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GEOGRAPHICAL PROBLEMS OF UNIFICATION OF TOPONYMIC SYSTEM OF KOSTANAY REGION OF THE REPUBLIC OF KAZAKHSTAN

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Abstract: The article deals with geographical and linguistic aspects of the toponymic system of Kostanay region of the Republic of Kazakhstan. The aim of the study is to systematize, classify and unify the geographical names of the region using an interdisciplinary approach that includes methods of geographical, linguistic, cartographic and statistical analysis. The data of the State Catalog of Geographical Names, as well as topographic maps at a scale of 1:100,000 were used as source materials. Spatial classification of more than 8000 toponyms by administrative districts of the region was carried out, the prevailing types of geographical names were revealed, among which hydronyms, oronyms and oikonyms dominate. The spatial analysis showed a significant territorial disparity in the distribution of names and their typological groups. As a result of the study, an electronic database with geographical reference and classification of toponyms by semantic features was formed. The scientific novelty of the work lies in the development of methodology of geoinformational systematization of toponymic data and construction of a model of regional toponymic structure, reflecting both natural and socio-historical features of the region. The obtained results can be used in the sphere of spatial planning, cartography, cadastral activity, as well as for further study of historical and cultural heritage of Kazakhstan. Particular attention is paid to the standardized spelling, transliteration, and unification of geographical names, taking into account national linguistic norms and modern cartographic requirements. The resulting database can serve as a foundation for the ongoing monitoring of changes in the toponymic system and for the development of a regional geoinformation resource for the Kostanay Region.

Keywords: toponymy, geographical names, GIS, standardization and unification, classification of toponyms, Kostanay region

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INTRODUCTION

Geographical names act as the most important historical and cultural sources reflecting the spatial organization of society, natural conditions and stages of historical development. Toponyms acquire special significance in the context of spatial planning, nature management and population identity. The distribution of flora and fauna, landscape features, water bodies and climate are reflected in traditional toponymy, as shown in the studies of K.I.Satpayev, who used the toponymic approach in the search for minerals. Systematization of historical and modern names contributes to the expansion of the toponymic resource and a deeper understanding of geographical and socio-cultural features of the region (Zhumekenova et al., 2018).

In the Republic of Kazakhstan, and in particular the Kostanay region, toponymic heritage is closely connected with the history of nomadic way of life, natural and geographical features of the region and socio-political changes in the XX-XXI centuries. Local names reflect both traditional forms of economic activity and the consequences of administrative reforms, renaming and ideological transformations. This creates the problem of coexistence of traditional and official forms of toponyms, which requires scientific systematization, standardization and unification (Directory, 2009).

Despite the accumulated experience in the study of Kazakhstani toponymy, the systematic study of the structure, classification and territorial organization of toponyms of Kostanay region remains underdeveloped. In the context of digitalization and expansion of geoinformation systems, there is a need to create a unified toponymic base reflecting ethno-cultural, physical-geographical and administrative features of the region. The issues of systematization and unification of toponyms are considered in a number of works devoted to onomastics, linguistic geography and spatial planning. Toponyms are considered not only as elements of spatial identification, but also as carriers of historical,

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ethno-cultural and environmental information (Konyratbayeva et al., 2024). Studies by Zhanuzakov (2010) and A. Abdrakhmanov lay the linguistic foundation for the analysis of Kazakh toponymy, including etymological interpretation, classification and normalization of names. From the point of view of geography, an important contribution is the works of Konkashpayev (1963), which characterize in detail the geotoponymic diversity of Kazakhstan associated with physical and geographical conditions - from steppes and deserts to mountainous regions.

Such an approach allows linking toponymic processes with spatial features of traditional nature management and cultural landscapes. International studies, including the works of Wendt (2017) and Light (2014), consider the renaming of geographical objects in post-socialist countries as a process of symbolic assertion of identity and state policy.

This is also relevant for Kazakhstan, where after independence a large-scale campaign was conducted to restore historical toponyms and their adaptation to modern realities.

The problem of coexistence of traditional and official names is investigated in the context of language policy, language hierarchy in urban space and normalization of address information. The importance of international standardization of toponyms for cartographic systems and interstate interaction is also raised (Dybo et al., 2024).

Studies in the field of GIS-technologies and digital cartography emphasize the importance of accurate and unified geographical names in the process of creating electronic databases and state catalogs. In this context, a significant contribution was the creation of the State Catalog of Geographical Names of the Republic of Kazakhstan, covering 14 regions and more than 100,000 objects, including toponyms of different types and scales.

