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LAKES AND THEIR FORMATION: AYDAR-ARNASOY LAKE SYSTEM.

Abstract. The article contains information about the methods of lake formation and the history of the Aydar-Arnasoy lake system in the territory of Uzbekistan.

Key words. lake, Mirzachol, Kyzylkum, Tuzkon, Aydar-Arnasoy lake system (AALS)

Introduction. Lakes are water bodies located far from the sea, filling depressions on the surface of the earth. These depressions are called basins. The lakes were formed as a result of water flowing into the lower areas. They are filled mainly by rain and snowmelt. Water enters the basin through streams, small and large rivers, underground springs and groundwater. It is found in all climatic and landscape zones of the Earth - hot, temperate and cold, with a lot of rain or in arid regions. Depending on whether the water flows out or not, flowing and non-flowing Lake, according to salinity, fresh, brackish, salty and very salty (bitter) Lake, according to the chemical composition of salts, hydrocarbonate and carbonate (HSO_3+SO_4), sulfate (SO_4), divided into chloride (Cl) Lake. The shape and size of the lake changes as a result of siltation and formation of banks.

Methodology. Lakes actively influence the state of nature. They can manage surface runoff, that is, collect water in wet periods of the year and release it to rivers in dry periods, and collect mineral and organic substances that are repeatedly recycled during limnic processes that flow from the catchment with surface and underground water[1].

Hydrological indicators, physical and chemical properties of water, in turn, life activities determine the conditions of development of aquatic animals and plant organisms, which have a significant impact on the natural complex of the lake. In this case, Lakes appear as a complex ecological system reflecting the characteristics of their location.

Lake basins are formed in several ways. For example,

1. Lakes were formed as a result of cracking and deformation of the earth's crust.
2. Sometimes volcanoes are the cause of the formation of lakes - the flow of lava can block the flow of water in valleys and form a basin.
3. Sometimes the crater of an extinct volcano is filled with water.
4. Many lakes occupy basins formed as a result of glacial erosion.
5. On the coast, waves and coastal currents sometimes separate narrow bays from the sea, and over time, bays and river bottoms form lakes.
6. Sometimes the main flow of the river can collect sediment (mud and soil) during the flood and build a valley for itself. As a result, tributary valleys fill up and form lakes. In places where there is limestone under the soil, groundwater dissolves it and carries it away, resulting in the formation of lakes in the place of large underground cavities.
7. In addition, lakes can be created artificially. If a dam is built on a river, it will block the flow of water and result in the formation of a lake.

There are about 250 lakes in Uzbekistan. They are mainly located in the Syrdarya and Amudarya valleys, the Khorezm oasis and the Amudarya delta. According to classification, there are 2 types of lakes in Uzbekistan: 1) mountain, lake, 2) plain Lake

The greater location of lakes in mountainous regions depends on climatic and morphological-hydrographical characteristics, because mountains serve as moisture accumulators that form the flow of rivers.

Due to the uneven distribution of lakes in the territory of Uzbekistan, the extreme diversity of the main natural factors (climate, relief, geological structure

and flow) affecting their damage. It was formed as a result of the dryness of the climate of the plains, where large lake areas in the plains, a large number of flowing river waters are formed, and adjacent to the more humid mountains.

Typical representatives of Tekislik Lake: Arnasoy lake system, Dengizkol, Sudochye, Zarafshan and the lower part of Kashkadarya. Plain The lake is located in the banks of rivers and around irrigated areas. Recently, the plain has been affected by the pollution of all Lake collector-drainage waters in the region. Some non-flowing irrigation-waste Lakes, whose water supply is mainly due to runoff from irrigated fields, are in particularly unfavorable conditions. The bed and bed of some non-flowing lakes move from time to time.

Results and discussion. The Aydar-Arnasoy lake system in the territory of Uzbekistan is a large closed lake in the north-eastern part of Uzbekistan, located in the territory of Jizzakh and Navoi regions. Lake Arnasoy is considered an artificial water reservoir in the system of lakes.

