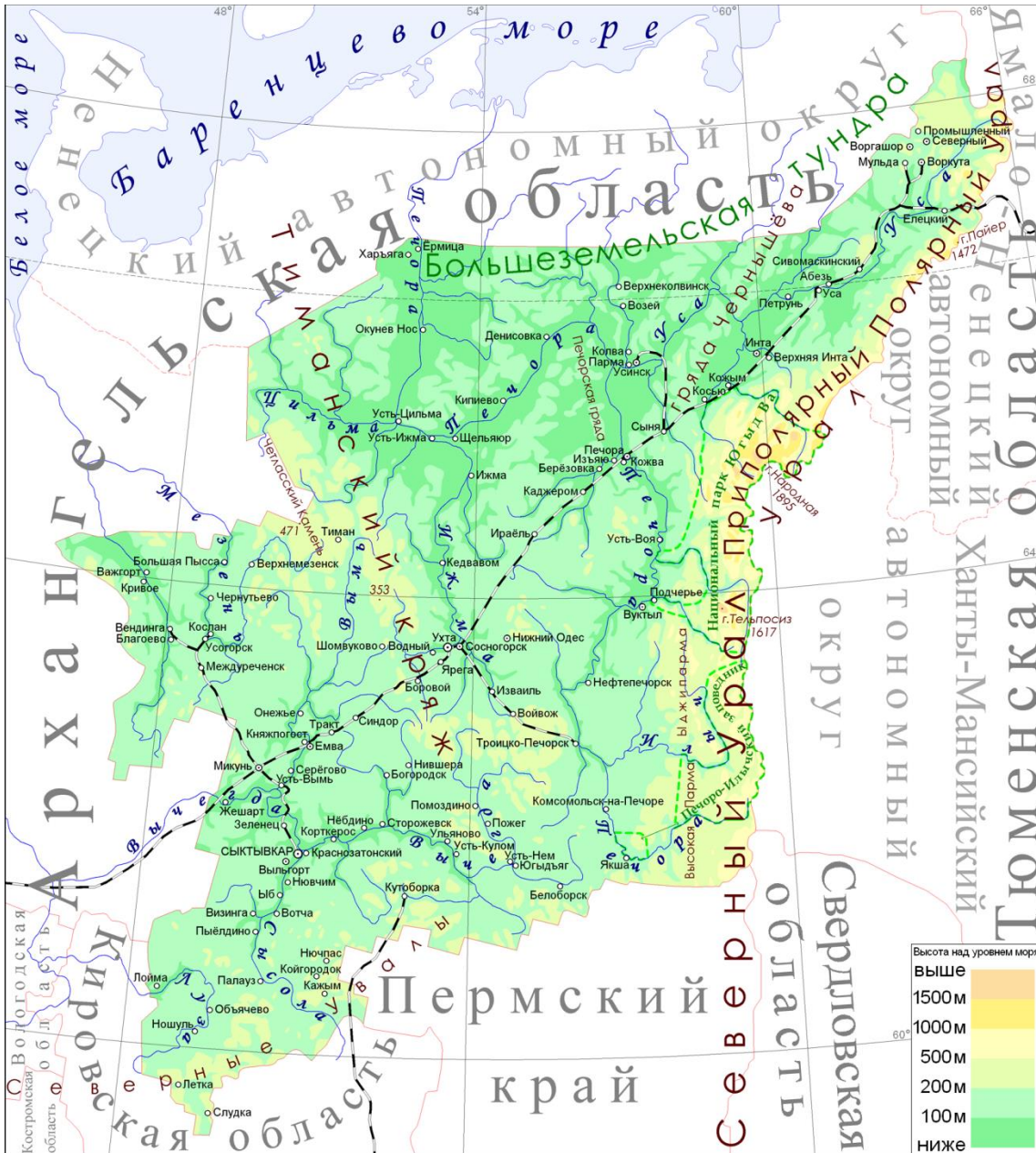


Figure 6. Map of the Komi Republic

The Government of the Russian Federation, by its order, provided for a strategy for the spatial development of the Republic of Komi the same until 2035, namely:

- mining;
- forestry and logging (logging);
- woodworking and production of wood products, except for furniture;
- production of paper and paper products;
- production of coke and oil products;
- production of machinery and equipment not included in other groups;
- production of other finished products;
- transportation and storage;

tourism - activities of hotels and public catering establishments, administrative activities and related additional services (activities of travel agencies and other organizations providing services in the field of tourism);

unpromising economic specialization, critically important for the economy of the Komi Republic, including the following sectors:

- food production;
- production of textile products;
- crop and animal husbandry,
- providing relevant services in these areas.

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Figure 7. Map of the Republic of Sakha (Yakutia)

The main directions of development of the municipalities of the Republic of Sakha (Yakutia), which are part of the Arctic zone, are (Figure 7):

- dredging of the Anabar, Lena, Yana, Indigirka and Kolyma rivers;
- integrated development of the regions of the Anabar and Lena basins, taking into account the development of mineral resource centers, including the world's largest deposit of rare earth metals, the alluvial diamond deposits in the Anabar, Bulun, Olenek regions, the Verkhne-Munskoye diamond deposit, the Taimylyr deposit of stone coals and bogheads, the West Anabar oil mineral resource center;
- comprehensive development of the Tiksi settlement, including the development of dual-use infrastructure, including the reconstruction of the seaport of Tiksi and its terminals;
- comprehensive development of the areas of the Yana basin, taking into account the construction of energy and transport infrastructure, the development of the mineral and raw material base of solid minerals in the Yana basin, including the Kyuchus gold deposit, the Prognoz silver deposit, the Deputatsky tin ore deposit and the Tirektyakh tin deposit;
- comprehensive development of the regions of the Indigirka basin, ensuring energy security and diversifying the economy of the regions on the basis of the development of the Krasnorechensk coal deposit, the production of building materials based on deposits of basalt and building stone;
- comprehensive development of the areas of the Kolyma basin, taking into account the modernization of the Zeleny Mys river port and the

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development of the Zyryansk coal mineral resource center;

g) development of the shipbuilding industry on the basis of the shipyard in Zhatay settlement;

h) development of a scientific and educational center on the basis of the North-Eastern Federal University. M.K. Ammosova;

i) creation of a modern infrastructure for the storage and study of paleontological finds "World Mammoth Center", as well as the development of a scientific, cultural, ethnographic and expeditionary tourism cluster;

j) creation of a network of trade and logistics centers in the Arctic regions of the Republic of Sakha (Yakutia) to ensure northern delivery;

k) creation of an emergency rescue unit and an Arctic crisis management center in the village of Tiksi.

The Government of the Russian Federation, by its order, provided for a strategy for spatial development of the Republic of Sakha (Yakutia) the same until 2035, namely:

mining;
forestry and logging (logging);
woodworking and production of wood products, except for furniture;

production of paper and paper products;
production of coke and oil products;
production of other finished products;
fishing and fish farming;

activities in the field of information and communication;

professional, scientific and technical activities;
repair and installation of machinery and equipment (repair and maintenance of ships and boats);

tourism - activities of hotels and catering establishments;

administrative activities and related additional services (activities of travel agencies and other organizations providing services in the field of tourism);

unpromising economic specialization, critically important for the economy of the Republic of Sakha (Yakutia), including the following industries:

food production;
production of other vehicles and equipment;
production of other non-metallic mineral products;
crop and animal husbandry,
provision of additional services.

The main directions of development of the municipalities of the Krasnoyarsk Territory, which are part of the Arctic zone, are (Figure 8):

a) comprehensive socio-economic development of a mono-profile municipality - the urban district of Norilsk, including the efficient use of urban space, renovation of the housing stock and the creation of conditions for safe and comfortable living for the population;

b) development of the Norilsk industrial region, which specializes in the extraction and enrichment (processing) of non-ferrous metals and platinum group metals, including the use of technologies that ensure the reduced formation of harmful substances;

c) construction of new production facilities and modernization of the Zapolyarnaya mine (Southern Cluster);

d) creation and development of an oil mineral resource center based on the deposits of Western Taimyr, focused on the export of products along the Northern Sea Transport Corridor;

e) creation of the West Taimyr coal industry cluster, focused on the export of products along the Northern Sea Transport Corridor;

f) creation of a mineral resource center on the basis of the Popigai industrial diamond deposit;

g) development of the resources of the Taimyr-Severozemelskaya gold-bearing province;

h) development of the seaports of Dikson, including the construction of new coal and oil terminals, and Dudinka;

i) reconstruction and modernization of the airport network in the region, including Khatanga Airport;

j) creation and development of the Institute of the North and the Arctic on the basis of the Siberian Federal University;

k) creation in the city of Norilsk of a research center for construction technologies and monitoring the condition of buildings and structures in the northern and arctic territories;

l) creation of an emergency rescue unit and an Arctic crisis management center in the settlement of Dikson;

m) formation and development of a regional scientific and educational center on the basis of the Norilsk State Industrial Institute;

o) development of a tourist and recreational cluster on the territory of the Taimyrsky Dolgano-Nenetsky municipal district, the cities of Norilsk and the city of Dudinka.

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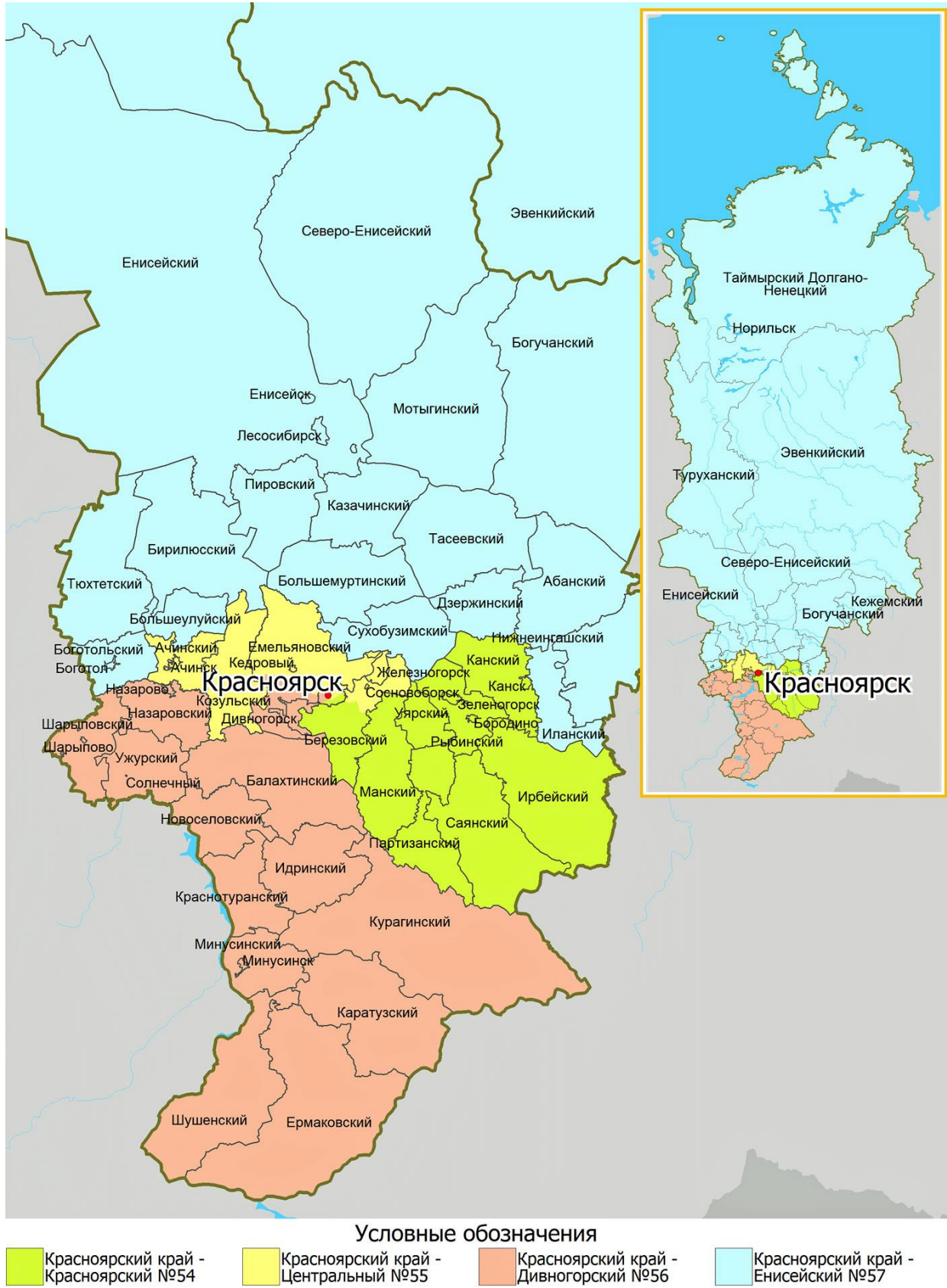


Figure 8. Map of the Krasnoyarsk Territory

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The Government of the Russian Federation, by its order, provided for a strategy for spatial development Krasnoyarsk Territory the same until 2035, namely:

- mining;
- forestry and logging (logging);
- woodworking and production of wood products, except for furniture;
- production of motor vehicles, trailers and semi-trailers (except for the production of motor vehicles);
- production of paper and paper products;
- production of finished metal products, except for machinery and equipment;
- production of coke and oil products;
- production of computers, electronic and optical products; manufacture of machinery and equipment not included in other groupings;
- metallurgical production; food production;

- production of other non-metallic mineral products;
- production of other finished products;
- production of other vehicles and equipment;
- production of chemicals and chemical products;
- production of electrical equipment;
- crop and animal husbandry, provision of relevant services in these areas;
- activities in the field of information and communication;
- professional, scientific and technical activities;
- transportation and storage;
- tourism - activities of hotels and catering establishments;
- administrative activities and related additional services (activities of travel agencies and other organizations providing services in the field of tourism).

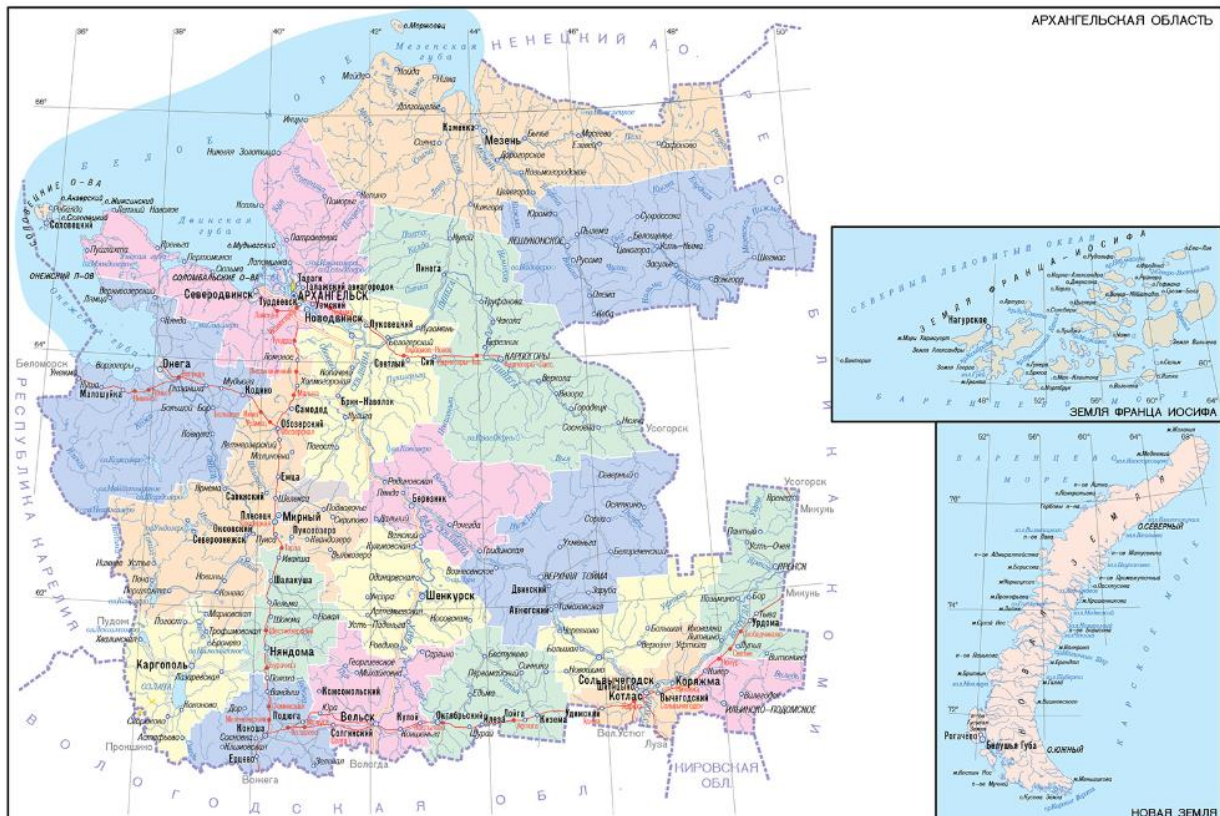


Figure 9. Map of the Arkhangelsk region

The main directions of development of the municipalities of the Arkhangelsk region, which are part of the Arctic zone, are (Figure 9):

- a) increasing the competitiveness of the seaport of Arkhangelsk, including the development of existing sea terminals, dredging, the creation of a new deep-water area, production and logistics complexes and access infrastructure, the introduction of

coordination systems and digital management of the transport hub;

- b) development of transport infrastructure (railroads, waterways and motor roads) providing connection between the seaport of Arkhangelsk and the territories of the North-West, the Urals and Siberia, including the study of the issue of

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construction of railway sections Karpogory-Vendinga and Mikun-Solikamsk;

c) development of the international airport of Arkhangelsk;

d) development of the woodworking industry and the pulp and paper industry, including the formation of a modern full-cycle timber processing complex, as well as the development of biofuel production technologies from timber processing waste;

e) the development of the shipbuilding and ship repair industry, including the formation on its basis of additional capacities for the construction of structures and the production of equipment for oil and gas production on the continental shelf of the Russian Federation in the Arctic;

f) development of a lead-zinc mineral resource center on the Novaya Zemlya archipelago;

g) development of diamond mineral resource centers;

h) formation and development of a world-class scientific and educational center in the field of new materials, technologies and research in the Arctic on the basis of the Northern (Arctic) Federal University named after M.V. Lomonosov, Federal Research Center for Comprehensive Study of the Arctic named after Academician N.P. Laverov of the Russian Academy of Sciences and Science-Intensive Enterprises;

i) formation and development of the federal center of Arctic medicine on the basis of the Northern State Medical University; j) development of the fishing industry cluster, including the construction, modernization and repair of the fishing fleet, the creation of fish and marine biological resources processing facilities, the development of biotechnology and aquaculture;

k) development of a cultural, educational, ethnographic and ecological tourism cluster in the Arctic territories and sea cruise tourism to the Solovetsky archipelago.

The Government of the Russian Federation, by its order, provided for a strategy for spatial development of the Arkhangelsk region until 2035, namely:

- mining;
- forestry and logging (logging);
- woodworking and production of wood products, except for furniture;
- production of paper and paper products;
- production of finished metal products, except for machinery and equipment;
- production of machinery and equipment not included in other groups;
- food production;
- production of other non-metallic mineral products; production of other finished products;

production of other vehicles and equipment; production of rubber and plastic products; production of chemicals and chemical products; production of electrical equipment;

fishing and fish farming; activities in the field of information and communication;

professional, scientific and technical activities; transportation and storage; tourism activities of hotels and catering establishments,

administrative and related activities additional services (activities of travel agencies and other organizations providing services in the field of tourism);

unpromising economic specialization, which is critical for the economy of the Arkhangelsk region, including crop production and animal husbandry, provision of relevant services in these areas

The main directions of development of St. Petersburg as a historical center for the study and development of the Arctic zone of the Russian Federation are (Figure 10):

a) the formation and development of the Arctic research and production cluster, stimulating the increase in the competitiveness of its products, including through state support for economic projects implemented within the cluster;

b) integration of scientific and educational organizations of the city into scientific and educational centers created on the territory of the Arctic zone;

c) implementation by educational organizations of the city of educational programs in professions, specialties and areas of training of secondary vocational and higher education, in demand in the labor market of the Arctic zone, as well as the implementation of additional professional programs;

d) development of a career guidance system for city students in order to attract them to work in the Arctic zone;

e) organization and holding in the city of major Russian and international congress and exhibition events on the Arctic topics;

f) creation of a world-class Arctic museum and exhibition center;

g) promoting the development of the Arctic and Antarctic Research Institute and the Institute of the Peoples of the North of the Russian State Pedagogical University named after A.I. Herzen;

h) development of a specialized tourism infrastructure that provides the beginning and end of tourist routes to the regions of the Arctic zone.

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Figure 10. Map of the Leningrad Region

The Government of the Russian Federation, by its order, provided for a strategy for spatial development St. Petersburg the same until 2035, namely:

- production of motor vehicles, trailers and semi-trailers;
- production of computers, electronic and optical products;
- production of medicines and materials used for medical purposes;
- production of machinery and equipment not included in other groups;
- beverage production;
- food production;
- production of other finished products;
- production of other vehicles and equipment;
- production of tobacco products;
- production of electrical equipment;
- activities in the field of information and communication;

- professional, scientific and technical activities;
- transportation and storage;
- tourism - activities of hotels and catering establishments;
- administrative activities and related additional services (activities of travel agencies and other organizations providing services in the field of tourism)

Main stages and expected results of the implementation of this Strategy. The main mechanisms for assessing the development of the Arctic zone of the Russian Federation and national security in this area.

- The implementation of this Strategy is carried out in three stages (Figure 12):
- the first stage (2021-2025);
- second stage (2026-2030);
- third stage (2031-2035).

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Figure 11. Map of the Arctic zone of Russia

At the first stage (2021 - 2025) of the implementation of this Strategy, there will be:

a) mechanisms have been formed to accelerate the economic and social development of the Arctic territories, including the creation of a legal framework for the functioning of a special economic regime in the Arctic zone;

b) modernization of primary health care was carried out, including equipping medical organizations providing primary health care with road and air transport, including for the purposes of medical evacuation from ships in the waters of the northern sea transport corridor;

c) a system of preferences has been launched for citizens of the Russian Federation working and living in the Arctic zone;

d) a program of state support for the traditional economic activities of small peoples living in the Arctic zone was approved;

e) the system of vocational education in the Arctic zone has been brought into line with the prospective staffing needs, including the equipping of educational organizations with modern material and technical base;

f) a world-class scientific and educational center in the field of Arctic research and development has been created;

g) pilot projects have been implemented for the integrated development of settlements that perform the functions of ensuring national security and (or) bases for the development of mineral resource centers, the implementation of economic and (or) infrastructure projects in the Arctic, and the improvement of the organization of the delivery of fuel to remote settlements, food and other vital goods;

h) a mechanism was put in place to subsidize local (within regional) transportation in the Arctic zone;

i) a new model for the implementation of economic projects on the continental shelf of the Russian Federation in the Arctic has been launched;

j) the development of the western part of the Northern Sea Route was accelerated, 3 universal nuclear icebreakers of project 22220, 16 rescue and tugboat rescue vessels of various capacities, 3 hydrographic and 2 pilot vessels were built;

k) the implementation of measures to replace inefficient diesel generation in isolated and hard-to-reach areas with generation based on liquefied natural gas, renewable energy sources, and local fuel has begun;

l) the possibility of providing access to the Internet information and communication network for

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households in settlements with a population of 100 to 500 people is provided;

m) a satellite constellation has been created in highly elliptical orbits, which ensures stable uninterrupted satellite communications in the Arctic zone;

n) launched a comprehensive program of fundamental and applied research in the interests of the development of the Arctic;

o) a state system for monitoring and preventing the negative consequences of permafrost degradation has been established;

p) the intensification of international economic, scientific and humanitarian cooperation in the Arctic zone is ensured;

c) the system of baselines for counting the width of the territorial sea and the exclusive economic zone of the Russian Federation in the Arctic Ocean has been updated, and proposals have been substantiated on the advisability of declaring additional areas of the Arctic seas the historical waters of the Russian Federation.

At the second stage (2026 - 2030) of the implementation of this Strategy, there will be:

a) work continued to improve the competitiveness of the special economic regime of the Arctic zone, taking into account the needs of investors, the changing external and internal conditions of economic activity in the Arctic;

b) accessibility of the network of institutions of education, culture, physical culture and sports for the population of the Arctic zone, including small peoples;

c) the formation of a competitive system of professional educational organizations, advanced professional training centers and educational organizations of higher education has been completed;

d) a scaled-up program for the integrated development of settlements that perform the functions of ensuring national security and (or) bases for the development of mineral resource centers, the implementation of economic and (or) infrastructure projects in the Arctic;

e) year-round shipping is provided throughout the entire water area of the Northern Sea Route, 2 additional universal nuclear icebreakers of project 22220 and 1 icebreaker of the Leader project are built, construction of hub ports for transshipment of international container cargo has begun;

f) the implementation of a program for the development of river navigation in the river basins in the Arctic zone has begun;

g) a program for the development of the tourism infrastructure of the Arctic zone has been implemented;

h) a trans-Arctic main submarine fiber-optic communication line was built;

i) a highly elliptical space system has been created to provide high-resolution hydrometeorological data on the polar region of the Earth;

j) put into commercial operation modern samples of new materials and equipment, including robotic and shipbuilding, unmanned transport systems, portable energy sources in order to intensify the development of the Arctic;

k) completed the rehabilitation of the Arctic zone from flooded and sunken objects with spent nuclear fuel and radioactive waste;

l) work continued to improve the efficiency of the Unified State System for the Prevention and Elimination of Emergencies in the Arctic Zone.

At the third stage (2031 - 2035) of the implementation of this Strategy will be:

a) a progressive increase in capacities for the production of liquefied natural gas, gas chemical products, oil production on the continental shelf of the Russian Federation in the Arctic and the onshore part of the Arctic zone, deep processing of other minerals and natural resources;

b) the urban environment and social infrastructure of settlements that perform the functions of ensuring national security and (or) the base for the development of mineral resource centers, the implementation of economic and (or) infrastructure projects in the Arctic, is brought into line with the needs of their population;

c) ensuring the availability of high-quality social services to representatives of small peoples living in the Arctic zone, and the intensive development of their traditional economic activities;

d) a competitive international and national transport corridor was formed on the basis of the Northern Sea Route, hub ports were built for transshipment of international container cargo and an additional 2 icebreakers of the Leader project;

e) the replacement of inefficient diesel generation in isolated and hard-to-reach areas with generation based on liquefied natural gas, renewable energy sources, and local fuel has been completed;

f) the implementation of the program for the development of river navigation in the river basins in the Arctic zone has been completed;

g) ensured the reduction and prevention of the negative impact of economic activities on the environment of the Arctic zone.

