

NEW APPROACH TO TOURISM VALORIZATION AND ZONING OF STARI VLAH AND RAŠKA REGION, SERBIA

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Abstract: The worldwide tourist regionalization has been growing due to the increasing demand for valorization of tourist potentials. Stari Vlah and Raška form a spatial-functional category with natural and cultural potentials that provide this region with tourist-geographical values of certain taxonomic rank. The values of cultural-historical heritage are increasingly important for contemporary tourism, leading to development of special kinds of tourism including cultural, city/urban tourism, event tourism and religious tourism.

It is possible to form a more comprehensive view of the touristic values and potentials of this region through use of Geographical Information Systems (GIS), helped by techniques such as kriging, cluster and proportionate buffer. The collected raw data were divided into categories according to qualitative and quantitative features and graded on scale 1-5. After a complete GIS numeric analysis was performed, the grades were summed and algorithm was implemented creating clusters and fields in maps. The three main zones of analysis in qualitative sense include: the conditionally developed tourism zone (maximum value), developing tourism zone (medium value) and potential tourism zone (minimal value). The results of detailed GIS geostatistical analysis of Stari Vlah and Raška region have shown presence of new areas of potential tourism and of areas showing constant tourist activity. The natural and social (anthropogenic) tourist values confirmed by new methods were included in the analysis. In this way it was possible to achieve a better approach to this insufficiently explored region in tourist sense.

Key words: geostatistics; kriging; cluster; proportionate buffer; zone; tourism potentials

1. Introduction

The area of Stari Vlah is situated in the southwest of Serbia, north of river Lim and east of river Drina. To the west Stari Vlah forms a boundary with Bosnia and Herzegovina, to the south with Raška region, to the east with Šumadija and to the north with Kolubara region. It includes parts of three administrative districts with different levels of tourism development: Zlatibor, Moravica and Zlatar. The touristic-geographical region Stari Vlah includes mountains and upland plateau so the main activity of the community is livestock husbandry. This region is very rich in water resources. In the Stari Vlah region rural tourism is experiencing dynamic development. Zlatibor and Zlatar massifs divide this region into three parts: Zlatibor's Stari Vlah (Mt. Zlatibor and city of Užice), Moravica's Stari Vlah (the Moravica river) and Zlatar's Stari Vlah (Zlatar mountain). To the south it reaches the Raška region.

In the stricter sense, the term Raška pertains to the Middle Ibar river basin and basins of left and right tributaries of Raška and Studenica. In a wider sense, the term of Raška is used for the whole area of southwest Serbia, which in the Middle Ages belonged to Raška State. One part of former Raška state in Serbian territory is nowadays known as Raška region. The other part of historical Raška belongs to Montenegro (Lukić et al., 2007). The functions of tourist regions may be homogenous (tourism as basic activity) and heterogeneous (tourism as a complement to other activities). According to motive physiognomy, touristic regions may be: natural, anthropogenic and complex. Physical and geographical characteristics of the region are the base of the natural touristic regions. With their diversity, values and conserved ecosystems these characteristics make tourists move around and do various activities. Anthropogenic touristic regions are based on cultural-historical heritage and different types of events. Monumental heritage of the region is said to be the resource with the highest level of tourist attractiveness so it is logical to always include them in the itinerary. The complex tourist regions contain both natural and anthropogenic values of the region. They provide an opportunity of combining both into a complex tourist offer of a certain region (Golubović and Kicošev, 2004). Considering the level of tourist development of the region it is possible to distinguish a developed tourism zone, developing tourism zone and potential tourism zone.

The combined typology used in this paper was complex and based on the level of tourist development. Methodology of allocation of tourist regions

was based on tourist valorization of natural and anthropogenic elements of Stari Vlah and Raška region. The first step included analysis and valorization of all natural and anthropogenic potentials present in this region. After the valorization of each individual natural and anthropogenic element, three zones were distinguished according to evaluation of present condition of tourist development and its perspectives.

