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**ENVIRONMENTAL TRANSFORMATIONS AND THEIR IMPACT
ON PLACE-NAME EVOLUTION: A COMPARATIVE LINGUISTIC
ANALYSIS OF ENGLISH AND KAZAKH GEOGRAPHICAL
NOMENCLATURE**

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Abstract. Revealing the relationships between climate change and environmental shifts is extremely important for preserving the cultural identity of countries. The purpose of the presented study was to analyse the impact of environmental changes on toponymy in England and Kazakhstan. The paper emphasizes the relevance of toponyms as vital elements of cultural heritage. The methods used in the paper were based on an interdisciplinary approach. Several cartographic and linguistic databases were used as data source. These databases provided reliable geographical and linguistic information for comparative analysis.

To study the relationship between environmental changes and changes in toponymy, the paper combined linguistic, ecological and cultural analyses. The results showed that a comparative analysis between England and Kazakhstan made it possible to identify thematic groups for studying common features and differences in the evolution of toponymy under the influence of both natural and anthropogenic factors. The analysis of the relevant literature has demonstrated how these changes can lead to the change or disappearance of existing toponyms. The results of this study must expand the understanding of toponyms as cultural markers that dynamically respond to environmental transformations. The study emphasizes the scientific novelty of comparing the toponymy of two different countries. It also offers recommendations for the preservation of this heritage. The need for further interdisciplinary research to study the consequences of environmental changes for cultural identity and memory is emphasized.

Keywords: topographical territorialisation, ecotoponymy, culture preservation, political strategies, linguistic landscape, Kazakh toponyms, English toponyms, history

Introduction

The study of geographical names is carried out within the field of toponymy. It expands the understanding of the natural, historical and cultural features of different countries, names, regions. In turn, toponymy is complete information about landscapes, ecosystems, cultural traditions and historical narratives of peoples. Toponyms act not just as a scientific unit, but as a centre of collective memory and identity.

The environment is constantly transforming. Climate change, land use, natural disasters actively affect the development of toponymy. This area of research is particularly relevant, as it describes the formation, evolution, and sometimes obsolescence of toponyms.

Ecotoponymy in this work is used in the perspective of comparative analysis on the example of English and Kazakh toponyms. Toponymy analysis has the potential to determine the impact of specific environmental phenomena: sea level rise or desertification. Such environmental changes adjust the names of the affected regions.

Toponymy is the academic discipline that investigates the origin, meaning, and evolution of geographical names. Interdisciplinarity in this matter is likely to encompass the genesis, structure, meaning and development of place denominations. Interdisciplinary connections between natural sciences, including geography and ecology, and humanities, such as history, ethnography and linguistics, are crucial. The relevant literature mostly analyzes the cultural-historical meaning of toponyms. This aspect reveals markers of transformations both in the natural environment and in human society. Undoubtedly, such transformations have a great impact on the landscape and on the field of toponymy (for example, the disappearance of lakes leads to the loss of the nomenclature associated with them; the emergence of new urban settlements gives rise to new toponyms). The reviewed studies [1] have demonstrated how toponymy is related to the natural conditions of specific regions, as they reflect the natural characteristics of the terrain, such as rivers, mountains and forests. Every, even a minor change, has a major impact on the nomenclature of toponyms. Other studies show that climate change and environmental disasters cause the complete disappearance or change of geographical objects. All these phenomena are reflected in the field of toponymy [2]. Similar works describe the role of environmental change in the formation of toponyms. Scientists describe regions that have experienced climatic challenges [3]. Other articles also emphasize the role of toponyms in cultural memory and identity. Scientists emphasize their importance in the context of environmental and social transformations [3]. The linguistic and cultural comparative aspect is a strong methodology for analyzing interregional patterns in toponym changes [4].

Other article by suggests strategies for preserving linguistic heritage in environmentally vulnerable regions. Scientists offer a basis for practical recommendations from the presented study [5].

The scientific novelty of the proposed article is based on a comparative approach. It allowed us to identify common patterns and unique differences in the way environmental transformations affect place names in these countries. The synthesis of insights from historical, cultural, and environmental perspectives should deepen the understanding of place names as dynamic markers of cultural memory and environmental adaptation. Taking into account the existing gaps in translation studies, this article emphasises the role of place names in reflecting environmental change and preserving cultural heritage.