The target indicators for the implementation of this Strategy are indicators that characterize the effectiveness of the implementation of the state policy of the Russian Federation in the Arctic, provided for by the Fundamentals. Main Mechanisms for the Implementation and Resourcing of the Measures Provided for by this Strategy The Government of the Russian Federation develops and approves a unified plan for the implementation of the Fundamentals and

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the Strategy for each stage provided for by this Strategy. The implementation of this Strategy is ensured by amending the state program of the Russian Federation "Socio-economic development of the Arctic zone of the Russian Federation", sectoral state programs of the Russian Federation, state programs of the constituent entities of the Russian Federation, national projects, as well as the implementation of the activities of the Northern Sea Route infrastructure development plan. The solution of tasks in the field of military security, protection and protection of the state border of the Russian Federation is ensured by the implementation of measures of the state armaments program within the framework of the state defense order, state programs of the Russian Federation. General management of the implementation of this Strategy is carried out by the President of the Russian Federation. The coordination of the activities of

federal executive authorities, state authorities of the constituent entities of the Russian Federation and local authorities on the implementation of this Strategy, as well as monitoring its implementation, is carried out by the State Commission for the Development of the Arctic. Tasks, the functions and procedure for interaction between state authorities and local governments in order to implement state policy in the Arctic are determined in accordance with the legislation of the Russian Federation. The implementation of this Strategy is carried out at the expense of the budgets of the budgetary system of the Russian Federation, including at the expense of funds provided for the implementation of the state program of the Russian Federation "Socio-economic development of the Arctic zone of the Russian Federation", and extra-budgetary sources.

Table 1. Target indicators for the implementation of the Strategy for the development of the Arctic zone of the Russian Federation and ensuring national security for the period up to 2035

No. p / p	Indicator (indicator)	base value		Target value		
		Meaning	date	2024	2030	2035
1.	Life expectancy at birth in the Arctic (years)	72.39	2018	78	80	82
2.	The coefficient of migration growth of the population of the Arctic zone	-5.1	2018	-2.5	0	2
3.	Unemployment rate in the Arctic zone, calculated in accordance with the methodology of the International Labor Organization (percentage)	4.6	2019	4.6	4.5	4.4
4.	Number of jobs at new enterprises located in the Arctic zone (thousand units)	-	-	30	110	200
5.	Average salary of employees of organizations operating in the Arctic zone (thousand rubles)	83.5	2019	111.7	158.5	212.1
6.	The share of households with broadband access to the Internet information and telecommunications network in the total number of households in the Arctic zone (percentage)	81.3	2019	90	100	100
7.	The share of the gross regional product produced in the Arctic zone in the total gross regional product of the constituent entities of the Russian Federation (in percent)	6.2	2018	7.2	8.4	9.6
8.	The share of value added of high-tech and knowledge-intensive sectors of the economy in the gross regional product produced in the Arctic zone (percentage)	6.1	2018	7.9	9.7	11.2
9.	The share of investments in fixed assets carried out in the Arctic zone in the total investments in fixed assets in the Russian Federation (percentage)	9.3	2019	11	12	14
10.	The share of internal costs for research and development, as well as the costs of organizations for technological innovations carried out in the Arctic zone, in the total internal costs for research and development, as well as the costs of organizations for technological innovations in the Russian Federation (percentage)	1	2018	2.5	3.5	4.5
eleven.	The share of investments in fixed capital, carried out for the protection and rational use of natural resources, in the total investments in fixed capital, carried out in the territory of the Arctic zone (percentage)	2.6	2019	4.5	6	10
12.	Share of crude oil (including gas condensate) and					

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	combustible natural gas produced in the Arctic zone of the Russian Federation in the total volume of crude oil (including gas condensate) and combustible natural gas produced in the Russian Federation (percentage):					
12.1.	crude oil (including gas condensate)	17.3	2018	20	23	26
12.2.	combustible natural gas	82.7	2018	82	81	79
13.	Volume of production of liquefied natural gas in the Arctic zone of the Russian Federation (million tons)	8.6	2018	43	64	91
14.	Volume of cargo transportation in the water area of the Northern Sea Route, million tons	31.5	2019	80	120	150
14.1.	including transit cargo	0.7	2019	1	2	10
15.	The share of modern types of weapons, military and special equipment in the Arctic zone	59	2019			

To some extent, the wandering of scientific searches in the labyrinth of dialectical thinking is also connected with the fact that philosophers who do not understand the scale of the significance of studying the strategy of spatial development of the AZ of the Russian Federation are weakly included in the process. In this case, "Transport" is a concept of a worldview scale. Moreover, "transport" is a system-forming concept in the worldview, since it is transport that serves as the most important factor in the implementation of the strategy for the spatial development of the AZ of the Russian Federation. One can only understand the scale of the ideological status of transport in different ways:

- consider transport exclusively material in nature, limiting it to the sphere of matter itself;

- selectively evaluate the presence of transport in properties, for example, the possibility of the presence of transport in the movement of thinking;

- or only in cognition, taking into account that the reflection of the strategy of spatial development of the Russian Arctic is dependent on transport.

The movement of knowledge, as a process of production of the beginning of the movement of knowledge as self-movement, is undoubtedly due to transport. We associate the substantiation of this conclusion with the development of the concept of "spatial development" within its dialectical-materialist interpretation, confirmed by numerous discoveries and misconceptions of modern natural science, as well as the practice of human life in all its forms. "Movement" is the next most significant concept after the substance of spatial development in the construction of a worldview. "Substance" determines the nature of "being", "movement" shows the mode of existence of "being". F. Engels in his "Dialectics of Nature", characterizing the movement, noted: "Movement, considered in the most general sense of the word, i.e. understood as a way of existence of matter, as an inherent attribute of matter, embraces all the changes and processes taking place in the universe, starting from simple movement and ending with thinking. In the preparatory works for Anti-Dühring, F. Engels specifies the characteristics

of motion: "Motion is a way of existence of matter, therefore, something more than just its property. Matter does not exist and never could exist without movement within the framework of spatial development. From the direct definition of motion by F. Engels, two of its qualitative features are clear: Matter does not exist and never could exist without movement within the framework of spatial development. From the direct definition of motion by F. Engels, two of its qualitative features are clear: Matter does not exist and never could exist without movement within the framework of spatial development. From the direct definition of motion by F. Engels, two of its qualitative features are clear:

- the function of motion is to be a way of existence of matter;

- and the main feature characterizing the movement is to make changes.

Change is the main manifestation of movement. Our task is to complete the description of the movement, taking into account its special position in the worldview, that is, to reveal its systemic worldview status. For clarity of presentation, we propose the following scheme of spatial development within the framework of the manifestation of movement (Figure 13). All systemic elements of traffic, with the exception of the position of transport, have been studied to some extent in the literature, which serves as a basis for us to focus on the significance of transport in the strategy of spatial development. Based on the historically established understanding of transport as a tool for carrying out the transportation of goods in a fairly broad understanding of their subject structure, we, following the logic of the formation of concepts within the framework of spatial development, disclosed by G. Hegel, tried to make the definition of "transport" universal. Do not limit the substantive idea of the cargo in general, keeping in mind that the carrier itself can be considered as cargo - in a particular case. Freedom in determining what should be included in the scope of the concept of "cargo" opened the prospect of understanding transport from the very beginning of the history of the universe, to give

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transport the property of universality in the strategy of spatial development. Moreover, in the system of signs characterizing the movement, there was an unoccupied position of the “instrument” for the

implementation of the movement. As a result, transport received its rightful place in the system of content of the concept of "movement", becoming naturally its truly universal phenomenon in the world.

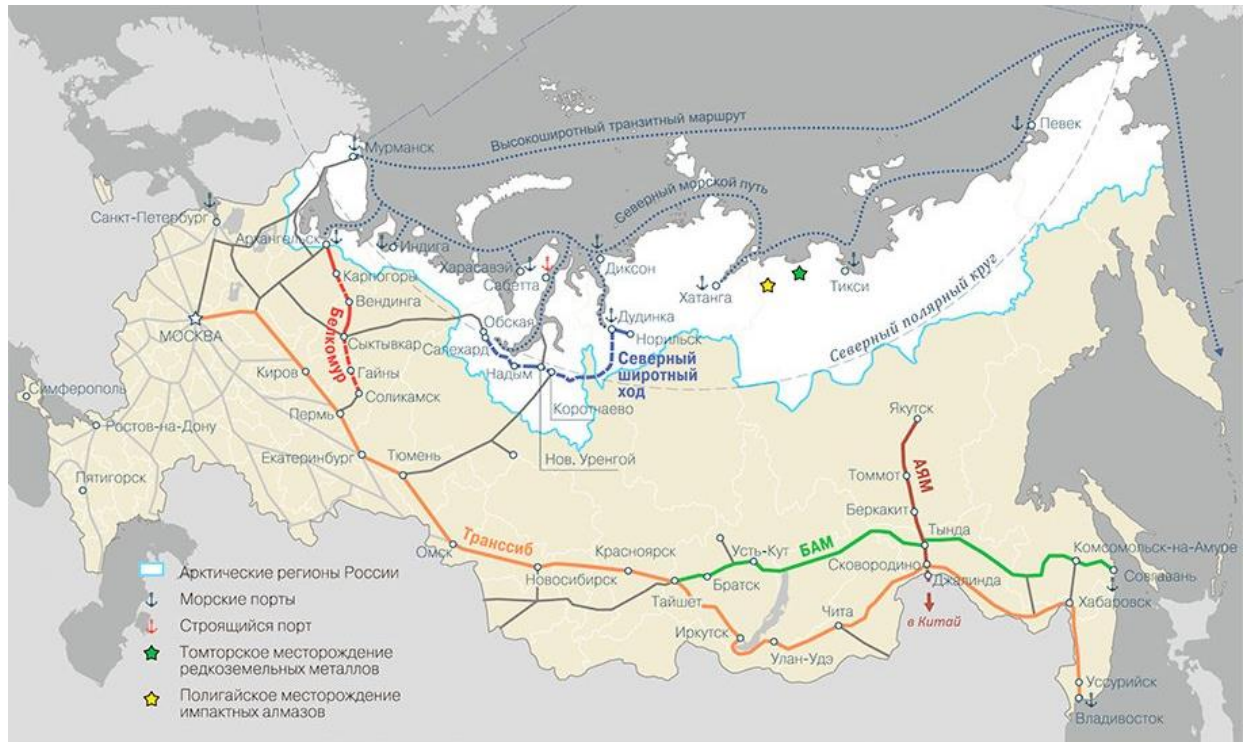


Figure 12. Development of railway and maritime infrastructure in the Arctic

The position of transport within the framework of the strategy of spatial development in the system is determined by the specifics of the phenomenon and is associated with certain functions assigned to it. Transport is not limited by its basic purpose - to be an instrument of movement in space and time. Its position is multifunctional:

with the help of transport, the spatio-temporal reality of phenomena is ensured, the existence of which requires the certainty of the spatial position within the time conditioned by reality, that is, transport is not just a driving tool, its function is to contribute to the reproduction of the spatio-temporal status of a systemic formation;

transport participates in achieving the required interactions between objects or states of objects and the conditions for their development (movement);

transport is included in the order of functioning of the phenomenon, as a component of its self-propulsion;

the functioning of transport is one of the factors protecting the qualitative identity of phenomena.

On the example of various types of transport, British specialists have shown the functional diversity of biological transport as the most important condition for the reproduction of a living cell, a factor in its normal existence, including mitosis. The

classification of transport within the framework of the strategy of spatial development should be built taking into account the universality of movement and its qualitative diversity, represented by the forms of movement of matter. The following types are distinguished in the basic classification:

- physical;
- mechanical,
- chemical,
- biological,
- social;

it is expedient to put "informational" apart.

In our understanding, the history of social transport is divided into 3 stages:

Stage 1: ensuring the evolutionary viability of the type (competitiveness) of the way of moving the means of transportation the instrument of fixing (means of construction) of places of residence;

Stage 2: ensuring the development of the community (the formation and development of a national organization) in national forms: a communication tool a means of competition a way to ensure community management a factor in the formation of intersubjective formations and the formation of a national form of community a tool for creating empires;

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Stage 3: ensuring social progress in the context of modernization associated with the Industrial Revolution (modern) the emergence and development of mass technical transport, the development of technically produced energy, the diversification of technical transport, the activation of the cognitive and cultural functions of transport.

In more detail, the history of social transport within the framework of the spatial development strategy can be qualified as follows:

undifferentiated transport, when the vehicle was the person himself;

mechanical natural stage;

the stage of connecting technical transport with technically received energy;

cosmic near, limited by the solar system;

cosmic distant - trance system., galactic.

The inclusion of transport in a systemic understanding of traffic within the framework of a spatial development strategy should not be qualified as an attempt to revise the traditional interpretation of transport. In the traditional understanding, as well as unusual for a widespread interpretation, found among British specialists, transport is defined at the level of representation, reduced to its particular manifestations in the social form of movement. The lack of universal understanding hinders the scientific approach to cognition. This, in our opinion, is also connected with the uncertainty of the status of transport science, which allows the recognition of the reality of transport science and its conditional reality - phantomness. Transport science is born in the bowels of the next, post-non-classical stage in the development of science. In order for her to self-determine, and without this her status will remain, as before, a "scientific mystery" requires general scientific support and the participation of philosophical reflection. The birth of transport science does not rest on particular subject certainty, it requires more thorough and innovative methodological support. K. Popper "felt" the right direction of scientific progress back in the 1950s - 70s. "The progress of science," wrote the German philosopher, is due not to the fact that more and more perceptual experience accumulates over time, and not to the fact that we are making better use of our senses. Science cannot be obtained from uninterpreted sensory perceptions, no matter how carefully we collect them. Bold ideas, unjustified anticipations and speculative thinking are our only means of interpreting nature, our only organ, our only instrument of understanding it. And we must take risks to win. Those of us who are afraid of risking refutation of our ideas are not playing the science game." At the end of his reflections on the driving mechanisms of scientific progress, a well-known specialist in the philosophy and logic of science ventured to reveal the secret of scholarship itself: "It is not the possession of knowledge, irrefutable truth that makes a person a

scientist, but his constant and courageous critical striving for truth."

Conclusion

There is no need to hope for a "miraculous transformation" in the understanding of transport and transport science. The current view of transport is rooted in the practice of economic policy, the architecture of economic planning has been laid out for it, in which transport is assigned a "working" place - to be in the "service" of production, that is, within the framework of a spatial development strategy, but not the locomotive of its promotion. The history of the rise of Rome, Holland, Spain, Portugal, Britain, a little later than Germany, and the historical experience of the Russian State do not teach politicians. Even the birth of space transport has changed little in the political understanding of transport, and as long as political reflection is not built on the basis of general scientific thinking, scientific and philosophical ideas will remain wishes, but not imperatives.

The integration of economic science is realized unilaterally, it loses its specific methodological base, borrowing mathematical methods of analysis. It is, of course, fruitful, and no one doubts its effectiveness, however, the movement of economic science, in addition to the "quantitative" coast, also has a political one, on which the qualitative guidelines of the movement, regulated by the world outlook, are built. Not transport should be subordinated to the development of the economy, but the economy should be developed on the basis of the modern understanding of transport as a system-forming factor in the movement of the world in general and social progress in particular. The history of man as a biological species and social form of human reality testifies that evolution was carried out thanks to the development of living space by mankind, moving first in physical space, and, as the formation of their own social space, and in it. Civilization is the product of this process. In the new millennium, the significance of space for the improvement of human life is even more relevant, therefore, no matter how high the value of social space is, it is necessary to go beyond this form and consider the problem of spatial development of the world with the help of transport, understood in a broad ideological context, as a priority in politics. And the most practical politics develop not as a systemic reaction to the action of forces from the existing reality of the world, but is built on the basis of the outstanding ability of homo sapiens consciousness to anticipate objective changes in reality. In the new millennium, the significance of space for the improvement of human life is even more relevant, therefore, no matter how high the value of social space is, it is necessary to go beyond this form and consider the problem of spatial development of the world with the help of transport, understood in a broad ideological context, as a priority in politics. And

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Summing up, I would like to note that the strategic government documents on interaction with the regions of the Russian Arctic can be called insufficiently elaborated and of insufficient quality, namely:

Firstly, the degree of possible regulatory impact is reduced due to the lack of specific methods for achieving the set goals in the national program, despite the fact that the goals are very specific. Such a combination of specific goals and "blurred" methods leads to shifting the responsibility for achieving the goals exclusively to the regional authorities, who are forced to independently develop ways to achieve the targets;

secondly, a characteristic feature of government strategies is the fundamental disregard for regional specifics: despite the presence of descriptions of key regional problems in program documents, the analysis of regional specifics (institutional, cultural, social) is present only at the level of a "brief reference" about the region, which, of course, is not enough to develop an adequate strategy for socio-economic development.

It is curious that the analyzed strategic documents ignore not only the cultural characteristics of the Russian Arctic regions, which have a very serious impact on all spheres of life of these societies through existing institutional structures, but also socio-economic characteristics, such as the causes of unemployment and the specifics of employment in the regions or demand for tourism services. All of the above factors, as well as many others, have a significant impact on the process of implementing the strategy, and on the possible results of its implementation. In other words, without a comprehensive preliminary analysis of regional specifics, the development of a national strategy for the socio-economic development of the Russian Arctic regions looks like a political adventure. Initially, we were guided by the assumption that the state policy in relation to the regions of the Russian Arctic does not take into account some important factors that negatively affect the results of the policy. It was assumed that the Center ignores cultural specifics because of its complexity and ambiguous impact on socio-economic processes, or because culture is not the "sphere of interest" of the Ministry of Regions, which is responsible for territorial development, but it was found that the institutional features of the regions are also not taken into account in strategic documents. As a result, the results of applying the same measures in the regions of the Russian Arctic and in other parts of the Russian Federation can differ significantly, at least due to differences in the informal rules of the game, in stable working procedures. However, the socio-economic characteristics of the regions of the Russian Arctic, which are directly related to the jurisdiction of this department, are analyzed by the Ministry of the region, in strategic documents prepared by far from exhaustive. Ignoring regional features and specifics is not a distinctive feature of the Center's policy exclusively in relation to the regions of the Russian Arctic: regional cultural and institutional features are not taken into account when developing federal strategies and targeted programs, in principle, in relation to all regions of the Russian Federation. Another thing is that in the case of the regions of the Russian Arctic, the neglect of cultural and political and economic specifics is superimposed on much more difficult conditions and leads to much more serious consequences - the regional features of the Russian Arctic simply cannot be ignored. Ignoring regional features and specifics is not a distinctive feature of the Center's policy exclusively in relation to the regions of the Russian Arctic: regional cultural and institutional features are not taken into account when developing federal strategies and targeted programs, in principle, in relation to all regions of the Russian Federation. Another thing is that in the case of the regions of the Russian Arctic, the neglect of cultural and political and economic specifics is superimposed

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Article



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THE MAIN TRENDS IN THE SPATIAL DEVELOPMENT OF TERRITORIES INCLUDED IN THE ARCTIC ZONE OF THE RUSSIAN FEDERATION. MESSAGE 3

Abstract: *in the article, the object of research is the State Program of the Russian Federation "The main trends in the spatial development of territories included in the Arctic zone of the Russian Federation" for the period up to 2035 as an expression of the policy of the Federal Center pursued in relation to the regions. The subject of the study are the elements of the above program, which, in conflict with regional specifics, hinder the achievement of the goals set in government documents. The analysis of the conducted research is the formation of an understanding of how the regions of the Arctic zone should be taken into account when formulating federal policy aimed at their socio-economic development. In order to achieve this goal, it is necessary to solve a number of tasks, namely:*

*a) analyze the State Program, highlighting the main goals and methods for achieving the goals;
b) identify the specific features of the regions that impede the achievement of the goals set;
c) to propose specific ways to include the regional specifics of these regions in the model of the federal policy of the Arctic zone of the Russian Federation.*

Key words: *priority, technical regulation, certification, standardization, financial condition, profitability, profit, demand, preferences, relevance, competitiveness, social and economic well-being of the regions of the Arctic zone.*

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Introduction

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The development of the Arctic today is an important area of activity, and not only for our country. As you know, almost any kind of natural resources can be found in the Arctic, and mining may soon go here at an unprecedented pace. Competent activity strategies will help to use many of the preferences that the Arctic is ready to provide today.

Up to 20% of oil and more than half of domestic gas reserves, deposits of rare metals, gold, coal and other minerals are concentrated under a layer of ice and arctic deserts.

A huge role in the further development of the Arctic is played by the Northern Sea Route - the only highway that is a link for all the subarctic and arctic regions of Russia.

It should also be noted that this highway has a number of undeniable advantages over other transport routes from east to west and from west to east. If you lay a route along the Northern Sea Route, the distance between ports may be half as long. In connection with attacks by pirates on cargo ships in the Gulf of Aden, increased risks in the delivery of goods and the growing costs of shipowners for security, other sea routes have become relevant, including the Northern Sea Route.

The development strategy draws quite favorable prospects for the future of the Arctic. Today, we can talk not only about renewed interest in the Arctic region, but also about real steps being taken to implement the program for the organization of the Arctic territories - polar stations are being restored, the construction of ports has been resumed, new icebreakers are being built, a concept has been developed for creating container ships for year-round navigation in the conditions of the Northern sea route, nature reserves and national parks have been created, including those offering tourist routes.

There are still many problems on this path, but the process is accelerated by the growing interest in the Arctic on the part of the state, business, science and society.

Particular attention to the problems of the development of the region is associated with the onset of global warming. The fact is that local water areas can be freed from ice for a period of one to several months, and this, in turn, opens up new opportunities for navigation.

An increase in the period of ice-free travel along the Northern Sea Route can create more favorable

conditions for year-round sea transport, not to mention significant business activity in this part of the RF AZ.

The main task of successful development of oil and gas fields, construction of various facilities, carrying out cargo and transport operations is knowledge of the hydrometeorological features of the Arctic region, which provokes the need for new research into the variability of weather conditions based on meteorological data obtained from weather stations in the Arctic region of the Russian Federation. The main tasks are:

- to study the variability of meteorological conditions at stations in the Arctic region;
- creation of a meteorological database at two stations;
- statistical analysis of meteorological parameters at stations

The Arctic is a single physical and geographical region of the Earth, adjacent to the North Pole and including the margins of the continents of Eurasia and North America, almost the entire Arctic Ocean with islands (except for the coastal islands of Norway), as well as the adjacent parts of the Atlantic and Pacific oceans. The southern border of the Arctic coincides with the southern border of the tundra zone. The area is about 27 million km².

According to the features of the relief in the Arctic, the shelf with islands of continental origin and the adjacent margins of the continents and the Arctic basin are distinguished. The shelf area is occupied by marginal seas - the Barents, Kara, Laptev, East Siberian and Chukchi. The land relief of the Russian Arctic is mostly flat, in some places, especially on the islands, mountainous. The central part is the Arctic Basin, an area of deep-water basins (up to 5527 m) and underwater ridges. The highest point in the Arctic is Mount Gunbjorn (Greenland).

Features of nature: low radiation balance, average air temperatures of the summer months close to 0 °C with a negative average annual temperature, the existence of glaciers and perennial frozen rocks, the predominance of tundra vegetation and arctic deserts.

The territory of the Arctic includes: A huge drifting ice shelf located in the Arctic Ocean, the northern waters of the two oceans of the Pacific and Atlantic, islands and archipelagos, including Greenland, the polar lands of North America and Eurasia, as well as many seas (Figure 1).

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Figure 1. Arctic regions of the Russian Federation.

The climate of the Arctic is considered harsh and cold, but as a result of the appearance of cyclones, the temperature can rise sharply to positive values. The average temperatures of the coldest winter month - January - range from -2 ... -4 ° C in the southern part of the Arctic region to -25 ° C in the north of the Barents Sea, the west of the Greenland Sea, in the Baffin and Chukchi Seas and from -32 ... -36 ° C; in the Siberian region, in the north of the Canadian and in the adjacent part of the Arctic basin to -45 ... -50 ° C in the central part of Greenland. The minimum temperatures in these areas sometimes drop to -55...-60 ° C, only in the Arctic basin they do not fall below -45...-50 ° C. When deep cyclones break through, the temperature sometimes rises to -2 ... -10. Average July temperatures in the Arctic basin range from -0 ... -1 ° C.

The ice cover of sea areas is about 11 million km² in winter and about 8 million km² in summer. The air here is colder than the water. The air temperature in the Siberian basin is minus 50°C, in the Chukchi Sea the air temperature is minus 36°C. During the polar night, the air temperature constantly drops, because neither light nor heat enters. When the polar day comes, large amounts of heat and light are absorbed by snow and ice. The areas adjacent to the waters of the Atlantic and Pacific Oceans are warmer and have more precipitation, while the climate of the interior is colder and drier.

In winter, the actions of cyclones from the Atlantic Ocean intensify in the Arctic. At this time, high air temperatures, strong winds, maximum rainfall and cloudiness. There are anticyclones in the Siberian

part of the Arctic. The winds here are negligible, very low temperatures, little precipitation.

The temperature in the Arctic basin in summer is 0-5°C, very humid (up to 98%), frequent fogs, precipitation in the form of sleet and rain, moderate winds.

The climate of the Arctic has changed significantly over the past 600 years. During this period of time, at least three or four warmings occurred, quite commensurate both in scale and duration with the famous “warming of the Arctic” in the first half of the 20th century.

According to research, the temperature in the Arctic is rising twice as fast as in the rest of the world. This can lead to the extinction of many plant and animal species in the region. Also, warming threatens the existence of the indigenous peoples of the Arctic.

Arctic ice is of great importance for the Earth's climate system. The ice cap reflects the sun's rays and thus prevents the planet from overheating. In addition, Arctic ice plays a large role in the water circulation systems in the oceans.

The total mass of Arctic ice, compared with the level of the 1980s, has decreased by 70%. In September 2021, according to the Hydrometeorological Center, the area of the ice cap reached its minimum for the entire observation period, amounting to 3346.2 thousand km.

