

SKIING INFRASTRUCTURE IN ROMANIA

Vasile Surd

Faculty of Geography, Department of Human Geography and Tourism,
“Babes-Bolyai” University, Centre of Research on Settlements and Urbanism
Cluj-Napoca, Romania
vsurd@geografie.ubbcluj.ro

Stanca Băraian

“Ioan Opris” General School, Turda, Romania

Leonard Bruckner

Faculty of Geography “Babes-Bolyai” University, Centre of Research
on Settlements and Urbanism, Cluj-Napoca, Romania
bruckner.leonard@yahoo.com

Abstract: The majority of this kind of infrastructure is concentrated in the mountain areas of Romania, which comprise 33% of the national territory. Unlike the Alps, where the average altitude is 2500-3000 m, the Romanian Carpathians reach the maximum altitude in Moldoveanu Peak (2544 m), Mount Făgăraș, Southern Carpathians. This fact brings forward temporal constraint for ski practice (middle of December – beginning of June). Romania has 225,000 m official ski-slopes, 43% of them being concentrated in the Southern Carpathians, especially the Prahova Valley and Poiana Brașov. Regarding the degree of difficulty, just 20% of them are very difficult. From the total of 199 ski-slopes, only 14 (7%) disposes to light systems during the night. Nowadays, the skiing infrastructure from Romania satisfies national needs in good parameters. In order to attract international ski contests in Romania, it is mainly necessary to modernize the actual infrastructure. Furthermore, in our country, new areas for skiing must be set up, by instance in the Lotru Mountains, West side of the Southern Carpathians.

Key words: Romania, ski infrastructure

INTRODUCTION

Skiing infrastructure is defined as consisting in special arrangements, of outdoor type, in slopes used for skiing or practicing other snow sports. The qualitative features of a ski slope lie in its metric parameters, among which we enumerate length, width and declivity. According to these, but mostly to the “declivity” criterion, ski slopes are classified into: very easy (FU), easy (U), of medium difficulty (M) and difficult (D). The first two (FU and U) “accept” all categories of practitioners, while the last two are adequate for only those who have gained the skiing technique sufficiently well.

The width of the slopes may vary from 10 to 50 or even 200 m, depending on the initial condition of the terrain and its level of demand. On the same slope one may set limits for beginner trails, as well as for experienced and even expert skiers. Their length varies from several hundreds of meters to kilometers according to the terrain characteristics and the purpose of its arrangement. For instance, the slopes designated for the Olympic trials of downhill skiing, where rough sectors and small radius curves interpose, are able to test athletes' mastery.

The slopes for springboards are rectangular *par excellence* and require counter-slopes for stops. The ones designated for cross-country skiing and biathlon associate with pre-existent infrastructure of routes and paths, which, in pre-established places, are fitted with spots or segments for the "expression" of several trials under regulation (uphill, rifle shooting, downhill, etc.).

The inclines may oscillate from 5–10° to 45° or even above on certain segments. One should not overlook the fact that on such slopes the speed records frequently achieve 90–110 km/h, with a perceptible effect on the "time" element. An entire arsenal of beacons and shock absorber fences, lighting installation, cable cars and ski lifts complete the complex range of equipment of certain slopes. In compliance with incline, width and length, ski slopes detach themselves by their exposure in relation to the cardinal points. Thus, the slopes with northern, north-eastern and north-western exposure from the northern hemisphere as well as the ones with southern, south-eastern and south-western exposure from the southern hemisphere retain snow longer, their "thermal inertia", extending the duration of winter sports practice with 20–30 days. Nowadays, the artificial snow significantly extends the duration of competitions and slope use. In this respect, the element of altitude is decisive, followed by exposure. Hence, in the Alps, above 2500 m, skiing can be practiced from October till June. In the Carpathian Mountains, where the maximum altitude achieves 2 544 m (Moldoveanu Peak, Făgăras Mountains), the ski season is reduced nearly by half. The law of calorific potential descent in relation to altitude actions as a decisive force. Provided that the altitudes of about 1 000 m are bounded by the multiannual average isotherm of 6° C, at 2 000 m it reaches 0° C and at 2 500 m altitude -2°C, -3°C; therefore resulting a decrease of annual average temperatures with circa 0,5° C at 100 m altitude.

STUDY PURPOSE

The paper aims to emphasize the skiing infrastructure in Romania as well as to offer detailed information about each skiing domain. This information represents a useful support for choosing the proper ski destination for a wide range of ski practitioners, from beginners to more experienced ones.

METHODS

The methodology used in conducting this study made use of certain methods such as: statistical methods, highlighting thus both quantitative and qualitative features of each ski slope, the descriptive and the cartographic method. The quantitative and qualitative features of ski slopes have been expressed using a table, according to counties, localities and skiing units. The map was designated to highlight localities, number of slopes, their difficulty level and length, while the Prahova Valley and Poiana Brasov have been chosen as an arrangement model for skiing. These represent the most intensely demanded ski destinations in Romania.

