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МИНИСТЕРСТВО НАУКИ И
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AND WATER SECURITY»

# ГЕОГРАФИЯ ЖӘНЕ СУ РЕСУРСТАРЫ

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# ГЕОГРАФИЯ И ВОДНЫЕ РЕСУРСЫ

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# REVIEW OF THE CURRENT STATE OF TERRITORIAL NATURE PROTECTION IN SIBERIA AND MONGOLIA

**Abstract.** The large-area intracontinental territory discussed in the article has similarities of physical-geographical and socio-demographic parameters, as well as the attitude to them as «resource colonies». The Siberian and Mongolian parts differ significantly politically, which affects the institutional and managerial characteristics and the formation of territorial nature protection, which is implemented in the activities of specially protected natural areas. The analysis of the existing systems of protected areas of Siberia and Mongolia, their structure, legislative bases is given. Maps of protected areas have been compiled, demonstrating their distribution in Mongolia and Siberia, based on statistical data as of 2021, previously published author's thematic atlases and field studies for the period 1999-2022. An aspect that brings the systems closer together is shown – the presence and planning of interstate transboundary protected natural territories. The conclusion is made about the existing more effective system of Mongolian protected areas.

**Keywords:** legislation, specially protected natural areas, structure of territorial nature protection, management.

**Introduction.** The economic situation of the territories under consideration is currently significantly different: there has been a rapid growth in production in Mongolia over the past two decades, and in Russia, extensive industrial development ended three decades ago (with the exception of the little controlled expansion of the logging area and the construction of the Boguchanskaya HPP). The initial conditions for the development of these macro-regions were largely similar. The accession of Siberia to the Russian state, called “internal colonization”, was very accurately determined at the end of the 19th century by N.M. Yadrintsev in the book «Siberia as a colony. To the Anniversary of the Tercentenary», in its very title, which provided the basis for understanding the environmental policy of Russia from the end of the 17th century to our time [1]. Mongolia has also been considered for more than a hundred years as a resource colony of two powerful states, between which it is geographically sandwiched [2, 3]. Siberia and Mongolia are similar in their inland location, climate, landscapes, mineral deposits and methods of their development, low density and population, mainly concentrated in cities.

Territorial nature protection is usually associated with the activities of specially protected natural areas (PAs) in Russia and Mongolia. In both countries, the activities of protected natural areas are recognized as the most effective type of territorial nature protection for the conservation, maintenance and restoration of the natural environment in specially designated areas with a significant restriction on the use of natural resources [4]. Countries have adopted laws that ensure both the effectiveness of the environmental regime and the admissibility and control of permitted types of nature use in protected areas. Identification of differences in the organization of systems of protected natural areas is the main content of the work.

The purpose of the study is to analyze the activities of protected areas in Siberia and Mongolia by consistently comparing the institutional (legislative and managerial) and structural framework.

**Institutional Foundations.** The long period of existence of the Soviet Union and the Mongolian People's Republic in a single political channel led to the fact that in modern Russia and Mongolia, at the initial stage, the fundamentals of legislation regarding the use and protection of lands and the activities of protected areas turned out to be similar in many respects and were adopted almost simultaneously in the mid-1990s. The first comparative review of the updated environmental legal framework in Russia and Mongolia was carried out in 2000 [5]. Over the past two decades, the development paths of countries have begun to diverge noticeably, which has affected the content of existing legislative acts and determined the emergence of a number of distinct features in the analyzed systems of PAs.

*Land laws*. Russia has a «Land Code» and Mongolia has a law «On Land». It should be noted that the Russian code is much more voluminous and more difficult to apply, since it has been regularly amended since its inception. The land law of Mongolia is noticeably shorter, stricter in structure, and the changes being made relate only to taxation, the inseparability of land plots and buildings located on them. In the law of Mongolia, the so-called «Unified Land Fund» includes several types of land, including «land for special purposes», which include the lands of protected areas. To create a protected area, by its decision «The Great Khural ... can withdraw and release land for the special needs of the state». The central administrative authority for land issues has the authority to submit proposals to the Government for the acquisition or transfer of a land plot for the creation of protected areas. If, during the creation of a new protected area, it turns out that the lands do not belong to the state, then «regions, the capital of the country, soums and districts can purchase land for local special needs» in the field of nature protection, with payment of compensation to the owner. The law permits foreign organizations and companies to temporarily use the lands of Mongolia. For example, the Mongolian Environmental Protection Association (a public organization) carried out the initial stage of restoration of a limited population of the disappeared Przewalski's horse (*Equus ferus przewalskii Groves*, 1986) with foreign funds in the late 1960s in Mongolia. Subsequently, a nature reserve was created on this site in 1993, and later, since 2003, the Khustai Nuruu National Park, managed by the non-governmental organization Hustai National Park Trust [6]. In Russia, such experiments were possible only in the 1990s, for example, in Yakutia - the resource reserve «Charuoda (WWF-Sakha) » (1997), from the name of which it is clear which public organization took part in its creation.

The Russian Land Code declares»the priority of protecting the land as the most important component of the environment ... before using the land», but in practice the priority is often not respected. For example, when designing a new protected area, first of all, the presence of explored mineral deposits is analyzed, which often slows down or completely eliminates environmental tasks. In addition, the «priority of conservation of especially valuable lands and lands of specially protected territories is formally established, according to which the change of the designated purpose ... of lands of specially protected natural territories and objects ... for other purposes is limited or prohibited», which is also often not observed in practice. The most striking example was the introduction of a special article into the federal law on protected areas, when lands for the 2014 Winter Olympics in Sochi were withdrawn from the Sochi National Park. For Siberia, in violation of the spirit of the law on protected areas, a clause was also introduced on the obligation to change the boundaries of protected areas of any status in the event of the expansion of the Baikal-Amur and Trans-Siberian railways. In the Russian Land Code, in the general list of land categories, «PAs lands» are also listed, and it also provides for «land reservation» and «involuntary land acquisition» for various state needs, including the creation of PAs. In reality, land reservation for protected areas does not occur, although it is resorted to, for example, during the construction of various structures. The lands under the jurisdiction of nature reserves and national parks are withdrawn from circulation; lands of other categories of protected areas – «restricted for withdrawal». It is important to note that most of the lands within the boundaries of part of the categories of Russian Protected areas (reserve, natural parks, etc.) do not belong to the «lands of specially protected natural areas», they are mainly represented by «lands of the forest fund» and less often «agricultural lands», which often leads to obvious legal conflicts. State or municipally owned lands are provided for permanent (unlimited) use exclusively to state authorities and local governments, as well as state and municipal institutions (budgetary, state, autonomous), in charge of protected areas. Lands can be withdrawn on the basis of a decision to create or expand protected areas. Separately, restrictions on land rights can be applied in the case of established special conditions for protecting the environment, including flora and fauna, natural monuments, preserving the fertile soil layer, natural habitat, and migration routes for wild animals. There

are also «especially valuable» lands, within which there are natural objects of special scientific, historical and cultural value (typical or rare landscapes, cultural landscapes, communities of plant and animal organisms, rare geological formations); the owners, land users, landowners and tenants of such plots are responsible for their conservation. Regardless of the category of land, «zones with special conditions for the use of territories» can be established, for example, protected areas of protected areas, water protection (fish protection) zones and coastal protective strips, often referred to as natural monuments. Limited economic activities are allowed on «land for nature protection purposes» in places of traditional residence and traditional economic activities of indigenous peoples of the Russian Federation, «territories of traditional nature management» (TTNM) of these peoples can be formed.

