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**THE EXPLOITATION OF NATURAL AND ANTHROPIC
TOURISTICAL POTENTIAL IN CĂLIMAN AND GURGHIU
VULCANIC MASSIFS**

Ph.D THESIS

-Summary-

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INTRODUCTION

In the introductory part to this paper, we intend to present the study and the importance of the chosen theme, also to justify the study structure while following a logical course of the chosen subject, as well as revealing our way to achieve the established objectives and explain our choices. The analysis of the zone regards its structure, its functions and its evolutionary analysis in terms of basic principles, namely: the principle of spatial distribution, the principle of historicism, the principle of geographical integration, the causality principle and other principles such as: the principle of regionalism, the principle of sociological and anthropic principle. The methodology applied in the study will be primarily appealing to specific literature sources which will be complemented by field examination, the analysis of photographic material, data analysis as well as the analysis of the carto-topographic material. The second chapter will combine the carto-topographic material with the specific literature (for the historic area research) resulting in a map of the area regarding its location and its boundaries.

The climate data that is to be interpreted here is taken from weather stations of Rățițiș (Căliman Massif) and Bucin (for Gurghiu Massif) and their processing will be done by carto-specific analytical methods. This chapter will attempt to assess the climate conditions for tourism, taking into account the characteristics of various weather elements. The monthly indices, especially the frequency of extreme elements, offer a prime indication, but for revealing the real climate conditions it is necessary to take into account the daily frequencies or even schedules of more climatic elements. The indices used here can be transposed into a map allowing us to divide the area based on the climatic- touristic conditions.

The hydrology section will contain data referring to topography, specific literature and field observations along with data referring to drain flows collected from the meteorological stations of: Stânceni, Toplița the Mureș Răstolița Toplița and the rivers with the same name; a map river will be attached. For vegetation, fauna and reservations in the area will be studied literature corroborates field observations, photographic material and data from the Environmental Protection Department (Nature Programme 2000), Căliman National Park Administration, Rhondodendron ecologic association. The chapter will address the potential anthropogenic tourist field observation and literature with photographic material. A map regarding the anthropic objectives of the area will be drawn. For infrastructure, one will proceed by analyzing data from the forest districts, the Park Administration and Rescue on

existing forest roads and marked trails. To all these, some personal observations will be added. For the accommodation, the main types of hosting will be determined, questionnaires will be applied, data analysis and field observations will be added.

Thus, the present study structure includes nine chapters, starting with an analysis of the concepts of tourism potential and tourism recovery, taking into account the definitions of people skilled in this particular domain. The next chapter presents an overview of the area that is to be analyzed.

The tourism potential of both natural and anthropogenic mass is contained in a single chapter, but treated separately in subchapters such as potential morphotouristic and types of landscapes, climate tourism potential, tourism potential of the hydrography of rivers, standing and underground water; vegetation, fauna, protected areas and projects for new protected areas and tourism potential anthropogenic where I tried to find archaeological artifacts, religious, cultural, economic, but also to study the rural side of customs, habits and trades.

Chapter four focuses on tourist premises, completing the previous chapter. After we have displayed the objectives, I looked for modalities to enhance their value, some through the arrangements already made or due to be made and the types and forms of tourism that is practiced in the two massifs. The study seeks the tourism planning in the mountain area, then the resorts of the massifs, which are outside the study area but in its area of influence; planning land within protected areas with the main types of activities that can take place here, and I tried a description of the tourist facilities in rural areas because I believe that they will be the future of tourism in these two massifs.

The analysis of the material and technical base has been divided into two sections namely specific tourist material base where, besides the tourist accommodation, other components have been addressed: the entertainment, the catering, the treatment and the technical material background including the means of transport: road, rail, air, forest roads and marked trails.

The study on the tourist traffic was quite poor on the basis of questionnaires on the spot. Most conclusive data were gathered in the Bucin pass and the Borzont locality.

The penultimate chapter deals with the two mountain massifs in terms of geographical and touristic boundaries, but only after reviewing the specific literature and a map of the tourist regions will be attached.

I tried thus to achieve, through the proposed structure, an analysis of the official data and those obtained through field surveys, development of a unified and coherent study upon touristic activities of volcanic massifs Căliman, Gurghiu.

1. CONCEPTS OF TOURISTIC POTENTIAL , TOURISTIC RECOVERY

This chapter is based on the geographic literature, in it I tried to highlight the different opinions of specialists regarding the concept of tourism potential as treated extensively in many works that have addressed the tourism geographically, while the specialists in this branch of geography were naturally interested in the extent to which geographical parts of space are capable of generating a tourist attraction.

There have been numerous definitions given as tourism potential, the authors try to outline the scope of that concept on the one hand and to define the concept sometimes used by others with similar meanings in the scientific literature such as fund tourism, heritage tourism, resource tourist attraction tourism, etc..

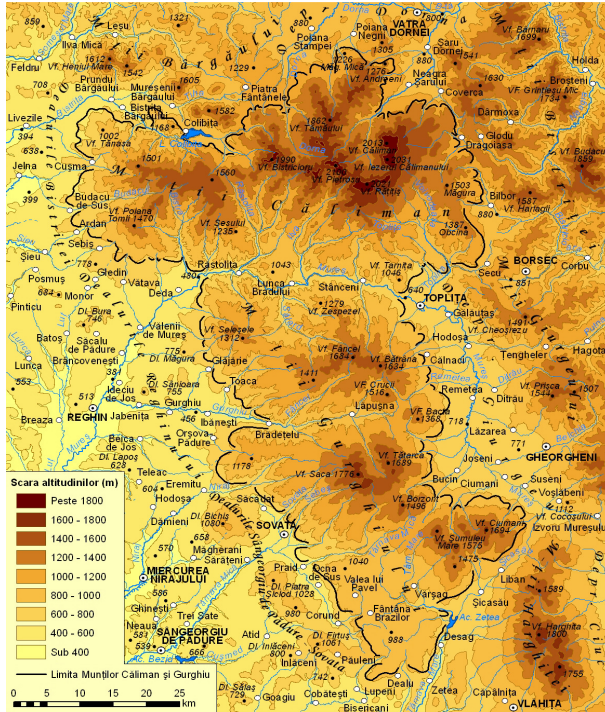


Fig.1. Limits of massifs Călimani and Gurghiu

2. VOLCANIC MASSIF CĂLIMANI, GURGHIU-GENERAL CHARACTERS

After an interruption caused by the penetration of spur crystalline (Rodna), the volcanic chain reappears in the South of Transylvanian Bistrița (Transylvania) and it stretches from the south of Dorna Depression far beyond the Olt pass from Tușnad, on a length of 150km and a width of 25 - 50km (Fig. 1).

Gurghiu and Călimani are included in the younger group out of the Romanian mountains, now extinguished craters about 1.8 to 5,000,000 years, which were formed in the Pliocene Superior. Intense Neogene activity led to the emergence of huge accumulations of lava spread over a length of 450km (of which 375 in Romania).

This group is characterized by high altitude (2100m The Pietrosul Peak - Călimani, the Saca Peak 1776m – in Gurghiu, and The Harghita Peak reaching 1800 m in the massif bearing the same name). In this sector there are numerous aligned volcanic cones, partially destroyed by erosion, but mostly because of collapses that led to opening of huge calderas with diameters between 4 and 13km.

Both are characterized by massive and deep narrow valleys, sparsely populated, high peaks and passes without well-defined roads. To these may be added the massive isolation and wilderness. Sometimes these days you can walk on mountain trails without encountering any trace of man even in summer time.

3. TOURISTIC POTENTIAL OF VOLCANOES MASSIFS: CĂLIMANI, GURGHIU

This chapter includes morphological background, climatic and tourist potential; fund conservation, tourism, lake and river system; biogeographic tourism fund, and the potential anthropogenic (cultural-historical) addresses cultural and historical sights and rural material and spiritual culture.

Morphologically with attractiveness Fund

The tourism potential of the relief on the volcanic rocks is characterized by volcanic specific morphological forms, caused by volcanic eruptions, which over time have been shaped by various factors modelers.

This subchapter includes geographical descriptions of the two massive volcanic, after an analysis of the main peaks. Such relief is noted *interfluve* - intense jagged, crowded in modeled volcanic, *the plateau* - busy stack of lava flows, *central caldera* - surrounded by steep slopes and the dome that dominates the plateau in the Căliman mountains. And in the Gurghiu massif, natural setting is found in two steps: *the lava set*, volcanic piroclastite wide corrugated (800-1300m) and *volcanic bold* (1500-1700m).

They are also treated the main *types of relief*: periglacial (crionival) relief met only in the mountains Căliman, the only volcano massif which bears the print of Quaternary glaciation, whose traces have been preserved in areas with greater massiveness and where sunstroke was lower.

The presence of andesites in the highlands has led to a greater variety of gelifraction development and a lower one to those gelifluction development. Among the periglacial landforms, the most common are those that fall into residual, accumulation and mixed relief. In regions in which hardboards fossilize andesites have occurred columns on the Southern flank of Hungarian Negoiu, "Gruicul City". Beautiful and curious aspects of the relief found in the residual Tămău (1861m) - Lucaciu (1770m) located in the West of the caldera, has the appearance of a convex ridge, interrupted by vertical walls. Appear-looking rock towers or pyramids, like towers, bridges, waste of great heights that once dominated the plateau. They kept a cliff with fantastic shapes - mushrooms and stone walls, such bizarre figures as sphinx grouped around the Tihu peak, on the Southern flank, or scattered on Ciungetu and especially in the cities of stone Călimani between Tămău and Lucaciu. The sector has a length of 15km, is the Northern extension Pietrosul a lofty promontory to Vatra Dornei – Tamaului City , Dragons of Red Rocks, Twelve Apostles (Marshall, The old man, Martyr, Ramses II, Gate Harlem) and Lucaciu (Gusterita, Camel) with similar ruiniform relief of "statues".

The aggregation relief includes storage buildings detached from the decomposed slopes formed in situ. After the blocks frequency and their aspect, two categories were awarded: dispersed blocks and debris.

