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Description of Natural and Hydrographic Conditions of Kashakadarya Region

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ABSTRACT

This article describes the description of natural and hydrographic conditions of Kashkadarya region, relief and climatic conditions of Kashkadarya region.

Kashkadarya region is a region of Uzbekistan with plains, mountains and sub-mountainous regions and unique natural and climatic conditions. The total length of its borders is 795 kilometers, so 400 kilometers pass through mountain ranges. Its total area is 28.4 thousand km ^{2} , which is 6.3% of the land area of the Republic. Its area is equal to the area of Albania, Netherlands, Belgium and Armenia.

The territory of the province mainly included the Kashkadarya basin; It is surrounded by the Zarafshan and Hisar mountain ranges from the north-east and south-east. Between the mountains and plains are occupied by hills. A large part of the plain consists of the Karshi desert, bordered by Sandiqli and Kyzylkum deserts in the west.

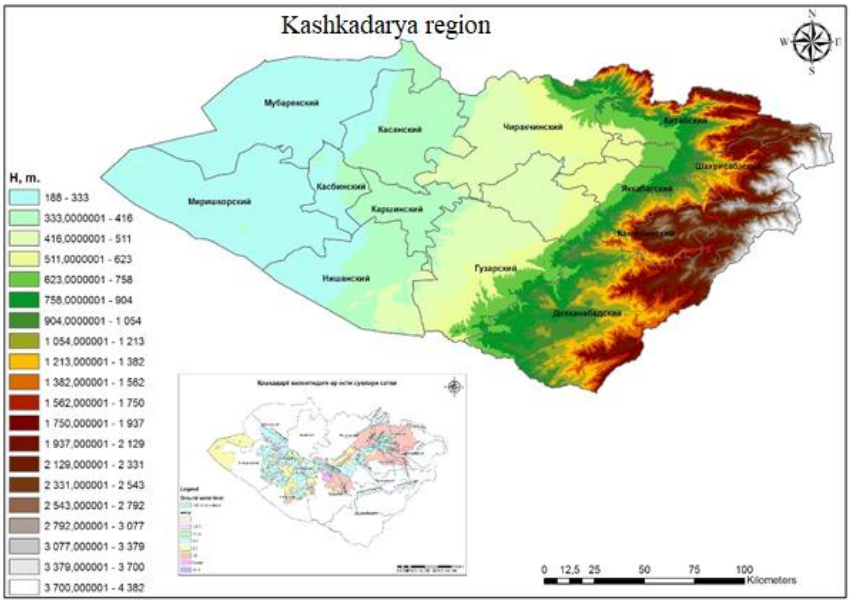
The current relief forms of the earth's surface were formed as a result of the interaction of internal (endemic) and external (exogenous) forces of the earth over a long period of time, and the surface is not uniform.

formed by internal forces in a long "geological process" . On the other hand, small forms of relief - river valleys, ravines, hills, cliffs, etc. - were created under the influence of external (exogenous) forces of the earth. The main landforms of the terrestrial part of the Earth's surface are plains and mountains, with plains occupying 60% of the land area, and mountains occupying 40%. On the contrary, plains occupy 43% of the territory of Asia.

The places where the absolute height of the land surface is more than 500 m are called mountains. The area of the mountains is 67.0 million km ^{2} , which is 13.2% of the entire globe.

The terrain of the Kashkadarya region is quite complex, the surface of the land descends from east to west and turns into hills and then into plains. Approximately more than half of it consists of plains and low-pitched hills (250-500 meters above sea level). It stretches from northeast and southeast to west. It decreases towards the south-west. Karshi Desert, which has a large area, is also located here.