It should be taken into account that even before the start of satellite observations (1979), very low ice periods were also observed. According to American scientists who have studied climate change in all areas of the Arctic, in recent years the area of ice cover has

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been rapidly decreasing. According to the beginning of 2022, this figure was 14.54 million km². Many experts suggest that in the 21st century, in the summer, most of the Arctic waters will be completely ice-free, and this will open up new prospects for the carriage of goods by sea, but these are forecasts and nothing more.

The official representative states on the shelf are: Russia, Canada, Denmark, Norway, USA. A fairly large part of the Arctic belongs to the Russian Federation. Arctic territories of the Russian Federation:

The land territories of the Arctic zone of the Russian Federation are determined in accordance with the Decree of the President of the Russian Federation dated May 2, 2014 No. 296 "On the land territories of the Arctic zone of the Russian Federation". They are listed below:

- Murmansk region (in full).
- Nenets Autonomous Okrug (in full).
- Chukotka Autonomous Okrug (in full).
- Yamalo-Nenets Autonomous Okrug (in full).
- Some territories of the north of the Komi Republic.
- Some territories of the north of the Republic of Karelia (added by decree of the President of the Russian Federation of June 27, 2017 No. 287).
- Some territories of the north of the Republic of Sakha - Yakutia.
- Some territories of the north of the

Krasnoyarsk Territory.

Some territories of the north of the Arkhangelsk region.

Lands and islands located in the Arctic Ocean, indicated in the resolution of the Presidium of the Central Executive Committee of April 15, 1926 "On declaring the territory of the Union of the Soviet Socialist Republic of lands and islands located in the Arctic Ocean" and other acts of the USSR. Arctic issues are constantly considered at the sites of the United Nations (UN) and the European Council, as well as the Northern Forum, which is an international organization uniting the Arctic regions and municipalities. In 2019, the Governor of the Nenets Autonomous Okrug of the RF AZ was the Chairman of the Northern Forum, which involves the development of cultural interaction and improving the quality of life in the North. Russia is the only country where the border of the Arctic is fixed by law - by decree of the President of the Russian Federation, the Arctic zone of the Russian Federation (AZRF) is allocated. The latest version of the Arctic borders is enshrined in Decree No. 220 dated May 13, 2019. Climatically, the Arctic may be located south of the modern Arctic zone, the Republic of Sakha (Yakutia) has long defended the need to include the second line of Arctic uluses in the Russian Arctic. The development strategy of the Russian Arctic suggests that it will become a special zone of economic activity that provides benefits for companies (Figure 2).

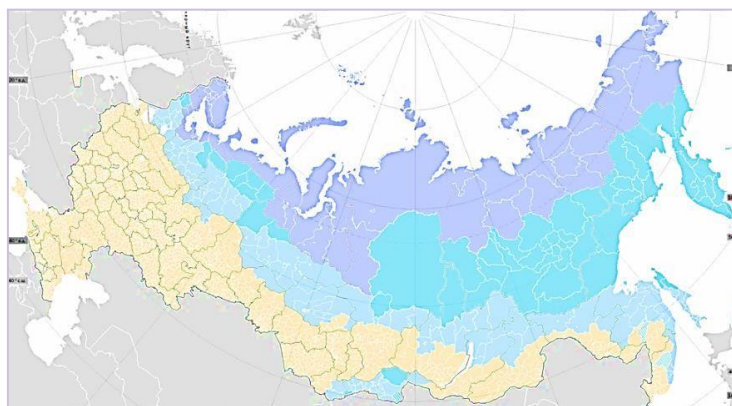


Figure 2. The Arctic zone (purple sector), the zone of the Far North (turquoise) and equivalent regions of the Russian Federation (blue)

The concept of "Far North" has existed since the 30s of the last century, since the 40s the concept of "Regions of the Far North and equivalent areas" has appeared. In Russia, there is also a category of territories called "Regions of the Far North and equivalent areas with a limited period for the delivery of goods." It is more economically advantageous to deliver goods to hard-to-reach areas by water, but in the case of only small and shallow rivers, the delivery time can be as little as two weeks. In these territories, prices are regulated, for exceeding their threshold

value by an entrepreneur, fines are provided, and priority importation of medicines is carried out.

[SevaArctic Ocean](#) located in the polar belt, which determines its [climatic conditions](#). The existence of huge masses of ice (in the central part of the Arctic Basin, the ice cover persists throughout the year) further enhances the severity of [climate](#) due to the features of [solar radiation](#) within the polar zone. Throughout the year, an anticyclonic process takes place over the Arctic Ocean and cyclonic activity develops. In the lower [layers of the atmosphere](#)

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polar [anticyclone](#) well expressed only in winter. In summer it is much weaker, and in July its center shifts to [Beringova](#) the strait, and in August it shifts again to the west. During the winter months, the waters of the Arctic Ocean, which have a reserve of thermal energy, are constantly replenished by waters from [Atlantic](#), warm the atmosphere, give directly and through the ice cover their heat to the cold [Arctic](#) air. As a result, over the Arctic Basin [tempeair temperature](#) it falls below -40°C less frequently than

in neighboring land located at lower latitudes: in the Verkhoysk-Oymyakon region, it drops to -67°C and about 64°N. sh. up to -70 °C.

Medium [air temperature](#) in winter months in various regions of the Arctic Ocean it fluctuates from +3 to -40 °C, in summer - from 0 to +10 °C.

The characteristics of the temperature regime in the regions of the RF AZ are given in Table 1.

Table 1. Characteristics of the temperature regime in the regions of the Arctic Zone of the Russian Federation

	cold season	The lowest recorded t	warm season	Average annual t
Republic of Karelia	-9.0 °C to -13.0 C	-54.0°C	from +14.0°C to +17.0°C	from 0°C in the north to 3°C in the south
Murmansk region	-9 -10 °C	-45 °C on the White Sea coast and -51 °C in the central regions	+9°C to +11°C	-8 °C
Arkhangelsk region	-11-14oC	-45.2°C	+10 - +12°C	+0.8°C
Nenets Autonomous Okrug	-17-20oC	-47.6 C	+5 - +7°C	from -1 C in the southwest to -9°C in the northeast
Yamalo-Nenets Autonomous Okrug	-9°C to -20°C	-59°C	from +6°C in the north to +13°C	-10 °C
Krasnoyarsk Territory	-16.0 C	-52.8 C	+18.7 C	+2C
Republic of Sakha (Yakutia)	-36.3°C	-50 C	20.0°C	-7.5°C
Chukotka Autonomous Okrug	-16 to -40	-61°C	+5 to +13	-4.1°C
Republic of Komi	-15 to -22°	-55 C	from +11 to +17	-1 °C
The average air temperature in the winter months in various regions of the Arctic Ocean ranges from +3 to -40 °C, in summer - from 0 to +10 °C.				

Main part

To provide the population of the regions of the AZ of the Russian Federation with comfortable clothing, it is first necessary to analyze the climate of all territories that are included in these same territories.

The Republic of Karelia is a picturesque region popular with Russian and foreign tourists. Here combine untouched natural beauty, amazing sights and a modern level of service. Karelia welcomes guests all year round, but its changeable climate can greatly surprise an unprepared tourist. We will tell you why, when going to Karelia in the summer, it will not be superfluous to take a warm jacket with you.

The climate in Karelia is transitional, from maritime to continental. Proximity to the northern seas - the Barents, Baltic and White - makes itself known; cyclones constantly circle over Karelia, bringing with them increased humidity and a large amount of precipitation at any time of the year. Because of all this, the weather in Karelia is unstable and always

ready to surprise. No wonder the locals joke that when leaving the house in the summer, you need to take sunglasses and an umbrella with you.

Although, of course, in fact, everything is not so sad. Summer in Karelia is quite real, hot, with sandy beaches and sunburn. By the way, it is believed that the northern tan lasts longer than the southern one, and you can burn out in the midday July sun here just as easily as somewhere in Anapa. At the same time, this is still the North, so serious positive temperatures here are set strictly according to the calendar - in early June. Although if you are not too picky about the coolness of the night, then the end of May can already be considered the beginning of summer.

In summer, the average air temperature in Karelia is:

in June - 20 °C during the day, 11 °C at night;
in July - 20 and 14 °C;
in August - 20 and 13 °C.

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Of course, there are also very hot days here, much higher than the standard +20 °C. For example, the highest temperature record in Karelia was +36.0°C. Moreover, due to the increased humidity, heat and cold are perceived more strongly here than in drier regions.

Autumn comes to Karelia almost according to the calendar, in late August - early September. The nights are getting colder, the rains are getting longer, and the trees are rapidly covered with shining gold and crimson, turning Karelia into a magical kingdom. But Karelian autumn also has its advantages. For example, many tourists consider September to be the most suitable month of the year for hiking in the forests of Karelia. The temperature has not yet fallen below comfortable values, the suffocating heat does not annoy, and besides, the annoying gnat, which is dark here in the summer, almost completely disappears from the forests. In September, there are still berries and mushrooms in the forests, but still, if collecting wild ones is your main goal, then it is better to go for them in the second half of August. The average air temperature in Karelia in autumn by months:

September - 15 and 9 ° C;

October - 9 and 4 °C;

November - 2 and -2 ° C.

In fact, autumn in Karelia lasts no more than two, two and a half months, and very often in November there is already snow everywhere, marking the arrival of a long northern winter.

Winters in Karelia are snowy, frosty and stunningly beautiful. Perhaps that is why the flow of tourists here does not subside even in the cold season. The long New Year holidays provide an opportunity to try all the entertainment that Karelia has to offer, and, of course, visit all the available attractions, which are not few here. By the way, most of the Karelian sights are interesting even in the cold season. And some, for example, the Ruskeala mountain park, are so good that you want to see them twice: in winter and summer.

As for the frosts, then, of course, it could not do without them. The coldest month of the year is January, the average monthly temperature at this time it fluctuates from -10 to -14 °C. Such, in fact, low average values are possible here due to the variability of the Karelian climate already known to us. A burning morning frost below -30 °C may disappear without a trace by noon, replaced by light snow and quite comfortable temperatures in the region of -5 - 10°C. Average winter temperature in Karelia by months:

December - - 6 and - 9 ° C;

January - - 10 and -14 ° C;

February - - 9 and - 13 ° C.

It is important to remember that the region has high humidity, and in such a climate, even a slight frost will be felt more strongly than it would be in drier areas. It is especially important to take this into account in February, when winds and heavy snowfalls come to Karelia. So, if you are planning to visit the republic in winter, then do not forget to seriously warm up, and, of course, choose the right clothes for children.

Spring in Karelia is as short as autumn. March is considered a spring month for the most part nominally, because at this time there is still snow everywhere and it is quite frosty. Karelian nature is reluctant to wake up from its winter sleep, and quite often, especially in the northern regions of the republic, snow remains even in April. Only closer to May does a truly spring temperature begin to set in here, and during the day the thermometer consistently shows positive values. But still, the Karelian spring is weak and transient, and until the end of June, the danger of frost remains here. Average temperature in Karelia in spring:

March - -4 and -7 ° C;

April - 3 and 0 °C;

May - 8 and 6 °C.

By the way, professional rafters prefer to raft along spring rivers filled with melt waters, making the most of this time of year to get as much adrenaline as possible.

Climate in the Murmansk region

During the year, the average air temperature in Murmansk is 2.1°C. The coldest month in Murmansk is January with an average temperature of -12.4°C, and the warmest is July, when the thermometer rises to an average of 13.2°C. Average atmospheric air pressure and humidity in Murmansk throughout the year. The average annual atmospheric pressure in Murmansk is 753 mm Hg, and the air humidity is 78%. Frequency (%) of clear, cloudy and overcast skies in Murmansk during the year. Enter the name of the locality. Weather archive in Murmansk. Local time: 16:02. Temperature, °C. Average monthly. Average maximum. Average minimum. January February March April May June July August September October November December -30 -25 -20 -15 -10 -5 0 5 10 15 20 25 .

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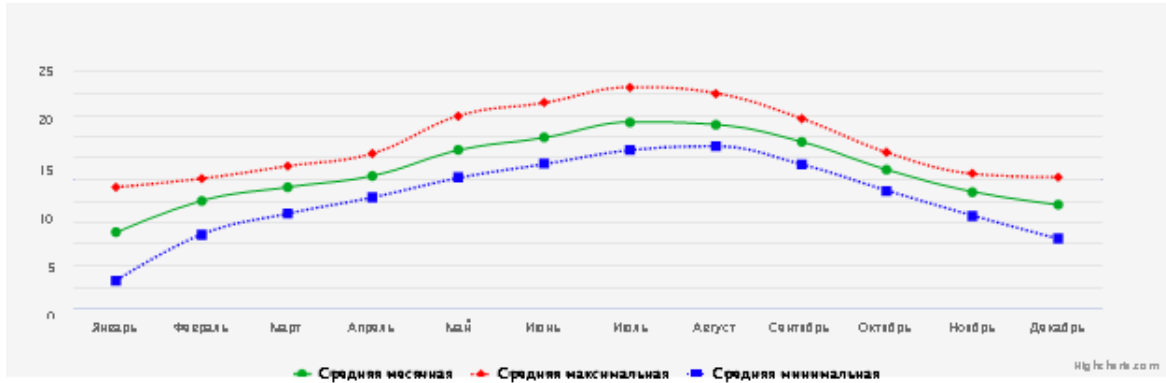


Figure 3. Characteristics of the temperature regime in the Murmansk region

Climate in the Arkhangelsk region

The region is located in the north of the East European Plain. Includes the Solovetsky archipelago. The territory of the region is washed in the west by the waters of the White Sea, forming bays - Mezensky, Dvinsky, Onega. The region covers an area of 311.5 thousand square meters. km (excluding the NAO, the islands of Franz Josef Land and Novaya Zemlya). The region has a dense network of rivers and lakes. All rivers (except the Ileksa River) belong to the Arctic Ocean basin. The largest rivers are the Northern Dvina (with tributaries of the Vychegda, Pinega and Vaga), Onega, Mezen. There are many lakes in the region, especially in the Onega basin. The largest lakes are Lacha, Kenozero and Kozhozero. In the north, the region borders on the Nenets Autonomous District, in the east on the Komi Republic, in the south on the Vologda and Kirov regions, in the west on the Republic of Karelia.

Duration of cold (average air temperature below 0°C) / warm (average temperatureair above 0°C) periods vary from 197/168 to 165/200 days across the territory. In the Mezensky, Leshukonsky and in the north of the Pinezhsky district, the cold period is longer than the warm one by 3-29 days, in the rest of the territory the picture is reversed - the warm period is longer than the cold one by 3-35 days.

In the south, the warm period begins in early April, in the north - in late April - early May. In autumn, the transition of the average daily air temperature through 0°C to negative occurs in the second - third decade of October.

The annual course of air temperature in different parts of the territory under consideration is of the same type, the differenceonly in amplitude. On the coast, the difference in air temperatures between the coldest and warmest months is 20-24°C, in continental regions - 29-33°C.

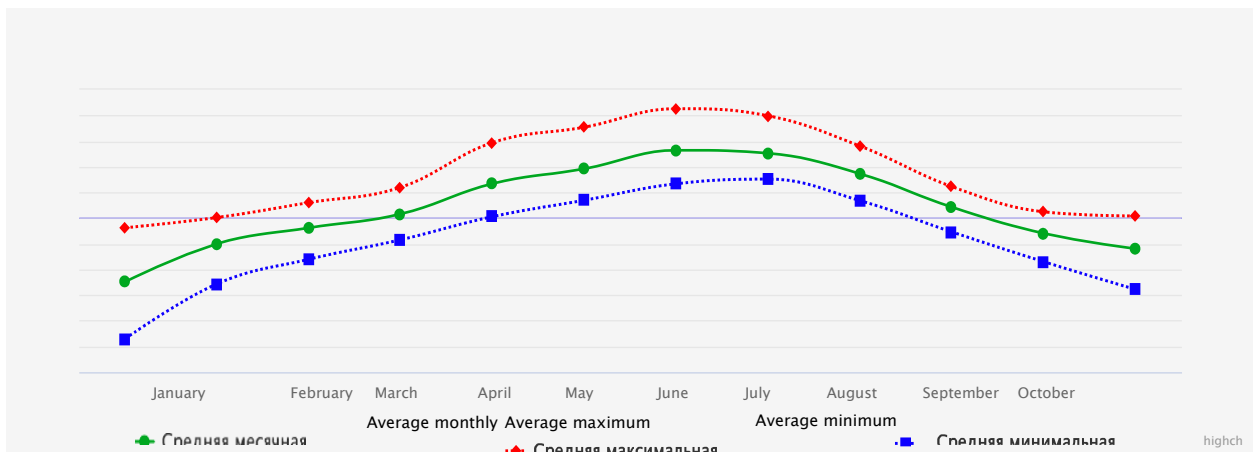


Figure 4. Characteristics of the temperature regime in the Arkhangelsk region

The warmest month of the year is July, the coldest is January.

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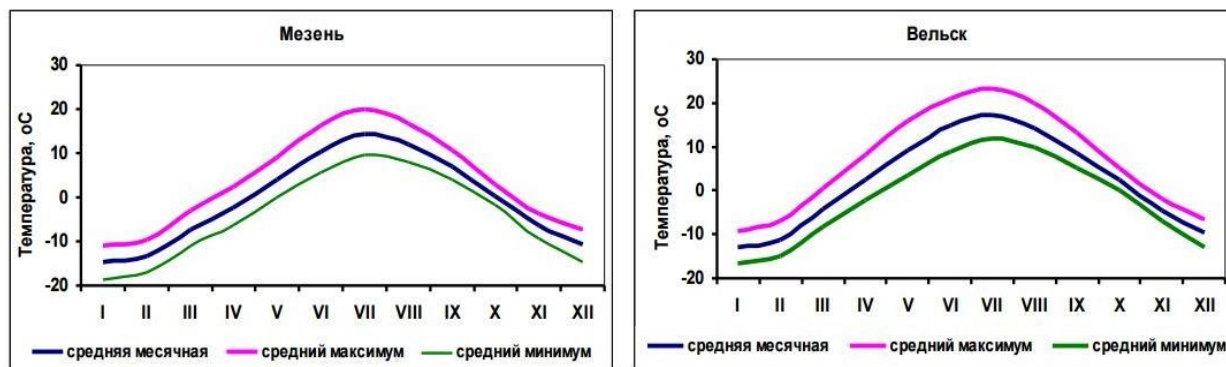


Figure 5. Characteristics of the average monthly air temperature, average maximum and average minimum.

On the coast, winters are milder, the average temperature for the season is $-8 \dots -10^{\circ}\text{C}$. As we move deeper territory, its severity increases and the average temperature for the winter is $-11 \dots -14^{\circ}\text{C}$. On some days the air temperature can drop to $-50 \dots -55^{\circ}\text{C}$ in the east and north-east, to $-40 \dots -42^{\circ}\text{C}$ on the coast. In summer, the air temperature decreases from south to north. The average temperature during the summer varies from $14\text{--}15^{\circ}\text{C}$ in the southern and central regions to $10\text{--}12^{\circ}\text{C}$ in the north. The maximum air temperature on some days reaches $33\text{--}36^{\circ}\text{C}$.

The average maximum temperature characterizes the warmest part of the day (afternoon hours), the average minimum temperature characterizes the temperature of the coldest part of the day (night hours).

The annual course of the average maximum and minimum air temperature is similar to the annual course of the average monthly temperature (Figure 5).

The geographical distribution of different wind directions and speeds is determined by the seasonal state of the atmospheric pressure field. In the cold season, the wind regime of the territory under consideration is formed mainly under the influence of the Icelandic low. From September to March, the winds of the southern quarter prevail - southeast, south, southwest.

In April, winds of both the southern and northern quarters are equally probable almost everywhere.

In summer, the intensity of the general circulation of the atmosphere over the entire Northern Hemisphere decreases. The western part of the Barents Sea is under the influence of an area of high pressure, the north of the European part of Russia is in a zone of low pressure associated with the warming of the continent and the winds of the northern and northwestern directions prevail.

In general, during the year, the winds of the southern quarter prevail in most of the region, however, local features of the relief exert their influence on the wind regime.

Climate in the Nenets Autonomous Okrug

The Nenets Autonomous Okrug (NAO) is located in the north of the East European Plain, most of it is located above the Arctic Circle. Includes the islands of Kolguev and Vaygach, the Kanin Peninsula. The territory of the district is washed in the west by the waters of the White, in the north of the Barents and Pechora, in the north-east of the Kara Sea, forming numerous bays - bays: Mezenskaya, Czech, Pechora, Khaipudyrskaya, etc. The territory of the district, together with the islands of Kolguev and Vaigach, is 176.81 thousand. sq. km.

On the territory of the Nenets Autonomous Okrug there is a dense network of small rivers and small lakes, often connected by short channels. The main river is the Pechora.

In the south, the district borders on the Komi Republic, in the southwest - on the Arkhangelsk region, in the northeast - on the Yamalo-Nenets Autonomous District.

The thermal regime of air is formed under the influence of atmospheric circulation, the radiation regime and the underlying surface, as well as local conditions.

The average annual air temperature decreases from west to east from $-1.0 \dots$

-1.5°C to -7.0°C on the coast, from -3.0°C to -5.0°C in inland areas.

The annual course of air temperature in different parts of the territory under consideration has its own characteristics. On the coast, the difference in air temperatures between the coldest and warmest months is $19\text{--}28^{\circ}\text{C}$, in continental regions - $30\text{--}33^{\circ}\text{C}$.

The duration of the cold period (average air temperature below 0°C) increases from west to east from 205 to 245 days, while the duration of the warm period (average air temperature above 0°C) increases in the opposite direction.

A stable transition of air temperature through 0°C to a positive temperature in spring in the west is observed on average in the first ten days of May, and in the extreme northeast - a month later.

In autumn, negative temperatures in the east are set in the first decade of October, in the west - in the

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second, on the Kanin Peninsula - in the third decade of October.

The warmest month of the year is July, and the coldest months are January-February (Figure 6).

In the west, winters are milder. As you move east, its severity increases. The average winter air temperature in the west is -8...-14°C, in the east -

17...-20°C. On some days, the air temperature can drop to -45 ... -54°C.

In summer, the northeastern part of the European territory of Russia is in very favorable lighting conditions, but a large amount of heat is spent on melting snow and ice, warming up air masses, so the temperature in summer is low.

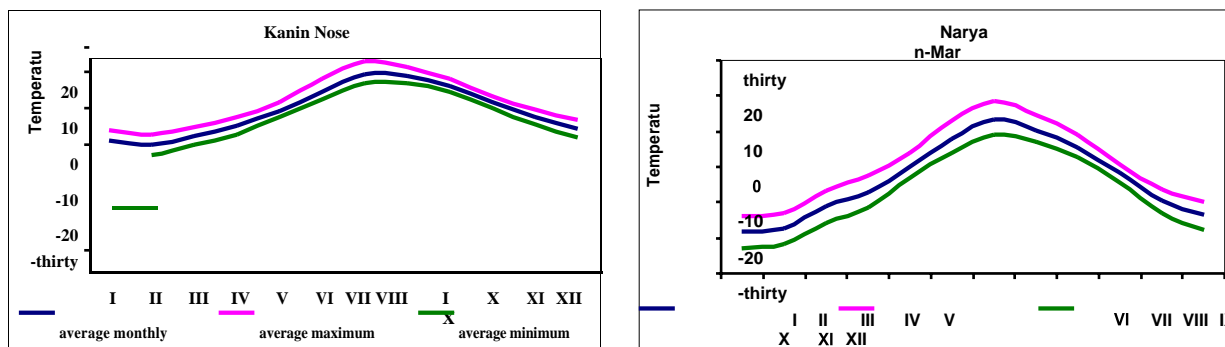


Figure 6. Annual variation of air temperature in the Nenets Autonomous Okrug

In summer, the air temperature decreases in the direction from south to north. The average temperature per season varies from 10-11°C in the south to 5-7°C in the north. The maximum air temperature on some days reaches 30-34°C.

The annual variation of the average maxima and minima is similar to the annual variation of the average monthly temperature, since it is determined by the same circulation processes and the characteristics of the underlying surface.

The geographical distribution of different wind directions and speeds is determined by the seasonal state of the atmospheric pressure field. In the cold season, the wind regime of the territory under consideration is formed mainly under the influence of the Icelandic low. From October to March, predominantly southerly and southwesterly winds prevail over most of the territory. In April and May the winds are unstable. On the coast, the winter distribution of wind direction recurrence mainly remains. In continental regions, there is a high frequency of western and northwestern directions.

In summer, there is a further weakening of the intensity of the general circulation of the atmosphere over the entire Northern Hemisphere. Atlantic cyclones move along more southerly trajectories compared to the cold period. In the western part of the Barents Sea there is a weakly expressed area of high pressure, the north of the European part of Russia is located in a zone of low pressure associated with the heating of the continent. In accordance with this, arctic air often enters the continent from the north, and northern winds prevail.

The beginning of autumn is characterized by the intensification of cyclonic activity, the frequency of

southwestern winds, characteristic of the winter season, increases.

Climate in [Republic of Komi](#)

The geographical position of the Komi Republic in relatively high latitudes, its remoteness from the warm Atlantic Ocean and the proximity of the vast Asian continent cause a temperate continental climate in the republic, which differs significantly from the climate of the rest of Europe. The large length of the republic from south to north and from west to east, as well as the variety of physical and geographical conditions, create a significant difference in the climate of its individual regions.

The climate of the Komi Republic is severe: summer is short and cool, and cold in the northern regions; winter is snowy, long and frosty. During the year, a significant amount of precipitation exceeds evaporation.

Winter on the territory of the republic is cold and is the longest period.

The cold period of the year in the north-east of the republic lasts 230-250 days, in the south 170-180 days. As we move to the northeast, not only the duration of the cold period increases, but also its severity. In the coldest month of the year (in January), the average monthly air temperature in the south of the republic is about -15°C, and in the northeast -21°C, -22°C. On some days, during the intrusions of arctic air, the temperature can drop to -55°C in the north and in the central part, and to -45°C in the south of the republic.

Summer in the republic is moderately warm. In summer, the northern part of the republic is in very favorable lighting conditions. To the north of the

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Arctic Circle, the polar day is established, during which the sun does not set below the horizon. Due to this, the earth's surface receives a significant amount of solar energy. However, a large amount of solar radiation is reflected by the earth's surface, and is also spent on melting snow, on evaporation of moisture, on warming up the soil, as a result of which the temperature in summer is not high here.