Assessment of touristic potential of the main peaks in the massifs Gurghiu and Căliman

Based on the criteria described in the literature: 2003, when Candea Melinda et al; 2006, Ielenicz M., Laura Comanescu tried the highlighting the touristic potential of peaks with a high, medium, or low interest for the activities development through a grid value. The analysis includes a grid based on nine criteria of the landscape. Each criterion has won three performance levels on which the tip has been analyzed between 1 and 3 points with the following values: low interest, medium and high. Thus among the elements that target the natural characteristics of peaks and of interest to tourism were considered: altitude, slope, panorama, ruiniform landscape, protected area, trails, settlements, access and development.

A. Altitude

Many tourists cross mountain paths having as a goal climbing the main ridges and peaks that give rise achievement and satisfaction in addition to the complex and varied panoramic view. Analysis of peaks (Chart 1). Was made after two massive tourist maps at a scale of 1:100.000 and 1:60.000 in the comments field:

B. Steeps

The presence of steep slopes contribute to the aesthetic value of landscape giving spectacular note. They are important for tourism in general, but especially for sports tourism, adventure - in the massif Căliman paragliding is practiced. Steep vertical walls are also important as we meet them on the Pietrosul Căliman peak, Lord's seat or in the Tătarca - Saca crater. The analysis takes into account the presence or absence of vegetation in their frame, peaks with *steep walls completely devoid of vegetation*, were noted with high tourist

Valoric classes of massifs peaks: Căliman,
Gurghiu

Chart no.1 .

Nr. Crt	Clasa valorică	Masivul	Număr Vârfuri (aprox.)
1.	800-1200	Căliman	34
		Gurghiu	42
2.	1200-1600	Căliman	87
		Gurghiu	63
3.	1600-2102	Căliman	34
		Gurghiu	9

interference – they are not considered to be an impediment for other recreational sports activities; *partially covered with vegetation steep peaks*, denoted with medium touristic interest and *steep peaks covered by forest* denoted with a low touristic interest. The two massifs have peaks of the following kind - access to top Secu (Căliman) is impeded by forest vegetation, as well as the main peaks of the Gurghiu Massif (Fâncel, Batrana, Borzont, Tătarca). Peaks Pietrosul Bistricior, Străcior, and Reșițiș Strunior are peaks were driven by Quaternary glaciation, so that slopes are present and no vegetation, and were calcsified to the high tourist interest range.

C. Panorama

Opening horizon / panoramic view directly linked to the altitude criterion, but separately treately because the tourist is a landscape consumer and the main peaks of a mountain massif, located somewhere in the alpine (because the good visibility is stopped by the forest vegetation) are belvedere points from where one can admire the landscape of surrounding lands. I considered such “bare” peaks with an 360 ° horizon opening of high interest (most of the peaks of Căliman mountains) between 180-360 ° environmental interest, and less than 180 ° of low tourist interest . 20 of the analyzed peaks give the tourists a panoramic view of 360 degrees on sites, 14 of them are in the mountains Căliman and the remaining 6 in Gurghiu. In conditions of good visibility Ceahlau can be seen from the top Rășițiș mountains and, during autumn days, Fargaras massif can be seen from Pietrosul.

D. Ruiniform Landforms

The presence of the ruiniform relief near the peaks is another criterion applied to the quantifing of the potential attractiveness of the two mountain tops. There were noticed peaks of great touristic interest (12 Apostles, Red Rocks, Tămău, Tihu, Gruiu, Călimani Stag-Căliman), of average interest (Zespezel, Elder, Seleşele, Goat Rock - Gurghiu), or of low interest (Fâncelu , Tisieu, Cireselu - Gurghiu; Sărăcin, Lord's Chair Chicera Bird, Bradul Ciont, Orban's Stone - Căliman). The variable of this criterion being the ruiniform forms distance from the main peak.

E. Protected Area

Integration of the peak in a protected area, an important criterion in terms of sustainable tourism because tourism involves the necessary facilities for the practice of ecotourism. To the peak tourist attractiveness is added, in practice, the attractiveness and importance of that area itself. I considered peaks of low tourist interest the ones *included in a national park*, of medium interest the ones that are *part of a protected area* and of high tourist interest the ones that *are the reservations themselves*. Those who were not classified in any of these criteria have not received points. There is a single peak from Gurghiu massif that

can be analyzed in terms of this criterion, namely peak. Saca Mare, together with VF. Tătarca constitute a reserve, so that was also noted with high tourist interest. The rest of this massive peak could not be included in any stage of this criterion value. But in the massive Căliman, because of National Park, 10 of the peaks analyzed are included in low tourist. Six points are the average tourist, making them part of the park that belongs to a protected area (Peak Rățiș, tree Ciontos juniper tree, part of the reserve and Pinus cembra) and the remaining peaks (5) are, themselves, protected areas - vf . Hillocks / 12 Apostles, Chair Lord's Chicera Bird, stone cap, Raven Rock.

F. Marked touristic trails

The existence of marked trails that pass through the top, is another criterion which aims to develop tourism. As we set the speed value: 1-2 trails - low tourist interest, 2-6 average tourist interest, tourist routes and 6-12 high tourist interest. Peaks that do not pass any route were not noted. Most touristic routes pass through the top of the foot and its Pietrosul (historical journey of Maria Theresa) peaks dominate the rest passes through only one route (9), five points with two paths that cross, 3 of 3 routes and a single peak with four routes. So that 10 points were classified with reduced attractiveness for tourists, 9 average attractiveness (Căliman deer, tree Ciontos, Tihu, Gruiu, Bistricior, etc..) in terms of this criterion and 2 with high tourist interest (Rățiș, Pietrosul). The mountain peaks Gurghiu out of 14 are considered of low tourist interest here intervening the high degree of massive afforestation, three points are of the average tourist interest and only two are considered of high tourist interest: Batrana si Saca Mare.

G. Places

An accessibility criterion refers to the number of localities as starting points to the mention top: a single town - tourist fell between 2-4 cities - average tourist tourist locations and more than 4 high. From Table 1. analysis shows that the peaks of mountains Gurghiu only one can be approached from seven different localities-Batrana, then two of the six localities Saca Mare and Stancile Mari, others 3: Muchia Fancelui, Fancelu and Săleșele of five localities of the two peaks Zespezel and Pavel localities and two from a single locality. Thus according to the criterion we have two peaks of low tourist interest, six of the average tourist and 10 peaks of high tourist interest. In Căliman massif, reports are changing, so we have 10 tourist tips of low average interest, five of average interest and six of high tourist interest (Vf.Diecilor, Rățiș, Călimanul Cerbului, Mnceilor, Hungarian Negoiu, Pietrosul).

H. Accessibility

Also regarding the availability and type of means of access to the mentioned peak: walking is of low tourist interest. Cycling is the average tourist interest, and the car is of high tourist interest (Rățiș, Diecilor). In the Gurghiu mountains, the studied peaks are available only on narrowed marked trails, but perfect for hiking. So they will be included in tourist decreased interest. Even in Gurghiu massif, peaks of low tourist interest are dominant (13), followed by those of average tourist interest (5): Srăcior, Bistricior, Strunior, Pietrele Rosii, Munceilor, Orban's Stone.

The main peaks of Gurghiu Mountains having touristic attractiveness

Chart no.2 .

Peak	Alt. (m)	Steep	Panorama	Ruiniform relief	Protected areas	Trails	Locality access	Access	Facilities
Tisieu	-	-	-	-	0	-	-	-	-
Cireşului	-	-	-	-	0	-	-	-	-
Săleşele	/	-	/	/	0	-	+	-	-
Zespezel	/	+	+	/	0	-	/	-	-
Măgura Mare	/	-	/	-	0	-	-	-	-
Piatra Caprei	/	+	+	/	0	-	-	-	-
Culmea Luminată	/	/	-	-	0	-	/	-	-
Moiţa	/	+	+	-	0	-	/	-	-
Pavel	/	/	-	-	0	/	/	-	-
Stâncile Mari	/	/	+	/	0	-	+	-	-
Fâncelu	+	+	/	-	0	/	+	-	-
Bătrâna	+	+	/	/	0	+	+	-	-
Muchia Fâncelu	+	+	+	-	0	/	+	-	-
Saca Mare	+	+	+	/	+	+	+	-	-

(- = atractivitate turistică redusă; / = atractivitate turistică medie; + = atractivitate turistică ridicată, 0 = nu fac parte din nici o arie protejată)

1. The existence of facilities

Existence of facilities in the nearby of peaks is a criterion which takes into account services (housing, accommodation and food, nutrition, entertainment) and walking distance from them to the analyzed top. Value levels accounted for *less than 30 minutes* walking - high tourist interest, *between 30 min. and an hour walking* - average tourist interest and *over an hour walk* – peak of low tourist interest. It was found that complex services are offered by Diecilor tip on which a ski-lift is installed from Vatra Dornei and have important touristic facilities. As it is shown in Figure 2 (+ charts 2,3), Căliman mountain peaks have a greater attractiveness than those of Gurghiu, due to their larger massiveness and to the existing protected areas.

Evaluation of tourism value of attractiveness resources aims the determining the attractiveness degree of the territory under consideration and, its bases, the establishing its priorities and concrete modalities for tourism facility course and concrete modalities to integrate these areas in the tourist circuit.

There, in the literature, several authors have attempted to quantify the attractiveness of an object or area in terms of tourism. In the analysis of the two massifs, I stopped to N. Ciangă 's method, (1998) of the Eastern Carpathians book. Study of Human Geography. Where the author quantifies the value of tourism in these mountains starting with the ideal model that accounts eight categories each with its subcategories (24) and elements (95) touristic components that totals 100 points.

The main peaks of Gurghiu Mountains having touristic attractiveness

Chart no.3 .