TTNM in the Russian code are considered as sites with significant restrictions in economic activity, but not related to protected areas since December 2013 after the adoption of the law on changes in legislation. These land plots, which are in state or municipal ownership, also «can be provided for free use to persons belonging to the indigenous peoples of the North, Siberia and the Far East of the Russian Federation, and their communities in places of traditional residence and traditional economic activity». The use of these lands «may be carried out without the provision of land plots and the establishment of an easement, a public easement», if activities are carried out on them in order to preserve and develop the traditional way of life, economic activity and crafts of indigenous peoples».

*Water laws*. Law of Mongolian «On Water» is two times shorter than the Russian «Water Code». The fundamental difference from the Russian version is the active participation of citizens at each stage of the study, decision-making on protection or use, and monitoring of the state of water bodies. In accordance with the water laws of Russia and Mongolia, within the framework of nature protection activities, it is envisaged to create water protection belts along the coast of water bodies. In the Mongolian version, the law does not define strict numerical indicators of the width of these strips, depending on the type, size (length and width) of a particular water body; this information is determined on a case-by-case basis. The Mongolian law specifically highlights the requirements for «boundary waters» (located nearby or flowing along, as well as crossing the borders of the country). The importance of preserving forests and other woody vegetation along any watercourses and around endorheic water bodies is also discussed.

The Law on Water and the Law on Protected Areas of Mongolia are supplemented by another special general state law «On the Prohibition of Mining at the Heads of Rivers». In accordance with it, the Government of the country establishes the boundaries of the sources of rivers, including coasts, key forested areas, watershed areas. They are recognized as protected areas with a complete ban on exploration and mining.

In Russia, in addition to the general environmental legislation, a federal law has been adopted, the only one in the country for a separate water body – «On the Protection of Lake Baikal». To preserve the lake, it is planned to allocate a huge Baikal Natural Territory or BNT (386 thousand $km^2$, which in total exceeds the total area of all reserves and national parks of the country - 317 thousand $km^2$), which in turn is divided into three ecological zones: central (actually water area of the lake with islands and the nearest territorial environment), buffer (the Russian part of the drainage basin) and atmospheric influence (about 200 km to the north-west of the lake, from where, with dominant winds, harmful air pollutants are transferred from the enterprises of the Irkutsk-Cheremkhovo industrial territory). The law was adopted for two reasons: the creation of the most significant UNESCO World Natural Heritage site in Russia (now, in accordance with the law, this object coincides with the external borders of the central ecological zone of the BNT), and also because this object is transboundary between the Irkutsk region and the Republic of Buryatia (since 2019, also between two federal districts - Siberian and Far Eastern), which required supra-subject legislation for similar management of a single natural territory. It should be noted that, in addition to the named subjects of the Russian Federation, part of the buffer ecological zone of the BNT is located in the southwestern part of the Trans-Baikal Territory

Thus, in both Russia and Mongolia, protected areas near or around water bodies can be called a kind of «departmental» protected natural areas.

*TTNM Law*. Unlike Mongolia, where all pastoral activities of the local population are recognized as traditional, regardless of nationality, in Russia a special law on the TTNM of indigenous peoples has been adopted. One of the goals of the law is the conservation of biological diversity in the TTNM. TTNM s are recognized as «specially protected areas» of federal, regional or local significance. The law here allows only such economic activity that does not violate the legal regime of the TTNM.

*Laws on protected areas* in both countries are the main ones that determine the formation of territorial nature protection. Moreover, in Russia and Mongolia, similar classification systems were initially adopted for national PAs, but regional or local PAs in Russia also have their own classification, and in Mongolia there is one category for each level. Nationwide protected areas include, respectively, in Russia and Mongolia: nature reserves/strictly protected areas, national parks, federal nature reserves/ natural reserves, federal nature monuments/monuments. Regional categories of protected areas include: natural parks, reserves of regional significance /regional protected areas etc. Locally protected areas include categories determined by regional laws on protected areas / protected areas of the somon. It should be emphasized that in this article, due to the low efficiency for the purposes of preserving landscape diversity in the natural environment, such categories of protected areas as Russian dendrology parks, botanical gardens and extremely small natural monuments are not taken into account.

In Russian legislation, buffer zones around protected areas are provided only for «reserves, national parks and natural monuments». In Mongolia, a special law on buffer zones of protected areas has been additionally adopted. They can be created around any protected areas, and for the joint management of buffer zones by representatives of all land users, a special buffer zone council and a fund for its financing are created. It involves the local population in environmental activities.

Functional zoning in Russia is provided only for national and natural parks, and in Mongolia - for strictly protected areas and national parks. Thus, the conservation regime of the Mongolian reserves is more similar to the regime of Russian national parks or international biosphere reserves; they can differentiate the environmental regime into the following zones: 1) untouched (unchanged); 2) specially protected (biotechnical activities are possible, elimination of damage from natural disasters); 3) limited access (sanitary felling, construction of temporary campsites, collection of certain medicinal and food plants and fruits by local residents, visits to holy places are allowed). It should be noted that the entry into the borders of the largest city of Mongolia of the strictly protected area «Bogd-Khan-Uul» led to significant violations of the environmental regime of this protected area: entire urban micro districts, golf courses, ski slopes appeared, the number of tourists bases and recreation centers increased significantly in a restricted area. The natural conditions have changed here, the area and quality of forests have decreased [7, 8]. In Russian reserves, which have been assigned the status of «biosphere reserves», a special biosphere test site may be allocated «for the purpose of conducting scientific research, state environmental monitoring (state environmental monitoring), as well as testing and implementing methods of rational nature management that do not destroy the environment. environment and do not deplete bio resources».

In Russia, settlements can be located within the boundaries of protected areas, which causes difficulties both in the management of a protected natural area and problems with the development of settlements. Such a situation is observed, for example, in the Pribaikalsky National Park (Irkutsk Region), but it manifests itself in the most characteristic form in the Tunkinsky National Park (Republic of Buryatia), which coincides with the administrative region of the same name by its external borders [9]. In Mongolia, settlements are not included in the protected areas.

Visiting Russian protected areas by individuals who do not live within their borders can be both free of charge and with payment, and the amount of payment is determined by the Ministry of Natural Resources and Ecology of the Russian Federation. In Mongolia, a fee is charged for visiting any state-owned protected areas.

Both laws on protected areas declare the priority of international law over national law. Mongolia strictly adheres to the established priority, while Russia recently decided to ignore it by adopting a law on the priority of the Constitution of the Russian Federation over the decisions of international organizations and courts. In the Law on PAs of Mongolia, a special article is devoted to transboundary and border PAs, as well as the involvement of border guards in their protection. Between Siberia and Mongolia there are functioning and planned transboundary PAs [10], but they are not mentioned in Russian legislation, the conditions for their conservation, participation in the protection of the border service and other issues of functioning are not specified in relation to them.

In the Mongolian law on protected areas, in addition to budgetary funds and funds received from visitors, which increase from year to year [11], any legal ways of economic support, including international funds and foreign private donations, can be involved in financing protected areas. In Russia, foreign funding for protected areas has recently been discontinued. In the Russian law on protected areas and in general in environmental legislation, there is no full-fledged discussion of the functioning of protected

natural areas of international importance in accordance with ratified international conventions (world natural heritage sites, biosphere reserves, transboundary protected areas, key ornithological, botanical, soil territories), with the exception of the Decree of the Government of the Russian Federation on wetlands in accordance with the Ramsar Convention, which simply lists them without discussing the special environmental regime. The regime of the previously mentioned «biosphere reserves» does not have general rules, it is left for independent decision-making by the directorates of protected areas and is reflected only in their regulations. In addition, Russia proclaimed the priority of the country's legislation over international [12].