GIS program was used to process all the entered values in order to prepare a final, synthetic map of tourism zones of Stari Vlah and Raška. Base forming for use of geographical information systems is very complex and may be performed in numerous ways. The methodology of this work was based on the starting hypothesis that discussed criteria are relevant for distinguishing tourist regions. However, the distinctiveness of tourist regions was insufficiently studied, and there was no unique tourism analysis that could provide absolutely precise results. The most common form of typology applied in distinguishing tourist regions was the one that divides tourist values according to motive physiology and level of development. Rural tourism in Serbia, as a concept of developing the insufficiently developed areas, was studied in order to show all the existing variations in tourism development. This thematic research has shown daily, monthly and annual variations in overnight tourist stays in Serbia (Todorović and Bjeljac, 2009).

Rural tourism development in Serbia is increasing in significance, particularly in cases when that development is also influencing the overall regional development. Rural tourism as a base for development of villages, especially in previously unexploited regions, may be the central issue in determining a more stable and constant budget, especially in insufficiently developed municipalities. One of the most important things regarding the tourism development, and especially rural tourism, is certainly food and cuisine. Food may be traditional and special, and in some areas allows for significant exporting capacities (Stojanović et al., 2010). Regardless of whether old or new methods in valorization of tourist development were being used, there are certain paradigms and defects in significance of rural contemporary tourism. One of the biggest objections is failure to revitalize the village while performing the activities on tourism development (Medojević et al., 2011).

The overall development of the Republic of Serbia will certainly depend on investments in new areas where it is possible to develop all tourism types. Many challenges and unexplored potentials are to be met on this path

but new techniques will inevitably lead to faster perceiving of the facts (Maksimović et al., 2015; Erdeji et al., 2013). Some of the new methods used in tourism are connected to GIS as well as technologies close to GIS. GPS (Global position system) together with GIS tools successfully calculates the proportion of time each tourist spends in touristic centers. In this way the clusters of big tourist activity were abstracted. GIS methodology determined the clusters showing tourists' needs, movements and habits. In this research, both the spatial-temporal component of each individual tourist's movement and his/her habits were determined. One completely processed destination was Hong Kong (Grinberger et al., 2014). Sustainable tourism development and its use are one of the leading areas in today's geographical science. Analyzing sustainable tourism development resulted in conclusions on each tourist's relation in geospatial matrix (Boers and Cottrrell, 2007). GIS methods such as cluster and kriging connected to geospatial matrix of our country are increasingly used. These analyses are used particularly often on micro- and regional scale. Modern GIS methods are used in insufficiently explored spa regions in Serbia in order to achieve absolute level of marking both natural and anthropogenic tourist attractions. Geostatistical analysis of Lukovska Spa provided the results that may be used for directing the regional development (Valjarević et al., 2017).

Methods such as cluster and kriging were used together in order to determine the tourist and regional values of thermo-mineral resources in Serbia. This method simultaneously provided validation of the actual capacities of spa complexes in explored regions (Ristić et al., 2019; Valjarević et al., 2018). In addition to the usual methods such as cluster and buffer, kriging is also providing good results of geospatial analysis. Unlike the rest of standard geostatistical methods, this method summarizes the data inside the nucleus according to rules of Cornell's nucleus. Therefore the mistakes are minimized. The advantage of this method is that it can be used in almost any GIS software (Hrnjak et al., 2014). In addition to cluster and GIS analysis, buffer analysis is also applied as it provides very precise geospatial analysis. These analyses may be applied in maps for all three types of objects regardless whether they are clustered, linear or evenly distributed. This method was used on the coast of North Carolina to determine the coast tourist potential (Hiang, 1996), while double or parallel buffer was used in a similar study in the city of Hong Kong. This buffer allowed measurement of the value of traffic accidents and the locations where they happened. The results processed by the buffer spanned

the period of 11 years (1993-2004) and have shown the historical changes of the geospatial matrix. In such a way, buffer is applied as a special method in advanced GIS studies of the geospatial matrix (Loo, 2006).