Accordingly, the purpose of this article is to analyse the impact of environmental change on the toponymy of England and Kazakhstan. The paper focuses on identifying common patterns and unique differences. The objectives of the study are:

- Investigate the theoretical frameworks linking ecological changes to toponymy.

- Analyze specific instances of toponymic changes in England and Kazakhstan driven by ecological factors.

- Examine the cultural and historical significance of toponyms in the context of environmental change.

- Develop strategies and recommendations for the preservation of toponymic heritage in a changing ecological landscape.

This topic is very relevant, but comparative studies are limited. Current related research is mostly focused on the local impact of environmental changes on place names, paying little attention to cross-cultural comparisons. The interaction between natural and anthropogenic factors in shaping the evolution of place names is also insufficiently studied. In fact, all these articles have no practical application for the strategy of place name preservation in the face of environmental challenges.

The analysis of literature concerning the impact of climate change and anthropogenic factors on toponymy in England and Kazakhstan highlights several important aspects that facilitate an understanding of how natural and social changes influence culture and identity through place names. In this context, scientific works examine historical changes in place names resulting from climate change [6]. Research conducted in Scotland indicates that names associated with glacial and snow formations, such as Glencoe, may gradually disappear or alter in meaning due to the retreat of glaciers. Similar changes can be observed in Kazakhstan. Toponyms related to natural landscapes that are undergoing transformations due to climatic influences are investigated [7].

Materials and methods

The study was grounded in an interdisciplinary approach that integrated linguistic, ecological, and cultural analyses. The primary objective of this research was to examine the relationship between environmental changes and alterations in toponymy, with a focus on comparing two regions – England and Kazakhstan – that possess distinct cultural, historical, and ecological contexts yet encounter similar environmental challenges, such as climate change, urbanization, and ecosystem degradation.

Description of Tools, Analytical Methods, and Data. This paper analyses cartographic materials and geographical dictionaries to identify place names and their temporal changes, using modern and historical maps, as well as geographical dictionaries. This approach allowed us to investigate the relationship between changes in the natural environment and the formation and

transformation of toponyms. Information was collected from historical materials, archival documents and sources containing data on the origin and evolution of geographical names under the influence of environmental factors. The study also examines climatic and ecological reports reflecting the state of the environment in England and Kazakhstan. These sources provide information on climatic changes, urbanization processes and other environmental challenges that could have affected toponymy.

To confirm the results, a linguistic analysis of toponyms was carried out. Geographical names were studied in terms of their origin, meaning and linguistic characteristics, which included etymological analysis, as well as analysis of phonetic and morphological features.

This analysis allowed us to identify the relationship between changes in place names and environmental transformations in the studied countries. The work also examines the impact of these changes on the cultural heritage and identity of local communities. The analysis showed how environmental factors influence collective memory and cultural identity.

Data Sources and Inclusion and Exclusion Criteria. A wide range of information resources was used to conduct the study. The main sources were cartographic archives, as well as map collections from state and university funds, which contained important geographical data. In addition, materials from the national archives of England and Kazakhstan, museum exhibitions and library funds were analyzed. Special attention was paid to reports from government agencies and international environmental organizations, such as the UN and WHO, which provided the necessary information on environmental changes.

Linguistic databases played a significant role in the study, allowing us to study linguistic aspects in the context of geography. In particular, data on toponyms, both modern and historical, were processed to provide a deep understanding of the chosen topic. The use of various sources allowed for a detailed and multi-vector analysis.

To support the comparative analysis, this study utilized several cartographic and linguistic databases previously employed in other research works. These sources, used in the studies by Kakabayev (2023), Haigh (2022), Dmitriyev (2024), Ballantyne (2019), and Chlachula (2020), provided a reliable foundation for spatial and linguistic analysis.

Cartographic data sources included the *National Atlas of the Republic of Kazakhstan* (2020), *Ordnance Survey Open Data* (2019), *HydroGIS Kazakhstan Dataset* and *UNDP Climate Maps* (2023), *GeoJournal GIS Data* for Northern Kazakhstan regions (2024), and *Geological and Geographical Maps of East Kazakhstan* (2020). These sources provided detailed information for spatial toponymic mapping, including relief, hydrology, and geomorphological structures.

Linguistic and cultural sources included the *Linguocultural Dictionary of Kazakh Toponyms* (2024), the *State Catalogue of Geographical Names of the*

Republic of Kazakhstan (2024), and the *Kazakh Language National Corpus* (2024). These databases allowed for the identification and semantic classification of toponyms within their cultural and historical contexts.

