

# Biogeographical features and recreational opportunities of natural resources of the Talas region, problems of their use

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**Abstract.** Were studied the Biogeographical Features of Natural Resources and their conditions for the development of Tourism in the Talas region. Have been studied the Features of Natural Components for Tourism development. Have been identified Priority objects and conditions for the development of Tourism in the territory under consideration. The main factors taken into account are Geomorphology, Orography, Climate, Biodiversity, Natural Resources. Based on a study of the needs of recreationists, were identified the main Tourist Sites to attract Potential Consumers to this territory. Based on the Material Base and Infrastructure of this Territory, identified the problems of tourism development, which taken as the basis for the sustainable development of tourism in the territory under consideration. The Sociological Research conducted made it possible to identify priority areas for the development of tourism in this region. Given are Recommendations for the Rational Development of Tourism in the Talas region, which will serve as the basis for the development of this area and will increase the economic well-being of local residents.

## 1 Introduction

Recreational and Tourism Activities are one of the priority areas for the development of the economy of Kyrgyzstan. Its development serves as the Basis for the preservation of natural riches with the least impact on Natural Components. To achieve balanced Environmental Management, an analysis of the natural potential for recreational purposes should be carried out.

The territory of the Talas region with its Natural and recreational Resources was taken as the main object of study.

In its structure, the territory resembles a triangle with a peak in the East, Talas and Kyrgyz Ala- Too in the East, coming closer to form the mountain node Ak- Suu. To the west, the valley expands and in the Northwestern part, it borders on the semi-deserts and deserts of the Turan Lowland. Within the Talas valley and mountain frame, the following geomorphological complexes can be distinguished: mountain, foothill-plain and plain, which enhance the contrast of the territory for tourists.

Talas region covers an area of 13,406 km<sup>2</sup> of the northwestern part the Kyrgyz Republic

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and borders Republic of Kazakhstan in the northwestern, Chui region in the east and Jalal-Abad region in the south. The average population density is 19.0 people per one km<sup>2</sup>. The administrative center is the city of Talas [1].

## 2 The relevance of research

The recreational potential of different territories depends on a set of factors, including geographical location, natural features, ecological state of the territory, etc.

To stimulate tourists, research should be conducted to assess the terrain, the characteristics of natural conditions, and the presence of recreational facilities, which are not only a stimulating factor, but sometimes act as inhibitory components [2].

The study area is one of the intermountain depressions of a semi-closed type. The valley is open only to the northwest (where there is a natural access to the territory of Kazakhstan along the Talas River valley) and extends in the latitudinal direction for a distance of 140 km. This territory of Kyrgyzstan is one of the least visited regions of Kyrgyzstan by tourists. This is completely unacceptable given its characteristics. It boasts many interesting attractions and gives tourists a lot of impressions. This is a region where you can find long-awaited solitude among high mountains.

## 3 Formulation of the problem

**The purpose of this research** appeared characteristics of the Natural Environment of the Talas region, which is the basis of Tourism, and suggest further ways of their use.

To achieve this, included the following aspects:

- conduct an analysis of the terrain, taking into account possible recreational services;
- study the natural and climatic features of the territory that affect vacationers;
- identify the main attractions of interest to potential consumers of recreational services.

**Materials and methods research.** For rate modern Statistical data processing, cartographic method, empirical and theoretical analysis were used to study the state of natural resources.

## 4 Theoretical part

The biogeographical feature of the Talas region is subject to the eastern features of the relief of the territory of the valley of the same name, located along the bed of the Talas River. The lowest altitudes (700-800 m) observed in the west, north-west near the village Suulu-Maimak and Manas. To the east, the height increases and at the Chat Bazar reaches 1400 m, and upper reaches of Karakol and Uch-Koshoy 2000-3000 m. The geographical position of the valley on the northwestern edge of a powerful mountainous region, proximity to the Moyunkum deserts and semi-enclosure by high mountain ranges determine the relatively dry climate and unique of Natural Conditions [3].

Climatic conditions have sharp differences between the winter-spring and summer-autumn seasons. The coldest month of the year is January. Winter at the bottom of the valley is moderately cold with an average January temperature of 6.1-8.0 °C and lasts 3-5 months [4].

With altitude on the mountain slopes, the January temperature drops to - 15-18 °C, and winter is getting longer. Absolute minimum temperatures in January drop to - 38-40 °C, although significant thaws also occur when the temperature rises to 8-10 °C. Such thaws are associated with the penetration of cyclones from the south [5].

