

**„BABEȘ-BOLYAI” UNIVERSITY CLUJ-NAPOCA**  
**GEOGRAPHY FACULTY**

**PHD THESIS**

**ROMANIAN SKI POTENTIAL**

RESUME

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*Summary*

**ROMANIAN SKI POTENTIAL**

Introduction.....	<b>3</b>
CHAPTER 1. ....	<b>4</b>
<b>History of ski parties apparition in Romania</b> .....	<b>4</b>
CHAPTER 2 .....	Eroare! Marcaj în document nedefinit.
<b>ALPINE SKI PARTIES ARRANGEMENT</b> Eroare! Marcaj în document nedefinit.	
CHAPTER 3 .....	<b>6</b>
<b>ALPINE SKI PARTIES ARRANGEMENT MODELS</b> Eroare! Marcaj în document nedefinit.	
CHAPTER 4 .....	Eroare! Marcaj în document nedefinit.
<b>CLIMATE FACTOR ROLE IN SKI POTENTIAL EVALUATION</b> Eroare! Marcaj în document nedefinit.	
CHAPTER 5 .....	Eroare! Marcaj în document nedefinit.
<b>ROMANIAN AREAS WITH SKI POTENTIAL</b> Eroare! Marcaj în document nedefinit.	
CHAPTER 6. VALORIFICATION OF ROMANIAN SKI POTENTIAL	Eroare! Marcaj în document nedefinit.
CHAPTER 7 .....	<b>35</b>
<b>Conclusions</b> .....	Eroare! Marcaj în document nedefinit.
<b>BIBLIOGRAPHY</b> .....	<b>42</b>

**Key words:** *tourism geography, mountain tourism, ski, performance ski, ski places, ski potential, climate, climate factors, air temperature, snow bed thickness, solid precipitations, infrastructure, ski parties, strategies for ski places development.*

## **Introduction**

Tourism in Romania has got large once with economical and social development. Because of these, technical-material basis specific to tourism developed, consumption goods and food industry products have diversified and developed too; other economical fields which interest the tourism have developed, as electrical hydro centrals, overfall weirs and accumulation lakes. Among winter touristy activities, winter sports are intensively practiced , especially ski more and more practiced by mountain, open environment movement and snow lovers.

The work is structured in seven chapters trying to do through them an actual situation analysis of ski places and climate factors which depend the existence and possibility to ski of these.

Also there were studied development Projects with directly involvements in the next ski places development in order to increase Romanian tourism potential.

The results of this Study are useful for mountains lovers who in winter period want to practice winter sports and also to the investors in this field. There is a big and vary offer but not so reach yet as in the countries with a tradition in this area.

## CHAPTER 1.

### *History of ski parties apparition in Romania*

Mountain tourism development has started rather lately in Romania. First descriptions of a mountain massive appeared in D. Cantemir's work "Descriptio Moldaviae". Later, Gheorge Asachi published in 1840, at Iasi "Itinerarul muntelui Pionul" ("Pion mountain itinerary"). Mountain tourism especially developed in the second half of XIX century, when in some mountain regions appeared arrangements for this one. First Rumanian touristy basis got born in 1872, at Sinaia, once with this one decreeing as a royal residence. It follows a gradually development of the other mountain resorts. Most documents about ski practicing we had from the Transilvania magazines, where were founded associates and societies which had among other scopes the one to practice winter sports. These associates and societies had an important contribution to tourism development in our country especially in the mountains area. In Sibiu area, because of high standard of development and societies founded, there were ski parties arranged, where were organized many profile challenges. The endowments and arrangements multiplied, Transilvanian Karpatien Society (S.K.V) founded Paltinis resort in the last decade of XIX century, meantime many villas being built up.

In 1913 it is recorded the building up at Poiana Postăvarul of the first ski jumping off place by the Society K.S.V, meantime being organized the first jumping challenge. In 1921 is giving to use a big ski jumping off place in Poiana Braşov. In 1939 is organized first international challenge on Carp Valley "International championship of ski descent", where participated skiers from Germany, Austria, France, Yugoslavia, Poland and United Kingdom.

In 1903 is founded in Bucharest "Society of Tourists from Romania" S.T.R by Grigore Antipa, Simion Mehedinți, Ludovic Mrazec, G. Munteanu-Murgoci, dr. Alecu

Urechia and Alexandru Vlahuță, which has worked for 13 years and has got especially contributions in tourism activities development.

In Small Mountain area tourist activities and winter sports are mentioned since 1936, in the manuscript edited by “ Timisoara Municipality Clerks Association” ( AMIC) in 12<sup>th</sup> of July, 1936 when were inaugurated all the buildings from that place. In Poiana Brașov are organized in 1951 University Worldwide Games. Because of these ones it is built up a new and modern for the sportsmen and a rope way, first in the country, 2150 m long.

After the second War have started to appear and to become known resorts from other mountain areas of the country as Maramureș, Harghita, Cindrel, Parâng, Muntele Mare etc.

At the present moment efforts are done intensively to develop mountain tourism in order to increase the competitiveness on international market. The most important endowments are done to develop winter sports especially in area Valea Prahovei – Brașov in Poiana Brașov, Sinaia and Predeal resorts, were are arranged trails for alpine ski , long distance ski, sled trail and sleighing, skating ring and transport ways on cable.

## **CHAPTER 2**

### ***ALPINE SKI PARTIES ARRANGEMENT***

Total ski range results from association of natural conditions and a series of corresponding endowments, arrangements and services, complied with environmental protection.

The main components of a mountain resort are:

- ski range and corresponding endowments
- accommodation and food services,
- additionally services,
- environmental protection (M.Ilie,2007).

Regarding the investments, it has to be taken in consideration the amortization time of these, the advantageousness and profit which could be get from, the value of turnover and shares price. There are many stages to perform before to finish ski slopes:

- Ski slope design stages
- Prospecting stage
- Technical study of potential range stage
- Arrangement design stage
- Real arrangement stage
- Functioning stage

To identify relief morphology in order to arrange ski range there are performed following steps:

- a) Relief assembly morphology Study
- b) Marking of potential directions
- c) Respecting of initial marked directions
- d) Longitudinal profiles assembly characteristic representation for the viable ski slopes
- e) Identify the exposure of the sides crossed by the future ski slopes.
- f) Future ski slope morphometric characteristics identification.
- g) Tourists flux analyze between emitting areas and prospected areas.
- h) Establishment of potential regions and tourist arranged place (M.Ilieş,2007).

### **CHAPTER 3**

#### ***ALPINE SKI PARTIES ARRANGEMENT MODELS***

There are multiple possibilities to arrange ski slopes, depending on relief configuration and investor financial possibilities, the guidelines are given by natural conditions and region economical level. They could be differentiated as follows:

- endowments concentration ( their distribution around and inside the massifs, or across the valleys).

- resort placement against the massif: at the bottom, linearly, following natural lanes, or in terminals area; at height or at the bottom beyond the human places limit (Țigu, 2001).

In Romania, majority of ski ranges haven't been arranged following these principles, and in consequence they are over crowded from accommodation and cable transport point of view, and the cables aren't enough, the efficiency of recreative act and the economical one having to suffer.

Besides difficulty grad of ski slope, they could be classified up to location and existing rapports between their main elements. In this purpose, the following models are Pe lângă gradul de dificultate al pârtiilor, ele se pot clasifica și în funcție de locul de amplasare și de raporturile existente între principalele lor elemente. In acest scop se described (Ilieș,2007).

*Model 1.* It is used for small arrangements in case of a side of a mountain edged in bottom side by a road or a touristy small resort. Cable transport is on the same direction with the slope ( Izvoare Resort, Igniș Mountains). (Fig.2)

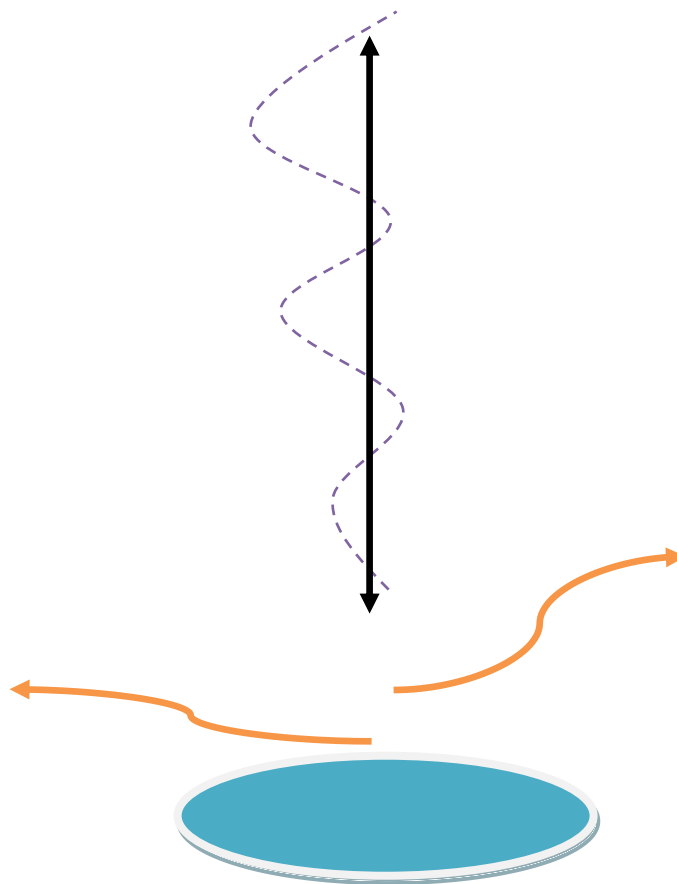
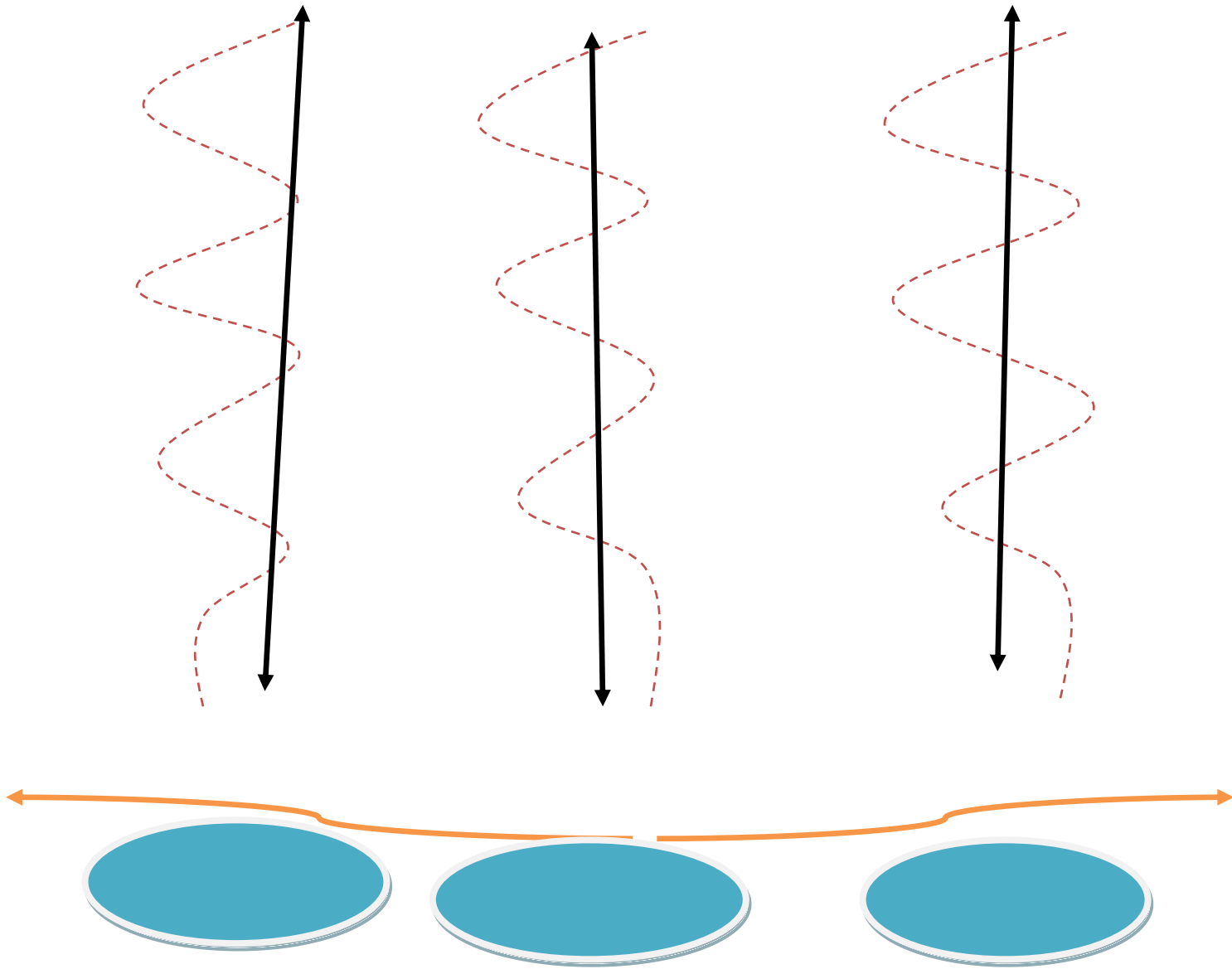