Thus, the use of cartographic and linguistic materials previously applied by these authors strengthened the methodological foundation of this study and ensured the reliability of spatial and cultural data.

Geographical names recorded over the past two centuries have made it possible to reflect the historical and cultural dynamics of regions. Toponyms are a kind of reflection of natural conditions, historical events and cultural influences. Data from historical sources on environmental changes, studied within the selected territories, contributed to a holistic view of the changes in these regions. In particular, the analysis included an assessment of climate change, land use changes and biological resource diversity, which made it possible to assess the impact of both natural phenomena and human activities on ecosystems.

These transformations showed the relationship between environmental changes and cultural characteristics of communities. It was found that adaptation to new environmental conditions is reflected in the linguistic practice of the local population, which modifies its names in accordance with changes in reality. The analysis of these processes helped to reveal how ecosystems affect the cultural identity and linguistic traditions of communities over time.

The study was conducted systematically. Sources that did not contain relevant information on toponymy or environmental changes, as well as those that went beyond the time limits of the study (more than 200 years ago), were eliminated. Materials that did not have scientific justification or were insufficiently verified were not used.

This structured approach ensured a clear understanding of the methodology, tools, and data sources used in this study. The comprehensive methodology contributed to an organized and reliable research process.

Results

Today, humanity is confronted with large-scale environmental challenges, so preserving and understanding place-name traditions is becoming increasingly important for preserving historical memory and strengthening the sense of belonging in communities.

Natural and anthropogenic environmental changes have a profound impact on cultural and linguistic systems, including toponymy, the science of place names. In recent years, climate change, urbanisation and ecosystem degradation have accelerated the transformation of natural landscapes and human settlements. This has led to changes in place names that reflect these changes. Related contemporary research is actively studying place names in local contexts. However, a comparative analysis of environmentally-induced changes in different geographical and cultural regions remains insufficiently studied. The present study fills this gap by examining the impact of environmental change on

the place names of England and Kazakhstan, two regions with different linguistic, cultural and environmental histories.

Ecological Changes and Their Impact on Kazakh Toponymy. Kazakhstan is characterized by a harsh climate. The country faces serious environmental challenges, including desertification, shrinking water bodies, degradation of steppe ecosystems, and climate change [8]. The work provided data on the environmental changes observed in Kazakhstan and their corresponding impact on toponymy. Table 1 demonstrates the main environmental challenges, notable examples of affected toponyms, and the observed changes in cultural meaning.

Table 1. Ecological Changes and Their Impact on Kazakh Toponymy

Ecological Issue	Notable Examples	Changes in Toponyms
Karaqum (“black sand”)	Desertification	Emergence of names reflecting desert
Desiccation of water bodies	Lake Karakil, Zhamankol	Loss of relevance for «kol» (lake)
Ecosystem degradation	Zhusan (wormwood)	Loss of relevance for flora-related names
Disappearance of fishing villages	Balyk-shy (“fisherman”)	Loss of cultural significance

Source: authors’ own development.

We see that as ecosystems degrade, traditional names have lost their cultural identity and connection to the natural features they once described.

Changes in English Toponymy Due to Ecological Issues. Table 2 shows the environmental problems of England, and their impact on toponymy. Powerful environmental changes have resulted in changes in toponyms.

Table 2. Ecological Changes and Their Impact on English Toponymy

Ecological Issue	Notable Examples	Changes in Toponyms
Coastal erosion	Dunwich (lost coastal town)	Preservation of historical names
River modifications	River Fleet (culverted)	Urban names derived from original rivers
Deforestation	Sherwood Forest	Names persist despite loss of forests
Urban expansion	Fleet Street (hidden river)	Emergence of urbanized names

Source: authors’ own development.

The shifts described demonstrate the irreversible processes of urbanization and environmental degradation in England. This has led to a complex evolution of place names that reflects both historical significance and contemporary realities.

Comparative Analysis of Toponymic Changes in Kazakhstan and England. A comparative review of similarities and differences in toponymic changes in Table 3 demonstrates environmental factors in Kazakhstan and England.

Table 3. Comparative Analysis of Toponymic Changes

Aspect	Kazakhstan	England
Dominant Ecological Issues	Desertification, water body desiccation	Coastal erosion, urban expansion
Type of Toponymic Changes	Loss of traditional names	Urbanized names alongside historical preservation
Cultural Significance	Strong ties to nomadic traditions	Reflection of agricultural and urban history
New Toponyms	Reflecting ecological initiatives	Associated with environmental restoration

Source: authors’ own development.