Peaks	Alt. (m)	Steep	Panorama	Ruiniform relief	Protected area	Trails	Locality access	Access	Facilities
La Sărăcin	-	+	+	-	-	/	/	-	-
Piatra Cuşmei	/	/	/	/	+	-	-	-	-
Piatra Scrisă	/	/	/	/	+	-	-	-	-
Scaunul Domnului	/	+	+	-	+	/	/	-	-
Chicera lui Pasăre	/	/	-	-	+	-	-	-	-
Străcior	+	+	+	-	-	-	/	/	-
Bistricior	+	+	+	-	-	/	/	/	/

Strunior	+	+	+	-	-	/	/	/	-
Tihu	+	+	+	+	-	/	-	-	-
Gruuiu	+	+	+	+	-	/	-	-	-
Pietrosul	+	+	+	-	/	+	+	-	-
Negoiu Unguresc	+	+	+	-	/	-	+	-	-
Maieriş	+	/	+	+	/	-	-	-	-
Tămău	+	/	/	+	-	-	-	-	-
Pietrele Roşii	+	/	/	+	-	-	-	/	-
Munceilor	+	-	+	+	+	-	+	/	/
Călimanul Cerbului	+	+	=	=	/	/	+	-	-
Bradul Ciont	+	-	/	-	/	/	-	-	-
Răitiş	+	+	+	-	/	+	+	+	/
Diecilor	/	/	+	-	-	/	+	+	+
Piatra lui Orban	/	-	-	-	-	-	-	-	-

(- = atractivitate turistică redusă; / = atractivitate turistică medie; + = atractivitate turistică ridicată, 0 = nu fac parte din nici o arie protejată)

$$Vt = \Sigma 1 + \Sigma 2 + \Sigma 3 + \Sigma 4 + \Sigma 5 + \Sigma 6 + \Sigma 7 + \Sigma 8 = 100$$

0-16	0-5	0-18	0-8	0-10	0-8	0-24	0-11
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where: Vt- touristic value, $\Sigma 1$ - morfoturistic fond, $\Sigma 2$ – climatoturistic fond, $\Sigma 3$ - hidrogeographic tourist fond, $\Sigma 4$ - biogeographic tourist fond, $\Sigma 5$ -cultural- historical tourism fond, $\Sigma 6$ - ethnographic and folkloric fond, $\Sigma 7$ - material base fond, $\Sigma 8$ - communication potential. Author ranks, according to the obtained values, the studied region in six categories (rank values): I- over 60 points, II – between 50-60 points, III - between 40-50 points, IV - between 30-40 points, V – 20-30, VI – below 20 points.

According to the analyze made, Căliman and Gurghiu massifs are included in the first value rank.

Landscapes types

To analyze the types of landscapes with restricted territorial references or those in the interference space of several landscape, the method of physiognomic –aesthetic expression is used, in which image elements as observer's products are relevant corresponding to each feature of landscape.

Among the natural landscapes of interest for tourists are: natural landscapes with rocky peaks intercalated with forests at the climax- have an isolated presence and are hosted by rocks belonging to some necks witch are attacked by decomposition and resulting rocks; sub natural sculpted landscape forms associated to conifers and secondary meadows – their particularity is given by the morphological support which due to the modeling of exogenous agents resulted in a ruiform relief with residual witness: Gusterul Dragonii, Sphinxul, Camila, 12 Apostli, Nefertiti, Ramses; subnatural gorge landscape is a mix between the almost primitive natural made by the narrowing sectors (Andreneasa, Stânceni, Salard, Gălăoaia) and those marked by humankind prints fits to the physical frame, including the widening of differential erosion: bridges, roads, isolated buildings or those with slope breaks in the longitudinal profile of the valley.

The waterfalls are found in both massifs: Lomasita, Duruitoarea, on Donca a tributary of

Bistra, on Tihu in Căliman and waterfall in the travertine from Toplita to Gurghiu. But also anthropogenic landscapes, which generally are: weak anthropic landscape of villages, destructive-desolated landscape of unstable waste dumps, destructive- desolated landscape quarry, deserted settlement landscape, desolated landscape of windfall and forest cut; degrading landscape-derived from anthropic usage units;the landscape derived from pipe-lines and forest cut the forest and the desolated landscape of the mountain valley.

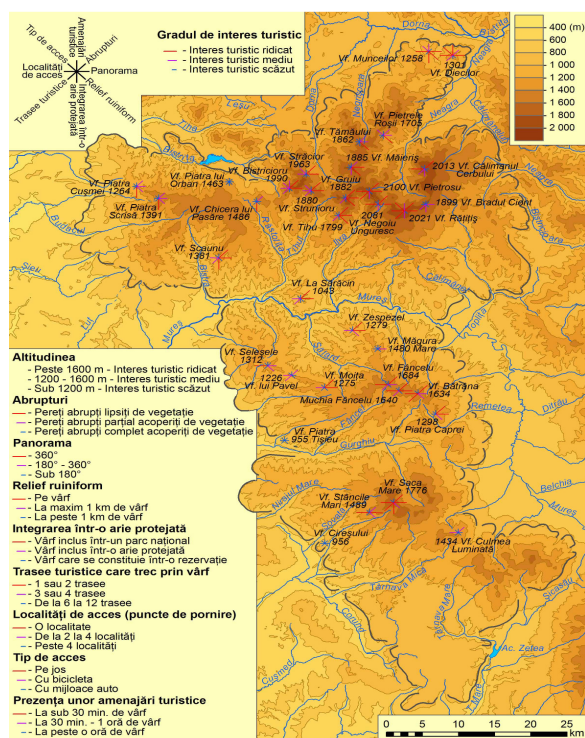


Fig.2 Atractivity map of the main peaks from Gurghiu massif

of the number of hours recorded with solar incidence in the Căliman massif. The annual average sunshine hours in the mountains Căliman is of 1533.5 hours, while in Gurghiu mountains is of 1863.6 hours. Also, the graph based on the obtained data from weather stations and Bucin and Căliman, underline a maximum and a minimum of sunshine hours for both massifs. Thus, if Gurghiu, the maximum is reached in July and records 248.5 hours, and the minimum is reached in December with a value of 64.8 hours.

Căliman has lower values submits a maximum of 193.3 hours in August, and a minimum of 83 hours in February. The values of this climate element varied over the months, approximately in the same form, for both massifs. We can see how the April gives the start to the solar incidence increases hours, increasing that is maintained until August, after which the values start to decline towards the winter months.

The fact that Căliman come in a lesser extent in contact with sunlight, a phenomenon that occurs constantly for several years, is due to the much higher altitudes and cloud high level present here, much higher than in Gurghiu massif.

Climatic characteristics

Among the climatic factors I choose to describe the sun shining period, the temperature and the solid precipitation. By analyzing the chart (Fig.3), illustrating the effective sunshine duration measured in hours, we can see that the number of hours the sunlight reaches the surface of Gurghiu mountains exceed about 21%

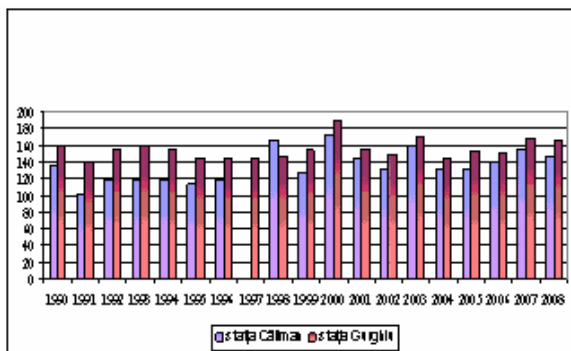


Fig. 3. Sunshine duration (Hours) in Căliman, Gurghiu massifs.

Gurghiu (22.7 days), and a minimum in 1995 (14.7 days).

In an analysis of annual mean temperatures for both solids (Fig. 5), we see that the values recorded over the years in massive Gurghiu are significantly higher than those recorded in the massive Căliman.

In Gurghiu mountains, the average annual temperature during the years 1990-2008

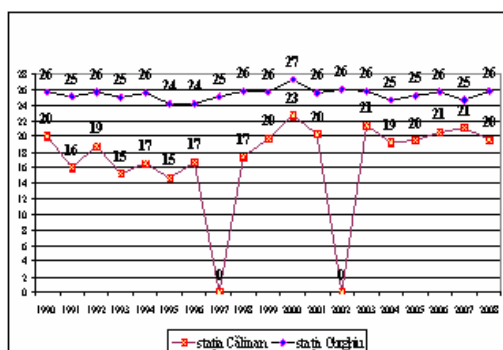


Fig.4. Number of Sunshine days (1990-2008)

ranged from a minimum of -5.3°C (January), to a maximum of 14.3°C (July). On the other side, Călimani, recorded throughout these years, a minimum of -8.8°C (February) and a maximum average of 9.2°C (July).

These obvious differences in temperature are given by the much higher altitudes that we find in Căliman massif and the massivity is well- known. However, for both volcanic massifs the recorded temperatures inside volcanic craters are lower, a phenomenon caused by quartering of cold air masses on the calderas bottoms.

The lowest temperatures during the years 1990-2008 were recorded in February, in both solids. In Gurghiu mountains the mercury in thermometers fell to -24.6°C (2004), and in Călimani, the minimum value fell to -27.3°C (2004).

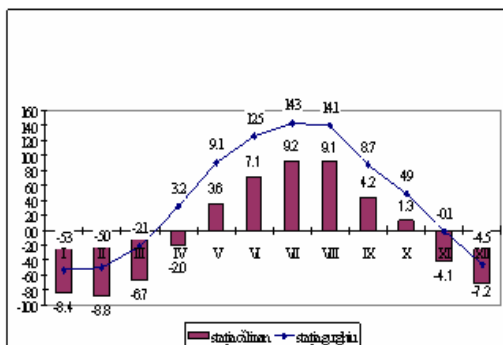


Fig.5

I shall continue to present, on the bases of the obtained data from weather stations Căliman and Bucin, the absolute maximum and minimum values recorded within 19 years (Fig. 6).

Looking at the absolute maximum over the years, we see that recorded values are in massif Căliman are between 18.2 ° C (the lowest value, August 1990), and 24.2 ° C (the highest value, in August 1998). In addition to these values, temperatures have fluctuated from year to year and must be noted that the main receivers of the absolute maximum temperature values are July and August. The values that were recorded in massif Gurghiu are significantly higher than those discussed above, ranging between 24.2 ° C (the lowest value, August 1990), and 28.6 ° C (the highest value in August , 2007). And a secondary maximum appears in this case, registered in August of 1998, when the temperature rose to 27.6 ° C.