2. Materials and methods

The basic method of valorization of Stari Vlah and Raška was qualitative-quantitative, and it is shown in descriptive and numeric units. Evaluation was performed both for individual elements and for the whole. The complete valorization refers to natural (relief, climate, water, flora and fauna) and anthropogenic elements (settlements and cultural and historical monuments etc.).

The most important values of potential recorded in this study are presented in charts for each evaluated element, also including the grade/rank, its short description and significance. In addition to this chart review there is also the description of tourist motives, abstracted types of tourism which can be developed regarding the given element, as well as analysis and locations of important tourist centers and hotspots. This complete valorization was accompanied by partial valorization of certain elements. Mountains have special values from the geomorphological perspective. In order to achieve as objective valorization of mountains as touristic values as possible, it was necessary to consider the position, genetic type of the mountain, the size of the mountain, horizontal and vertical ruggedness and attractiveness. Among the hydrographic potentials of the rivers, those most important for valorization included: water quality, the length of river, the flow, esthetic characteristics and potentials for tourist development. Partial valorization was performed on settlements and monuments. Urban settlements were particularly valued in this study. The criteria were: position, artistic value, cultural-historical significance, tourist attractiveness, organization and equipping of the space as well as complementarity. The most important parts of monumental heritage of Stari Vlah and Raška are sacral objects so the study included partial valorization of the most important monasteries in this region. Their tourist and geographical position, artistic and ambient values, attractiveness and complementarity were valued. The grades are numeric (with description of their values) on 1-5 scale as presented in Table 1.

Table 1. Econometric analysis of tourist geospatial matrix of Stari Vlah and Raška

Description	Grade
Potentials for tourism development; only a single tourism element which is not included in tourism offer	1
Tourism potentials include at least two tourism elements which may contribute to tourism affirmation	2
Tourism potentials with more isolated elements of tourism valorization of local character	3
Tourism potentials where there are several elements of valorization and there is a realistic possibility of connecting them into a tourism unit of regional importance	4
Tourism potentials whose elements, as an unique tourism unit, may contribute to tourism affirmation of a broader region	5

The last step in this valorization process included abstraction of zones on the map of the studied region. According to valorization of tourist potentials and the existing condition of tourism development, three zones were recognized after valorization of each natural or anthropogenic element: the developed tourism zone, the developing tourism zone, and the zone of potential development. The developed tourism zone contains parts of Stari Vlah and Raška. Its value was valorized by grade 5, meaning that its potentials may contribute to tourist affirmation of a broader region. Parts of observed area valorized by grades 4 and 3 are included in the developing tourism zone. In this case there is a possibility of local and regional development of tourism. Zone of potential tourism includes the areas valorized by grades 2 and 1, which are parts of Stari Vlah and Raška, respectively, where elements were valorized as having insufficient quality to be included in tourist offer. By grouping all tourist elements (natural and anthropogenic) and the abstracted zone for each element, synthetic maps of tourist zones of Stari Vlah and Raška were constructed by use of GIS method. Data processing was performed in several phases and using different methods.

In the very first phase, grades were assigned to the zones according to their level of tourist development. Developed tourism zones were given the grade of 10 and developing tourism zones the grade 5, while the zones of potential for tourism development were valued by assigning grade 3. The second phase covered the summing (overlapping) the maps with the given values. In the third phase, the function of abstracting the certain zones is presented. The total range of summarized values was obtained and divided into three ranks. Territories which had the total range of 5-15 points were included in zone of potential development. Territories with the total range from 15 to 25 were in the zone of developing tourism, and territories with the total range of

more than 25 points in the developed tourism zone (the maximum range was 50 points). Natural and anthropogenic features were presented and valued individually through use of the cartographic method. The synthesis map was obtained by interpolation of all maps based on the current state of tourism development. This very last step had a great importance, as it provided a good methodological basis for the allocation of tourist regions (Kićović, 2016).

