



## NATURAL-GEOGRAFIK CONDITIONS OF KASHKADARYA OASIS AND ITS INFLUENCE ON IRRIGATION SYSTEM

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**ABSTRACT:** This article describes the natural climate conditions in the Kashkadarya oasis in the second half of the 20th century. It is proved that the favorable geographical climate is the basis for the construction of water facilities

**Key words:** irrigation, agriculture, culture, water, development, irrigation.

The 21st century, with its intensity and scope, leaves a deep mark on the history of mankind. The challenges of finding solutions to the economic, social and environmental changes taking place in the world today are increasing day by day. At the same time, improving the environmental situation, as well as solving the problem of meeting the needs of the population in food products, remain the main tasks for mankind. Providing the population with crop products in our republic requires the development of agriculture, increasing productivity, which in turn requires the development of an irrigation system. At the same time, it is necessary to better understand the climatic conditions, nature and protect the environment. After all... "The food we eat, the air we breathe, the water we drink, the climate that gives life to the planet we live on are all thanks to nature," says the Environment International 2020 agenda [1]. Therefore, the government of the Republic of Uzbekistan pays great attention to the introduction of modern approaches and innovative technologies in agriculture, their modernization, increasing the efficiency of cultivated areas, rational use of land and water resources, and preserving the ecological environment. In this regard, the natural geography of Uzbekistan, in particular Kashkadarya, climatic conditions, water sources in the oasis are of great importance, since they have ensured the development of agriculture and irrigated agriculture here since ancient times.

The Kashkadarya oasis is located in the southwestern part of the republic. The northern border of Kashkadarya runs along the Zirabulok and Ziyovuddin mountains, and the western border - along the heights of Zhargok, Mubarak and Dengizkol. Sand dunes separate the country from Turkmenistan in the south and southwest. The Hissar mountains in the east of the oasis and the Baysun mountains in the southeast separate the country from the Surkhandarya oasis. The climate is continental, winters are relatively mild, summers are long, hot and dry. The main river of the country is the Kashkadarya, its length is 332 km, the catchment area is 8750 km[2].

The climatic conditions of the oasis differ in their characteristics. There is a lot of light and heat here, warm winds blow in summer, daily and annual temperatures change dramatically, there is little rainfall, winters are short, but rather cold. However, meteorological [3] elements are unevenly distributed in the plains and mountains.

The flat and mountainous parts of the Kashkadarya region differ greatly in air temperature. The average annual temperature ranges from 15 degrees in the northeast to 17 degrees in the southwest. The temperature decreases with increasing altitude: in the north to 11 degrees at an altitude of 1000 meters and up to 9.5 thousand degrees at an altitude of 2000 meters [4]. Favorable accumulation of temperature on the plains of the province promotes the cultivation of cotton, including fine-fiber varieties, heat-loving fruits, and a double crop of legumes and vegetables is possible.

River water is mainly used for irrigation. Kashkadarya begins in the form of a small stream from the western part of Mount Hisar (3000 m) and goes into the sands before reaching Mubarak. The oasis of the Kashkadarya river extends to the west between the Zeravshan and Hissar ranges and connects with the sandy-desert lands of the flat right bank of the Amu Darya with the Kyzylkum sands. The lands of the Kashkadarya river basin occupy areas on the western outskirts of the Zeravshan and the slopes of the Gissar Range, which extend from the first watershed of the Kashkadarya and Zarafshan rivers to the Surkhan branch of the Kashkadarya and Amudarya [5].

In the 1950s, the boundary of the Kashkadarya river basin administratively corresponded to the territory of the Kashkadarya region and included 12 districts with a total area of 28.2 thousand square meters. km, including 13,080 sq. km of mountainous areas, 6.4 thousand square meters. 8720 square kilometers of desert.[6] . The soil of irrigated lands is mostly typical, light gray. The Kitab and Shahrishabz valleys have more sandy soils[7].

The surface of the Karshi desert as a whole has a slight slope from the southeast to the northwest, and the largest river of this region, the Kashkadarya, also flows in the same direction. In ancient times, Kashkadarya was located in Zerafshan.

In general, the water management reforms that began in the middle of the 20th century were of great importance in the use of irrigation sources, the regulation of waterways, and the development of new lands in the region. The transition to a new irrigation system allowed for an increase in agricultural production. However, at the same time it created a number of negative situations. Depending on the location of the sites, construction work has also begun where there is no need for hydraulic structures. This affected the decrease in Kashkadarya water, which is a natural source of water.

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