Environmental transformations and their impact on place-name evolution:

Examples of the cultural consequences of toponymic changes in both regions are provided. They highlight the influence of environmental factors on cultural identity.

Emergence of New Toponyms Reflecting Environmental Initiatives. New place names that have emerged in both Kazakhstan and England because of environmental awareness and initiatives aimed at conservation and sustainable development are listed in Table 4.

Table 4. New Toponyms Associated with Environmental Initiatives

Country	New Toponyms	Context
Kazakhstan	Baikonur Ecopark	Focus on conservation and research
	Altai National Park	Protection of biodiversity
England	Greenway	Urban green spaces
	Floodgate Lane	Flood protection initiatives
	Wildlife Reserve	Preservation of biological diversity

Source: authors' own development.

The results of the work show that new toponyms reflect the growth of environmental awareness in both Kazakhstan and England. They illustrate the response of society to environmental challenges. The analysis showed significant environmental changes in both Kazakhstan and England, which lead to changes in toponymy. Of course, these changes affect the cultural meaning of toponyms and emphasize the evolution of the relationship between human societies and their environment. Important for maintaining cultural identity and historical continuity amidst these environmental transformations is the preservation and documentation of toponyms.

Studies focus on the issue of toponym disappearance due to ecosystem degradation. The researchers describe a case involving the Aral Sea, where many names associated with water bodies have vanished as a result of the sea's desiccation and the disappearance of rivers. Authors compare this phenomenon to analogous changes in England, where the drying up of rivers and lakes has also led to the loss of traditional names [9].

In other works, changes in toponymy resulting from anthropogenic ecological transformations, particularly in the context of urbanisation and industrialisation are analysed [10]. In this regard, it is worth noting that in the United Kingdom, new toponyms associated with industrial sites have emerged as evidence of changes in land use, whereas in Kazakhstan, changes in names during the Soviet period reflect the new functions of industrial zones.

The impact of changes in natural landscapes on toponymy is also actively analysed. It should be added that the degradation of steppes in Kazakhstan and deforestation in England have resulted in alterations to names associated with natural features, reflecting a deeper interaction between nature and cultural identity [11].

Religious and cultural changes are also a consequence of ecological

transformations. Sacred toponyms linked to natural features may undergo modifications due to changes in environmental conditions, which in turn affects people's perceptions of these places [12]. Scientists concentrate on the evolution of place names in the context of climate change and population migration [13]. Climate change can lead to migration, which in turn contributes to the emergence of new toponyms or the alteration of old ones. This phenomenon is significant in studying not only contemporary but also historical transformations in culture.

Thus, these research trajectories underscore how global climate changes and local ecological factors influence toponymy in England and Kazakhstan. A comparative analysis of examples from both countries will provide deeper insights into how natural and anthropogenic changes shape cultural heritage, as expressed through place names.

However, there is a lack of comparative studies examining this process in different cultural and geographical contexts, such as England and Kazakhstan. There are studies dedicated to individual aspects of toponym changes under the influence of ecological factors, but a comparative analysis between England and Kazakhstan in this context has not been conducted. This research aims to fill this gap.

Discussion

Therefore, the aim of the proposed study was to analyze the impact of environmental change on the toponymy of England and Kazakhstan. The work focuses on identifying common patterns and unique differences. Linguistic markers (toponyms) encompass cultural, historical and ecological narratives, making them integral to understanding the interaction between human activity and ecological transformation. In this context, Izduygu and Geren postulate that one of the most prominent illustrations of ecological catastrophe is the drying up of the Aral Sea. The depletion of the Aral Sea is evidence of an ecological catastrophe. It had a strong impact on toponymy. In the 1960s, there was a significant diversion of water from the Amu Darya and Syr Darya rivers. This was done for irrigation purposes and led to a reduction in the area of the sea by more than 90% [14]. This transformation has led to the erosion of sea-related place names or a modification of their meanings. For instance, the city of Aral, deriving its name from the Kazakh word for "island", was formerly associated with the islands in the sea. In contemporary times, while the name persists, it has largely lost its geographical significance. Similarly, the village of Balyk-shy, meaning "fisherman", situated along the coastline, has lost its original connotation, as fishing activities in the region have ceased.