The institutional framework, including legislative, managerial conditions and law enforcement practice, influences the formation of the structure of the system of territorial nature protection in Siberia and Mongolia.

**Differences in the structure of PA systems.** A general idea of the existing system of protected areas, their structure and location in each of the countries under consideration is provided by cartographic materials, as well as special atlases. For the first time, protected areas in both Siberia and Mongolia were shown in the atlas «Protected Natural Territories of the Baikal Basin» [13]. For the first time, an attempt was made in the atlas to present uniformly the landscape maps of each PA of federal / national / regional status for the Russian and Mongolian parts of the basin. The method of thematic mapping developed during the creation of the atlas, called «one-aspect», formed the basis of the following two atlases. They included landscape maps of each PA in the Siberian and Far Eastern Federal Districts of Russia [14, 15]. Updated necessary cartographic information on the protected areas of Mongolia is available in the latest edition of the Atlas of Mongolia [16, 17].

The database formed during the preparation of the atlases on the current structure of protected areas systems contains statistical information on each of the protected areas in Siberia and Mongolia: location, category, year of creation, area, management features (for example, special international status, joint directorates) and territorial differentiation (functional zoning, availability of buffer zones, number and area of clusters). The analysis of cartographic information makes it possible to evaluate the distribution of protected areas by natural zones and administrative units of the Russian Federation and Mongolia. The existing systems of protected areas in these countries differ significantly.

Most of the protected areas in Siberia are concentrated in its southern limits, along transport routes and in areas of human settlement. An exception in terms of uniform distribution of protected areas is the situation in Yakutia and partly in the Tyumen region (with the autonomous okrugs of Yamalo-Nenets and Khanty-Mansiysk). The trend of unevenness is especially pronounced in relation to the reserves of regional significance. The distribution of protected areas across the regions of Siberia is also not uniform. Mountain and South Siberian types of landscapes are widely represented within the boundaries of the protected areas of Siberia, while arctic, subarctic landscapes, northern and middle taiga forests are not covered enough, and are noted only in a few large protected areas of federal significance in the northern part of Siberia [14, 15]. In Mongolia, the distribution of protected areas is more even, both across the territories defined by the administrative division of the country, and across natural zones and altitudinal belts.

The area of Siberia is approximately five times larger than the area of Mongolia, while the areal characteristics of the structure of protected areas are comparable and differ by 2 times: (110 091 and 51 365 ha, respectively) (figure 1). A detailed analysis of the distribution of protected areas by categories and regions shows that the number of protected areas in Siberia (431) and in Mongolia (1059) differs by 2.5 times. The share of the total area of protected areas from the area of Mongolia, according to official data, is more than 2.5 times higher than the Siberian one (26.75% and 11.40%, respectively). At the same time, we note that a significant part of the PAs of regions, officially represented in the cadaster of the Ministry of Environment and Tourism of Mongolia, is still given without indicating their area. For example, out of 20 regional PAs in Bayankhongor Province, the area is indicated only for two, out of 48 Omnogovi Province – for 26, out of 47 province Sukhe-Bator – for 13, out of 158 province Tuva – only 10, out of 124 province Khuvsgel – for 23. Understandable that the real area of province PAs is significantly higher, and in the case of cartometric determination of spatial indicators, their share in the area of provinces and in general in Mongolia is significantly higher (increases to 32.84%). Even in the «truncated» official figures, the area of зкщмштсу PAs (19,965 ha) is comparable to the area of all strictly protected areas or national parks (26,043 ha).

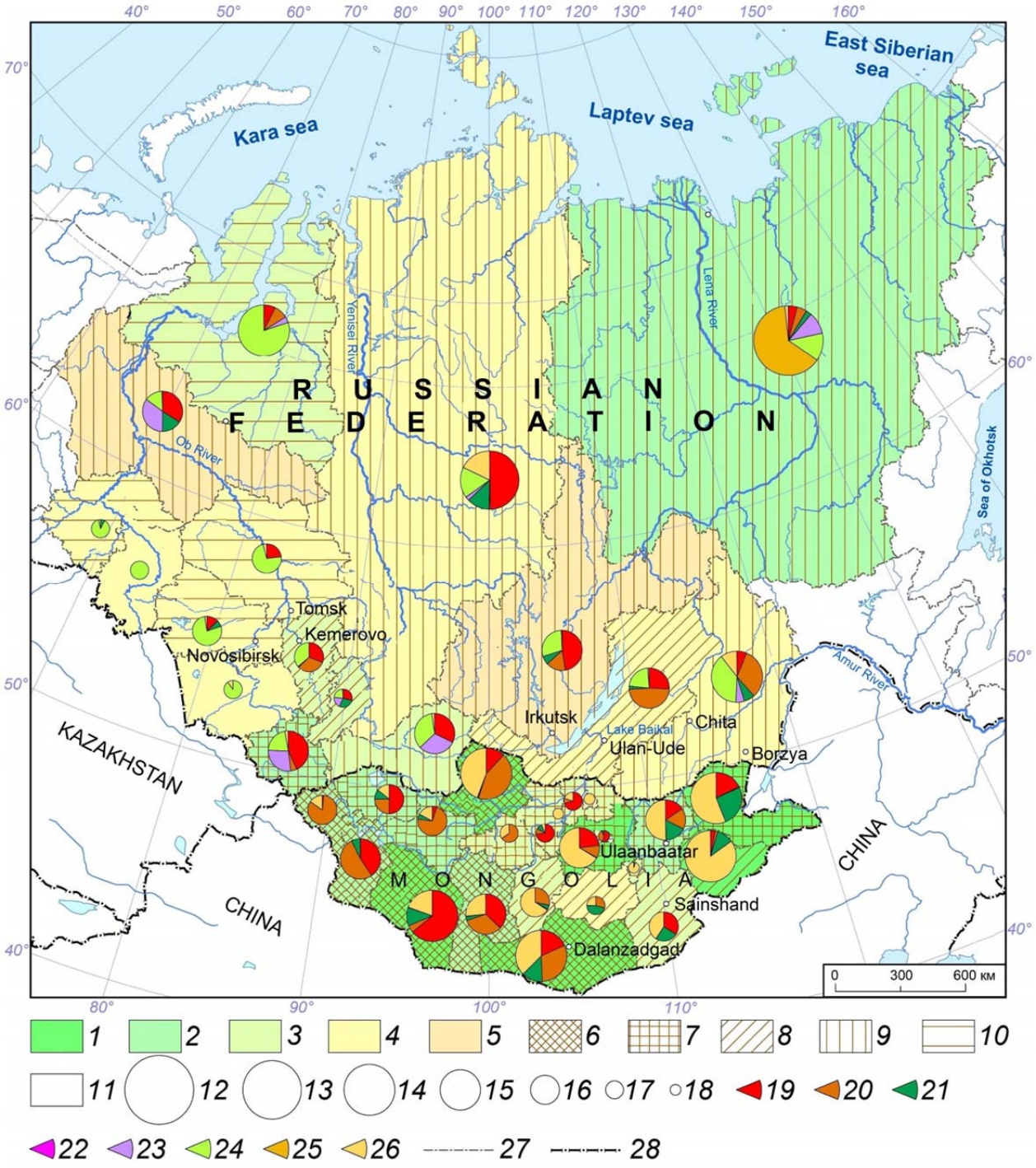


Figure 1 – Structure of territorial nature protection in Siberia and Mongolia.

