TOPONYMS OF KHOREZM REGION RELATED TO CLIMATE AND WEATHER CHARACTERISTICS

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Abstract: Geographically, the Khorezm region possesses unique environmental and natural conditions. Consequently, this article analyzes the region's toponyms that emerged in close relation to local climatic features and weather elements.

Keywords: Toponym, geographical names, geographical terms (topoterms), climate, temperature, pressure, wind, humidity, weather.

Introduction. Global geographical names are the product of diverse natural and historical conditions, as well as linguistic evolution. In the Republic of Uzbekistan, including the Khorezm region, place names are remarkably abundant, diverse, rich in content, and historically significant. It is well established that toponyms provide invaluable data regarding an area's past environmental conditions, topography, climate, weather, flora, fauna, mineral resources, and various ethnic groups. Furthermore, geographical names offer crucial insights into historical population migrations, cultural interactions, and the territories formerly inhabited by various tribes and nations.

The accurate naming of any geographical feature has always been a crucial and topical issue. In reality, not all entities on the Earth's surface were assigned names; rather, designations were bestowed only upon places that held specific significance for human activity, possessed distinctive characteristics, or otherwise attracted human attention.

The Khorezm region is situated within the Turan Lowland, in the northwestern part of the Republic of Uzbekistan, on the left bank of the Lower Amu Darya. Due to its uncomplicated topographic structure, distinct physical-geographical features—particularly major orographic objects—are virtually absent in the area.

Unlike other regions of the republic, the local environmental conditions are shaped by its location within lowland and desert zones, which is directly reflected in its climatic characteristics. The region's exposure from all sides and the absence of major terrain barriers facilitate the unobstructed influx of northern, northeastern, and northwestern

air masses. Consequently, the year-round dominance of these air masses exerts a direct influence on the temperature and precipitation regimes, as well as the prevailing wind directions in the area (Table 1).

Another distinctive feature of the Khorezm region's climate is that, under the influence of the Karakum and Kyzylkum deserts, the summer season is extremely hot, while the winter is dry and intensely cold. The region experiences clear, sunny weather for more than 200–220 days throughout the year. According to data from 2020–2024, the annual sum of positive temperatures ranges between 4908 °C and 5823 °C, with the average number of days featuring temperatures above +10°C constituting 230 days.

The highest temperature recorded in the region reached +47,5 °C in 2022. The annual duration of freezing days ranges from 30 to 64 days, with the average January temperature varying between -11,54 °C and -12,10 °C. In certain years, due to the prolonged persistence of cold air masses arriving from the north and northeast (anticyclonic conditions), the absolute minimum temperature drops to -20,2 °C, as observed in 2022.

Table 1.

Seasonal distribution of precipitation in the Khorezm region

(2019-2023-period)

Station name	Winter		Spring		Summer		Autumn		Mean annual precipitation	
	Precipitation (mm)	%	Precipitation (mm)	%	Precipitation (mm)	%	Precipitation (mm)	%	Precipitation (mm)	%
Khiva	20,46	36,4	24,74	44,2	6,66	11,7	4,32	7,7	56,18	100
Urgench	39,84	38,9	45,78	44,7	8,04	7,8	8,74	8,6	102,4	100
Hazorasp	27,78	42,4	31,76	48,6	2,70	4,1	3,24	4,9	65,48	100

Source: Compiled by the author based on data from the Khorezm Regional Center of Hydrometeorological Service.

Concurrently, the atmospheric circulation and air mass dynamics governing winter weather formation in the region can be delineated as follows: southern cyclonic processes account for 25%, northern and northwestern flows for 24%, northern and

northeastern air mass transformations for 28%, western flows for 11%, and other meteorological features for 12%.

The region is one of the most arid areas in the republic, experiencing the lowest levels of precipitation. Consequently, agricultural practices are entirely impossible without artificial irrigation. The average annual precipitation across the region is 74.69 mm, with regional mean minimum and maximum values ranging between 33.3 mm and 115.3 mm. Meanwhile, the potential evaporation rate exceeds total precipitation by 18–20 times. Due to the scarce precipitation in the territory, its seasonal distribution is characterized as follows [3, p. 27]. The average wind speed in the region is 4–6 m/s, blowing predominantly from the northern, northwestern, northeastern, and eastern directions.

