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VIEWS OF CENTRAL ASIAN JADIDS ON HYDROLOGY AND CLIMATOLOGY

Abstract: *The Jadid movement, which emerged in Central Asia in the late 19th and early 20th centuries, played an important role in the development of many sciences and disciplines. The activities of the Jadid progressives fell into a backward social position; the number of fanatical religious scholars increased, and coincided with the years of Russian colonialism. They tried to achieve scientific, educational, cultural, political, economic development in their works and developments. He has done great work for the enlightenment of the people, bringing in scientific achievements, new and modern scientific teachings, developed in developed Europe and Muslim countries. This article analyzes the ideas and views of the advanced Jadids and hydrology and climatology reflected in their works.*

Key words: *Central Asia, Jadids, hydrology, climatology, geography.*

Language: *English*

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Introduction

In the late nineteenth and early twentieth centuries, as in the rest of the world, in Central Asia, unique new views, ideas and opinions became widespread. Attempts to abandon theories developed on the basis of old and mythical teachings are intensifying. Doctrines based on modern factual information and scientific conclusions have evolved. New scientific findings, especially from geography and the natural sciences, have changed perceptions of the world [1, p. 176].

These rapid changes and innovations in the world's natural sciences have not escaped the attention of the Central Asian Jadids. They were well aware that the time had come to change the geographical views built on old and mythical teachings. Jadid developers first of all began to introduce modern geography and education in the education system, enriched with new and modern theory. As a result, geography education was established in Jadid schools. New geographical textbooks have been published [2-3, pp. 144-152]. New and modern knowledge in the fields of hydrology, climatology, geomorphology, regional natural geography has led to the emergence of geography as a more relevant science.

The activities of the Central Asian Jadids, the ideas and views promoted in their works have been studied by many representatives of the field [4-6, p. 400; 7-10, p. 324; 11-12, p. 126; 13-14, p. 238]. However, in numerous studies, the views of the Jadids on geography, natural sciences, hydrology, and climatology have not been studied by researchers. From this point of view, this work shows its relevance.

This article analyzes the views on hydrology and climatology promoted in the geographical works created by the Jadids of Central Asia in the late XIX - early XX centuries.

Materials and methods

The views of the Central Asian Jadids on hydrology and climatology are reflected in their geographical works and popular science articles. At the beginning of the 20th century, the Jadids published more than 5 geographical works, created about 10

maps, and published about 30 popular scientific articles. It is obvious that this topic under study has rich material and information.

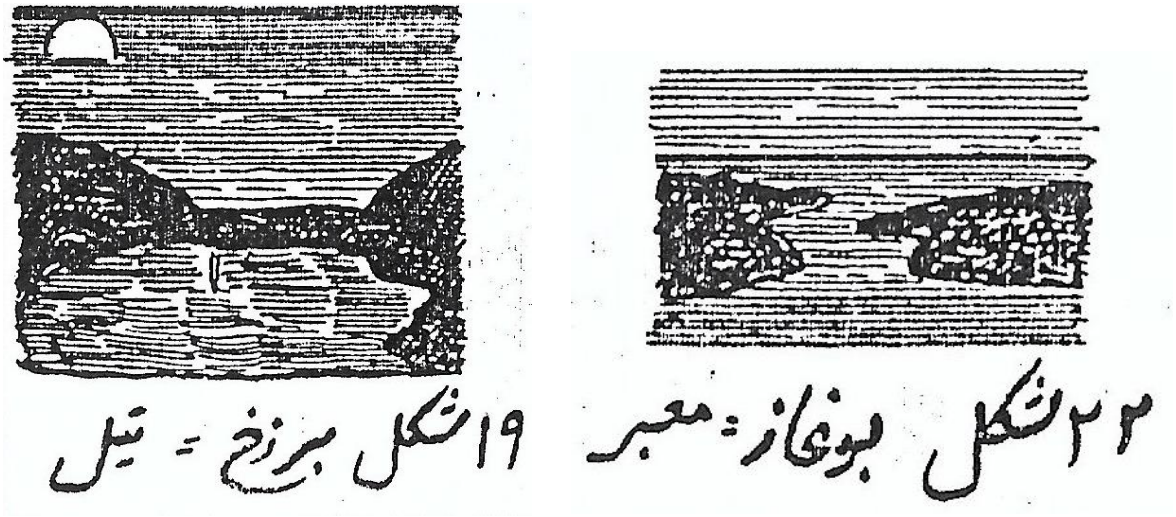
The theoretical and methodological foundations of this research were formed by the need for a systematic and sectoral study of the ideas and views promoted in geographical works, maps and articles. The following methods were used to solve the research tasks and prove the hypotheses:

- geographical analysis of works, maps and articles, to determine their content, comparative analysis of research devoted to their study;
- selection, systematization and generalization of information, ideas and views on hydrology and climatology presented in works, maps and articles;
- to analyze, evaluate and make the necessary recommendations on the current scientific and social significance of information, ideas and views on hydrology and climatology, etc.

Results

Information on hydrology and climatology Mahmudkhoja Behbudi's "Brief General Geography" (1906), "Brief Geography of Russia" (1906), "Travel Memories" (1914-1915), Munavvarqori Abdurashidkhonov's "Adib-us Soniy" (1907), "Earth"(1908).

The work "Brief General Geography" is a masterpiece of Mahmudhoja Behbudi and consists of 106 pages. It contains a number of ideas on hydrology and climatology, as well as general issues of geography. Textbook: introduction; The meaning of the word "geography"; "When did geography appear?"; "When the earth turns, the ones above do not fall"; "Evidence and Form of the Water Crust"; "Eclipse statement"; "Lunar Eclipse Statement"; "Air shell"; It is divided into many topics, such as "The flow of the seas" [15-16, pp. 220-222]. There are also topics about the canal, the seat, the seasons, the condition of the water.