Fig.1. Model 1

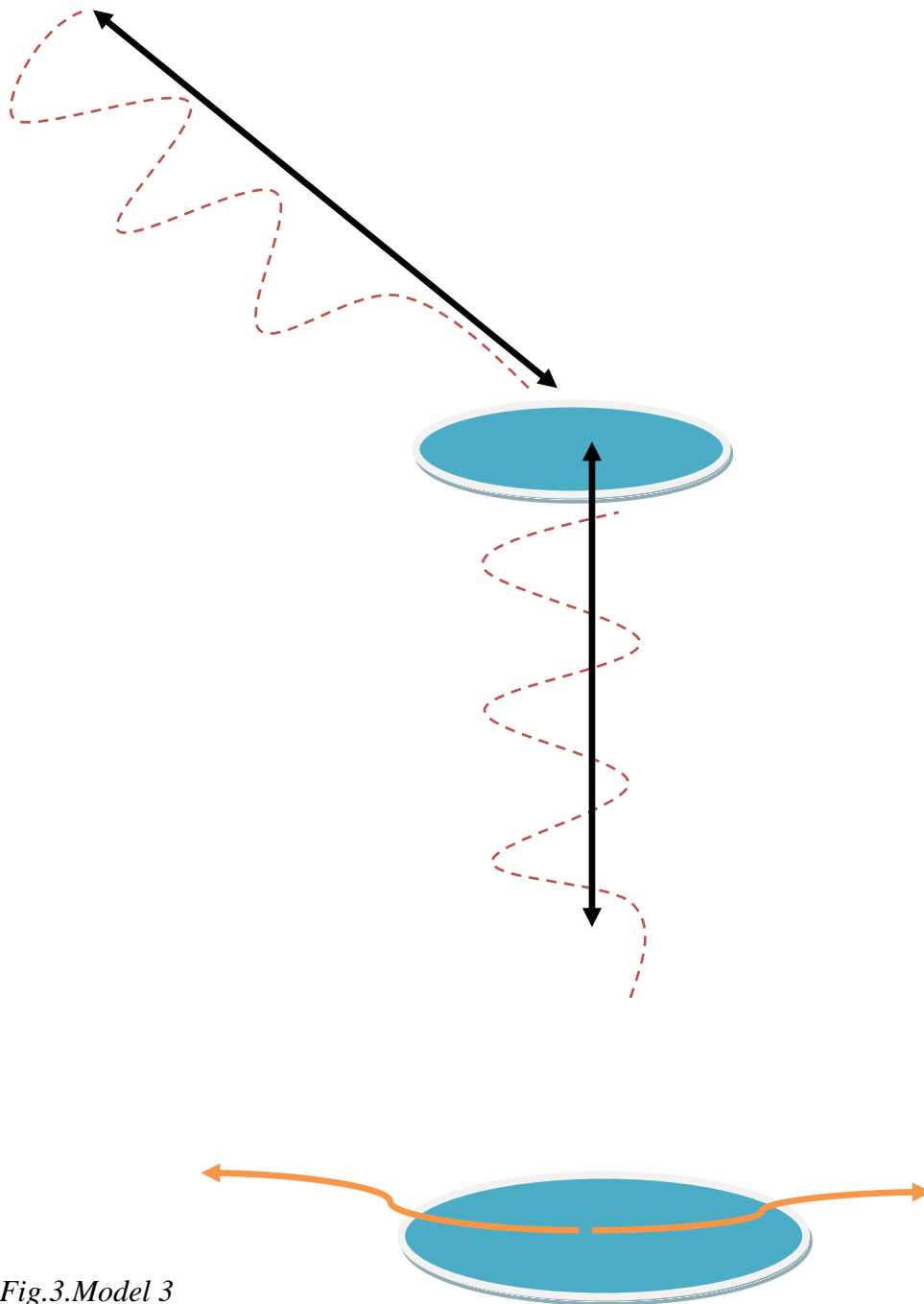
*Model 2.* It is used to arranged parallel parties, across a communication way: those working separately.(Fig.2)



*Fig.2. Model 2*



*Model 3*, it is used when the intention is to arrange two or many slopes which come from many sectors; these being arranged one in extension of another one. Cable transport in such situation it is assured by two different installations (Borşa, Rodnei Mountains, where first slope is served by a chair lift, and the second is served by a ski lift). It could be used also only one cable transport for both slopes (Fig. 8).



*Fig.3.Model 3*

*Model 4.* In this situation many valleys and sides with different slopes come into a depression, slopes having different difficulty grades and the result is a big tourists diversification. Tourists services are assured in one very well features centre with a very good infrastructure ( Vall de Nuria Domain – Pirinei Mountains).(Fig.4)

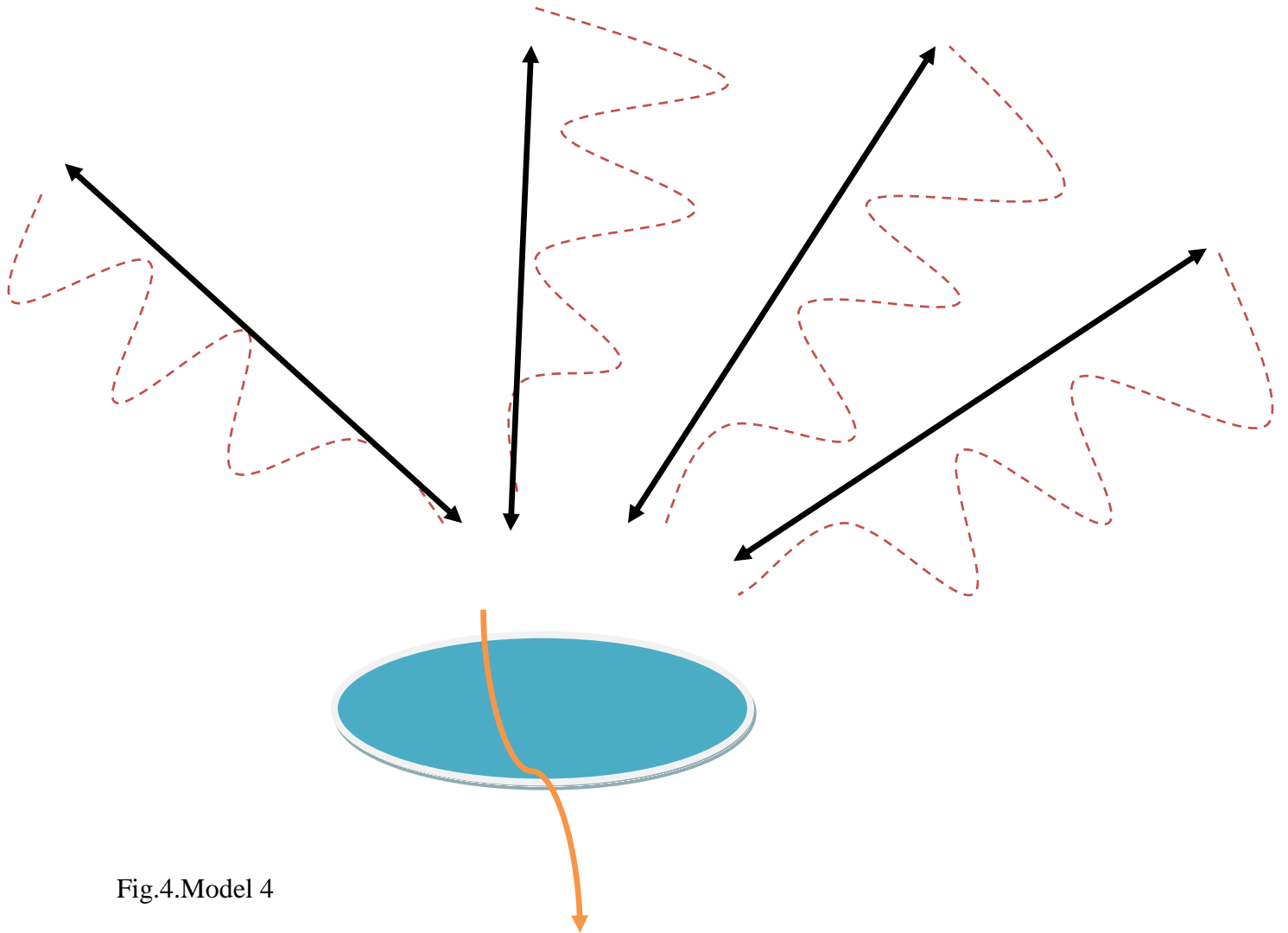
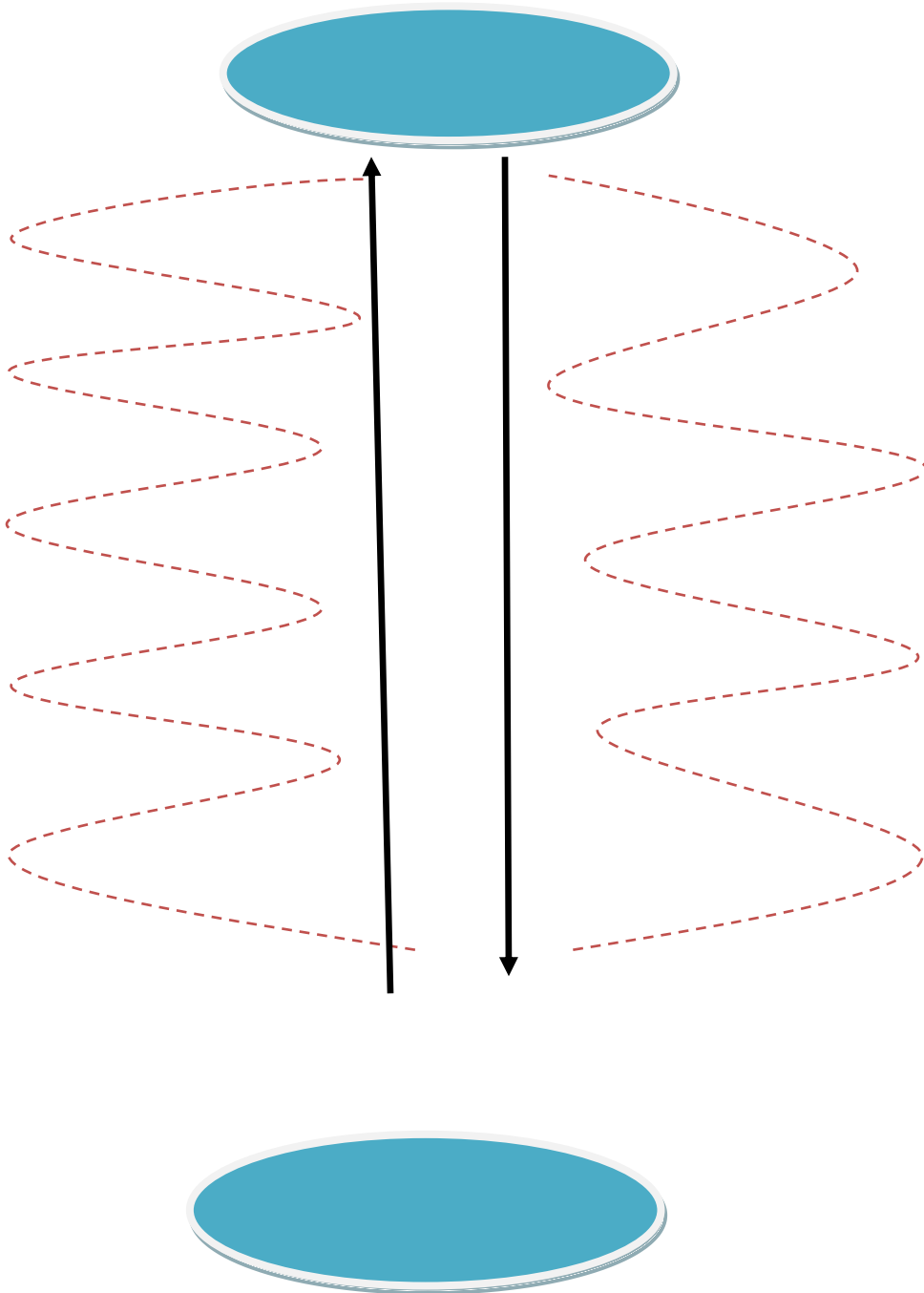