Toponymy was gradually transformed from purely functional to ideological. After the independence of Kazakhstan, many toponyms of cities, districts and settlements were changed into Kazakh. This process continues in the northern and eastern regions of the country. Many names of settlements have undergone changes, losing their original forms. In this regard, it is important to investigate the unification system and study the ancient geographical names existing on the territory of the Republic of Kazakhstan. Despite the availability of an extensive empirical base, so far there are no works that have conducted a systematic territorial classification of toponyms of the Kostanay region taking into account geographical, etymological and statistical criteria. This determines the relevance of the present study, aimed at filling the existing scientific gap (Kazakh Encyclopedia, 2011). The purpose of this study is to analyze the toponymic space of Kostanay region from the position of geographical systematization and unification, using the methods of statistical and cartographic analysis. The scientific novelty of the study lies in the development of an interdisciplinary methodology for the classification and unification of toponyms based on the integration of geoinformation data.

MATERIALS AND METHODS

Since the production, economic, and social activities of humanity are carried out within the framework of the geographical environment, consisting of many objects with their names, the names of geographical objects are always the same, that is, they perform the function of an address, without geographical names there is no socio-economic formation. Geographical names, as direct symbols of history, are constantly supplemented, renamed, and updated due to the lifestyle of the people who lived there for centuries, serving the various needs of society (Baltabaev et al., 2026).

In carrying out toponymic research, difficulties are often encountered in the accumulation and recovery of place names. For this purpose, various data and methods such as archival, historical-geographical, cartographic and linguistic methods are used to recover lost information (Zhumekenova et al., 2018). Geographical maps contain rich information about the past reflecting various events and place names help to identify the location in relative context. Each change in the political situation of a society leaves a noticeable trace in its toponymic system (Grube, 2005). The original names of the Kazakh land, formed over the centuries, have survived many revolutions and Soviet ideology (Smagulova et al., 2021). Distorted names of settlements were first noticed. In the 1950s and 1970s, the issue of regulating the names of lands and water bodies from the etymological point of view was raised. However, the studies of that time were conducted exclusively within the framework of Soviet onomastics (Nurpeisova et al., 2020).

To collect valuable toponymic data, specialists conducted expeditions to various regions of the country. Scientific collections, dictionaries, definitions and monographs were published based on the results of these expeditions. A. Khaidarov and T. Zhanuzakov developed a scientific substantiation of normalization of names of lands and water bodies in the territory of Kazakhstan (Saparov et al., 2024). On April 20, 1990 the State Onomastic Commission was established under the Government of the Republic of Kazakhstan. In the same period the “Concept of regulation of names of state and administrative-territorial units of the Kazakh SSR, change of names of settlements and restoration of historical and geographical names” was approved. The main purpose of the work described in this document was to restore, regulate and change names, eliminate illegal changes in geographical names, regulate the frequency of repetition of the same names throughout the country, and unify the rules of spelling and transcription (Madieva, 2003).

In subsequent years, many distorted names of settlements and administrative-territorial units began to be gradually corrected. Further correction of names is planned in accordance with the law of the Republic of Kazakhstan “On administrative-territorial structure” dated December 8, 1993, the decree of the President of the Republic of Kazakhstan dated December 29, 1995 and the resolution of the Government of the Republic of Kazakhstan dated December 29, 1995. March 5, 1996. These normative acts establish the procedure for naming and renaming, as well as renaming of enterprises, organizations, institutions and physiographic objects. To analyze the toponymic space of Kostanay region, the materials of the reference book “Toponymy of Kazakhstan” were used. This encyclopedic reference book (2010), published within the framework of the state program “Cultural Heritage”, for the first time fully systematizes toponyms (names of water bodies and land) for 14 regions of Kazakhstan. Each region of the country has a rich toponymic fund.

This information has been undergoing the process of formation and updating over the years. The updated and fully systematized handbook presents a brief etymology of toponyms of Kazakhstan, as well as supplemented physical-geographical and historical-geographical information (Toponimika Kazakstana, 2010).

Since 2000, the Institute of Geography of the Ministry of Education and Science of the Republic of Kazakhstan, together with the Agency for Land Resources Management of the Republic of Kazakhstan "National Cartographic and Geodesic Fund" under the leadership of the President of the Republic of Kazakhstan, has developed a new "Instruction on translation of geographical names of the Republic of Kazakhstan from Russian into Kazakh and from Kazakh into Russian". The translation was compiled on the basis of 2,300 sheets of state topographic maps at a scale of 1:100,000, covering the entire territory of the Republic of Kazakhstan. In the period from 2004 to 2017, 14 volumes of "State Catalogues of Geographical Names of the Republic of Kazakhstan" were published (State catalogue of geographical names of the RK, 2005).

