SYSTEM OF HYDROGRAPHIC TERMS OF THE ZHAMBYL REGION

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Citation

Abstract
The article analyzes scientific approaches to the grouping of toponyms according to the geographical principles based on the materials of the Zhambyl region and comprehensively examines hydrographic terms. The importance of the study is due to insufficient work on the hydronymy of the Zhambyl region and the need to develop this direction in Kazakh science. The aim of the study is to group the hydronyms of the Zhambyl region based on geographical principles. The study used cartographic, statistical and GIS methods. Whilst analyzing hydrographic objects, 177 names of rivers were identified which were formed with the participation of indicator terms related to rivers. They were classified and grouped into the most common terms in the names of rivers such as the term saï 57%, the term su 25% and the term ozek 16%.

Key words
hydronyms, toponyms, geographical names, geographical principles, grouping, Zhambyl region.

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1. Introduction

The Zhambyl region is an administrative-territorial part of the south of the Republic of Kazakhstan. The largest river in the region is the Shu River, which is located between the Ili Mountains and the western coast of Balkhash, the Karatau ridge, the Kyrgyz Alatau and Betpakdala. The region borders the Kyrgyz Republic in the south, South Kazakhstan in the West, the Almaty region in the east and the Karaganda region in the north.

Geographical names (toponyms) denote certain fragments of topographic space and form a system called a toponymic system, which is artificially contractual in nature. Toponyms are a kind of repositories of political, social and cultural views of society (Wendt, 2017), which reflect certain linguistic trends and features of word formation (Grube, 2015, p. 89). Toponyms make up a significant part of the lexical thesaurus of the language. According to some researchers, “the toponymic layer makes up 2–3% of the commonly used vocabulary” (Campbell, 1991, p. 333).
While the water shell of the globe – the hydrosphere, its properties, the relationship of processes occurring in it with other shells – is studied by hydrological science, the names assigned to these hydrological objects are studied by one of the largest areas of toponymy-hydronymy (Saparov, 2018, p. 37). The names of geographical objects in which the apparatus about nature, the economy of a particular place serves as a spatial orientation of everyday life and human activity. As a result, the names, with a wide use of folk geographical terms, reflect the features of the landscape, the nature of geographical objects, the features of the natural environment. When nominating geographical names, the national and cultural traditions and socio-historical factors associated with them are taken into account (Kaimuldinova, 2010, p. 33).

This paper demonstrates the analysis of hydrographic terms of the Zhambyl region, grouping large, medium and small rivers, lakes and other hydronyms and characterizing the origin and etymology of the names.

2. Data and methods

Toponyms are a kind of political, social and cultural repositories – views of society reflecting certain trends and geographical features (Khayitova, 2020, p. 75). Toponyms help to revive the history of each nation and its features, determine the boundaries of their location, characterize past distribution areas and identify cultural and economic centers (Ganiyeva, 2020, p. 3439). Whilst studying foreign and domestic literature, one can notice that a number of specialists in the field of geography, archeology, linguistics and philology are engaged in the study of toponyms (Penko, 2008, p. 33).

Scientific works on general and regional toponymic studies in Kazakhstan, information on the state catalog of geographical names of the Republic of Kazakhstan were used as the information base of the study. The research work used data analysis as well as comparative descriptive, cartographic, and GIS methods (Yeginbayeva et al., 2016; Nurtazina et al., 2029). With the help of the data analysis method, visualization of geographical data was presented: maps (Figure 2.), graphs (Figure 1) and tables (Table 1, Table 2) were created to represent geographical information. Visualization allows seeing the distribution of toponyms on the map. The comparative method is used in applied research, and it is a basic method for classifying place names in geographical research. It helps to separate the common and distinctive features and properties of the studied objects and their development processes. GIS applications include both hardware and software components (Cheshire, 2011, p. 55; Darbayeva et al., 2020). They combine various types of information, among them cartographic data presented in the form of a map, and may include information such as the location of the hydronymic names.

The map of the hydronyms of the Zhambyl region was made using the GIS method, which shows the distribution areas of potamonyms with the terms arna, ashchy, ozek, ozen, sai, sala, su, and limnnonyms with the terms aidyn, kol, sor, sortan, teniz.