2.1. Data modelling by implementation of GIS

GIS and data modeling is a way of calculating the tourist values of a particular geospatial matrix with a high degree of reliability. In this work we used two types of GIS software, SAGA and QGIS. Tourist evaluation of the explored space was obtained through use of the kriging, poly-kriging, buffer and cluster methods. The methods were applied together and yielded satisfactory results. For precise calculation it was necessary to use the econometric data from the previous analysis. In the first map (Fig. 1), kriging analysis was performed and carried out through the QGIS software. The special algorithm contained in this software includes the autocorrelation of the measured values within the geospatial matrix. The advantage of this algorithm is that the weight values of the points are not only based on the distance between them, but the errors in positioning the points are significantly minimized (Valjarević et al., 2018). Satisfactory results were obtained in combination of all three types, kriging, buffer and cluster analysis (Fig. 1 & 2).

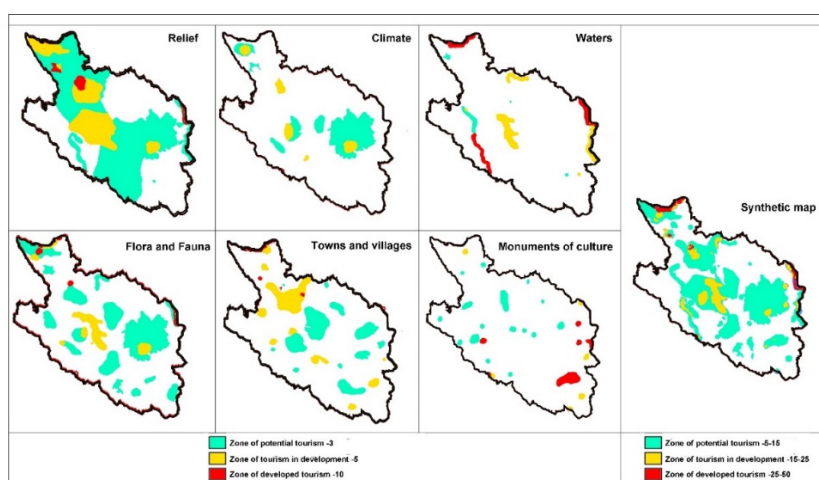


Fig. 1. Synthetic map of the region of Stari Vlah and Raška after the completed GIS analysis. The seventh map was synthesized by using the previous six steps (algorithm).