The methodology of this study is based on the analysis of scientific publications and cartographic works. The main methods include descriptive, historical, geographical, cartographic (area), linguistic, statistical and others. We can confidently assert that further development and integration of methods and approaches in toponymic research will depend on the purpose of restoring the system of geographical names of Kostanay region, which is the object of the study, as well as on the specifics of the analyzed sources. The importance of these methods is especially increased if all toponyms in the territory of Kostanay region are grouped and classified by regions, districts and categories. To analyze cartographic information, to establish the etymology of names, to describe their location, characteristics of natural conditions and to create toponymic maps, it is necessary to use GIS-programs (Figure 1).

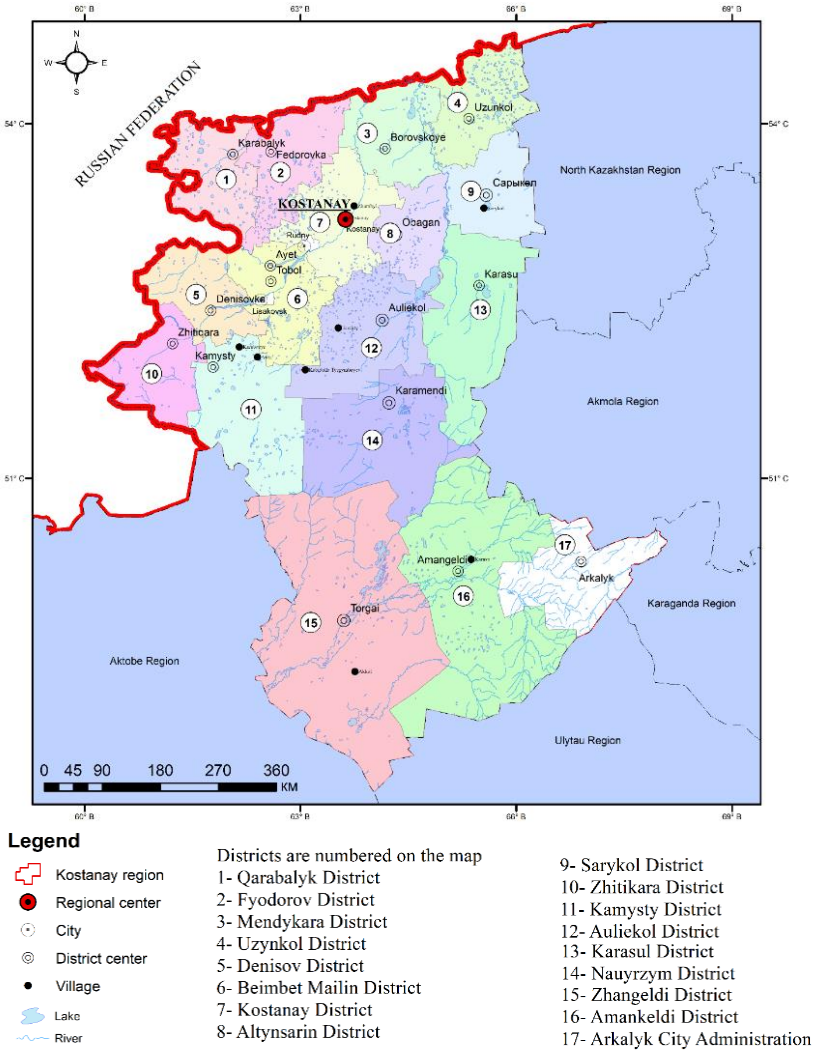


Figure 1. Administrative-territorial map of Kostanay region (Note: Compiled by the authors)

The review of existing scientific research allows us to assess the level of study of the topic and form a complete picture. The use of electronic resources as a tool for analyzing toponymic sources significantly improves the quality of such studies. Currently, electronic systems, geographical information systems (GIS) and toponymic studies play a special role. Using statistical methods, the toponyms were grouped by districts of Kostanay region. Quantitative indicators of geographical objects (rivers, lakes, mountains, settlements and others) for each district were determined and expressed in percentages. Additionally, the determination of the percentage of geographical objects occurring in each district was carried out, taking into account their prevalence on the territory of the region (Campbell, 1991).

State topographic maps at a scale of 1:100,000 published by the National Cartographic Fund, as well as volumes of the State Catalogue of Geographical Names (2004-2017) were used as sources. Data processing was carried out using GIS and MS Excel software solutions (State Catalogue of Geographical Names of the RK, 2005).

The methodological apparatus included frequency and percentage analysis of toponym distribution, their cartographic visualization and classification by semantic and morphological features. Geographic information systems (GIS) were used to create thematic maps, analyze the density of toponyms and their spatial distribution by administrative units.

To systematize toponyms, we used thematic classification, including the following groups: hydronyms, oronyms, oikonyms, necronyms, phytonyms, zoonyms and microtoponyms. The semantic meaning, type of object and its physical and geographical affiliation served as criteria for assignment to one or another group (Cheshire, 2011).