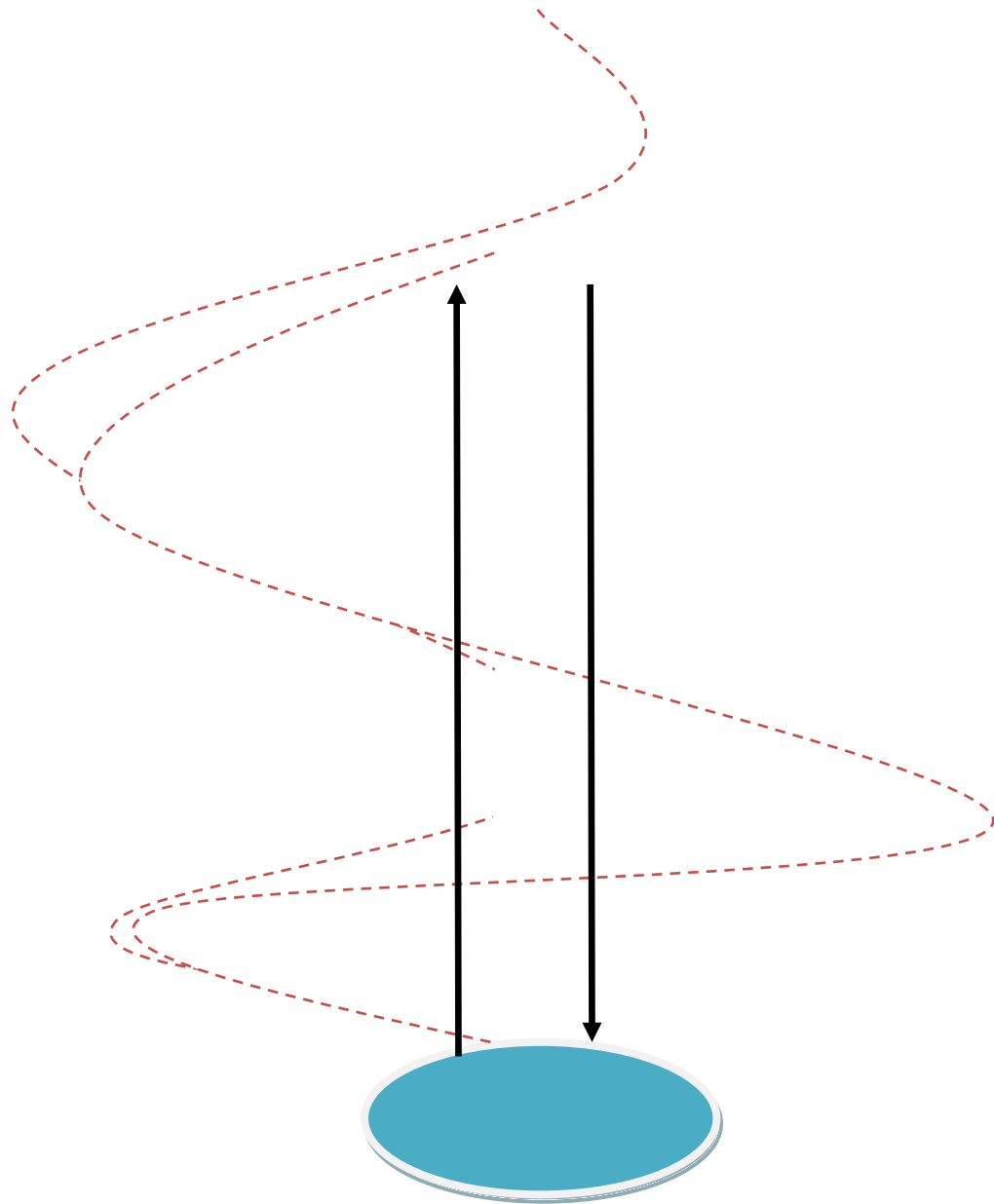
Fig.4.Model 4

*Model 5.* Design for this model is with one single cable transport line for many slopes with different grade of difficulty, that's why is absolutely necessary a proper and correct design for transport line (Fig.5).



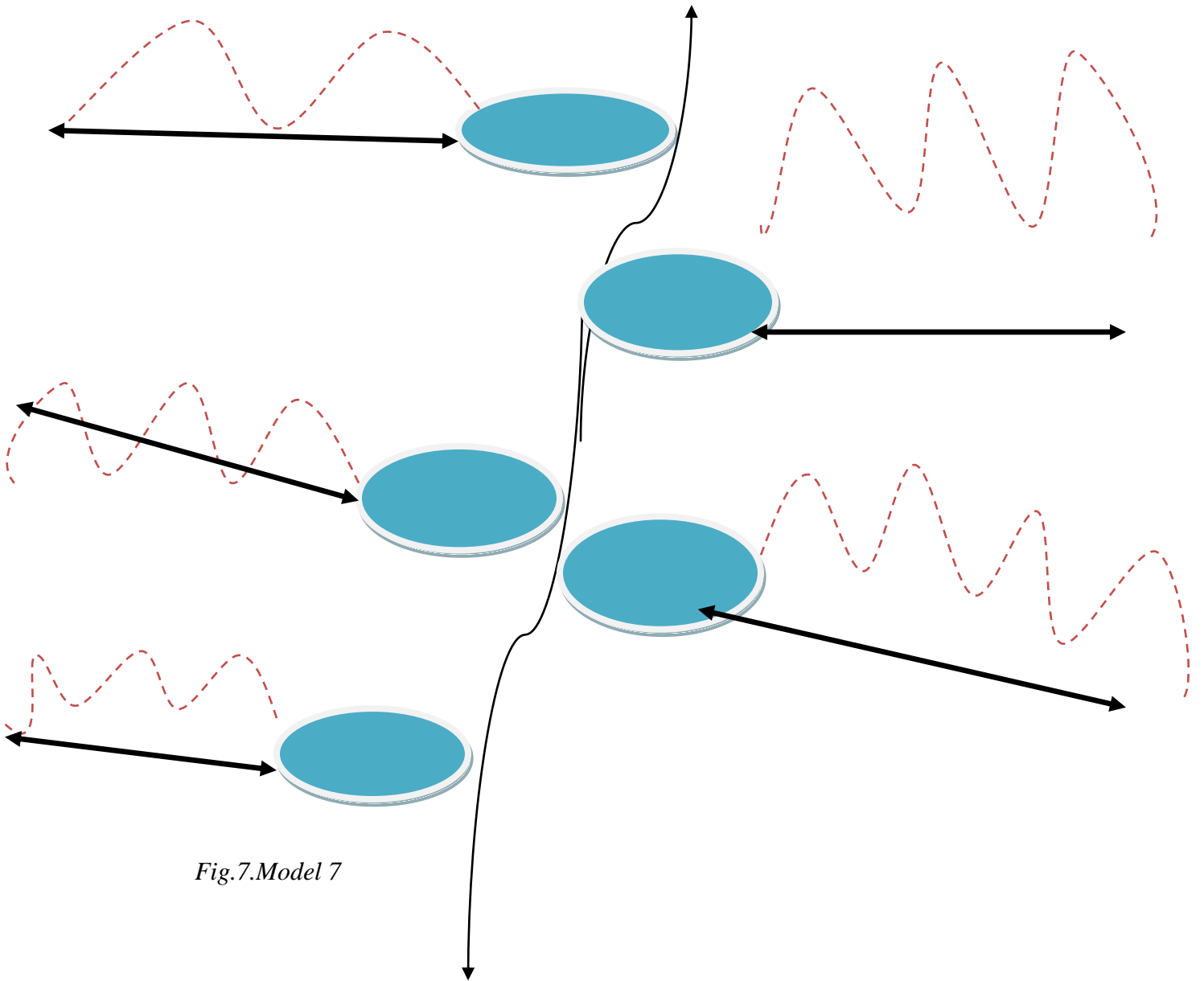
*Fig.5.Model 5*

*Model 6*, is look like model 5, but slopes arrangement is more elaborated. (Fig.6)



*Fig.6.Model 6*

*Model 7.* The slopes in case of this model are situated on the mountain sides arranged on both sides of access roads to these ones. (Fig.7)



*Fig.7.Model 7*

*Model 8*, is a big dimensions arrangement which includes all that exist in the area, in fact being a combination of past models. It has a complex infrastructure used in majority of European ski places with tradition in winter sports. ( Ilieş, 2007).

These models could offer changes depending on configuration of the relief chosen for slopes.

### **Arrangement models of mountain resorts from Europe**

The countries where ski places were developed had an ascendant evolution regarding their arrangement, up to experience and specific conditions of the area (relief, climate, landscape, snow, access, economical, social and cultural conditions).

*France* is one of the countries which sketches the direction of the ski places models. Here, in 1920 appeared modern ski, as it is practiced today. Also here have appeared the four models of “resorts generations” and performed first international ski challenge in 1924, where participated 16 nations.

#### *Austria*

At the beginning resorts were designed after French model (Innsbruck ,Badgastein, Kitzbühel, San Anton), and after that they pass to an own concept which was implemented especially in Tirol. The Austrians put the man from the mountain in the center of the Project, the person who lives in this area being directly interested in this one development.

#### *Switzerland*

This country is preponderant mountain, natural conditions being maximum exploited for and not only winter sports. It is recognized at worldwide level special endowments for winter sports and the big number of skiers.

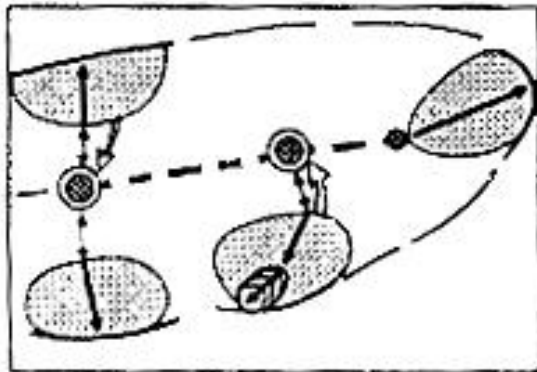
*Italy* , is classified in the top of worldwide classification as tourists number who access its domains.

In *Germany*, ski is very popular being intensively practiced.

### **Arrangement models from Romania**

European models were those which imposed in our country too. Anyway we can not say that all ski places are in accordance with standards. Many of them have developed near already existing mountain resorts.

Sinaia resort , corresponding to third generation of resorts from France. Here the arrangement of accommodation spaces and public food places there are inside of ski place range. The other resorts from Prahova Valley: Buşteni, Azuga, Predeal were at the beginning villegiatura resorts and then they improve their services.



*Fig.8. Arrangement model with scattered resorts connected through a railway or a road way which is founded in the valley*  
(<http://altitudes-architecture.blogspot.com>)

In Predeal resort, ski range starts from the resort, as it is situated at 1040 m height. The road crosses the resort, accommodation units being situated on a side and another of this one, with big share on east side, where it is also the railway.

Poiana Braşov resort is different from others because of it is situated in the neighborhood of a big city which it serves and which is connected through by a road and also by cable transport. (fig.9)

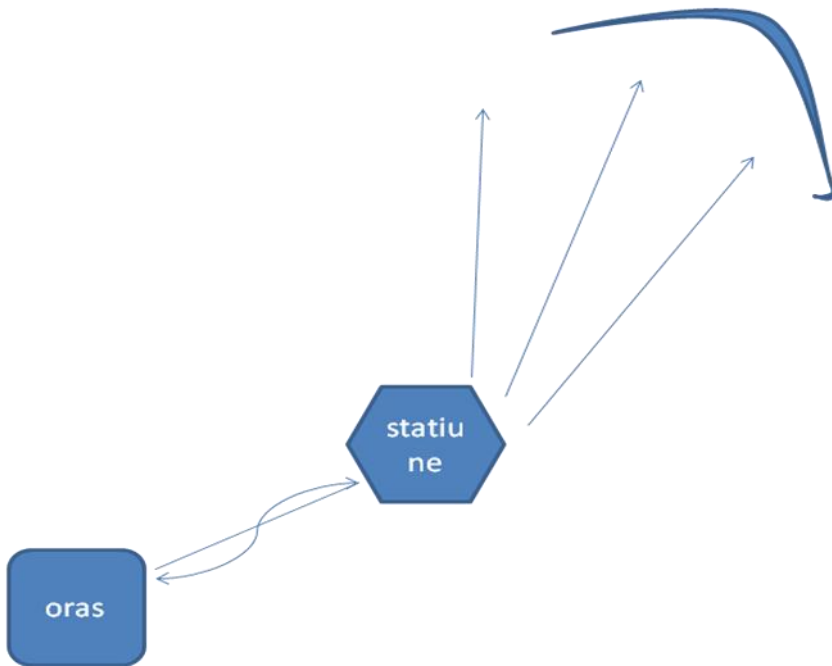


Fig.9. Poiana Brasov ski range structure

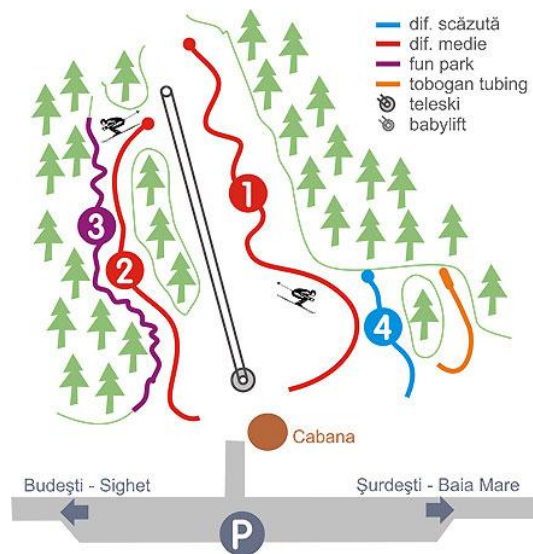


Fig.10 . Icoana Cavnic slope .www.skivirus.com

Cavnic ski range is composed by seven ski slopes with potential to open new slopes. At Cavnic, Icoana slope is built up in according to model 5 where there is a single transport cable and slopes on one side and another.(fig.10)



## CHAPTER 4

### CLIMATE FACTOR ROLE IN SKI POTENTIAL EVALUATION

The climate has a very important role in touristy activities no matter the season when these are developed.