3. Results and discussion

On the territory of the region, the surface water runoff is unevenly distributed. The rivers mainly originate on the northern slopes of the Kyrgyz and the Talas Alatau in the south of the region. Most of them lie in the basin of the Shu and Talas rivers and are tributaries of these rivers. The largest and longest river in the region is the Shu (1186 km). The river originates in the Tien Shan Mountains in Kyrgyzstan and flows through the region after crossing the picturesque Buam Gorge. Its length on the territory of the region is 800 km. After crossing the gorge, the current slows down and turns into a wide valley river on the plain. On the territory of the region, the only river Koragaty joins it. Forming a group of small lakes in its valley, the Shu seeps into the sand in the east of the Turan depression (the Aschykol-Akzhaykyn depression). The Shu belongs to the number of rivers with a mixed catchment by nature. To regulate the river flow and use for irrigation, the Tasotkel dam was built on the river in the upper part of the city of Shu.

The second largest river in the region is the Talas. It begins at the confluence of the Karakol and the Ushkoshka rivers with the glaciers of the Kyrgyz Alatau and the Talas Alatau and flows into Lake Aydin to the west of Moyinkum. The river basin is filled with ice, snow, and rain water. Several dams have been built in the river valley (Kirov, Yubileyny, Zhinali, Kazakhbai, etc.). The Talas-Asa canal is used to use water for irrigation of lands. On the left, its major tributary, the Asa River (253 km long) flows into the Talas. Many smaller rivers of the region (Shabakty, Boraldaï, Berkutty, Ters, Shalsu, Karakystak, etc.) originate in the Kyrgyz Alatau, Karatau ridge. Almost all the rivers starting from the Shu-Ili and the Karatau ranges dry up and turn into streams in the summer months.

During the toponymic analysis of hydrographic objects, it was found that 177 names of rivers were
formed with the participation of indicator terms (related to rivers). They are classified and grouped as follows (Fig. 1): the term saï (57%), the term su (25%), the term ozek (16%), characterizing the depth of hydrographic objects, as well as rivers (Kaimuldinova, 2010, p. 33).

The most common term in the names of rivers is “saï”, the toponymic activity of which is reflected in 71 names (Tab. 1). Saï is a small coastal valley exposed to foothills, steppes, often covered with diluvial deposits, with dry or untimely water runoff, often dry, sometimes seasonal runoff, with long concave slopes. The main exception to the attribution of this term to hydrography is that in ancient arid valleys one can find many ravines. It is also known that the term “saï” in some Turkic-speaking peoples has such meanings as “temporary riverbed”, “dried riverbed” (Abdullina et al., 2019, p. 664).

Ozek – the ancient Turkic word okuz-ak can have the abbreviated form okuz / uz / oz, where the word “okuz” in the ancient Turkic language means “river”. For example, there are such names as Zharozek, Kokozek, Terenozek, Kumozekozen in the region. The term ozek, according to G.K. Konkashbayev (Konkashbayev, 1949, p. 23), has the meaning of a tributary in the southern and western regions of Kazakhstan, a tributary of the river. In other places – a narrow, oblong saï, such as Almalysai, Zhidelisai and Tutsai. Su is the most common hydrological term in Kazakh toponymy, formed by many hydrological terms. Our research has revealed about 90 hydronyms involving the term su. Aksu, Karasu, Koksu, Kyzylsu, etc.

The next most common term by number is ozen, and the terms arna, ash, sala (1.1%). For example, Ozendisai, Taldyozay, Onbirsala, Eskisai, etc.

A large number of potamonyms formed on the basis of the term saï are often found in the hydronyms of orographic objects associated with the term saï; they are formed by the predominance of rivers and temporary currents fed by snow waters on the territory of the region (Nikonov, 1965, p. 35). For example, regarding the vegetation: Almalysai, Zhalkamysai, Zhidelisai, Zhangyltasaï, Kajynysai, Kargasay, Kogasai, Ormansai, Tutsai, Ulken Taldysai, Shagyrlysai, Shet Kajynysai; regarding the animal world: Atkimsai, Borisai, Eliktsai, Zhoblarysai, Zhylandysai, Kazmolsai, Koshkarsai, Kulankudysai, Ukilisai, Ulusai; regarding the terrain features: Zhalpaksazsay, Kotyrbulaksay, Kotyrsay, Kotyrtdalsay, Kotyr-Taldysay; regarding a person’s name: Abulkairsay, Adilbeksay, Alibaysai, Aluasay, Asansay; there are toponyms formed on the basis of genonyms and ethnonyms Andassay, Zhanissay, Kalmyksay, Kurmansay, Nogaysay, Omarsay, Utemissay, etc. (Tab. 1).