Share of protected areas of the main categories in the area of subjects of the Russian Federation and aimags of Mongolia (%): *1* – more than 40, *2* – from 20 to 40, *3* – from 10 to 20, *4* – from 5 to 10, *5* – less than 5; The share of federal/national PAs in the total area of PAs in the constituent entities of the Russian Federation and in the aimags of Mongolia (%): *6* – more than 20, *7* – from 10 to 20, *8* – from 5 to 10, *9* – from 2 to 5, *10* – less than 2, *11* – absent; Total area of protected areas in the constituent entities of the Russian Federation and aimags of Mongolia (thousand km$^2$): *12* – more than 500, *13* – from 100 to 500, *14* – from 40 to 100, *15* – from 20 to 40, *16* – from 10 to 20, *17* – from 1 to 10, *18* – less than 1; The share of protected areas by categories of the total area of protected areas in the constituent entities of the Russian Federation and aimags of Mongolia: PAs of federal significance/nationwide: *19* – reserves/strictly protected areas, *20* – national parks, *21* – reserves/nature reserves, *22* – monuments of Mongolia); PAs of regional importance/aimak: *23* – natural parks, *24* – reserves, *25* – resource reserves, *26* – PAs of aimaks and other PAs of regional importance; Borders: *27* – subjects of the Russian Federation and aimags of Mongolia, *28* – state

In Siberia, which includes 10 subjects of the Russian Federation in the Siberian Federal District, one in the Urals (Tyumen Region, including the autonomous okrugs of Yamalo-Nenets and Khanty-Mansiysk – Yugra) and three in the Far East (Transbaikal Territory, the Republics of Sakha (Yakutia) and Buryatia), there are 431 protected areas of the main categories, i.e. categories significant for the conservation of landscape diversity. Of these, 59 protected areas are of federal significance and 372 are of regional significance. The largest number of protected areas, including those of regional importance, are located in Yakutia (87), the Tyumen region (65) and the Krasnoyarsk Territory (52), but these are also the largest subjects of Russia in terms of area. The maximum number of protected areas of federal significance is represented in the Krasnoyarsk Territory (11) and in the Tyumen Region with autonomous districts (9),

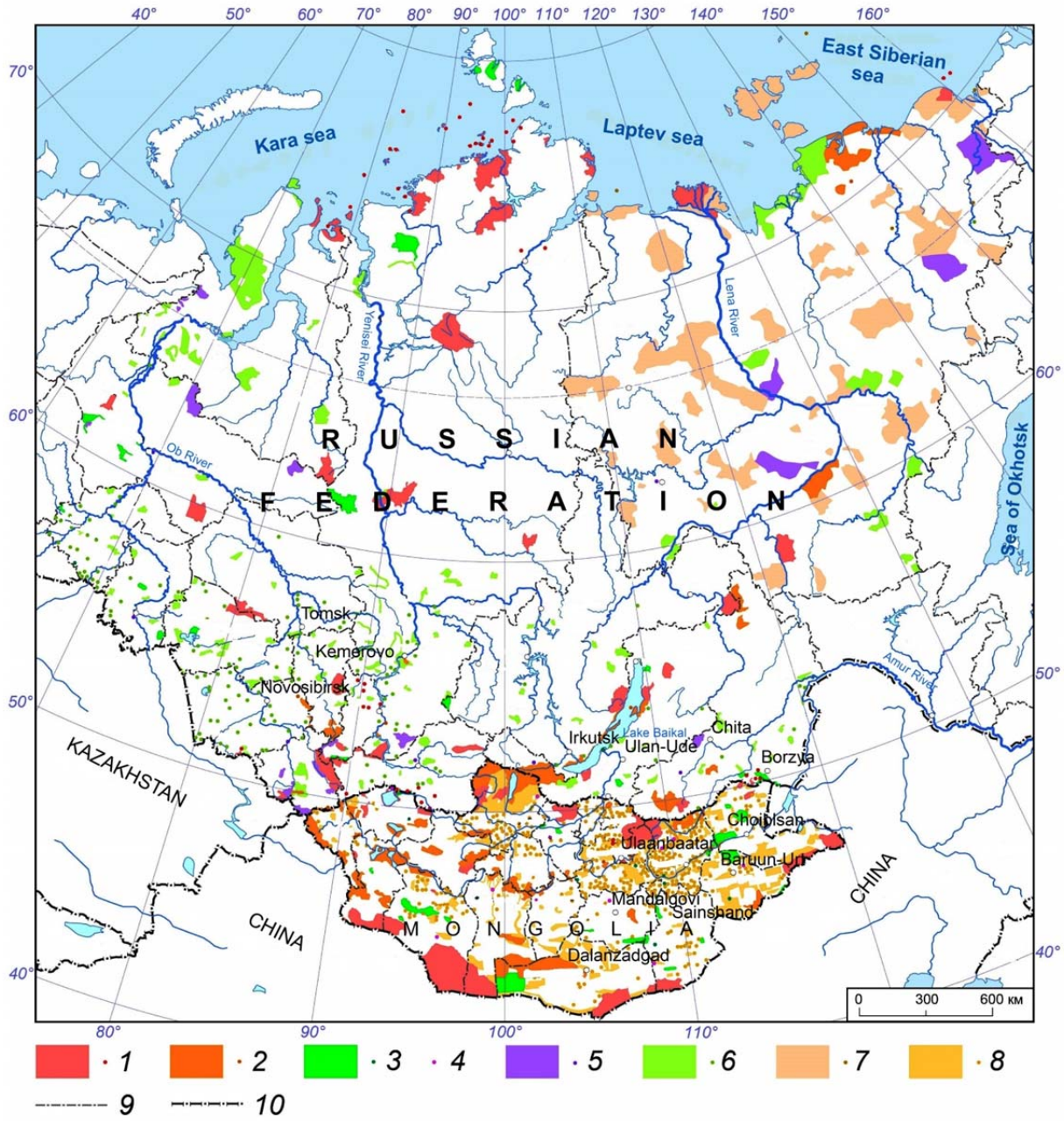


Figure 2 – Spatial arrangement of protected areas.

Categories of PAs in Russia/Mongolia: PAs of federal significance/nationwide: *1* – nature reserves/strictly protected areas; *2* – national parks; *3* – sanctuaries of federal significance/natural reserves; *4* – monuments (Mongolia); PAs of regional importance/aimak: *5* – natural parks; *6* – reserves of regional importance; *7* – resource reserves; *8* – PAs of aimaks; Borders: *9* – subjects of the Russian Federation and aimags of Mongolia; *10* – state

and in the north of the former there are three of the country's largest reserves in terms of area. The Republic of Altai (1/4 of the area of the subject of the Russian Federation) and Yakutia (more than 1/5) are maximally covered by the environmental regime. In the worst situation - Irkutsk and Tomsk regions (less than 4%).

Reserves in Siberia occupy a significant part of the territory under consideration (1.76%) and almost 1/6 of the area of all protected areas in Siberia. The least represented so far are natural parks (1.03%). Despite the small area of each federal and regional reserve, their total area significantly exceeds the total area of reserves (32,352 and 16,982 ha, respectively). But 62 resource reserves of Yakutia (43,141 hectares) became the most significant in terms of area both within the subject and for the whole of Siberia – almost 40% of the area of all protected areas, which is 2.5 times larger than the area of all reserves, and occupies almost 1 /20 from the area of Siberia. Natural reserves – protected areas with not the most stringent environmental regime, which allow traditional types of economic activity to be carried out on part of their territory, while preventing the emergence of intensive types of nature use and industrial facilities and often being a kind of reserve territories for subsequent organization within their boundaries of more significant categories of protected areas.