Romania has a touristy-climate potential varied and with a big complexity and value recognized on worldwide plan. There are here big differences in atmospheric precipitations repartition, because geographic position towards main baric centers and relief diversification.

In recreational activities development during winter time a special importance has solid precipitation. Snow thickness is essential in winter sports performance. Over 1800 m height snow is present most of the year, approximately 200 days, having to 3 m thickness in March ( Iezer station in Rodnei Mountains snow time duration is 197 days, and to Omu Varf is 219 days). Moving down to medium heights about 800-1200 m, snow thickness on Nordic sides is about 1-1,5 m, and on South sides snow thickness is just half having a life about 80-120 days, between December to April. This area has together the most favorable condition for winter sports performance and in consequence here were founded the most mountain resorts (Postăvaru, Mogoșa, Rodna, Borșa, Vatra Dornei, Cârlibaba). However there are ski slopes over 2000 m height in Bucegi Mountains, on somital plateau of these.

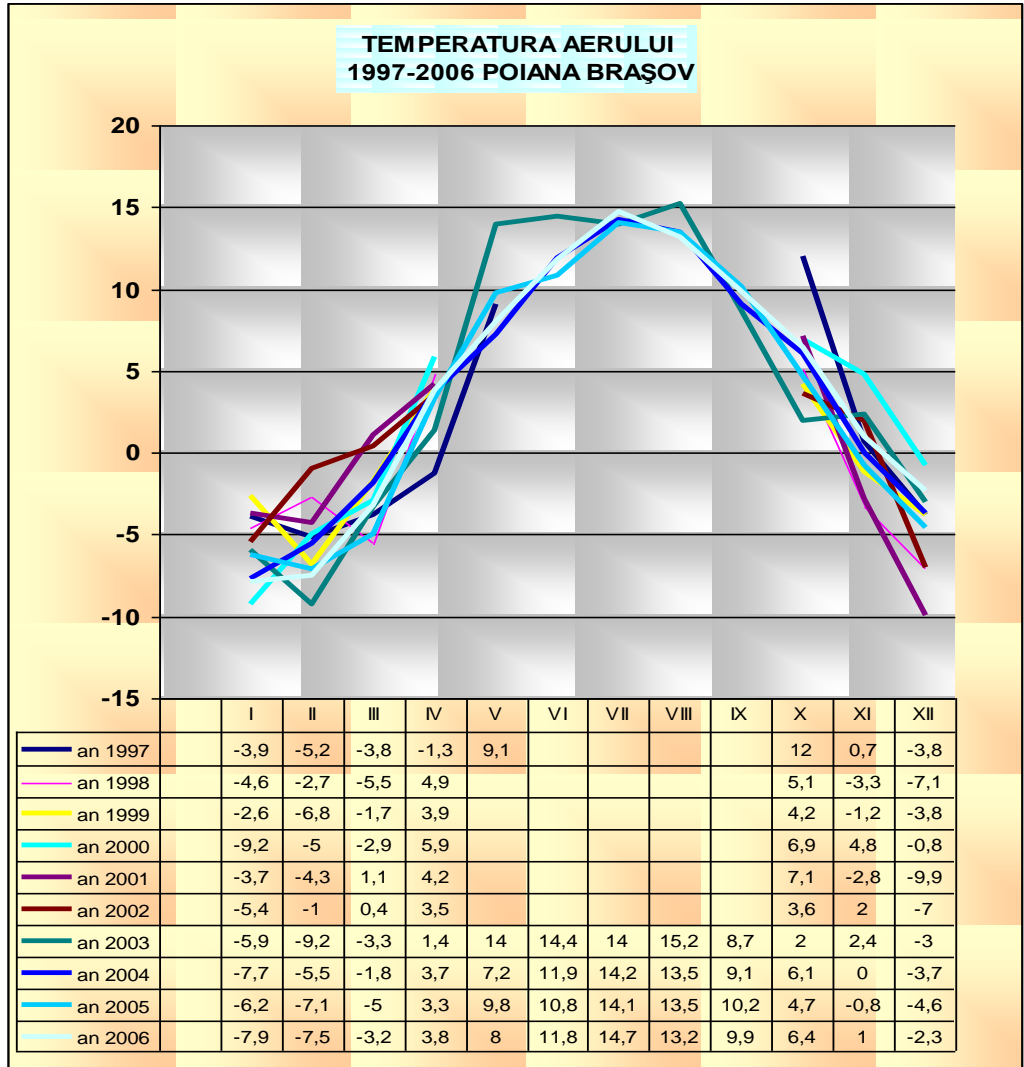
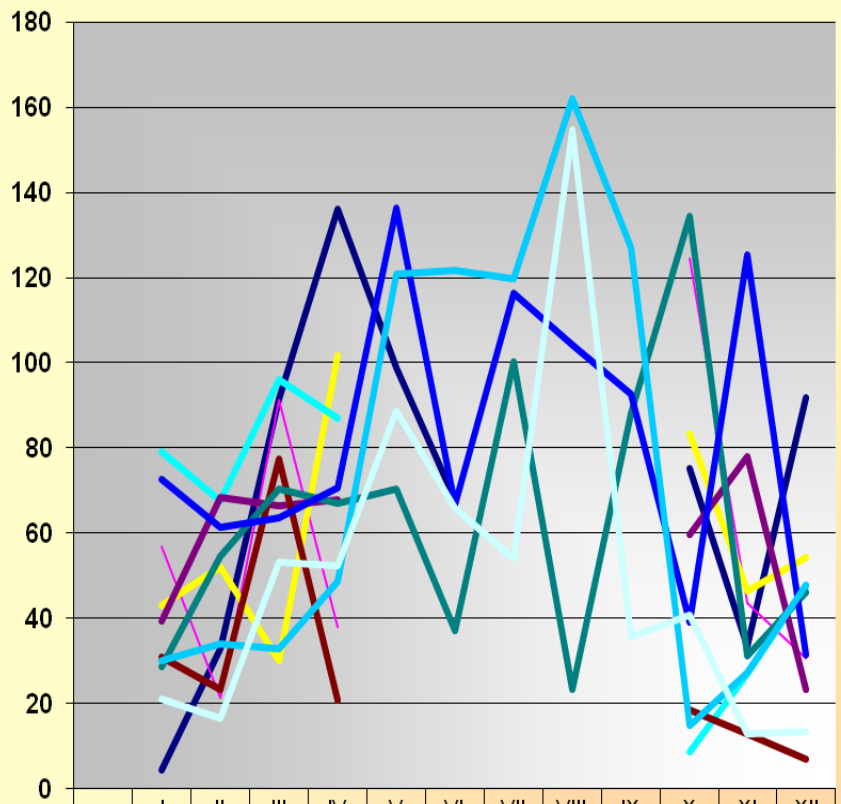