Kostanay region was chosen as an object of study due to the high level of toponymic diversity, multiple renaming in the post-Soviet period, and the availability of officially published data in open state catalogues.

RESULTS AND DISCUSSION

In the course of the research, the peculiarities of toponymic space formation in Kostanay region were revealed, reflecting both historical-cultural and physical-geographical factors. Special attention was paid to the influence of political and social transformations, including renaming that took place in the Soviet and post-Soviet periods. Based on historical maps, archival sources and data from the State Catalogue of Geographical Names, it was found that many traditional toponyms have been modified or lost, which confirms the need for systematization and unification (Smagulova et al., 2021).

The application of statistical and cartographic analysis methods allowed classification of more than 8000 toponyms displayed on topographic maps at a 1:100 000 scale (State Catalogue of geographical names of the RK, 2005). The obtained data indicate a significant territorial inequality in the distribution of names. Thus, the areas with the highest toponymic saturation included Zhangeldy (1396 names), Amangeldy (955) and Uzunkol districts (625), while the cities of Lisakovsk and Rudny recorded the smallest number of objects (48 and 99, respectively). The grouping by administrative districts revealed regularities related to natural landscape characteristics, the level of anthropogenic load and historical processes. The constructed diagrams (Figures 2, 3) visualise both absolute and relative numbers of toponyms. In percentage terms, Zhangeldy district is the leader (17%), followed by Amangeldy (12%) and Uzunkol (8%) districts.

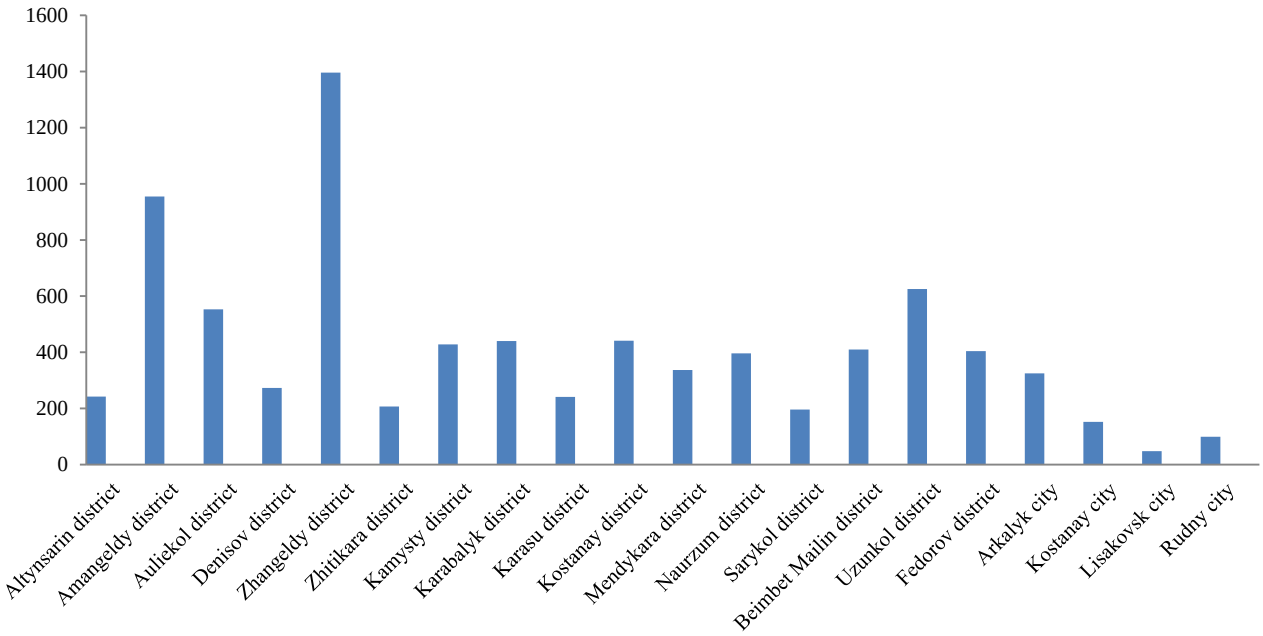


Figure 2. Number of toponyms by districts of Kostanay region (from scale 1: 100 000)

Figure 2 not only illustrates quantitative differences, but also visualises important spatial and cultural patterns. It highlights the need for further systematization and verification of toponyms, especially in areas where historical names have been lost or distorted. With the expansion of digital cartography and the development of geographic information systems, such visualization becomes a valuable tool for spatial analysis and cultural planning.

