

## THE HISTORICAL AND GEOGRAPHICAL FORMATION OF THE KHOREZM OASIS PLAIN

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**Abstract.** *This article examines the historical and geographical formation of the Khorezm oasis plain, its natural conditions, and the stages of development of its hydrological system. The study analyzes geological and climatic processes of the Quaternary period, changes in the course of the Amu Darya River, and the formation of its branches such as Akchadarya, Dovdon, and Daryalyk. In addition, based on archaeological materials obtained during the Khorezm expedition, the development of early human activity in the region during the Paleolithic, Mesolithic, and Neolithic periods is discussed. The results of the study highlight the significant role of the Khorezm oasis in the formation of early civilizations in Central Asia.*

**Keywords:** *Khorezm oasis, historical geography, Amu Darya, Akchadarya, hydrological system, Paleolithic, Mesolithic, Neolithic, archaeological sites, anthropogenic landscape.*

**Introduction.** The physical and geographical structure of Uzbekistan demonstrates a great diversity of natural and economic regions, each of which has been formed under unique historical and environmental conditions. These regions differ in their relief, climate, water resources, soil fertility, population distribution, and patterns of economic development. Such diversity is the result of long-term geological processes, repeated tectonic movements, climatic changes, and the evolution of river systems.

One of the most remarkable historical and geographical regions of Central Asia is the Khorezm oasis plain. This region has attracted the attention of researchers due to its favorable natural conditions, rich water resources, and its role in the early stages of human settlement. The Khorezm oasis has served as a natural center for economic activity, cultural development, and human adaptation to the environment from prehistoric times. The study of its geographical formation and archaeological heritage allows us to better understand the interaction between nature and society in ancient periods.

This thesis aims to analyze the natural and geographical conditions of the Khorezm oasis plain, its hydrological development, and the role of these factors in the emergence of early human settlements from the Paleolithic to the Neolithic periods.

**Analysis.** Geographical research shows that between 25–10 million years ago and up to approximately 600 thousand years ago, the Khorezm oasis plain was formed within the territories of present-day Khorezm region, the Republic of Karakalpakstan, and the Tashauz (Dashoguz) region of Turkmenistan. The Khorezm plain is geographically

located between the Karakum Desert in the south and west and the Kyzylkum Desert in the east, extending toward the Aral Sea in the north.

The total area of the Khorezm plain is estimated at about 4.5 million hectares, of which nearly 2 million hectares consisted of fertile and well-watered lands. These favorable natural conditions allowed ancient populations to use water, soil, flora, and fauna resources effectively. As a result, the region became suitable for long-term human habitation, agricultural activity, and the development of early economic relations.

During the Quaternary period, particularly in the Pleistocene epoch, the Khorezm plain underwent significant climatic changes. The Würm glaciation, which lasted approximately from 500 thousand to 13 thousand years ago, had a strong influence on the region. During this time, glaciers covered large areas, and the melting of ice, combined with rainfall and snowfall, created numerous water basins among the sand dunes of the Karakum and Kyzylkum deserts. These water basins formed fertile zones rich in vegetation and wildlife, providing ideal conditions for human survival and hunting activities.

Around 22 thousand years ago, the Amu Darya River played a decisive role in shaping the hydrological structure of the Khorezm oasis. Flowing through depressions among sand dunes, the river divided its waters into the right and left banks of the Khorezm lowland. As a result, several important river branches emerged, including Akchadarya on the right bank and Dovdon and Daryalyk on the left bank. These river systems contributed to the formation of major hydrological basins such as Sarykamysh, Akchadarya, and the Aral Sea basin.

With the rise in temperature about 10 thousand years ago and the retreat of the Tethys glaciation toward the north, the Khorezm plain became even more fertile and humid. The river branches actively supplied water to surrounding areas, transforming desert landscapes into productive ecological zones. The Akchadarya River flowed approximately 25 kilometers toward the Kyzylkum Desert and later changed its direction toward the Aral Sea due to natural barriers such as the Yonboshqala elevation. This process led to the formation of the Sarykamysh, Akchadarya, and Aral Sea basins, with a total area of about 50,000 square kilometers, which is considered twice as large as the Nile River basin.

The favorable natural environment of the Khorezm oasis significantly influenced early human settlement. Archaeological evidence obtained by the Khorezm expedition indicates that during the 6th–5th millennia BC, the Amu Darya provided abundant water resources, allowing sand dune areas and elevated zones to transform into water basins. These anthropogenic landscapes supported diverse flora and fauna, making them suitable for hunting, gathering, and early forms of economic activity.

Excavations carried out in the Akchadarya basin, particularly at the Jonbos-4 site near the Yonboshqala ancient monument, revealed stone tools made of flint and quartzite. These tools were processed in workshops using raw materials from the Sultan Uvais

mountain area and date back to the Neolithic period. The findings prove that ancient humans had already developed skills in tool-making and resource utilization.

Further archaeological research conducted by scholars such as A.V. Vinogradov, B.I. Bijanov, and E.A. Vinogradova in the Ustyurt plateau, the Amu Darya left bank, and the Burli-3 site revealed artifacts belonging to the Paleolithic, Mesolithic, and early Neolithic periods. Particularly noteworthy are the excavations in the Shahpakhta basin of the Ustyurt plateau, where numerous settlements ranging in size from small camps to large habitation areas were identified.

More than 200–300 stone tools, including hand axes, scrapers, knives, spearheads, and chopping tools made of flint and quartzite, were discovered at these sites. These findings confirm that prehistoric hunters and gatherers actively used the natural resources of the region until the end of the 5th millennium BC. Despite being studied relatively late from an archaeological perspective, these sites provide valuable information about early human adaptation to the natural environment of the Khorezm oasis.

**Conclusion.** In conclusion, the Khorezm oasis plain represents a unique historical and geographical region formed through long-term geological, climatic, and hydrological processes. Its favorable natural conditions, fertile lands, and rich water resources created an ideal environment for early human settlement and economic activity. The interaction between natural landscapes and human society in the Khorezm oasis played a crucial role in the development of ancient cultures in Central Asia.

Geographical and archaeological studies clearly demonstrate that the Khorezm region served as one of the earliest centers of human habitation, where people successfully adapted to changing environmental conditions. The findings of the Khorezm expedition not only enrich our understanding of regional history but also highlight the importance of preserving and studying such unique historical and geographical landscapes for future research.

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