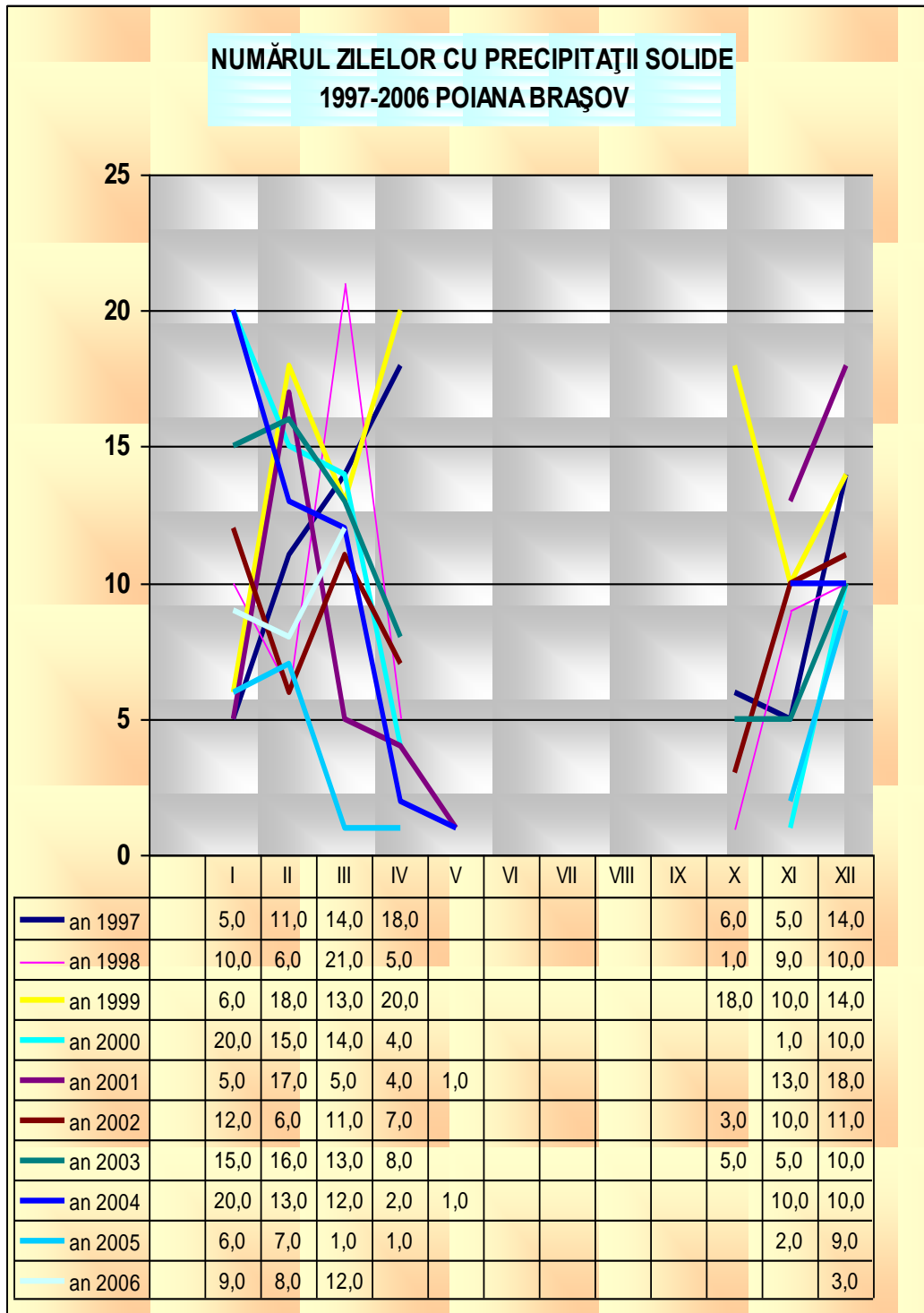
Fig.11

**PRECIPITAȚII SOLIDE  
1997-2006 POIANA BRAȘOV**

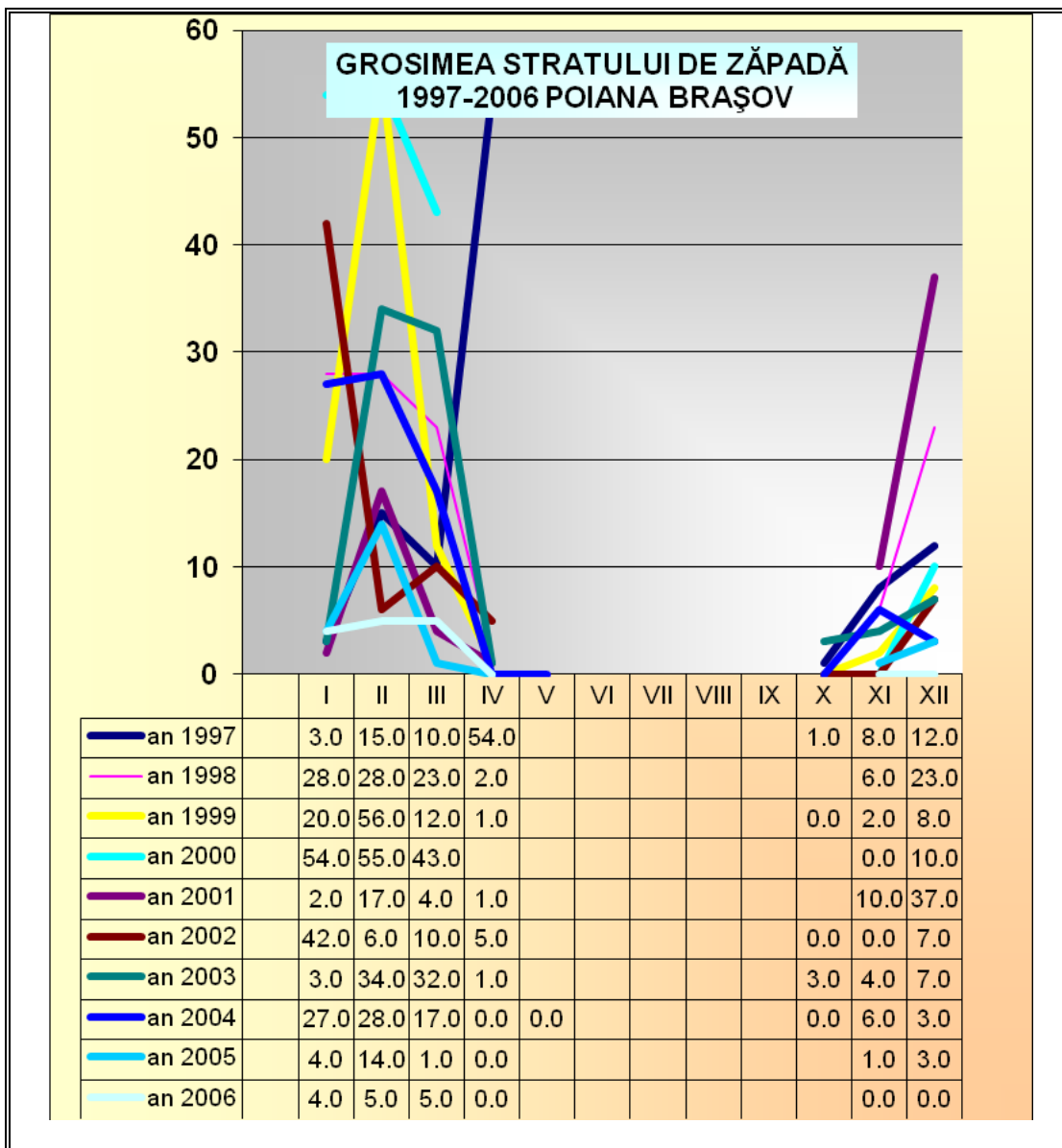


	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
an 1997	4.5	32.8	91.5	136.2	99.0	68.0				75.2	33.4	91.9
an 1998	57.0	21.3	91.3	38.1						124.4	43.6	30.6
an 1999	43.2	52.2	30.2	101.6						83.3	46.5	54.4
an 2000	79.1	67.7	96.0	87.0						8.7	27.0	47.5
an 2001	39.4	68.3	66.5	67.8						59.6	78.0	23.3
an 2002	31.0	23.4	77.5	20.7						18.6	13.0	7.0
an 2003	28.7	54.7	70.4	67.0	70.5	37.1	100.4	23.3	88.2	134.3	31.2	46.1
an 2004	72.7	61.5	63.5	70.8	136.4	66.8	116.3	104.2	92.6	39.0	125.5	31.5
an 2005	30.1	34.1	33.0	48.8	120.9	121.8	119.7	162.0	127.0	15.0	27.2	47.8
an 2006	21.2	16.5	53.2	52.4	88.8	65.8	54.0	154.6	35.6	40.8	12.9	13.6

**Fig.12**



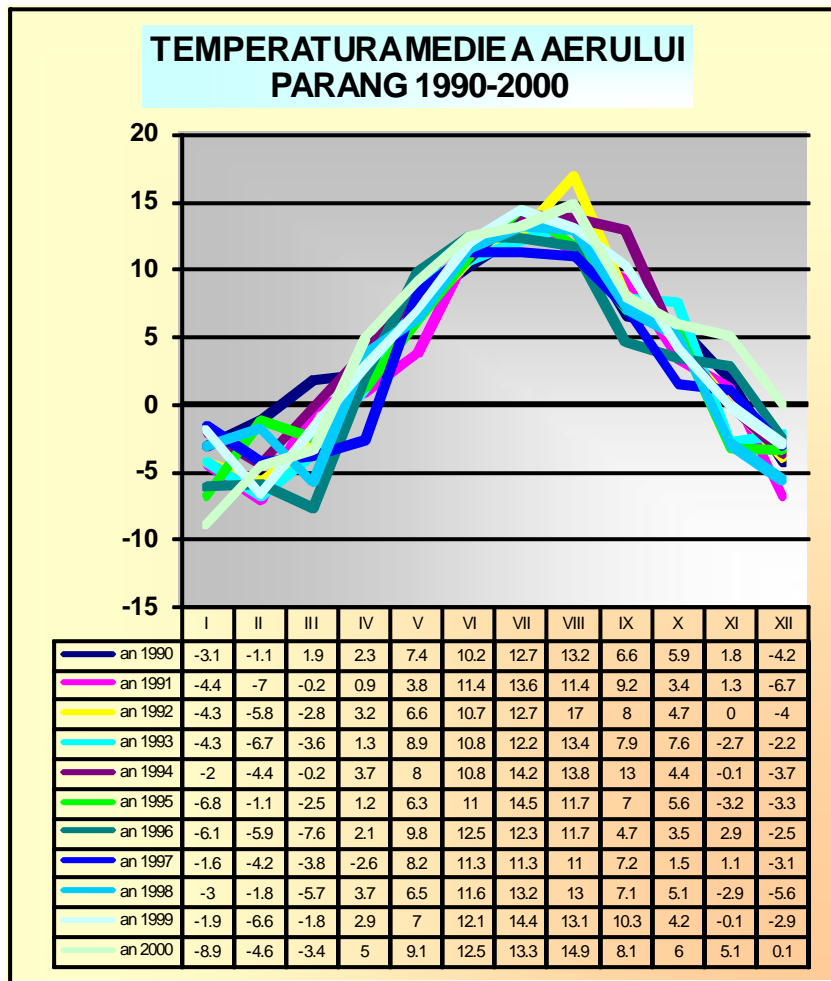
**Fig.13**



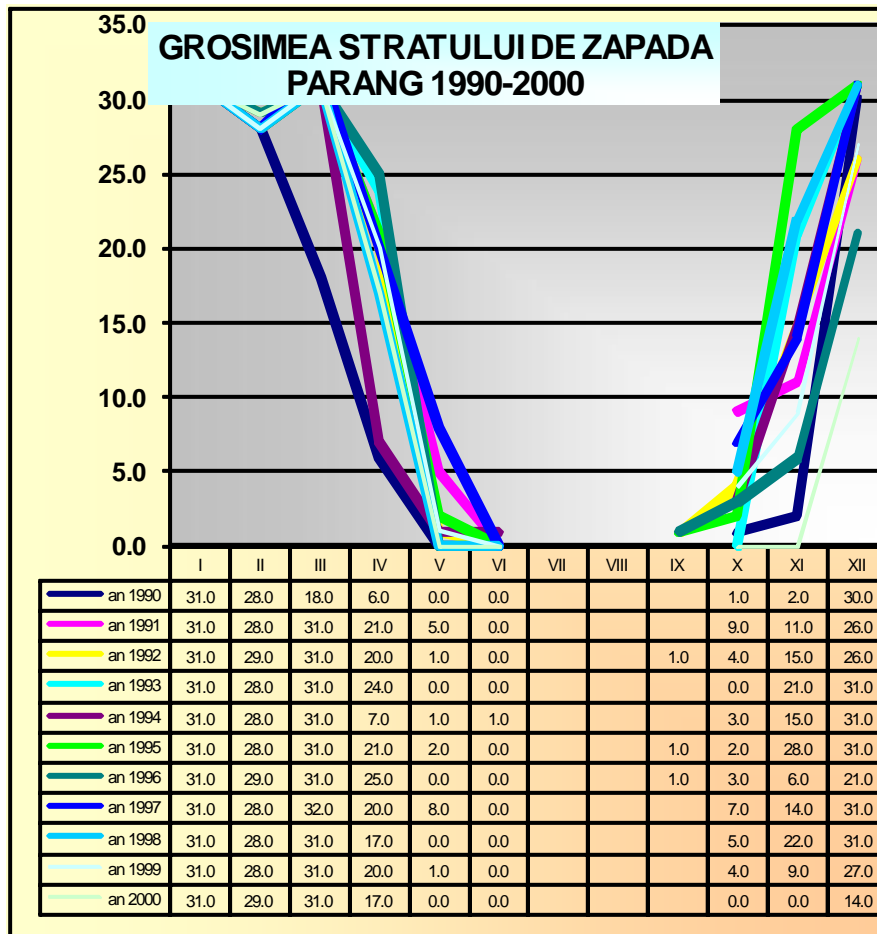
**Fig. 14**

Analyzing climate factors from Poiana Brasov resort tables and graphs in period 1997-2006, we can see that air average temperature in this period is between  $-9,9^{\circ}\text{C}$  in December 2001 and  $7,1^{\circ}\text{C}$  October, same year. The lowest temperature are recorded from December to March. Same is with snow bed, being more depth from December to March. The thickest snow bed was recorded in February 2000 about 55 cm and in January about 54 cm, and the thinness of snow bed was between 2005 and 2006, the average being 14 cm, respectively 2 cm. If we calculate an average of the days with solid precipitation, in

the result we will see that the poorest years in precipitation were 2005 and 2006 with an average of 26 days, respectively 32 days, and regarding solid precipitation the average with the highest quantity was recorded in 1997 having 72, 4 cm and with the smallest quantity in 2002 about 59cm.(fig.11,12,13 și14)



**Fig.15**



**Fig.16**

From the graphs recorded in 10 years in Parang Massif can be concluded that temperature was between 1,9°C in 1990 and -3,9°C in 1993. The lowest temperature were recorded at the middle of the analyzed period. At the end of analyzed period, respectively in 2000 air average temperature was -2,3°C this being a medium temperature which leads to conclusion that in this area temperature is still constant. If we study the graph and following table we can see that negative temperatures were recorded even in April and November are higher than usually. It looks like in this Massif too cold months go to the spring. Calculating an average of snow bed thickness it could be seen that in this period snow bed thickness is between 21,6cm in 1990 and 27, 2cm in the year 1994. (fig.15 and 16).

## CHAPTER 5

### ROMANIAN AREAS WITH SKI POTENTIAL

Starting from the saying “mens sana in corpore sano” valid even today when technology is advanced and sedentary life increases, man has to find a solution to recreate his mind and his body too; movement being a basic attribute coming to defense the health and helping to keep the body beautiful and harmonious.

In this context winter sports join too no matter if they are for performance or for recreation contribute to keep the health, good mood and to form an harmonious and beautiful body.

Adding the whole slopes lengths from our country, the result will be over 152,553 km. Reporting this total lengths to the total number of existing slopes which is 154, we can see that average length of slopes is under 1 km, a very modest indicator.

Most of the slopes are in Poiana Braşov (**10**) where there is the longer track, Drumul Roşu, with a total length of 3.829 m. From this point of view in our country there are three resorts favorites because of special natural conditions: Poiana Braşov, Predeal and Sinaia. They have approximately 63% from accommodation capacity of Romania resorts, 70% from the total arranged slopes and cable installations and 40% from tourist mountain circulation.

In Maramureş area there are about 17 slopes some of them shorter from the beginners and some of them longer for advanced or performance ski.

The most representative and well known slopes from Oriental Carpathians are: slopes from Borşa resorts, three pieces (fig.18) with a total length of 2800 meters. In ski season 2007-2008 was given in use a gondola which serves Olympic slope with a high difficulty grade.

Cavnic re-converses its old mining economy to tourism and special to winter sports. Ski range is formed by seven slopes with potential to open new slopes (fig.17). Roata Complex has a 6 km length with three ski-lift and six descent versions. Standard slope has a 2,25 km length.





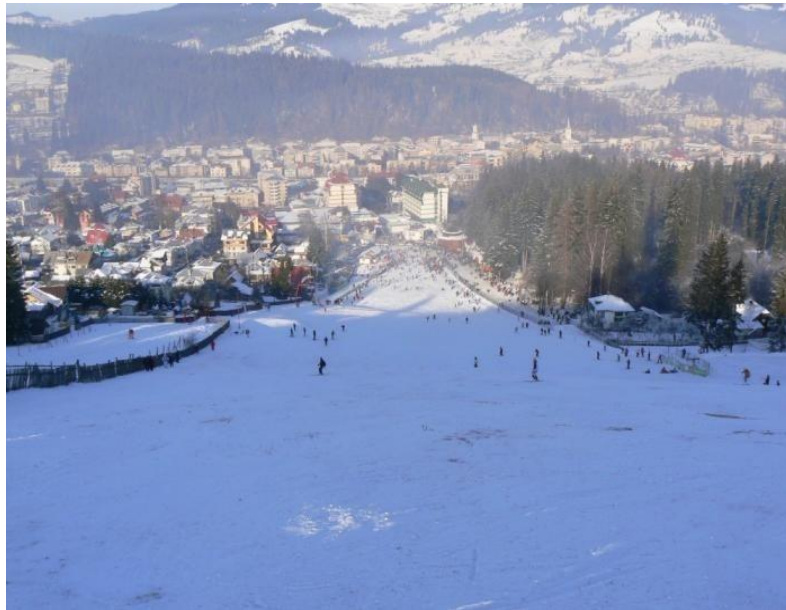
*Fig.17. Roata-Cavnic Slope*



*Fig.18.Borșa.ski slope*

Vatra Dornei is situated in Dornelor Depression at a height of 810 m, at 112 km distance from Suceava and 80 km distance from Bistrița, being known because of its mineral water springs even from the beginning of XIX century. This resort from