However, in the territory of this region there are some (lower) residual mountains and plateaus. The region is surrounded by mountains from the northeast and southeast. Zarafshan and Hisar ridges, Chakchar mountains rise here. Their highest point reaches 3750-4400 meters. In the easternmost part of Shahrisabz district there are mountain peaks reaching a height of 4100-4400 meters. For example, the height of Gova mountain is 4415 meters. In general, the northern part of Shahrisabz, Qamashi, Dehkanabad, Kitab and Chirakchi districts consists of mountains. There are also relatively high (4400 meters above sea level) places, including in the eastern regions of Yakkabog district. To the north of the city of Karshi is Kongyrtog (517 meters), to the south of the city of Koson, Kosontog, Moymogtog (500 meters), to the east of the Sandigli sand dunes, Oloviddintog (485 meters), in the west of the region, the Jargok plateau (397 meters) and Dengizko. 'l (380 meters) plateau is located. There are a number of deserts such as Qarshi, Nishon, Qarnab, and Malik deserts and Sandiqli sand deserts. The west of Kashkadarya region is connected with Sandiqli sand desert. In addition, you can find shifting sands and barrens here. In the west of the province there is a huge Karshi desert; Although its surface is low (250-300 meters) compared to the Karshi oasis, it has a lot of rough terrain. Dolatlishor , Sho'soy, Okjayronsoy, Shokhtashor, Yonboshshor and other shorkhoks and barrens were formed in the lowlands . The Karshi desert continues to the north and northwest and joins the Qarnab and Malik deserts. The absolute height of the Karnab desert is 250-300 meters, and it adjoins the Ziyavuddin mountains in the north. Descending to the west, it becomes Tashloqqum and Uchqum sand dunes.



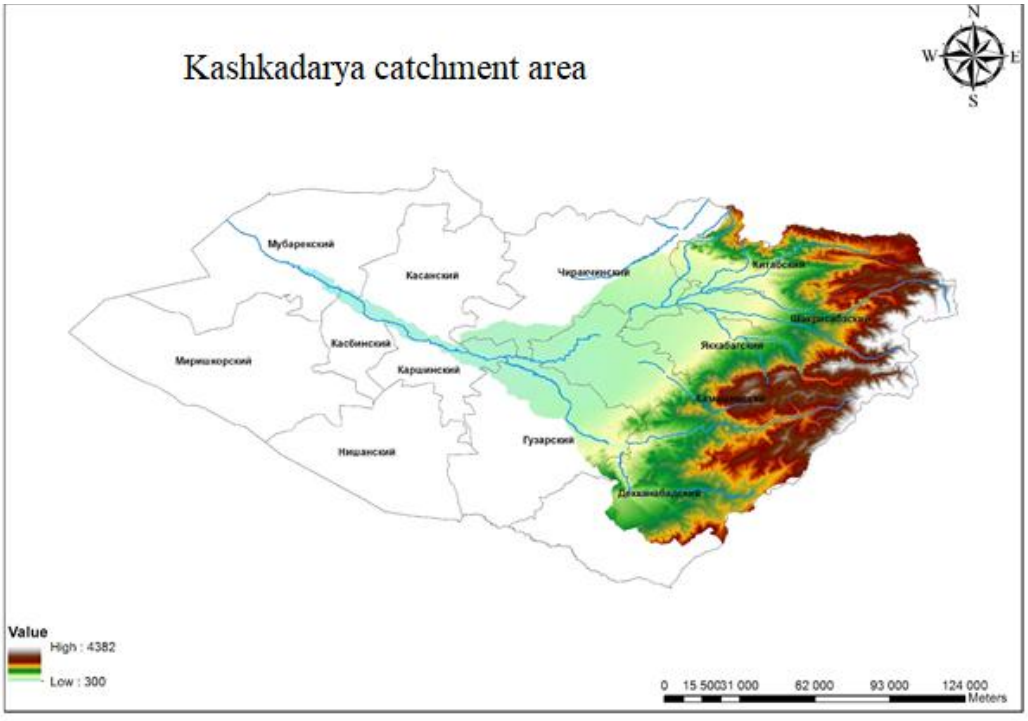
1- picture The terrain of Kashkadarya region prepared as a result of remote sensing.

Karnab desert consists of rocky, barren and salty lands. It goes to the Malik desert in the south. Malik desert stretches 65 km from west to east. To the south of the Karshi desert is the Nishon desert, which consists of plains in terms of surface structure, and plateau-like heights are also found among them. The most important of these heights are Karakir (absolute height 500 meters), Doltalitog (absolute height 514 meters), Oloviddintog (485 meters) and others. As a result of water erosion, Karaqir has been broken up and uneven reliefs, that is, ravines, have been created. For this reason, the natives call the eastern parts of Karagir, which consist of ravines, "Sakson Dara". Thus, the orographic structure of the earth's surface of the region is characterized by a decrease in the direction from north-east, east and south-east to west, north-west. In addition , the Kashkadarya, that is, the hydrographic system of

the same name, the formation of its basin, the direction of the flow, also reflect the relief of the region.