Thus, the disconnection between the toponym and its corresponding natural feature diminishes its cultural significance. In a similar study, authors describe that numerous small lakes within the steppes of Kazakhstan have vanished as a consequence of climate change and the intensive exploitation of water resources, particularly in regions such as Akmola and Kostanay. Authors give example the

Lake Karakil, known as “black lake”, has nearly completely dried up, resulting in the loss of its ecological function and cultural importance. Names incorporating the element “kol”, meaning “lake”, are becoming obsolete or losing their relevance; for instance, Zhamankol, translating to “bad lake”, is now entirely dry. In these areas, new names have emerged that reflect the processes of desertification, such as Karaqum, meaning “black sand”, which signifies the transition from aquatic environments to arid landscapes.

The introduction of new toponyms that denote these transformations, such as Saryshil, meaning “yellow desert”, documents the degradation of the ecosystem. The desertification of the steppes also impacts toponyms associated with local flora and fauna. Place names containing elements like “dala” (steppe) and “zhusan” (wormwood) lose their relevance as the corresponding ecosystems deteriorate. The emergence of new ecological conditions gives rise to toponyms that reflect alterations in the landscape, for example, names incorporating “qum” (sand) in regions subject to desertification, such as Qyzylqum, which translates to “red sand.” The Qyzylqum desert in southern Kazakhstan is expanding due to climatic changes and anthropogenic factors, including deforestation and overgrazing.

Kazakh authors state that as a macrotoponym, Qyzylqum increasingly becomes associated with the growing desert areas. The emergence of microtoponyms featuring elements such as “qum” (“sand”) or “shöl” (“desert”), exemplified by Sholdala (“desert steppe”), records a significant change in the landscape. The toponyms of Kazakhstan possess profound cultural and historical significance, reflecting the traditional nomadic lifestyle and the intrinsic connection to nature. The alteration or disappearance of these names impacts cultural identity and the historical memory of the populace. Kazakh place names frequently embody traditional nomadic practices, denoting pastures, seasonal encampments, or locations tied to natural resources. The loss or transformation of these identifiers significantly affects cultural identity. For instance, names associated with flora, such as “Zhusan” (wormwood), become irrelevant due to the degradation of steppe ecosystems, while local names tied to water sources, such as Aqbulak (“white spring”), vanish as a result of the drainage of these resources.

Similarly, England grapples with ecological challenges, including coastal erosion, river desiccation, and ecosystem degradation. Climate change has precipitated a rise in sea levels and an increase in flooding events. A pertinent example is the River Fleet in London, which has been enclosed in a culvert and is now concealed beneath the surface. Nevertheless, toponyms such as Fleet Street endure, albeit detached from their original geographical referents. Toponyms containing elements like “wood” or “forest” reflect the historical presence of woodlands that have been progressively deforested or converted to agricultural land.

In terms with the presented paper, other authors postulate that England, new toponyms reflecting ecological initiatives and the restoration of natural

landscapes are also emerging, such as “Greenway” or “Eco-Park”, which signify the growing environmental consciousness within society. English toponyms encapsulate historical and cultural narratives, illustrating agricultural traditions and a connection to nature. The ongoing erosion of England’s coastline, exacerbated by climate change and rising sea levels, presents a significant concern. A noteworthy case is the coastal town of Dunwich, which was once a thriving port but has been entirely lost to erosion, resulting in its status as an underwater ruin. The name persists solely in historical records. The erosion has also given rise to new toponyms in the region, particularly those associated with protective structures, such as “Sea Wall”.

The loss of historical settlement names contributes to the erosion of cultural memory, while new toponyms signify changes in the landscape and humanity’s adaptive responses to these transformations. Many rivers in England have been redirected into underground canals as a consequence of urban expansion and infrastructure development. Despite this, their names have been retained within the urban toponymy. The River Fleet, now concealed within a culvert, continues to exist in the form of Fleet Street, which is associated with the legacy of British journalism. Historical names endure as cultural antiquities, notwithstanding the loss of their physical connection to the original geographical features.

Urbanization has prompted the emergence of new place names that reflect contemporary functions of the territory, such as “Greenway” or “Eco-Park”. The deforestation of England for agricultural and urban development has led to the disappearance of significant woodlands, impacting toponyms. Names incorporating elements such as “wood” or “forest” have persisted, despite the corresponding natural features vanishing, exemplified by Sherwood Forest, which is historically linked to the legend of Robin Hood but now occupies only a fraction of its original expanse. The restoration of natural areas stimulates the emergence of new toponyms associated with environmental initiatives, such as “Wildlife Reserve”. Changes in river levels and an increase in flooding incidents in England have implications for toponymy, particularly in low-lying regions. Names like “Water Meadow” endure, despite the evolving landscape, while new place names related to modern water management projects, such as “Flood Barrier”, are emerging.