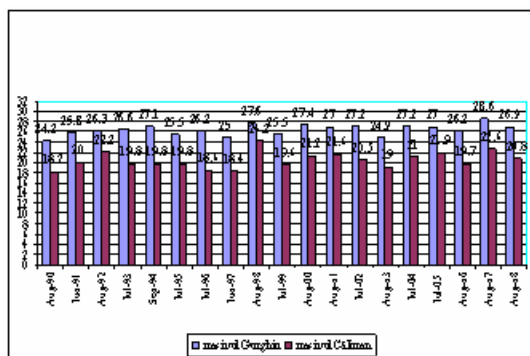


Fig.6.

Basically, the lowest value recorded in the mountains Gurghiu (24.2 ° C) corresponds to the highest value recorded during the years 1990-2008 in the Căliman mountains. As if the massive Căliman, Gurghiu has as months of predominant expression of these absolute maximum heat, July and August.

The analysis of the absolute minimum temperatures return rankings for the Căliman mountains extreme values (Fig. 7). Above all, we must know that the analysis of both massifs in all months of the year, the absolute minimum temperature is situated below 0° C.

Extreme values, minimum and maximum in Gurghiu Massif fall between -24.6 ° C (February, 2004) and -16.2 ° C (January ,1990),

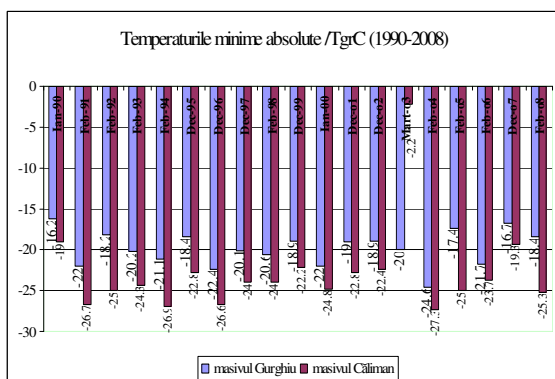


Fig.7.

while in Căliman massif, values range between -27.3 ° C (February ,2004) and -19 ° C (January, 1990). An explanation for such low temperatures in the Căliman mountains is related to altitudes of over 2000m that we meet here. As you can see, the main months are provided by absolute minimum temperatures in February and January, followed closely by December and March.

When we talk about the highs and lows of daily thermometers recorded over the period 1990-2008, it still maintained differentiated values of the monthly calculated averages.

Daily average maximums in Gurghiu (Fig. 8), varied over the years, from the lowest value

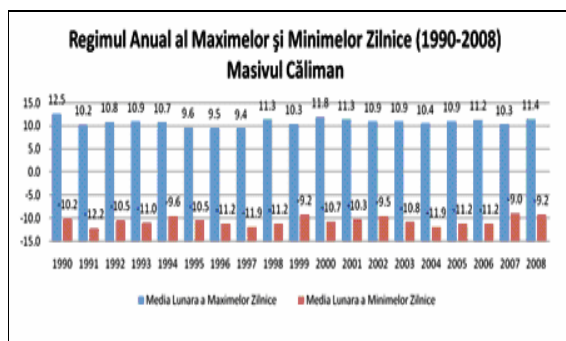
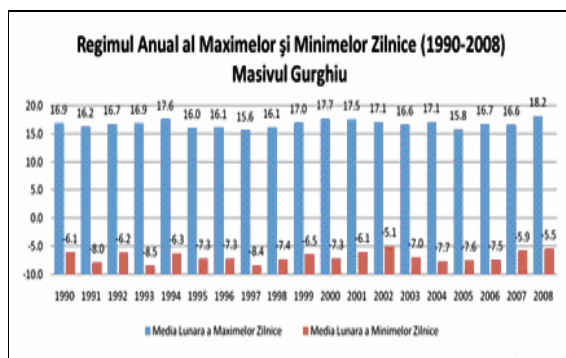


Fig.8, 9.

of 15.6 ° C (1997) the highest value of 18.2 ° C (2008). The pace of growth and decline of these values seems to have been all this time, a relatively constant one. Daily average maximums in Căliman (Fig. 9) is less tortuous, the differences occurring between the values of each year, is not very large. The lowest average daily maximums, the same year was recorded in 1997 (9.4 ° C) and the highest value was recorded in 1990 (12.5 ° C).

If we pursue the line defined by the daily minimum media, we observe that the values have strongly fluctuated in Gurghiu mountains during time, recording the lowest value of -8.4 ° C in 1997, and the highest value of -5 , 1 ° C, in 2002. Căliman daily minimum media values, preserve the same slowly trace over the years, but without varying significantly, and registering the lowest value of -12.2 ° C in 1991 and its opposite, the only -9 ° C in 2007.

For both massifs the early months of the year, January and February, bring the least abundant rainfall, lows falling to 25.3 mm (Căliman, January) and 26.6 mm (Gurghiu, February). Although in general, rainfall, especially those who fall in significant quantities, inhibit the activities of interest, but they also have positive effects on tourists and tourism activities, purifying polluted atmosphere, increasing transparency and meteorological visibility and improving air ionization regime.

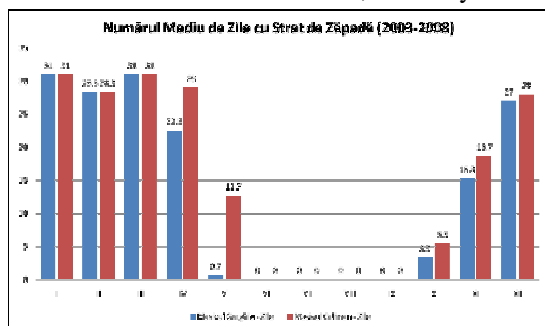


Fig.10

with snow cover per year (Fig. 10). In Căliman, the duration of the snow remains for a longer time because the average minimum temperature falls significantly below -2 ° C, which is favorable for snowfall. Most days with snow cover are recorded for both massifs , in January and March (31 days), while fewer days with snow cover are for Gurghiu in May (0.7 days) and for Căliman , October (5.5 days).

From year to year, the value of days number with snow cover has varied (Fig. 11), from 150 days in Gurghiu (2006) and 175 days Căliman (2004), having reached the maximum of 166 days in Gurghiu (2007), and 193 days in Căliman (2006).

Due to the lack of weather data, both analysis of the average number of days with snow cover and the variation from year to year of the number of days with snow cover was done only during the years 2003-2008.

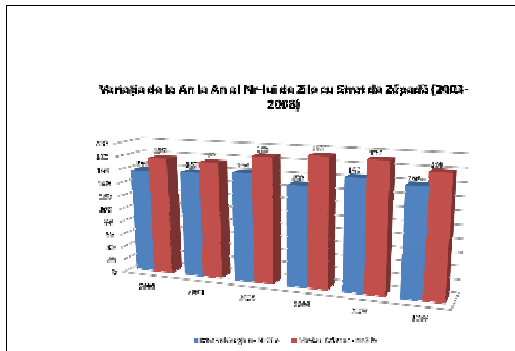


Fig. 11.

The presence of snow will have tonifying effects on the nervous system and will help countless practice winter sports, this thing depending on the anthropic endows that considered massifs has and its surrounding regions.

Assessment of climatic conditions through tourism

In assessing the climate for tourism have been taken into account climatic characteristics of various weather elements. Among the indices found in the literature, we calculated the index of thermal comfort. Because of the fact that the data from two weather stations do not contain the reading of two thermometers, wet and dry, I applied the formula used by Ciangă N.

(1998), taken from Missenard A., in the Eastern Carpathians book. Study of Human Geography.

It is based on air temperature, relative humidity and wind speed. Data are analyzed from 1990 to 2002 for the TM11 from two weather stations, as these years have been submitted online at Bacau, respectively Mures and do not contain anymore the readings in terms 7, 13, 19 (hour). Multiannual medium values of this index shows values below the limit of comfort. Which brings us to the conclusion that the two massifs the human body, light dressed and rested, is a subjected to discomfort by cooling (fig.12).

The potential tourism of water

After describing the main river basins which collect water from the two large massifs, they go to describe the main characteristics of flowing water (Fig. 13). To the high district level is characteristic a moderated -

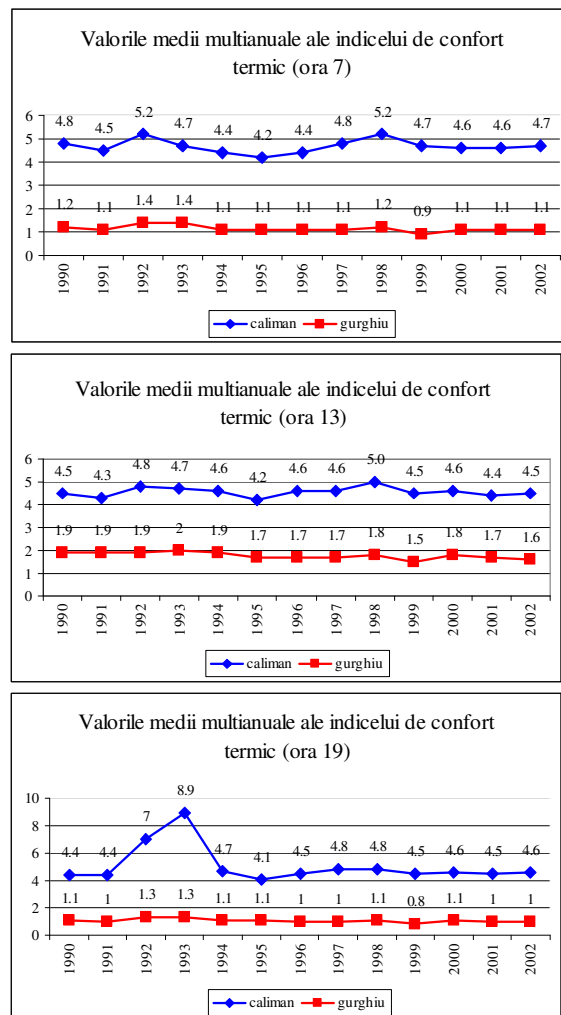


Fig.12 Multiannual medium values of thermal comfort index (7, 13, 19 o'clock)

nival and rainy supply plus moderate underground water supply system leading to a highly specific to the high Carpathians type. This is translated into low water in winter, spring and winter floods and summer floods from rare large number of winter days (almost 6 months) and relatively high water storage in solid, liquid precipitation in large quantities supplied in early spring and late summer. At the altitude of the volcanic plateau, depression and light areas of the valley, thermal gradients something more gentle, the higher number of days with positive temperature ranges, the decrease of snow as a water supplier, sensitive participation of phreatic deposits due to the insertion crowded, good reserves of water are collected.