In summer, on clear and especially on calm days, the soil temperature is usually much higher than the air temperature. Even in areas where permafrost is already at a depth of 1.0-1.5 m (13% of the entire territory), the temperature on the soil surface on some days can reach up to +40°C. In winter, the depth of soil freezing in the south of the republic is about 60 cm, and in the north - more than 100 cm.

Average temperature: January: -17°C (in the southern part) and -20°C (in the northern part), July: +11°C (in the northern part) and +15°C (in the southern part) precipitation: from 700 mm per year. From October 1, in the city of Vorkuta, and in the Priluzsky district, at the end of the 2nd decade of October, the air temperature drops below 0°C.

Climate in Yamalo-Nenets Autonomous Okrug

The Yamalo-Nenets Autonomous Okrug is located in the arctic, subarctic and temperate zones in the northern part of the Arctic, where the Yamal, Gydansky and Kara Sea islands are located. The winter is long (more than 8 months), severe, the duration of stable frosts is 220 days. Wed January-February temperatures are -27 °C and below (absolute minimum -55 °C, Gyda). The height of the snow cover is 20–25 cm, the duration of occurrence is 240 days or more. Strong winds (up to 20–30 m/s), snowstorms (more than 100 days) are typical. Fog is not uncommon in the west of Yamal and on the islands. Summer is short (about 50 days), cold. Wed July temperature 3.4-4.5°C (max. 31°C). Cloudy weather prevails with drizzling rain. Precipitation is less than 200 mm per year. In the center and southern regions of the peninsulas (up to the Arctic Circle) the climate is subarctic. The winter is severe, the duration of stable frosts is 200–210 days. Wed January temperature is from -22 (-24) °C in the west to -26 (-27) in the east, and the absolute minimum is -57 °C Tazovsky). The height of the snow cover is 35–50 cm, the duration of occurrence is 210–220 days. Summer is cool (65–68 days). Wed July temperature 8–13 °C (absolute maximum 28 °C, Marre-Sale). Precipitation 250–280 mm per year (predominantly in the 2nd half of summer). Vegetac. period up to 44 days. In the southern part of the district, the climate is continental, the degree of its continentality increases towards the east. The winter is cold, the duration of stable frosts is 180–190 days. Wed January temperatures range from -23°C in the west to -26°C in the east (absolute minimum -61°C, Tarko-Sale). The height of the snow cover is from 60–70 cm in the mountains to 80 cm in

the east (the basin of the Taz River), the duration of occurrence is 200 days. Avalanches are dangerous in the mountains. Wed July temperature 14–16 °C (absolute maximum 34 °C, Tolka). Precipitation up to 500 mm per year (mainly in August). The growing season is 110–115 days. All in. regions, continuous permafrost (thickness 300–400 m) is widespread, in the south - discontinuous; under the river beds - thawed soils.

Climate in the Krasnoyarsk Territory

Climate is a long-term weather regime characteristic of a given area due to its geographical location. By climate it is customary to understand the average value of weather over a long period of time (of the order of several decades), that is, climate is the average weather. Thus, the weather is an instantaneous state of some characteristics (temperature, humidity, atmospheric pressure).

Climatic conditions are determined by the geographical location of the area, the level of solar radiation, the circulation of air masses, and the influence of the underlying surface.

The climate of the Krasnoyarsk Territory is characterized as sharply continental, especially severe in the north. Winter is long. The average January temperature is from -30 to -36 °C in the north and the Central Siberian Plateau and from -18 to -22 °C in the regions of Yeniseisk, Krasnoyarsk and in the south. Summer in the central regions is moderately warm, in the south - warm. The average temperature in July is from +13 °C in the north (on the shores of the seas less than +10 °C) to +16-18 °C in the center and up to +20 °C in the south. The duration of the frost-free period is from 73-76 days (Khatanga, Tura) to 103-120 days (Yeniseysk, Krasnoyarsk). Precipitation is predominantly summer. Their number ranges from 200-300 mm per year in the north to 400-600 mm on the Central Siberian Plateau and 800-1200 mm on the northern slopes of the mountains of Southern Siberia; in the intermountain basins of the southern part - 250-300 mm. In most of the region, especially to the north of the Lower Tunguska, permafrost is widely developed.

The deviation of the weather from the climatic norm cannot be considered as climate change, for example, a very cold winter does not indicate a cooling of the climate. To detect climate change, a significant trend in the characteristics of the atmosphere over a long period of time of the order of ten years is needed.

The global weather monitoring system is only 100 years old. Only a century ago, reliable instrumental measurements of all meteorological parameters began to be carried out according to uniform standards on the same equipment throughout the globe. In Siberia, climate research is carried out by the Central Siberian Department for Hydrometeorology and Environmental Monitoring,

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which includes one and a half thousand unique specialists, 113 weather stations and 10 aerological stations, weather balloons, radars, UAZ vehicles and satellite systems. The problem of maintaining the meteorological service system in the country is now acute: funding from the federal budget is being reduced, which leads to a change in the observation program (aerological stations are transferred to one-time sounding, the number of samples taken is reduced, night observations of air pollution are removed, reduced transport costs), cut wages of workers. Under such conditions, it is difficult to ensure the safety of people's livelihoods in terms of predicting situations in nature. Over the past 20 years, this institution has recorded a steady trend in temperature increase, especially in winter in Siberia. Abnormally high temperatures in the winter of 2013 caused the following natural phenomena: willow blossoms in December; they could not sleep, the impossibility of transport communication for 30 thousand inhabitants of the Krasnoyarsk Territory (in December 2013, out of forty winter roads in the Krasnoyarsk Territory, only seven operated and not a single ice crossing). Over the past 20 years, this institution has recorded a steady trend in temperature increase, especially in winter in Siberia. Abnormally high temperatures in the winter of 2013 caused the following natural phenomena: willow blossoms in December; they could not sleep, the impossibility of transport communication for 30 thousand inhabitants of the Krasnoyarsk Territory (in December 2013, out of forty winter roads in the Krasnoyarsk Territory, only seven operated and not a single ice crossing). Over the past 20 years, this institution has recorded a steady trend in temperature increase, especially in winter in Siberia. Abnormally high temperatures in the winter of 2013 caused the following natural phenomena: willow blossoms in December; they could not sleep, the impossibility of transport communication for 30 thousand inhabitants of the Krasnoyarsk Territory (in December 2013, out of forty winter roads in the Krasnoyarsk Territory, only seven operated and not a single ice crossing).

March 2014 in Krasnoyarsk set three meteorological records at once.

The average monthly temperature in the month was 5.1 °C above the norm: instead of the expected - 6.6 °C, in fact it was - 1.5 °C. Precipitation was 20 mm at a rate of 15, that is, about 130% of the norm.

Air temperature record: on March 19, the temperature was +13.6 °C, the previous record was in 2007, when it was only +10 °C. On March 20, the temperature rose to +14.6°C, which was 6°C higher than the previous record in 1973.

The record for the beginning of a "temperature" spring: the average daily temperature steadily crossed 0 °C already on March 13, and the previous earliest transition was in 1989, on March 22.

Scientists have not yet come to a consensus on the reasons for the change. There are suggestions that climate change is associated with human activities on Earth. For example, the presence of greenhouse gases, whose molecular size is commensurate with the size of a wave of long-wave radiation and contributes to a stronger heating of the atmosphere when heat spreads from converted solar radiation into the atmosphere, places the responsibility for climate change entirely on humans. Another point of view is that, like any physical body, the climate system, together with forced, provoked external factors, has its own or free fluctuations. The Earth has already had ice ages and periods of colossal heat, so such climate changes are natural processes.

According to Professor John Baddington, scientific adviser to the British government, we have moved from the idea of global warming to the concept of climate change. He noted that the temperature on the planet is rising, but more importantly, the weather is becoming more changeable.

According to VL Syvorotkin, the main cause of weather (and climate) anomalies is fluctuations in the total ozone content (TO) in the atmosphere. The reasons for these fluctuations are the emission of deep, ozone-destroying gases (hydrogen and methane) and geomagnetic field variations that increase the ozone concentration. Hazardous meteorological phenomena are formed in the contact zone of different sign TO anomalies – air whirlwinds, heavy rainfall, causing floods.

Climate in the Republic of Sakha (Yakutia)

The Republic of Sakha (Yakutia) is the most severe region of the northern hemisphere. At the same time, this is an amazing place, the nature of which is full of unexpected contrasts. Here, a record-breaking winter in terms of duration and low temperatures is combined with a hot summer. The Republic is part of the Far Eastern District and covers an area of more than three million square kilometers - it is the largest subject in the Russian Federation.

Climate of Yakutia (Yakutsk) by months:

Often, Yakutia is called the land of permafrost, although summer here can be very hot and dry. This is due to the sharply continental type of climate, in which there is a high temperature difference in winter and summer. So, in Yakutia it is 70-90 °C. On the territory of the republic there is the coldest point of the Northern Hemisphere - the village of Oymyakon, where a temperature record of -71.2 °C was recorded. Closer to the coast, the climate becomes less continental, the amplitude of temperature jumps decreases.

Spring

Spring comes at the beginning of May and proceeds swiftly. The snow melts quickly, ice breaks sharply on the rivers, floods come. By the middle of the month, the daily temperature reaches +5 °C, and

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in the last days of May it already exceeds +20 °C. However, at night there can still be frosts - up to -10 °C. Then summer kicks in.

Table 2. City of Yakutsk(Yakutia, Russia)

	March	April	May
<i>Average maximum temperature</i>	-14°C	-2°C	+11°C
<i>Average minimum temperature</i>	-19°C	-6°C	+4 °C
<i>Number of sunny days</i>	1 day	1 day	6 days
<i>Number of snowy/rainy days</i>	0 days	1 day	2 days
<i>Precipitation in mm (per month)</i>	14 mm	41 mm	56 mm

Summer
This is the most picturesque time of the year in Yakutia, which starts closer to the middle of June and lasts only 2 months. The warmest of them is July. At this time, the daily temperature can reach +35..+40°C. The warmest place is in the central part of the republic, but on the coast and the Arctic islands the

average temperature does not exceed +5°C even on the sunniest days. There are often fogs and drizzling rains. In June, a wonderful time comes - the time of white nights, when the duration of daylight hours can reach 20 hours. City of Yakutsk (Yakutia, Russia)

Table 3.

	June	July	August
<i>Average maximum temperature</i>	+21°C	+24°C	+20°C
<i>Average minimum temperature</i>	+13°C	+16°C	+13°C
<i>Number of sunny days</i>	10 days	12 days	11 days
<i>number of rainy days</i>	2 days	2 days	3 days
<i>Precipitation in mm (per month)</i>	32 mm	47 mm	42 mm

Autumn
Autumn in Yakutia comes in August and is characterized by rapid cooling. The average daily temperature drops below +15°C, and in September long drizzling rains begin, followed by snowfalls. By

the beginning of October, almost all rivers freeze, the snow stops melting, and temperatures drop below zero throughout the region. City of Yakutsk (Yakutia, Russia)

Table 4.

	September	October	November
<i>Average maximum temperature</i>	+8 °C	-4°C	-23°C
<i>Average minimum temperature</i>	+4 °C	-7 °C	-24°C
<i>Number of sunny days</i>	6 days	3 days	2 days

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<i>Number of rainy/snowy days</i>	2 days	1 day	1 day
<i>Precipitation in mm (per month)</i>	51 mm	37 mm	16 mm

Winter

Winter is the longest season in the Sakha Republic. In the Northern Hemisphere, Yakutia has no analogues in terms of the duration of winter. On average, it lasts from 7 to 9 months and starts in October. The combination of severe frosts and low rainfall forms permafrost. In the west of Yakutia, there is the world's thickest layer of permafrost - up to 1500 m. The average air temperature in January is -35°C. The coldest is in the regions of Oymyakon and

Verkhoyansk - -50 ° C and even lower. In winter, the sun does not rise at all high, so daylight hours last no longer than 5 hours. And beyond the Arctic Circle comes the polar night - the sun in these places does not rise completely even during the day.

Winter in Yakutia has its own charm - sometimes, at night, the cloudless sky is illuminated bright flashes of northern lights. This amazing natural phenomenon is observed here more often than in other parts of the world.

Table 5. City of Yakutsk(Yakutia, Russia)

	December	January	February
<i>Average maximum temperature</i>	-33°C	-33°C	-29°C
<i>Average minimum temperature</i>	-34°C	-35°C	-32°C
<i>Number of sunny days</i>	4 days	4 days	2 days
<i>Number of snowy days</i>	0 days	0 days	0 days
<i>Precipitation in mm (per month)</i>	3 mm	7 mm	5 mm

Climate of the Chukotka Autonomous Okrug

The Chukotka Autonomous Okrug differs for its not very high latitudes by a very harsh climate - much more severe than in neighboring Alaska. In general, it has a monsoon-like character (especially on the Bering coast), with long winters (windy in the east and very cold in the west) and short but rather warm summers in most of the district.

The average annual temperatures throughout the entire territory of Chukotka are deeply negative, falling from south to north from -4°C to -12°C. Moreover, from east to west - from the tip of the Chukotka "wedge" into the interior of the territory - the continentality of the climate is rapidly increasing. Average temperatures in July, for example, rise from + 4°C to + 14°C, and in January they decrease from - 18°C to - 42°C. The duration of sunshine is from 1000 to 1800 hours (or 1.5-2.5 months) per year.

The Chukchi coast of one of the most stormy Bering Seas in the world is one of the most windy regions of Russia. During 5-5.5 months of the year, the wind speed in some places exceeds 15 meters per second (in the continental regions of the Okrug, such winds rage for no more than 3-5 days). But on the coasts, winds with a speed of more than 40 meters per second occur every year for several days, or even weeks. Record squalls reach 80 meters per second!

The weather in Chukotka is determined by the combination of four circulation factors of the Earth's Northern Hemisphere here at once. Therefore, it is distinguished, on the one hand, by overall good predictability, and, on the other hand, by extreme variability in space and time. The weather can change dramatically (especially on the coasts) within one or two hours and for 10-20 kilometers. Pressure drops per day can be 50 mbar, and winter temperatures - 30°C. Sudden blizzards "break down" in places even at a pressure of 780 mm (1020 mbar). Powerful fronts of breezes, fogs, etc. are observed in spring. And if we add to this such natural phenomena as frequent ice, powerful snow accumulation, prolonged winter blizzards, a constant lack of heat and a harsh wind regime, then the extreme complexity of developing this harsh polar region will become clear.

The light industry market is also growing due to sociocultural progress, in particular, thanks to the development of professional sports, an increase in demand for those who choose sport as a way to a healthy lifestyle. At the end of 2020, the Sport Express newspaper published an interview with A. Grebtsov, Chairman of the Board of the Russian Outdoor Group. "The outdoor market serves mountaineering, tourism, extreme sports, special forces, rescue units, polar services and troops. These are areas that require heavy-duty, frost-resistant, waterproof equipment that

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meets the latest global standards of safety and comfort." A. Grebtsov gave interesting details, in particular, he compared the technological base for the production of quality products in the Russian Federation, Europe and Asia. We are "somewhat behind", according to him, from the Asian potential, but with Europe "We can definitely compete ... in Russia there are about 30 (!) Enterprises that can sew well." After the introduction of the import ban for state orders and state defense orders, the share of materials from the member countries of the Customs Union supplied to the country's law enforcement agencies increased from 30% in 2017 to 93% in 2022. D. Manturov believes that in order to consolidate the results achieved, it is important:

- make it clear to large retail chains the importance of acquiring and distributing goods produced in Russia, of course, taking into account their proper quality;
- to place first of all orders for production from those "who have already got on their feet and know how to sew." They were able to prove their worth;
- to assist enterprises in obtaining European certification, otherwise foreign firms will not be interested in them, and the goods produced by us will not get to the West;
 - actively support enterprises in the provision of collective stands at international exhibitions;
 - provide such enterprises with subsidies on loans for the purchase of raw materials and materials. The share of these loans in the total volume of lending should be from 50 to 85%;
 - exempt modern imported equipment from import duties and VAT, such as equipment used in sewing shops, 90% is imported;
 - implement preferential leasing.

As you can see, the program of D. Manturov systematizes the main and primary steps in the direction of the light industry in order to return it to its former meaning. However, Heraclitus was right when he said that you cannot step into the same river twice. The rise of the light industry can only be carried out on a new technological, economic and legal basis.

Never before have shoe companies found themselves in such a situation as they are now. All markets are divided into many segments. Specialization has reached such a level that one can still hide from competition only in a small space between two adjacent segments of different markets or of the same market.

When creating new enterprises for the production of footwear, these five subjects of the Southern Federal District and the North Caucasus Federal District, identified in a competitive environment, are not attractive due to the successfully developed shoe production.

As a result of segmentation, it was determined that the population of the two districts is unevenly distributed over the territory. The income of the

population is much less than the average for Russia. When forming the assortment of footwear, one should also take into account the fact that a large proportion of the population is rural residents. It is also necessary to take into account the national characteristics of the inhabitants, their traditions. What is the main thing today for success in the market of many new and established firms, small, medium and large enterprises, many of which were small not so long ago, for numerous commercial structures and joint ventures? This is the ability of enterprises to provide the consumer with products of higher quality than before, and, moreover, at the same or lower price.

Modern production, or, as it is commonly called, world-class production, must meet the following requirements:

- have greater flexibility, the ability to quickly change the range of products. The life cycle of products has become shorter than ever, the diversity of the product range is higher, and the serial production, the volume of batches of one-off production, is smaller. Hence, production focused on the production of mass, standardized products (strictly complying with standards, specifications, technical conditions), which is not able to constantly adapt to the needs of real, often small groups of consumers, is now doomed to extinction;
- use new forms of control, organization and division of labor, taking into account the more complex production technology;
- rely on integrated quality management. Quality requirements not only increased, but also changed the nature of decision-making: it is not enough to produce good products, you still need to think about organizing after-sales service, about providing additional branded services to consumers who are highly individualized in their requests;
- simultaneously improve product quality and reduce costs. If before it was possible to offer the consumer a lower quality product at a lower price and, conversely, a high price always corresponded to high quality, but today the situation has changed. Higher quality of the product should be provided at the expense of the same lower price.

Now in our country there is a situation where most of the population has a very modest income, and it is she who is a potential buyer of mass-produced products.

The light industry market is an integral element of economic relations, the main participants of which are, on the one hand, manufacturers, and on the other, consumers. Light industry products, which are one of the most complex groups of non-food products with a very diverse assortment, act as goods on this market.

Thus, the value of the market for light industry products is to meet the needs of the population. Accordingly, the development of the market leads to an increase in the level of security of an individual member of society. Markets are made up of buyers,

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and buyers differ from each other in a variety of ways: by their needs, financial and other opportunities, location, buying attitudes and buying habits. In market segmentation, businesses subdivide large heterogeneous markets into smaller (and more homogeneous) segments that can be served more efficiently, according to the specific needs of these segments. In order to successfully sell their products, manufacturers first of all need to segment the consumer market and determine the target segment of this market.

In a general sense, market segmentation is understood as the process of dividing the market into groups of consumers according to predetermined characteristics, which allows you to concentrate funds on the most effective. A market segment is a homogeneous set of consumers who react in the same way to a product and how it is presented.

Target segment (market) - a segment selected as a result of a study of the sales market of a particular product or service, characterized by minimal costs for the means of promoting the product and providing the enterprise with the main share of the result of its activities (profit or other criteria for the enterprise to enter this market).

Segmentation of the light industry market in the Southern Federal District and the North Caucasus Federal District can be carried out both on the basis of one and with the consistent use of several indicators clearly presented in the diagram (Table 2).

Results of segmentation of the analyzed basic market of light industry products for the regions of the Arctic zone of the Russian Federation can be presented in the form of table 2 ratings. The segment with the minimum number of seats in the end is the highest priority.

Table 6.

Criteria for segmenting the market for light industry products for the regions of the Arctic Zone of the Russian Federation				
Segmentation subject	Segmentation object	Segmentation by population	Segmentation by income level	Segmentation by average salary
All enterprises producing or intending to produce light industry products for the regions of the RF AZ	Regions of the Arctic Zone of the Russian Federation	The larger the population of the segment, the more profitable for the enterprise	The higher the profitability of each resident of the regions of the Russian Arctic, the greater the chance to purchase light industry products	The higher the salary of a resident, the greater the chance that he will spend it on the purchase of light industry products

As a result of the analysis of Table 2, two regions and three regions were identified where the greatest segmentation of the consumer market from the regions of the Russian Arctic is observed: the Republic of Sakha (Yakutia) - 2.15%, Chukotka Autonomous Okrug - 2.65%, Krasnoyarsk Territory - 2.7%, Yamalo - Nenets Autonomous Okrug - 3.25%, Nenets Autonomous Okrug - 5.4%. However, when conducting segmentation, it is necessary to take into account the goals of segmentation. As a result of segmentation, it was determined that the population of the regions of the Arctic Zone of the Russian Federation is unevenly distributed over the territories. The income of the population is much less than the average for Russia. When forming light industry products, one should take into account the fact that a large proportion of the population is rural residents. It is also necessary to take into account the national characteristics of the inhabitants, their traditions. When organizing the marketing of manufactured light industry products, one should take into account

The correct definition of quality, consistency and systematic quality management gives the

manufacturer a decisive advantage in the competition for the consumer. It would seem that everything is simple, but simplicity is equally ingenious and deceptive. The general plan for solving the problem determines the vector of movement, sets the factorial priorities of the activity - nothing more.

The product produced by man is dual in nature, it combines the natural properties of raw materials and the features introduced into it by human labor. A product has a rental value and an added value. In this context, it is not the cost that is important - it serves as a quantitative equivalent of the quality of the goods in general, but the result of labor - in the form of a transformation of the natural state of the object. The product of human activity has a natural, basic, level and a superstructural, introduced one. Hence the need for a dualistic perception of the quality of the product, which should not be interpreted primitively as a double quality. The quality of the commodity is one, but the production duality of the product is associated with it.

Such a two-sided quality of the goods misleads those who, without understanding the art of dialectical

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thinking, seek to put everything “on the shelves”, forgetting about the structure of which these shelves are parts. The quality of the goods is only determined by a natural basis, but it is built artificially.

The quality of goods has several creators. This is a fashion designer, designer, technologist, manager; their qualifications, experience is measured without problems. Others are also within reach, only their measurement is difficult, especially when it comes to the consumer.

The economic situation affects both producers and consumers, shakes the market on the waves of its uneven movement, and along with purchasing power, the idea of quality.

Outwardly, the definition of the quality of a product produced for sale on the market seems to be an impossible task, because for this it is necessary to combine not converging, but (mostly) diverging views. Involuntarily, Krylov's Fish, Cancer and Pike, who undertook to drag the cart, are recalled. In our case, there are even more subjects.

The designer, technologist, manager (they can be combined) develop their understanding of the quality of the goods, they are connected by the common interest of the manufacturer. The buyer has a special approach to quality. As a consumer, he is not sure about the integrity of the manufacturer. In addition, the buyer has his own tastes, reasons, due to the real buying opportunity. There are also the interests of the market, which has turned it into an independent object. By controlling the market, the intermediary - the speculator - is able to form an image of quality in his own interests, in particular, through advertising, the provision of priorities, etc. Finally, there is the quality of the product itself, expressed in the totality of properties of natural origin and added by the manufacturer. As a result, we came to the “quality square”, which combines the qualities of the product and the image of quality.

The most serious contradiction, apparently, remains the divergence in the images of the quality of the product by the manufacturer and the consumer. The special importance of a different approach to the quality of the manufacturer and consumer is natural. They are the main subjects of the system of economic relations, they have a common goal - the product. The former produce it, the latter consume it, but they have different motives due to different positions in the system and the culture of perceiving the goal.

The manufacturer creates a product, but not the product - the ultimate goal of the manufacturer, but the realization of the product. The direct connection between the producer and the consumer is therefore local, which negatively affects the producer. The seller blocks the consumer from the manufacturer, and

the manufacturer is forced to focus not on the market, but on the market situation, most often artificially formed by the speculator and advertising - questions of prices, cost and profitability. But one thing is true: it is a constant evaluation and revision of the entire range.

And most importantly, once again I would like to emphasize that all this will become a reality if one main condition is met, namely, if domestic products are produced of high quality and taking into account the interests of this very consumer.

As an object of study, the criteria for a reasonable choice of a package of materials in the production of a suit for special employees of the regions of the Arctic. At the same time, preferences will be specified that would guarantee them comfortable conditions in the performance of their official duties.

The environment for a person in clothes and shoes is air, hard ground or snow and water. Individual areas of the human foot may be in contact with any of these media. In cold conditions, with the difference between the temperatures of the human body and the environment, there is a continuous heat exchange, the transfer of thermal energy from the human body to the environment. Under rapidly changing environmental conditions and the regime of physical activity, it is almost impossible to maintain a state of thermal balance. The process of cooling the feet is accompanied by the appearance of various uncomfortable sensations in the wearers of the shoes.

The development of mathematical models of the “man-suit-environment” system, which makes it possible to create algorithms for calculating the initial parameters for personal protective equipment for a person, is an urgent and direct task of mathematical modeling as part of the development of personal protective equipment for a person located in climatic zones with elevated temperatures.

Figures approximating the human body are considered as systems with distributed or lumped parameters. When approximating the body with one cylinder, one can speak only of an approximate reproduction of the thermal regime of a person. A rough approximation is provided by models in which the thermal conductivity, heat production and heat loss of body tissues are taken constant over the entire thickness of the cylinder or layer. Most authors do not take into account the system of human physiological thermoregulation. They consider a person in comfortable conditions, when the mechanisms of thermoregulation are inactive. Our studies take into account the thermoregulation system.