Siberian protected areas almost never cross the borders of the constituent entities of the Russian Federation (the exception is the Vasyugansky reserve between Novosibirsk and Tomsk regions). In Mongolia, transboundary inter-region protected areas are very widely represented, and they are all of the national level (for example, out of 15 strictly protected areas, 7 are interregional, out of 34 national parks – 15).

Figure 2 visualizes the areal characteristics of territorial nature protection in Siberia and Mongolia, and the situation of a more efficient structure of the protected area system in Mongolia is extremely clear.

**Similarities in the structure of PA systems.** The only thing institutionally uniting now the territorial nature protection of Siberia and Mongolia is the transboundary protected natural areas of the interstate


Figure 3 – Location of transboundary protected natural areas in Siberia and the Far East.

TPNAIL: I – Active: *1* – Altai, *2* – Ubsu-Nur basin, *3* – Sources of the Amur, *4* – Dauria, *5* – Lake Khanka; II – Planned: *6* – Sailyugem, *7* – Delger-Muren, *8* – Sayan crossroads, *9* – From Khuvsgul to Baikal, *10* – Selenga, *11* – Khentei-Chikoyskoe highland, *12* – Amur Tiger and Leopard, *13* – Tumangan, *14* – Southern Kuriles, *15* – Beringia.

*Note:* The size of the TPNAIL sign depends on the number and area of the protected areas included in it.

level (TPNAIL). The current ones include TPNAIL: «Altai»; «Ubsu-Nur basin»; Dauria. At the end of the organization process is TPNAIL «Sources of the Amur». The following TPNAIL s are planned between Russia and Mongolia: Sailyugem, Delger-Muren, Sayan Crossroads, from Khubsugul to Baikal, Selenga, Khentei-Chikoi Highland [10]. In other respects, the development and structure of the location of protected areas differ markedly. Figure 3 shows the current and planned TPNAILs throughout the Asian part of Russia.

As an example of the organization of the TPNAIL, we will cite Altai. The idea of organizing a TPNAIL (figure 4) arose in 1999 within the framework of the Altai Convention [18, 19], it was created in 2011. region of Kazakhstan, 2001, 643,477 ha) and the biosphere reserve «Katunsky» (Republic of Altai RF, 1991, 151,664 ha). In 2017, UNESCO approved the project to create the first transboundary biosphere reserve Great Altai with a total area of 1.5 million hectares in Russia and Kazakhstan [20, 21]. In the Xinjiang Uygur Autonomous Region of the People's Republic of China, on the adjacent territory, there is the Khanas State Nature Reserve, established in 1986, with an area of 455,408.3 ha (by now it has been expanded to 1,003,000 ha) [14; 22]. In the Mongolian aimag Bayan Olgiy, the national park «Altai tavan bogd» (1996, 656,088.91 ha) is adjacent to the state border. In order to improve the efficiency of the


| Categories of protected areas | Active and included in the TPNAIL | Active and planned to be included in the TPNAIL | Planned |
|---|---|---|---|
| Nature reserves | | | |
| National parks | | | |
| Natural parks | | | |
| Sanctuaries and protected areas of regional importance | | | |
| Other designations | | | |
| | State borders | | |
| | Cities | | |

Figure 4 – Structural elements of TPNAIL «Altai»

TPNAIL, it should include: in the East Kazakhstan region of Kazakhstan - the Markakol nature reserve (1976, 102,979 ha), the planned regional reserves Kabinsky (62,390.8 ha) and Bas-Terekty (17,258 ha) [23]; in the Republic of Altai, the operating regional natural parks Ukok Quiet Zone (2005, 254204 ha) and Belukha (1997, 131270 ha) [24]. During the initial design of this territory, it was planned to conclude an agreement between four states: Russia, China, Mongolia and Kazakhstan, because. it is located at the junction of these 4 states. Thus, it can be hoped that the agreement between Kazakhstan and Russia has become the first stage in the process of creating a quadripartite transboundary territory.

**Conclusion.** The laws on specially protected natural areas in Mongolia were adopted in 1994, and in Russia in 1995. After more than 20 years of their enforcement and legislative changes, it can be concluded that the laws of Mongolia in the field of territorial nature protection are given in brief formulations, as close as possible to the daily activities of protected areas. In Russia, such laws, despite their verbosity and problems of using in practice, as well as changes made to them without justified environmental logic, in reality very limitedly allow solving the actual tasks of the functioning of protected areas and the population living within the borders and on protected areas of protected areas. A typical example can be the articles of laws on the transfer of lands, when in all the years only in a few cases lands of other categories were transferred to the lands of protected areas in regional protected areas.

There is an obvious unevenness in the distribution of protected areas across the territory of Siberia, which is largely associated with the places of settlement and the main transport routes that have developed since the time of its development. A notable exception is the Republic of Sakha (Yakutia), which has one of the highest percentages of protected areas occupied by protected areas, which is directly related to the activities of a special Ministry of Nature Protection, which until recently was also not responsible for nature management, as is customary in other regions of Russia and at the federal level.

Mongolia gives the Ministry of Environment and Tourism full responsibility for all sections of environmental activities, including protected areas, the goal of developing the system of which is declared to be 30% of the country's area [17], which, judging by the cartometric (unofficial) data, has already been achieved. Everything that relates to the development and extraction of natural resources remains within the framework of other departments, and the intersections and contradictions that arise are resolved at a high government level. Such independence, probably, makes it possible to create new protected areas on a regular basis for two decades, to have plans and state programs for the development of a network of protected areas that are consistently implemented. As a result, one can note an almost even distribution of protected areas throughout the territory of Mongolia and the constant work to expand existing ones and justify the organization of new protected areas.

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## СІБІР ЖӘНЕ МОҢҒОЛИЯНЫҢ АУМАҚТЫҚ ТАБИҒАТЫН ҚОРҒАУДЫҢ ҚАЗІРГІ ЖАҒДАЙЫНА ШОЛУ

**Аннотация.** Мақалада талқыланған аумақ бойынша ауқымды құрлықішілік аймақ физикалық-географиялық және әлеуметтік-демографиялық параметрлердің біркелкілігіне, сондай-ақ оларды «ресурстық колониялар» ретінде қарастыруға ие болуда. Сібір және моңғол құраушылары саяси жағынан айтарлықтай ерекшеленеді, ол өз кезегінде ерекше қорғалатын табиғи аумақтардың қызметінде жүзеге асырылатын институционалдық және басқарушылық сипаттамаларға және аумақтық табиғатты қорғаудың қалыптасуына әсер етеді. Сібір мен Моңғолияның қорғалатын аумақтарының қалыптасқан жүйелеріне, олардың құрылымына, заңнамалық негіздеріне талдау келтірілген. Моңғолия және Сібірде олардың таралуын көрсететін, 2021 жылғы жағдай бойынша статистикалық мәліметтерге, 1999-2022 жылдар кезеңінде бұрын жарияланған авторлық тақырыптық атластар мен далалық зерттеулерге негізделген қорғалатын табиғи аумақтардың карталары жасалды. Моңғолияның қорғалатын аумақтарының неғұрлым тиімді жүйесі туралы қорытынды жасалды.