It is no coincidence that Khorezm has historically been renowned as a sunny and warm region, a direct consequence of the long-term annual sum of positive temperatures varying between 4900 °C and 5800 °C. Based on this climatic trait, a settlement named Quyoshli (Sunny) emerged in the Yangibazar district; this toponym was established to designate areas that receive abundant sunlight. Concurrently, the regional toponymic landscape includes geographical names such as Urganch, Quyoshli Yurt (Sunny Homeland), Quyoshli O‘lka (Sunny Country), Quyoshli (Sunny), Serquyosh (Abundantly Sunny), Bog‘ishamol (translated from Persian as "Garden of Winds"), Bahoriston, Irdimzon, and Boramiq.

In particular, while S.P. Tolstov asserts that the toponym Khorezm means "Sunny Land" or "Sunny Country," he further interprets it as the "homeland of the Khvarri or Harri (Hurrian) people" and the "land of the sun (people)."

Furthermore, regarding the toponym Urganch, the toponymist A. Nizomov asserts that the component Ur (Gur) signifies "wind" or "breeze," while gand is a modified version of the word ganch in the ancient Turkic language. Thus, as a purely Turkic term, it denotes a "windy city." In this area, winds predominantly blow from the northern and northeastern directions during the cold seasons, and from the northwestern direction during the warm seasons, with an average velocity of 3–4 m/s. Consequently, Gurganch semantically translates to the "city of winds" [4, p. 166]. The current regional center, the city of Urgench, was founded in 1646 by the Khan of Khiva, Abulghazi Bahadur Khan. After the Amu Darya River diverted its course toward the Aral Sea, the city of Gurganj (now Konya-Urgench) was left without water. Consequently, Abulghazi Bahadur Khan relocated the population scattered across Gurganj (Urgench), the city of Vazir, and their surrounding areas, resettling them along the southern reaches

of the Amu Darya. He fortified the newly settled area with fortress walls and named it Toza Urganch (meaning "Fresh Urgench") or Yangi Urganch ("New Urgench") to distinguish it from the former city [2, p. 45]. Following this event, the ancient city of Gurganj became known as Ko‘hna Urganch (Old Urgench). The distance between New Urgench and Konya-Urgench stands at 170 km.

In the Khiva district, there is a village named Irdimzon, a toponym semantically meaning "the Mezon (Libra) constellation has departed" or "the season of Mezon has ended." This signifies that the sun shifts from the zodiac sign of Mezon toward Aqrab (Scorpio), marking the beginning of the eighth month in the Solar Hijri calendar. It is well established that this month is characterized by a significant drop in temperature and cold weather conditions. Therefore, the toponym conceptually serves as a climatic reminder that one should no longer anticipate warm weather during this period.

One of the ancient and still extant place names in the Yangiarik district is the toponym Boramiq. It is appropriate to link this nomenclature with the words bora (wind) and miq (place, settlement) found in ancient Turkic or local dialects, thereby interpreting it as "a place where strong winds blow." In this part of the region, the ten-year average wind speed (2014–2024) stands at 5.2 m/s, with a maximum velocity reaching 26 m/s in 2017, occurring predominantly during the spring and summer months. The term bora is derived from the Greek word boreas and constitutes an international geographical and meteorological term denoting a "strong northern wind" or a "cold downslope wind" [1, p. 12].

Geographical names that have remained unchanged over long historical periods form the foundation of a region's toponymy, as they encapsulate the natural, socio-economic, and ethno-cultural characteristics shaped by the local population throughout their historical development.

Conclusion. Since the terrain of the Khorezm region is predominantly composed of lowlands, the majority of its toponyms are derived directly from the specific characteristics of the landscape. Furthermore, most geographical names in the Khorezm region are intrinsically linked to the area's natural environment, geographic location, topography, climate, weather patterns, hydrography, distinct flora and fauna, and unique soil properties.

References

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