

Summits on the Air Republic of Macedonia (Z3) Association Reference Manual



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Summits-on-the-Air an original concept by G3WGV and developed with G3CWI

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1 Change Control

Date	Version	Details
25- 04 -09	1.0	First formal issue of this document
01- 07 -09	1.1	- Added new summits: WM-049; WM-050; WM-051; WM-052; WM-053; WM-054 and WM-055. - New name for summit: EM-014 -Text modification (items: 2; 2,1; 2,6; 3,1; 3,2) -Typing errors correction: (items 2,7; 2,8; 2,9; 2,11)
01-01-10	1.2	- New scoring system
01-01-11	1.3	- Added new summits: WM-056 -195; EM-015 – 078. - New names for the summits: WM-046, 047, 048; EM-011, 013, 014. - New names and altitudes for the summits: WM-004, 006, 008. - Text modification (items: 2,6; 2,7; 2,8; 2,11; 2,12; 3,2; 3,2,2)

2 Association Reference Data

Association	Macedonia (Z3)
Commencement date	01.05 2009
Regions	West Macedonia, Z3/WM 001-195 East Macedonia, Z3/EM 001-078
Association parameters 1	
Summit operation criteria	Operation must be within 25 m vertically of the summit
Band 1, score 1 point	<400m Above Sea Level (ASL)
Band 2, score 2 points	>=400m ASL, <700m ASL
Band 3, score 4 points	>=700m ASL, <1000m ASL
Band 4, score 6 points	>=1000m ASL, <1500m ASL
Band 5, score 8 points	>=1500m ASL, <2000m ASL
Band 6, score 10 points	>=2000m
Seasonal bonus	Yes [additional score of 3 points]
Bonus rationale	Winter period with highest probability of snow and sub-zero temperatures
Min. height for bonus	1000m
Bonus period dates	15 November to 15 March inclusive
Association sponsored awards	None
Association Manager	Vladimir Kovaceski, Z35M [z35m_99@yahoo.com]

¹ See General Rules for parameter definitions

2.1 Programme derivation

SOTA-Macedonia is an extension of similar programmes already active in other countries. It considers the *relative* height of summits compared to their surroundings and defines a minimum of 150m climb from the surrounding cols in order to qualify. For the purpose of SOTA-Programme the country is subdivided in two Regions.

The summit database is assumed to be complete. The most attractive and frequently visited summits were first selected for the reference list, together with some easier summits mainly from the most populated area in the region of the capital city Skopje, and from the most popular tourist areas in Macedonia.

Activators are asked to submit details of proposed additional summits to the association manager together with any supporting documentation. If the summit meets the SOTA criteria it will be added to the list. Summits cannot be counted for points until a reference number has been allocated by the association manager. The same address should be used for any other proposed amendments.

2.2 Purpose of the SOTA Programme

The purpose of SOTA (the Programme) is to encourage Amateur Radio based activity from the summits of hills and mountains in countries around the world and to provide an award system for Radio Amateurs in all DXCC Entities.

The Programme is intended to encourage activity from clearly defined peaks, including major mountains. To enable participation in the Programme to be as wide ranging as possible, lesser peaks can also be included. An incremental scoring system recognises the higher peaks accordingly. The Programme does not accept operation from or in the immediate vicinity of motor vehicles.

The programme provides for participation by Activators who make QSOs from the Summits, Chasers who make contact with the Activators and Short Wave Listeners.

2.3 Rules for Activators

All Expeditions must use legitimate access routes and comply with any local rules regarding use of the land. In particular, Activators must ensure that they have any necessary permission to stay and to operate from their chosen Summit.

For an Expedition to be considered valid, the following criteria must be met:

1. The method of final access to the Summit must be non-motorised.
2. All equipment must be carried to the site by the Activator team.
3. All equipment must be operated from a portable power source (batteries, solar cells, etc). Operation is expressly forbidden using permanently installed power sources or fossil-fuel generators of any kind.
4. All operation must comply with the amateur radio licensing regulations and must use the permitted amateur radio bands of the country in which the Association is based.
5. All operation must comply with any limitations on the use of transmitting equipment that may exist for the Summit.
6. At least four QSOs must be made from the Summit. QSOs with others on the same summit do not count towards the QSO total.
7. QSOs via terrestrial repeaters do not count towards the QSO total.
8. Activator points accrue to the operator regardless of the callsign used. The operator must be entitled to use the callsign. Multiple operators of the same station may claim activator points. Each individual operator must make the minimum number of QSOs stated above in order to claim Activator points.
9. The minimum exchange required for a valid QSO is both callsigns and two-way reports. Wherever practical, the SOTA Reference Number should also be given. It is recognised that this might not be practical in a contest.
10. Activators must submit a log of the Expedition in order to claim points. In the event that a claim is not to be made, Activators are still asked to submit logs so that Chaser claims can be substantiated. Logs may be submitted by filling in an entry form on the SOTA web site or as a log file. Full details are on the SOTA web site.
11. A Summit may be activated as often as desired but an individual Activator can only claim points for operation from a particular Summit once in any calendar year.

2.4 Rules for Chasers

1. The Chaser must make a QSO with the Summit Expedition, in which at least callsigns and two-way reports are exchanged. Wherever possible, the SOTA Reference Number should also be obtained as part of the QSO.

2. Only one QSO per Summit Expedition counts for points. When a Summit Expedition comprises several team members, only one QSO with the team counts for points for that Summit Expedition.

3. QSOs via terrestrial repeaters do not count for points.

4. Chasers who wish to participate in the award scheme must submit a log showing details of all QSOs with Expeditions for which they wish to claim points.

5. QSL cards are not required.

6. An Activator may claim Chaser points for QSOs made with Activators on other Summits during his Expedition.

2.5 Rules for Short Wave Listeners (SWL)

1. The SWL must receive a QSO between the Summit Expedition and any other radio amateur, during which at least callsigns and two-way reports are exchanged. This information must be recorded by the SWL. Where the SOTA Reference Number is given as part of the QSO this must also be recorded.

2. Only one QSO per Expedition counts for points. When an Expedition comprises several team members, only one QSO with the entire Expedition counts for points.