Toponymic evolution plays a significant role in preserving the cultural identity and historical memory of nations. In Kazakhstan, for example, Lake Balkhash, though not entirely desiccated, has experienced reduced water levels and altered mineralization, significantly impacting its surrounding ecosystem. Such changes influence place names tied to fishing and aquatic features, potentially leading to their obsolescence or modification. Similarly, the disappearance of small lakes in the steppe regions has resulted in the loss of toponyms incorporating the term “köl” (lake). The encroachment of deserts has prompted the emergence of new names containing elements like “qum” (sand) and “shöl” (desert), reflecting the evolving landscape.

In this context Duck state that ecological degradation has also led to population displacement, with abandoned villages losing their associated toponyms. Conversely, newly established settlements often bear names signifying hope or new beginnings, such as “Zhanaturmys” (“New Life”) and “Bakytty” (“Happy”). Coastal erosion in England has similarly caused the loss of land and disappearance of historically significant villages, such as Dunwich, once a major port. Although these toponyms persist in historical records, they no longer correspond to inhabited locations. Agricultural transformations, such as the removal of hedgerows for large-scale farming, have diminished the prevalence of names featuring “hedge” or “hawthorn”, thereby altering the cultural landscape.

In terms of the given paper, the linguistic comparison of English and Kazakh toponyms under the impact of environmental change has shown common and distinctive features. In two countries, the loss of the link between a place name and a disappeared natural feature, such as lakes in Kazakhstan or rivers and forests in England, indicates a major environmental transformation. In the article, Gill and his colleagues describe new place names emerging to reflect environmental initiatives or changes, such as ‘Eco Park’ in England or ‘Imtibe’ in Kazakhstan. Historical names, such as Fleet Street in England or Aral in Kazakhstan, have survived despite the disappearance of their associated monuments. However, the two countries have different ecologies and climates. Desertification and water degradation dominate in Kazakhstan. And in England, urbanisation and coastal erosion are more noticeable. Kazakh place names tend to emphasise natural features and traditional ways of life. English place names reflect the history of settlement and economic activity.

Urbanization has had a profound influence on toponymic evolution in both countries [8]. In English cities, natural toponyms are often changed to names that reflect historical events, political trends, or the names of prominent figures. For example, names such as “Hill” or “Ford” lose their original meaning due to the disappearance of the corresponding natural objects. In Kazakhstan, the process of urbanization and the development of the agricultural sector also affects the change of toponyms, which gradually move away from agricultural or pastoral associations to urban or industrial ones. However, the natural context remains rooted in many names, such as Karatau (“Black Mountains”) or Kazal (from the name of the Kazal River). Ecological changes cause not only the transformation of natural objects, but also the adaptation of linguistic constructions in toponymy. English names often contain natural descriptors such as “river”, “forest” or “swamp”, while Kazakh place names retain links to regional characteristics, although their meanings change due to environmental factors.

Globalization and climate change have accelerated the pace of change in ecotoponymy, as urbanization and industrialization processes have replaced traditional names. However, the preservation of ecotoponyms is key to preserving cultural heritage and creating environmental awareness. In modern England,

examples of such new names include “Floodgate Lane”, which reflects flood protection measures, and “Solar Park Road”, which is associated with renewable energy. In Kazakhstan, environmentally oriented names such as “Baikonur Reserve” and “Eco-Aul” symbolize the desire for sustainable development and nature conservation.

Preserving toponymic heritage and raising environmental and cultural awareness are priorities. This requires the creation of integrated databases that document the origin, meaning and historical context of toponyms. It is also important to include toponymy in educational programs. The use of interactive maps that illustrate name changes will help to engage the public through information campaigns and seminars. It is especially important to highlight the historical and environmental aspects behind specific toponyms. Thanks to a multidisciplinary approach that combines cultural, educational and technological efforts, England and Kazakhstan can not only preserve their toponymic traditions, but also ensure the continuity of cultural identity and historical memory.

