

TOURIST MAP OF GEOSPATIAL DISTRIBUTION OF RIVNE OBLAST IN UKRAINE AS A MEANS FOR ACTIVATING TOURIST FLOWS

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ABSTRACT. An article presents a map of a geospatial distribution of most attractive tourist's objects within Rivne Oblast in Ukraine. A map of geospatial distribution of tourist's objects was carried out by a vector graphics editor "CorelDraw X5" on the basis of list of architectural, monumental, archeological, nature objects of national and local importance in Oblast. Was created a map of geospatial distribution of tourists objects within Rivne Oblast and has been calculated their quantity and index of percentage. On the basis of such maps could be created new tourist itineraries for traveling with a cognitive purpose. The map shows the also quantity of tourists objects and their percentage in every administrative district. Moreover, it was drawn the lines on a map, that shows a distances (in km) from regional centre Rivne to different settlements to north, west, east and south. Such lines of distances help for creating a new different tourists routs and itineraries. The map shows the number of most attractive tourist's objects within 16 administrative districts and 3 tourist-recreational regions of the Rivne Oblast. Such researchment could be useful and interesting for a person's who has an interest in a tourism and cartography.

Key words. Tourist objects¹, geospatial distribution², saturation ratios³, tourists-recreation region⁴.

INTRODUCTION. In terms of activating tourist's flows and tourism activity, tourist's maps are extremely valuable and important. Many articles and studies were dedicated to different ways for activating tourist flows. According to different researchments maps of geospatial distribution are very important for activating tourist's flows, creating a new tourists routes and itineraries. Rivne Oblast is one of the richest regions in terms of tourist's objects in Ukraine. Thus, the maps of geospatial distribution of different types of tourist's objects in Rivne Oblast in the scientific literature are not investigated fully. It is, in turn, creates a problem of the study. A detailed study on geospatial distribution of tourists sightseeing objects will help to increase tourism activity and tourists' flows will improve visiting existing tourist destinations and will promote tourism in the region.

Today out of the total number of scientific articles and studies, not only a large number is dedicated for mapping of geospatial distribution of different types of tourists objects and sightseeing.

There are some studies that are dedicated to creating different types of maps for tourism. Of particular note is the work of Pidlysetska, I. O. (2011) who studied a

development of the System of Symbols of Historical and Cultural Heritage Objects for Tourist maps [5, p. 73-81]. The author developed a system of symbols of these objects for tourist maps. Has done and systematized different classification of objects of historical and cultural heritage. In the other study of Pidlyesetska, I.O. (2009) has a researchment on development of series of small scale maps, «Cultural legacy of Ukraine». It has presented such maps as: «Historical-architectural potential», «Museums», «Culture and art establishments», «Exhibition and excursion measures», «Tourist industry», «Natural resorts». Such cartographic design of objects of the historical and cultural setting, are very important for activating tourist flows in any country [6, p. 172]. The other author Gorbenko M. (2013) was investigated the role of cartographic regional studies as a leading aspect of tourist cognitive activity of students. Specific examples show its practical implementation and significance in the modern educational process in a study "cartographic local lore is a key aspect of the tourist's cognitive activity of students" [2, p.80-81]. There are also studies by Professor Ivan Voloshyn (2015) on maps of geospatial distribution, by different types of tourist's resources in different regions of Ukraine, and also in Rivne region [9, p. 203]. Some articles are dedicated for activating tourist's flows in Ukraine. For example S. Nezdoymynov, O. Shykina (2016) [7, p. 14] studied the tourist distribution by type of tourism and the purpose of the trip, compared with the general indices in Ukraine. There are also other studies on different types of tourists maps, that mentioned in such authors, as: Walmsley, D. J., and John M. Jenkins (1992) [11, p. 270]; Fridgen, Joseph D. (1987) [3, p. 112-114].

However, it should be noted, that despite numerous scientific works that highlights different studies on maps of geospatial distribution aspects of tourists objects (including different types of objects) in the Rivne Oblast, there are no studies on such studies that actually forms the urgency of the study. Such maps are extremely valuable for the tourism, and can be used for trips with different purposes.

Methods Mapping method, statistical method, scientific and literature analysis.