3. QSOs via terrestrial repeaters do not count for points.

4. SWLs who wish to participate in the award scheme must submit a log showing details of all QSOs heard with Expeditions for which they wish to claim points.

5. QSL cards are not required.

2.6 Scoring System

Scores – which apply to a summit that is activated, worked or heard – are based on the height ASL. The following table summarises the scoring for the 195 Z3/WM and 77 Z3/EM summits:

Height ASL	Score	Summits
<400m	1	0
>=400m and <700m	2	17
>=700m and <1000m	4	33
>=1000m and <1500m	6	85
>=1500m and <2000m	8	68
>=2000m	10	69

There is a seasonal bonus (for Activators) of 3 points for summits >=1000m during the period 15 November to 15 March, inclusive

2.7 Best Practice on Access and Conservation

Some summits lie exactly or near the border line. In such cases the activators their intention to move close to the border line are advised to report to the nearest police station.

If the police, military, broadcast, or other specific infrastructure is present on the routes, or on the summits, than the signs with orders, or the warnings from the authorised persons must be obeyed.

The activators can hire the qualified mountain guides. See more:

<http://www.sharamountainguide.com.mk>

<http://www.planinarenje.org>

<http://www.mkdguide.mk>

The list and information of numerous refuges can be found on

http://www.mkdmount.org/planinarski_domovi/refuges.html.

2.8 Maps and navigation

The Macedonia - SOTA Programme is based on the maps issued by The Military Geographical Institute, Belgrade, Republic of Serbia <http://www.vgi.mod.rs>

The map of Macedonia, 1: 200 000, issued in 1966;

The map Skopje page 56, 1:500 000, issued in 1982;

The map Ohrid page 780, 1:100 000, issued in 1970;

The maps of Prilep, Kavadarci, Shar Mountain, Baba Mountain, Osogovo Mountain, Mavrovo, and Korab Mountain, 1: 25 000;

The maps of Jakupica Mountain, Skochivir, Nidze Mountain, Osogovo Mountain, Poreche, and Bushava Mountain, 1 : 50 000;

The maps of Berovo, Bitola, Demir Kapija, Gostivar, Korcha, Kriva Palanka, Kumanovo, Lerin, Ohrid, Prilep, Prizren, Skopje, Strumica, Uroshevac, Veles, and Stogovo Mountain, 1: 100 000.

The Google Earth, internet programme.

The topographic maps for the territory of the Republic of Macedonia in printed or digital format can be obtained from the Real Estate Cadastre Agency of the Republic of Macedonia <http://www.katastar.gov.mk>.

The maps and GPS tracks can be found on following links:

<http://www.makpetrol.com.mk/planinari/pavelmaps.asp>

http://www.mkdmount.org/gps_mapi/gps_maps.html

The description how to find routes to most popular summits in Macedonia can be found on <http://www.mkdmount.org/planini/mountains.html>

2.9 Safety considerations

You should never venture into Macedonian major mountains alone, without proper clothes, shoes, cap or hat, map, compass, and local advice. Take enough food and liquids for the planed period of stay.

Republic of Macedonia has transitional climate from Mediterranean to continental. The summers are hot and dry and the winters are moderately cold. The mountainous climate is present in the mountainous regions of the country and it is characterised by long and snowy winters and short and cold summers. The spring is colder than the fall. During the winter the sub zero temperatures and heavy snow is typical. Macedonia can be

extremely warm in summer, but it is worth remembering that all mountains can still be inhospitable places in inclement weather at any time of year. During the hot summers, there is a considerable risk of fire. Take care not to start fires, and always be aware of the dangers involved, especially at times of heightened risk. During the period of high risk the authorities may completely ban the access to the mountain areas without special permission.

There is potential risk of wild animals, especially wolves in winter, and bears and snakes in summer. Follow the advices of shepherds to avoid danger from dogs guarding the sheep.

In four mountain areas the rescue services exist:

1. The Shar Mountain, which is the biggest one in Macedonia;
2. The mountains of Vodno and Matka, located near the capital city Skopje;
3. The National Park "Pelister" on Baba Mountain.
4. The National Park "Galichica" on Galichica Mountain.

See more: http://www.mkdmount.org/spasitelni_sluzbi/rescue_services.html
<http://www.galichica.org.mk>

2.10 Disclaimer

Hiking, hill-walking and rock-climbing are potentially dangerous activities. The SOTA management team and their associates assume no responsibility for accidents. Each participant does so at his or her own risk, and must decide, on the basis of their own ability, whether an objective is achievable.

2.11 Amateur Radio in Macedonia

In the Republic of Macedonia, radio amateurs are issued with licences by Agency for Electronic Communications, which are the same as radio amateur licences in other countries. Republic of Macedonia has adopted CEPT Recommendation T/R 61-01, so temporary visitors who hold a CEPT Radio Amateur Licence may operate under the CEPT regulations using Z38/home call. Details of licensing in Macedonia are available on the web site of the Agency for Electronic Communications at <http://www.aek.mk>.

About amateur radio activity in Republic of Macedonia informations are also available at <http://www.z37rsm.org.mk/> the web site of the Radioamateur Society of Macedonia (RSM), which represents the interests of radio amateurs in Macedonia.

2.12 Useful Links

Further information about Summits on the air (SOTA) can be found on the web page: <http://www.sota.org.uk/> .

Web pages on mountain walking not referred to elsewhere in this manual include:

- Macedonian Mountain Association <http://www.fpsm.org.mk>
- Ministry of Internal Affairs of the Republic of Macedonia <http://www.moi.gov.mk>

3. Summit Reference Data

3.1 Regions notes

With a total area of 25,333 km², Macedonia is a country in Southeastern Europe with geographic coordinates: 42°22'21"N 22°18'04"E on the north; 40°51'16"N 21°07'33"E on the south; 41°31'04"N 20°27'32"E on the west; and 41°42'33"N 23°02'12"E on the east. Has some 748 km of boundaries, shared with Serbia (62 km) to the North, Kosovo (159 km) to the northwest, Bulgaria (148 km) to the east, Greece (228 km) to the south, and Albania (151 km) to the west. The country is part of the wider region of Macedonia, from which carries its own name.