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Figure 7. A)



Figure 7. b)

Figure 7. - set: a - suit set for a territory with moderately low temperatures (Republic of Karelia), b - suit set for a territory with very low temperatures (Chukotka Autonomous Okrug)

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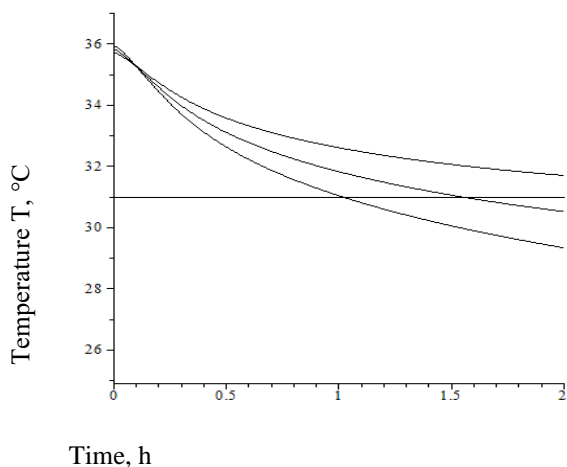
Software for substantiating the choice of packages of materials for clothing and footwear in the formation of comfortable conditions for a person who is in climatic zones with a low temperature, due to the control over the decrease in temperature inside the costume space to 21 C0 for the foot and to 31 C0 for the human body, which were laid into the developed software with a reasonable choice of a package of materials, taking into account their thermophysical characteristics.

The software developed by the authors solves this problem and creates the prerequisites for a reasonable choice of a package of materials based on the obtained thermophysical characteristics on stands and devices, therefore, the availability of modern tools for determining the thermophysical characteristics and packages of materials and the developed software guarantees manufacturers to manufacture a suit with a high degree of reliability, which creates comfortable conditions during the entire time they perform their official duties. The entire list of works offered to the reader should not mislead him that there is no need for experimental wear. Of course not. Experienced wear in real conditions confirms the validity of the

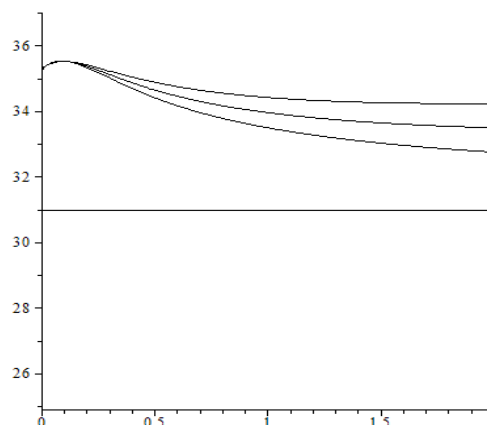
conclusions drawn or rejects them. But the availability of highly efficient methods for studying the thermophysical properties of materials and software for a reasonable choice of packages of materials significantly reduces the cost of developing and manufacturing workwear for workers in conditions with low temperatures. But what is still very important, the formation of requirements for materials on the possibility of their use for the production of workwear is also in demand by the developers of the materials themselves, including those using nanotechnologies, and all this together will solve the problem of protecting the population of the Russian Arctic regions from the impact of external negative influences on them. conditions.

As an object of study, the criteria for a reasonable choice of a package of materials in the production of a suit for the regions of the Arctic were chosen. At the same time, preferences will be specified that would guarantee them comfortable conditions in the performance of their official duties.

Model 1 without additional gasket



Model 1 with extra paddingTKPM AKR-622\AKR218



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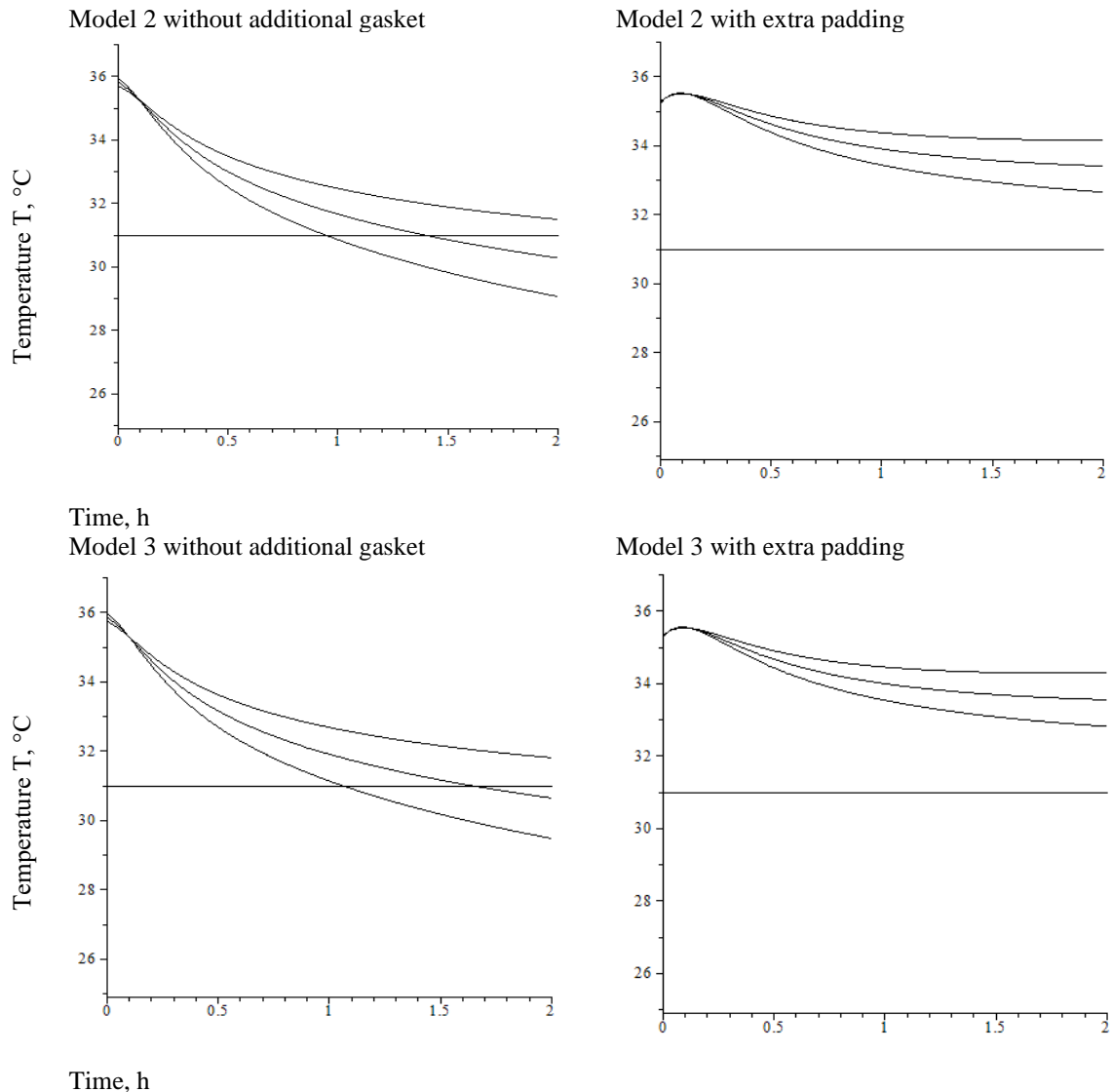
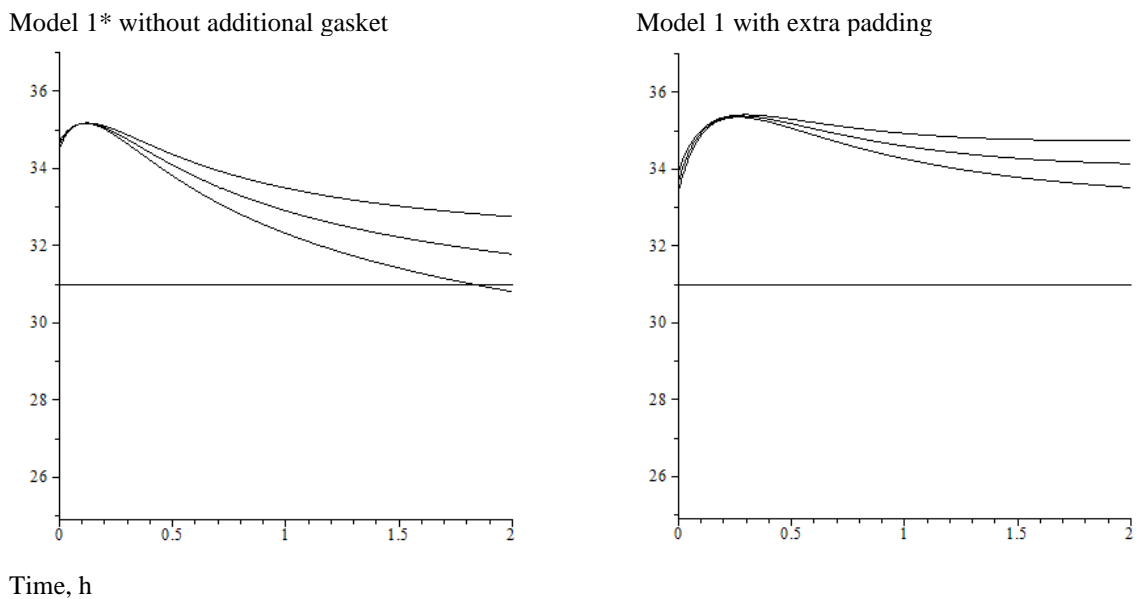
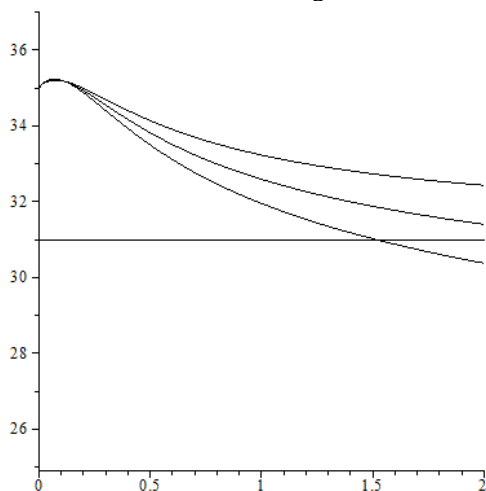


Figure 8 - The results of calculations of the average weighted skin temperature for packages consisting of imported materials at ambient temperatures: curve 1 - 20°C, curve 2 - 30°C, curve 3 - 40°C.



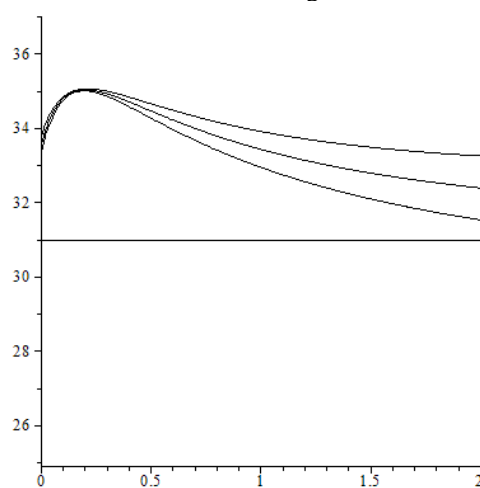
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Model 2* without additional gasket



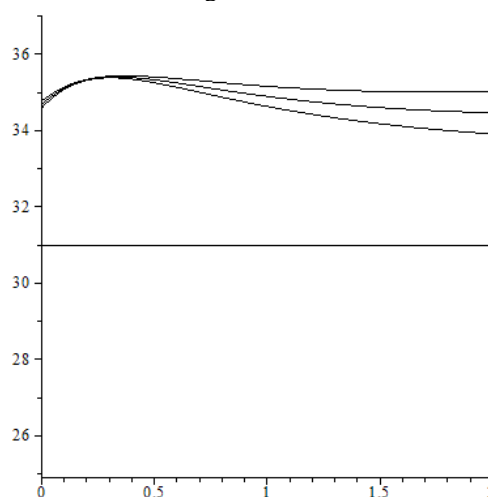
Time, h

Model 3* without additional gasket



Time, h

Model 3 with extra gasket



Time, h

Figure 9 - The results of calculations of the average weighted skin temperature for packages consisting of materials of domestic production at ambient temperatures: curve 1 -20°C, curve 2 - 30°C, curve 3 - 40°C.

If for a suit the software developed by the authors makes it possible to formulate requirements for a package of materials and provide a comfortable state for a person to perform their duties, then for the face, hand, for the big toe, it guarantees comfortable conditions without additional research on the choice of packages of materials. Characteristics of glove materials that would be justified are shown in Table 6.

Features of the choice of materials for human gloves for the regions of the Arctic are provoked by the climatic conditions of this zone in order to

guarantee them comfortable conditions during the entire time they use their official duties. At the same time, special attention was paid to ensuring the comfort of not only the human hand. Possibilities of using nanomaterials that are able to carry out thermal regulation and provide the skin of the hand with a comfortable temperature, namely, not lower than 32 °C. Such studies are possible using the same software that the authors developed and used for materials, the characteristics of which are given in Table 6.

Table 6. Characteristics of materials in the manufacture of gloves for humans for the regions of the Arctic

Materials used to make gloves	Thickness, mm	Coefficient of thermal conductivity, λ , W/ m° C
1 Yarn from one thread:		

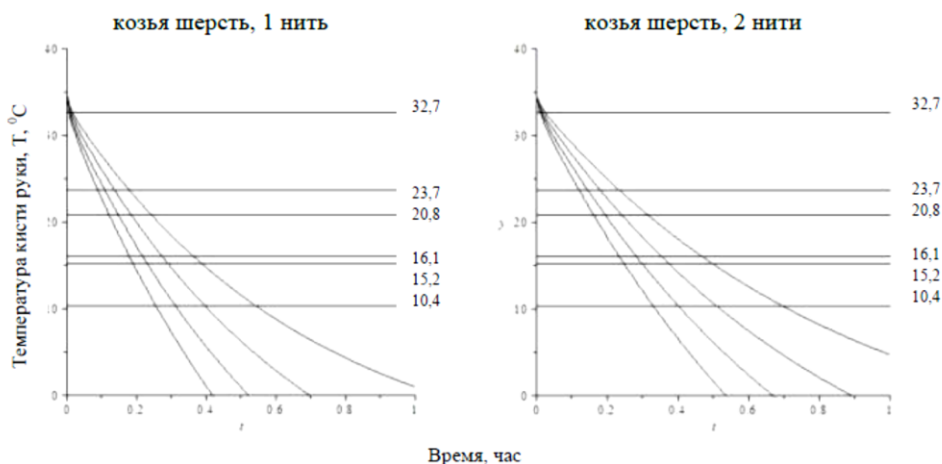
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1.1 Goat wool	0.7	0.015
1.2 Sheep wool	0.8	0.020
1.3 Camel	0.9	0.005
1.4 From dog hair	0.8	0.010
2. Two-strand yarn:		
2.1 Goat hair	1.4	0.015
2.2 Sheep wool	1.6	0.020
2.3 Camel	1.8	0.005
2.4 From dog hair	1.6	0.010
3. A package of materials for the index finger of the hand, suede + yarn from one thread		
3.1 when using goat hair	1.7	0.02/0.015
3.2 when using sheep's wool	1.8	0.02/0.020
3.3 when using camel hair	1.9	0.02/0.005
3.4 when using dog hair	1.8	0.02/0.010
4. A package of materials for the index finger of the hand, suede + two-strand yarn		
4.1 when using goat hair	2.4	0.02/0.015
4.2 when using sheep's wool	2.6	0.02/0.020
4.3 when using camel wool	2.8	0.02/0.005
4.4 when using dog hair	2.6	0.02/0.010
5 Material for the fingertip of the index finger of the soldier's hand - "genuine suede leather" and for mitts		
	0.8	0.020

Using the software developed by the authors, graphs were constructed characterizing the condition of the skin of the human hand for four ambient temperatures, namely: Figure 11 shows the temperature values of the skin of the hand, characterizing various human warm sensations, namely, comfort 32.7 °C, slightly cool 23.7 °C, cool

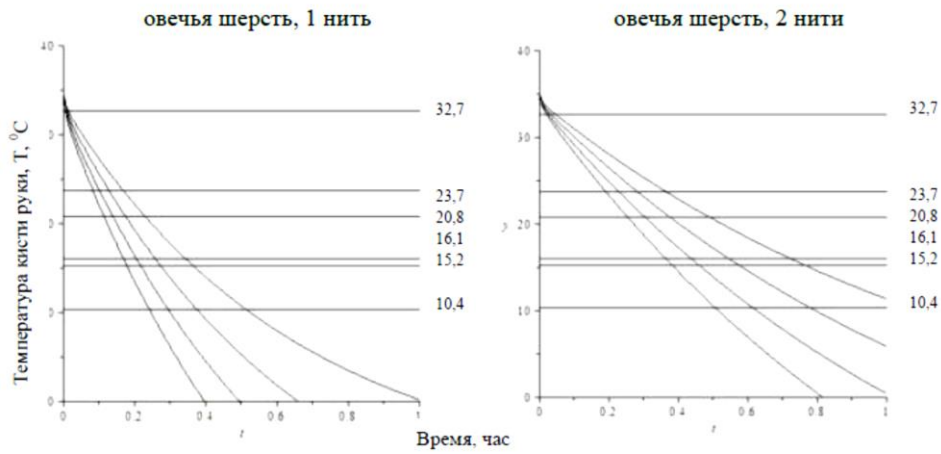
20.8 °C, cold 16.1 °C, very cold 15.2°C, pain 10.4°C (frostbite). At -10°C, a comfortable state is provided only by a package of suede + dog hair (double thread), and for -20°C, -30°C, -40°C none of the studied materials and their packages together with natural fur "winter" do not guarantee a person comfortable conditions.



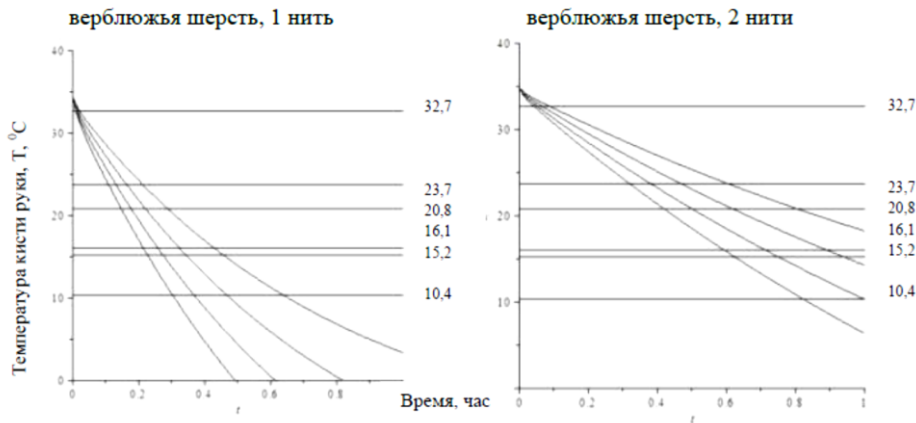
a) Change in the temperature of the skin of the hand when using goat wool yarn from 1 thread and 2 threads for gloves

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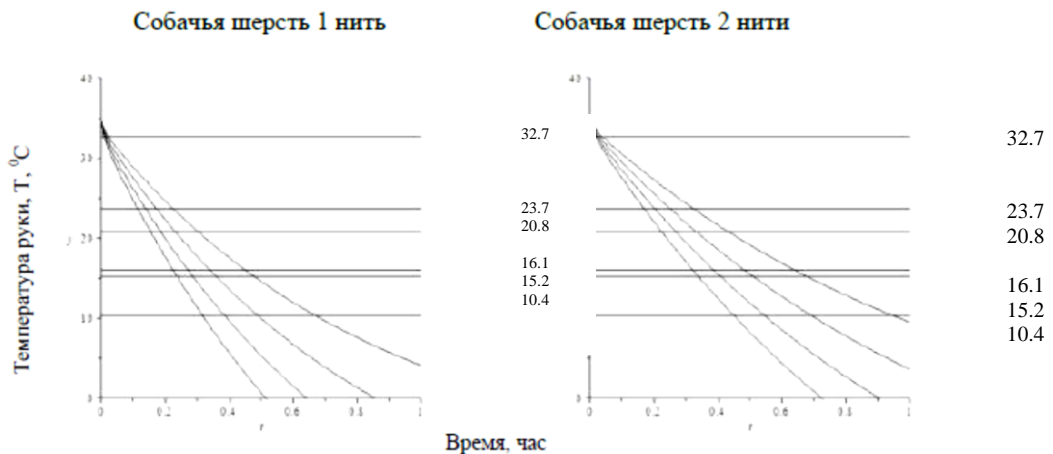
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b) Change in the temperature of the skin of the hand when using yarn from sheep wool for gloves from 1 thread and 2 threads



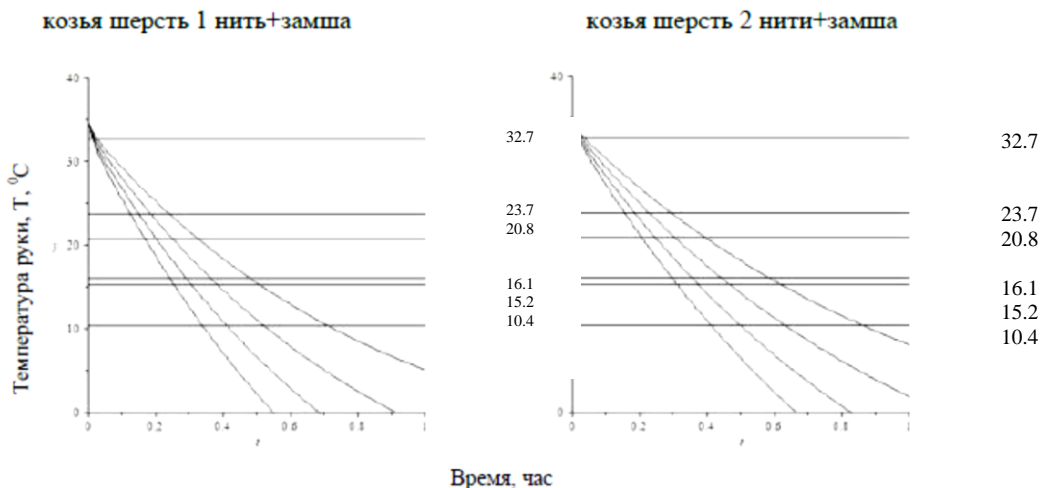
c) Change in the temperature of the skin of the hand when using camel wool yarn from 1 thread and 2 threads for gloves



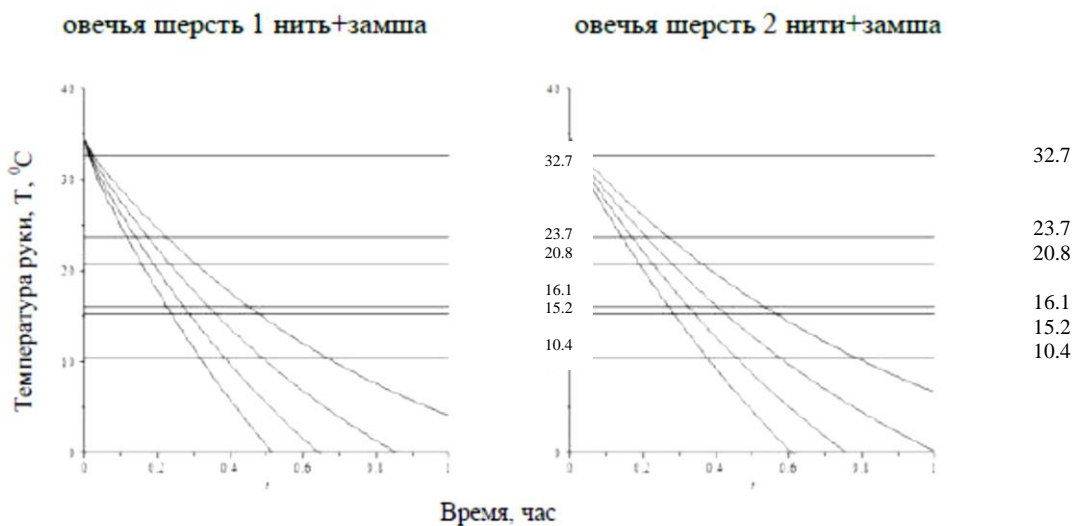
d) Change in the temperature of the skin of the hand when using yarn from dog wool for gloves from 1 thread and 2 threads

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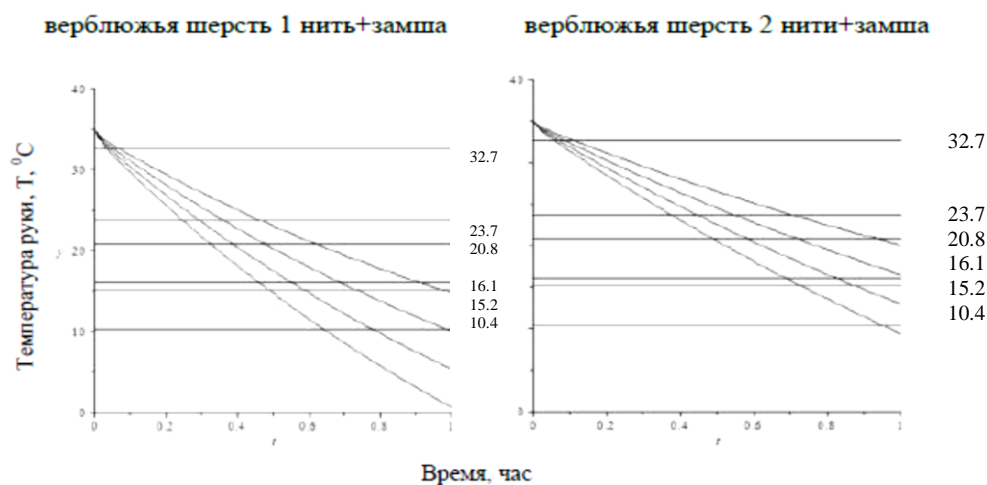
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e) Change in the temperature of the skin of the hand when using goat wool yarn for gloves from 1 thread + suede and 2 threads + suede



f) Change in the temperature of the skin of the hand when using yarn from sheep wool for gloves from 1 thread + suede and 2 threads + suede



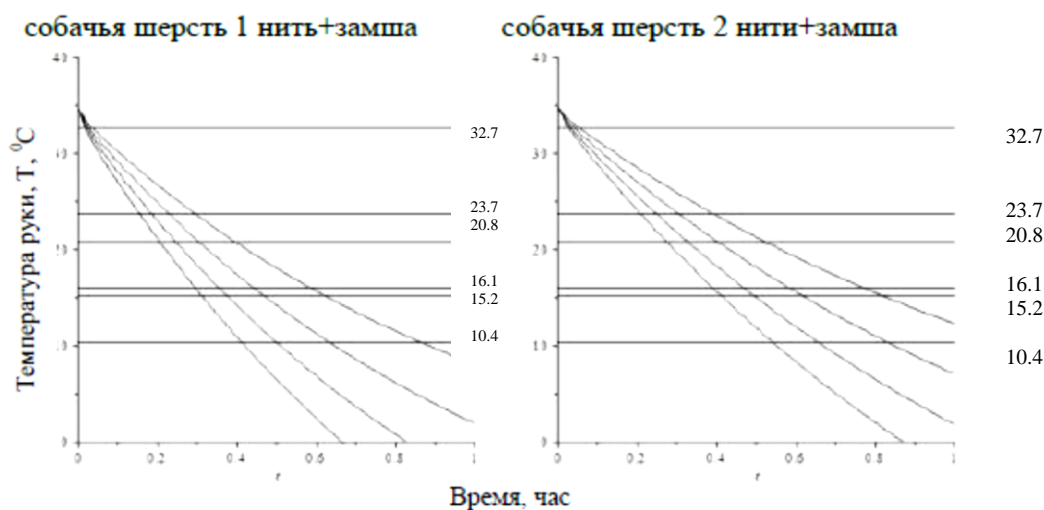
g) Change in the temperature of the skin of the hand when using camel wool yarn for gloves from 1 thread + suede and 2 threads + suede

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h) Change in the temperature of the skin of the hand when using yarn from dog wool for gloves from 1 thread + suede and 2 threads + suede

Figure 11 - Characteristics of the state of comfort of the hand (skin) spec. employee when he is in different climatic conditions: curve 1 - at -10°C, curve 2 - at -20°C, curve 3 - at -30°C, curve 4 - at -40°C

Consequently, the results obtained substantiated the high efficiency of using software for the reasonable selection of packages of materials for gloves and other suit sets for a person for the regions of the Arctic, which would provide them with a comfortable state in a given temperature regime for at least one hour.