Zhangeldy district has the largest share in the total system of toponyms of the region (17%), which confirms its leadership in absolute terms. Such a high percentage indicates the preservation of rich historical and natural heritage, as well as the possible presence of a large number of micro toponyms characteristic of spatially extended and poorly urbanized areas. The second and third places are occupied by Amangeldy (12%) and Uzunkol (8%) districts, whose toponymic saturation is due to both natural mosaic and ethno-cultural factors.

In contrast to these districts, urban districts - Kostanay (2%), Rudnyy (1%) and Lisakovsk (1%) - occupy minimal shares in the total structure. This is explained by the later formation of their territories, the dominance of unified and ideologically motivated names, as well as the smaller area and lack of a wide range of natural objects typical of rural areas.

Districts with average toponymic density, such as Auliekol (7%), Fedorov (5%), Karabalyk (5%), and Mendykara (4%), are transitional types with a moderate combination of natural and anthropogenic toponymic layers.

Figure 2 reveals the territorial asymmetry of toponymic filling within the region. This allows us to draw conclusions about the degree of preservation of cultural and historical heritage in names, as well as about the intensity of renaming processes in different administrative units. The revealed regularities can be used in the practice of spatial planning, in the development of programs for the preservation of intangible cultural heritage, as well as in the sphere of toponymic standardization.

Figure 3 illustrates the percentage distribution of toponyms by districts of Kostanay region, thus revealing spatial differences in the saturation of geographical names. This approach allows us to assess not only the absolute number, but also the relative importance of each district in the overall toponymic structure of the region.

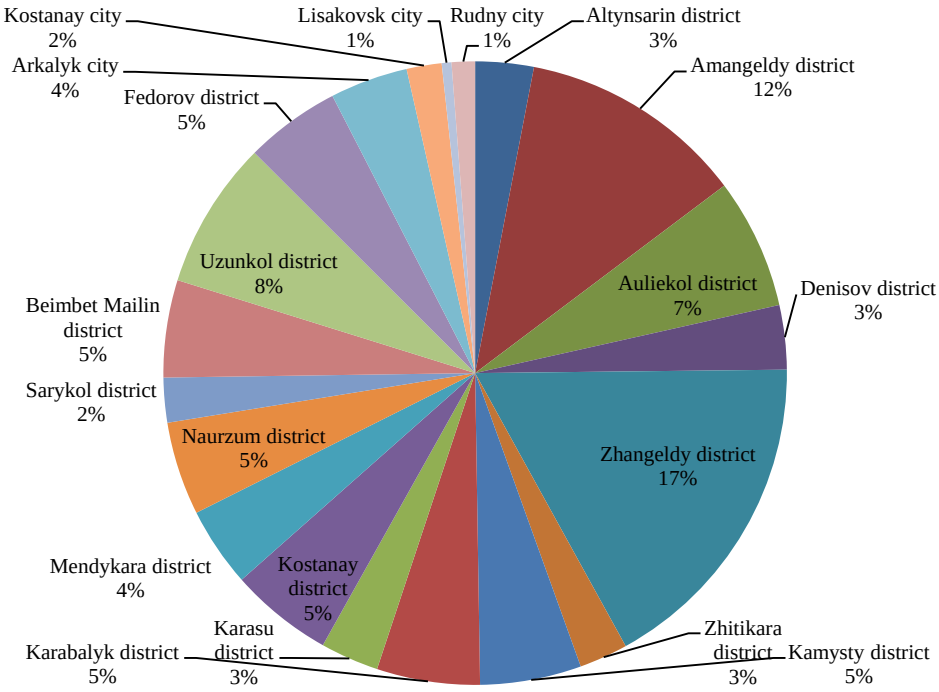


Figure 3. Spatial structure of the toponymic system by districts of Kostanay region (Note: Compiled by the authors)

Within the framework of the classification analysis, the following types of toponyms were identified: hydronyms, oronyms, oikonyms, phytonyms, zoonyms, microtoponyms and necronyms. The distribution of these categories by districts is shown in Table 1 and Figure 4. It was found that the dominant category is hydronyms, which corresponds to the natural specification of the region with a developed river network. The toponymic space of Kostanay region is a complex and multilayered system in which natural and geographical features, historical transformations and ethno-cultural meanings are intertwined. The analysis of toponyms classification by administrative districts of the region revealed both quantitative and qualitative differences that allow us to understand the logic of territorial naming more deeply.