There are two main ways to conduct toponymic research: one focuses on the etymology, meaning, and origin of toponyms, and the other focuses on the study of toponyms of the region and the patterns of these names (Tent, 2015, p. 65).
The study of geographical names or toponymy has recently been critically reviewed, as scientists are exploring other effective ways to study the practice of geographical names rather than focusing solely on etymology (Rose-Redwood et al., 2010, p. 453).

**Shu** – the river flows through the territory of Kazakhstan and Kyrgyzstan, through the lands of the Kordai, Shu, Moyinkum, Sarysu districts of the region. According to A. Abdrakhmanov, “Shu is a word of the ancient Turkic language, because, firstly, the word ‘su’ in the name of the city along this river Suyab, Shuyab are not worth it just like that. This proves that the river was once called ‘Su’, and once ‘Shu’ in Turkic dialects. Secondly, it is widely recognized that the sounds ‘sʃ’ can alternate in Turkic languages” (Abdyrakhmanov, 2010, p. 111).

**Talas** – a river flowing through the territories of Kyrgyzstan and Kazakhstan. The names of the Talas ridge and the historical city of Talas (Taraz) come from the name of this river, the time of the Turkic-Mongolian linguistic unity. The word “Talas” comes from the words “dalai/talai” (sea, ocean, lake, river) in the Turkic-Mongolian languages (Abdyrakhmanov, 2010, p. 35).

**Aksu** – the left tributary of the Shu River. It originates at the northern slopes of the Kyrgyz Alatau and flows into the Tasotkel dam. Aksu is a name meaning “a river that flows, most often pale, clean, transparent.”

**Asa** – The river flows through the Zhuały, Talas and Zhambyl districts. It is a left tributary of the Talas river. The natural water regime is regulated by the Terisashhibulak dam. Due to the fact that the river is called “Asa”, a legend sounds among people: “The young hero of Taraz Karakhan, in love with Aisha Sulu, coming to his beloved, is going to wash and rest, reaching the bank of this river. At this moment, a poisonous snake hiding inside saukele bites and kills Aisha. The girl dies in her sleep without reaching her dream, that is, without breaking away from this river. Therefore, many say that the river was named “Asa” after “she did not overcome it”. This is definitely a myth (Pospelov, 2002, p. 33). According to Herodotus, the largest of the Saka tribes that inhabited the Kazakh lands is associated with the name of the Assa “Assaki” (Gessko et al., 2012, p. 123). At the same time, another legend about the Asa river spread among the people: “A wanderer who has traveled a long way and is tired, sits down under the shade of a tree. The wanderer inserts his stick – “asa” – into the ground. After a while, a water source appears at that place, which eventually turns into a large river. This river was called “Asa”.

**Yrgaity** – a river in the Shu River basin. It flows through the territories of the Kordai district. 41 springs and streams with a length of 58 km flow into it every year. The name has the meaning “the river on the bank of which the honeysuckle grew”.

**Shunkyr** – a river in the Koragaty river basin. It flows through the territory of the Turar Ryskulovsky district. The name is given because it is located in a pit.

**Karasai** – a river in the Moyinkum district, in the basin of the Ile river. Toponymic meaning is “darkening ravine”. In the Turkic languages, the words “sai, chai” mean a river.

**Ungirli** – the river in the Shu basin flows through the territories of the Shu district. Throughout the basin, many caves are called Ungirli because of the number of caves meeting there.
Fig. 2. Map of hydronyms of the Zhambyl region.
Source: own study.
Shabakty – a river in the Talas basin, the Sarysu district. The name is given because of the large distribution of fry in river waters (Yeginbayeva, 2019, p. 234).

Shagazhai – the river in the Shu basin, Moyinkumsky district, the riverbed is dry. The name is given because of its location in a mountain valley.

Tesik – a river in the Ili basin. It flows through the territory of the Shussky district. The name is given because of the unusual location of mountain stones, both sides are rocky, and the center is slotted (has holes).

Terektsai – the river in the Shussky basin flows through the territory of the Shussky district. A toponym meaning “a place with a lot of poplar”.