Macedonia is a landlocked country that is geographically clearly defined by a central valley formed by the Vardar river and framed along its borders by mountain ranges. The terrain is mostly rugged, located between the Shar Mountains on the west, and Osogovo Mountain on the east.

The mountains belong to two different ranges: the Dinaric Alps and Rodopi. The Dinaric range is located on the west part and is the oldest with subsequent erosion, while the Rodopi range located on the east and central part is younger offering rugged, alpine scenery.

The average ASL of the terrain is 850 m. The lowest point is Vardar River (50 m) near the city of Gevgelija in the south, and the highest point is Golem Korab (2764 m) on the west.

Macedonia has three National Parks: Pelister, Mavrovo and Galichica.

For the purpose of SOTA-Programme Macedonia is subdivided on two regions: West Macedonia and East Macedonia.

3.2 Region Reference – West Macedonia

Association	Macedonia (Z3)
Region	West Macedonia (WM-001 to WM-195)
Region Manager	Vladimir Kovaceski Z35M [z35m_99@yahoo.com]
Reference	The Military Geographical Institute, Belgrade, Republic of Serbia The Google Earth, internet programme

3.2.1 Region notes

The Region West Macedonia is the part of the territory of Macedonia on the west of river Lepenec entering from Kosovo on the north part of Macedonia until inflow into river Vardar in Skopje at point 42° 0'47"N, 21°22'56"E, and from the same point west of river Vardar until exit to Greece near the city of Gevgelija at point 41° 7' 00"N, 22°32'40" E.

The region has higher terrain than East Macedonia.

Two different ranges of mountains are located in the region: the Dinaric Alps on the west part, and the Rodopi on the east and south part.

The highest summit is Golem Korab (2764 m), and there are the group of summits higher than 2500 m.

All three National Parks are located in West Macedonia (Pelister, Mavrovo and Galichica).

3.2.2 Table of summits Region West Macedonia

Ref.	Alt (m)	Alt (f)	Name	Mountain	Lon/Lat	Valid from	Score
WM-001	2764	9068	Golem Korab	Korab	41,7905°N, 20,5466°E	01-May-09	10
WM-002	2747	9015	Titov Vrv	Shara	41,9920°N, 20,7980°E	01-May-09	10
WM-003	2675	8776	Bristavec	Shara	41,9340°N, 20,7990°E	01-May-09	10
WM-004	2528	8293	Kobilica	Shara	42,0960°N, 20,8850°E	01-May-09	10
WM-005	2601	8533	Pelister	Baba	40,9630°N, 21,1980°E	01-May-09	10
WM-006	2462	8077	Brinja e Shahit, Karatash	Shara	42,0640°N, 20,7770°E	01-May-09	10
WM-007	2538	8326	Solunska Glava	Jakupica	41,7038°N, 21,4038°E	01-May-09	10
WM-008	2555	8382	Vrtop	Shara	42,0980°N, 20,8420°E	01-May-09	10
WM-009	2520	8267	Kajmakchalan	Nidze	40,9310°N, 21,7880°E	01-May-09	10
WM-010	2498	8195	Ljuboten	Shara	42,2066°N, 21,1194°E	01-May-09	10
WM-011	2492	8175	Maja	Shara	42,0450°N, 20,7630°E	01-May-09	10
WM-012	2472	8110	Karadzica	Karadzica	41,7310°N, 21,3420°E	01-May-09	10
WM-013	2373	7785	Velivar	Deshat	41,6372°N, 20,5250°E	01-May-09	10
WM-014	2361	7746	Nidze	Nidze	40,9790°N, 21,8060°E	01-May-09	10
WM-015	2350	7709	Musa	Baba	40,9444°N, 21,2422°E	01-May-09	10
WM-016	2341	7680	Golem Krchin	Krchin	41,5975°N, 20,5533°E	01-May-09	10
WM-017	2331	7647	Bojadziev Vrv	Baba	40,8740°N, 21,2430°E	01-May-09	10
WM-018	2268	7440	Golem Rid	Stogovo	41,4520°N, 20,6480°E	01-May-09	10
WM-019	2256	7401	Crn Kamen	Jablanica	41,2460°N, 20,5210°E	01-May-09	10
WM-020	2240	7349	Babin Srt	Karaorman	41,4305°N, 20,6816°E	01-May-09	10
WM-021	2233	7326	Strizhek	Jablanica	41,2844°N, 20,5294°E	01-May-09	10
WM-022	2178	7145	Dautica	Dautica	41,6140°N, 21,3530°E	01-May-09	10
WM-023	2163	7096	Medenica	Bistra	41,6230°N, 20,6572°E	01-May-09	10
WM-024	2110	6922	Churkov Dol	Bistra	41,5940°N, 20,7480°E	01-May-09	10
WM-025	2062	6765	Dobra Voda	Cheloica	41,6605°N, 21,0516°E	01-May-09	10
WM-026	1998	6555	Plake	Plakenska	41,2270°N, 21,0333°E	01-May-09	8
WM-027	1813	5948	Dobro Pole	Kozjak (Pr)	41,0280°N, 21,8800°E	01-May-09	8
WM-028	1794	5885	Orlov Vrv	Karaorman	41,3370°N, 20,7320°E	01-May-09	8
WM-029	1788	5866	Stara Mushica	Busheva	41,4369°N, 21,2077°E	01-May-09	8
WM-030	1766	5793	Dve Ushi	Kozhuf	41,2230°N, 22,2820°E	01-May-09	8
WM-031	1745	5725	Kozjak	Babuna	41,3940°N, 21,6900°E	01-May-09	8
WM-032	1735	5690	Goga	Galichica	41,0400°N, 20,8740°E	01-May-09	8
WM-033	1723	5725	Jastrebec	Bistra	41,6775°N, 20,7163°E	01-May-09	8
WM-034	1709	5606	Starci	Bistra	41,5755°N, 20,6608°E	01-May-09	8
WM-035	1569	5147	Kitka	Kitka	41,8410°N, 21,4980°E	01-May-09	8
WM-036	1540	5052	Lokovski Rid	Karaorman	41,3750°N, 20,6200°E	01-May-09	8