Monthly flows of volcanic massif Căliman seasonal flow in 2005 are not too large. Exceptions are March, April and May where there was high flow rates due to melting snow, and in July and August there were heavy rains. River flows in 2006 were lower than in 2005, where in the spring and flow values have been slightly higher, reaching a maximum 119 l / s due to melting snow and heavy rain at times (Fig. 14, 15).

In 2007 very high flows were recorded almost throughout the year, the most significant

being the river Mures flows due to melting snow and spring rains overlapped due to summer rain showers with a high intensity and large amount of precipitation in a short period of time, especially occurring in the period from September to June (Fig. 14.15).

In 2008, the highest flow rates were recorded during the spring, the maximum value of 79.9 l / s was achieved in April, due to melting snow, and other debts due to heavy rainfall (Fig. 14.15). In 2009 the rates were quite low, the most important being those which are due during the spring snow melting.

In 2007 were recorded the highest rates that had a leak in rich precipitation, and in 2009 were recorded the lowest rates that have poor drainage due to lack of rainfall. Maximum value in the last 5 years has reached the Mures river, at

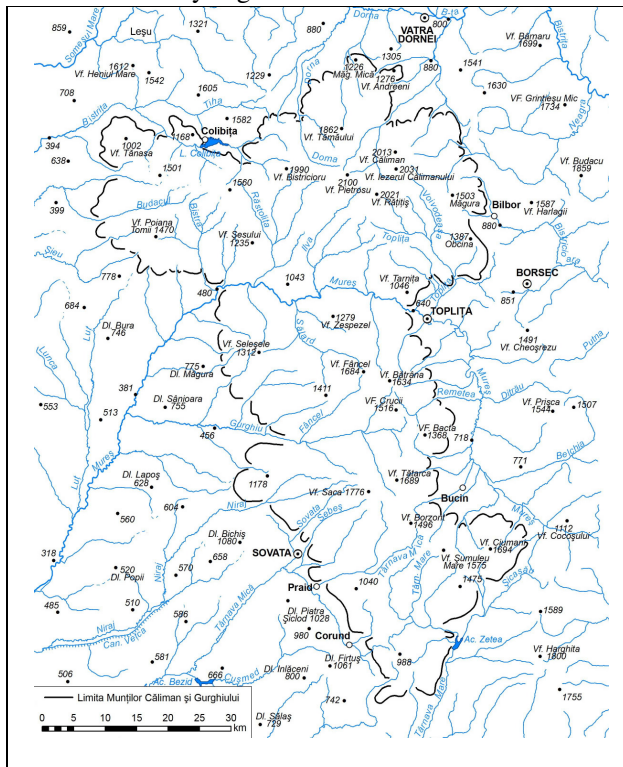


Fig.13. Waters map

station Gălăoaia, 119 l / s in April 2007 and the opposite pole Toplita river, at the station Toplita 1.11 l / s, September 2009. For practicing traditional and extreme water sports and extreme, slope and depth are relevant. To these are added aspects of morphology: thresholds, rapids, waterfalls, meandering degree of dynamic-speed, currents and liquid flow.

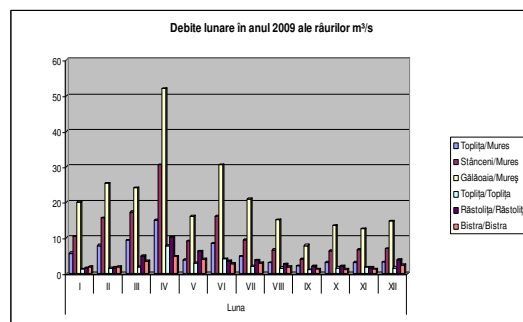
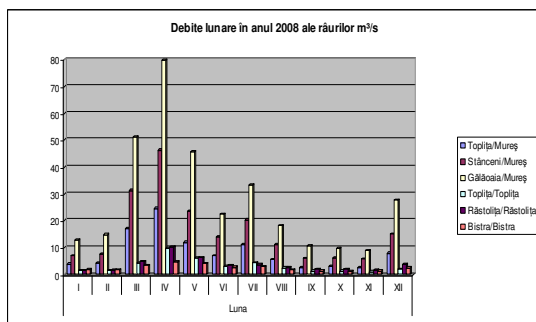
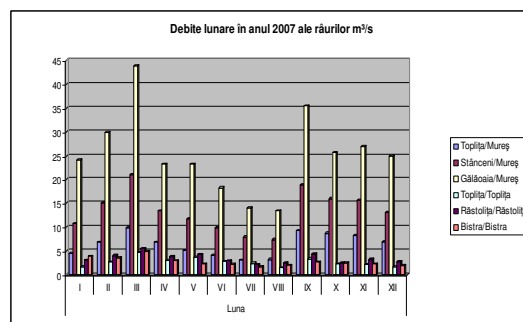
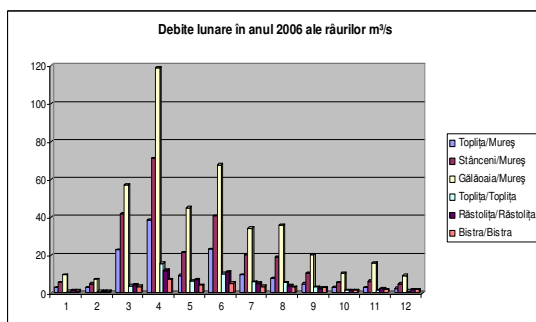


Fig.14. Monthly river debts in year 2006,2008 m/s

Fig.15. Monthly river debts in year 2007,2009 m/s

Rafting and kayaking - canoeing on the river Mures is practiced, which is a river for beginners, so it has no high water speed in comparison with other areas of rivers where water sports are practiced. Rafting in Romania is still at the bottom of popular and practiced sports list, and the other recreational water sports, though. However, in April (2010) between the dates of 16-18, was held a marathon rafting. Outdoor Experience team decided to organize the first event for whitewater sports enthusiasts called Mures Marathon. Thus, the first amateur contest on whitewater rafting and slalom was held, in Romania, in the Mures Valley. The start was given in Mestera and finish line was in Răstolița. The distance that every competitor or crew had to go was of 24 km.

Potential tourism of lakes

The massif endowment with terramare surfaces, has only little influence upon the landscape typology and architecture. Natural lakes are small, less significant in going into space and falls to those in boilers and glacial valleys (Gâștescu, 1961), other categories are natural barrage lake taul Zanelor and nivație Iezerul Căliman. Lakes of anthropic nature are represented by Colibita and the future lake Răstolița. In addition to natural lakes and man-made barrage, we analyzed the tinoavele from the two massifs.

Potential tourism of groundwater

Due to the postvulcano activity at the base of the massifs, there are mineral water springs and gas occurrence in the form of pits. Such events (fig.16) exists in Vatra Dornei, Poiana Negri, Saru Dornei, Dornișoara, Panaci, Bilbor, Borsec, Secu Toplița Stânceni, Salard, Colobița. The waters are used both externally and internally, in treating various diseases. Salard and Toplița are thermal water pools, and those of Toplița have facilities those from Salard, next to the Mures valley are not. In Stânceni, Borsec Bilbor, Poiana Negri and Rosu mineral water bottling factories are functioning.

Biogeographic potential tourism

After a review of the main species of plants and animals that live in the area of the two massifs, I pass to the analysis of the protected zones. There are two National parks in the

North Căliman and Defielul Mures, the rest are reservations that are either of national interest and a trial of including them is made, if it was not already done in the Natura 2000 programme . The original paper contains a map of them to which a chart of protected area Natura 2000 is attached.

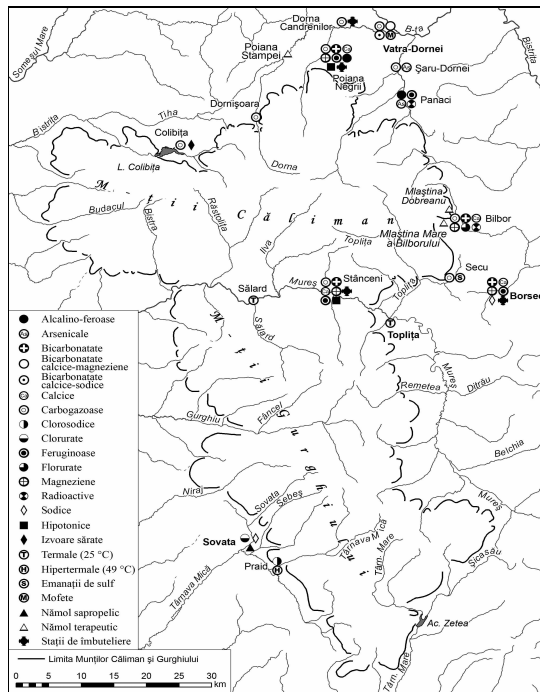


Fig 16.Springs map

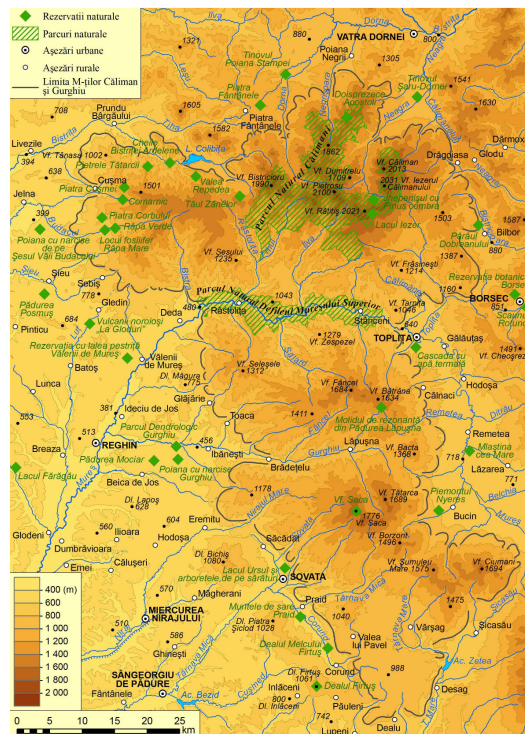


Fig. 17. Protected areas map

Of the reservations (Fig.17) I enumerate: 12 Apostles-geological reserve, protected area and Pinus cembra jnepeniș, Tinovul Mare Reservation, from Poiana Stampei, the complex Repedea Valley Reservation (park, flora and fauna), valley and quay of Bistrita, Paraul Dobreanu Swamp of Bilbor, Iezerul Călimani Reservation, Piatra Corbului Reservation - geological, Piatra Cusmei Reservation - biological, Taul Zanelor Reservation, Tătarca Reservation /Pietrele Tătarci-geological stones, for Căliman Massif. And for Gurghiu massif: Poiana Narciselor Reservation, Reservation - spruce forest with resonance - Lapusna Reservation thermal waterfalls -Toplita,Reservation Mlastina Mare from Remetea, Saca Tatarca Reservation.