For the packages and materials shown in Table 6, curves were constructed that characterize the state of comfort of the human hand for the following ambient temperatures, namely, curve 1 - at -10°C, curve 2 - at -20°C, curve 3 - at -30°C, curve 4 - at -40°C (Figure 11).

The software developed by the authors allows the manufacturer to have a tool for an informed decision on the choice of material packages for a human suit for the regions of the Arctic, including the production of gloves to protect the hand from exposure to low temperatures in the performance of their duties.

Confirmation of these conclusions is the analysis of the properties of the most effective in terms of comfortable conditions for the skin of the hand, carried out by the authors, providing a constant temperature within 32.5°C.

The use of mittens to protect the hand also does not guarantee a person's protection from exposure to low temperatures, suggesting the search for such materials and the formation of bags from them for the manufacture of gloves that would provide them with comfortable conditions, which is possible when using nanomaterials capable of carrying out thermal control within the limits, allowing a person to perform his official duties within the required time period.

Cold is one of the harmful environmental factors affecting a person. Reactions to exposure to cold can be both functional and pathological in nature: illness, injury, death.

At low temperatures, a person may experience cold stress. The cause of cold stress can be the cooling of the body as a whole or part of it, most often the face and respiratory organs, hands, feet. At the same time, different types of cold stress are formed due to a combination of climatic factors, physical activity, clothing, etc. The main types of cold stress are:

- cooling of the whole body;
- cooling of the extremities;
- skin cooling (convective);
- skin cooling (conductive);
- respiratory cooling.

The combinations of climatic factors are as follows:

- air temperature, average radiation temperature, air mobility, physical activity, relative humidity of air, clothing;
- air temperature, air mobility;
- clothing surface temperature;
- air temperature, physical activity.

The effect of cold stress on a person is determined by the intensity of cold stress (tissue cooling). The result of extreme intensity of cold stress is hypothermia. The results of the intensity of stress from cold I degree will be:

- local damage from cold - frostbite, numbness;
- cold damage without freezing;
- pain;
- functional damage;
- acute cardiorespiratory effect;
- deterioration in performance;

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- discomfort;
- heat balance.

Discomfort can cause a decrease in activity, especially in relation to solving problems associated with neuro-emotional stress, with the need to concentrate, and also increase the risk of occupational accidents and injuries. Moreover, tissue cooling can lead to reduced physical activity, which increases the risk of accidents.

Cooling of a person, both general and local (especially of the hands), contributes to a change in his motor activity, disrupts coordination and the ability to perform precise operations, causes the development of inhibitory processes in the cerebral cortex, which can cause injuries. With local cooling of the hands, the accuracy of the combat mission is reduced; activity decreases by 1.5% for each degree of decrease in temperature of the fingers.

A drop in body temperature, muscle and skin temperature leads to a decrease in the ability to perform physical work due to a decrease in the level of metabolism.

These changes reduce coordination and can lead to an increase in accidents, especially when performing a combat mission in the cold. The sensitivity of the receptors also changes with a decrease in skin temperature. So, at a skin temperature of 20 ° C, it is 1/7 of normal. The above means that a set of heat-protective clothing intended for work in an open area, in particular, in climatic regions IA and IB ("special" and IV climatic zones), must include face and respiratory protection.

Hands and feet play an important role in thermoregulation, being specific heat exchangers of the body with the environment. The state of thermal comfort is provided at a temperature of the skin of the feet 29-31°C and a heat flux of 52-87 W/m². The thermal resistance of tissues remains within the limits of up to 0.3 clo.

Studies by a number of authors have shown that with an increase in the thermal insulation of footwear, the weighted average temperature of human skin increases (from 32.0 ± 0.30 to 33.5 ± 0.32 ° C) and the weighted average heat flux decreases (from 90.3 ± 4.0 to 57.0 ± 0.32 W/m² (≈ 40%)). The reduction in total heat loss as a result of increasing the thermal insulation of shoes can be 17.1°C. Heat loss by convection and radiation from the surface of various parts of the human body during its cooling:

- a) Head 19.0 W (12%);
- b) Arms 44.4W (31%);
- c) Torso 36.0 W (25%);

- d) Legs 49.0 W (32%);
- e) Whole person 148.4 W (100%).

The amount of thermal insulation of shoes can have a significant impact on the overall heat loss of a person and body surface temperature. This means that when developing thermal protective clothing, the requirements for thermal insulation of all areas of the body should be met. With an increase in the thickness of the package of materials for insulating clothing, practically only the temperature of the skin of those areas of the body that are protected (torso, shoulder, thigh) increases. There is only a slight increase in skin temperature in the area of the hands. The change in temperature depending on the degree of warming of the surface of the body is practically not observed. There is a certain relationship between the general thermal state of the body and the degree of cooling of a particular area of the body, in particular, the feet and hands. In the same time,

The creation of heat-protective clothing for operation in the conditions of the Arctic regions should be based on a scientific principle that takes into account the physiology of heat exchange between a person and the environment. Requirements for materials and construction thermal protective clothing in the conditions of the regions of the Arctic:

- the heat-shielding ability of clothing to protect against cooling is determined by the thermophysical parameters of the package of materials from which it is made, design, type (jacket, jacket and trousers, overalls, etc.);

- The heat-protective clothing material package is formed from the base material, the insulating pad and the lining. If necessary, to reduce the air permeability of the package of clothing materials, a windproof pad can be used, which should be placed between the base material and the insulation pad;

- the main material (integumentary, outer layer) determines the appearance of clothing and performs protective functions. It must have protective properties corresponding to the conditions of activity, be resistant to mechanical stress, precipitation, exposure to light, various types of pollutants, and be easy to clean from pollution. It must be able to conduct moisture from the underwear to the environment and have breathability adequate to the wind speed.

The paper considers the process of cooling the surface tissues of the human knee and elbow when exposed to low temperatures (Table 8).

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Table 8. Characteristics of the package of materials for the protection of the elbow and knee joints

Model	Package materials	Thickness, mm	Coefficient of thermal conductivity λ , W/m °C
1	2	3	5
Model 1	cotton linen	0.9	0.044
	Wool sweater or pants	2.4	0.027
	Nylon lining	1.6	0.042
	Thinsulate insulation (1 layer)	6.0	0.044
	Arctic-tech - outer layer (85% PE + 15% cotton)	1.8	0.041
	Arctic-tech (knee or elbow pad)	1.8	0.041
Model 2	thermal underwear	1.76	0.039
	Wool sweater or pants	2.4	0.027
	Nylon lining	1.6	0.042
	Thinsulate insulation (21 layers)	12	0.036
	Arctic-tech - outer layer	1.8	0.041
	Foam rubber - damper	2.2	0.027
	Arctic-tech (patch pocket)	1.8	0.041

For the description, a mathematical model is built in the form of a boundary value problem:

$$\frac{\partial T_i}{\partial t} = a_i \left(\frac{\partial^2 T_i}{\partial r_i^2} + \frac{2}{r_i} \frac{\partial T_i}{\partial r_i} \right) + \frac{q_{iv}}{c_i \rho_i},$$

$$i = 1, 2, \dots, n,$$

$$T_1(0, t) \neq \infty;$$

$$\lambda_n \frac{\partial T_n}{\partial r_n}(R_n, t) + \alpha(T_n(R_n, t) - T_c) = 0;$$

$$T_{i-1}(R_{i-1}, t) = T_i(R_{i-1}, t);$$

$$\lambda_{i-1} \frac{\partial T_{i-1}}{\partial r_{i-1}}(R_{i-1}, t) = \lambda_i \frac{\partial T_i}{\partial r_i}(R_{i-1}, t),$$

$$i = 2, \dots, n.$$

Initial conditions, where $T_i(r_i, 0) = f_i(r_i)t$ – time; – temperature of the i -th layer; $T_i, i = 1, \dots, n$; – ambient temperature; is the heat capacity coefficient of the i -th layer; – coefficient of thermal diffusivity of the i -th layer; is the density of the i -th layer; – coefficient of thermal conductivity of the i -th layer; volume density of the heat flux of the i -th layer; heat

transfer coefficient from the surface of the skin or protective layer (hair, hat); $T_c, c_i, a_i, \rho_i, \lambda_i, q_{iv} - \alpha - f_i(r_i)$ – initial temperature of the i -th layer.

The solution of the problem is in the following form

$$T_i(r_i, t) = \sum_{k=1}^{\infty} D_k(t) X_{k,i}(r_i),$$

Where

$$X_{k,i}(r_i) = \frac{1}{r_i} \left(A_i \sin \left(\frac{\mu_k r_i}{\sqrt{a_i}} \right) + B_i \cos \left(\frac{\mu_k r_i}{\sqrt{a_i}} \right) \right)$$

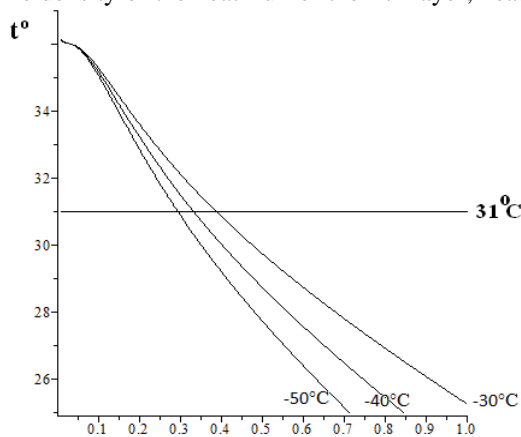
eigenfunctions of the corresponding boundary value problem:

$$\frac{\partial^2 X_i}{\partial r_i^2} + \frac{2}{r_i} \frac{\partial X_i}{\partial r_i} + \frac{\mu^2}{a_i} X_i = 0,$$

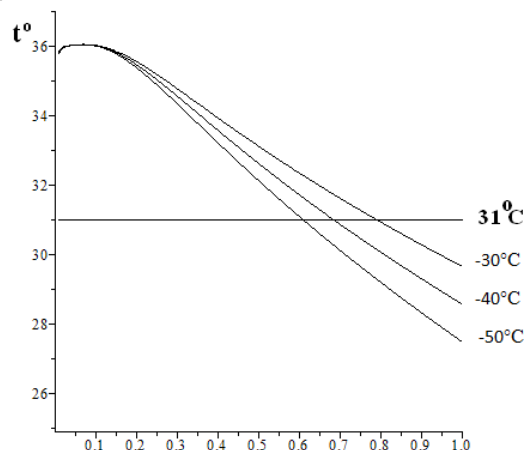
$$X_1(0, t) \neq \infty; \lambda_n \frac{\partial X_n}{\partial r_n}(R_n) + \alpha X_n(R_n) = 0;$$

$$X_{i-1}(R_{i-1}) = X_i(R_{i-1});$$

$$\lambda_{i-1} \frac{\partial X_{i-1}}{\partial r_{i-1}}(R_{i-1}) = \lambda_i \frac{\partial X_i}{\partial r_i}(R_{i-1}).$$



a)



b)

Figure 13 - knee: a) model 1; b) model 2

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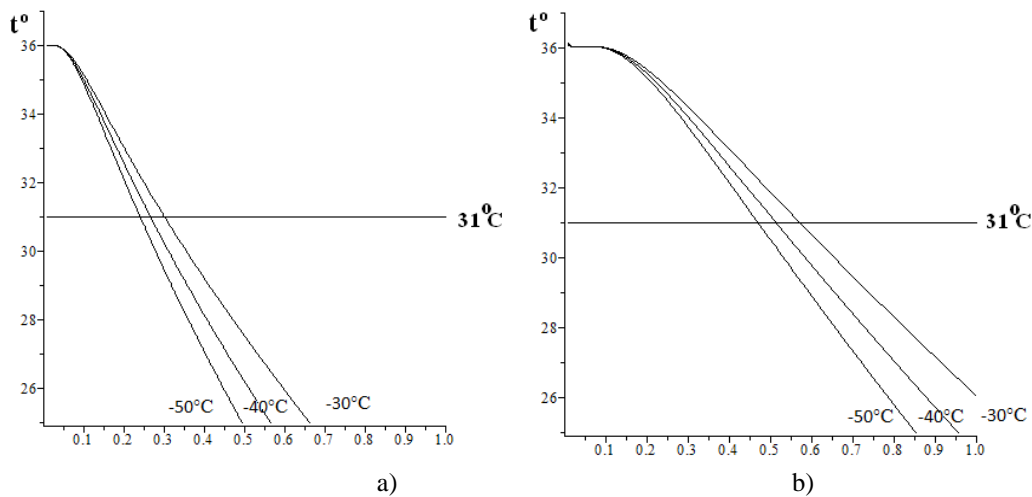


Figure 14 - Elbow: a) model 1; b) model 2

The presented results of research on the reasonable choice of packages of materials for knee and elbow overlays in order to ensure human comfort for the regions of the Arctic during the entire time of his stay in climatic zones with low temperatures using the approbation of the software product confirmed its high efficiency to ensure human comfort for the regions of the Arctic.

To some extent, the error of scientific searches in the labyrinth of dialectical thinking is also connected with the fact that philosophers who do not understand the significance of the study of spatial movement are weakly included in the process. "Spatial thinking" is the concept of a worldview scale. Moreover, this concept is system-forming in the worldview, since it is it that serves as the most important factor in the implementation of the movement of matter. One can only understand the scale of the worldview status of spatial movement in different ways: consider it exclusively material in nature, limiting it to the sphere of matter itself, selectively assessing the presence of spatial movement in properties, for example, the possibility of presence in the movement of thinking, or only in cognition, taking into account that the reflection is subject dependent. knowledge movement, as a process of production of the beginning of the movement of knowledge as self-movement, no doubt due to spatial movement. We connect the substantiation of this conclusion with the development of the concept of "movement" within its dialectical-materialistic interpretation, confirmed by numerous discoveries and misconceptions of modern natural science, as well as the practice of human life in all its forms. "Movement" is the next most important concept after "substance" in the construction of a worldview. "Substance" determines the nature of "being", "movement" shows the mode of existence of "being". F. Engels in his "Dialectics of Nature", characterizing the movement, noted: "Movement, considered in the most general sense of the word, i.e. understood as a

way of existence of matter, as an inherent attribute of matter, embraces all the changes and processes taking place in the universe, starting from simple movement and ending with thinking. In the preparatory works for Anti-Dühring, F. Engels specifies the characteristics of motion: "Motion is a way of existence of matter, therefore, something more than just its property. Matter does not exist and never could exist without motion.

It is expedient to build a classification of spatial thinking taking into account the universality of movement and its qualitative diversity, represented by the forms of the movement of matter. The following types are distinguished in the basic classification:

- physical,
- mechanical,
- chemical,
- biological,
- social.

Separately, it is expedient to single out "informational".

In our understanding, the history of the social part of spatial thinking is divided into 3 stages:

Stage 1: ensuring the evolutionary viability of the type (competitiveness) of the way of moving the means of transportation the instrument of fixing (means of construction) of places of residence;

Stage 2: ensuring the development of the community (the formation and development of a national organization) in national forms: a communication tool a means of competition a way to ensure community management a factor in the formation of intersubjective formations and the formation of a national form of community an instrument for creating empires;

Stage 3: ensuring social progress in the context of modernization associated with the Industrial Revolution (modern) the emergence and development of mass technical transport, the development of technically produced energy, the diversification of technical transport, the activation of the cognitive and

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cultural functions of transport. In more detail, the history of social spatial movement can be qualified as follows:

- undifferentiated transport, when the vehicle was the person himself
- mechanical natural stage;
- stage of connection of technical transport with technically received energy;
- cosmic near, limited by the solar system;
- outer space - transsystem, galactic

The inclusion of spatial movement in the systemic understanding of movement should not be qualified as a desire to revise the traditional interpretation of transport. In the traditional understanding, as well as unusual for the widespread interpretation, found among British specialists, spatial movement is determined at the level of representation, reduced to its particular manifestations in the social form of movement. The lack of universal understanding hinders the scientific approach to cognition. This, in our opinion, is also connected with the uncertainty of the status of transport science, which allows the recognition of the reality of transport science and its conditional reality - phantoms. Transport science is born in the bowels of the next, post-non-classical stage in the development of science. To make her self-determined and without this, its status will remain as before a "scientific secret", general scientific support and complicity of philosophical reflection are needed. The birth of transport science does not rest on particular subject certainty, it requires more thorough and innovative methodological support with imperatives.

The integration of economic science is realized unilaterally, it loses its specific methodological base, borrowing mathematical methods of analysis. They are certainly fruitful and no one doubts their effectiveness, however, the movement of economic science, in addition to the "quantitative" coast, also has a political one, on which the qualitative guidelines of the movement, regulated by world outlook, are built. Not transport should be subordinated to the development of the economy, but the economy should be developed on the basis of the modern understanding of transport as a system-forming factor in the movement of the world in general and social progress in particular. The history of man as a biological species and social form of human reality indicates that evolution was carried out thanks to the development of living space by mankind, moving first in physical space, and, as the formation of their own social space, and in it. Civilization is the product of this process. In the new millennium, the significance of space for improving human life is even more relevant, therefore, no matter how high the value of social space is, it is necessary to go beyond this form and consider the problem of spatial exploration of the world with the help of spatial movement, understood in a broad ideological context, as a priority in the

policy of ensuring comfort. Figure 15 shows a variant of the formation of a suit to protect against the effects of low temperatures on the body. This decision was provoked by the need to develop suit sets that guarantee the population comfortable conditions for various climatic zones of the Russian Arctic. Civilization is the product of this process. In the new millennium, the significance of space for improving human life is even more relevant, therefore, no matter how high the value of social space is, it is necessary to go beyond this form and consider the problem of spatial exploration of the world with the help of spatial movement, understood in a broad ideological context, as a priority in the policy of ensuring comfort. Figure 15 shows a variant of the formation of a suit to protect against the effects of low temperatures on the body. This decision was provoked by the need to develop suit sets that guarantee the population comfortable conditions for various climatic zones of the Russian Arctic. Civilization is the product of this process. In the new millennium, the significance of space for improving human life is even more relevant, therefore, no matter how high the value of social space is, it is necessary to go beyond this form and consider the problem of spatial development of the world with the help of spatial movement, understood in a broad worldview context, as a priority in the policy of providing comfort. Figure 15 shows a variant of the formation of a suit to protect against the effects of low temperatures on the body. This decision was provoked by the need to develop suit sets that guarantee the population comfortable conditions for various climatic zones of the Russian Arctic. therefore, no matter how high the value of social space is, it is necessary to go beyond this form and consider the problem of spatial development of the world with the help of spatial movement, understood in a broad worldview context, as a priority in the policy of providing comfort. Figure 15 shows a variant of the formation of a suit to protect against the effects of low temperatures on the body. This decision was provoked by the need to develop suit sets that guarantee the population comfortable conditions for various climatic zones of the Russian Arctic. as a priority in the policy of providing comfort. Figure 15 shows a variant of the formation of a suit to protect against the effects of low temperatures on the body. This decision was provoked by the need to develop suit sets that

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guarantee the population comfortable conditions for various climatic zones of the Russian Arctic. as a priority in the policy of providing comfort. Figure 15 shows a variant of the formation of a suit to protect against the effects of low temperatures on the body.

This decision was provoked by the need to develop suit sets that guarantee the population comfortable conditions for various climatic zones of the Russian Arctic.



Figure 15 - Features of the formation of a comfortable suit for the population of the Russian Arctic

Conclusion

As a result, we have to formulate recommendations for the federal Center on what previously unaccounted for factors and how exactly should be taken into account when developing and implementing state policy in relation to the regions of the Arctic Zone of the Russian Federation:

First of all, first of all, it seems important to us to conduct a high-quality and professional examination at the initial stage of formulating the state. policy in relation to the regions of the AZ of the Russian Federation. At the same time, it is important that not only representatives of the Moscow expert community take part in the examination, but also experts located directly in the regions who know the local specifics;

secondly, the national strategy for the development of specific regions, which are, in fact, all regions of the Russian Federation, should be based on the fullest possible set of characteristics of the region, including economic, social, political and, no less important, cultural specifics. As we have already seen in the course of the analysis, ignoring any of these factors can lead, at best, to the absence of positive changes, and at worst, to the appearance of negative consequences that will be difficult to deal with. It is characteristic that in national strategies there is such an obligatory part as a description of the problematic situation, the most "acute" moments, but there is no description of regional specifics.

thirdly, it seems to us that the reform of law enforcement agencies is inevitable in the regions of the AZ of the Russian Federation: when more than 90% of the population of the region do not trust law enforcement agencies, this is a clear and tangible

signal to the authorities for active reforms. Further ignoring this problem and removing it from public political discourse will only lead to negative consequences, possibly an increase in violence in these districts. We see the main directions of changes in the law enforcement sphere as follows: it is extremely important to increase the general level of erudition and broaden the horizons of law enforcement officers, they must be familiar with the cultural characteristics of the region through the introduction of compulsory courses on the culture of the North Caucasian republics taught by civil sociologists and culturologists. It also seems important to us to increase the percentage of "locals" among law enforcement officers. This measure will reduce tension between the local population and the security forces, who will no longer be perceived solely as "external invaders" and enemies, besides, the problem of ignorance of local cultural traditions is automatically removed. The problem of the appearance of the "fifth column" is supposed to be solved in this case by raising the general level of education of law enforcement officers, promoting among them general civic, not ethnic values. Law enforcement agencies in the regions of the AZ of the Russian Federation should be under greater control of the Center or regional authorities, since in the current situation with a vertical of power that exists de jure, but does not function de facto, it is often unclear who controls the actions of the security forces, and whether anyone controls them at all. In general, the task of protecting the population from the arbitrariness of the security forces, as in other regions of the Russian Federation, comes to the fore, replacing the task of

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combating organized crime, which is characteristic of the zero years of the 21st century. In this regard, one cannot fail to note the need to build relations with regional elites according to new principles, since it is obvious that the existing model of resource distribution between key clans in order to prevent a war of all against all is not effective enough.

Fourth, finally, the priority of financing infrastructure projects, rather than aimless cash injections into the region, seems essential, moreover, infrastructure projects should be understood in a slightly different way, different from the understanding of the current government. The need for infrastructure projects should also be assessed with the involvement of the expert community in various categories, among which there must be such a criterion as the need for the population and the ability of the population to use the new facility. Social infrastructure facilities (education, medicine, etc.) are of particular importance for the regions of the AZ of the Russian Federation (education, medicine, etc., according to these indicators, the regions of the AZ of the Russian Federation significantly lag behind the average Russian values, and it is education and medicine that have a significant impact on the attitude of the population to power, satisfaction with life) .. The strategy of the federal center must also be changed in terms of creating jobs - to move from direct or indirect budget financing of new jobs to creating favorable conditions for doing business, increasing the self-organization of citizens. This task is closely related to the reform of law enforcement agencies, and, in fact, is doomed without qualitative changes in the system of law enforcement agencies and the judiciary, as the main guarantors of the protection of private property. We consider it necessary to recall the importance of institutional changes in the region, which, in fact, are fundamental, since no "sustainable development", declared as the main task in the FTP, is possible without normally functioning institutions.

Summing up, I would like to note that the strategic government documents on interaction with the regions of the AZ of the Russian Federation can be called insufficiently elaborated and of insufficient quality, namely:

Firstly, the degree of possible regulatory impact is reduced due to the lack of specific methods for achieving the set goals in the national program, despite the fact that the goals are very specific. Such a combination of specific goals and "blurred" methods leads to shifting the responsibility for achieving the goals exclusively to the regional authorities, who are forced to independently develop ways to achieve the targets;

secondly, a characteristic feature of government strategies is the fundamental disregard for regional specifics: despite the presence of descriptions of key regional problems in program documents, the analysis of regional specifics (institutional, cultural, social) is present only at the level of a "brief reference" about the region, which, of course, is not enough to develop an adequate strategy for socio-economic development.

It is curious that the analyzed strategic documents ignore not only the cultural characteristics of the North Caucasus region, which have a very serious impact on all spheres of life of these societies through existing institutional structures, but also socio-economic characteristics, such as the causes of unemployment and the specifics of employment in the region or availability of demand for sanatorium-tourist services. All of the above factors, as well as many others, have a significant impact on the process of implementing the strategy, and on the possible results of its implementation. In other words, without a comprehensive preliminary analysis of regional specifics, the development of a national strategy for the socio-economic development of the regions of the Arctic Zone of the Russian Federation does not look very successful. Initially, we were guided by the assumption that that in the state policy in relation to the regions of the AZ of the Russian Federation, some important factors are not taken into account, which negatively affect the results of the policy being pursued. Ignoring regional specifics is not a distinctive feature of the Center's policy exclusively in relation to the RF AZ: regional cultural and institutional features are not fully taken into account when developing federal strategies and target programs, in principle, in relation to all regions of the Russian Federation.