Theoretical and applied problems of toponymy, such as accumulation of geographical names of Kazakhstan, their regulation, restoration of historical names, publication of regional dictionaries of names, are one of the most difficult problems of Kazakh linguistics. Consideration of the toponymy of a specific territory requires a clear definition of the boundaries of the territory under study. Determining the area under study requires caution both when collecting material and when conducting linguistic analysis [15].

Limitations of the study. Despite the effectiveness and evidence-based nature of the paper, it has several limitations that may affect the completeness of the data. The limited geographical area may limit the generalizability of the results to regions with different ecological and cultural contexts. The next is the time constraint. The data for the last 200 years may miss significant earlier toponymic changes. There were some discrepancies in the data in the paper. This may also cause problems, as the larger historical records of England contrast with the limited resources in Kazakhstan. The interdisciplinary approach of the study and the peculiarities of translation may have led to some distortions in the linguistic data. The focus only on environmental influences, climate change and urbanization may have left socio-political and economic factors out of consideration. The identified limitations emphasize the importance of cautious interpretation of the results and the need for further research to analyze the evolution of toponyms in different contexts in more depth.

Conclusion

The study revealed a significant impact of environmental changes on the formation of toponymy in England and Kazakhstan. The work focuses on geographical names as cultural symbols that reflect the relationship between humanity and its environment. The results obtained demonstrate both common features and differences between these two countries. For Kazakhstan, the impact

of desertification and water resource depletion is characteristic, while in England the main factors are coastal erosion and urbanization. Despite the difference in environmental challenges, both countries face the need to preserve their toponymic heritage in the face of modern changes.

Toponyms act as carriers of cultural and historical memory, but they are under threat of loss or modification due to the impact of environmental changes. At the same time, these transformations open up new opportunities for rethinking cultural heritage. Documenting and researching toponyms can not only preserve their meaning, but also contribute to a better understanding of environmental changes affecting landscapes.

Ecotoponymy, the science of the relationship between toponymy and ecological processes, helps to trace how geographical names respond to environmental changes and contributes to a better understanding of these relationships. Analysis of the impact of environmental changes on toponyms using the examples of Kazakhstan and England showed the complexity of the relationship between humanity and nature. Changes in climate and landscape, environmental problems (drying of the Aral Sea, shallowing and desertification of rivers in Kazakhstan) led to a change in the meaning of toponyms or their loss. In England, rising sea levels, drying up of rivers and urbanization led to a loss of relevance of toponyms associated with natural objects. Transformation of the steppe ecosystem and desertification in Kazakhstan led to a change in toponyms associated with traditional steppe objects. Accordingly, these data demonstrate that this study effectively achieved its main goal – to analyze the impact of environmental changes on the toponymy of England and Kazakhstan. It highlighted how deforestation, urbanization, industrialization, and climate change contribute to the decline of natural landscape-related place names and the emergence of human-centric toponyms. The study underscored the cultural and historical significance of toponyms, revealing how their evolution reflects ecological transformations and societal adaptations. Examples from both countries illustrated the role of toponyms in raising environmental awareness and preserving cultural identity.

Despite these achievements, gaps remain, particularly regarding the broader applicability of findings to other regions, the long-term historical evolution of toponyms, and the inclusion of local community perspectives.

Recommendations for Future Research could include diverse regions to explore whether similar patterns of toponymic change occur in other ecological and cultural contexts. It is perspective investigating toponymic evolution beyond the past 200 years to capture deeper historical transformations. It will be useful to incorporate perspectives from local communities and stakeholders to enrich the understanding of the cultural significance and interpretation of toponyms as well as examine socio-political, economic, and migratory influences on toponymic changes alongside ecological factors.

Use GIS and digital mapping tools to visualize and analyze toponymic

evolution dynamically and foster collaboration between linguists, geographers, historians, and ecologists to address interdisciplinary complexities is also effective.

Future studies should build on these recommendations to enhance the understanding of ecotoponymy and its implications for cultural heritage, environmental policy, and community identity.