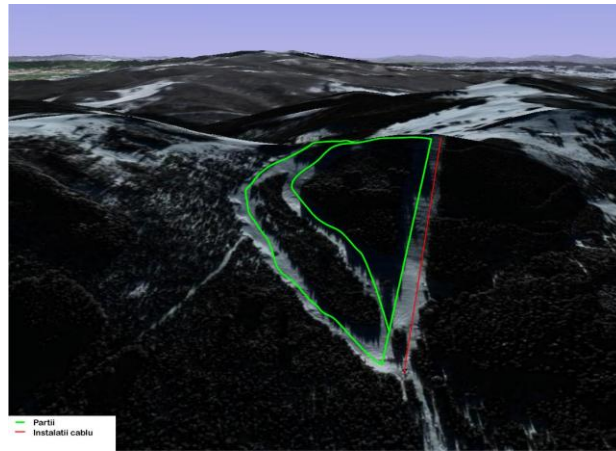
Bucovina also has three ski slopes. Two of them are in the middle of the city where are organized annually Snow Celebrations (fig.19)



*Fig.19. Parc slope, Vatra Dornei*

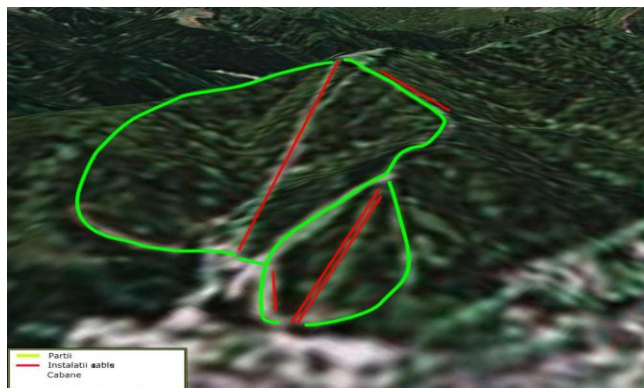
*Toplița* city, even though it hasn't high places, there are here two slopes searched by skiers from Ardeal, at 3 km distance from the city. (fig.23)

At *Ciumani* a place close to Gheorgheni city, in East part of Transylvania were arranged in the last period two ski slopes. Put in "fall" one in the other continuity, together both slopes have more than 1500 m length. One of the most known resort in this area is also *Harghita Băi*, situated at the base of Harghita-Ciceu Massif , at 1350 m height. Snow keeps about four months in a year being recorded here very low temperature. The resort has ski lifts for each slope and a snowboard slope with five jumping off places (Fig.20).



*Fig.20. Ski map Băile Harghita. www.skivirus.com*

The most representative and known ski slopes from Curvature Carpathians are: Predeal slopes with a total length of 7340 m, from which the longest is Coccoşul slope with a length of 2250 m, medium difficulty (Fig.21).



*Fig.21 Predeal-ski range, www.skivirus.com*

Then Poiana Braşov slopes, with a total length of 13928 m, situated at the base of Postăvaru Massif, at a height of 1020 m, being considered the most important ski resort from Romania. The longest slope from the resort is *Drumul Roşu* ( *Red Way*) about 3829 m, and the most difficult slope from the country is considered *Kazel* slope with length of 350 m (Fig.22).

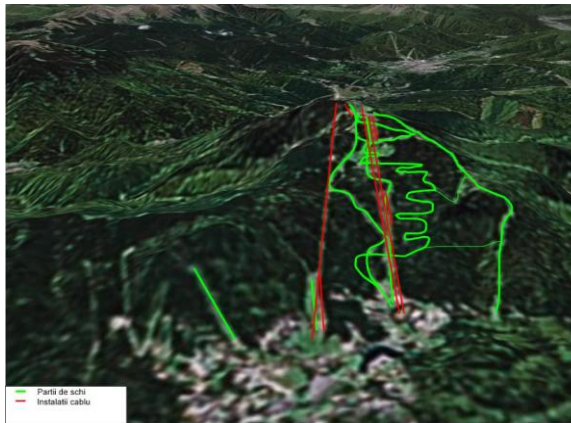


Fig.22.Poiana Braşov – ski range .www.skivirus.com

Azuga resort trying to keep the rhythm with Predeal resort following the mounting of artificial snow equipments on all resort slopes. The snow keeps from December to March. To remember that Sorica slope is one of the best from the country, having Olympic slope homologation even since 2002.

The most representative and known slopes from Middle Carpathians are: slopes from Sinaia, Bălea Lake, Păltiniş, Parâng and Straja.

Ski range from Sinaia resort is distributed on two mountain sides of Vârful cu Dor Mountain and it is formed by 14 ski slopes with different difficulty, having a total slopes length about 10,5 km (Fig.23).



Fig.23.Sinaia – ski range , www.skiresort.ro

Bâlea Lake resort situated in an ambient environment unique in our country, represents ideal place for the one who love extreme ski. In the area there are only natural slopes which make possible over ten km length descents. Cable transport is assured with ski cable which connects with Bâlea Fall.

Păltiniș resort was founded in the last decade of XIX century by Transylvanian Carpathian Society and its slopes have a total length about 17490 m.

Straja resort, situated at 1380 m height, at 9 km distance from Lupeni, is one of the most searched resort by the skiers from West of the country. Ski range is formed by nine ski slopes with different difficulty with a total length of 4880 m (Fig.24).



Fig.24. Straja

Parâng resort, is one of the resorts with old tradition in winter sport, situated at only 15 km distance from Petroșani city; there are here three slopes Subtelescaun, Spre Saivane and Poiana Mare with a total length of 3610 m, which are used only by A.N.E.F. București and C. S. Ș. Petroșani (fig.25).





Fig.25. Parâng

Râncea is situated in Gorj district, at 1700m height, in full development. The two slopes are arranged on Corneșu Massif. To notice that beginners slope has also nocturne installation.

Muntele Mic resort as well Semenic resort are situated at a height of 1525 m respectively 1410 m. Total length of the slopes from the two resorts is about 8200 m.

In Sebeș Mountains from **Șureanu Massif**, was inaugurated in 2009 ( 23ian. 2010 ), a ski range with seven ski slopes with a total length of 15120 m, having two ski lifts (fig.26).

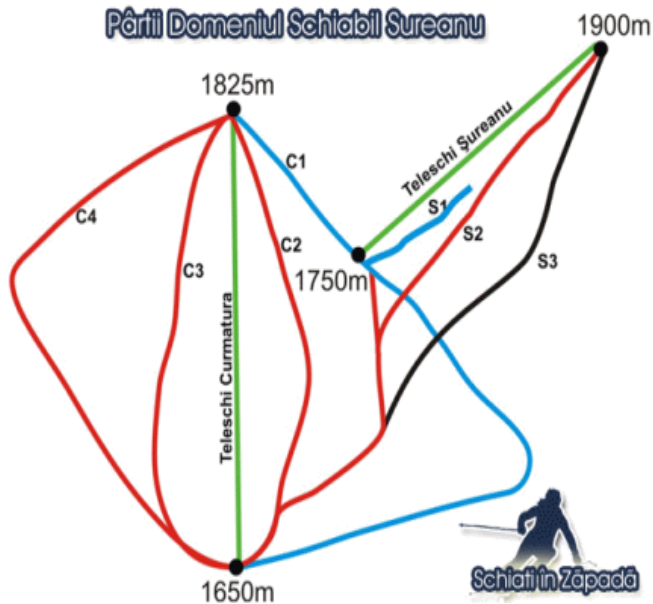


Fig.26. Slopes from Șurean ski range. [www.roxi-world.php](http://www.roxi-world.php)

Vârtope slope from Arieșeni is situated at the height of 950 m and at the border between Alba and Bihor districts. The slope is homologated and has nocturne installation on its whole extent. Total length of the slopes is about 1920 m (fig.40).

Băișoara resort, has a ski slope with a length of 1200 m and a level difference about 250 m. Going up on the slope is done by two chair lifts : main chair lift on whole slope length and a baby ski lift for the beginners/children (fig.41).

At Buscat were given in function in 2010 three ski slopes which together overcome 3 km length served by a last generation chair lift. The slopes were built up with different difficulty grades, one of them for the beginners and two for advanced.

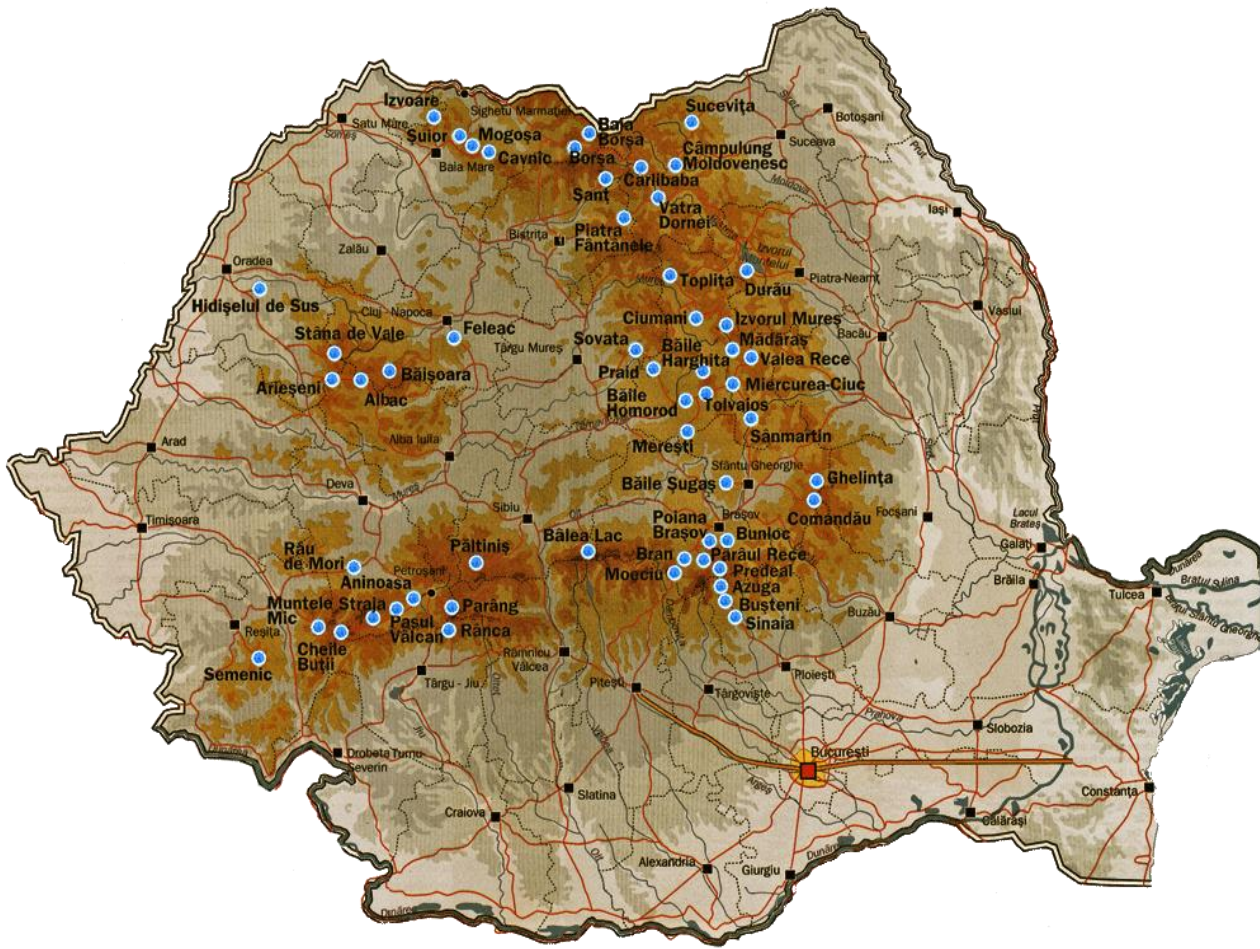


Fig27. Areas with ski ranges from Romania (Source [www.xtrem.ro](http://www.xtrem.ro))



## **CHAPTER 6**

### **VALORIFICATION OF ROMANIAN SKI POTENTIAL**

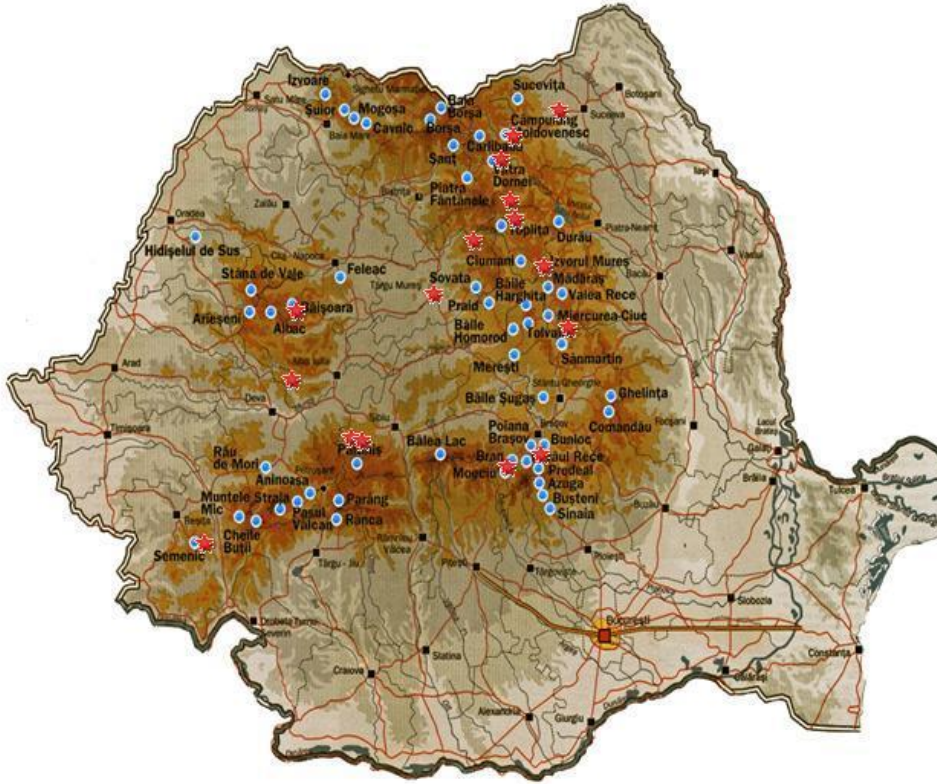
It is known that in Middle and Oriental Carpathians optimum heights to practice winter sports are between 1500-1800 m, in Apuseni Mountains heights between 1500-1800 m, and in Banat Mountains heights between 1300-1400 m.

