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## **SOME OPINIONS ON THE ISSUES OF STUDYING GLATIO TOURISM IN UZBEKISTAN**

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### **ABSTRACT**

In this article, some ideas on the study of glaciotorism in the mountain glaciers located in the parts of the mountain ranges above 3000 m in the territory of Uzbekistan are highlighted.

### **KEYWORDS**

Glaciotorism, mountain range, Hercynid, Western Tianshan, Hisar, moraine mounds, erratic kharsang, exaration, trough valley, subglacial, postglacial, glacial.

### **INTRODUCTION**

To clarify the reasons for the current state of mountain glaciers and their hydrological and geoecological role in nature among the general public, it will be more effective to carry out explanatory work on the extent of glaciers in ancient times. Moraine heaps left by ancient mountain glaciers, erratic rocks, traces of erosion, and unique aspects of trog valleys can be interesting objects for deaf tourists. But it cannot be

said that their natural state is always preserved as it is. The plains forming the Chunonchi Sarito'kai urochishcha and the moraine heaps preserved in its northeastern part have become invisible against the background of the construction of farm buildings and barns established by the local population. In fact, these natural landscapes are studied as an interesting glacio-

tourist object. We believe that its protection should be raised to the level of the current demand.

### **The main results and findings**

The following interrelated scientific results were achieved during the solution of the investigated research work.

- Mountain glaciers of Uzbekistan are one of the most studied natural geographical components of the region. However, the history of its study has not been analyzed in any scientific work on the basis of aspects. Therefore, in this study, the history of the scientific study of the mountain glaciers of Uzbekistan was formed based on 13 aspects. As a result, it became clear that not only mountain glaciers are completely unexplored from the point of view of ecotourism, which is rapidly developing on a global scale.

- The geographical distribution and location of the mountain glaciers of Uzbekistan was further enriched based on the data obtained as a result of the natural geographical laws, natural observations conducted in the field and the analysis of scientific literature. As a result, on the basis of orotectonic, geomorphological, climatic, and phytogenic laws, specific aspects of the previously known natural geographical laws related to geographical distribution and location of mountain glaciers were studied. In particular, a hypothesis was put forward that mountain glaciers may have existed in low (more than 2000 m) hertsinides, such as Nurota, according to some signs.

- The fact that the mountain glaciers of Uzbekistan were formed in close connection with the basic surfaces of the region has been scientifically proven for the first time. Therefore, it was noted that the mountain glaciers are located in the Western Tianshan, Hisar ridges, along the first-order basal surfaces that

make up their upper parts, in the manner of natural geographical law. It was noted as a geomorphological law that in the areas occupied by the second and third order basalt surfaces, trough valleys, moraine mounds, and erosion traces, signifying the retreat of mountain glaciers, have a geographical distribution. On the basis surfaces of the fourth order covered by the isobasite curves, there are very few geomorphological elements due to glacial retreat, but the natural geographical conditions of this area are still developing under the influence of mountain glaciers, which was proven by their mapping.

- by analyzing the average multi-year air temperature and precipitation recorded by existing weather stations in the mountainous region of Uzbekistan and comparing these data to previously known scientific hypotheses, as a climate product of mountain glaciers every 5 6, 8-9-12, 19-20 and even larger multi-year cycles have been identified. At the same time, it was studied that the average perennial rainfall has not changed over the next half century, while the average perennial air temperature is increasing. After this situation, the catastrophic situation of mountain glaciers in our time was revealed. The fact that this process is taking place against the background of climate laws was scientifically substantiated with the help of drawings and graphs.

- It was studied that the geography of the mountain glaciers of Uzbekistan is closely related to phytogenic laws. As a result, the progressive and regressive states of mountain glaciers were reconstructed by means of 1000-2500-year-old relict fir species, which are partially preserved in our time, and are reflected in the dynamics of the flora of the region, including the upper and lower limits of mountain spruce forests. The obtained scientific data showed that 1000-2500 years ago, the scale of mountain glaciers was several times

larger compared to the current state. This situation was presented to science as an important scientific natural geographical basis.

- The geographical distribution of the mountain glaciers of Uzbekistan is clearly reflected in the geography of glacionyms in the region as a result of research. The scientific term "glyatsionim" was used for the first time in the content of the research work and applied to science.

- For the first time in science, "glaciotourism" was noted as an important and promising branch of ecotourism, and its scientific basis was created. Existing glaciotourist objects in the region are classified and mapped on the basis of three groups: "subglacial", "postglacial", "glacial".

### CONCLUSION

- Based on the geography of these glaciologist objects, ecotourism routes were developed, and according to the degree of exploitation, they are divided into four groups, such as "very simple", "simple", "complex" and "extremely complex" that there is a possibility of implementation on the basis of which was scientifically substantiated with the help of cards. The description of the existing species was given based on the proposed classification. This situation proved to be an important scientific basis for evaluating the practical value of the dissertation.

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