The conditions for the formation of Biogeographical Features depend on its Climate, Orographic Structure, Geomorphology, etc. On the territory of the valley, two hydrological regions distinguished the region of runoff formation and the region of runoff dispersion. The use of hydrological features is a stimulating factor influencing visitors to a given area.

The Talas depression is asymmetrical with respect to the Talas River. Its left bank is three times wider than the right bank (see Fig. 1).

More than 250 rivers, rivulets and streams more than 10 years long are formed here . km [3] . Most of them (225) are in the river basin. Talas, the rest belong to the river basin. Kurkur oo , the right component of the river. Assa. The main water artery of the region is the river. Talas , which is formed from the confluence of the Karakol and Uch-Koshoy rivers (see Fig. 1).

On the territory of the region there are about 70 lakes with a total area of 1.9 km<sup>2</sup>, many of which are small (from 0.02 to 0.1 km<sup>2</sup>, high mountain, of glacial and dam origin: Since all the lakes are flowing, the water has little mineralization.

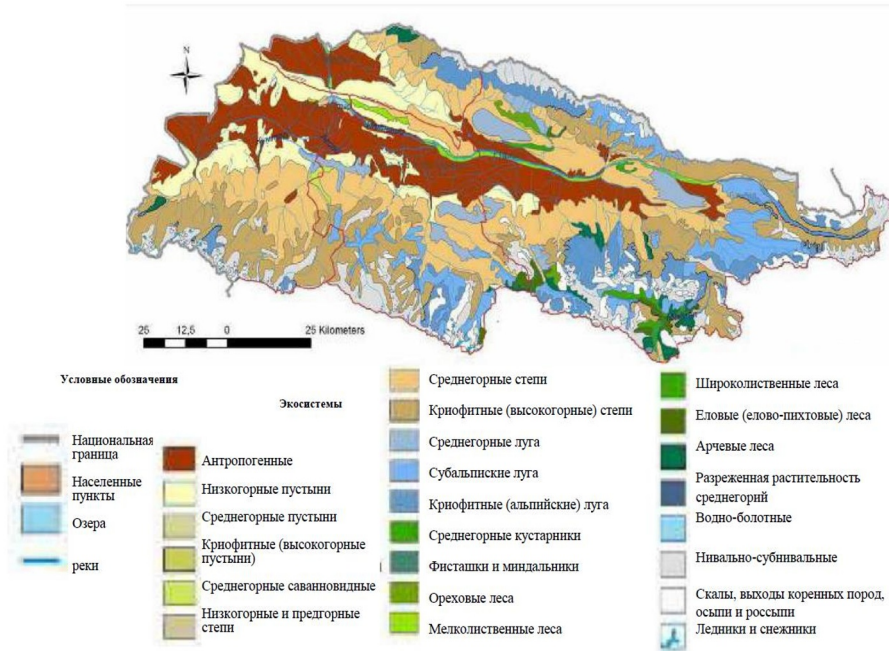


**Fig. 1.** Administrative division of the Talas region [6]

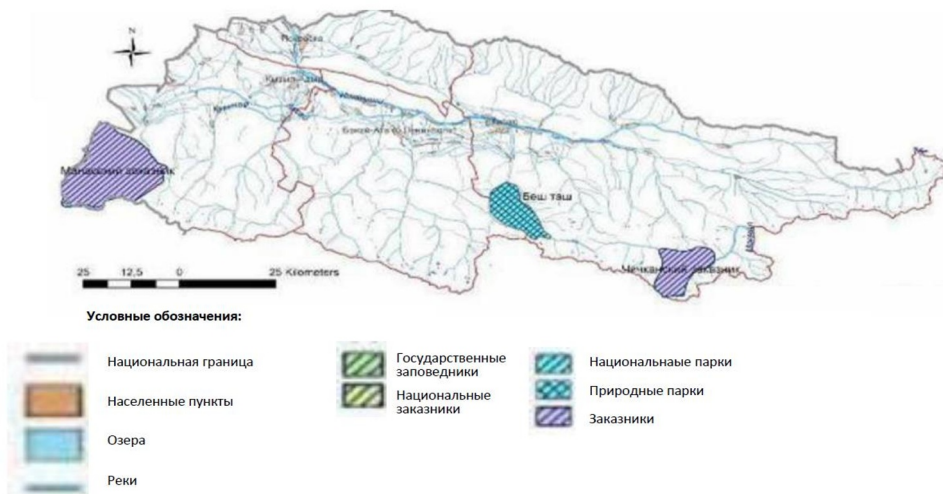
There are 281 glaciers on the territory of the region , with a total area of 164.7 km<sup>2</sup> of which 210 glaciers have an area of more than 0.1 km<sup>2</sup>, the area of the rest is 5.4 km<sup>2</sup>. The Manas Glacier, the largest in the Talas Valley, is located in the upper reaches of the Urmamal River, a tributary of the Tabylygyty River, the right tributary of the Urmamal. The height of the snow line on the glaciers of the Talas Valley ranges from 3180 m to 3800 m [7].