THE SKI AREAS IN ROMANIA

Romania possesses 225 kilometers of certified trails spread in 17 counties, from the total of 42 administrative units at the country level (40.47 %). From territorial point of view, the counties of Covasna and Harghita are located entirely in the Carpathian area while the remaining 15 counties only partly. According to the total number of ski slopes, Prahova county ranks first (33 ski slopes – 16.85 %), followed by Harghita (26 ski slopes – 13.07 %), Brasov (25 ski slopes – 12.56%) and Maramures (22 ski slopes – 11.06 %). Arges county is situated on the last place with only one ski slope (0.5 %). Maramures and Neamt counties have each two slopes (2.02 %) and are ranked as penultimate. Should we consider the total length of the trails, not their number, Prahova county occupies the first position once again, with 42 248 m (18.78 %), followed by Sibiu, 29 560 (13.14 %) and Brasov, 26 986 (11.99 %). In this respect, it becomes clear that there is a correlation between number, length and spatial distribution of trails in the Carpathians, namely over 43% (43.91%) are to be found in the Southern Carpathians, the most massive mountains in Romania, hence resulting an exceptional concordance between the primary, natural offer and the infrastructural components. With reference to the aspect of length, 3 945 m of trails fall into the “very easy” (FU) category (0.17%), 67 566 m are included in the “easy” (U) category (30.2 %), 107 725 m belong to the “medium” (M) category (47.87%) and 45 770 m were ranked as “difficult” (D) (20.34 %).

Table 1. Ski-slopes categories and their length at county level

County	FU (m)	U (m)	M (m)	D (m)	Total m	Percentage length	Total slopes	Percentage slopes
Alba	0	4500	5530	2300	12330	5.48	12	6.03
Arges	0	550	0	0	550	0.24	1	0.50
Bihor	0	2368	1340	560	4268	1.90	4	2.01
Bistrita-Nasaud	168	821	2500	0	3489	1.55	4	2.01
Brasov	1570	9446	10220	5750	26986	11.99	25	12.56
Caras-Severin	0	14950	4800	1280	21030	9.35	10	5.03
Cluj	1300	765	3630	1500	7195	3.20	9	4.52
Covasna	0	300	1310	0	1610	0.72	4	2.01
Gorj	0	960	1510	0	2470	1.10	4	2.01
Harghita	0	3460	10029	2766	16255	7.22	26	13.07
Hunedoara	367	3492	5769	5119	14747	6.55	13	6.53
Maramures	0	3020	15640	3800	22260	9.89	22	11.06
Mures	0	300	1100	0	1400	0.62	2	1.01
Neamt	0	450	965	0	1415	0.63	2	1.01
Prahova	150	13203	19632	9263	42248	18.78	33	16.58
Sibiu	390	970	18890	13000	29560	13.14	13	6.53
Suceava	0	8011	8750	282	17043	7.57	15	7.54
Total lenght (m)	3.945	67.566	111.615	45.770	225.006	100.00		
Total slopes	9	63	94	33			199	100.00

Difficulty : FU – very easy, U – easy, M – medium, D – difficult

In terms of their number, at national level 199 trails are homologated in 53 localities. Among these, 9 (4.25 %) are very easy (FU), 63 (31.65 %) are easy (U), 94 (42.23 %) are of medium difficulty (M) and 33 (16.58 %) are ranked as difficult (D).

The analysis of their distribution reveals that the largest number of localities with ski slopes are to be found in Harghita county – more precisely a number of 11 (20.75 %), followed by Suceava – 5 (7.93 %), Maramures – 5 (7.93 %) and three counties (Brasov, Cluj, Hunedoara), each with 4 localities (22.64 %). At the opposite side, the fewest number of localities with ski slopes are in Arges county (1 locality), Bistrita-Năsăud, Caras-Severin and Neamt counties (with 2 localities). It is necessary to note the fact that from 199 ski slopes, only 14 are equipped for night illumination (7.03 %). The same remains valid for cable transport.

Table 2. Ski slopes at county and locality level

County	Locality	FU (m)	U (m)	M (m)	D (m)	Total	Slopes
Alba	Arieseni	0	0	1430	0	1430	2
Alba	Garda de Sus	0	2200	1600	1100	4900	3
Alba	Sugag	0	2300	2500	1200	6000	7
Arges	Mioarele	0	550	0	0	550	1
Bihor	Nucet	0	1800	1340	560	3700	3
Bihor	Stana de Vale	0	568	0	0	568	1
Bistrita Nasaud	Piatra Fantanele	168	821	0	0	989	2
Bistrita Nasaud	Sant	0	0	2500	0	2500	2
Brasov	Bran	700	0	650	700	2050	3
Brasov	Moieciu	0	471	0	0	471	1
Brasov	Poiana Brasov	0	5885	4700	3850	14435	9
Brasov	Predeal	870	3090	4870	1200	10030	12
Caras-Severin	Muntele Mic	0	13400	3600	760	17760	5
Caras-Severin	Semenic	0	1550	1200	520	3270	5
Cluj	Baisoara	1300	0	2100	1100	4500	5

Cluj	Capusu Mare	0	0	750	400	1150	2
Cluj	Feleacu	0	765	0	0	765	1
Cluj	Marisel	0	0	780	0	780	1
Covasna	Comandau	0	300	0	0	300	1
Covasna	Ghelinta	0	0	500	0	500	1
Covasna	Sfantu Gheorghe	0	0	810	0	810	2
Gorj	Ranca	0	960	1510	0	2470	4
Harghita	Baile Homorod	0	0	400	0	400	1
Harghita	Baile Tusnad	0	0	500	0	500	1
Harghita	Borsec	0	0	1493	726	2219	3
Harghita	Clumani	0	0	1447	0	1447	1
Harghita	Harghita Bai	0	1500	1180	1080	3760	7
Harghita	Izvorul Muresului	0	620	0	0	620	1
Harghita	Joseni	0	0	1749	0	1749	2
Harghita	Madaras	0	140	850	960	1950	4
Harghita	Miercurea Ciuc	0	0	800	0	800	2
Harghita	Praid	0	0	1150	0	1150	2
Harghita	Toplita	0	1200	460	0	1660	2
Hunedoara	Cheile Butii	0	400	0	0	400	1
Hunedoara	Parang	367	250	3300	0	3917	4
Hunedoara	Rau de Mori	0	0	1200	0	1200	1
Hunedoara	Straja	0	2842	1269	5119	9230	7
Maramures	Baia Sprie	0	0	3600	0	3600	3
Maramures	Borsa	0	0	4700	2000	6700	5
Maramures	Cavnic	0	2520	3450	1800	7770	9
Maramures	Izvoare	0	500	990	0	1490	3
Maramures	Mogosa	0	0	2900	0	2900	2
Mures	Sovata	0	300	1100	0	1400	2