Ref.	Alt (m)	Alt (f)	Name	Mountain	Lon/Lat	Valid from	Score
WM-037	1528	5013	Tepe	Bukovik	41,6836°N, 20,9113°E	01-May-09	8
WM-038	1494	4901	Kale	Demir Hisar	41,2270°N, 21,2890°E	01-May-09	6
WM-039	1471	4826	Visoko	Selechka	41,2080°N, 21,6166°E	01-May-09	6
WM-040	1453	4767	Mechkin Kamen	Krushevska	41,3402°N, 21,2563°E	01-May-09	6
WM-041	1346	4406	Kochiski Vrv	Kochishka	41,0897°N, 21,2625°E	01-May-09	6
WM-042	1329	4360	Uda Male	Karaorman	41,2850°N, 20,6500°E	01-May-09	6
WM-043	1259	4130	Golem Zheden	Zheden	42,0570°N, 21,2170°E	01-May-09	6
WM-044	1204	3950	Gorenska Chuka	Gorenska	41,1830°N, 20,7710°E	01-May-09	6
WM-045	1107	3631	Gramada	Zheden	41,9820°N, 21,1230°E	01-May-09	6
WM-046	1066	3497	Krstovar, Vodno	Vodno	41,9660°N, 21,3950°E	01-May-09	6
WM-047	960	3149	Dobarski Zheden	S. Gora	41,9750°N, 21,0870°E	01-May-09	4
WM-048	848	2782	Dupen Kamen	Rid Topolchani	41,2410°N, 21,4320°E	01-May-09	4
WM-049	786	2578	Rid Kutleshevo	Rid Kutleshevo	41,4036°N, 21,4250°E	01-July-09	4
WM-050	619	2030	Ljubin Rid	Ljubin Rid	42,0000°N, 21,2550°E	01-July-09	2
WM-051	2585	8480	Crn Vrv	Shara	42,1282°N, 20,9243°E	01-July-09	10
WM-052	2166	7106	Zelen Breg	Kozhuf	41,1611°N, 22,2107°E	01-July-09	10
WM-053	2074	6715	Bel Kamen	Dautica	41,6112°N, 21,3559°E	01-July-09	10
WM-054	1953	6407	Gola Buka	Galichica	40,9700°N, 20,8320°E	01-July-09	8
WM-055	1422	4655	Zlatovrv	Babuna	41,4096°N, 21,5580°E	01-July-09	6
WM-056	2704	8871	Bakardan	Shara	41.9861°N, 20.8166°E	01-Mar-11	10
WM-057	2683	8802	Mal Korab, Mala Korabska Vrata	Korab	41.7748°N, 20.5322°E	01-Mar-11	10
WM-058	2658	8720	Rudoka	Shara	41.9183°N, 20.7763°E	01-Mar-11	10
WM-059	2651	8697	Peskovi	Shara	42.1394°N, 20.9791°E	01-Mar-11	10
WM-060	2610	8562	Trapeznica	Shara	41.9635°N, 20.7661°E	01-Mar-11	10
WM-061	2582	8471	Golema Vraca	Shara	41.8968°N, 20.7517°E	01-Mar-11	10
WM-062	2567	8421	Ezerski Vrv	Shara	42.1466°N, 21.0031°E	01-Mar-11	10
WM-063	2528	8293	Kobilica	Shara	42.0096°N, 20.8834°E	01-Mar-11	10
WM-064	2524	8280	Pribeg	Shara	42.1655°N, 21.0491°E	01-Mar-11	10
WM-065	2522	8274	Mala Vraca	Shara	41.8763°N, 20.7400°E	01-Mar-11	10
WM-066	2511	8238	Djini Beg, Kriva Shija	Shara	42.0036°N, 20.7730°E	01-Mar-11	10

Ref.	Alt (m)	Alt (f)	Name	Mountain	Lon/Lat	Valid from	Score
WM-067	2493	8179	Zalina	Shara	42.0450°N, 20.7647°E	01-Mar-11	10
WM-068	2465	8087	Sredni Kamen	Shara	42.0123°N, 20.7922°E	01-Mar-11	10
WM-069	2423	7949	Perchulica	Dautica	41.6867°N, 21.3705°E	01-Mar-11	10
WM-070	2420	7939	Veternica	Baba	40.9635°N, 21.1985°E	01-Mar-11	10
WM-071	2398	7867	Plat	Shara	42.0240°N, 20.8134°E	01-Mar-11	10
WM-072	2391	7844	Kabash	Korab	41.7557°N, 20.5698°E	01-Mar-11	10
WM-073	2377	7798	Ziberova Kula	Korab	41.8242°N, 20.5601°E	01-Mar-11	10
WM-074	2245	7365	Visoko Brdo	Deshat	41.6889°N, 20.5299°E	01-Mar-11	10
WM-075	2221	7286	Fudan	Shara	41.8158°N, 20.7167°E	01-Mar-11	10
WM-076	2218	7276	Stogovo	Stogovo	41.4871°N, 20.6207°E	01-Mar-11	10
WM-077	2196	7204	Shkambi i Rofes	Baba	40.8933°N, 21.2517°E	01-Mar-11	10
WM-078	2194	7198	Lera	Shara	41.7902°N, 20.7263°E	01-Mar-11	10
WM-079	2170	7119	Grospa	Shara	41.8028°N, 20.6645°E	01-Mar-11	10
WM-080	2148	7047	Karbula	Bistra	41.6368°N, 20.6281°E	01-Mar-11	10
WM-081	2132	6994	Dudica	Kozhuf	41.1260°N, 22.1437°E	01-Mar-11	10
WM-082	2125	6971	Chumin Vrv, Parumba	Jablanica	41.2262°N, 20.5216°E	01-Mar-11	10
WM-083	2120	6955	Cuce	Baba	40.8752°N, 21.1773°E	01-Mar-11	10
WM-084	2119	6952	Bozhino	Shara	41.8352°N, 20.6637°E	01-Mar-11	10
WM-085	2112	6929	Kale, 2	Jakupica	41.6698°N, 21.4912°E	01-Mar-11	10
WM-086	2103	6899	Golemo Vrvche	Baba	40.9363°N, 21.1570°E	01-Mar-11	10
WM-087	2101	6892	Vrv bez ime, Bistra	Bistra	41.5440°N, 20.8119°E	01-Mar-11	10
WM-088	2097	6879	Porta	Kozhuf	41.1552°N, 22.1709°E	01-Mar-11	10
WM-089	2092	6863	Golem Brezovec	Bistra	41.5942°N, 20.7481°E	01-Mar-11	10
WM-090	2092	6863	Sherupa, Maja e Priftit	Shara	41.8771°N, 20.5942°E	01-Mar-11	10
WM-091	2083	6833	Raduch	Jablanica	41.3439°N, 20.5266°E	01-Mar-11	10
WM-092	2018	6620	Govedarnik	Bistra	41.6069°N, 20.6629°E	01-Mar-11	10
WM-093	2010	6594	Vrteshka	Baba	41.0442°N, 21.1081°E	01-Mar-11	10
WM-094	2004	6574	Mala Rupa	Kozhuf	41.1639°N, 22.2475°E	01-Mar-11	10
WM-095	1937	6354	Chardak	Kozhuf	41.1719°N, 22.1349°E	01-Mar-11	8
WM-096	1937	6354	Zengovi Rupi	Bistra	41.6100°N, 20.7105°E	01-Mar-11	8
WM-097	1935	6348	Lisec	Goleshnica	41.7542°N, 21.5270°E	01-Mar-11	8
WM-098	1917	6289	Joshkov Kamen	Pesjak	41.5626°N, 21.1047°E	01-Mar-11	8
WM-099	1908	6259	Liska	Ilinska	41.3243°N, 20.9542°E	01-Mar-11	8
WM-100	1897	6223	Cheloica	Cheloica	41.5849°N, 21.1029°E	01-Mar-11	8