Water bodies are one of the main factors in the formation of landscapes and increasing their attractiveness. In order to rationally use the waters of the Talas River, the Kirov reservoir with a capacity of 550 million m<sup>3</sup> was built. Its water is used by farmers not only in the Talas region, but also in neighboring Kazakhstan [8,9].

The distribution of vegetation cover is subject to the law of vertical zonality. Desert vegetation is found at absolute altitudes of 700-1200 m. The vegetation cover dominated by wormwood. The vegetation cover dominated by wormwood - this is type as the Tenirtoov, Alatau acantholimon, Zhambyl kopek, and prickly sainfoin. Steppe vegetation is common in low and middle mountains at altitudes of 1300-2300 m. The Alpine belt is the main habitat for such indicator species as the Tien Shan argali (listed in the Red Book of the Republic), ibex and red marmot.



**Fig. 2 .** Landscapes of the study area [10].



**Fig. 3 .** Map of protected areas [10]

To protect Forests and Biodiversity, there are two protected sites - the Kara-Burinsky Reserve and the Besh-Tash State Natural National Park, which intended to preserve Landscapes, Water Bodies, Cultural And Historical Monuments of the region (see Fig. 3 ).

One of the tools for Sustainable and Multifunctional Forest Management and Biodiversity Conservation is the integrated forest management plan, which takes into account the interests of all stakeholders (Forestry Enterprises, District and Regional Administrations, Aiyl Okmotu, District Registers, Local Population, NGOs) on joint Forest Management based on partnership and decision-making on equal rights.

The valley is home to 42 species of mammals, 165 species of birds, 14 species of reptiles,

3 species of amphibians and 18 species of fish. Quail, partridge, pheasant, duck, pigeon, duck, hawk, rabbit, red marmot, wolf, fox, mountain goat, hawk, pig - the main objects of commercial and sport photo hunting [16].

**Table 1.** Areas of the state forest fund [10]

No	Forestry enterprises	Date of last forest inventory	Area, ha	Forested area
1	Talas forestry	1997	37862	7058
2	Bakai-Ata forestry enterprise	1997	33284	10039
3	Manas forestry	2000	20303	1617
4	Kara- Burinsky forestry enterprise	1997	24022	5775
	Total		115471	24489

Along with the above monuments, in the Talas region there are the mausoleums of Manas and Zulkupor of the 10th-14th centuries. The mausoleums of Ozake, Arzymat, Zhabagy, Baiboto, Shaybek and Zhankoroz are typical of the late 18th and early 19th centuries. Great personalities of the valley buried here.

Currently, in the Talas region, out of 16 economic entities in tourism in the region, only one company, legally registered, was idle and practically did not carry out tourism activities. Of the 23 travel agencies and tour operators in the region, which served 732 tourists, the amount of revenue from them amounted to 3.4 ml. soms, which is 0.2 % of the total revenue in the republic [2].

Kumbez Manas is the most interesting architectural monument of Central Asia of the 14th century. According to legend, the mausoleum, unparalleled in beauty and size, was built for the beloved husband of the faithful queen. In order to protect the treasures buried by Manas, Kanykey ordered a complex inscription on the mausoleum, which states that the bride buried here.

In addition to historical sites, the territory is attractive with a number of natural sites of interest to visitors - the Talas Valley, the Manas Mausoleum, the Besh-Tash Nature Reserve, Lake Besh-Tash, the Kirov Reservoir, the Ancient Kenkol Cemetery, the Museum of the Writer Ch. Aitmatov and a number of reserves (Talassky, Maimak, Karabuura). Here we can highlight recreational resources of local, republican and international significance and group them into two types - natural and historical and cultural resources. Natural resources include beautiful landscapes, endemic and relict species of plants and animals, waterfalls, natural sculptures, etc., while historical and cultural resources include historical, architectural, archaeological and cultural monuments located within the valley.