Winter tourism, through big number of practitioners could bring major benefits. For this reason there is a National Program for mountain tourism development: “Super ski in Romania”, through which will be invested over 130 millions euro in order to develop ski range in four geographical regions of the country:

- a) Prahova Valley with resorts Sinaia, Buşteni and Azuga, Predeal and Poiana Braşov;
- b) The Valley of Jiu with resorts Straja, Lupeni, Parâng, Pasul Vulcan;
- c) Maramureş area with resorts Borşa, Cavnice and Mogoşa;
- d) Suceava area with resort Câmpulung Moldovenesc.

Moreover than governmental program there are regional projects which want to develop ski ranges or to arrange new ski ranges in areas where already have been done integral studies in according to environmental and protected areas laws by Tourism National Authority in collaboration with consulting and design profile societies.

Studied areas are spread in 22 districts as follows: Slănic Moldova - ( Bacău district), Abrud – Arieşeni - Zlatna (Alba district), Bran-Moeciu ( Braşov district), Băişoara-Vlădeasa-Răcăţiu (Cluj district), Padina-Peştera-Valea Ialomiţei ( Dâmboviţa district), Borsec area –Harghita-Băi - Izvorul Mureşului (Harghita district), Lăpuşna-Sovata (Mureş district ), Broşteni-Câmpulung Moldovenesc-Crucea-Gura Humorului-Vatra Dornei area ( Suceava district ), etc.



List of conventional signs :

- ★ Future ski ranges

*Fig.28. Map of ski ranges and projects for future ski ranges(www.xtrem.ro,with addition)*

## *CHAPTER 7*

### *CONCLUSIONS*

In conditions of ski range from Romanian Carpathians has a wide spread (70.000 km<sup>2</sup>), it is imposed a re-evaluation of this potential from an adequate capitalization prospective.

Ski ranges from Romania are still in “pioneer” stage, the main trump of autochthonous ski resorts in front of foreign competition being the distance. Ski practicing becomes in last period a weekend tourism, fact that makes dangerous autochthon slopes for the lovers of this sport because of overcrowd.

The most important climate factors to ski practice are: snow bed thickness and its lifelong, number of the days with solid precipitations, air temperature, atmospheric nebulosity, wind frequency and speed, mist and avalanches.

Snow bed thickness is essential factor to practice ski. It depends by air temperature and solid precipitations quantity in that area. Because of air circulation in our country from West direction, solid precipitations quantity on west sides of the mountains is bigger than east sides. From climate studies results that in South part of the country there are the smallest quantity of precipitations and North part of the country is favored. Analyzing from this point of view ski slopes arrangement it is recommended that they will be arranged in North part, on northern and west sides of mountain massifs.

Regarding air temperature it's important like this decreases under 0°C, in scope of snow bed resistance as longer as possible, but also to produce artificial snow with snow guns.

Making a comparative analyze of air temperature in the three groups of Carpathians, it was stated that number of frost days is the biggest in Oriental and Southern Carpathians and partially in Occidental Carpathians, in Transylvania and Bucovina Depressions ( Ilieș,2007). At heights over 1000 m frost days are more than 250 in a year, and at 2000 m height these ones could reach 285 days annually. Nevertheless few ski slopes were built up in areas where soil frozen days are less numerous, to make easier tourists travel as close as possible to ski. In this way were built up ski slopes at Feleac (Cluj-Napoca), Hidișelul de jos (Oradea), Cozla (Piatra Neamț).

In Romania there were **homologated 90 ski slopes** in 15 districts, and more of them (10) are in **Poiana Braşov**. These are: ski slopes Telescaun, Lupului, Stadion, Sulinar, Drumul Roşu, Subteleferic ICPAT, Ruia, Bradul, Slalom and Kazel.

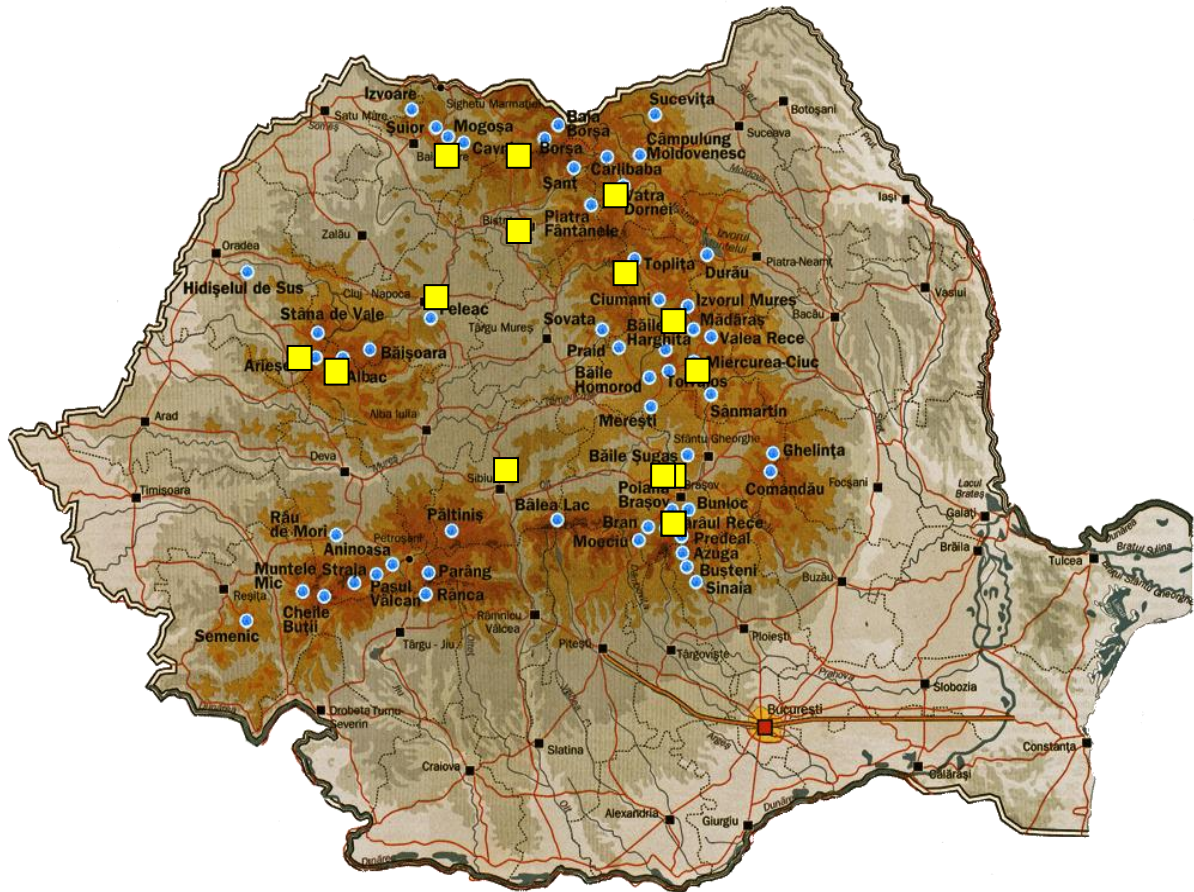
Next is **Sinaia** where there are homologated at national standards 9 ski slopes: Carp, Drumul de Vară, Valea Dorului-Subtelescaun 2, Valea Dorului –variant, Papagal, ValeaDorului-Subtelescaun 1, Valea Soarelui, Scândurari and beginners. On the third place is **Predeal** with five homologated ski slopes: Subteleferic, Clăbucet, Cocoşul, Clăbucet variant and Clăbucet Arrival. The next is **Azuga** with four homologated ski slopes: Cazacu variant, Sorica, Azuga South and La Stână. **Azuga** has four homologated ski slopes: Cazacu Variant, Sorica, Azuga South and La Stână. Etc.

If we make a classification of areas with homologated slopes, on the first position is Braşov district with 19 homologated ski slopes followed by Prahova district with 13 homologated ski slopes and Harghita district with 12 homologated ski slopes.

In autochthonous resorts classification done for slopes look and resort offered facilities, on the first position is Poiana Braşov.

Ski ranges classification up to existing slopes for beginners, for skiers with medium qualification and for advanced skiers situated on first positions Poiana Braşov, Sinaia, Azuga and Predeal.

There were founded alpine ski schools in 14 towns where little passionate and gifted in winter sports could be trained and perfection in this wonderful sport ( fig.29).



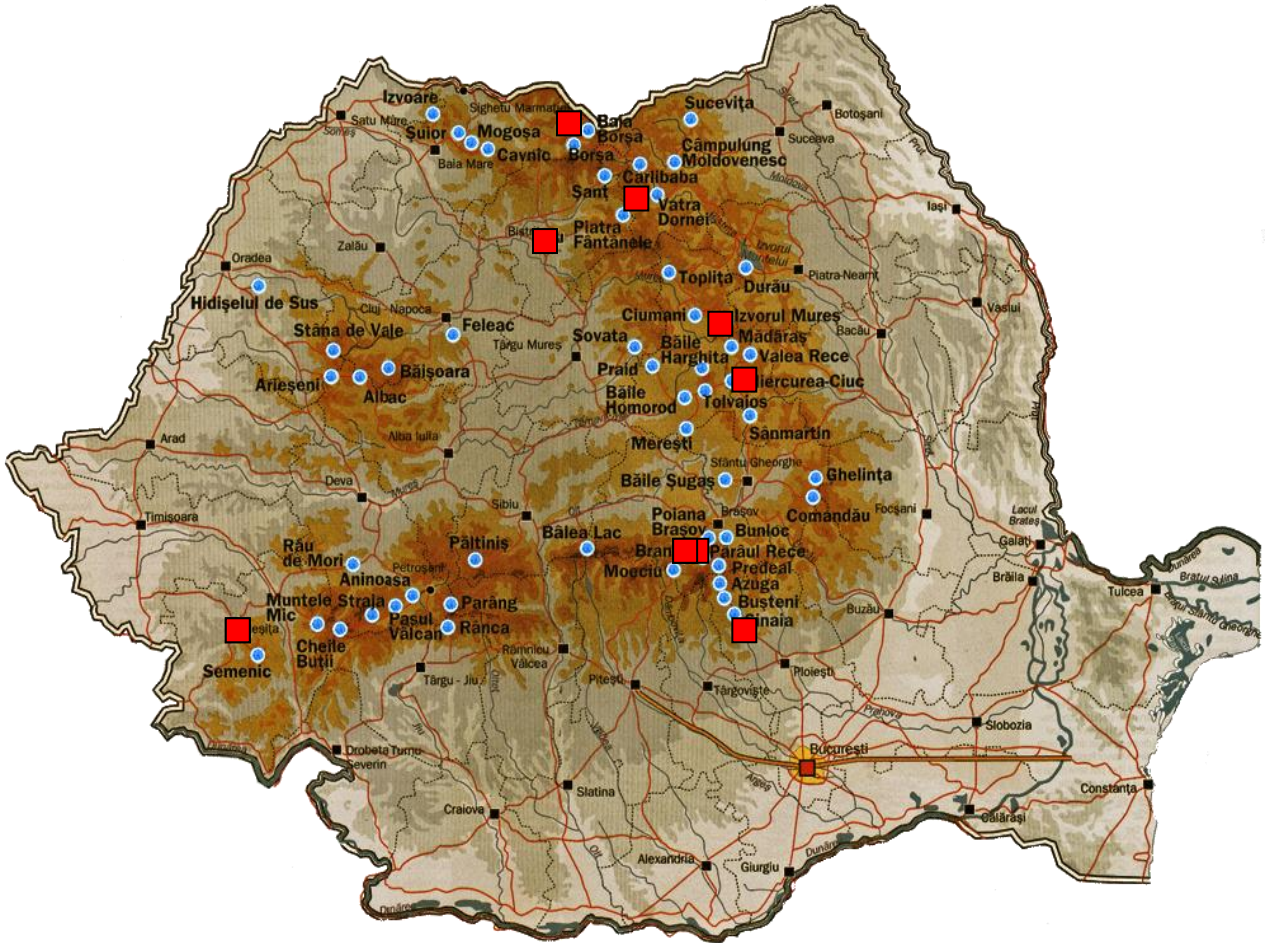
List of conventional signs :