Neamt	Ceahlau	0	450	0	0	450	1
Neamt	Piatra Neamt	0	0	965	0	965	1
Prahova	Azuga	0	1680	5136	0	6816	6
Prahova	Busteni	0	8250	2300	6500	17050	12
Prahova	Sinaia	150	3273	12196	2763	18382	15
Sibiu	Balea Lac	0	0	14000	13000	27000	2
Sibiu	Gura Raului	150	0	1200	0	1350	3
Sibiu	Paltinis	240	970	3690	0	4900	8
Suceava	Carlibaba	0	530	1008	0	1538	2
Suceava	Campulung Moldovenesc	0	3410	3780	0	7190	5
Suceava	Gura Humorului	0	0	1462	0	1462	1
Suceava	Malini	0	0	800	0	800	1
Suceava	Vatra Dornei	0	4071	1700	282	6053	6
Total	56 localitati	3.945	67.566	111.615	45.620	228.546	199

Difficulty: FU – very easy, U – easy, M – medium, D – difficult

According to the length parameter, the most significant trail is the one from Bălea Lac, 14 000 m, of medium difficulty, 500 m difference and a declivity of 28°. In the same massif (Făgăras) the “Bălea Cascadă P2” ski slope is located, 13 000 m long, 150 m wide, 500 m difference and an incline of 30°, consequently it was ranked as difficult (D). The “Măloasa” slope from Mic Mountain (Muntele Mic), measures 12 000 m, is 50 m wide, with 980 m difference and, due to its characteristics, is included in the easy (U) category.

When analyzing the total length of ski slopes at country level, it is revealed that 130 slopes (65.32 %) are below 1 000 m, 33 slopes (16.18 %) between 1 000 and 2 000 m and 30 (15.07 %) are between 2 000 and 4 000 m. Only three slopes (1.5 %) are over 10 000 m long. In the Prahova Valley the longest trail is the one from Busteni (“Gura Diham” – 4 000 m) and “Drumul Rosu”(Red Road), 4 600 m, is the longest trail in Poiana Brasov.

Table 3. Ski-slopes in Romania
(metric characteristics and technical endowment)

Nr.	County	Locality	Slopes name	Length (m)	Average width (m)	Difficulty	Height (m) difference	Average slope (%)	Cable transport installation	Artificial snow install	Nocturne
1.	Alba	Arieseni	Vartopu Mare	1000	120	M	230	30	TK2	0	1
2.	Alba	Arieseni	Vartop Mic	430	100	M	100	24	TK1	0	1
3.	Alba	Garda de Sus	Ghetarul 1	1100	54	D	350	31.8	TK1,TSF2	1	1
4.	Alba	Garda de Sus	Ghetarul 2	1600	20	M	350	21.87	TK1,TSF2	1	1
5.	Alba	Garda de Sus	Ghetarul 3	2200	15	U	350	15.9	TK1,TSF2	1	1
6.	Alba	Sugag	Curmatura 1	1700	–	U	175	8	TK1	0	0
7.	Alba	Sugag	Curmatura 2	650	–	M	175	–	TK1	0	0
8.	Alba	Sugag	Curmatura 3	650	–	M	175	–	TK1	0	0
9.	Alba	Sugag	Curmatura 4	800	–	U	175	–	TK1	0	0
10.	Alba	Sugag	Sureanu 1	600	–	U	75	–	TK1	0	0
11.	Alba	Sugag	Sureanu 2	1200	–	M	250	–	TK1	0	0
12.	Alba	Sugag	Sureanu 3	1200	–	D	150	–	TK1	0	0
13.	Arges	Mioarele	Chilii	550	60	U	60	17	TK1	1	0

14.	Bihor	Nucet	Piatra Graitoare	1340	20	M	255	24	TSD4	1	1
15.	Bihor	Nucet	Piatra Graitoare S.	560	40	D	150	37	TSD4	1	1
16.	Bihor	Nucet	Piatra Graitoare V.	1800	40	U	150	15	TSD4	0	1
17.	Bihor	Stana de Vale	Magarul	568	40	U	90	14	TK1	0	0
18.	Bistrita Nasaud	Piatra Fantanele	Tihuta 1	821	40	U	136	20	TSF2	0	0
19.	Bistrita Nasaud	Piatra Fantanele	Tihuta 2	168	45	FU	68	18	BS	0	0
20.	Bistrita Nasaud	Sant	Valea Blaznei	1500	45	M	380	35	TK2	0	0
21.	Bistrita Nasaud	Sant	Valea Mariilor	1000	35	M	205	21	TK1	0	0
22.	Brasov	Bran	Zanoaga Babyski	700	25	FU	50	14	TK1	0	1
23.	Brasov	Bran	Zanoaga Varianta	700	25	D	170	31	TK1	0	0
24.	Brasov	Bran	Zanoaga Subtel.	650	30	M	160	–	TK1	1	1
25.	Brasov	Moieciu	Cheile Gradistei	471	40	U	40	16	TK1	0	1