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ҚОРШАҒАН ОРТАНЫҢ ӨЗГЕРУІ ЖӘНЕ ОЛАРДЫҢ ЖЕР- СУ АТАУЛАРЫНЫҢ ЭВОЛЮЦИЯСЫНА ӘСЕРІ: АҒЫЛШЫН ЖӘНЕ ҚАЗАҚ ГЕОГРАФИЯЛЫҚ НОМЕНКЛАТУРАСЫН САЛЫСТЫРМАЛЫ ЛИНГВИСТИКАЛЫҚ ТАЛДАУ

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Аңдатпа. Климаттың өзгеруі мен экологиялық ауытқулар арасында өзара байланысты анықтау – елдердің мәдени ерекшелігін сақтау үшін аса маңызды. Ұсынылған зерттеудің мақсаты – экологиялық өзгерістердің Англия мен Қазақстан топонимиясына әсерін талдау болып табылады. Зерттеуде топонимдердің мәдени мұраның негізгі элементтері ретінде ерекше маңыздылығы атап өтіледі. Мақалада қолданылған әдістер пәнаралық тәсілге негізделген. Дерек көзі ретінде бірнеше картографиялық

және лингвистикалық дерекқорлар пайдаланылды. Бұл дерекқорлар салыстырмалы талдау жүргізу үшін сенімді географиялық және тілдік ақпарат ұсынды.

Қоршаған ортаның өзгерістері мен топонимиядағы өзгерістердің өзара байланысын зерттеу үшін мақалада лингвистикалық, экологиялық және мәдени талдаулар біріктірілді. Нәтижелер Англия мен Қазақстан арасындағы салыстырмалы талдау табиғи және антропогендік факторлардың әсерінен топонимия эволюциясындағы ортақ ерекшеліктер мен айырмашылықтарды зерттеуге арналған тақырыптық топтарды айқындауға мүмкіндік бергенін көрсетті. Қатысты әдебиеттерді талдау осы өзгерістердің бар топонимдердің өзгеруіне немесе жойылуына қалай әкелуі мүмкін екенін көрсетті. Бұл зерттеудің нәтижелері қоршаған ортадағы өзгерістерге серпінді түрде әсер ететін мәдени белгілер ретінде топонимдерді түсінуді кеңейтуі тиіс. Зерттеу екі түрлі елдің топонимиясын салыстырудың ғылыми жаңалығын айқындайды. Сондай-ақ бұл мұраларды сақтау бойынша ұсыныстар да беріледі. Қоршаған ортаның өзгерістерінің мәдени бірегейлік пен жадына тигізетін салдарын зерделеу үшін пәнаралық зерттеулерді одан әрі жүргізудің қажеттілігі атап өтіледі.

Тірек сөздер: топографиялық аумақтандыру, экотопонимика, мәдениетті сақтау, саяси стратегиялар, лингвистикалық ландшафт, қазақ топонимдері, ағылшын топонимдері, тарих

ИЗМЕНЕНИЯ ОКРУЖАЮЩЕЙ СРЕДЫ И ИХ ВЛИЯНИЕ НА ЭВОЛЮЦИЮ ТОПОНИМОВ: СРАВНИТЕЛЬНЫЙ ЛИНГВИСТИЧЕСКИЙ АНАЛИЗ АНГЛИЙСКОЙ И КАЗАХСКОЙ ГЕОГРАФИЧЕСКОЙ НОМЕНКЛАТУРЫ

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Аннотация. Выявление взаимосвязи между изменением климата и экологическими сдвигами имеет решающее значение для сохранения культурной идентичности стран. Цель представленного исследования – проанализировать влияние экологических изменений на топонимию Англии и Казахстана. В статье подчеркивается актуальность топонимов как важнейших элементов культурного наследия. Методы, использованные в исследовании, основывались на междисциплинарном подходе. В качестве источников данных использовались несколько картографических и лингвистических баз данных. Эти базы данных предоставили надёжную географическую и лингвистическую информацию для сравнительного анализа.

Для изучения взаимосвязи между изменениями окружающей среды и изменениями в топонимике в работе были объединены лингвистические, экологические и культурологические анализы. Результаты показали, что сравнительный анализ Англии и Казахстана позволил выделить тематические группы для изучения общих черт и различий в эволюции топонимов под влиянием как природных, так и антропогенных факторов. Анализ соответствующей литературы показал, как эти изменения могут приводить к изменению или исчезновению существующих топонимов. Результаты данного исследования должны расширить понимание топонимов как культурных маркеров, которые динамично реагируют на трансформации окружающей среды. В исследовании подчеркивается научная новизна сравнения топонимики двух разных стран. Также даны рекомендации по сохранению этого наследия. Акцентируется необходимость дальнейших междисциплинарных исследований для изучения последствий изменений окружающей среды для культурной идентичности и памяти.

Ключевые слова: топографическая территориализация, экотопонимия, сохранение культуры, политические стратегии, лингвистический ландшафт, казахские топонимы, английские топонимы, история

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