Alpine ski schools

Fig.29. Alpine ski schools ([www.xtrem.ro](http://www.xtrem.ro), with addition)



Long distance ski schools there are in 11 towns showed in following map (fig 30) :



List of conventional signs:


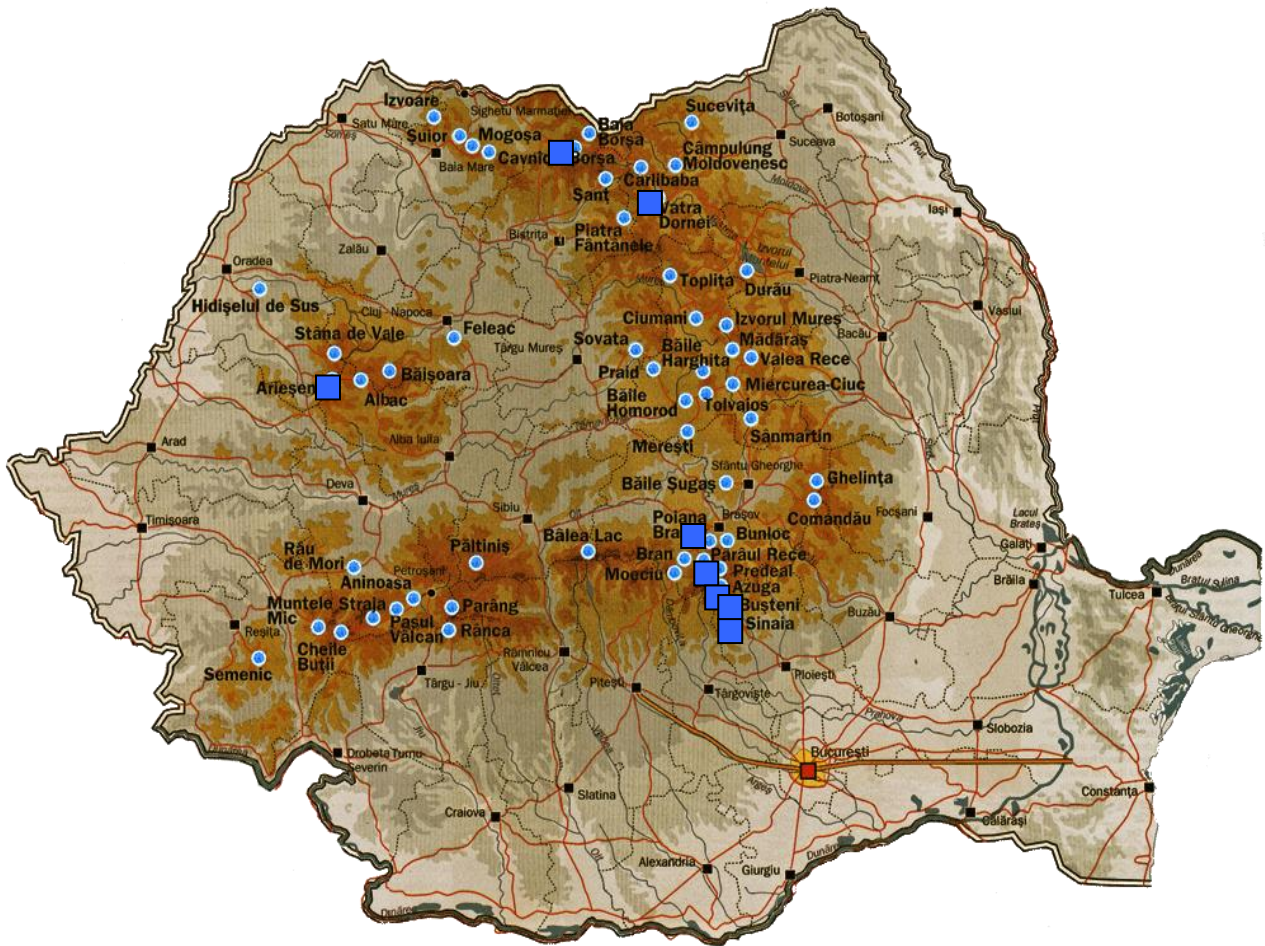
Long distance ski schools 

Fig. 30. Long distance ski schools ([www.xtrem.withaddition.ro](http://www.xtrem.withaddition.ro))

**Monitor centers** which in present have 315 members, have been founded as „Association of ski monitors from Romania” in main resorts (fig.31):



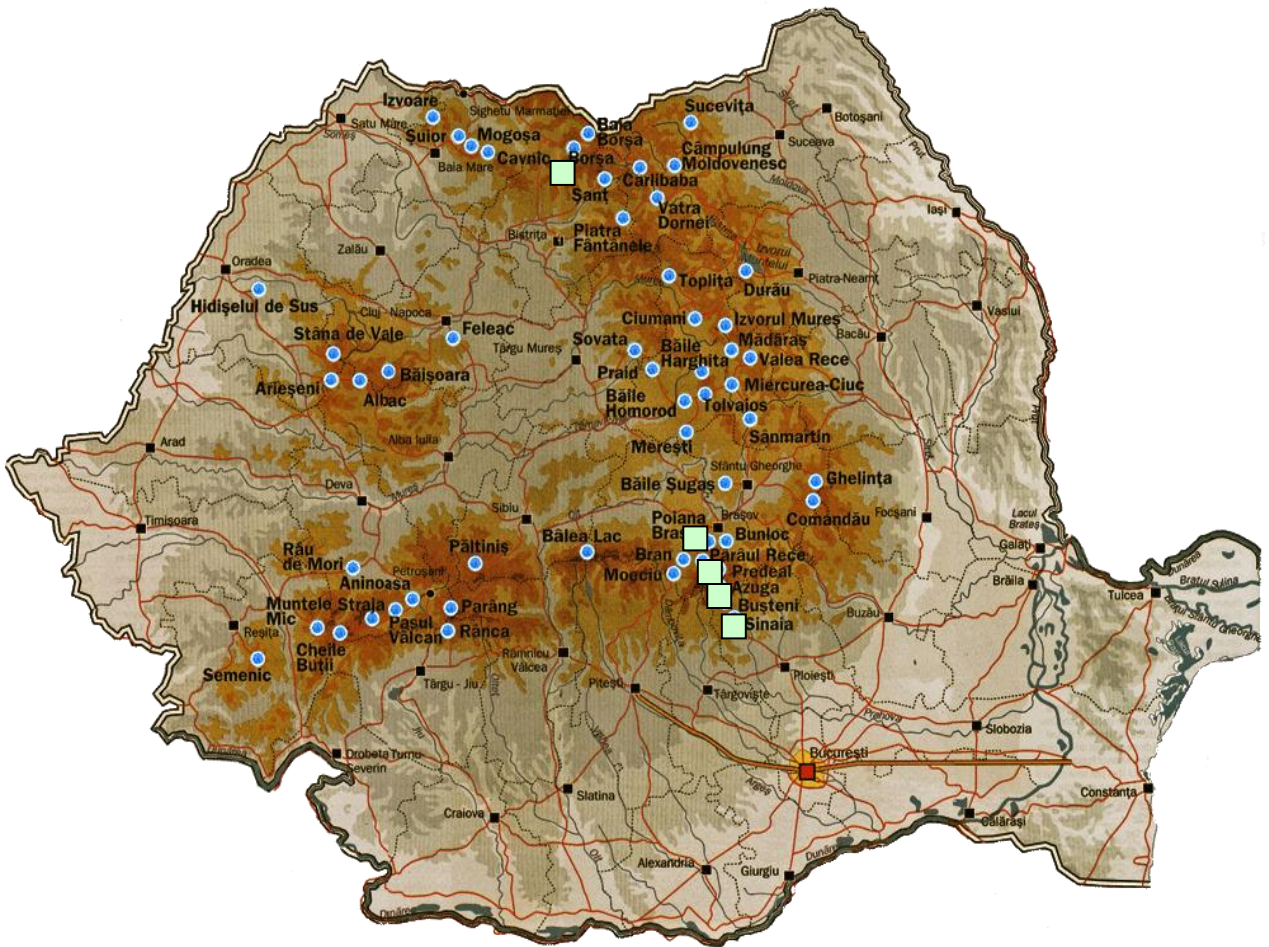
List of conventional signs:

Monitors centers ■

Fig.31. Monitors centers([www.xtrem.ro](http://www.xtrem.ro) , with addition)



National championship of performance skiers develops on following ski domains  
 Borșa, Predeal, Poiana Brașov, Sinaia and Azuga.(fig.32):



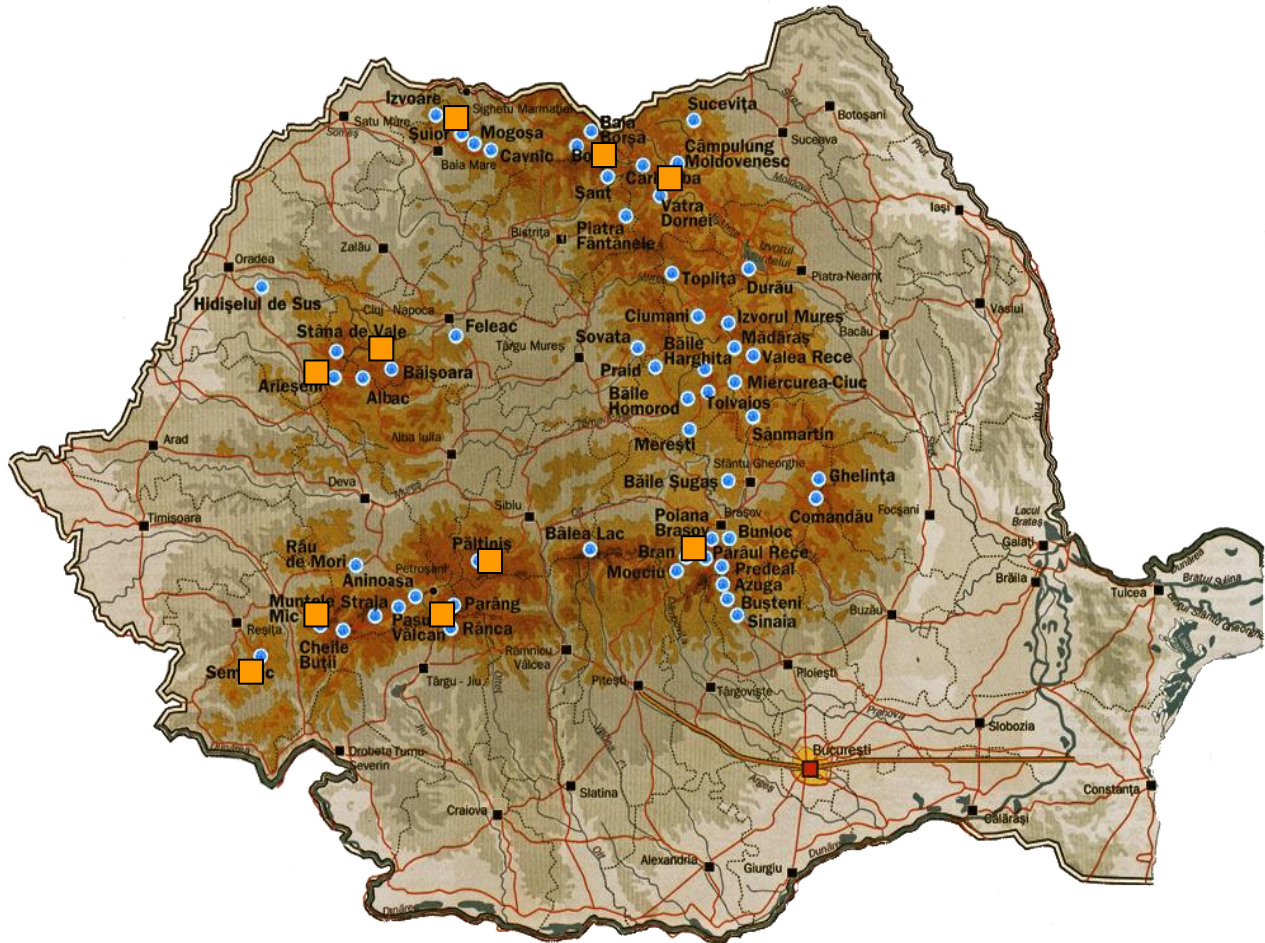
List of conventional signs :

National championships □

Fig.32 Map of seniors national championship([www.xtrem.ro](http://www.xtrem.ro), with addition)



There are also ski domains where take place national championships for the scholars who practice performance ski (fig.33).



List of conventional signs:

Juniors championships ■

Fig.33. Juniors National Championships ([www.xtrem.ro](http://www.xtrem.ro) , with addition)

**Rescue centers** work in 32 towns having in the present 1200 employees trained in this hard and altruistic job.

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