Table 1. Classification of geographical names by administrative districts of Kostanay region

№	Districts	Oronyms	Hydronyms	Oikonyms	Phytonyms	Zoonyms
1	Altynsarin	25	74	25	16	9
2	Amangeldy	301	225	30	75	35
3	Arkalyk	112	65	19	19	10
4	Denisov	32	72	26	8	3
5	Auliyekol	45	177	33	57	19
6	Zhangeldy	473	231	22	97	27
7	Zhitikara	51	41	18	8	8
8	Kamysty	46	118	17	23	6
9	Karabalyk	18	111	35	15	7
10	Karasu	82	36	39	11	10
11	Kostanay	16	147	57	39	13
12	Mendykara	35	71	34	21	8
13	Naurzum	101	122	11	12	7
14	Sarykol	14	46	23	6	2
15	Beimbet-Mailin	25	145	36	22	6
16	Uzunkol	26	318	32	30	
17	Fedorov	16	152	44	30	12
	Total	**1418**	**2151**	**501**	**489**	**201**

The most represented category was hydronyms, the total number of which amounted to 2151 names. Their dominance confirms the close connection of water bodies with the cultural and economic life of the population. Uzunkol district is particularly notable, where 318 hydronyms were recorded, which is probably due to the development of the hydrographic network and historical stability of water names. Oronyms (1418 objects) were most developed in Zhangeldy district, where 473 names were recorded. This indicates the landscape specificity of the territory, as well as the possible historical and ethnographic significance of uplands, hills and hills as objects of orientation and symbolic meaning.

Oikonyms - names of settlements - are distributed relatively evenly, but the leading position is occupied by Kostanay district with 57 oikonyms. This is due to the active settlement of the territory in different historical periods and a significant number of preserved traditional names. An interesting feature is the distribution of phytonyms and zoonyms reflecting flora and fauna. Their concentration is higher in those districts where traditional nature usage and landscapes with minimal urbanization are preserved. In Zhangeldy and Amangeldy districts, 97 and 75 phytonyms, and 27 and 35 zoonyms, respectively, were registered. These data emphasize the deeply rooted idea of nature as an integral component of the cultural landscape. The total index of toponymic wealth of the district allows us to speak about Zhangeldy, Amangeldy and Uzunkol districts as the most toponymically rich areas. In each of them from 439 to 770 objects are recorded, which indicates both a rich geographical structure and a high level of preservation of historical names.

At the same time, Lisakovsk, Rudny and Sarykol districts show the lowest indicators, which may be related to industrial development and simplification of names during the Soviet era. The analysis of the structure of the toponymic space of Kostanay region shows not only quantitative diversity, but also the presence of stable regularities reflecting the features of the physical and geographical environment, economic activity and historical and cultural development of the region. Toponyms become a kind of mirror of the territory - they fix natural forms, social changes and cultural memory of the people. The spatial distribution of toponyms allows not only a deeper understanding of the logic of naming, but also the formation of a more accurate regional identity, necessary for sustainable territorial development and cultural consolidation.

Figure 4 demonstrates the categorical structure of the toponymic system of Kostanay region based on the classification covering all types of geographical names represented in the region. The visualized data allow us to analyze the internal composition of the toponymic fund and identify priority directions of name formation.

The key conclusion from the presented distribution is the high prevalence of hydronyms (2151 names) - names of rivers, lakes, streams, springs and other water bodies. This is explained not only by the geographical diversity of water forms on the territory of the region, but also by the stability of their names in the cultural memory of the population. Water bodies traditionally played an important role in the everyday life, migration routes and sacral geography of nomadic peoples, which is reflected in the high proportion of hydronyms.

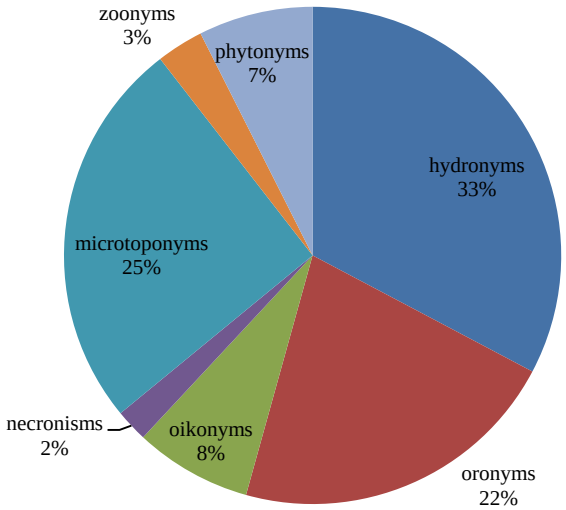


Figure 4. Toponymic system of the territory of Kostanay region (Note: Compiled by the authors)

The second position is occupied by oronyms (1418 objects) - names of elevations, hills, plateaus and other forms of relief. Their prevalence in such districts as Zhangeldy and Amangeldy confirms the close connection between toponymy and landscape morphology. Oikonyms (501) denoting settlements are represented relatively evenly, which indicates the stability of the administrative-territorial division and the historically formed network of settlements.