**Түйін сөздер:** заңнама, ерекше қорғалатын табиғи аумақтар, аумақтық табиғатты қорғау құрылымы, басқару

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# ОБЗОР СОВРЕМЕННОГО СОСТОЯНИЯ ОХРАНЫ ТЕРРИТОРИАЛЬНОЙ ПРИРОДЫ СИБИРИ И МОНГОЛИИ

**Аннотация.** Обсуждаемая в статье значительная по площади внутриконтинентальная территория обладает сходством физико-географических и социально-демографических параметров, а также отношением к ним как к «ресурсным колониям». Сибирская и монгольская составляющие существенно различаются политически, что сказывается на институционально-управленческих характеристиках и на формировании территориальной охраны природы, которая реализуется в деятельности особо охраняемых природных территорий. Приведен анализ сложившихся систем охраняемых территорий Сибири и Монголии, их структуры, законодательных оснований. Составлены карты охраняемых территорий, демонстрирующие их распределение в Монголии и Сибири, базирующиеся на статистических сведениях по состоянию на 2021 г., изданных авторских тематических атласах и полевых исследованиях за 1999-2022 гг. Показан сближающий системы аспект – наличие и планирование межгосударственных трансграничных охраняемых природных территорий. Сделан вывод о сложившейся более результативной системе монгольских охраняемых территорий.

**Ключевые слова:** законодательство, особо охраняемые природные территории, структура территориальной охраны природы, управление.

МАЗМҰНЫ – СОДЕРЖАНИЕ – CONTENTS

**Гидрогеология – Гидрогеология – Hydrogeology**



**Гидрология – Гидрология – Hydrology**



**Гляциология – Гляциология – Glaciology**



**Климатология және метеорология**
**Климатология и метеорология**
**Climatology and meteorology**



**Табиғатты ұтымды пайдалану**
**Рациональное природопользование**
**Environmental management**

## ПРАВИЛА ДЛЯ АВТОРОВ

В журнале публикуются статьи, посвященные проблемным вопросам географической науки и геоэкологии, а также научные сообщения теоретического, методического, экспериментального и прикладного характера, тематические обзоры, критические статьи и рецензии, в том числе в виде писем в редакцию, библиографические сводки, хроника научной жизни. Тексты статей и других материалов могут предоставляться на казахском, русском или английском языках. Редакция принимает материалы в электронном виде, набранные в текстовом редакторе Microsoft Word, в сопровождении идентичной бумажной версии. Поля: верхнее и нижнее – 2,4 см, правое и левое – 2,2 см. Текст (шрифт «Times New Roman») дается в одну колонку через межстрочный интервал 1,0 и для него устанавливается автоматический перенос. Страницы нумеруются. Материал статьи (текст, включая аннотации на казахском, русском и английском языках, рисунки, таблицы, список литературы) оформляется одним файлом. Объем статьи со всеми структурными элементами не должен превышать 50 000 знаков с пробелами (до 12 стр.), других материалов – 20 000 знаков с пробелами (до 4 стр.).

Рукописи статей оформляются следующим образом: 1) УДК (выравнивание текста «левый край», кегль 10); 2) через один интервал инициалы и фамилии всех авторов через запятую (выравнивание текста «по центру», начертание «полужирный», регистр «начинать с прописных», кегль 11; если авторов несколько, после фамилии каждого указывается надстрочным индексом порядковый номер арабской цифрой); 3) через один интервал – ученое звание и степень автора, должность, в скобках – полное название организации, в которой он работает, город, страна (выравнивание текста «по центру», кегль 10; если авторов несколько, сведения даются о каждом из них отдельной строкой через одинарный интервал, а начинается каждая строка с надстрочного индекса порядкового номера после фамилии автора); 4) через один интервал – название статьи без переноса (выравнивание текста «по центру», начертание «полужирный», регистр «все прописные», кегль 14); 5) через один интервал – аннотация из 5–10 предложений, объемом до 1200 знаков с пробелами (начинать абзац следующим образом: «Аннотация. … (каз. яз.)», «Аннотация. … (рус. яз.)», «Abstract. … (англ. яз.)») на том языке, на котором написан основной текст рукописи (абзац «0,75 см», выравнивание текста «по ширине», регистр «все строчные», кегль 10); 6) через один интервал 5–7 ключевых слов (начинать абзац следующим образом: «Түйін сөздер: ...», «Keywords: …», «Ключевые слова: …»), сортированных по алфавиту, на том языке, на котором написан основной текст рукописи (абзац «0,75 см», выравнивание текста «по ширине», регистр «все строчные», кегль 10).

Основной текст разбивается на структурные элементы: введение, постановка проблемы, методика исследований, источники данных, результаты исследований, обсуждение результатов, заключение (выводы), источник финансирования исследований (при необходимости), список литературы. Перед списком литературы может помещаться благодарность лицам и организациям, оказавшим помощь в написании статьи. Необщепринятые аббревиатуры должны расшифровываться в тексте при первом упоминании. Параметры текста: абзац «0,75 см», выравнивание «по ширине», регистр «как в предложениях», кегль 11.

Под заголовком «ЛИТЕРАТУРА» приводится список источников, на которые есть ссылки в тексте. Литература приводится сначала на языке оригинала, затем дублируется на английском языке «REFERENCES» (абзац «0,75 см», выравнивание «по ширине», регистр «как в предложениях», кегль 9). В тексте ссылки на номера списка даются в квадратных скобках. Запись каждой библиографической ссылки в списке начинается с ее порядкового номера в тексте: «[1] Петрова С.Н. Научно-исследовательская деятельность …»). Список литературы оформляется по ГОСТ 7.1–2003 и тщательно выверяется автором. Транслитерация не допускается!

Далее следует резюме. Для статьи, предоставленной на *казахском языке,* требуются русский и английский переводы; *на русском языке* – казахский и английский переводы; *на английском языке* – казахский и русский переводы. Для авторов из зарубежья резюме на казахский язык переводится в редакции в соответствии с предоставленным на русском и английском языках. Структура двуязычных резюме: инициалы и фамилии всех авторов через запятую (после фамилии каждого указывается надстрочным индексом порядковый номер арабской цифрой); ученое звание и степень автора, должность, в скобках – полное название организации, в которой он работает, город, страна (если авторов несколько, сведения даются отдельной строкой через одинарный интервал, а начинается каждая строка с надстрочного индекса порядкового номера после фамилии автора); название статьи; аннотация, приведенная в начале статьи (начинать абзац следующим образом: «Аннотация. … (каз. яз.)», «Аннотация. … (рус. яз.)», «Abstract. … (англ. яз.)»; ключевые слова, приведенные в начале статьи (начинать абзац следующим образом: «Түйін сөздер: ...», «Keywords: …», «Ключевые слова: …»).

Таблицы набираются в формате Microsoft Word (не Microsoft Excel), кегль 9. В статье даются ссылки на все таблицы. Располагать их следует сразу после упоминания в тексте или на следующей странице. Название таблицы должно отражать ее содержание, быть точным, кратким. Например, «Таблица 1 – Средний многолетний расход р. Жайык, $м^3/с$». Размещать его следует над таблицей, без абзацного отступа (выравнивание текста «по центру», кегль 9). Не допускается перенос части таблицы на следующую страницу. Большие таблицы допускается размещать на всю страницу с ориентацией «альбомная». Таблицы и графы в них должны иметь заголовки, сокращения слов не допускаются. Повторяющийся в разных строках графы таблицы текст из одного слова после первого написания допустимо заменять кавычками. Если он состоит из двух и более слов, то при первом повторении его заменяют словами «то же», а далее – кавычками. Ставить кавычки вместо повторяющихся цифр, марок, знаков, математических и химических символов не допускается. Если данные в какой-либо строке таблицы не приводят, то в ней ставят прочерк.