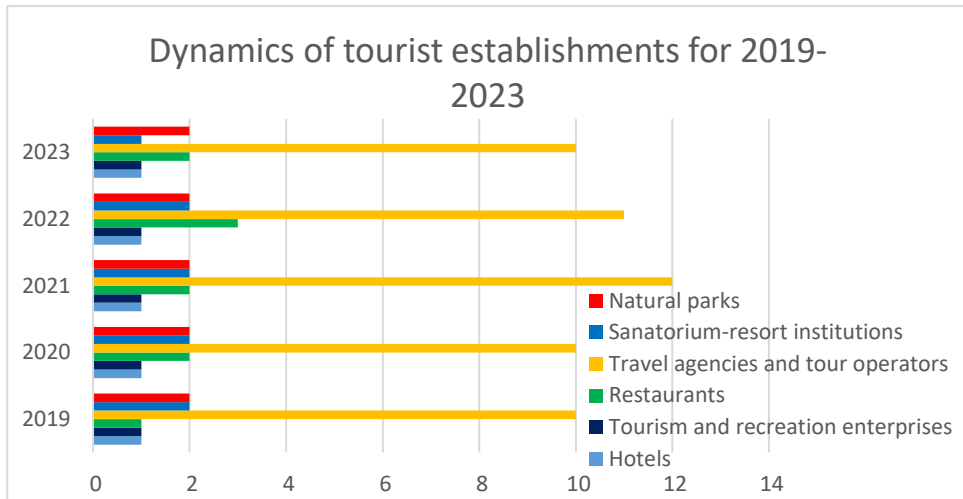
## 5 Practical significance, suggestions and research results

To determine the tourism potential of the territory under consideration, the material base of tourism was analyzed - such as hotels, recreational enterprises, etc., as well as infrastructure - transport accessibility, restaurants, customs procedures, etc. As can be seen from table 2, the number of registered enterprises in 2023 and the Talas region increased by four units and reached 36 in 2023. At the same time, the number of hotels in the region increased by 4, the number of restaurants increased by 3, reaching 197 in 2023, the number of sanatoriums and resorts, as well as natural parks and reserves remained unchanged (see Fig. 4). In addition, the volume of business and services of enterprises and organizations working in the tourism sector is increasing.

**Table 2.** Dynamics of changes in organizations working in the field of tourism in Talas in 2019 - 2023. [13]

Name	2019	2020	2021	2022	2023
Go from a teenager	23	25	thirty	32	36
Tourism and recreation enterprises	1	1	1	1	1
Restaurants	119	148	194	194	197
Travel agencies and tour operators	10	10	12	eleven	10
Sanatorium-resort institutions	3	3	3	3	3
Natural parks	2	2	2	2	2

**Source:** Statistical collection: Tourism in Kyrgyzstan in 2019 -2023. // Annual publication. - B., 2024. - pp. 23-24.



**Fig. 4.** Schedule of changes in the number of tourist establishments.

According to tables 3, 4 and figures 5 and 6, the main consumers of natural conditions are mainly tourist sites, domestic tourists, who account for 73 % of tourists, as well as the share of tourists from abroad and the CIS countries. They are almost the same and amount to 14 % and 15 %, respectively.

The vast majority of holidaymakers are responsible for visiting relatives and friends (44%), 42% of visitors come for leisure and tourism, and a small number come to the area on business and tourism - at various conferences, seminars, etc.

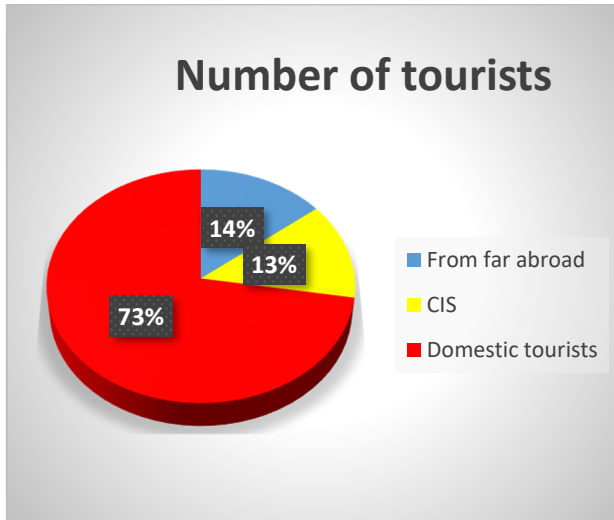
At least this area connected to many tourist attractions. Many experts in the field of tourism point to the lack of tourist destinations and the low level of tourism infrastructure [14,15].