26.	Brasov	Poiana Brasov	Bradul	465	60	U	80	22	TK1	1	1
27.	Brasov	Poiana Brasov	Drumul Rosu	4600	40	U	640	32	2TK1,TG,2TC	0	0
28.	Brasov	Poiana Brasov	Kanzel	450	30	D	110	17	TK1,2TC	0	0
29.	Brasov	Poiana Brasov	Lupului	2860	45	D	775	21	TK1,TG,2TC	0	0
30.	Brasov	Poiana Brasov	Ruia	540	45	D	195	20	TK1,TG,2TC	0	0
31.	Brasov	Poiana Brasov	Stadion	325	35	U	32	18	TK1	0	0
32.	Brasov	Poiana Brasov	Sub Teleferic Icpat	495	170	U	170	27	2TK,2TC	0	0
33.	Brasov	Poiana Brasov	Subteleferic	2200	60	M	640	22	2TK1,TG,TC	0	0
34.	Brasov	Poiana Brasov	Sulinar	2500	45	M	640	22	TK1,TG,2TC	0	0
35.	Brasov	Predeal	Cioplea	200	–	U	20	–	–	0	0
36.	Brasov	Predeal	Clabucet Plecare	2100	55	M	390	20	TK1,TSF2	1	0
37.	Brasov	Predeal	Clabucet Sosire	800	50	U	160	18	TK1,TSF2	1	1
38.	Brasov	Predeal	Clabucet Varianta	790	60	U	160	20	TK1,TSF2	1	0
39.	Brasov	Predeal	Clabucet Scoala	200	45	FU	45	7	BS	0	0
40.	Brasov	Predeal	Cocosul	2250	65	M	394	18	TSF2	1	0
41.	Brasov	Predeal	Garbova	900	–	U	180	–	–	0	0

42.	Brasov	Predeal	Orizont	100	–	U	30	–	–	0	0
43.	Brasov	Predeal	Paraul Rece	520	150	M	166	21	TK1	1	1
44.	Brasov	Predeal	Subteleferic	1200	80	D	350	31	TSF2	1	0
45.	Brasov	Predeal	Subteleferic St. Inf.	670	50	FU	45	7	TSF2	1	0
46.	Brasov	Predeal	Trei Brazi	300	–	U	50	–	–	0	0
47.	Caras- Severin	Muntele Mic	Maloasa	12000	50	U	980	27	TK1,TK2,TSF2	0	0
48.	Caras- Severin	Muntele Mic	Nordica/ Caldare	1400	70	M	260	29	TK1,TSF2	0	1
49.	Caras- Severin	Muntele Mic	Sub Telescaun	2200	50	M	386	31	TSF2	0	0
50.	Caras- Severin	Muntele Mic	Borlova	760	–	D	122	–	TK1	0	0
51.	Caras- Severin	Muntele Mic	Valea Soarelui	1400	70	U	180	16	TK2	0	0
52.	Caras- Severin	Semenic	Casa cu Baraj	500	60	M	101	23	TK1	0	0
53.	Caras- Severin	Semenic	Crucea de Brazi	700	–	M	180	–	–	0	0
54.	Caras- Severin	Semenic	Idiotilor	350	–	U	39	–	TK1	0	0

55.	Caras-Severin	Semenic	Slalom	520	–	D	180	–	–	0	0
56.	Caras-Severin	Semenic	Slalom Urias	1200	–	U	248	–	–	0	0
57.	Cluj	Baisoara	Partia Mare	1200	60	M	200	17	TK1	0	1
58.	Cluj	Baisoara	Slalom	300	100	D	30	–	TK2	0	1
59.	Cluj	Baisoara	P1 (Buscat 1)	1300	35	FU	207	8.4	TSF4	1	0
60.	Cluj	Baisoara	P2 (Buscat 2)	900	25	M	207	12.5	TSF4	1	0
61.	Cluj	Baisoara	P3 (Buscat 3)	800	25	D	–	13.8	–	-	-
62.	Cluj	Capusu Mare	Gemeni	750	35	M	115	23	TK1	0	0
63.	Cluj	Capusu Mare	Neagra	400	30	D	115	23	TK1	0	0
64.	Cluj	Feleacu	Arena Feleacu	765	30	U	98	14	TK1	1	1
65.	Cluj	Marisel	Marisel	780	45	M	135	32	TK2	0	0
66.	Covasna	Comandau	Comandau	300	100	U	400	18	TK1	0	0
67.	Covasna	Ghelinta	Ghelinta	500	25	M	350	–	TK1	0	0
68.	Covasna	Sfantu Gheorghe	Sugas Bai 1 (Veche)	560	75	M	150	30	TK1	0	1
69.	Covasna	Sfantu Gheorghe	Sugas Bai 2 (Noua)	250	60	M	65	23	BS	0	1
70.	Gorj	Ranca	M1 (Ranca 1)	610	45	U	93	23	TK1,BS	1	1