Results: The research of the tourist's objects within Rivne Oblast has been conducted. Their geospatial distribution within the administrative districts and tourists-recreational regions has been established. It was found that within the Rivne Oblast there are about 34 most attractive tourist's objects, including: monuments, museums and other tourist's objects (table 1). Based on the study results, out of 34 most attractive tourists objects 25 of them in the active condition, and 9 in devastated condition with accordance to data from internet resource "I go to world" and a lists of architecture and natural objects in Oblast [8]. Within the area was allocated three tourist-recreational regions and was calculated the saturation ratios and their percentage of the total number of tourist's objects in the area (table 1, table 2). It was created a map of geospatial distribution of tourists and recreational objects (fig. 1). (fig. 1).With accordance to the data research it was revealed that the majority of the tourists objects are in a good condition, that allows to use it for tourist purposes and excursions.

A brief description of tourist's objects according to the numbering on map is submitted below (Fig 1).

1. Antonovka-Zarechnaya narrow-gauge railway, operates since 1914, Volodymyrets and Zarychnensky districts; 2. Rivne State Reserve (Belozersky, Perebedovsky, Somino arrays); 3. Uspenskaya church, 1894 year, settlement Volodymyrets, Volodymyrets district; 4. Klesiv Arboretum, Sms Klesov, Sarnensky district;