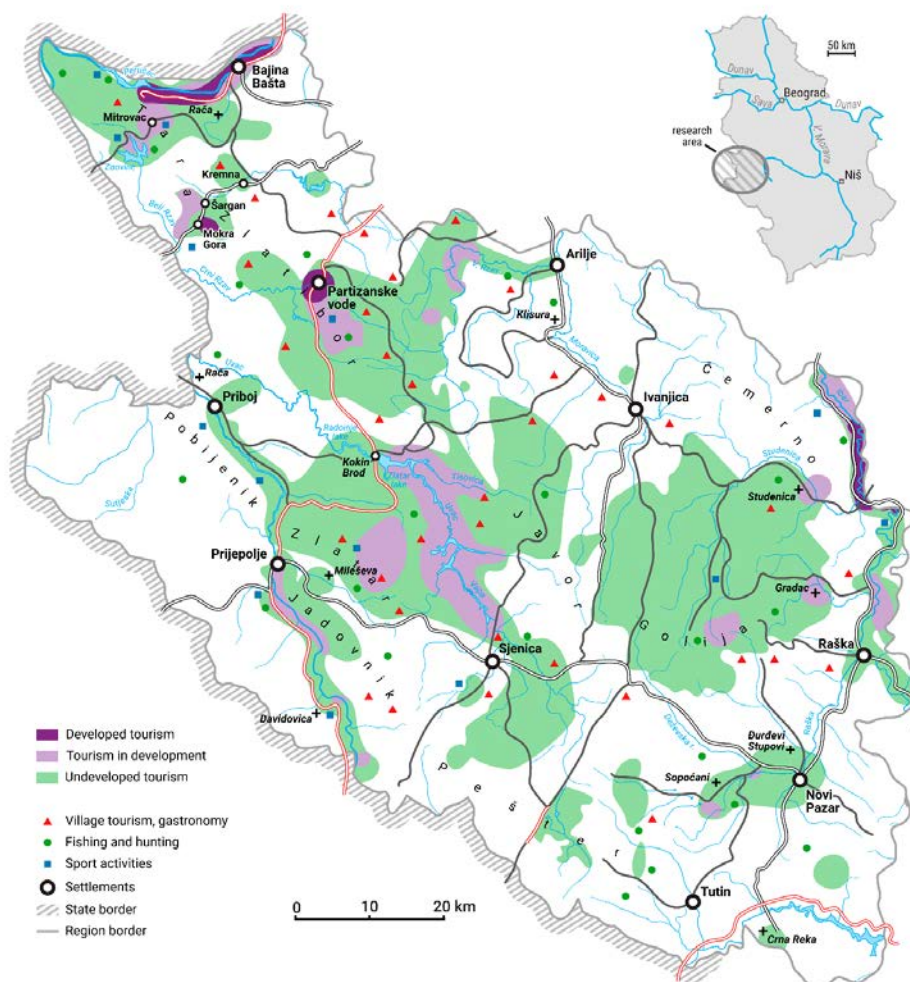


Fig. 2. Geographical map of Stari Vlah and Raška with prominent surfaces, 3 values of tourism development (developed zone, developing tourism and undeveloped tourism zone).

3. Results

The analysis of the synthetic map enabled us to distinguish tourist micro-regions with different zones according to level of development. In the area of Stari Vlah and Raška, the following tourist micro-regions are distinguished: Tara-Mokra gora, Zlatibor, Zlatar-Uvac-Lim, Golija-Javor, Sjenica-Pešter and Ibar.

Kriging and buffer analysis have shown the percentages and indicated locations with new and old areas of tourism. The results show that the Tara-Mokra gora tourist micro-region covers the highest mountain parts of Tara, the

Drina canyon, Lake Perućac and Mokra gora. It is one of the most affirmative parts of the Stari Vlah and Raška. The development of tourism in this region is mainly based on natural values. In addition to the level of tourism development, in this region there is a zone of developed tourism that covers the area of the central part of the mountain Tara and part of the Drina canyon, as well as Mokra gora. In this zone there is a tourist center of the region - Mitrovac. The developing tourism zone includes part of the Perućac Lake to Bajina Bašta and around the Lake of Zaovine. Mokra gora is characterized by a diverse natural environment of Mokra gora and Šargan and anthropogenic values such as the "eight", the Rača monastery, the Iver and Drvengrad ski resorts. The central part, around Drvengrad, is located in the developed tourism zone. Developing tourism zone covers parts around the Iver ski resort, and the potential tourism zone spreads west towards Kremna and the isolated Rača monastery. The largest part of the region is in the zone of potential tourism development. The following tourist sites have been selected in this region: Kaluđerske bare, Predov krst, Perućac, Zaovin lake, Beli Rzav canyon, Spajić lake and Hajdučka česma, Mavavnik (Drvengrad) Kremna, Šargan, Iver, Rača. Analyzing the map of the perspective of tourist zones, it may be concluded that the largest part belongs to the zone of the most favorable conditions for tourism development. The southeastern part is located in the zone of favorable, and the furthest eastern parts of the region in the zone of conditionally favorable conditions for development of tourism.