Here, if we take a look at the history of the Aydar-Arnasoy lake system (AALS), before the development of Mirzachol, the place where the lake was formed, in the Aydar salt marsh, consisted of a 20-30 cm layer of salt. deposits were available. Later, as a result of the exploitation of Mirzachol, the lake gradually began to appear as a result of the discharge of water from the ditch. The volume of the lake increased due to the water released from the Chordara reservoir in 1969, when there was a lot of precipitation, and since then the water volume has been 21 km^3. In 1969, due to the release of 20 km^3 of water from the Chordara reservoir, the water level of Tuzkon lake (which used to supply the population with salt) rose by 10 meters, the water level of Aydar lake rose by 22 meters, and the total area of the lake system was 2172 km^2. organized. According to the data, the lake occupied the large Aydar salient at the same time

Haydarkol (also known as Lake Haydar and Lake Aydar) is a lake at the Himalayan foothills of the Nurota range. Haydarkol was created in the late 1960s mainly due to excess water flowing from the Chordara reservoir in South

Kazakhstan. The lake is located in the territory of Jizzakh and Navoi regions. The northern shores of Haidarkol are adjacent to the Eastern Kyzylkum.Until 1969, small salt lakes and salt marshes were common in Haidar shorkhogi (bog). Some scientists consider Haidar shorkhag to be an ancient riverbed of Syrdarya.

Due to excessive rainfall in 1968-69, a part of the Syrdarya flow (about 21 km^3) was discharged through the Chordara Reservoir and Arnasoy into the Aydar bog, because the Syrdarya basin could not contain so much water to discharge into the Aral Sea. it was Haydarkol (Lake Aydar) was formed in this way[2].

Tuzkan is a saltless lake located in Forish District of Jizzakh Region. Tuzkan is the second lake in Uzbekistan after Aydarkul. Arnasoy belongs to the system of lakes and occupies the eastern part of Kyzylkum desert.

Aydar and Arnasoy lakes, formerly known as Tuzkon, are united and are called the Aydar-Arnasoy lake system. These lakes are the fourth largest in Central Asia. Experts say that the water collected in this system of lakes is two times more than the volume of water in all reservoirs in Uzbekistan. Currently, the total area of the Aydar-Arnasoy lake system is 370,000 hectares, its length is 190 kilometers, and its average width is 21 kilometers. The deepest part is 30 meters, the average depth is 7 meters.

Aydarkol is fed by the flow of Akbulok in Jizzakh region, the Qili discharge of the Sangzor river, Chordara reservoir and the Central Mirzachol discharge flowing into Arnasoy.

Groundwater flowing into the negative part of the water balance of the Aydar-Arnasoy lake system is also included. They come from Nurota mountains, Kyzylkum desert, Mirzachol and Shardara reservoir. The water balance is the amount of precipitation that falls on the surface of lakes for a relatively large part of the inflow side. Due to the fact that the Aydar-Arnasoy lake system stretches from west to east, the amount of precipitation slightly increases from west to east. The output part of the water balance of lakes

consists of water that evaporates from the water surface and water that seeps into the ground.

Summary. Thus, in 1969, during the severe winter season, thick snow fell and in March, snow melt formed in the area of the texel, and in the same year, a certain part of water was released from the Chordara reservoir, and it appeared as a result of the water leaving the banks of the Syrdarya. This Aydar-Arnasay lake system is now turning Kyzylkum into a swamp.

The "Pearl of the Desert", that is, the Aydar-Arnasoy lake system, located in the territory of Jizzakh and Navoi regions, is distinguished by its unique nature, living flora and fauna. One end of it stretches over the desert, steppe and hills of Arnasoy, Zafarabad, Mirzachol and Farish districts of Jizzakh region, and rests on the deserts of Nurota district and Qizilqum of Navoi region.

Seeing the huge Aydarkol lake in the middle of the desert is a surprise for every tourist. On the shores of Aydarkol, you will see blooming tulips and acacia, water birds, storks and pelicans. People come here to relax from civilization, to fish. Not far from the lake there are resorts where you can stay in comfortable houses, ride camels, visit archeological sites.

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