Рисунки должны быть выполнены в хорошем качестве, а их общее количество не превышать 5. Рисунки располагают непосредственно после текста, в котором они упоминаются впервые, или на следующей странице. Все надписи на рисунках должны хорошо читаться; по возможности их следует заменять буквами или цифрами, а необходимые пояснения давать в тексте или в подрисуночных подписях. В подрисуночной подписи необходимо четко отделить (новая строка) собственно название рисунка от объяснений к нему (экспликация). Подрисуночные подписи должны соответствовать тексту (но не повторять его) и изображениям. Например, «Рисунок 1 – Карта плотности населения в бассейне р. Жайык, чел. на $1 км^2$» (выравнивание текста «по центру», кегль 9). Фотографии должны быть четкими, без дефектов. Все рисунки также предоставляют отдельными файлами: для растровых изображений – в формате JPEG/TIFF/PSD, для векторных – в совместимом с Corel Draw или Adobe Illustrator. Разрешение растровых изображений в оттенках серого и RGB цветах должно быть 300 dpi, чёрно-белых – 600 dpi. Рекомендуемые размеры: ширина – 85, 120–170 мм, высота – не более 230 мм. При необходимости файлы могут быть заархивированы, предпочтительно в форматах ZIP или ARJ.

Математические обозначения и формулы нужно набирать в Microsoft equation и размещать в тексте на отдельных строках, нумеруя только те, на которые есть ссылки в тексте. Русские и греческие буквы в формулах и статьях, а также математические символы и химические элементы набираются прямым шрифтом, латинские буквы – курсивом.

К статье следует приложить: 1) сопроводительное письмо; 2) рецензию на 1 стр.; 3) экспертное заключение об отсутствии секретных сведений в публикации, выданное организацией, в которой выполнена работа (в особых случаях возможно составление в редакции после внутреннего рецензирования); для нерезидентов Республики Казахстан экспертное заключение не требуется; 4) краткое заключение лаборатории (кафедры, отдела и др.), где выполнена представленная к публикации работа; 5) сведения о каждом авторе: ФИО (полностью), ученые степень и звание, должность и место работы, контактные E-mail, телефоны, факс.

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## Ғылыми жарияланымдардың этикасы

«География мен су ресурстары» журналының редакциялық алқасы халықаралық қоғамдастық қабылдаған жариялау этикасының қағидаттарын ұстанады, сондай-ақ беделді халықаралық журналдар мен баспалардың құнды тәжірибесін ескереді.

Баспа қызметіндегі жосықсыз тәжірибені болдырмау мақсатында (плагиат, жалған ақпаратты ұсыну және т.б.) және ғылыми жарияланымдардың жоғары сапасын қамтамасыз ету, автордың алған ғылыми нәтижелерін жұртшылықпен таныстыру мақсатында редакциялық кеңестің әрбір мүшесі, автор, рецензент, сондай-ақ баспа барысында қатысатын мекемелер этикалық стандарттарды, нормалар мен ережелерді сақтауға және олардың бұзылуын болдырмау үшін барлық іс-шараларды қабылдауға міндетті. Осы процеске қатысушылардың барлығының ғылыми жарияланым этикасы ережелерін сақтау авторлардың зияткерлік меншік құқықтарын қамтамасыз етуге, басылым сапасын арттыруға және авторлық ақпараттарды, жеке тұлғалардың мүддесі үшін заңсыз пайдалану мүмкіндігін болдырмауға ықпал етеді.

Редакцияға келіп түскен барлық ғылыми мақалалар міндетті түрде екі жақты шолудан өтеді. Журнал редакциясы мақаланың журнал бейініне, ресімдеу талаптарына сәйкестігін белгілейді және қолжазбаның ғылыми құндылығын айқындайтын және мақала тақырыбына неғұрлым жақын ғылыми мамандандырулары бар екі тәуелсіз рецензент – мамандарды тағайындайтын журналдың жауапты хатшысының бірінші қарауына жібереді. Мақалаларды рецензиялауды редакциялық кеңес және редакциялық алқа мүшелері, сондай-ақ басқа елдердің шақырылған рецензенттері жүзеге асырады. Мақалаға сараптама жүргізу үшін бел-гілі бір рецензентті таңдау туралы шешімді Бас редактор қабылдайды. Рецензиялау мерзімі 2-4 аптаны құрайды, бірақ рецензенттің өтініші бойынша ол ұзартылуы мүмкін.

Редакция мен рецензент қарауға жіберілген жарияланбаған материалдардың құпиялылығын сақтауға кепілдік береді. Жариялау туралы шешімді журналдың редакциялық алқасы рецензиялаудан кейін қабылдайды. Қажет болған жағдайда қолжазба авторларға рецензенттер мен редакторлардың ескертулері бойынша жөндеуге жіберіледі, содан кейін ол қайта рецензияланады. Редакция этика ережелерін бұзған жағдайда мақаланы жариялаудан бас тартуға құқылы. Егер ақпаратты плагиат деп санауға жеткілікті негіз болса, жауапты редактор жариялауға жол бермеуі керек.

Авторлар редакцияға ұсынылған материалдардың жаңа, бұрын жарияланбаған және түпнұсқа екендігіне кепілдік береді. Авторлар ғылыми нәтижелердің сенімділігі мен маңыздылығына, сондай-ақ ғылыми этика қағидаттарын сақтауға, атап айтқанда, ғылыми этиканы бұзу фактілеріне жол бермеуге (ғылыми деректерді тұжырымдау, зерттеу деректерін бұрмалауға әкелетін бұрмалау, плагиат және жалған тең авторлық, қайталау, басқа адамдардың нәтижелерін иемдену және т. б.) жауапты болады.

Мақаланы редакцияға жіберу авторлардың мақаланы (түпнұсқада немесе басқа тілдерге немесе басқа тілдерге аударылған) басқа журналға(журналдарға) бермегенін және бұл материал бұрын жарияланбағанын білдіреді. Әйтпесе, мақала авторларға авторлық құқықты бұзғаны үшін мақаланы қабылдамау туралы ұсыныспен дереу қайтарылады. Басқа автор жұмысының 10 пайызынан астамын оның авторлығын және дереккөзге сілтемесіз сөзбе-сөз көшіруге жол берілмейді. Алынған көріністер немесе мәлімдемелер автор мен бастапқы көзді міндетті түрде көрсете отырып жасалуы керек. Шамадан тыс көшіру, сондай-ақ кез-келген нысандағы плагиат, оның ішінде рәсімделмеген дәйексөздер, өзгерту немесе басқа адамдардың зерттеулерінің нәтижелеріне құқықтар иемдену этикалық емес және қолайсыз. Зерттеу барысына қандай да бір түрде әсер еткен барлық адамдардың үлесін мойындау қажет, атап айтқанда, мақалада зерттеу жүргізу кезінде маңызды болған жұмыстарға сілтемелер ұсынылуы керек. Қосалқы авторлардың арасында зерттеу- ге қатыспаған адамдарды көрсету болмайды.

Егер жұмыста қате табылса, редакторға тез арада хабарлау керек және бірге түзету туралы шешім қабылдау керек.