Teris – The river in the Asa river basin flows through the territory of the Zheldau district. The first data about the Teris river can be found in the diaries of the Arab jihanger Ubeidallah ibn Khordabek, written by Kudama ibn Jafar, who visited the Mynbulak region in 846, at the middle of the 9th century. “Thousands of springs flow in Mynbulak and form one river. The river flows to the east, hence the name Barquab; the translation of this word (a river flowing in the opposite direction) is the opposite. It catches pheasants in dense thickets and dense thickets of forest-groves on both banks of the Barquab (Teris River)” (Gessko et al., 2012, p. 57).

Tarylgan – river of the Shu River basin. It flows through the territory of the Shu, the Merke district. It is called Tarylgan from the fact that it has a narrowed channel.

Tasaryk – the river in the Talas River basin flows through the territory of Talas, the Zhambyl district. The name is given due to the fact that the water in the river is cold even in summer.

Makpal – a river flowing in the central part of the Talas Alatau, on the territory of the Tuar Ryskulovskiy district. The river was named after a beauty, a heroine who resisted the Dzungarian invasion on an equal footing with men. There is also mount Makpal.

Merke – a river in the Shu River basin, flowing through the territory of the Merken district. Previously, migrating pastoralists and pedestrians crossed this river only on horses and camels. Merke is the name of one large tribe among the Saka, Hunnic tribes, who subjugated, taxed and dominated the Chinese kingdom, forced to build the Great Chinese Fortress. In history, one large Hun tribe inhabited Alatau from Zailisky to Merke. That is why, three Merks speak above Talgar, the land of the modern Merke district, the river, mount Merke.

Molaly – a river in the basin of the Kainar river, flowing through the territory of the Merken district. The name has the meaning “a place where there are many graves”.

Monke – a river in the basin of the Koragat river, flowing through the territory of the Turar Ryskulovsky district. It is named after the famous Kazakh Monke bi.

Oirandy – a river in the Koragaty River basin. The word Oirandy exists in both Kazakh and Kyrgyz languages. However, according to the old-timers, this time the word “Oirandy” came from the Kyrgyz. After all, it was in the area of the Oirandy River that a fierce war was once waged between the Kyrgyz and Kazakhs. Due to a large number of human casualties on both sides, the Kyrgyz called this place “Oirandy”. One of the settlements in the upper mouth of this river belonging to the Kyrgyz Republic, the Kyrgyz country called the village “Oirandy” (Gessko et al., 2012, p. 111).

Sarybulak – a river on Mount Aitau flowing through the territory of the Moyinkum district. The old historical name “Sarybulak” is “from spring water”. The water yarn from the mountain was clay, sandy-orange. For this reason, it was called “Sarybulak” (Zhanuzak, 2010, p. 77).

Kurgaksholak – a river flowing through the territory of the districts of Mayzhegen, Aktasty-Shu and Balkhash. The name came about because there is water in the riverbed only in spring, and at other times it dries up.

Kyztogan – a river in the Merke district. This river was named “Kyztogan” because during the turbulent period when the Great Patriotic War was going on, all the hardships in the rear fell to children and girls. In order to irrigate crops in the delta of this area, ponds for girls were built in a small river (the place of the pond has been preserved to this day). Since then, the village is called Kyztogan.

Botaborim – a river in the Ili basin. It flows through the territory of the Balkhash district of the Almaty region and the Shu district of the Zhambyl region. The name of the river means “small narrow river”.

Burkitti – a river in the Talas basin in the Sarysu district. Burkitti is a toponym meaning “many eagles”.

Zhynqylky – a river in the Koragate basin in the Ili basin. The name of the river is given due to the fact that the region is distinguished by a dense zhingyl plant once used in the household.

Koktal – a river in the Talas River basin. It flows through the territory of the Talas district. The word means “this river has a lot of blue willows”.

Karakat – a river in the Koragata basin. It flows through the territory of the Turar Ryskulovsky district. The name is given because of the abundance of the fruit tree karakat (currant).

Karakonyz – a river in the Kordai district. The name of the river comes from the presence of black beetles on the territory.
Karakystak – in the Shu river basin, the length of the river in the area of Turar Ryskulov is 61 km with the catchment area of 738 km². The name is given due to the fact that it is an old wintering ground.