The Zlatibor tourist micro-region is the most developed and well-known region of the Stari Vlah and Raška. The most attractive part of this region is the center of the mountain, Partizanske vode. This area, with significant infrastructure, belongs to the developed tourism zone. It is certainly the most developed tourist part of the territory of the Stari Vlah and Raška, but also among the best-developed ones in the territory of the Republic of Serbia. The natural features represented by geomorphological, climatological and biogeographical characteristics contributed to this region being the leader in the development of tourism (Dragovic et al., 2009). Rural and ethno tourism has been well-developed in this region. The developing tourism zone is expanding around the developed tourism zone towards the south and southeast. The largest area of this region covers the zone of potential tourism development. The tourist center is, of course, Partizanske vode. There were a large number of recorded localities, as almost every Zlatibor village has a potential to be interesting and represent a tourist site. Significant tourist sites

of this region are: Sirogojno, Tornik, Čigota, Čajetina, Mačkat, Stopića cave, Potpećka cave, Ribnica, Zmajevac. It is to be expected that, in the perspective of tourism development, this region will be even more valued. On the map of the perspective of the tourist regions of Stari Vlah and Raška, the zone of the most favorable conditions for the development of tourism is noticeably dominant, which indicates that potentials are numerous and should be used in the right way. The future economic development should be directed so that the main activity of the population would be tourism. In this way this region would be classified within a group of homogeneous tourist regions and tourism would be the leading force of the overall economic development.

Zlatar-Uvac-Lim tourist micro-region has a great potential, but the level of tourism development is not at the level it should be regarding the total value of the whole region. In this region, the mentioned methodology has not identified any developed tourist zone. The developing zone covers the highest mountain peaks of Zlatar and the Uvac gorge and the Lim valley. The zone of potential tourism is surrounding the developing tourism zone. In this zone there are several churches and monasteries, several households that develop rural tourism and hunting areas. The tourist center of the region is Nova Varoš, and the localities: Zlatar, Sjenica and Radoinjsko lakes, the Uvac gorge (the Griffon Vulture habitat), the highest peaks of Zlatar, the Ušac cave system, Aljinovići, Akmačići, Božetići, Štitkovo, Dubnica, Kumanica, Tičje polje, Mileševa, Mileševa canyon, Sopotnica, Hisardžik, Ibrahim-paša mosque, Priboj spa, Kamena gora, Uvac monastery. The perspective map shows particularly high tourist potential, where it is clearly seen that the whole region belongs to the zone of the most favorable conditions for development of tourism.

The Golija-Javor micro-region covers the area of Golija and Javor Mountains, as well as the valleys of the Golija's rivers Moravica and Rzav. In this region there are mostly some concentrated natural tourist potentials (mountainous areas, protected areas, spring Studenica) in addition to two very important sacral tourist objects (monasteries Studenica and Gradac). There are two tourist zones in this mountain region. The developing tourism zone covers the area around the spring Studenica (with a more intensive construction of the accompanying tourist facilities in recent years) as well as the isolated locations of Studenica and Gradac monasteries. The rest of the region is located in the zone of potential tourism development which includes almost the entire mountain of Golija. The tourist center of this region is the village of Devici.

Important tourist sites include: Rudno, Studenica, Gradac, Dajić Lake, Visoka, Panjice Canyon, the city beach in Arilje, Raščici, Prilike, Katići, Kalipolje, Jankov kamen. Considering the potential of tourism development, it is to be expected that in this perspective this region will be a developed tourist region, as presented on the map of the perspectives of tourist regions.

The Sjenica-Pešter micro-region covers the Sjenica basin and the Pešter plateau. Tourism is insufficiently present, as only a small area is in the zone of potential tourism development. Developed and developing tourism zones are not represented in this region. The winter and sports center Žari with its surroundings has great potential, so on the perspective map it is located in the zone of the most favorable conditions for tourism development, which includes the area around the site of Duga Poljana. The central part is around the Vapa canyon. The largest part of the Pešter plateau is in the zone of favorable conditions, while the rest of the region is located in the zone of conditionally favorable conditions for the development of tourism. The tourist center of this region is Sjenica. The most important localities are: Žari, Vapa springhead, Karajokića wells, Duga poljana, Čedovo, Štavalj. The development of this tourist region should be based on a combination of natural and anthropogenic tourist values (rural tourism, healthy food).