The north-east of the Kashkadarya region consists of mountains and hills, and Chakilkalon mountain, which is considered the western extension of the Zarafshan range, is located in this area. Chakilkalon mountain is mainly stretched along the width, the highest peak is Zebon - 2336 meters. On the Kirqtog plateau west of Chakilkalon mountain, there is a karst process and the deepest Kili cave in Turkestan (1082 meters deep). Chakilkalon mountain ends at Takhtaqorachi (1630 meters) pass, then Karatepa mountain continues to the west. The highest Kamkoton peak of Karatepa mountain reaches 2195 meters. The Samarkand-Kitab highway passes through Tahtaqaracha. Karatepa mountain ends in Jom desert, then Zirabulok mountain begins. Ziyavuddin-Zirabulok mountains were also folded during the Hersian mountain formation stage of the Paleozoic era. Under the influence of weathering process, they were lowered, flattened and broken up by dry streams. Hisar is the highest mountain range in Kashkadarya region. The Hisar Range occurs in the Hercynian fold and is mainly composed of Paleozoic granitic limestones and shales. These hard rocks are exposed in many places, forming steep and rocky slopes and deep gorges. Hisar mountain system consists of several ridges. The most important of them are Hazrat Sultan, Chakchar mountains. The highest peak of these mountains is Hazrat Sultan, which reaches 4643 meters. Botirboy glacier (length 2.2 km, area 3 sq. km) is located in these mountains. There is also Mukhbel mountain at an altitude of 3209 meters in the Hisar ridge. Shortog and Suvsar mountains begin in the north-west and west of the Hisar ridge. To the east of the Chagchar mountain is the Boisun ridge. Mountains such as Beshnov and Eshakmaydon stand out. There are hills in the lower part of the mountains overlooking the Kashkadarya region. Hills surround the plain part of the country from the east. Kitab-Shahrisabz bog is located between Zarafshan and Hisar mountains. Such a variety of the region's relief justifies the possession of unique natural resources, and the internal territorial division of labor causes the formation of climatic conditions.

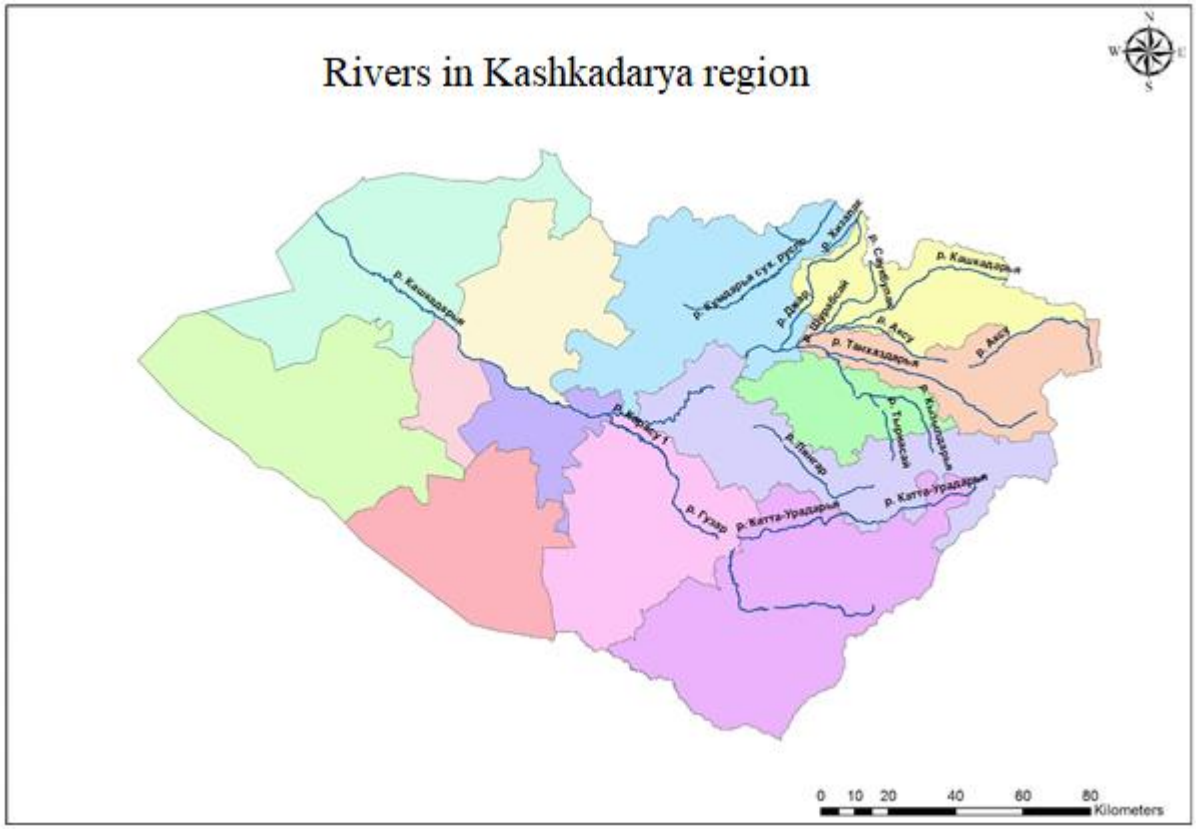
Hydrography is a branch of hydrology that studies terrestrial water bodies (rivers, lakes, reservoirs). Hydrography studies their location, size and mode, distribution of water bodies in separate natural-historical and landscape-geographical zones, economic importance and their use (shipping, etc.). Hydrographic information is important for development of water bodies for transport and energy, drought, flood control, development of land reclamation, etc.