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Article



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INCORPORATION OF NEURO-LINGUISTIC PROGRAMMING (NLP) TECHNIQUES IN THE CLASSIC COACHING SESSIONS

Abstract: The aim of this work is to research the possibilities of using neuro-linguistic programming (NLP) techniques in the classic coaching process. The theoretical similarity of the two approaches is mentioned in this work with their main idea of success achievement. The focus of this work is made on NLP as an eclectic version of modern psychotechnologies, that contains a large set of techniques for working with goals, beliefs and values. The pragmatic aspect of using NLP as a method with a well-developed set of technologies for correcting clients' behavior is emphasized. The well-known techniques of NLP (such as the integration of the neuro-logical levels, «well-formed» outcome etc.) are used as an example of how it is possible to enrich the classic coaching with specific tools of success achievement.

Key words: coaching, neuro-linguistic programming, techniques, success.

Language: Russian

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ВКЛЮЧЕНИЕ ТЕХНИК НЕЙРО-ЛИНГВИСТИЧЕСКОГО ПРОГРАММИРОВАНИЯ (НЛП) В КЛАССИЧЕСКИЕ КОУЧИНГОВЫЕ СЕССИИ

Аннотация: Целью данной работы является исследование возможностей использования техник нейролингвистического программирования (НЛП) в классическом коучинговом процессе. В этой работе отмечается теоретическое сходство двух подходов с их основополагающей идеей, направленной на достижение успеха, Акцент публикации сосредоточен на НЛП, как эклектичном варианте современных психотехнологий, содержащим большой набор техник для работы с целями, убеждениями и ценностями. Подчеркнут прагматичный аспект использования НЛП, как метода, имеющего хорошо разработанный набор технологий коррекции поведения клиентов. Приведены примеры включения хорошо известных приемов НЛП (таких, как интеграция неврологических уровней, «правильно сформированный» результат) и т.д.) в качестве дополнительных конкретных инструментов достижения успеха, обогащающих сессии классического коучинга.

Ключевые слова: коучинг, нейролингвистическое программирование, техники, успех.

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Введение

В последние три десятилетия можно наблюдать все более активное внедрение в самые разные сферы жизни разнообразных коучинговых подходов, приемов, технологий. Термин «коучинг» уже прочно вошел в лексикон прикладной психологии, перестал быть чем-то необычным. Многие годы различные варианты коучинга активно применяются в индивидуальном и бизнес-консультировании, в образовании, медиации, спорте, семейном консультировании и многих других областях [1-11].

В данной публикации основной акцент сделан на одном из направлений коучинга - лайф-коучинге. Лайф-коучинг - это направление коучинга, которое занимается индивидуальной жизнью клиента в самых разных ее проявлениях [4,7]. Как отмечает Дж.О'Коннор, это может быть личная жизнь, карьера, бизнес, здоровье, отношения с другими людьми и так далее [12].

У коучинга существует множество разных определений. Каждый из авторитетов в этой области подчеркивает какой-то отдельный аспект коучинга. Можно привести несколько различных авторских определений коучинга:

- коучинг – это образ жизни с высвобождением потенциала человека для максимизации его результата (Дж.Уитмор) [2,9];
- коучинг - это искусство создания среды, которая облегчает движение человека к целям и при этом он получает удовлетворение (Т.Голви) [13];
- коучинг – это процесс, повышающий результативность, способствующий развитию человека (М. Дауни) [3];
- коучинг – это образ мышления (Дж. О'Коннор) [12].

Роберт Дилтс разделяет «коучинг с маленькой буквы» и «Коучинг с большой буквы», где первый скорее работает на поведенческом уровне или уровне тренировки необходимых навыков, а второй — затрагивает и более высокие уровни пирамиды нейро-логических уровней, такие как ценности и убеждения, идентичность или миссия [14].

При том, что определения коучинга могут быть разными, в целом, они все сводятся к нескольким ключевым составляющим:

- среда (пространство, создаваемое в коуч-сессии для раскрытия и развития клиента);
- беседа (коучинг — это разговорный стиль, а самое главное, умение задавать эффективные вопросы);
- цели (коучинг работает с целями клиента);
- построение оптимального маршрута к поставленной цели;
- движение к цели;

- удовлетворение (клиент удовлетворен и в процессе достижения целей, и при их достижении, что возможно аутентичных целях);

- потенциал (раскрытие потенциала клиента, способствующее его личному успеху),

- будущее (в коучинге работа идет из настоящего времени для достижения желаемого результата в будущем).

Из всего этого можно сделать вывод, что коучинг — это стратегия взаимодействия, направленная на достижение успеха (где под успехом подразумеваются аутентичные цели клиента и его понимание этого термина).

Целью данной публикации является рассмотрение возможностей интеграции в коучинговый процесс ряда приемов и техник, используемых в нейролингвистическом программировании (НЛП), направленных на реализацию стратегии достижения успеха.

В качестве материала для проведения анализа возможностей интеграции техник НЛП в коучинговые сессии были использованы имеющие по данной теме литературные источники, собственный практический опыт в качестве психологов-консультантов и коучей с использованием техник НЛП в московском Центре Современных Психотехнологий, а также опыт преподавания в программе по коучингу в Институте психотерапии и клинической психологии.

Краткая характеристика нейролингвистического программирования как варианта современной психотехнологии:

НЛП — это метод или скорее даже технология моделирования и изменения поведения человека. НЛП было разработано двумя исследователями: программистом Ричардом Бэндлером и лингвистом Джоном Гриндером [15].

В самом начале они исследовали и моделировали вербальное и невербальное поведение трех великих психотерапевтов: Милтона Эриксона, Вирджинии Сатир и Фрица Перлза, пытаясь понять, что делает этих терапевтов такими эффективными, а их результаты – столь выдающимися [1,15-18]. Основное внимание основатели НЛП направляли на анализ и выделение тех ключевых паттернов коммуникации, которые приводили к эффективным изменениям в поведении человека [15,16].

С самого начала создатели НЛП не претендовали на создание научной теории, акцентировав внимание на «эмпирической природе» метода, позволяющей выявлять и воспроизводить паттерны мастерства и успеха. В

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учебнике «Полный курс НЛП» Б.Боденхамера и М.Холла (2022) подчеркивается, что в этом методе изначально особое значение придавалось практике и моделированию в противовес построению научных гипотез и теории [16].

В самом термине «нейролингвистическое программирование» создателями метода был отражен подход, описывающий взаимодействие трех основных сфер:

- 1). нейрологии (изучение того, как мы мыслим);
- 2). лингвистики (наших вербальных паттернов и того, как они отражают наше мышление);
- 3). программирования (исследования определенной последовательности мышления, с помощью которого выстраиваются пути достижения наших целей) [12,14,16,17].

С момента создания метода Дж.Гриндером и Р.Бендлером в 1972-1976 гг. НЛП не стояло на месте, и первоначальные идеи направления активно развивались. Уже в самом начале НЛП разработкой идей НЛП занимались не только два основателя метода, но и группа талантливых и увлеченных методом единомышленников («Meta ModelGroups»). В состав группы, в частности, входили Фр.Пьюселик, Дж.Делозье, Р.Дилтс, Д.Гордон, Ст.Гиллиген, Л.Камерон – те, кто в дальнейшем стали известнейшими разработчиками техник нейролингвистического программирования, в создании которых они активно участвовали практически с начала его появления [1,16-18].

В восьмидесятых годах XX века из НЛП выделились несколько самостоятельных школ и подходов, среди которых одним из самых значимых является «Системное НЛП» Роберта Дилтса, в которой используются идеи теории систем и ряд других методов. Р.Дилтс внес много оригинальных идей и хорошо алгоритмизированных техник, ныне используемых в бизнесе, консультировании, коучинге, терапии [14,20,21].

Нейро-лингвистическое программирование имеет много источников, является весьма эклектичным по методологическому подходу [1,16,17,18]. При этом этот метод по взглядам ближе всего к когнитивно-поведенческому направлению (КПН) психологии и психотерапии, так как НЛП в основном занимается типичным для КПН-подхода изменением неэффективного мышления или поведения на более эффективное. Происходит это путем исследования индивидуальной модели мира (так называемой «карты мира»), и ее коррекцией, пересмотром неработающих для клиента ограничительных моделей и взглядов на позволяющие быть более эффективными в той или иной сфере [17,21].

В центре внимания НЛП как метода консультирования и терапии находится работа с

целями, убеждениями и ценностями клиентам [1,12,16,17,19].

В целом, метод НЛП можно назвать эклектичным, так как он использует многие работающие практические модели из других подходов, и постоянно интегрирует в практику появляющиеся новые приемы и техники [17,18,21-24]. За счет этого заимствования эффективных техник из других направлений сильной стороной данного метода считается достаточно хорошая результативность применения на практике [16,17,21-25].

Не смотря на все более увеличивающееся количество статей и книг по НЛП за последние десятилетия, и положительные отзывы об эффективности применения различных техник метода на практике в медицине, бизнесе, и в других областях, отношение к нейролингвистическому программированию остается очень неоднозначным. Практические специалисты хвалят метод, охотно ему учатся [16,17,21,24,25]. Так, в известном и многократно переиздающемся «Справочнике практического психолога» (2008) И.Г.Малкиной - Пых нейролингвистическому программированию посвящена большая глава [25].

В академической науке имеется настороженное, скорее даже негативное отношение к НЛП. В ряде публикаций НЛП нередко называют «псевдонаукой», «лженаукой», используя иногда довольно грубые высказывания о методе. К примеру, в публикации 2010 года Т.Витковски утверждает, что НЛП представляет собой псевдонаучный вздор [26].

При этом, стремясь доказать «ненаучность НЛП», игнорируется и забывается то, что нейролингвистическое программирование изначально и не претендовало на статус научной дисциплины, являясь по сути набором техник и прагматических стратегий для решения тех или иных проблем, и повышения собственной эффективности [1,18].

Неоднозначные отзывы о методе добавляют некоторые публикации самих «энэлпистов» с броскими названиями, подчеркивающие манипулятивный компонент и возможность неэтичного и бесцеремонного влияния и взаимодействия с клиентами в области продаж, в личной жизни и т.д. [27].

В России среди известных отечественных психологов есть как ярые противники, так и сторонники метода НЛП, одобряющие его практическое применение. К примеру, взвешенное и корректное описание НЛП дано проф. Ю.Б. Гиппенрейтер в изданном в 2000 году учебнике, посвященном основным направлениям современной психотерапии. Там НЛП описывается как эклектический синтез различных психотерапевтических подходов. Ю.Б.

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Гиппенрейтер подчеркивает, что в НЛП, в отличие от любых психологических теорий, идет сознательный отказ авторов от изучения реальности, чем бы она не была. Акцент работы в НЛП смещен с исследования вопросов: «как все устроено?» на вопросы: «что с этим делать [28].

Таким образом, НЛП - это не психология, а психотехника. Еще одной существенной особенностью НЛП является ориентация на работу с процессом, а не с содержанием. От практикующего НЛП-подхода терапевта, психолога, коуча требуются умение заметить малейшие детали происходящего, точность языка, акцент на работе с внутренними образами и транссовыми состояниями [1,16,21,24,28].

На данный момент НЛП активно используется в психотерапии, бизнесе, консультировании, менеджменте, спорте и HR [16,17,20,21,24,25,28-32].

По мере попыток внедрить техники НЛП в коучинговую практику начали появляться публикации и на эту тему, но количество их до настоящего времени явно недостаточно [1,12,14,33,36].

Сходства и различия коучинга и НЛП:

Для понимания возможностей включения техник НЛП в коучинговый процесс вначале целесообразно разобрать основные сходства и различия НЛП и коучинга, и наметить их «точки соприкосновения».

Если говорить про *сходство* методов, стоит отметить, что и коучинг и НЛП, начали активно развиваться в одно и то же время (в семидесятые годы XX века) как методы, ориентированные на достижение успеха [1].

Основополагающие принципы коучинга во многом схожи с базовыми принципами (пресуппозициями), на которые опирается НЛП-подход. К общим, совпадающим пресуппозициям (аксиомам) можно отнести следующие [2,6,14,16,17,21,24,25,30,34]:

- принцип благополучия, позволяющий позитивно оценивать личность человека с позиции «со всеми все Ок» (каждый человек хорош таким, какой он есть). Оба подхода предлагают разделять личность и поведение, подчеркивая потенциальное благополучие личности («личность всегда ОК»);
- наличие у каждого человека ресурсов, необходимых ему для успеха, развития и решения возникающих проблем;
- совершение человеком в каждый момент времени наиболее оптимального выбора, обслуживающего его систему взглядов и представлений о жизни;
- неизбежность изменений из-за происходящих перемен во внешнем и внутреннем мире. Человек

неизбежно трансформируется в ответ на эти изменения.

Эти обозначенные пресуппозиции называют также принципами придумавшего их Милтона Эриксона, и они активно используются в обучении коучингу на различных программах [6]. Как уже отмечалось ранее, НЛП возник как метод моделирования, и одним из терапевтов, которого моделировали основоположники метода, был М.Эриксон [1, 16-18,34]. Вполне естественно, что базирующиеся на едином источнике теоретические положения могут совпадать.

Есть некоторые НЛП-пресуппозиции, которые отдельно не выделяются, но подразумеваются в коучинге [6,12,14,16,17,21,24,34]:

- «Если то, что вы делаете, не получается, попробуйте по-другому». Это то, что непосредственно предлагается в коучинге в качестве тестирования текущей реальности, когда исследуется, что работает и что не работает;
- «Нет ошибок, есть обратная связь». Этот принцип в коучинге также активно применяется, когда клиента все время ориентируют на его ресурсы, на то, что у него уже получается хорошо, и что необходимо изменить, чтобы стало еще лучше.

Одна из базовых формул в коучинге - это формула Тимоти Голви, где результат - это разница между потенциалом и препятствиями [13]. Исходя из этого, работа коуча будет направлена на увеличение и расширение потенциала и уменьшение препятствий. В НЛП усилия также направляются на помощь и раскрытие потенциала клиента, ведь НЛП базируется на принципах благополучия человека с избытком у него ресурсов (т.е. потенциала) и снижения препятствий путем работы с ограничивающими убеждениями («изменением карты клиента») и четким прояснением реальности [6,12,16,17,19,21,24, 28,34].

Характеризуя основные умения коуча, О.Самольянов (2008) выделяет контакт, осознанность и ответственность, включающие: способность устанавливать доверительный контакт, помощь клиенту в повышении осознанности за счет эффективных вопросов и вдохновение клиента на взятие ответственности за реализацию поставленной цели [5]. Для этого необходимо калибровать, моделировать и использовать речевые инструменты или «слушать, наблюдать, различать, моделировать, излагать» [5].

Если сравнивать эти положения с НЛП, то и там первоочередным является «раппорт», для которого используются навыки калибровки, подстройки и отстройки в конце сессии, повышение осознанности клиента путем мета-модельных вопросов, моделирование поведения и

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ситуаций. В НЛП этим навыкам уделяется особое внимание. Если говорить про ответственность за изменения в жизни, то она также лежит на клиенте [12,17,21,24,34].

Общим для НЛП и коучинга является то, что в обоих методах заключается контракт на работу и контракт на сессию.

Коуч-позиция также похожа на позицию НЛП-консультанта, который наблюдает и отслеживает все, что происходит на сессии.

Если же говорить про однозначные различия, то коучинг — это скорее во многом стиль взаимодействия, среда, образ мышления, в то время как НЛП — это набор средств и инструментов, которые позволяют моделировать и менять поведение.

Коучинг - это не терапия, не менторство, не консалтинг, не тренерство и не обучение, в то время как в НЛП есть также элементы терапии (например, когда в состоянии регресса идет работа на «линии жизни») и элементы тренерства, когда происходит тренинг навыков [1,6,12,21,24,34].

В коучинге преимущественно используется уровень зрелого партнерского взаимодействия [1,6,8,10,12]. В тоже время в НЛП-консультировании (и тем более НЛП-терапии) все не так однозначно. Определенная часть работы также использует партнерство и взрослую позицию, но есть много техник, где предполагается элементы послушного ведомого обучения, тренерства с позиций опытного наставника, учителя, терапевта [11,12,16,17,21,24,30,32,34].

Некоторые отличия можно найти и во временном фокусе работы. Классический коучинг способствует успешному развитию человека, его личностному росту и ориентирован на будущие цели путем работы в настоящем. В НЛП работа ведется в разных временных областях, с преимущественной фокусировкой на настоящем, с целью изменения текущего состояния, хотя не избегает и целей на будущее. В НЛП-психотерапии акцент вообще делается работу с возникшими ранее, в прошлом проблемами с целью облегчить имеющиеся симптомы в ходе комплексного лечения, что неплохо дополняет основную медикаментозную терапию, помогает уменьшить проблемы со здоровьем, помочь преодолеть зависимость от психоактивных веществ и т.д. С этой целью используются техники, предполагающие работу с изменением восприятия личной истории (например, работа с «линией времени») [16,17,24,25,30,34].

Еще одно отличие можно увидеть и в использовании технического инструментария и способов для достижения поставленных целей.

На практике зачастую трудно провести столь однозначное разделение на сходство и различие коучинга и НЛП. По нашим наблюдениям,

имеется множество ситуаций, где *присутствуют и похожие и отличающиеся моменты одновременно*, что в свою очередь может создавать пространство для интеграции НЛП в коучинг.

Интеграция инструментов НЛП в коучинг:

Вышесказанное подводит к целесообразности рассмотрения идеи об интеграции технологий НЛП в классические коучинговые сессии, используя целый ряд достоинств и возможностей этого метода.

Нейролингвистическое программирование является одним из современных вариантов психотехнологий, имеющих разработанный и опробованный на практике в течение нескольких десятилетий набор техник, инструментов, приемов. Отметив ранее похожесть некоторых инструментов, применяемых и в коучинге, и в НЛП, рассмотрим далее те *технические элементы и детали проведения техник, которые могут обогатить практику коучинга*, и быть полезными для ее углубления.

Во-первых - это *макромодель*, в которой работают коучи и НЛП-консультанты. В коучинге такой макромоделью является модель GROW Дж.Уитмора и М.Дауни, появившейся как обобщение успешной практики решения проблем [2,3].

Она состоит из четырех стадий, которые циклически могут переходить одна в другое, но суть ее сводится к тому, чтобы:

- 1). поставить аутентичную цель;
- 2). исследовать то, что есть в реальности сейчас;
- 3). рассмотреть возможности для реализации цели;
- 4). взять на себя ответственность и обозначить конкретные шаги.

Отличия модели GROW у Дж.Уитмора и М.Дауни минимальны. Майлз Дауни предлагает для более эффективной работы вначале выбрать тему для сессии (тематическая фокусировка), а уже затем проработать основные вопросы [3]. Тогда на сессии коучинга будет использована следующая последовательность (T-GROW) вопросов:

T (тема) - О чем ты хочешь поговорить? (определение темы беседы);

G (goal) - «Какова конечная цель?», «Чего ты желаешь достичь?». «К чему ты по-настоящему стремишься?» (определение цели).

R (reality) - «Что в твоей жизни в действительности происходит?», «В какой ситуации в данный момент ты находишься по отношению к цели?», «Что тебе мешает достигнуть цель /или что тебя ограничивает?» (описание окружающей реальности,);

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O (options) «Что ты мог бы с этим сделать?» (Варианты. Раскрытие имеющихся средств и возможностей);

W (What, When, Who, Will) «Какие действия ты реально собираешься сделать?» (подведение итогов).

В отношении последней буквы W в коучинговой модели GROW имеются разночтения. В различных вариантах можно видеть концовку модели, обозначенную либо как система вопросов: What, When, Who (что, где, кто); либо короткое – Will (воля, твердое намерение); либо Way Forward (дальнейшие шаги).

Техники нейролингвистического программирования также в первую очередь ориентированы на успешное достижение результата. В НЛП для достижения цели используется довольно близкая к GROW макро модель «НС-ЖС» («Настоящее Состояние - Желаемое Состояние» [17,24,25,34].

В модели «НС-ЖС» используется процесс перехода от проблемного настоящего состояния к желаемому благополучному состоянию. Для достижения этого результата необходимо знание 4-х основных параметров:

- 1). Точное описание того проблемного состояния, в котором вы сейчас находитесь;
- 2). Четкое и детальное описание того, куда вы идете. При этом желаемый для вас результат должен быть определен и описан в конкретных деталях;
- 3). Ресурсы – те средства, которые вы можете использовать для достижения желаемого результата. В их число могут входить: люди, события, вещи, состояния, мысли, чувства, стратегии, переживания;
- 4.) и, наконец, техники – методы и приемы работы с психикой, помогающие осуществить движение к желанной цели [17,24,25,34].

Содержание основных шагов модели GROW и модели «НС-ЖС» [2,3,17,24,25,34] приведены ниже в табл.1:

Таблица 1. Модель классического коучинга GROW и модель НС-ЖС (НЛП)

Шаги модели GROW	Шаги модели НС-ЖС
G (Goal) - этап постановки цели: «Что ты хочешь?»	НС «В чем твоя проблема?», «Что тебя не устраивает?», «Что ты хочешь поменять?», «Где ты сейчас находишься сейчас?»,
R (Reality) - обзор реальности: «Где ты сейчас находишься относительно твоей цели?» «Какие у тебя есть возможности и ресурсы в настоящем, а какие отсутствуют?»	ЖС: «Что ты хочешь вместо настоящего состояния?», «По каким конкретно признакам ты поймешь, что достиг того, что хочешь?»
O (Opportunity, Options): выработка вариантов / способов/ путей достижения цели: «Какие у тебя есть варианты и способы для достижения цели?»	ПУТЬ: «Как ты представляешь себе движение от настоящего состояния к желаемой цели?» «Какой путь ты выберешь для движения к намеченной цели?»
W (What to do) Составление плана действий по достижению цели: «Какой путь ты выберешь для движения к намеченной цели?»	РЕСУРСЫ: «Какие у тебя есть возможности и ресурсы в настоящем, а какие отсутствуют?» «Что поможет тебе совершить этот путь и получить желаемое?»

Модель «НС-ЖС» так же, как и GROW, хорошо пошагово алгоритмизирована. Сначала исследуется текущее состояние («НС»), являющееся как правило проблемным. Это похоже на этап «R». Затем исследуется будущее желаемое состояние («ЖС»). Это похоже на этап «G». Далее обсуждается продвижение по пути из текущего состояния в желаемое, где проговариваются возможности, ресурсы, препятствия, конкретные шаги и изменения, которые необходимы. Это похоже на этапы «O» и «W» коучинговой модели.

Заметно сходство (и, по сути, взаимное пересечение) обеих макромоделей, хотя в GROW-модели процесс начинается с определения будущего, а в «НС-ЖС» - с того, что не устраивает

сейчас. Коучинговая модель GROW менее линейна - там возможны переходы из любой точки обратно в любую другую точку. Модель НС - ЖС более линейна.

Наличие двух этих моделей может дать коучу выбор структуры проведения сессии. В тех случаях, когда клиент мыслит позитивно и четко, изначально начинает запрос с намерения достигнуть поставленную цель, целесообразно вести сессию в режиме GROW.

Тогда, когда сессия начинается с описания клиентом трудностей, проблем, и внимание акцентируется на негативной оценке ситуации, целесообразно использовать в работе модель «НС-ЖС». Также будет более эффективно

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использовать модель «НС-ЖС» при нечеткой формулировке запроса.

Во-вторых, говоря о возможности взаимодополнения коучинга техниками НЛП, стоит обратить внимание на **особенностях формулировки желаемой цели и конкретного результата**.

В базовой коучинговой модели GROW на этапе «G» («Цель») должна быть сформулирована аутентичная цель. Для понимания того, как работать с целью, она формулируется по критериям SMART, согласно которым цель должна быть:

- конкретной;
- измеримой;
- достижимой;
- реалистичной;
- важной и позитивно сформулированной;
- а также иметь ограничения во времени [5,6,12].

В НЛП цель формулируется с использованием модели «Хорошо

сформулированный результат» (ХСР). [16,17,24,25,34]. Для этого к цели применяются следующие критерии:

- позитивная формулировка цели;
- конкретное сенсорное представление результата;
- соответствие по контексту;
- подходящий размер (достижимость);
- определение ресурсов и препятствий;
- подконтрольность клиенту;
- экологичность результата;
- определение первого шага.

Один из самых распространенных вариантов ХСР описан С.В.Ковалевым, где учитываются 7 основных параметров (цель, признаки, условия, средства, ограничения, последствия, ценность достижения), позволяющих конкретизировать поставленную цель, и осознать условия ее осуществления [17].

Ниже приведена табл. 2 с примерами вопросов для прояснения цели с использованием критериев SMART и ХСР:

Таблица 2. Особенности описания поставленной цели по критериям SMART и Хорошо Сформулированного Результата

список вопросов SMART	список вопросов ХСР:
-Что именно ты хочешь достичь? Сформулируй цель детально и конкретно.	-Что ты хочешь достичь / добиться?
-Как ты поймешь, что достиг цели? -Чем ты будешь мерить достижение результата? -По каким критериям ты поймешь, что достиг желаемого?	-Как ты узнаешь, что достиг того, что хочешь? -По каким конкретным признакам ты поймешь что достиг своей цели?
-Насколько достижима твоя цель? -Был ли у тебя опыт достижения подобных целей? -Знаешь ли ты людей, которые достигали того, что ты хочешь?	-Где / когда / как и с кем тебе это желательно иметь? -Где / когда / как и с кем тебе это нежелательно иметь?
-Имеются ли у тебя необходимые умения, навыки, способности? -Оцени по шкале от 1 до 10, насколько ты можешь достичь поставленной цели?	-Какие средства необходимы для достижения цели? - Что тебе нужно и важно, чтобы достичь своей цели? -Какие ресурсы тебе нужны? Что/кто тебе поможет?
-В какой срок ты планируешь реализовать твою цель?	-Какими были ограничения, не позволявшие достичь цели ранее? Почему ты не достиг своей цели раньше?
	-Что произойдет, если ты достигнешь цели? -Что произойдет, если ты не достигнешь цели?
	Что ценного ты получишь для себя?