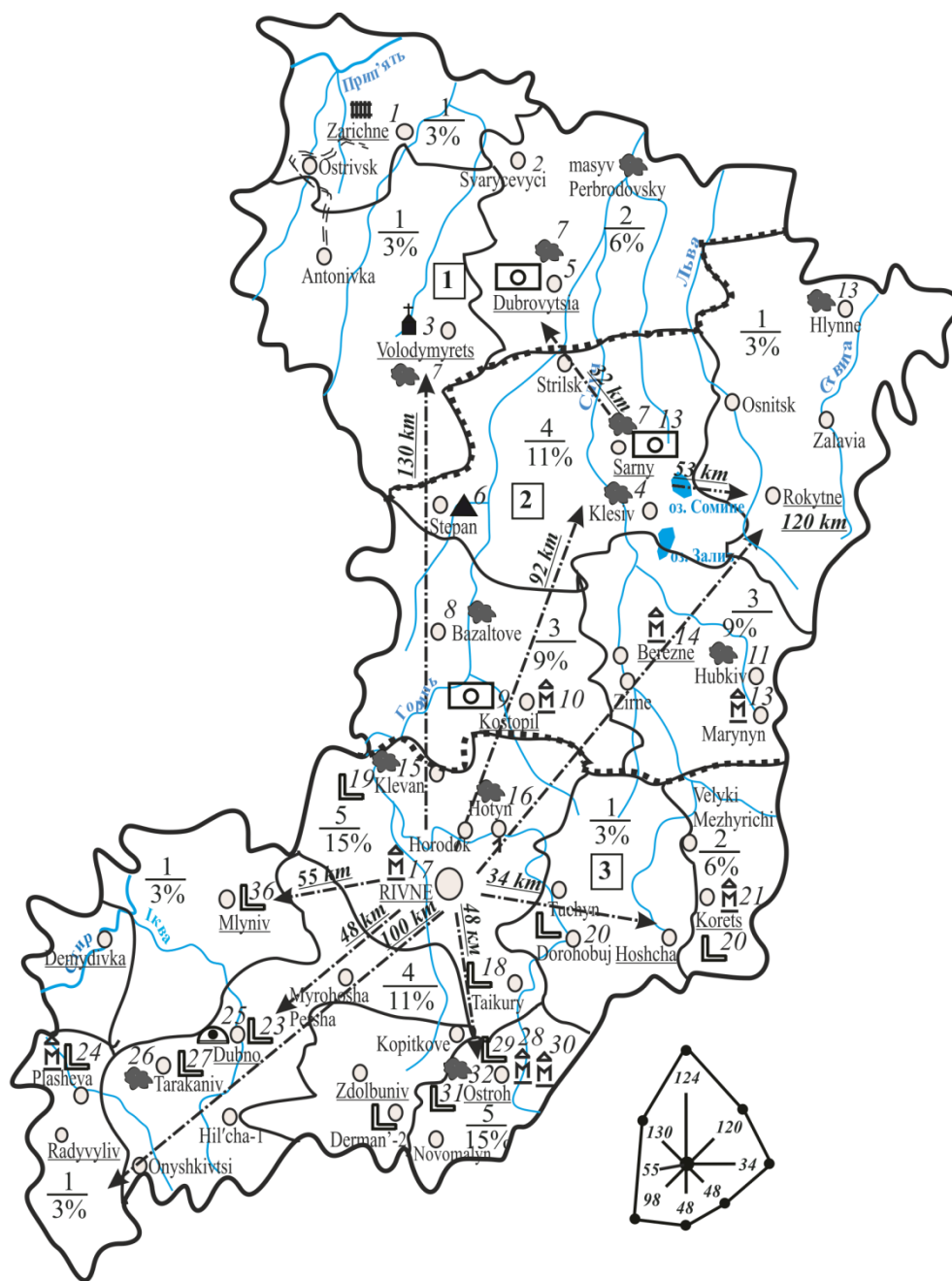


Fig. 1. A map of geospatial distribution of the most attractive tourist objects within Rivne region

Legend

- | | | | |
|------------------|---|--|---|
| | Monuments and memorials associated with life and activity of state figures, scientists and culture | | Northern |
| | historical sights | | Central |
| | Architectural objects | | South |
| | Archaeological sites | | Distances between settlements |
| | Natural objects (protected places, etc) | | Borders of the tourist-recreational regions |
| $\frac{5}{15\%}$ | in the numerator, the number of tourist region in the area
in the denominator of the relation of sacred objects
in the region to their total number in the region | | |

5. Place of birth of Ukrainian physicist Grigory Sharpak, Nobel Prize winner in physics 1992 (August 1, 1924 - September 29, 2010) Dubrovitsa; 6. Earth shafts of the castle of the XV-XVI centuries. (Stepan village of Sarnensky district); 7. Rivne Nature Reserve. It is considered the second largest in Ukraine. It is located on the territory of four districts of the region: Volodymyrets, Dubrovnytsky, Sarnensky and Rokytnivsky; 8. Geological reserve "Basalt pillars", Basalt, Rivne district. Nature can strike with brilliant creatures, with which the skill of an architect does not equal. Monumental and majestic rows of basalt columns of polyhedra in the geological reserve "Basalt pillars" look; 9. Place of birth of Ukrainian agronomist-breeder of academician M.O.Olshansky. (October 10 (23), 1908 - June 7, 1988). Born in an employee's family in the town of Sarny, Lipovetsky district of the Kiev province (now the city of Sarny of the Rivne region, Ukraine); 10. Local history museum, Kostopil, Kostopilsky district; 11. Landscape Reserve "Falconry" - a reserve in the Rivne region near the villages of Gubkov, Marinin and Bilchaki; 12. Nadlschachny Regional Landscape Park, Berezne. Established in 2000; 13. Ethnographic Museum, p. Marinin, Bereznovsky district; 13. Place of birth of the Ukrainian writer Boris Grigorovich Shved (July 10, 1906 - early 1945) - was born in the city of Sarny in the family of the locksmith depot of the railway station. Graduated from elementary school. In October 1944 he was mobilized to the Red Army, fought with the Germans; 14. Local history museum, city of Berezno, Bereznivsky district; 15. Tunnel of Love, Kleven; 16. Khotyn caves are a natural monument of local significance, Khotin; 17. Cultural-archeological center "Peresopnytsia", Rivne; 18. The ruins of the castle of Vishnevetsky, p. Taikuri; 19. Castle of the XII century. (town of Klevan, Rivne region) 20. Architectural monument: Uspenskaya church XI-XVII centuries. (village Dorogobuzh of Goshansky district); 21. Koretskiy castle, Korets Koretskiy castle - an architectural monument in the Kortsy of the Rivne region; 22. Museum, Korets; 23. Dubensky castle, Dubno, Dubensky district; 24. National Historical and Memorial Reserve "Field of Berestec Battle" (village Plyasheva Radivyliv district); 25. Gorodishche - the remnants of the chronicle city of the XI-XIII centuries. Dubna (Dubno); 26. Source of Saint Anna, Onyshkovtsy, Dubensky district; 27. Cockroach Fort, p. Cockroaches; 28. Museum of the History of Ostroh Academy; 29. Tatar Tower, Ostrog; 30. Museum of book and printing (Ostroh city); 31. Ostroz Castle, Ostrog; 32. Dermansko-Ostrohsky National Nature Park, Ostroh; 35. Ostroh Historical and Cultural Reserve, Ostroh; 36. Khodkevichi Palace, 1780, (Mlyniv village, Mlyniv district).