Қолжазбаны жариялаудан бас тарту туралы шешім рецензенттердің ұсынымдарына сәйкес редакциялық алқа отырысында қабылданады. Редакциялық алқаның шешімімен жариялауға ұсынылмаған мақала қайта қарауға қабылданбайды. Жариялаудан бас тарту туралы хабарлама авторға электрондық пошта арқылы жіберіледі.

Редакциялық алқа мақаланы жариялауға жіберу туралы шешім қабылдағаннан кейін редакция бұл туралы авторға хабарлайды және жариялау мерзімін көрсетеді.

## Этика научных публикаций

Редакционная коллегия журнала «География и водные ресурсы» придерживается принятых международным сообществом принципов публикационной этики, а также учитывает ценный опыт авторитетных международных журналов и издательств.

Во избежание недобросовестной практики в публикационной деятельности (плагиат, изложение недостоверных сведений и др.) и в целях обеспечения высокого качества научных публикаций, признания общественностью полученных автором научных результатов каждый член редакционного совета, автор, рецензент, а также учреждения, участвующие в издательском процессе, обязаны соблюдать этические стандарты, нормы и правила и принимать все меры для предотвращения их нарушений. Соблюдение правил этики научных публикаций всеми участниками этого процесса способствует обеспечению прав авторов на интеллектуальную собственность, повышению качества издания и исключению возможности неправомерного использования авторских материалов в интересах отдельных лиц.

Все научные статьи, поступающие в редакцию, подлежат обязательному двойному слепому рецензированию. Редакция Журнала (ответственный секретарь Журнала) устанавливает соответствие статьи профилю Журнала, требованиям к оформлению и направляет ее на первое рассмотрение, определяет научную ценность рукописи и назначает двух независимых рецензентов – специалистов, имеющих наиболее близкие к теме статьи научные специализации. Рецензирование статей осуществляется членами редакционной коллегии, а также приглашенными рецензентами из других стран. Решение о выборе того или иного рецензента для проведения экспертизы статьи принимает главный редактор. Срок рецензирования составляет 2-4 недели, но по просьбе рецензента он может быть продлен.

Редакция и рецензент гарантируют сохранение конфиденциальности не опубликованных материалов. Решение о публикации принимается редакционной коллегией Журнала после рецензирования. В случае необходимости рукопись направляется авторам на доработку по замечаниям рецензентов и редакторов, затем она повторно рецензируется. Редакция оставляет за собой право отклонить публикацию статьи в случае нарушения правил этики. Ответственный редактор не должен допускать к публикации информацию, если имеется достаточно оснований полагать, что она является плагиатом.

Авторы гарантируют, что представленные в редакцию материалы являются новыми, ранее не опубликованными и оригинальными. Они несут ответственность за достоверность и значимость научных результатов, а также соблюдение принципов научной этики, в частности недопущение фактов нарушения научной этики (фабрикация научных данных, фальсификация, ведущая к искажению исследовательских данных, плагиат и ложное соавторство, дублирование, присвоение чужих результатов и др.).

Направляя статью в редакцию, авторы подтверждают, что данная статья не была ранее опубликована и не передавалась в другой журнал(ы) как в оригинале, так и в переводе на другие языки или с других языков. В противном случае статья немедленно возвращается авторам с рекомендацией отклонить статью за нарушение авторских прав. Не допускается дословное цитирование работы другого автора без указания его авторства и ссылок на источник. Заимствованные фрагменты или утверждения должны быть оформлены с обязательным указанием автора и первоисточника. Чрезмерные заимствования, а также плагиат в любых формах, включая неоформленные цитаты, перефразирование, перевод или присвоение прав на результаты чужих исследований, неэтичны и неприемлемы. Необходимо признавать вклад всех лиц, так или иначе повлиявших на ход исследования. В частности, в статье должны быть представлены ссылки на работы, которые имели значение при проведении исследования. Среди соавторов недопустимо указывать лиц, не участвовавших в исследовании. Если обнаружена ошибка в работе после подачи статьи, необходимо срочно уведомить редактора и вместе принять решение об исправлении.

Решение об отказе в публикации рукописи принимается редакционной коллегией в соответствии с рекомендациями рецензентов. Статья, не рекомендованная решением редакционной коллегии к публикации, к повторному рассмотрению не принимается. Сообщение об отказе в публикации направляется автору по электронной почте.

После принятия редколлегией Журнала решения о допуске статьи к публикации редакция информирует об этом автора и указывает сроки публикации.

## Ethics of scientific publications

In order to avoid unfair practices in publishing activities (plagiarism, presentation of false information, etc.) and in order to ensure the high quality of scientific publications, public recognition of the scientific results obtained by the author, each member of the editorial board, author, reviewer, as well as institutions involved in the publishing process, must comply with ethical standards, rules and regulations and take all measures to prevent their violations. Compliance with the rules of ethics of scientific publications by all participants in this process contributes to ensuring the rights of authors to intellectual property, improving the quality of the publication, and excluding the possibility of illegal use of copyright materials in the interests of individuals.

All scientific articles submitted to the editorial office are subject to mandatory double-blind review. The editorial board of the Journal (Responsible secretary) establishes the correspondence of the article to the profile of the Journal, the requirements for registration and sends it for the first consideration, determines the scientific value of the manuscript and appoints two independent reviewers - specialists who have scientific specializations closest to the topic of the article. Reviewing of articles is carried out by members of the editorial board, as well as invited reviewers from other countries. The decision on choosing a reviewer for the examination of the article is made by the editor-in-chief. The review period is 2-4 weeks, but it can be extended at the request of the reviewer.

The editorial board and the reviewer guarantee the confidentiality of unpublished materials. The decision on publication is made by the editorial board of the Journal after reviewing. The manuscript is sent to the authors for revision based on the comments of reviewers and editors if necessary. After which, it is re-reviewed. The editors reserve the right to reject the publication of an article in case of a violation of the rules of ethics. The executive editor should not allow information to be published if there are sufficient grounds to believe that it is plagiarism.

The authors guarantee that the submitted materials to the editorial office are new, previously unpublished, and original. Authors are responsible for the reliability and significance of scientific results, as well as adherence to the principles of scientific ethics, in particular, the prevention of violations of scientific ethics (fabrication of scientific data, falsification leading to distortion of research data, plagiarism, and false co-authorship, duplication, appropriation of other people's results, etc.).

The submission of an article to the Editorial Board means that the authors did not transmit the article (in original or translation into other languages or from other languages) to another journal (s), and this material has not been previously published. Otherwise, the article is immediately returned to the authors with a recommendation to reject the article for copyright infringement. Verbatim quoting of the work of another author is not allowed without indicating his authorship and references to the source. Borrowed fragments or statements must be made with the obligatory indication of the author and the source. Excessive borrowing as well as plagiarism in any form, including unofficial quotations, paraphrasing, or appropriation of rights to the results of other people's research, is unethical and unacceptable. It is necessary to recognize the contribution of all persons, who in one way or another influenced the course of the research. In particular, the article, should contain references to works that were of importance in the conduct of the research. Among the co-authors, it is inadmissible to indicate persons who did not participate in the study.

If an error is found in work, it is necessary to notify the editor and together make a decision on the correction.

The decision to refuse publication of the manuscript is made at a meeting of the editorial board by the recommendations of the reviewers. An article not recommended for publication by the decision of the editorial board is not accepted for reconsideration. The refusal to publish is sent to the author by e-mail.

After the editorial board of the Journal decides on the admission of the article for publication, the editorial board informs the author about it and indicates the terms of publication.

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