Anthropic tourism heritage

This section begins with a description of the types of settlements and the specific architecture, which differs from county to county, then continues with the display of sights: the archaeological remains (the megalits from Necropola Mariei, the ruins of ancient fortifications Ardan, Sangidava city, etc.). or wooden monasteries and churches in almost all rural areas (Fig.18). The analysis then continues by presenting villages, each with potential tourist attractions. Răstolița out of obscurity, where Ethnographic Festival takes place in the Valley of Mures in the month of July each year. It is meant to be a promoter of the Romanian traditional values. Dorna Candrenilor is known for its famous mineral springs partly recovered since the last century.

Today, the mineral springs in the municipality are recovered in the five filling stations. There are two historical monuments and natural reserve. Local architecture is highlighted in particular the house owned by citizens of the

village Dorna Candrenilor Candrea Gabriel, school building and other socio-cultural policy objectives.

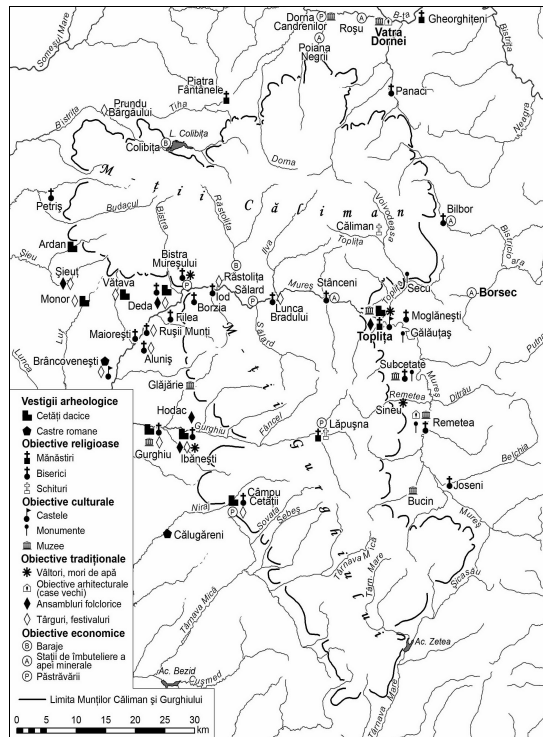


Fig. 18. Antropological potential map

textile products has resulted in household textiles, towels, towels, tablecloths, traditional costumes.

Since Gurghiu and Căliman cover the territory of four ethnographic areas, one can spot the difference from one costume to another. This chapter includes a case study of the valley-Ibanesti Gurghiu regarding occupations, customs and habits.

4. TOURISM FACILITIES

The chapter begins with general considerations regarding the literature followed by the spatial analysis of tourism in the mountains, where the main point of interest is the ski slope. Some massive mountain slopes through configuration, deployment on 800-900m elevation, offers party planning and means of transportation of the cable, the lower floor to the upper 900-1000m above 2000m altitude. This allows recovery of the ski area successively from top to hem (winter) and the reverse spring and longer winter season.

For a smooth running of the winter sports are involved deforestation slopes with morphometric parameters favorable for some winter sports, and the climatic factor which involves the possible snow and air temperature. Snow Mountain area is installed in October and can last until May, the average number of days with snow exceeding 200 days to over 1500m altitude. To construct slopes are available using the slopes with predominantly north, with altitudes between 1000 and 2000 m, unaffected by the avalanche, with lengths between 1 - 3 km, and differences in level between 400 and 1000 m. These slopes, the trail more or less sinuous, covering areas with slopes varying widths must be 20 to 30 m. To extend the utility is required for maintenance and conservation measures, both subasmentului and snow.

Potential folk

This reflects a part of traditional culture of the local communities and integrating a set of beliefs, customs, and traditions. One can distinguish moments dotted throughout the year through various events, such as those of the Orthodox Christian calendar, and other references relating to celebrate key moments agricultural or pastoral activities.

These are reflected through the collective popular events that attract people on fixed dates of neighboring villages have similar occupations. These folk events (table. 4) bear names such as: Neda, fairs, festivals and were ordered from the pastoral point of view cyclic throughout the year.

Traditional activities are contained in their original ways of processing locally produced raw materials: wood processing, textile products, metalworking, pottery. Processing of

Landscape as such receives a new component: color cleared and arranged for transportation on the lead track, stations, terminals and intermediate support pillars.

The calendar of ethnographic cultural eveniments from Căliman, Gurghiu massifs

Chart no. 4

Eveniment	place	month											
		I	II	III	IV	V	VI	VII	VIII	IX	X	X I	XII
Sheep measurement	Lunca Bradului(MS)			X									
Popular and handicraft art fair						X							
Harvest crop holiday									X				
Nestemate Mureșene	Deda				X								
Zilele Asociației Văii Superioare a Mureșului								X					
Rusaliilor Fair						X							
	Vătava						X						
	Rușii Munți					X							
Cherries fair	Brâncovenești								X				
Ethnographic festival of Văii Mureșului	Răstolița							X					
Forest workman day										X			
Băilor fair	Idecu de Jos								X				
Festival of local customs and traditions	Aluniș								X				
Zilele Monorului	Monor									X			
Warm – air balloons festival	Câmpu Cetății									X			
Cranberries festival									X				
Valea Regilor’s festival	Ibănești									X			
Grils fair (2010)	Gurghiu						X						
Wetting wives	Hodac					X							
Sheep -pack descence from Căliman	Șieuf (BN)										X		
Țăpinarilor holiday	Prundu Bârgăului			X									
“Zilele Căndrenilor” festival	Dorna Căndreni(SV)								X				
Panaci illage days	Panaci							X					
Mountain peony day	Șaru Dornei							X					
Berries festival	Coșna									X			
“Flori pe Dorna” festival	Poiana Stampei							X					
“Bilborul în sărbătoare” festival	Bilbor						X						
Householder’s days	Joseni (HR)										X		

All are outweighed by the possibility of quick access to the mountains, quiet and clean. Northward orientation is compulsory until the ski slopes at an altitude of 1600 - 1800 m, alpine often hostile because of blizzards and fog. Following the ski area must be provided in forest floor, between 800 - 1800 m altitude (Melinda Candea et al. 2003).

According to the two maps (Fig. 19, 20) and data obtained from the case law of the site type Ministry of Tourism (2001), we can say that purple outlined areas on the map orientation slopes with altitudes of over 800m but may be in areas suitable to the ski slope. And the map slopes yellow, cream, brown and red, all over 800m above sea level may be a ski area.

Recovery specialized spa facilities. Case study: Bilbor

Forest train can be considered as the oldest type of practice of tourism activities. Needs related to rehabilitation and treatment have led people to seek ancient healing effects of

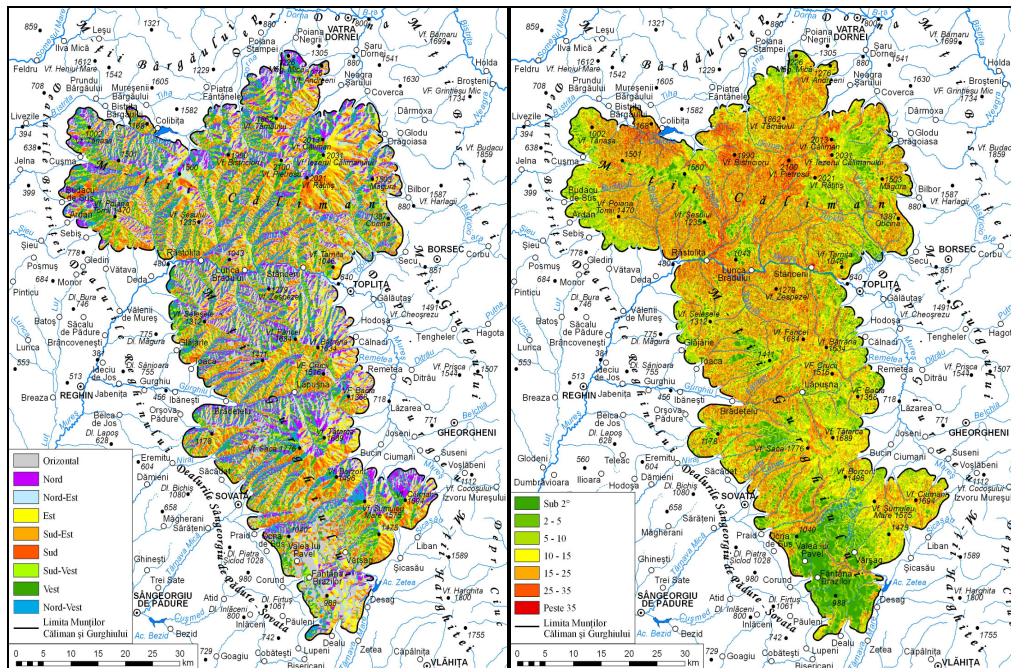


Fig.19. Harta orientării versanților

Fig. 20. Harta pantelor

medicinal plants, the thermal and mineral water, mud and cure of heliomarine. Curative tourism in rural areas may seem paradoxical. Today, many doctors accept natural or light therapy. After he was taken glorious chemicals with different purposes, we are witnessing today are increasingly using to restore natural resources (herbs, acupuncture, hydrotherapy, physical activity, music).