71.	Gorj	Ranca	M2 (Ranca 2)	510	45	M	116	30	TK1	0	0
72.	Gorj	Ranca	M3 (Ranca 3)	350	–	U	50	–	TK1,BS	0	0
73.	Gorj	Ranca	Ranca 4	1000	60	M	239	21	TSF4	1	1
74.	Harghita	Baile Homorod	Lobogo	400	40	M	60	18	TK1	1	1
75.	Harghita	Baile Tusnad	Baile Tusnad	500	40	M	100	22	TK1,BS	1	1
76.	Harghita	Borsec	Prichindelul	814	30	M	136	21	TK2	0	0
77.	Harghita	Borsec	Speranta	679	50	M	136	21	TK2	1	1
78.	Harghita	Borsec	Verofony	726	30	D	136	31	TK2	0	0
79.	Harghita	Ciumani	Clumani	1447	150	M	291	19	TK2	1	1
80.	Harghita	Harghita Bai	Csipike	380	60	M	47	18	2BS	0	1
81.	Harghita	Harghita Bai	Kossuth	630	80	D	175	32	TK1	0	0
82.	Harghita	Harghita Bai	Kossuth 2	800	50	M	95	21	TK1	0	0
83.	Harghita	Harghita Bai	Kossuth 3	1000	45	U	95	17	–	0	0
84.	Harghita	Harghita Bai	Miklos	450	50	D	75	32	TK1	0	1
85.	Harghita	Harghita Bai	Ozun	300	70	U	100	17	TK1	0	1
86.	Harghita	Harghita Bai	Tofalvi	200	40	U	20	16	–	0	0
87.	Harghita	Izvorul Muresului	Izvorul Muresului	620	55	U	100	17	TK1	–	–
88.	Harghita	Joseni	Buidosu	600	42	M	49	25	TK1	0	1

89.	Harghita	Joseni	Bucin	1149	40	M	160	14	TK1	0	0
90.	Harghita	Madaras	Mihai Mic	160	30	D	60	16	BS	0	0
91.	Harghita	Madaras	Mihai Mare	800	40	D	206	39	BS	0	0
92.	Harghita	Madaras	Sugau	850	25	M	135	28	TK1,2BS	0	0
93.	Harghita	Madaras	Incepatori	140	50	U	60	15	BS	0	0
94.	Harghita	Miercurea Ciuc	Csango	450	60	M	150	18	TK1	–	–
95.	Harghita	Miercurea Ciuc	Sumuleu Ciuc	350	–	M	–	–	–	0	0
96.	Harghita	Praid	Bogdan 1	750	20	M	143	18	TK1	0	0
97.	Harghita	Praid	Bogdan 2	400	20	M	93	21	TK1	0	0
98.	Harghita	Toplita	Bradul	1200	60	U	125	11	TK1	1	1
99.	Harghita	Toplita	Magherus	460	56	M	125	23	TK1	1	1
100.	Hunedoara	Cheile Butii	Cheile Butii	400	–	U	60	–	–	0	0
101.	Hunedoara	Parang	Parang	2400	45	M	612	23	TSF2	0	0
102.	Hunedoara	Parang	Poiana Mare	250	45	U	70	21	TK1	0	0
103.	Hunedoara	Parang	Spre Saivane	900	40	M	250	22	TK1	0	1
104.	Hunedoara	Parang	Sub Telescaun	367	30	FU	103	16	TK1,TSF2	0	0
105.	Hunedoara	Rau de Mori	Rausor	1200	45	M	350	22	TK1	1	1
106.	Hunedoara	Straja	Canal	1400	40	D	180	33	TK1	0	0
107.	Hunedoara	Straja	Lupului	519	40	D	163	32	2TK1	0	1

108.	Hunedoara	Straja	Mutu	1269	100	M	200	24	3TK1	0	1
109.	Hunedoara	Straja	Platoul C-tinescu	1742	50	U	366	19	5TK1	0	1
110.	Hunedoara	Straja	Platoul Soarelui	400	50	U	102	17	5TK1	1	1
111.	Hunedoara	Straja	Sf. Gheorghe	700	40	U	145	21	2TK1	0	0
112.	Hunedoara	Straja	Telescaun	3200	40	D	180	32	1TK2	0	0
113.	Maramures	Baia Sprie	Suior 1	1500	60	M	306	30	TSF2	1	1
114.	Maramures	Baia Sprie	Suior 2	1200	60	M	306	30	TSF2	1	0
115.	Maramures	Baia Sprie	Suior 3	900	–	M	306	30	TSF2	0	0
116.	Maramures	Borsa	Partia 1 (Poiana Stioli)	2000	–	D	500	30	TSF2	0	0
117.	Maramures	Borsa	Partia 2	2500	–	M	495	18	TK1	0	0
118.	Maramures	Borsa	Partia 3	800	–	M	300	27	–	0	0
119.	Maramures	Borsa	Pricop	400	–	M	85	30	TK1	0	1
120.	Maramures	Borsa	Varf Stioli	1000	–	M	40	–	TK1	0	0
121.	Maramures	Cavnic	Icoana 1	800	30	M	154	20	TK1	1	1
122.	Maramures	Cavnic	Icoana 2	700	48	M	210	22	TK1,BS	1	1
123.	Maramures	Cavnic	Icoana 3 (Fun P.)	150	20	U	12	8	–	0	0