Below is submitted a brief description of tourists-recreational regions.

The Northern tourists-recreational region. In this region was found 5 (five) most attractive tourists objects in a Zarichne (administrative district Zarichne) of Rivne region. The Saturation ratio is 0,1 (representing 14% of the total number of tourists objects in the area). Such saturation is connected with natural conditions. The region is characterized by an ancient breeds are represented by chalky rocks forest-like soils. Significant areas in the region occupy the Neogene and Paleogene deposits of the Cenozoic group. With the advent of the daytime surface of the ancient metamorphosed rocks of the Ukrainian crystalline shield, wording and distribution of narrow valleys with shingles and deeper debris on the slopes of the valleys is connected. Distribution of Cretaceous deposits of the Mesozoic group contributes to the spread of karst forms of relief. The Northern region is the least saturated region by different tourist's sights, such as: museums, monumental, historical, architectural, natural objects and other attractive tourist's objects as confirmed by calculations (table 2). The region is characterized by

the lowest measure of building settlements and tourist's objects, because of the spread of unproductive soils that formed on the water-glacial moraine and boulder sand and sandy sediments, that are not comfortable for living, economic activity and tourism [12, p. 45].

The Central tourists-recreational region. There are 11 most attractive tourists objects in such towns as: Sarny town (Sarny district), Kostopil settlement, (Kostopil district); Berezne (Berezne district). The saturation ratio is 0,3 (representing 31% of the total number in the region). The region is characterized by the sandstone-moraine plains with wide terraces with moraine-hilly areas of glacial and water-glacial origin with annual territories. Terraced complexes of alluvial-sandy sandy origin x sandy-sandy granulometric composition. The distribution of tourists objects characterized by lower saturation ratio (0,3) compared to the North tourists-recreational region (0,1) [9] (table 2) [12, p. 43].

1. Table 1

A number of most attractive tourists objects in administrative districts of Rivne region and their proportion of value

number	administrative districts	number of tourists objects	value of the total number of tourist attractions in the region (in%)	value of the total number of tourist attractions (in the factor)
1.	Zarichne Raion	1	3	0.03
2.	Dubrovytsia	2	6	0,06
3.	Volodymyrets	1	3	0.03
4.	Rokytne	1	3	0.03
5.	Sarny	4	11	0,11
6.	Kostopil	3	9	0,09
7.	Berezne	3	9	0,09
8.	Rivne	5	15	0,15
9.	Hoshcha	1	3	0.03
10.	Korets	2	6	0,06
11.	Mlyniv	1	3	0.03
12.	Dubno	4	11	0,11
13.	Zdolbuniv	-	-	-
14.	Ostroh	5	15	0.15
15.	Radyvyliv	1	3	0.03
16.	Demydivka	-	-	-
the total amount:		34	100	1

Table 2

A number of touristsobjects in
tourists-recreational regions in Rivne region and their proportion of value

number	tourists-recreational regions	quantity of tourists objects	value of the total number of tourist attractionsin the (factor)	value of the total number of tourist attractionsin the region (in%)
1.	The Northern	5	0.1	14
2.	The Central	11	0.3	31
3.	The South	19	0.6	55
the total number:		34	1	100

The South tourists-recreational region. There are 19 most attractive tourists objects in such settlements as. Saturation ratio is 0,6 (representing 55% of tourists objects in the area).The region is among the most populated and the most cultivated regions in agriculturally: distribution of forests and loess sediments. The southern part of Rivne region (oblast) is represented by forest high plains with strongly dissected forms of relief. In the limits of Zhytomyr Polissya, in addition to the sandy (sandy) plains widespread and moraine-zandr plains. In addition, terraced complexes (first and second level floodplain terraces) are clearly expressed in the relief. The main reason that separates this region from the other regions is the largest concentration of tourists and recreational objects that connected with the more populated settlements [12, p. 45]. An important reason for the spread of tourist's objects is the availability of communications that contributed to the intensive colonization. It is noteworthy to mention that the largest concentration of tourist's objects is focusing in such administrative districts, as: Rivne, Taikury, Klevan cities (Rivne district) - 5 (15%), Ostroh (Ostroh district) - 5 (15%), and Dubno (Dubno district) - 4 (11%) (Fig 1.). Below is located a brief description of the most attractive tourists objects within the Rivne Oblast.