Ref.	Alt (m)	Alt (f)	Name	Mountain	Lon/Lat	Valid from	Score
WM-101	1877	6158	Bela Zemja	Nidze	41.0282°N, 21.8806°E	01-Mar-11	8
WM-102	1876	6154	Konjarnik	Pesjak	41.5365°N, 21.1444°E	01-Mar-11	8
WM-103	1857	6092	Dupen Kamen, 2	S. Gora	41.7775°N, 21.0108°E	01-Mar-11	8
WM-104	1840	6036	Limunje	Cheloica	41.7230°N, 21.0374°E	01-Mar-11	8
WM-105	1822	5977	Baltova Chuka	Kozjak (Pr)	41.1346°N, 21.9077°E	01-Mar-11	8
WM-106	1790	5872	Shipican	Goleshnica	41.7617°N, 21.4714°E	01-Mar-11	8
WM-107	1767	1932	Cici Kaja	Kozhuf	41.1966°N, 22.2458°E	01-Mar-11	8
WM-108	1764	5787	Kafcel	Ljuben	41.3826°N, 21.0779°E	01-Mar-11	8
WM-109	1743	5718	Kozha	Kozha	41.7185°N, 20.7532°E	01-Mar-11	8
WM-110	1731	5679	Osmanbezhica	Goleshnica	41.7575°N, 21.5080°E	01-Mar-11	8
WM-111	1718	5636	Prerok	Goleshnica	41.7075°N, 21.5351°E	01-Mar-11	8
WM-112	1698	5570	Golem Sach	Baba Sach	41.4377°N, 21.0708°E	01-Mar-11	8
WM-113	1676	5498	Samar	S. Gora	41.8146°N, 21.0408°E	01-Mar-11	8
WM-114	1663	5456	Studenica	Dren	41.3285°N, 21.6499°E	01-Mar-11	8
WM-115	1662	5452	Elak	Nidze	40.9999°N, 21.7432°E	01-Mar-11	8
WM-116	1657	5436	Samar, 2	Galichica	41.0668°N, 20.9096°E	01-Mar-11	8
WM-117	1656	5433	Golem Kamen	Bigla	41.1247°N, 21.0962°E	01-Mar-11	8
WM-118	1644	5393	Cafa, Bobish	Dautica	41.5976°N, 21.4193°E	01-Mar-11	8
WM-119	1596	5236	Prashnik	Nidze	41.1324°N, 22.0138°E	01-Mar-11	8
WM-120	1588	5209	Crn Vrv, 2	Ljuben	41.3937°N, 21.1341°E	01-Mar-11	8
WM-121	1571	5154	Jalornik	Dautica	41.5467°N, 21.3408°E	01-Mar-11	8
WM-122	1557	5108	Chave	Dren	41.3478°N, 21.8272°E	01-Mar-11	8
WM-123	1547	5075	Pancharica	Bistra	41.6168°N, 20.8600°E	01-Mar-11	8
WM-124	1535	5036	Veli Vrv	Ilinska	41.4542°N, 20.8431°E	01-Mar-11	8
WM-125	1527	5009	Bajrak	Karadzica	41.8201°N, 21.4192°E	01-Mar-11	8
WM-126	1524	5000	Chafe	Krushevaska	41.3755°N, 21.2091°E	01-Mar-11	8
WM-127	1517	4977	Bukovik	Bukovik	41.6567°N, 20.9688°E	01-Mar-11	8
WM-128	1514	4967	Rakova Glava	Babuna	41.4308°N, 21.6718°E	01-Mar-11	8
WM-129	1510	4954	Markovi Kuli	Dren	41.3243°N, 21.7288°E	01-Mar-11	8
WM-130	1501	4934	Crni Vrv, Lazaropole	Bistra	41.5290°N, 20.6852°E	01-Mar-11	8
WM-131	1499	4917	Luta	Babuna	41.485°N, 21.5393°E	01-Mar-11	6
WM-132	1480	4855	Orlite	Dren	41.3435°N, 21.8880°E	01-Mar-11	6
WM-133	1470	4822	Meshnik	Kozjak (Pr)	41.2117°N, 21.9226°E	01-Mar-11	6
WM-134	1455	4773	Goli Rid	Babuna	41.5591°N, 21.4594°E	01-Mar-11	6
WM-135	1445	4740	Chaveno	Babuna	41.4520°N, 21.6072°E	01-Mar-11	6
WM-136	1437	4714	Golem Kamen	Baba	40.9151°N, 21.3135°E	01-Mar-11	6
WM-137	1435	4708	Borula	Babuna	41.4245°N, 21.6355°E	01-Mar-11	6
WM-138	1434	4704	Chaula	Selechka	41.0479°N, 21.6018°E	01-Mar-11	6
WM-139	1430	4691	Bel Kamen, 2	E. Strezhevo	41.1156°N, 21.2033°E	01-Mar-11	6
WM-140	1429	4688	G.Rudina	Dren	41.3127°N, 21.9221°E	01-Mar-11	6
WM-141	1426	4678	Zelka	Kozjak (Pr)	41.2349°N, 21.8625°E	01-Mar-11	6
WM-142	1421	4662	Fojnik	Poreche	41.7362°N, 21.1492°E	01-Mar-11	6