2 pictures. Kashkadarya catchment area

Kashkadarya natural geographical in the district land over waters inside the most important are rivers . In the district 20 km long from more than 33 of them the river existing and within them e ng the older one It is Kashkadarya .

Kashkadarya Hisar of the ridge Rock pass from nearby starting , Mubarak without enough to the sands absorbed goes _ It is mountainous in the part narrow in itself fast flows , Aksuv tributary from added after valley expanded to the plain After leaving , Tankhoz , Yakkabog'daryo , Langar , Guzordaryo such as its tributaries adding takes _



3 pictures. Kashkadarya river and its tributaries

While Kashkadarya is fed by snow water, its tributaries Jinnidarya, Aksuv, Yakkabog and Tankhoz are fed by snow and glacier water. Because in their basin there are small glaciers with a total area of 20.3 square kilometers (Shuls).

The 57-km-long Jinni Daryo starts from the springs between the Okota and Sherdog mountains of the Hisar ridge. It is snow and ice from melting saturated , the water is March- June months increases .

Lameness Hisar is 115 km long in the ridge Heroboy and Seversev from the ice starter Heroboy with Housekeeping of its tributary from joining to the body will come It is snow - glaciers from melting is satisfied .

Tankhozdarya It is 104 km long , Hisar in the ridge From Ghazikol beginning , the melting of snow and land under from the waters is satisfied .

Yakkaboghdaryo Its length is 108 km _ of the ridge south - west from the side begins . It's snow from melting saturated , 61.6 % March- June months flows _

It is 68 km long Guzordarya Chakchar from Mt begins . It's snow from melting and land under from the waters saturated , average yearly water spending - 5.90 m ^{3} sec _ and 63.9 % of it is March - June months flows _

tears natural geographical in the district land under of water big have a reserve . Here _ quaternary period beds from among coming out waters to drink valid is the present at the time population and

animal husbandry water with in providing important role is playing Of these except Cretaceous , Paleogene period beds from among healing hot mineral waters found _

The territory of Kashkadarya region is located in the southwestern part of the republic, and its northern and western parts are not protected by mountain barriers. As a result, cold air flows from the north and west (from the Karakum desert), very hot air masses coming to the region from the north cause a continental climate. Summer is hot and long, winter is short and cold, spring is relatively wet. As you move from the desert to the mountains, the climate changes. The amount of positive temperature is up to 4900-5000 °C, the amount of effective temperature is up to 2519-2980 °C, and the duration of the non-cold period is 213-233 days.

The first autumn frost occurs from October 14 to November 2, and the last spring frost occurs from March 16 to 25. From March 21 in the zone of typical gray gray soils and from March 14 to 19 in light-colored soils and desert soils, the stable average temperature will be around 10 °C.

In typical and light gray soils, the daily average temperature of the growing season is 22.9-24.5°C, and in the desert zone it is 25.3°C. In the lower foothills of the Kashkadarya River, the average July temperature is 28°C in the ancient delta of 31.6°C. The maximum temperature in these regions rises to 47-50°C. Average relative humidity during the growing season ranges from 33-49%. In July-August, the relative humidity of the air drops to 22%, and during the day it drops to 15%, which causes heavy air to dry (harmsel) with increasing wind.