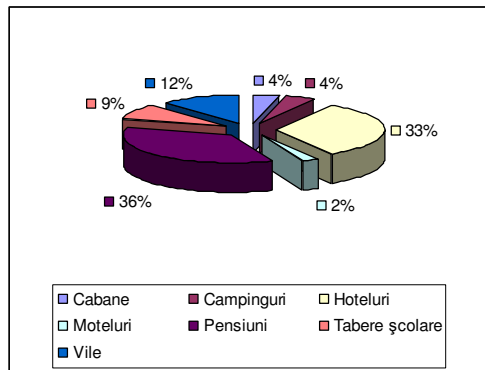


Fig.21. Structures of hosting in Căliman, Gurghiu massifs

favorable climatic conditions, the presence of mineral springs with therapeutic properties, all associated with the possibilities of implementing the remedies established in medicine Folk (Phytotherapy-therapy with herbs, Apitherapy, hydrotherapy). Analyzing this statement, it appears that common Bilbor answers all these circumstances, enjoying a good mountain climate, the presence of 14 mineral springs with therapeutic property, the wealth of medicinal plants. In support of rural tourism practice curative wide range of common herbs rich Bilbor offer ancillary services in the area of the tourist product through the following activities:

- Harvest herbs-opportunity of coming into contact with nature, their collection is very beneficial to the patient's own health;
- Organization of botanical circles, observations of rare plants or organizing their itineraries observation;

Structures of hosting on comfort categories
Pensions

Tabel nr.6.

NR. CRT.	Comfort category	No of. units	No. of places
1.	5 daisis	-	-
2.	4 daisis	9	284
3.	3 daisis	88	1676
4.	2 daisis	114	1249
5.	1daisis	14	28
6.	undecleared	87	100

- Providing conditions for medical spa treatments, cures and herbal bath teas spontaneous.

Given the very rich and varied flora, Bilbor village has all prerequisites for a large production of herbs and berries. Currently, the entire village Bilbor wooded area, contributes most strongly to

the production of herbs and berries in the county of Harghita. For curative rural tourism, it is recommended establishment of a center in the village Bilbor own collection and processing of medicinal plants, which would increase the financial resources of the locality. The approach in this area can promote tourism and culture of taking herbs.

Development of rural tourism activity is mainly aimed at establishing economic equilibrium in common Bilbor implications in the development of economic activities (cottage industry of milk, meat, etc.

Mountain bikeing tracks in Căliman ountains

Tabel nr.7.

Easy	Difficult
T1: Panaci- Buciniș, cu coborâre prin Dorna Arini sau Păltiniș; T2: Tăieturi – Băuca; T3: drumul Dumitreleu; T4: drumul forestier Dornișoara și retur sau spre Tihuța;	T1: Gura Haitii – cabana Meteo și retur T2: Gura Haitii – Meteo – Drăgoiasa (2 zile) T3: Drăgoiasa – Dealu Vână – Tunzărie – Dealu Runc – Gura Haitii T4: drum forestier Poiana Negrii – Mănăstire- Apostoli 12
Ski tracks	Snowmobil tracks
All tracks except Pietrosu - Negoiu T1: Chirileni T2: traseu Băuca – Tăieturi	Runc On facility course nearby the weather station

5. TEHNICAL –MATERIAL BASE

Representative in terms of accommodation, for these are massive hostels (fig.21). There are also examples in the practice of tourism in the area studied by the Suceava. Agri-touristic village complex in Saru Dornei , village Plaiul Șarului. It has a capacity of 86 seats and has a local restaurant and the service is done with products that are made in the household.

Another rural hostel is a special attraction in the village of Gura Haiti Saru Dornei village, which houses the hostel in her yard Megaliții discovered in Căliman Mountains, an important anthropogenic goal of the area. Agri-tourism in Mures county is growing and the number agrotouristic increase from year to year. Many of these agro-hostels are constructed with funds from the SAPARD program. There are 15 ongoing projects of which 14 are hostels (Weekly Muresan Point, 55/2006). This type of tourism started to develop only a few years as an underutilized economic segment.

Recreational Complex

Leisure and recreational facilities are present both in climate and mountain resorts for winter sports, spas, and in cities with sports and leisure facilities linked to the hotel or stand alone units. In this chapter we have included marked and approved tourist routes of the two massive mountain trails bikeing (table.7). Mountain cableways Gurghiu Căliman and is used mostly in winter, except the chair of the Black Hill Worcester or at the foot of Sovata

Cireselului. Just up the slopes of Apatin Bucin area studied, those in Sovata, Worcester Toplița and only serve the two massive. Ski Slope Bogdan (table. 8) is located in a picturesque area at an altitude of 1200 m, located on DN13B between mine and Step Bucin at km 15. Bogdan Chalet provides customers complete ski equipment for all ages, and those who can hire skiing plastic sleds. Ski slope 750 m in length, medium difficulty, is beaten and equipped with mechanical lift (700m).

6. TOURIST MOVEMENTS

Most tourists stay in a cottage for the in form - house. Foreign tourists visiting typically only found huts along the way in the journey towards the destination. Foreign tourists a

Bogdan (Bucin) ski slope

Tabel nr .8.

Slope	Length	Difficulty	Cable transportation	Nocturne
Bogdan	750 m	Medie	Da	Nu

greater weight gain only in areas capable of absolute competition. In

the chart below I have tried to show the evolution of accommodation Căliman-Gurghiu area. It includes a study of the type of accommodation hotel, motel, hostel, cottages, villas, camping and was made using data collected from the field, several travel agencies, municipalities, special forest and National Institute of Statistics.

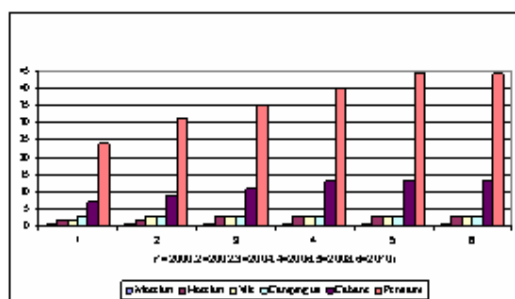


Fig. 22. The evolution of hosting structures- no. of units (2000- 2010)

As you can see in the chart above (Fig.22) the development of accommodation in the massive volcanic Gurghiu -Căliman was not uniform, there are three remaining hotels throughout the study with the specification that one of them has been closed 2000, 2001 and 2002. A same trend that the hotels have had defines now the motels, which have remained constant in number throughout the period, exactly one and not least, camps, which remained at number three on the

road with only part in their development. The villas have been a small trend, reaching in 2010 a number of three from 2002 onwards. A significant numerical developments have had the cabins reached number 7 in 2000 to 13 in 2010. The progress was constant throughout this period. As we can see, the head of all hostels are located in base housing, both numerically and further their development. The greatest increase occurred between 2000 and 2002, when the number reached 24, in 2010 it the number almost doubled, at the opposite pole being 2008-2010, when there was no structure pension type opened. As for the number of accommodation facilities, places of accommodation was not a uniform trend. Number of accommodation in motels in 2010 remained the same as in 2000 a total of 24 seats. The villas have been a slight increase from 48 in 2000 to 76 in 2010, to accommodation in campsites that were approximately 150 and in 2000 and in 2010.

Cottage-type accommodation have had an upward trend from early 2000 until 2004 when

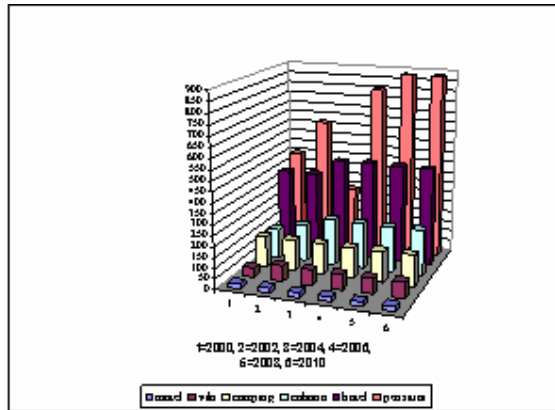


Fig.. 23. The evolution of hosting structures (2000 - 2010).

reaching to grow to 620 in 2002, 690 in 2004, 800 in 2006, 880 in 2008, number remained until 2010. This has very high growth was directly proportional to the number as high pensions.

the 140 seats it was 220, then by 2010 there was a halt. Hotels, even if there are only three in number, because structures have many places due to the fact that their number has not changed, nor their evolution has been a rising number of accommodation remained 472, just between 2000 and 2002 when one of them was closed and the number of seats was reduced. The only accommodation that has had a steady upward trend was the type hostel. In 2000 (Fig.23) guesthouse accommodation in the area were Căliman-Gurghiu number 450,

Tabel nr.9 .

TOUISTIC ZONE	TOURISTIC REGION
- Strengthen the single functional system with a high degree of specialization	- Includes multiple functional systems, different from each other, but with one common denominator - staisfacerea complex travel demand.
- Has the role to be defined for each area, in part, forms of tourism types	- Its own definition is the main type of tourism practiced, the types that may occur
- May be local or regional importance	Their tourism potential largest and most varied national or international importance
	- They can occur in spatial distribution of tourist potential discontinuities and apparent rupture functional full functionality being provided by complementarity.
	- Relations within the region of interest aimed at connecting various functional systems, focusing on social work that meet demand and achieve economic efficiency

Taking into account all the accommodation in this area in 2010, reaching a total of 1822 places to 1204 places in 2000 is a 50% increase over the past ten years.