Ref.	Alt (m)	Alt (f)	Name	Mountain	Lon/Lat	Valid from	Score
WM-143	1412	4632	Gavran	Selechka	41.0481°N, 21.6018°E	01-Mar-11	6
WM-144	1409	4622	Dragusha, Bovinski Vrv	Baba	40.9562°N, 21.3230°E	01-Mar-11	6
WM-145	1403	4603	Vrvoite	Kozjak (Pr)	41.0958°N, 21.8258°E	01-Mar-11	6
WM-146	1399	4589	Jalovarski Rid	Dren	41.3077°N, 21.7132°E	01-Mar-11	6
WM-147	1396	4580	Breza	Goleshnica	41.7512°N, 21.5773°E	01-Mar-11	6
WM-148	1393	4570	Staro Bachilo	D. Hisar	41.1929°N, 21.1421°E	01-Mar-11	6
WM-149	1344	4409	Pandele	Kozjak (Pr)	41.1383°N, 21.8137°E	01-Mar-11	6
WM-150	1322	4337	Veslec	Dren	41.2417°N, 21.5682°E	01-Mar-11	6
WM-151	1309	4294	Krnorot	Babuna	41.4590°N, 21.6719°E	01-Mar-11	6
WM-152	1300	4265	Chovekot	Dren	41.3387°N, 21.8703°E	01-Mar-11	6
WM-153	1300	4265	Drobaci	Karadzica	41.7158°N, 21.2648°E	01-Mar-11	6
WM-154	1293	4242	Prechna	Galichica	40.9164°N, 20.9570°E	01-Mar-11	6
WM-155	1274	4179	Kale, 3	Busheva	41.4857°N, 21.2839°E	01-Mar-11	6
WM-156	1258	4127	Njivishte	Javor	41.5261°N, 21.0352°E	01-Mar-11	6
WM-157	1257	4124	Ljiljachica	Jakupica	41.6186°N, 21.5819°E	01-Mar-11	6
WM-158	1244	4081	Crvenica	Babuna	41.4225°N, 21.5895°E	01-Mar-11	6
WM-159	1238	4061	Brikul	S. Gora	41.8833°N, 21.1706°E	01-Mar-11	6
WM-160	1231	4038	Vrteshka, 2	Suva Pl.	41.7568°N, 21.2077°E	01-Mar-11	6
WM-161	1212	3976	Sedlo	Poreche	41.6951°N, 21.1758°E	01-Mar-11	6
WM-162	1207	3959	Starec	Kozjak (Pr)	41.2605°N, 21.9136°E	01-Mar-11	6
WM-163	1198	3930	Orel	Pesjak	41.4871°N, 21.0156°E	01-Mar-11	6
WM-164	1192	3949	Goli Vrv	Dautica	41.6659°N, 21.2742°E	01-Mar-11	6
WM-165	1191	3907	Butkoec	Dren	41.2534°N, 21.7557°E	01-Mar-11	6
WM-166	1178	3864	Vidush	Poreche	41.5976°N, 21.2419°E	01-Mar-11	6
WM-167	1167	3828	Kula	Dren	41.3875°N, 21.8566°E	01-Mar-11	6
WM-168	1162	3812	Negoic	Ljuben	41.3419°N, 21.0876°E	01-Mar-11	6
WM-169	1150	3772	Klepa	Klepa	41.5700°N, 21.8139°E	01-Mar-11	6
WM-170	1137	3730	Despotov Bor	Suva Pl.	41.8318°N, 21.1927°E	01-Mar-11	6
WM-171	1126	3694	Preslop	Dautica	41.6328°N, 21.2770°E	01-Mar-11	6
WM-172	1126	3694	Grunishki Vis	Skochivir	41.0699°N, 21.6938°E	01-Mar-11	6
WM-173	1110	3641	Jasenova Glava	Klepa	41.4855°N, 21.7328°E	01-Mar-11	6
WM-174	1103	3618	Kula, 2	Selechka	41.0935°N, 21.5411°E	01-Mar-11	6
WM-175	1088	3569	Samarnica	Bigla	41.1562°N, 21.1829°E	01-Mar-11	6
WM-176	1086	3562	Gradishte	Plakenska	41.2832°N, 20.8809°E	01-Mar-11	6
WM-177	1083	3553	Velji Vrv	Poreche	41.6821°N, 21.2079°E	01-Mar-11	6
WM-178	1081	3546	Vrvoi	Busheva	41.4499°N, 20.9383°E	01-Mar-11	6
WM-179	1081	3546	Vetersko	Klepa	41.5097°N, 21.8037°E	01-Mar-11	6
WM-180	1053	3454	Crni Vrv, 2	S. Gora	41.7367°N, 20.9076°E	01-Mar-11	6
WM-181	1050	3444	G.Gramada	Selechka	41.1286°N, 21.5751°E	01-Mar-11	6