Kainar – a river in the Koragata basin. It flows through the Merke district. The name of this river comes from the fact that springs were opened everywhere in the village of Kainar, the water source was abundant, and the river located in the vicinity was called Kainar because of the frequent growth of reeds (Saparov et al., 2023, p. 79).

Ground water – there are several underground watersheds with high pressure in the region. The largest of them is the Asa-Talas artesian massif (an area of 6000 km²). Its water comes out from a depth of 100–300 m. The waters lie in Paleogene and Neogene sediments. The most common names that define objects and phenomena of physical geography. Because each ethnic group has its own specifics, its own spiritual culture, the perception and designation of geographical objects was strictly ethnic. Thus, it can be noted that the influence of the geographical environment on the formation of the most common hydronyms is great (Saparov et al., 2017, p. 115).

Hydronyms (from Greek υδωρ – “water”, ονομα – “name”) is a class of toponyms that includes the names of all water bodies – rivers, streams, wells, ponds, lakes, oceans and their parts (seas, bays, straits). Depending on the abundance of water bodies of the nomination, hydronyms are divided into subclasses. Potamonyms (from Greek ποταμός – river”, ονομα –”name”) are names of rivers or streams: Amazon, Danube, Irtysh, Syrdarya, Yesilatau. This is one of the most toponymic subclasses on the planet. Limnonyms (from the Greek λίμνη – “lake”, ονομα – “name”) is type of hydronym, including the names of lakes, ponds, reservoirs (Bukhtarma, Zaisan, Shardara).

The next class of toponyms are helonyms (from Greek – “swamp”, ονομα – “name”). It includes the names of a swamp, a cop, a burial ground, etc. (Basik, 2006, p. 168). On the territory of the Zhambyl region, names and terms of helonyms are quite common.
On the territory of Zhambyl region, you can find types of surface and groundwater – rivers, lakes, swamps and groundwater, as well as ponds, reservoirs created by anthropogenic influence, as well as other objects. The state of the location and the extreme continentality of the region’s climate on land cause a shortage of surface waters.

Features of the dry climate, geological, geomorphological structure characterize the hydrological grid of the territory (Saparov, 2012, p. 150). Based on the works of scientists who studied the territory and scientists who defined terms in the field of hydronymy, a group of indicator terms by types of hydronyms was created, as shown in Table 2 for the Zhambyl region.

In total, there are 3,269 names of water bodies on the territory of the Zhambyl region. It is established that the structure of the hydronyms and the system of microhydronyms of the territory of the Zhambyl region are classified according to the landscape features of the terrain according to the physical, geographical and semantic load.

<table>
<thead>
<tr>
<th>Names of water bodies</th>
<th>Potamonyms</th>
<th>Limnonyms</th>
<th>Spring names</th>
<th>Names of wells</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator terms</td>
<td>arna, ashcy, ozek, ozen, sai, sala, csu</td>
<td>aidyn, kol, sor, sortan</td>
<td>bulak, kainar, arasan, bastau, koz, zhylga, tuma</td>
<td>auit, aryk, togan, boget, kanal, suat, bogen, kudyk</td>
</tr>
</tbody>
</table>


4. Conclusions

Currently, there is a need to collect and study specific data on the ways of creating and etymology of the hydronymic names of the Zhambyl region. We believe that when studying the history of the origin of water names, along with linguistic and historical views, geographical bases should be taken into account.

Thus, Kazakh hydronyms have their own traditions, patterns of reflection of natural conditions. The system of hydronyms formed on the basis of national geographic terms has developed in the development of many years of experience of the traditional economy of the Kazakh people. The knowledge base accumulated in hydronyms (natural and artificial water sources) has wide possibilities of use in scientific applied research in our time (historical geography, physical geography, geocology), etc.

The meaning of geographical names with the participation of hydrological terms is a reflection of the local natural conditions of water bodies – seasonal cattle grazing, which is very important for nomads. Based on the actual data, it can be stated that a special traditional type of economic and cultural activity of the Kazakh ethnic group had a direct impact on the formation of the hydronymy of the Zhambyl region.

In the history of studying the names of rivers, their regime, chemical composition, water quality, length, flow, etc. were determined. Thus, we found out that factors such as physical and geographical conditions, the natural environment, and the specialization of the economy are the reason for the classification of hydronymic terminology.

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