124.	Maramures	Cavnic	Icoana 4 (Tobogan)	120	20	U	12	10	–	0	1
125.	Maramures	Cavnic	Partia Albastra	2250	–	U	330	28	–	0	0
126.	Maramures	Cavnic	Rainer 1	800	40	D	190	31	TK1	1	0
127.	Maramures	Cavnic	Rainer 2	1000	60	D	190	38	TK1	1	0
128.	Maramures	Cavnic	Roata 1	920	90	M	140	20	TK1	1	1
129.	Maramures	Cavnic	Roata 2	1030	60	M	330	16	TK1	1	0
130.	Maramures	Izvoare	Brazi	250	20	M	30	22	TK1	0	0
131.	Maramures	Izvoare	Cora	740	40	M	100	13	TK1	0	0
132.	Maramures	Izvoare	Poiana Soarelui	500	30	U	125	18	TK1	0	1
133.	Maramures	Mogosa	Mogosa	2200	40	M	526	26	TSF2	0	0
134.	Maramures	Mogosa	Moski	700	40	M	230	33	TK1	0	0
135.	Mures	Sovata	Alunis	1100	40	M	300	28	TK1,TSF2,BS	0	0
136.	Mures	Sovata	Alunis Incepatori	300	50	U	40	10	BS	0	0
137.	Neamt	Durau	Durau	450	40	U	70	20	BS	0	0
138.	Neamt	Piatra Neamt	Cozla I	965	32	M	260	27	TSD4,TG	1	1
139.	Prahova	Azuga	Azuga Sud	770	50	U	154	20	–	0	0
140.	Prahova	Azuga	Cazacu	1920	41	M	530	28.2	TK1,TG,BS	1	0
141.	Prahova	Azuga	Cazacu Bretea	716	19	M	163	22.8	–	0	0

142.	Prahova	Azuga	Cazacu Varianta	400	40	M	116	33.8	TK1	1	0
143.	Prahova	Azuga	La Stana	910	50	U	154	16.9	–	0	0
144.	Prahova	Azuga	Sorica	2100	50	M	561	29	TG	1	1
145.	Prahova	Busteni	Babele-Pestera	3000	–	U	600	–	–	–	–
146.	Prahova	Busteni	Boncu	1600	–	D	600	–	–	–	–
147.	Prahova	Busteni	Cabana Babele	400	–	U	60	–	–	–	–
148.	Prahova	Busteni	Cabana Omu	1500	–	D	500	–	–	–	–
149.	Prahova	Busteni	Costila-Caraiman	400	–	D	250	–	–	–	–
150.	Prahova	Busteni	Gura Diham	4000	–	U	–	–	–	–	–
151.	Prahova	Busteni	Fun Park	150	–	U	–	–	–	–	–
152.	Prahova	Busteni	Kalinderu	1500	40	M	295	37	TSF4	1	1
153.	Prahova	Busteni	Piatra Arsa	300	–	U	60	–	–	–	–
154.	Prahova	Busteni	Silva	400	–	U	50	–	–	–	–
155.	Prahova	Busteni	Valea Cerbului	3000	–	D	650	–	–	–	–
156.	Prahova	Busteni	Valea Gaura	800	–	M	200	–	–	–	–
157.	Prahova	Sinaia	Carp	1382	55	D	448	28	TSD4,TC	0	0
158.	Prahova	Sinaia	Drumul de Vara	2971	100	M	394	24	–	0	0

159.	Prahova	Sinaia	Gondola 1	150	30	FU	16	13	TG,BS	1	1
160.	Prahova	Sinaia	Inceptorii	173	80	U	203	18	TC	0	0
161.	Prahova	Sinaia	Laptici	1900	40	U	330	16	TG	–	–
162.	Prahova	Sinaia	Papagal	847	65	D	221	35	TG	0	0
163.	Prahova	Sinaia	Partia Noua	2153	50	M	402	21	TG	–	–
164.	Prahova	Sinaia	Scanduri	505	45	M	148	29	TG	0	0
165.	Prahova	Sinaia	Tarle	534	55	D	221	33	TC	0	0
166.	Prahova	Sinaia	Valea Dorului Tel. 1	776	80	M	217	28	TK1,TC	0	0
167.	Prahova	Sinaia	Valea Dorului Tel. 2	804	70	M	231	28	TSD4	0	0
168.	Prahova	Sinaia	Valea Dorului Var.	896	50	M	199	21	TSD4	0	0
169.	Prahova	Sinaia	Valea Soarelui 1	1191	60	M	215	21	TSD4	0	0
170.	Prahova	Sinaia	Valea Soarelui 2	1200	50	U	200	16	TSD4	0	0
171.	Prahova	Sinaia	Vanturis	2900	–	M	600	–	TK,TSD4,TC	–	–
172.	Sibiu	Balea Lac	Curba de Nivel	14000	150	M	500	28	TK1	0	1
173.	Sibiu	Balea Lac	Balea Cascada P.2	13000	150	D	500	35	TC	0	1

174.	Sibiu	Gura Raului	Akela (Scoala)	150	20	FU	30	10	BS	1	1
175.	Sibiu	Gura Raului	Colt Alb	700	40	M	190	25	TK1	1	1
176.	Sibiu	Gura Raului	Trecatoarea-Lupilor	500	40	M	85	14	TK1,BS	1	1
177.	Sibiu	Paltinis	Arena (D)	240	–	FU	35	14	TK1	1	1
178.	Sibiu	Paltinis	La Gascani	700	–	M	100	22	–	0	0
179.	Sibiu	Paltinis	Oncesti 1	1150	50	M	241	22	TSF2	0	1
180.	Sibiu	Paltinis	Oncesti 2	450	60	U	200	9	TK1	0	0
181.	Sibiu	Paltinis	Panorama Sibiului	600	–	M	100	22	TK1	0	0
182.	Sibiu	Paltinis	Platos	520	–	U	50	17	TK1	1	1
183.	Sibiu	Paltinis	Poiana Poplacii	600	–	M	100	21	TK1	1	1
184.	Sibiu	Paltinis	Soarelui	640	–	M	75	22	TK1	–	–
185.	Suceava	Carlibaba	Magura 1	1008	–	M	207	21	TK1	0	0
186.	Suceava	Carlibaba	Magura 2	530	–	U	125	24	TK1	0	0
187.	Suceava	C-lung Moldovenesc	Rarau 1	3000	–	U	515	27	TG	1	1
188.	Suceava	C-lung Moldovenesc	Rarau 2	2550	65	M	365	32	TG	1	1
189.	Suceava	C-lung Moldovenesc	Runc	800	50	M	200	20	TK1	0	0