7. TOURISM POTENTIAL VALUING IN CĂLIMAN, GURGHU MASSIFS

Types and forms of tourism in Călimani, Gurghiu

After a detailed analysis of the specialized bibliography we concluded that the two massive volcanic or you can practice is already following types and forms of tourism: leisure - usually the weekend during the warm season due to deficiency of accommodation on the basis of two massive, it is practiced in a tent on the main tributaries of the Mureș or traveling on the massive, tourism, health care - due process in Călimani post-volcano significant mineral reserves exist, but other types of therapeutic factors make the area to enjoy excellent conditions for spa

tourism, it is practiced in the resorts but not studied belong to a serving area. Cultural tourism or visiting museums is practiced in the main cities or in rural areas drained by benevolants, the most important pilgrimage-to Toplița monastery of St. Elijah, or festivals and fairs are some that have already attracted a continuity number of participants. Some forms of tourism remember we identified: winter sports tourism, school tourism, mountain tourism, rural tourism. If the last form of sport, tourism amine in rural tourism. The most conclusive example is Colibița, where you can parctica: cycling, windsurfing, hiking, water-fast-caiak

(white-water-caiaking) can be Source of Lung especially in spring when its flow is greater, and especially Bistrita, downstream from the electric factory; they recommend riding the trail to the hut in step Tihuta Fântânele Stone, touring skis, snowboards extreme in two areas: the cracking and the Peak Peak Bistriciorului Vișorul of the ice bucket, climbing. As a case study Căliman massive stockings in terms of tourist use have been common Răstolița and Massif Gurghiu Integro holiday village. The total capacity of Integro Holiday Village accommodation of 120 seats is currently distributed in five cottages, and other various sports facilities (activities that occur in height, tirolie, climbing walls, tennis volleyball, soccer, basketball) and a software package for all tastes and ages. Facilities and activities may be used both in summer and in winter time. The first camps were held here in 1987.

8. TOURISM REGION OF VOLCANO MOUNTAINS CĂLIMAN, GURGHIU

In literature the terms of zoning or regionalization are two terms that can coexist defining different functional spatial entities, integrating the region as a junior unit. After

treating the two concepts of geographic region and tourism, geographical regionalization and then proceed to tourists at the principles, criteria for determining the geographical regions and then the tourist region units of taxonomic distinction between the area and region (table . 9). All analysis is based on specialized bibliography. The next chapter regarding the mountain tourism regionalization dwells on the Căliman and Gurghiu geographically and then touristic analysis (Fig.24).

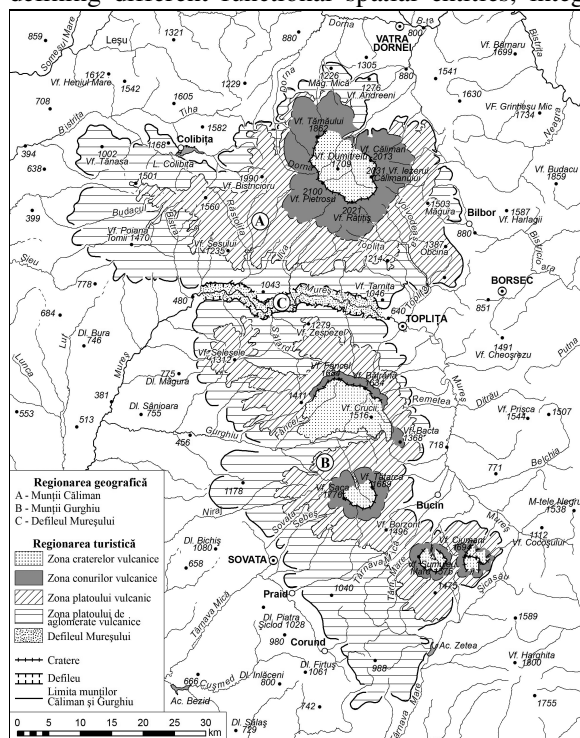


Fig.24. Touristical regionary map

Since we have a geographical area comprising high caldera, flat crater cones and volcanic plateaus that vary in elevation from a massive settlement to another. Târnavei Gurghiuului Valley and its tributary Little by Creanga Mare Gurghiuului separates into three distinct edge: Gurghiuului northern, central and southern. Massifs are treated separately in terms of topography,

climate, water, vegetation, fauna, subsoil resources and settlements. In addition to Căliman and Gurghiu, Defileul Mues is also described.

In geographical regionalization - a tourist area we studied individual functional units that reflect not so much potential that remains based on tourism phenomenon but rather a whole. Individualization is based on a combination of criteria: the criterion landscape, uniqueness, homogeneity and functional-gravitational. Depending on the criterion of the landscape (Fig.24), which is given by the natural area will be divided in the studied volcanic crater with its monumental impact on the landscape to the surrounding area, here comes the principle of unity by keeping the diameter of volcanic calderas different, and the residual topography (cliffs with human figures, pins, cities), the volcanic cones are observed in terms of landscape in that it keeps its shape well, even if they are subjected to direct action of exogenous agents, and are best forested areas, the volcanic plateau in the west developed craters, elongated shapes, flat, slightly wavy, the Piedmont is characterized by meadows where sheep are placed shepherd extensions and villages scattered on the slopes. And last but

not least the sector Mures valley gorge, an area that is as old distinction between the two massive Căliman and Gurghiu the revolving flow area of interest (in areas like depression in the two massive frame: Vatra Dornei, Colibița, Bilbor, Borsec Toplița, Praid, Sovata). This area is remarkable in terms of landscape in areas of narrowing and widening bazinetele are confined localities, the rocks with bizarre shapes (Falcons-Black Rock), hollow caves (Andreneaș) Răstolița dam, seat of Christ (seen the Morăreni), steep walls narrow zone imposed on the landscape during the winter when it is formed ice waterfalls. Then each zone is treated separately in terms of tourist potential of the landscape, tourism potential hydrological, climate tourism potential, tourism potential landscape, historical tourism potential, the accommodation, treatment, recreation, inland transport and communication possibilities.

9. SWOT ANALYSIS. STRATEGIES AND PROPOSALS FOR DEVELOPMENT OF TOURISM IN THE VOLCANIC MASSIVES OF CĂLIMAN, GURGHIU

The analysis is applied separately on the natural tourism potential, infrastructure, environment and rural development.

And the first chapter made a suggestion in order to develop an ecotourism strategy for the Căliman area. The development of ecotourism in the area by promoting local nature and culture as essential elements of the massive tourist image and developing ecotourism activities will help support the conservation of nature, the quality of ecotourism services and tourist attraction to the area, while supporting a sustainable development of the local human communities.

Tourism potential

Chart no. 10.

Strengths	Weaknesses
<p>Landscape diversity;</p> <ul style="list-style-type: none"> • An attractive shapes varied mountain terrain and high accessibility for many categories of tourists, with secondary peaks accessible from surrounding areas, with potential as lookout points, • rich wildlife, beautiful natural • Objectives: Poiana Mare Tinovul stamps Drosera rotundifolia (Dew of Heaven), one of the few carnivorous plants in Romania, mineral water swamp Dobreanu (Bilbor) • unique geological formations; 12 Apostoli; from the mouth megalitii Haitii, • Volcano-represented Karst caves in the gorge Mureș • The existence of rare species of flora attractive for ecotourism and scientific tourism, • Berries and herbs; • mineral water, thermal (Wah, Colibița, Toplița Bilbor, Stânceni, Poiana Negri, Salard etc.) <p>• Many cultural and religious goals, traditions and folklore still well kept: the ethnographic museums in Poiana Stamps, Saru Wah, Dealu Floreni and village museum (Bucin), local festivals</p> <p>Well-preserved traditions and customs, particularly promoted by local folk ensembles (Ensemble Poienița - Poiana Stamps) and local festivals (Festival of berries - Coșna, Flower Festival on Dorna - Stamps Glade Festival Kings Valley Fair girls, wet Wives - Gurghiu hot air balloon festival, blueberry - or Festival City Campu Ethnographic Mures valley, etc.).</p> <ul style="list-style-type: none"> • floating (potential) • Maria Teresa Road (road border 	<ul style="list-style-type: none"> • Insufficient promotion of tourist attractions (small number of tourist information centers, lack of promotional materials such as leaflets offered free accommodation, lack of cultural guides who can find tourist activities and cultural events taking place during his stay); • Lack of organizing events that highlight the traditions and customs of the region; • insufficient measures taken to preserve historical and cultural monuments; • Offer recreational insufficient - businesses do not have equipment in the field of recreation and sports available to tourists. • poorly diversified services, short vacations; • Lack of qualified personnel; • Inadequate knowledge of foreign languages by tour operators; • Lack of collaboration between local authorities and other local actors involved in tourism; • Lack of interest in traditional activities and handicrafts. • Forest areas reduced by cutting abuse (Bilbor) and disasters (windfall) that causes adverse ecological and aesthetic • Expanding space built in rural areas that do not exploit the architecture and traditional materials

between the Austro-Hungarian and the Romanian principalities) • Opportunities for development: tourism and adventure riding, skiing, etc. • Accommodation services diversified and quality, • The area is clean , cheap and not crowded, multicultural and multiethnic • Turning space with a rich history.	
Opportunities	Risks
<ul style="list-style-type: none"> • Establishment of National Park or National Park South Căliman Gurghiu; • Promotion of the Ski Fund (especially for foreigners); • Develop promotional and informational materials and provision of their pensions in the area; • Promote non-motorized access in mountainous massifs (riding, carts, sleds), better communication - the establishment of a tourism network; • Ensuring minimum standards and uniform quality, • Improve legislation; • Allow motorized access in PNCăliman (for a predetermined portion of the road and the establishment of an entrance fee). • Restoration of historic monuments; • Inclusion of vacation homes (rural locations) across the travel agents in Romania and the European professional networks. 	<ul style="list-style-type: none"> • Lack of cohesion of the economic and social development measures amid deepening lack of public confidence in the country's economic recovery; • Degradation of architectural monuments; • Lack of collaboration between regions for tourism development (including tourism promotion area and Gurghiu Căliman).

The main objectives for the National Park of Căliman would be: a better infrastructure, access and interpretation, monitoring of tourists, creation of information infrastructure, improving education and interpretation programs for tourism, promoting the Căliman PN as a destination for an active and responsible form of tourism by developing the tourism offer with photo safari and bird-watching and marking the opening of routes to Călimaniul Cerbului (in Gura Haitii, Coverca, Păltiniș), marking the route to the cavity of Haitii, Duruitoarea, marking the route to the peak of Pietrosul, complete thematic path of the 12 Apostles, the Maria Teresa Way, the development of several sites for camping, the construction of mountain huts, the identification of areas for possible supply of animal-watching organization (for special interest tourism).

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