The presence of a significant number of oikonyms reflects not only the modern administrative structure, but also the deep layers of settlement and economic activity of the population in different periods. Phytonyms (489) and zoonyms (201) - names related to flora and fauna - are less represented, but no less significant. These categories are most often found in areas with a traditional way of life, with high preservation of ethno-linguistic layers and the importance of nature in the worldview of the population. Examples of such toponyms often carry information about dominant biogeocenoses, rare or cult species of flora and fauna. Of particular interest are microtoponyms and necronyms, which, although not quantitatively represented in the figure, are mentioned in the study. Microtoponyms often reflect the smallest elements of spatial organization - pastures, keys, wells, temporary campsites - and are of particular value in

ethnocultural and ethnolinguistic studies. Necronyms record places of memory, sacral zones and elements of funerary culture, which is important for understanding the spiritual and geographical image of a region (Kabzhanova et al., 2023).

The structure of the toponymic system of Kostanay region, presented in Figure 4, reveals the richness, complexity and depth of meanings contained in geographical names. This system is a reflection of both the natural landscape and socio-cultural evolution of the region. The diversity of toponym categories underlines the need for their further systematization, preservation and comprehension within the framework of state and scientific toponymic policy.

Special attention is paid to the sources and methods of normalization and renaming. The historical reconstruction of renaming since the 1950s has shown a steady trend towards the return of autochthonous Kazakh names, especially after independence. The establishment of the State Onomastic Commission in 1990 and the approval of official normative documents provided the institutional framework for toponymic reform.

Systematization and digital cataloguing of toponyms on the basis of GIS data made it possible to create an electronic database with accurate linking of names to geographical coordinates and administrative units. This provides the basis for further spatial research and the formation of a unified standardized register of geographical names.

The results of the study indicate a high degree of toponymic diversity in the Kostanay region, due to both physical and geographical features and socio-historical transformations. The analysis of the quantitative distribution of toponyms showed the presence of pronounced territorial inequality: the highest density of names was recorded in Zhangeldy, Amangeldy and Uzunkol districts. This may be associated with the preservation of the historical structure of settlement, active nature management and a lower degree of urbanization, which confirms the data of studies on the traditional toponymy of steppe regions of Central Asia.

The predominance of hydronyms among all categories of toponyms (2013 objects out of the total array) indicates the important role of water resources in the formation of territorial identity and naming practices. This pattern corresponds to the conclusions of Konkashpayev (1963) about the priority of water objects in the Kazakh toponymic tradition. Oronyms and oikonyms ranked second and third, respectively, in the number of references, which also correlates with the features of relief and the history of administrative-territorial division of the region.

Spatial regularities in the distribution of toponym categories have been revealed: areas with pronounced mountain-steppe relief are characterized by a large number of oronyms, while in plain and forest-steppe areas hydronyms and microtoponyms prevail. This confirms the dependence of the toponymic system on the geomorphological characteristics of the territory.

The territory of Kazakhstan, that is resource-rich and has original variety of ethnic groups, religions, languages and cultures, was the arena of historical big events. It experienced multiple invasions of different tribes and peoples. Each of them left an imprint on region toponymy. For that reason the toponymic system of Kazakhstan is presented as the complex formation that consists of multilingual and multiple-aged components original spirit of which transformed beyond recognition (Saparov et al., 2017). The analysis of renaming, which began in the 1950s and intensified after 1991, demonstrates the process of transformation of the toponymic map of Kazakhstan from a functional to an ideologised and then to a historical-representational model. The return of traditional Kazakh names and unification in accordance with the state language policy reflect the desire to restore cultural identity (Table 2).

Similar processes are observed in other post-socialist countries, as Wendt (2017) notes in comparison with Poland, where renaming had a similar symbolic character.

Table 2. Distribution of toponyms by type and language of origin in the areas of Kostanay region

Toponyms	Total number	Number of names in Kazakh language	Number of names in Slavic language
Oronym	1418	1062	356
Hydronym	2151	1623	528
Oikonym	501	191	310
Drimonim	84	47	37
Total	**4154**	**2923**	**1231**

In most categories, toponyms of Kazakh origin prevail, which indicates a deep historical and cultural connection of the indigenous population with the natural geography of the region. Oikonyms are an exception - more than 60% of names of settlements are of Slavic origin, which probably reflects the historical processes of settlement of the region, especially in the Soviet period. The largest number of Kazakh-language names is observed among hydronyms and oronyms, which is typical for natural objects reflecting ancient names and traditions (Ainabek et al., 2024).