При общей схожести этих двух моделей можно отметить возможность расширения коучинговой модели SMART вопросами из ХСР о конкретных сенсорных признаках («как конкретно клиент поймет, что достиг цели?»), подконтрольности и учета экологии (прояснения последствий достижения цели).

В-третьих, целесообразно рассмотреть различия, имеющиеся в коучинге и НЛП при представлении информации клиентам (от максимально четкого до специально неконкретного).

Один из главных инструментов коуча — это умение задавать эффективные вопросы. Под

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эффективными вопросами в коучинге подразумеваются вопросы, которые:

- являются открытыми;
- сосредоточены на деталях;
- следуют за интересами и потребностями клиента;
- затрагивают «слепые зоны» клиента [1,2,6].

В НЛП также большое внимание уделяется вопросам. Там есть две категории вопросов — вопросы из Мета-модели и вопросы из Милтон-модели. Мета-модельные вопросы из НЛП во многом похожи на проясняющие вопросы в коучинге, однако отличаются большей четкостью и лучшей систематизацией.

Суть метамодели заключается в утверждении о существовании у человека особых субъективных внутренних фильтров восприятия, опирающихся на уникальный жизненный опыт. При описании воспринимаемой реальности словами часть информации меняется, упрощается, субъективно фильтруется. В мета-модели рассматриваются три универсальных процесса — удаление, искажение и обобщение информации [17,34,33].

При использовании в работе мета-модели выявляется вариант используемого клиентом ограничивающего суждения (удаление, искажение, обобщение), мешающего ясности мышления. При анализе речи клиента происходит прояснение:

- что конкретно клиент упрощает/удаляет?;
- что свехобобщает и генерализирует?;
- что и как искажает по смыслу?

Затем благодаря направленным на ограничивающие суждения вопросам можно получить более точное описание значений слов и мыслей клиента, что в свою очередь способствует лучшему пониманию предъявляемой им проблемы. Примерами, когда слова клиента неясны, может служить упрощение текста с удалением различных важных деталей (например: «им было ясно...» -здесь не прояснено, кому именно и что именно было ясно), использование неконкретных глаголов, свехобобщений («меня никто и никогда не любил»), т.н. «чтение мыслей», нарушение причинно-следственных элементов, комплексные эквиваленты, и т.д. [17]

Не менее важно в НЛП знание и использование Милтон-модели. Милтон-модель — это противоположное по сравнению с мета-моделью построение фраз, речевых элементов, которые помогают говорящему быть максимально неясным, использовать обобщенный язык и довольно широкие речевые фрагменты [16.33.34].

Использование Милтон-модели может быть полезно, во-первых, для подстройки к клиенту, при которой фразы коуча намеренно могут звучать неопределенно, то есть таким образом, чтобы клиент мог наполнить их собственным смыслом. Во-вторых, в коучинге нередко предполагается работа с метафорой, Милтон-

модель дает возможности работы с метафорами, символами, и представляет доступ к бессознательному клиенту. Примером использования метафоры в коучинге может быть просьба к клиенту представить, символически визуализировать в виде образа его будущее желаемое состояние.

В-четвертых — техники НЛП могут быть очень *полезны для установления рапортных отношений* [36]. Этапы установления рапорта делятся на калибровку, подстройку, ведение, подкрепление желаемого поведения человека и отстройку в конце. В коучинге можно использовать этапы калибровки, подстройки и отстройки в конце сессии.

НЛП можно использовать для более быстрой подстройки, которая может быть проведена по телесным элементам (позе тела, мимике, жестам), голосу, дыханию, сенсорным системам, целям, ценностям, отношению к проблеме и т.д., что способствует более легкому установлению доверительных отношений коуча с клиентом,

В-пятых, для калибровки текущего состояния и желаемой цели из НЛП в коучинг целесообразно *привнести систему сенсорных предпочтений ВАКД*. В ней люди, в зависимости от ведущей системы сенсорного восприятия могут быть разделены на визуалов, аудиалов, кинестетиков и дискретов, определяющих основной тип мышления [16,17, 34,37].

Эту систему оценки пациентов активно использовала в практической работе знаменитый семейный терапевт Вирджиния Сатир, которая обратила внимание на заметные различия в речи, поведении супругов, приходящих к ней на прием [16]. Это было положено В.Сатир в основу комплексной системы оценки пациентов (калибровки) с учетом различий восприятия. В дальнейшем идеи В.Сатир были заимствованы родоначальниками НЛП для скоростной алгоритмизированной оценки человека в процессе коммуникации по речи и невербальным признакам [16,17].

С позиции НЛП важно калибровать, в какой момент и в какой конкретной системе обработки информации находится клиент, и разговаривать с ним на соответствующем языке. Для определения системы коуч должен слушать ключевые слова, Это могут быть глаголы (например: видеть, смотреть - у визуала; слушать, говорить, звучать - у аудиала; ощущать, чувствовать - у кинестетика; и думать, оценивать - у дискрета), или прилагательные (яркое, бледное – визуала; громкое, тихое – у аудиала; теплое, тяжелое – у кинестетика; разумное, нормальное, правильное – у дискрета) [16,17].

Помимо особенностей речи важно наблюдать за позой, жестикуляцией, мимикой, движением глаз, громкостью голоса, дыханием, дистанцией

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при общении и т.д. – то есть тем, что дает представление о системе мышления у клиента по каналам восприятия. Если коуч сможет разговаривать на языке клиента, это может обеспечить ему лучшее понимание в контакте и снизит сопротивление клиента на сессии.

В-шестых, помимо использования сенсорных каналов **для калибровки можно использовать и ведущие «врата сортировки»**. «Вратами сортировки» в НЛП обозначают излюбленные темы, которые наиболее интересны человеку для общения [16,17]. Для разных людей важны разные темы, к которым привязан основной вопрос темы:

- люди и отношения (кто?);
- место (где?);
- время (когда?);
- конкретные действия (что?);
- детали (как?);
- смысл, ценность (зачем, почему?).

«Врата сортировки» можно использовать и для калибровки клиента, и для установления с ним раппортных отношений. В то же время эти тематические вопросы могут быть использованы для уточнения, конкретизации цели. Например, клиент говорит: «Хочу быть счастливым» — цель при этом обозначена слишком неопределенно и неконкретно. Дальше можно задать все шесть вопросов «врат сортировки» для ее конкретизации. Например, задав вопрос: с кем? - с женой/мужем, и т.д.

Синхронизируясь по «вратам сортировки», коуч может построить разговор на интересном и понятном для клиента языке, с фокусировкой на актуальной теме.

Следующим, **седьмым элементом повышения эффективности** коучинга за счет включения НЛП-технологий может быть **учет ведущих метапрограмм** клиентов, позволяющих прояснить их Мета-портрет. Описанные выше «Врата сортировки» являются одной из разновидностей используемых в НЛП Метапрограмм

Разработка метапрограмм началась еще в 70-ых годах XX века с работ Лесли Кэмерон-Бендлер [16,38]. В современном НЛП описана 51 метапрограмма (МП), Они разбиты на 5 крупных групп:

- МП управления обработкой данных (ментальные);
- МП управления эмоциями (эмоциональные);
- МП управления принятием решений (волевые);
- МП управлением поведением (внешней реакцией);
- Мета-мета-программы.

По сути, метапрограммы выступают в роли привычных фильтров восприятия информации, избирательной фокусировки внимания, и определяют, какая информация будет

восприниматься, а какая - будет игнорироваться. МП имеет 2 или большее количество выборов.

Примерами МП, помимо «врат сортировки», могут быть ориентация на «Процесс или Результат», «движение К или От», ориентация на «Возможности или Процедуры», поиск «Сходства или Различия», временная фиксация на «Прошлое / Настоящее/ Будущее», и другие [39].

Если привычные фильтры информации (МП) ограничивают принятие решений, их можно несколько скорректировать с помощью специальных упражнений [16,38].

В-восьмых, весьма **интересной для использования в коучинге может быть и модель ROLE**, предложенная Робертом Дилтсом [19].

Данная модель используется в НЛП для считывания и понимания когнитивных и поведенческих стратегий собеседника, и помогает создать своеобразный «когнитивный портрет» клиента по четырем основным параметрам.

Учитываются 4 фактора, первые буквы которых составляют аббревиатуру ROLE: R - репрезентативные системы (*representational systems*); O – ориентация (*orientation*); L – связи (*links*); E - эффект(*effect*).

Репрезентативные системы описывают ведущую сенсорную стратегию восприятия клиента (визуальную, аудиальную, кинестетическую, вкусовую и обонятельную).

Ориентация описывает фокус внимания клиента на внешний или внутренний мир.

Связи показывают преобладающий характер сенсорных связей (последовательные или одновременные, синестезические). Эффекты описывают определенные этапы мыслительного процесса (ввод, проверка/усвоение, действие)

Калибровка собеседника с помощью Модели ROLE может помочь говорить с ним на понятном для него языке коммуникаций, гибко и быстро «подстраиваться» под клиента, понимая его особенности мышления и отражая их в процессе общения.

В-девятых, для тестирования реальности между сессиями **можно использовать модель TOTE**. Аббревиатура расшифровывается как Тест - Операция/действие - Тест - Выход [20,24,34]. Тогда клиент:

- ставит на сессии цель (Т);
- делает начальные шаги в реальной жизни (О);
- возвращается на сессию, где происходит проверка реальности (Т) — успешными или нет были действия по приближению к цели?;
- и дальше идет или выход (Е), то есть переход к другому этапу действий, или же их корректировка с учетом вновь полученной информации.

Модель TOTE может быть использована в коучинге для оценки продвижения клиента к

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поставленной цели, прояснению завершенности действий.

Десятым элементом, который может обогатить коучинговые сессии, является *работа с персональными убеждениями и ценностями*. Для этого в НЛП имеется много техник, позволяющих проработать ограничивающие убеждения, и скорректировать те убеждения, могут быть помехой для достижения поставленной цели (например, убеждение: «я никогда не смогу это сделать» с занижением своих возможностей). В этих случаях возможно использовать варианты мета-модельных вопросов, касающихся «модальных операторов возможностей» и «модальных операторов долженствований» [16,17,19-21,24, 36].

Нередко в качестве помех для достижения целей наши клиенты первоначально описывали препятствия, которые, по их мнению, им ставит внешний мир. При более детальной работе значительная часть помех возникала из-за блокирующих убеждений, и исходила от человека, а не из реальности. При этом может быть задействован привнесенный Дж. О'Коннором из НЛП «процесс ВСЗ» [12]. Суть этого процесса заключается в работе с компонентами ВСЗ:

- возможностью достижения цели (В);
- способностями достичь цель (С);
- и заслуженностью цели (З).

При работе с ограничивающими убеждениями может быть использована техника «Музей старых убеждений», в которой моделируется укрепление нового эффективного убеждения взамен прежнего, с отправлением последнего в воображаемое специальное хранилище [19].

Для выявления глубинных ценностей можно использовать технику «Путешествие к глубинным ценностям», где клиенту многократно на его цель или желание задают вопрос: «И что тогда это тебе самого важного принесет, даст?». Получив ответ от клиента, вопрос вновь повторяется вновь и вновь до достижения базовой ценности, обозначенной как номинализация (например, такой, как любовь, счастье, жизнь, и так далее [12,24,34].

Одиннадцатой, весьма ценной с практической точки зрения технологией, которую можно интегрировать из НЛП в коучинговую практику, *является работа с моделью нейрологических уровней* (НЛУ) [12,14,17,19,24,25,34,39]

Один из самых известных инструментов, активно использующийся в НЛП – это пирамида нейрологических уровней, предложенная Робертом Дилтсом [19]. Данная пирамида имеет иерархичную структуру, состоящую из 6 последовательных уровней. Основные вопросы из модели НЛУ представлены в табл.3:

Таблица 3. Вопросы модели нейрологических уровней

Окружение	Кто поможет тебе в достижении цели? Что необходимо для реализации цели? Где ты будешь реализовывать свою цель? В какие сроки ты будешь реализовывать свою цель?
Поведение	Что тебе необходимо сделать, чтобы достичь цели? Какие целевые действия обеспечат тебе оптимальный путь к цели? Что ты уже делаешь? Что тебе еще стоит сделать?
Способности	Какие навыки/ умения/ способности необходимы для достижения цели? Что из этого списка у тебя уже есть? Что, как ты считаешь, тебе стоит в себе развить?
Убеждения и ценности	Во что тебе стоит верить, чтобы достичь желаемого результата? Какие убеждения могут тебе в этом помочь? Зачем тебе достигать намеченной цели? Какие ценности в своей жизни ты реализуешь благодаря достижению этой цели?
Идентичность	Кто ты на пути к своей цели? Кем ты будешь, когда достигнешь ее? Кем ты хочешь быть?
Миссия	Ради чего большего ты хочешь достичь своей цели? Какую пользу это принесет миру?

Ценность техник НЛП для коучинга:

Из приведенного описания коучинга и НЛП можно увидеть, что у них имеется много похожего и общего.

Как в коучинге, так и в НЛП-подходе ищутся ответы на вопросы:

- Как мне стать лучше?
- Как мне стать успешнее?

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- Как мне стать счастливее?
- Как мне достигать своих целей?».

В коучинге много внимания уделяется именно аутентичным целям, которые как раз имеют непосредственные отношения к тому, чтобы быть успешным в том понимании слова, которое ставит перед собой клиент.

Как уже отмечалось выше, авторов НЛП с самого начала волновал вопрос, чем выдающиеся люди отличаются от середнячков - то есть те конкретные умения, навыки, стиль мышления, и то поведение, которые делают человека успешным [12,17-19,33]. Моделируя успешных людей, родоначальники НЛП искали ответы на вопросы, касающиеся индивидуальных отличий в мыслях, телесных проявлениях, словах, жестах, мимике, системе убеждений о себе, других и мире, ценностях и целях [16,18,21].

Применение техник НЛП может расширить инструментальный диапазон коучинга, *во-первых*, за счет того, что коуч, обладающий навыками комплексной НЛП-калибровки, может опираться на представления об особенностях индивидуального способа когнитивной оценки и сортировки клиентом происходящего вокруг (мета-модель, модель ROLE, «врата сортировки» и другие метапрограммы и т.д.). Это, в свою очередь, позволяет коучу легче создавать доверительный рабочий альянс, говорить на сеансах на языке клиента, отражать в контакте его персональные стратегии, создавая эффект понимания и единомыслия, и за счет этого минимизировать сопротивление.

Во-вторых, применение техник НЛП на сессиях коучинга позволяет успешно использовать такой прием, как моделирование успеха. Как в НЛП, так и в коучинге много внимания уделяется моделированию успеха. К примеру, на сессиях коучинга можно использовать большое количество моделирующих НЛП-техник типа «Генератора нового поведения» и других техник из разряда создания «Нового Я», которые непосредственно занимаются моделированием более эффективного, успешного и уверенного поведения [24,34].

В-третьих, в НЛП много внимания уделяется работе с целями, убеждениями и ценностями, их взаимосвязи. При нечетких, негативных и нереалистичных целях они переделываются в более достижимые, позитивные цели клиента. При ограничивающих, блокирующих успех убеждениях они оспариваются, трансформируются в более вдохновляющие, мобилизирующие. В практической работе обязательно учитываются имеющиеся ценности клиента, то, что для него важно.

Практические приемы работы с этими тремя компонентами (цели, убеждения, ценности) могут быть весьма полезны и на коучинговых сессиях, где согласно основной формуле коучинга необходимо для успеха использовать весь имеющийся потенциал, все ресурсы, снимая имеющиеся внутренние ограничения и препятствия.

Как отмечает Джозеф О'Коннор (2005), использование психотехнологии и приемов НЛП может быть использовано для укрепления целого ряда личностных навыков и способностей, необходимых для личного роста и развития [34]. Среди них О'Коннор отмечает: обогащение мышления за счет использования всех систем восприятия окружающего мира (ВАКовД); ориентацию на позитивный результат и оптимизм мышления; способность переключать мышление и группировать информацию различными способами; способность ассоциироваться и диссоциироваться (отстраняться) в зависимости от обстоятельств; и множество других навыков, которые можно развить при использовании в сессиях НЛП [34].

Заключение

Подводя итоги вышесказанного, можно отметить, что включение техник НЛП может использоваться как инструмент, дополняющий коучинговые сессии с целью оптимизации образа мышления, улучшения межличностного взаимодействия, и раскрытия личного потенциала человека.

У коучинга и НЛП есть много похожего. Сходными являются принципы работы и взгляд на клиента. Оба интересуются тем, как сделать человека успешнее и помочь ему прийти к желаемому состоянию.

При этом коучинг — это скорее некая организационная рамка ведения сессии, внутри которой и происходит взаимодействие коуча и клиента с использованием на сессии определенного инструментария. Благодаря схожести идеологии в НЛП и коучинге, становится возможным включение техник нейролингвистического программирования в сессии коучинга в качестве рабочего инструментария, и расширить возможности работы с целями, убеждениями, ценностями.

Коуч, владеющий НЛП, сможет лучше понимать то, как клиент мыслит, говорит и действует, проще устанавливать доверительный рабочий контакт и создавать раппортные отношения. У него появятся дополнительные инструменты для работы с целями, убеждениями и ценностями, а также расширится диапазон вопросов, которые можно использовать для повышения осознанности клиента.

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Article



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STUDY OF RESEARCH METHODOLOGY IN HIGHER EDUCATIONAL INSTITUTIONS

Abstract: this article discusses the need for research work of students of higher educational institutions as an important factor in the training of highly qualified specialists in the context of reforming the education system; describes the purpose of teaching and the topics of the academic discipline "Research Methodology"; presents the requirements for the formation of knowledge, skills and abilities for the 1st year students after the study of the research basics; provides examples of using the acquired knowledge to confirm or refute various hypotheses and statements.

Key words: science, higher education, research, research work of students, research methodology, hypotheses, confirmation or refutation of hypotheses, statements.

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ИЗУЧЕНИЕ МЕТОДОЛОГИИ ИССЛЕДОВАНИЯ В ВЫСШИХ ОБРАЗОВАТЕЛЬНЫХ ОРГАНИЗАЦИЯХ

Аннотация: в данной статье рассматривается необходимость осуществления научно-исследовательской работы студентов высших образовательных организаций как важного фактора подготовки высококвалифицированных специалистов в условиях реформирования системы образования, описаны цель преподавания и изучаемые темы учебной дисциплины «Методология исследования», представлены требования к формированию знаний, навыков и умений студентов 1 курса по итогам изучения основ проведения исследований, приведены примеры использования полученных знаний для подтверждения или опровержения различных гипотез и утверждений.

Ключевые слова: наука, высшее образование, исследования, научно-исследовательская работа студентов, методология исследований, гипотезы, подтверждение или опровержение гипотез, утверждения.

Введение

Развитие государства, достижение задач экономического роста и достижения конкурентоспособности национальной экономики, повышения благосостояния населения невозможно представить без стимулирования развития науки, разработки и практического внедрения инноваций, повышения качества подготовки кадров в системе высшего образования [1-2].

В Республике Узбекистан проводятся

реформы в высшей школе, направленные на расширение охвата высшим образованием, повышение качества подготовки специалистов с высшим образованием, внедрение цифровых технологий и современных методов в учебный процесс, активное привлечение будущих работодателей к процессу подготовки специалистов. Особое внимание уделяется повышению результативности научно-исследовательской деятельности в высших образовательных учреждениях, широкое

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привлечение молодежи к научной деятельности, формирование инновационной инфраструктуры науки [3].

Научно-исследовательская работа студентов постепенно становится все более важной частью учебного процесса, необходимой для подготовки квалифицированных специалистов [4-16].

В современных условиях большую практическую значимость имеет умение работника экономических и финансовых служб предприятий и организаций уметь правильно искать, воспринимать, оценивать и перерабатывать информацию, дополнять ее недостающими фактами, быстро адаптироваться к новым условиям, прогнозировать возможные изменения, планировать результаты деятельности. В процессе преподавания различных дисциплин необходимо развивать у студентов такие черты как самостоятельность, организованность, целеустремленность, творческое мышление, навыки проведения исследования, навыки критического анализа имеющейся информации.

Во время выполнения научно-исследовательской работы студент учится проводить исследования, работать с научной и учебной литературой, нормативно-правовыми документами, аналитическими докладами, статистическими сборниками, систематически читать научные статьи, тезисы в сборниках научных конференций, монографии известных ученых, защищенные выпускные квалификационные работы, диссертации и авторефераты, анализировать их структуру и содержание.

В ходе осуществления первых самостоятельных научных работ студент получает практические навыки и умения выбора метода проведения исследования, способами обработки информации, возможностями применения научных знаний, развивает навыки организации и планирования своей деятельности, достижения запланированных целей и задач, получения результатов исследования, их правильной интерпретации и последующего оформления в соответствии с требованиями, предъявляемым к каждому виду научных работ, выступления с полученными результатами перед широкой аудиторией, проведения дискуссии и отстаивания своего мнения.

Формированию основ проведения исследований служит учебная дисциплина «Методология исследования», преподавание которой в Ташкентском финансовом институте началось с 2022-2023 учебного года.

Целью изучения дисциплины «Методология исследования» является формирование необходимого для подготовки высококвалифицированных специалистов уровня знаний, навыков и умений в области проведения

научных исследований, методологических основ, структуры и основных этапов исследования, поиска, сбора и обработки научной информации, а также проведения теоретических и экспериментальных исследований, обработки и оформления их результатов.

В рамках данной дисциплины студентами 1 курса должны быть изучены следующие темы:

1. Основы исследований.
2. Методология и методика исследования.
3. Инструменты и методы исследования.
4. Этапы процесса исследования.
5. Изучение литературы и документов.
6. Определение проблемы исследования.
7. Проект исследования.
8. Сбор, обработка и анализ данных.
9. Гипотезы и их проверка.
10. Техническое описание исследования.
11. Исследовательская этика.
12. Роль информационных технологий в исследованиях.

По итогам изучения данной дисциплины студенты должны иметь представление, знать и уметь использовать:

– методологические основы научного познания;

– поиск и формулирование научной проблемы;

– методология и методика исследования;

– инструменты и методы исследования;

– фазы и этапы научного исследования;

– документальные источники информации, необходимые для исследования;

– порядок публикации результатов исследований;

– выпускная квалификационная работа и основы ее написания;

● иметь практические навыки и умения:

– правильно ставить и четко формулировать новые научные проблемы;

– разрабатывать исследовательские гипотезы и концепции;

– правильно оформлять материалы исследования;

– осуществлять правильный выбор инструментов исследования;

– составлять план проведения исследования;

– проводить поиск документальных источников информации;

– подготавливать тезисы докладов и научные статьи;

– находить комплексное решение проблем;

● обладать умениями:

– разработки оригинальной концепции решения проблемы;

– определения приоритетного варианта решения проблемы;

– эффективного использования различных методов в процессе проведения исследования;

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- поиска информации для исследования;
- описания результатов исследования в виде научной работы;
- подготовки и публикации тезисов докладов в сборниках научных конференций и научных статей в рецензируемых журналах;
- выступления с результатами исследования перед преподавателями и другими студентами.

На практических занятиях используются интерактивные методы обучения, которые формируют у студентов навыки работы в команде, самостоятельное и критическое мышление в профессии, культуру общения и подведения итогов. Для проведения практических занятий по дисциплине «Методология исследования» могут использоваться такие интерактивные методы как мозговой штурм, решение кейсов, работа в малых группах и парах, метод проектов и другие современные педагогические и информационно-коммуникационные технологии. Самостоятельное обучение студентов осуществляется в форме самостоятельной работы под руководством преподавателя (СРСРП) и самостоятельной работы студенты (СРС).

Таким образом, исследование в высшем образовании становится педагогическим действием, которое получению студентами необходимой информации об объекте исследования, формированию у студентов необходимых знаний, навыков и умений проведения исследования. Исследования включают в себя такие процессы как определение проблем, задач, заданий, целей исследования, формулирование гипотез или предлагаемых решений; сбор, организация и оценку данных; подведение итогов и умение делать выводы; и, наконец, тщательную проверку выводов, чтобы определить, соответствуют ли они сформулированной гипотезе, показывают ли достижение цели, соответствуют ли условиям выполнения задания [17-19].

Особое место в процессе преподавания дисциплины «Методология исследования» отводится изучению понятия, сущности и видов гипотез, а также различных методов их подтверждения или опровержения. Рассмотрим несколько примеров утверждений, которые студенты должны подтвердить или опровергнуть и опишем методы для проведения исследования и способы представления полученных результатов.

1. «Доходы Государственного бюджета Республики Узбекистан составляют более 50

процентов от объема валового внутреннего продукта». Для подтверждения или опровержения данного утверждения студенты должны найти статистическую информацию об объеме валового внутреннего продукта Республики Узбекистан за последние 3 года, объеме доходов Государственного бюджета Республики Узбекистан за тот же период, оформить статистические данные в виде таблицы, определить, какую формулу они будут использовать, провести расчеты, записать полученные результаты в таблицу и сделать соответствующие выводы.

2. «Объем депозитов физических лиц в коммерческих банках Республики Узбекистан больше инвестиций населения в акции, выпущенные предприятиями республики». Для проверки данного предположения необходимо найти статистическую информацию по объему депозитов физических лиц в коммерческих банках Республики Узбекистан, а также по объему акций, приобретенных населением за последние 3 года, начертить таблицу, определить формулу для расчета, провести расчеты, заполнить таблицу и сделать выводы.

3. «В 2019-2022 годах обменный курс английского фунта стерлингов к узбекскому суму ежегодно увеличивается». Для опровержения или подтверждения данного предположения студентам необходимо найти статистическую информацию по динамике обменного курса английского фунта стерлингов к узбекскому суму, сравнить показатели и сделать выводы.

4. «Второй по популярности иностранной валютой для инвестирования в Республике Узбекистан является евро». Для проверки данного утверждения студенты могут использовать несколько методов исследования. Прежде всего, они могут изучить статистические данные по обмену валют в стране за последние несколько лет. Во-вторых, они могут провести опрос среди своих родственников, друзей и других студентов. Результаты исследования могут быть представлены как в виде таблицы, так и в виде краткого текстового сообщения.

По итогам изучения учебной дисциплины «Методология исследования» студенты получают необходимые начальные знания, навыки и умения в области самостоятельного проведения различных исследований и оформления его результатов.

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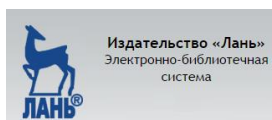
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