Ref.	Alt (m)	Alt (f)	Name	Mountain	Lon/Lat	Valid from	Score
WM-182	988	3241	Negrea	Babuna	41.4129°N, 21.5019°E	01-Mar-11	4
WM-183	995	3264	Krushke	Zheden	42.0689°N, 21.1757°E	01-Mar-11	4
WM-184	899	2949	G.Krastovec	D.Kapija	41.3812°N, 22.2699°E	01-Mar-11	4
WM-185	865	2837	Ruen, 2	Babuna	41.5323°N, 21.6795°E	01-Mar-11	4
WM-186	838	2749	Lera, 2	Kachanik	42.1020°N, 21.2934°E	01-Mar-11	4
WM-187	801	2627	Orljak	Kosmatica	42.0674°N, 21.2647°E	01-Mar-11	4
WM-188	705	2312	Davidovski Rid	D.Kapija	41.3587°N, 22.3887°E	01-Mar-11	4
WM-189	675	2214	Grot	Grot	41.7522°N, 21.7203°E	01-Mar-11	2
WM-190	609	1998	Shtuder	D.Kapija	41.3696°N, 22.3566°E	01-Mar-11	2
WM-191	562	1843	Ljubosh	Rid Ljubosh	41.4617°N, 21.9733°E	01-Mar-11	2
WM-192	550	1804	Golik	Babuna (Veles)	41.6888°N, 21.7783°E	01-Mar-11	2
WM-193	444	1456	Vrshnik	Vrshnik, Veles	41.7040°N, 21.7762°E	01-Mar-11	2
WM-194	1748	5748	Tabahon	S. Gora	41.8983°N, 21.0908°E	01-Mar-11	8
WM-195	1028	3372	Tishteno	Dren	41.3936°N, 21.8826°E	01-Mar-11	6

3.3 Region Reference – East Macedonia

Association	Macedonia (Z3)
Region	East Macedonia (EM-001 to EM-078)
Region Manager	Vladimir Kovaceski Z35M [z35m_99@yahoo.com]
Reference	The Military Geographical Institute, Belgrade, Republic of Serbia The Google Earth, internet programme

3.3.1 Region notes

The Region East Macedonia is the part of the territory of Macedonia on the east of river Lepenec entering from Kosovo on the north part of Macedonia until inflow into river Vardar in Skopje at point 42° 0'47"N, 21°22'56"E, and from the same point east of river Vardar until exit to Greece near the city of Gevgelija at point 41° 7' 00"N, 22°32'40" E.

This region has lower terrain than West Macedonia.

The mountains in East Macedonia belongs to the range of Rodopi.

The highest summit is Ruen (2252m).

3.3.2 Table of summits Region East Macedonia

Ref.	Alt (m)	Alt (f)	Name	Mountain	Lon/Lat	Valid from	Score
EM-001	2252	7388	Ruen	Osogovo	42,1580°N, 22,5160°E	01-May-09	10
EM-002	2084	6837	Carev Vrv	Osogovo	42,1260°N, 22,4530°E	01-May-09	10
EM-003	1881	6171	Tumba	Belasica	41,3410°N, 22,9160°E	01-May-09	8
EM-004	1754	5754	Lisec	Plachkovica	41,7810°N, 22,5070°E	01-May-09	8
EM-005	1745	5725	Ograzhden	Ograzhden	41,5410°N, 22,8750°E	01-May-09	8
EM-006	1651	5416	Ramno	Sk. Crna Gora	42,1920°N, 21,4460°E	01-May-09	8
EM-007	1536	5039	Chavka	Golak	41,9040°N, 22,7350°E	01-May-09	8
EM-008	1403	4603	Babin Chukar	Maleshevska	41,6240°N, 22,9150°E	01-May-09	6
EM-009	996	3267	Crn Vrv	Plachkovica	41,7060°N, 22,3250°E	01-May-09	4
EM-010	971	3185	Elenica	Smrdesh	41,4610°N, 22,5380°E	01-May-09	4
EM-011	774	2539	Crn Vrv,2	Gradishtanska	41,8590°N, 21,7380°E	01-May-09	4
EM-012	720	2362	Boska	Belasica	41,2710°N, 22,6710°E	01-May-09	4
EM-013	697	2286	Karabalija	Karabalija	41,1910°N, 22,6630°E	01-May-09	2
EM-014	514	1686	Pavlov Krst, Kat. Blace	Korija	41,8610°N, 21,6630°E	01-May-09	2
EM-015	1932	6338	Kadiica	Maleshevska	41.7892°N, 22.9642°E	01-Mar-11	8
EM-016	1846	6056	Visoka Chuka	Belasica	41.3408°N, 22.8790°E	01-Mar-11	8
EM-017	1803	5915	Djami Tepe	Maleshevska	41.7686°N, 22.0081°E	01-Mar-11	8
EM-018	1725	5659	Chupino Brdo	Plachkovica	41.8077°N, 22.5608°E	01-Mar-11	8
EM-019	1707	5600	Bel Kamen	Plachkovica	41.7712°N, 22.5640°E	01-Mar-11	8
EM-020	1703	5587	Chupino Brdo, 2	Bilino	42.3541°N, 22.2531°E	01-Mar-11	8