It should be noted that the introduction of geographic information technologies (GIS) in the study of the toponymic system allowed us to move from descriptive analysis to spatial-analytical analysis. Spatial visualization and classification by districts made it possible to identify not only quantitative but also structural differences in the nature of names. This opens up prospects for interregional comparison and further standardization.

At the same time, the study has certain limitations. It covers only one region of Kazakhstan, which narrows the possibilities for generalization at the national level. In addition, a detailed linguistic analysis of the semantics of toponyms remains a task for future stages, including the identification of etymological patterns and their relationship to ethno-cultural heritage (Konyratbayeva et al., 2024).

The obtained data confirm that the toponymic system of Kostanay region is the result of interaction of natural, historical and political factors. Its unification and systematization have not only scientific but also practical significance - for cartography, territorial planning, cadastral activity and cultural policy.

DISCUSSION

The data obtained in the course of the study allowed to identify a number of geographical, historical-cultural and political-administrative regularities reflected in the toponymic system of Kostanay region. One of the key results was the establishment of the territorial distribution of toponyms and their classification by functional and semantic features.

The dominance of hydronyms (2013 names) in the total array confirms the importance of water bodies in the traditional toponymic culture of nomadic peoples of Kazakhstan. This pattern corresponds to the conclusions of Konkashpayev (Konkashpayev, 1963), who emphasized the leading role of water resources in the formation of the lexicon of geographical names in arid landscapes. The prevalence of hydronyms, along with oronyms and oikonyms, may also be associated with the peculiarities of the physiographic structure of the region and the historically established system of nature management.

Regional differences in the density and diversity of toponyms are explained not only by natural conditions, but also by the level of urbanization, the degree of preservation of historical names and the intensity of administrative transformations. For example, the high concentration of toponyms in Zhangeldy and Amangeldy districts may indicate the preservation of the traditional toponymic network, while low indicators in the cities of Lisakovsk and Rudny reflect the impact of industrialization and unification of names in the Soviet period.

Retrospective analysis allowed us to trace how the political transformations of the 20th century - Dzungarian invasions, tsarist policy, Soviet onomastics and post-Soviet reforms - influenced the toponymic map of the region. As noted in the works of A. Beisenova, K. Kaimuldinova (Kaimuldinova, 2010) and other researchers, renaming processes in post-socialist countries were not only practical, but also ideological in nature, reflecting the desire for symbolic renewal of identity and memory. In the context of Kazakhstan, this is manifested in the active replacement of russified and ideologically colored names with Kazakh, historically and culturally significant ones.

The introduction of geographic information systems (GIS) into the analysis process made it possible to move from a descriptive approach to a spatial analytical one. The spatial distribution of toponyms visualized in the form of maps and tables demonstrated the possibilities of GIS application in regional toponymy. This opens prospects for the integration of toponymic data into cadastral bases, tourist maps, educational resources and other areas where accurate and standardized geographic information is required (Saparov et al., 2018; Abdullina et al., 2019).

CONCLUSIONS

In the present study, a comprehensive analysis of the toponymic system of Kostanay region has been carried out on the basis of topographic maps at a scale of 1:100 000 and data from the State Catalog of Geographical Names. The developed classification covered the whole array of recorded toponyms of the region, systematized by administrative districts and presented in the form of tables, diagrams and maps. Typological and quantitative analysis made it possible to identify spatial regularities in the distribution of names, as well as to structure the toponymic space of the region in accordance with semantic, morphological and geographical features.

The aim of the study was not to simply translate the names, but to scientifically substantiate the reconstruction of historical layers of toponymy, revealing their semantics and cultural and geographical meaning. This approach required the integration of archival, field and digital data, which allowed us to approach the study from an interdisciplinary perspective - at the intersection of linguistics, geography, cartography and cultural studies.

Summarizing the obtained results, it should be noted that Kazakh toponyms not only reflect natural and geographical features of the territory of Kostanay region (relief, soil types, hydrographic network, climatic characteristics, flora and fauna), but also provide accurate identification of local landforms, geological and geomorphological structures, as well as mineral deposits. In view of the above, the task of creating a unified toponymic base that meets modern scientific and regulatory requirements becomes urgent. This includes collection, systematization and spatial definition of geographical objects, as well as updating and replenishment of the database.

It has been established that Kazakh toponyms not only reflect the natural features of the territory (relief, hydrosystem, climate, flora and fauna), but also play an important role in spatial identity, geoinformation support and preservation of historical and cultural heritage. In this regard, the task of creating a unified national toponymic base that meets international standards and requirements of geospatial accuracy becomes urgent.

Of particular importance is the correct and scientifically justified assignment of Kazakh names when they are used in the Russian-speaking and multilingual environment. The State Catalogue of Geographical Names of Kostanay region, as part of a unified system, can serve as a model for standardization and harmonization of toponyms throughout the country.

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