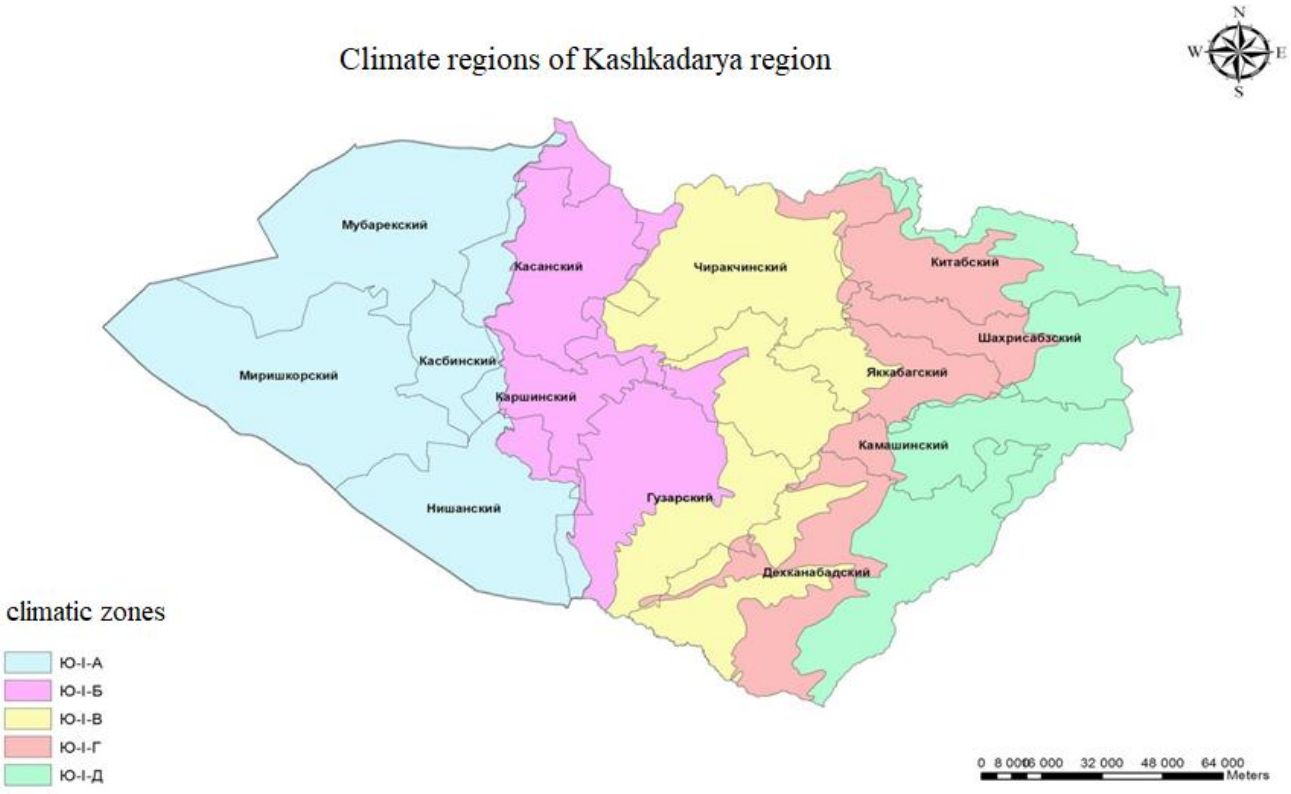


Figure 4. Climate regions of Kashkadarya region card

The wind is characterized by an easterly direction in summer, and medium winds with a speed of 2-4 m/sec in winter. Strong winds are observed in the desert. The number of days with a wind speed of 15 m/s and more is 6-7 days here, and 10-12 days in the north and northwest.

Ve geta s iya and unconventionally, 1110-1580 mm and 294-401 mm, respectively, with evaporation from the water table. Therefore, during the growing season , there is a large moisture deficit of 970-1540 mm. The vegetation period is 290-300 days in the plains. The last taxonomic unit of soil-melioration zoning is the division of soil in the form of the same or different soil-genetic complex.

Summary. In the future, climate change will lead to a sharp decrease in water resources during the

summer, as well as an increase in lakes formed by melting ice in mountainous areas. These lakes have a natural dam and may cause unexpected floods in the mountainous areas in the future.

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