190.	Suceava	C-lung Moldovenesc	Runc 1	410	100	U	70	18	BS	0	0
191.	Suceava	C-lung Moldovenesc	Runc 2	430	75	M	70	21	BS	0	0
192.	Suceava	Gura Humorului	Soimul	1462	35	M	283	20	TSF4	1	1
193.	Suceava	Malini	Malini	800	40	M	106	19	TK2	0	1
194.	Suceava	Vatra Dornei	Dealul Negru-Dificil	282	–	D	93	–	BS	0	0
195.	Suceava	Vatra Dornei	Dealul Negru-Usor	441	–	U	101	–	TSF2	–	–
196.	Suceava	Vatra Dornei	Parc	900	70	M	150	28	TK2,BS	0	1
197.	Suceava	Vatra Dornei	Poenita	550	50	U	100	15	TK1	1	1
198.	Suceava	Vatra Dornei	Telescaun	3080	50	U	428	16	TSF2	0	0
199.	Suceava	Vatra Dornei	Veverita	800	35	M	180	–	TK2	1	1

Difficulty: *FU* – very easy, *U* – easy, *M* – medium, *D* – difficult; Transport installation: *TK1* – mono-post lift towing device, *TK2* – bedpost lift with fixed hanging, *TSF2* – fixed lift with 2 seats, *TSF4* – fixed lift with 4 seats, *TSD4* – debrailabil lift with 4 seats, *TG* – gondola, *TC* – cable car, *BS* – baby schi

There is a linear correlation between the number of ski slopes and their length, the shortest ones outnumber the slopes with longer length. From the total of 199 trails, 9 (4.54 %) are rated as being very easy (FU), a number of 57 (28.64 %) are easy (U), 91 (45.72 %) are medium (M) and 42 (21.2 %) belong to the difficult category (D). Hence, over 60 % from the certified slopes are included in the very easy (FU) and easy (U) categories, which consequently points out the existence of an infrastructure for the practice of mass skiing, aspect which relates to the needs and financial resources of a country's population.

The ski slopes are situated on the administrative territory of 53 localities, out of which 18 are towns (33.96 %). Concerning the relation length – difference level, one aspect is highlighted, namely most slopes with length up to 1 000 m have less than 200 m level difference. The smallest difference is characteristic to the “Cioplea” slope in Predeal (with 20 m and a length of 200 m) while the most significant difference is reported in the case of “Măloasa” slope from Muntele Mic (with 900 m on a length of 12 000 m).

Regarding slope length, five groups of counties are detached, as it follows:

- I. 550 – 1 610 metres
- II. 1 611 – 7 195 metres
- III. 7 196 – 17 043 meters
- IV. 17 044 – 28 350 metres
- V. 28 351 – 42 248 metres

Thus, in the first category belong: Arges (550 m), Mures (1 400 m), Neamt (1 415 m) and Covasna (1 610 m) counties. The second one includes Bistrita-Năsăud (3 489 m), Bihor (4 268 m) and Gorj (2 470 m). The third comprises the following four counties: Alba (12 480 m), Hunedoara (14 747 m), Harghita (16 255 m) and Suceava (17 043 m). The fourth category includes the counties of Caras-Severin (21 030 m), Maramures (22 260 m), Brasov (26 986 m) and Sibiu (29 560 m). The last category includes Prahova county, with 42 248 m of slopes in the mountainous region of the Prahova Valley.

The map highlights the concentration of slopes in counties, with their metric characteristics and difficulty level, as well as their altitudinal position. One single county, partly located in the Carpathian area, namely Vâlcea, lacks special amenities for skiing, despite its remarkable natural potential in this respect.

The efforts meant to exploit the tourist potential of the Lotrului Valley contain projects for the skiing domain. The Prahova Valley, overcrowded during the winter season and not only, paves the way for a second alternative for skiing in the Lotrului Valley, both for the population of the capital city and the inhabitants from the counties in southern and south-western part of Romania.