**Table 3.** Number of tourists in Talas region (compiled by authors)

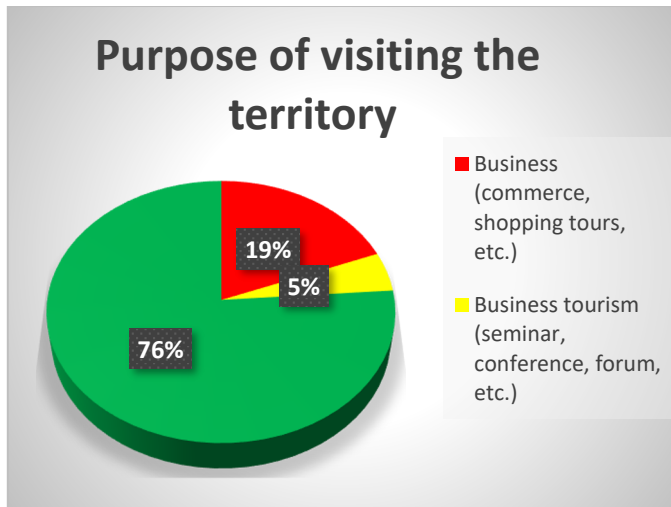
No.	From far abroad	CIS	Domestic tourists
Number of tourists	14	13	73

**Table 4.** Purpose of the visit of the respondents (compiled by the authors)

Name	Recreation, tourism	Business (commerce, shopping tour, etc.)	Business tourism (seminars, conferences, forums, etc.)	Visiting relatives/friends
Share of tourists (%)	41.7	11.1	2.8	44.4



**Fig. 5 .** Tourist ratio (compiled by authors)



**Fig. 6 .** Goals of tourists (compiled by authors)

According to a survey of foreign tourists, the vast majority of respondents are safe in the region. However, every thirteenth foreign tourist did not feel safe. It should be noted that tourists using tourist packages (96 %), feel safer than tourists traveling independently (88 %). In addition, almost all wealthy participants said that they would recommend this area to

friends, relatives and acquaintances to visit. It is necessary to distinguish between the media that influence the structure of information about the tourist interests of the region.

**Table 5.** Problems with attracting tourists (compiled by the authors)

No.	Name	Tourists from CIS countries	Tourists from far abroad
1	There were no problems	18.6	5.3
2	Lack of information about the resort	11.4	18.9
3	High prices	15.7	4.8
4	Environmental and recreational pollution	34.3	23.7
5	Domestic transportation	12.3	15.8
6	Customs procedures	12.5	8.8
7	Customs procedures	50.5	51.3
8	Customs procedures	4.1	16.5
9	Lack of comfort	21.4	20.4
10	Low maintenance environment	21.5	23.5

Every second foreign tourist surveyed from the CIS countries, and every fifth from other countries, noted the poor condition of the roads - lack of comfort during travel and a relatively low level of service 32.9 % of foreign tourists face language problems. Tourists from far abroad noted the impossibility of paying for tourist services in cash (16.5 %) - by card. All three Tourists from the CIS complained about the pollution of Nature and Recreation Areas.

## 6 Conclusion

The region under consideration has important Biogeographical Conditions for stimulating the Economy of the Region, especially the Tourism Sector. However, there are still shortcomings that need to be addressed at the government level, and comprehensive measures need to be taken to strengthen them.

The given characteristics of the object under study indicate that the region is rich in Biological and Natural Resources and has difficult conditions for the development of Tourism. Their further participation depends on the policy of using local government resources.

The Infrastructure and Material Base of the study area not developed at a sufficient level, the development of which will provide the basis for stimulating the flow of Tourists to this Area.

Analysis of existing tourism objects indicates a sufficient variety of Natural Conditions, Tourist and Historical Complexes of the territory.

The study of tourist flow indicates the lack of awareness of Tourists about existing Tourist Sites and the inhibitory factor identified is the remoteness of these sites from major Tourist Centers.

The main factor for the development of Tourism of the studied object is Transport accessibility and improvement of the Material Base and Infrastructure for Recreation.

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