Ref.	Alt (m)	Alt (f)	Name	Mountain	Lon/Lat	Valid from	Score
EM-021	1689	5541	Chatal	Plachkovica	41.7939°N, 22.4423°E	01-Mar-11	8
EM-022	1669	5475	Panagjur	Osogovo	42.0474°N, 22.3289°E	01-Mar-11	8
EM-023	1628	5341	Svinjski Kamen	Sk. Crna Gora	42.1264°N, 21.5120°E	01-Mar-11	8
EM-024	1574	5164	Breza	Osogovo	42.1141°N, 22.2548°E	01-Mar-11	8
EM-025	1572	5157	Kara Tash	Plachkovica	41.7539°N, 22.5446°E	01-Mar-11	8
EM-026	1545	5068	Boshanov Kamen	Bilino	42.2595°N, 22.1875°E	01-Mar-11	8
EM-027	1526	5006	Lisec, 2	Osogovo	42.1263°N, 22.2137°E	01-Mar-11	8
EM-028	1492	4895	Kodra Fura	Sk. Crna Gora	42.2342°N, 21.4409°E	01-Mar-11	6
EM-029	1474	4835	Adjica	Ograzhden	41.4923°N, 22.9596°E	01-Mar-11	6
EM-030	1472	4829	Uvo	Osogovo	42.0570°N, 22.2308°E	01-Mar-11	6
EM-031	1420	4658	Goten	Maleshevska	41.6477°N, 22.6490°E	01-Mar-11	6
EM-032	1417	4648	Studene	Sk. Crna Gora	42.1832°N, 21.3683°E	01-Mar-11	6
EM-033	1395	4576	Kara Burun, Djami Tepe, 2	Maleshevska	41.5820°N, 22.8199°E	01-Mar-11	6
EM-034	1384	4540	Beaz Tepe	Maleshevska	41.8187°N, 22.8116°E	01-Mar-11	6
EM-035	1352	4435	Petlec	Maleshevska	41.6615°N, 22.7596°E	01-Mar-11	6
EM-036	1331	4366	Izveden	Plachkovica	41.6876°N, 22.5363°E	01-Mar-11	6
EM-037	1316	4317	Teleshorski Rid	Plachkovica	41.6835°N, 22.5935°E	01-Mar-11	6
EM-038	1298	4258	Adj Chuka	Maleshevska	41.6203°N, 22.6236°E	01-Mar-11	6
EM-039	1297	4255	Plavica	Osogovo	42.0501°N, 22.1796°E	01-Mar-11	6
EM-040	1291	4235	Obel	Maleshevska	41.9700°N, 22.8758°E	01-Mar-11	6
EM-041	1283	4209	Virovi	Kozjak (Pr.)	42.3104°N, 21.9287°E	01-Mar-11	6
EM-042	1223	4012	Crn Vrv, 3	Sk. Crna Gora	42.2524°N, 21.5833°E	01-Mar-11	6
EM-043	1186	3891	Goranica	Osogovo	41.9876°N, 22.4935°E	01-Mar-11	6
EM-044	1183	3881	Golemi Vrv	Osogovo	42.3468°N, 22.3468°E	01-Mar-11	6
EM-045	1159	3802	Volchjak	Konechka	41.5095°N, 22.3105°E	01-Mar-11	6
EM-046	1150	3372	Klepa *	Klepa	41.5700°N, 21.8139°E	01-Mar-11	0
EM-047	1138	3733	Veliki Kamen	Sk. Crna Gora	42.2183°N, 21.5667°E	01-Mar-11	6
EM-048	1137	3730	Jajla	Plachkovica	41.7205°N, 22.4310°E	01-Mar-11	6
EM-049	1115	3658	Crn Vrv, 4	Mangovica	42.0323°N, 22.1152°E	01-Mar-11	6
EM-050	1029	3375	Gabrin Rid	Gradeshka	41.4705°N, 22.4321°E	01-Mar-11	6
EM-051	996	3267	Kara Tepe	Plaush	41.3779°N, 22.5227°E	01-Mar-11	4
EM-052	951	3120	Krasta	Smrdesht	41.5016°N, 22.5006°E	01-Mar-11	4
EM-053	929	3047	Samovilec	Golak	41.9497°N, 22.6294°E	01-Mar-11	4
EM-054	928	3044	Golem Karadag	Konechka	41.4163°N, 22.3578°E	01-Mar-11	4
EM-055	874	2867	Asanica	Mangovica	42.0194°N, 22.0008°E	01-Mar-11	4
EM-056	867	2844	Rajchanski Rid	Rajchanski Rid	41.9450°N, 22.2593°E	01-Mar-11	4

Ref.	Alt (m)	Alt (f)	Name	Mountain	Lon/Lat	Valid from	Score
EM-057	861	2824	Gjurishte	Gradishtanska	41.8990°N, 21.8361°E	01-Mar-11	4
EM-058	854	2801	Kula	Mangovica	42.0748°N, 21.9135°E	01-Mar-11	4
EM-059	853	2798	Venec	Gradishtanska	41.9244°N, 21.7763°E	01-Mar-11	4
EM-060	845	2772	Visoki Rid	Osogovo	42.1343°N, 22.0481°E	01-Mar-11	4
EM-061	789	2588	Sv. Georgi	Gradishtanska	42.0122°N, 21.8898°E	01-Mar-11	4
EM-062	779	2555	Golik	Gradishtanska	41.9861°N, 21.7982°E	01-Mar-11	4
EM-063	775	2542	Lanishte	Ruen (Ku)	42.2293°N, 21.7581°E	01-Mar-11	4
EM-064	768	2519	Dudarova Korija	Osogovo	42.0849°N, 22.1051°E	01-Mar-11	4
EM-065	755	2477	Sv. Jovanski Rid	Bogoslovec	41.7646°N, 22.0118°E	01-Mar-11	4
EM-066	747	2450	Tiski Vrv	Bogoslovec	41.7588°N, 22.0344°E	01-Mar-11	4
EM-067	733	2404	Samardjiica	Smrdesh	41.607°N, 22.3551°E	01-Mar-11	4
EM-068	722	2368	Kukuljatica	Gradishtanska	42.0274°N, 21.7931°E	01-Mar-11	4
EM-069	719	2358	Sv. Ilija, Strumica	Sv. Ilija, Strumica	41.4314°N, 22.5908°E	01-Mar-11	4
EM-070	664	2178	Ilandja	Kuchukol	41.7211°N, 21.9217°E	01-Mar-11	2
EM-071	618	2027	Vlaov Chukar	Gradeshka	41.4068°N, 22.3942°E	01-Mar-11	2
EM-072	578	1896	Debeli Rid, Sushevski Rid	Debeli Rid, Sushevski Rid	41.7693°N, 22.1174°E	01-Mar-11	2
EM-073	565	1853	Sv. Ilija, Veles	Sv. Ilija, Veles	41.7068°N, 21.8051°E	01-Mar-11	2
EM-074	560	1837	Kur Tepe	Slan Dol	41.6437°N, 22.0272°E	01-Mar-11	2
EM-075	522	1712	Jusak Tepesi	Plaush	41.2648°N, 22.5659°E	01-Mar-11	2
EM-076	507	1663	Rankovec	Mechkin Kamen	40.9164°N, 20.9570°E	01-Mar-11	2
EM-077	460	1509	Tisa	Bogoslovec	41.7343°N, 22.0591°E	01-Mar-11	2
EM-078	448	1469	Bajrache	E. Mladost	41.7592°N, 21.7563°E	01-Mar-11	2