Narrow-gauge railway Antonivka – Zarichne (on a map under number 1), operates since 1914, Volodymyrets and Zarichnensky districts, the length is 106 kilometers. Locomotive "Polissky tram" work on motors made for the T-34 tank. A trip to the "cuckoo" is very informative - you can not only find out the history of the railroad, but also look at the woods, swamps and sand dunes. The Antonovka-Zarichnaya railroad, on which the Polissky Tram rides its guests, was built in 1895. To this day, old rails, sleepers and mechanical semaphores have survived in part. All other, destroyed elements were rebuilt in 2008. For the convenience of tourists at the end points of the route was created a service with accommodation and meals in private homesteads [4].

Geological Reserve "Basalt Pillars", village Basal'tov (on a map under number 8). Basalt columns can be seen in the place of their birth, which occupies an area of 0.8 hectares. The basalt pillars them stretch about 230 m. Their height sometimes reaches 30 m, and the thickness is 1.2 m. If one looks at one of these columns in a cut, one can see that it has the form of a regular polygon. The number of parties varies from four to seven [4], [9].

Ostrog Castle in Ostrog town (on a map under number 29). The castle is built on a hill. It consists of 4 buildings: the towers of Murovanaya, Circular, Novaya, Nadbramnaya (now a bell tower) and the Epiphany Church. The towers played the role of defensive structures. The oldest tower is Murovana. Built in the 14th century in the form of a tower-donjon. Its height is more than 30 meters. Donjon was called a residential and well-fortified tower, which was a symbol of the impregnable castle. The final appearance of this tower was at the end of the 19th century. Now it is a three-tier brick building, in the plan has the form of a rectangle. Its walls are fortified with buttresses. There is a museum of local lore. Its exposition is located in 9 rooms. The exhibition tells the story of Ostroh [9].

Tunnel of Love, village of Klevan (on a map under number 15). Within a few kilometers east of the town of Kleven, you find the old railway track. It is 4 kilometers long and stretches to the Orzhiv woodworking plant. Along this course, trees are growing indelibly [4].

RESULTS AND DISCUSSION. The making of map of geospatial distribution has done. The research of the tourist's objects within Rivne region has been conducted. Their geospatial distribution within the administrative districts within tourists-recreational regions has been established. It was found that within the Rivne region there are about 34 most attractive tourists' objects. Based on the study results, out of 34 tourists sights 24 of them belongs to historical and architectural objects with accordance to data from internet resource "I go to world" and a different list of different types of Rivne region [4]. As studies shows, that the majority of tourists objects are in normal condition.

CONCLUSION. Thus, as seen from map (fig. 1) the Rivne Oblast is rich by different types of tourist's objects. On its territory there are about 34 tourist's objects that can be used for journeys with cognitive and any other purposes.

These tourists' objects are quite interesting and unique in terms of architectural, natural and historical attraction for visitors. But, unfortunately, not all the tourists objects are in satisfactory condition, much of them are in dilapidated and destroyed conditions. The calculations show that the most intense region in terms of a tourists objects is the South tourists-recreational region (19 objects), due to the large number of settlements and extensive network of paths. The research confirms that Rivne has a large numbers of tourists objects that are an important factor for development in the Rivne Oblast, educational and other types of tourism activity or excursions.

A brief description of tourist objects, which are mapped and are calculated far from the regional center, will promote the cognitive purpose, the choice of each traveler for the necessary facilities for individual and collective excursions. Information about the status of the objects, their suitability for inclusion in the tourist route gives an opportunity to develop measures for the restoration of individual tourist objects. This information will make it possible to plan the development of tourist infrastructure, to develop information brochures. This will enable travelers to make appropriate trips, depending on the interests of travelers or a separate tourist group.

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