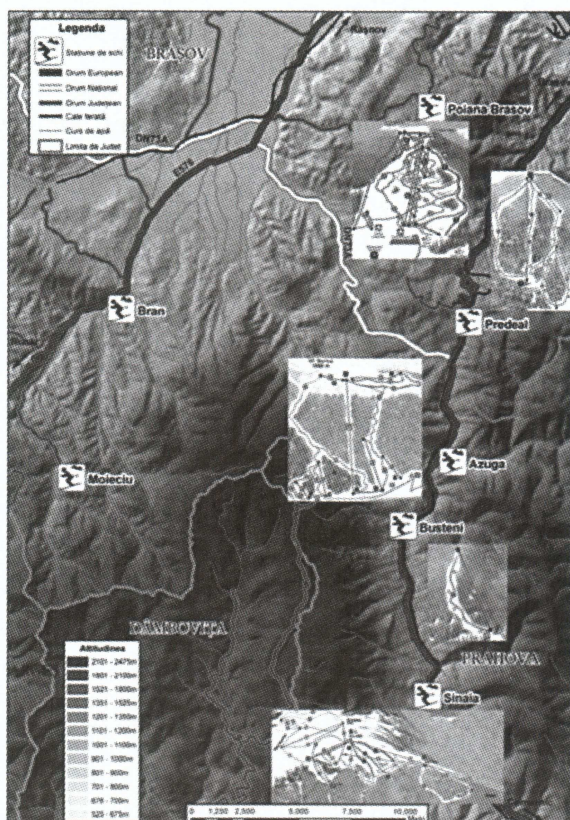
Figure 1. Localities and number of slopes – degree of difficulty and length



The Lotrului Valley represents a worthy counterbalance to the Prahova Valley. If the balneary potential of Vâlcea county is added, as well as the skiing projects, tourism development remains an attainable aim in the near future.

The Prahova Valley and its resorts Sinaia, Busteni, Azuga, Predeal and Poiana Brasov represent the main skiing domain in Romania.

Figure 2. Ski resorts in the Prahova upper valley and Poiana Brasov



Towards the west of the Olt Valley, in the Southern Carpathians, the six homologated resorts meet the skiing demands for the counties in Oltenia region, the ones in the Mures corridor and Banat region (for Timisoara, the most important ski resort is represented by Muntele Mic, with “Mâloasa” trail, 12 kilometers long and 980 m level difference).

In the north of the country the most popular ski destinations are situated in Maramures county (Izvoare, Suior, Baia Sprie and Cavnic), all located in the Gutâi Mountains.

In the Apuseni Mountains the most well-known ski resorts are the ones from Arieseni, Gârda de Sus (Alba county) and Băisoara (Cluj county). The resorts from Alba county are invaded by skiers from neighboring counties (Hunedoara, Arad, Bihor and Cluj), while in the case of Băisoara resort we observe a remarkable exclusiveness of Cluj county inhabitants.

In the Rodna, Bucovina and Călimani Mountains lie the resorts of Vatra Dornei, Câmpulung Moldovenesc, Piatra Fântânele, Sant, Borsa, Cărlibaba, Gura Humorului and Mălini, among which the most active is Vatra Dornei. This resort is known for its long tradition, related to the mountain infantry unit and the facile access on high roads and railroad.

The median sector of the Eastern Carpathians is completed by a number of 12 ski resorts (Ceahlău, Borsec, Toplita, Sovata, Praid, Joseni, Ciumani, Izvoru Muresului, Mădăras, Harghita Băi, Băile Homorod si Miercurea Ciuc). The resorts from the upper axes of Mures (namely Toplita, Joseni, Ciumani si Izvorul Muresului) and Olt (Mădăras, Miercurea Ciuc, Harghita Băi) benefit from snow longer, even in the condition of low altitude (600 – 700 m) due to the frequency of inversions, which regularly maintain low temperatures and implicitly snow on the ground.

The same remains valid for the resorts adjacent to the northern and eastern sector of the Brasov Depression, where the above mentioned phenomenon lead to the absolute minimum ever recorded in Romania (the weather station from Bod, -38,5° C, on the 10th January, 1941).

CONCLUSION

Skiing infrastructure in Romania is perfectly adapted to the needs of a population with modest income; hence, resulting the mass character of the white sport with a great structural diversity of slopes, from easy to very difficult level. Each significant city in Romania has in its proximity a skiing area. Therefore, the Prahova Valley becomes the corresponding to Bucharest, for Brasov is the case of Poiana Brasov resort, for Timisoara – Muntele Mic resort, for Cluj-Napoca – Băisoara resort, for Oradea – Stâna de Vale resort, for Baia Mare – Suior and Cavnic, for Suceva and Iasi – Vatra Dornei, for Resita – the Semenice Mountains.

Overall, the ski slopes in Romania have proper equipment, able to deal with the demands imposed by the ski practice at a national level. As compared to the countries in the Alpine region, known for their long tradition as ski destinations, in Romania, the shorter skiing season imposes higher taxes in order to amortize investments or for effective profit. For this reason, the ski resorts from the Alps (Austria, Germany, France, Italy and Switzerland) become an attractive offer for Romanian tourists.

Without any exception, none of the ski slopes in Romania are well equipped for major competitions such as Olympic Games or world championships. Modernization and ensuring snow cover remain key elements in order to achieve attractiveness. Other infrastructural elements which may play an essential role (accessibility, accommodation units, safety, etc.) are aspects that should not be neglected when choosing location.

References

- Cianga, N., (2007), *Romania. Geografia Turismului*, Editura "Presa Universitara Clujeana", Cluj-Napoca.
- Cianga, N., Dezsi St. (2007), *Amenajare turistica*, Editura "Presa Univesitara Clujeana", Cluj-Napoca.
- Surd, V., (coordonator), (2008), *Monografia turistica a Carpatilor*, Editura "Presa Universitara Clujeana", Cluj-Napoca.
- http://salvamont.org/main/poteci/salvamont_ro.html
- <http://www.skimap.org/SkiAreas/view/627>
- <http://www.romaniaturistica.ro/info-schi-partii-domenii.php>
- <http://www.bagatare.ro/2010/01/04/lista-partii-ski-omologate-in-romania/autorizare@mturism.ro>