Pic.1. A brief description of the armpit and throat in "A Brief General Geography"

Mahmudkhoja Behbudi describes a number of hydrological facts in his book "Travel Memories", which is the product of his journey from Samarkand to Cairo in 1914. Behrudi, who travels by sea from Beirut to Yofah, sees the cities of Saydo, Akko, Haifa, Caesarea, and Arsuf on the shores of the Aegean Sea from afar, recalls the stories told by passengers about the horrific hurricane processes in the sea, and records valuable information about sea hurricane processes. According to the law of lunar eclipses, there will be strong storms at the beginning and end of the month [15-16, p. 104]. Indeed, the Moon and its gravitational force have a certain effect on the nature of the Earth's surface, especially on every point of the world's oceans. There is a rising wave on the ground, which is well visible in the oceans and seas. The gravitational force of the Moon and it is always directed towards the Moon, i.e. the zenith. However, the magnitude of this force varies from place to place. Within a month, the relative positions of the Earth, Moon, and Sun change. In Sisyphea (i.e., when the moon is renewed and during the period of the full moon), the lunar eclipse coincides with the solar eclipse, i.e., coincides with a time. The resulting waves are 40-50% larger than the squares. At this time, strong storms and hurricanes are observed on the ocean and sea shores.

Munavvarqori Abdurashidkhonov in his work "Adibus soniy" also touched upon the date system. Cites a source of accurate knowledge about the days of the year, month, and week. The measurement of time, the system of knowledge relating to calendars, is described in a simple and understandable way. For example, the play says about the calendar: "*There are two different calculations of the year. One is called sanai shamsiya (Year of the Sun). The second is calculated from the appearance of the moon. This is called the lunar year* [17, p. 84].

Munavvarqori Abdurashidkhonov in his works "Adibus soniy" and "Yer yuzi" clearly and correctly approached one of the most pressing problems in the

study of geography today - the world ocean and its division into parts. He spoke of the world's oceans, *saying that the seas are divided into five parts: the Great Pacific (Atlantic), the Atlantic Ocean, the Indian Ocean, the Arctic Ocean (Northern Ice) and the Marine Ocean (Southern Ice*) [17, p. 99]. Indeed, it's called such zoning of the world's oceans is now reflected in the geography education of the developed countries of the world. This indicates that the author is well acquainted with foreign literature on geography and has a high geographical outlook.

The play also provides knowledge and insights about the seasons. It provides phenological information about the seasons, the division of the seasons into months, as well as some natural geographical processes and the vegetation period of plants, atmospheric precipitation.

On a topic called "Air," he writes about air. *The earth is filled with a body called "Air" (a mixture of gases - B.E.). ... The air itself is invisible to our eyes because it is a colorless, clear, soft body. Every human being, every animal and every tree on the earth lives in this air"* [17. pp. 95-96]. This definition of air is fully consistent with today's information and descriptions. It is also noteworthy that the content of the data reflected during the course is aimed at revealing the fact that the air is the basis of existence in nature, as well as the laws of the integrity of natural geographical complexes.

While thinking about clouds in the play, the author also draws attention to the large and small circular motions of water in nature by trying to explain the process of condensation of water vapor in the air. According to him, *"As the sun warms the seas, lakes, and rivers of the earth, the waters in them evaporate and rise. The vapors from these waters raised a few calm (distances) from the ground and then joined together and thickened. . . . We call these gatherings of clouds"* [17, p. 96].

Munavvarqori Abdurashidkhonov's work "Earth" is also rich in generalized views on hydrology and climatology. "Er Yuzi" is one of the first textbooks on geography for grades 3-4 of Jadid schools, first published in 1908. The work was discussed among geography teachers in Turkestan, supplemented and corrected in 1915 on the basis of their suggestions and comments, republished and adopted as a program and textbook for all schools, and even used until 1928 [18, p. 15].

In the subject of this work, entitled "Waters", along with the classification of hydrological objects, one can also see their specific definitions. While writing about the river on this topic; "*A stream is a spring that rises from the mountains, snow and rain, and joins together to form a mighty stream*" [18, p. 99], he said. In fact, the rivers start in the mountains and the source is close to the watershed. Rivers in Uzbekistan are fed mainly by mountain snow, glaciers and rainwater. There are also detailed definitions of the *World Ocean, bay, strait, sea, lake,* and *canal*.

The play provides information about the rivers and lakes on each continent and the seas around it. In particular, there is information on the geographical location, source, position of about 30 rivers, about 20 lakes.

Discussion

If you analyze the works, maps and popular science articles of the Jadids of Central Asia, you can see that the issues of hydrology and climatology are described simply and fluently. Their descriptions of hydrological objects are characterized by the originality of the description of climatic concepts.

New information reflected in the geographical works of the Jadids was able to change the views of the local population on hydrology and climatology. Up to this time, no data based on concepts such as rivers, lakes, seas, bays, straits, clouds, air, lunar eclipses, and specific evidence on the physical properties and properties of water have been provided. These concepts are taught on the basis of myths.

Conclusion

We have recognized their views on hydrology and climatology in the example of the great figures of the Jadid movement and their major works. As far as we know, the study of the written heritage of the Central Asian Jadids is not without its benefits. Because this sacred and inviolable heritage is rich in valuable, factual information and important generalizations about the history of hydrology and climatology.

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