The Ibar tourist micro-region covers the valleys of the river Ibar and the city of Novi Pazar. It is distinguished as a tourist region with emphasized anthropogenic tourist potentials. The development of the region is also oriented toward water activities. The largest part of the region is in the zone of potential tourism development, while monasteries Sopoćani and Pazarišta are in the developing tourism zone which also includes the Ibar valley from Ušće to Maglič and the area around Baljevac. The tourist center of this region is Novi Pazar. The most important sites include: Monastery Đurđevi stupovi, Monastery Sopoćani, Altun Alem mosque, Stari Ras, Monastery Crna Reka, Deževa, Jeleč, Novi Pazar's spa, Raška spring, Stara Pavlica, Nova Pavlica, Končul, Brvenik, Maglič, Ušće, the Ibar gorge (valley of lilac). Selected sites show that the development of this region should be based on anthropogenic potential, primarily monasteries and other cultural monuments. The future development of tourism trends rests on these elements, which will be primarily directed toward religious tourism. The map of the perspective of tourist regions shows that the area around Sopoćani and Stari Ras is in the zone of the most favorable conditions for development of tourism. The surroundings of the city of Novi Pazar, with the largest number of monasteries, churches, mosques and

other cultural monuments, are located in the zone of favorable conditions. The rest of the region has conditionally favorable conditions for the development of tourism.

4. Conclusion

Each tourist micro-region of the Stari Vlah and Raška is distinguished by some specificity recognizable in the tourist market. Some of them are distinguished primarily by natural values, while others have more affirmative anthropogenic values. Some parts of the tourist regions of the Stari Vlah and Raška are the most visited parts of our country. The values of this area are described in detail in the analysis of the level of natural and anthropogenic values, as well as in the valorization of the same elements and the types of tourist movements that can take place in this area, in fact in the separate tourist regions. Based on the applied methodology, the area of Stari Vlah and Raška is divided into six tourist regions, diverse in terms of the development of tourism and the surface area as well as specific tourist potentials. The developed tourism zone covers a very small area and is represented by only three tourist regions, which is, of course, not satisfactory. In accordance with the position and tourism potentials of this region, further development of tourism is expected to be accelerated. On the map of the perspectives of tourist regions, it is noticeable that the zone with the most favorable conditions for tourism development covers the largest area. It extends over the territory of each of the listed regions, and it is dominant in Tara-Mokra gora, Zlatibor, Zlatar-Uvac-Lim, Golija-Javor. Synthetic maps were created with the help of advanced GIS methods such as kriging, buffer and cluster. They are the basis of further precise analysis in this geospatial matrix. It may be expected that in the future these tourist regions will be the leaders of tourism development in our country.

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References

- Boers, B., Cottrell, S. (2007): Sustainable Tourism Infrastructure Planning: A GIS-Supported Approach, *Tourism Geographies*, 9 (1), 1-21. doi: <https://doi.org/10.1080/14616680601092824>.
- Dimitrovski, D., Todorović, A., Valjarević, A. (2012): Rural Tourism and Regional Development: Case Study of Development of Rural Tourism in the Region of Gruža, Serbia, *Procedia Environmental Science*, 14, 288-297.
- Dragičević, V., Jovičić, D., Blešić, I., Stankov, U., Bošković, D. (2012): Business tourism destination competitiveness: a case of Vojvodina province (SERBIA), *Economic Research-Ekonomska Istraživanja*, 25 (2), 311-331. doi: 10.1080/1331677X.2012.11517510.
- Dragović, R., Filipović, I., Nikolić, J. (2009): Usability of natural and geographical conditions of Zlatibor and Zlatar for the development of ecotourism and health tourism, *Glasnik Srpskog geografskog društva* 89 (1), 115-128. UDK 911.2:380.8(23)(497.11)
- Dragović, R. (2004): Polimlje – nature, tourism and sustainable development. *Serbian Geographical Society* (pp).
- Dragović, R. (2001): Ecological-tourist features and prospects of Zlatar. *Protection of Nature*, 53/1, 89-97 UDC 380.8
- Erdeji, I., Gagic, S., Jovicic, A., Medić, A. (2013): Development of Rural Tourism in Serbia, *Journal of Settlements and Spatial Planning*, 4 (2), 309-315.
- Golubović, P., Kicošev, S. (2004): Geodemography. Faculty of science and mathematics, Department of Geography.
- Grinberger, Y., Noam Shoval, N., McKercher, B. (2014): Typologies of tourists' time-space consumption: a new approach using GPS data and GIS tools, *Tourism Geographies*, 16 (1), 105-123. doi: <https://doi.org/10.1080/14616688.2013.869249>.
- Hiang, WN. (1996): GIS-based riparian buffer analysis: injecting geographic information into landscape planning, *Landscape and Urban Planning*, 34 (1), 1-10. doi: [https://doi.org/10.1016/0169-2046\(95\)00206-5](https://doi.org/10.1016/0169-2046(95)00206-5).
- Hrnjak, I., Lukić, T., Gavrilov, M., Marković, S., Unkašević, M., Tošić, I. (2014): Aridity in Vojvodina, Serbia, *Theoretical and Applied Climatology*, 115 (1-2), 323-332.
- Kićović, D. (2016): Valorization and regionalization of the tourist-geographical potentials of the Old Vlah and Raška, Doctoral dissertation, Novi Sad.
- Loo, B. (2006): Validating crash locations for quantitative spatial analysis: A GIS-based approach, *Accident Analysis & Prevention*, 38 (5), 879-886. doi: <https://doi.org/10.1016/j.aap.2006.02.012>.
- Lukić, T., Bubalo-Živković, M., Kicošev, S. (2007): Changes in the number of inhabitants, population density and households in the settlements of the mountain Goč. *Glasnik Srpskog geografskog društva*, 1, 97-106.
- Maksimović, M., Urošević, S., Damnjanović, Z. (2015): Theoretical concepts of rural tourism and opportunities for development in the republic of Serbia, ID 212721420, 62-75.
- Medojevic, J., Milosavljevic, Punisic. (2011); Paradigms of rural tourism in Serbia in the function of village revitalization, *Human Geographies – Journal of Studies and Research in Human Geography*, 5 (2), 93-102.

- Pavlović, M. (2009): Villages of Sjenica – anthropogeographical studies, Faculty of Geography, Belgrade.
- Ristić, D., Vukoičić, D., Nikolić, M., Milinčić, M., Kićović, D. (2019): Capacities and energy potential of thermal-mineral springs in the area of the Kopaonik tourist region (Serbia), *Renewable and Sustainable Energy Reviews*, 102, 129-138. doi: <https://doi.org/10.1016/j.rser.2018.12.005>.
- Stojanović, Ž., Ognjanov, Filipović, I. (2010): Traditional food and its implications for development of rural tourism in Serbia, *Economics of Agriculture*, 57 (2), 352-358.
- Todorović, M., Bjeljac Ž. (2009): Rural tourism in Serbia as a concept of development in undeveloped regions, *Acta Geographica Slovenica*, 49 (2), 455-464. doi: [//doi.org/10.3986/AGS49208](https://doi.org/10.3986/AGS49208).
- Valjarević, A., Vukoičić, D., Valjarević, D. (2017): Evaluation of the tourist potential and natural attractivity of the Lukovska Spa, *Tourism Management Perspectives*, 22, 7-16. doi: <https://doi.org/10.1016/j.tmp.2016.12.004>.
- Valjarević, A., Srećković-Batočanin, D., Valjarević, D., Matović, V. (2018): A GIS-based method for analysis of a better utilization of thermal-mineral springs in the municipality of Kursumlija (Serbia), *Renewable and Sustainable Energy Reviews*, 92, 129-138. doi: <https://doi.org/10.1016/j.rser.2018.05.005>.