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## **Natural recreation and tourist resources of the Podilia region**

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### **Abstract**

In the presented publication are analyzed natural tourist resources of the Podilia region. The ball estimation of natural resources is conducted for to the science-geographical areas. It is distinguished the most favorable and the least favorable science - geographical areas for recreation and tourist activity.

**Key words:** the Podilia region, resources of relief, water resources, climatic resources, biotic resources, naturally protected fund, recreational forests.

## Природні рекреаційно – туристичні ресурси Подільського регіону

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#### Реферат

У представленій публікації проаналізовано природні туристичні ресурси Подільського регіону. Проведено бальну оцінку природних ресурсів по фізико-географічним областям. Виділено найбільш сприятливі і найменш сприятливі фізико – географічні області для рекреаційно – туристичної діяльності.

**Ключові слова:** Подільський регіон, ресурси рельєфу, водні ресурси, кліматичні ресурси, біотичні ресурси, природно – заповідний фонд, рекреаційні ліси.

**Problem statement.** Ukraine from the first independence days became on the way of creation of own tourist industry, proclaiming tourism priority industry of development of economy. It is therefore important expediently to use tourist potential of every area, to create a valuable tourist product. The Podilia region is an edge that owns rich recreational tourist potential. By an important constituent recreational - tourist potential there are natural resources. However the resources of edge are used not as early as complete measure. Natural resources need a study for the exposure of the most favorable districts of the Podilia region for recreational and tourist activity and understanding of their role in forming of regional tourist product. In this connection, the questions of realization of analysis and estimation of natural resources of the Podilia region acquire the special actuality.

**Analysis of recent researches and publications.** In relation to research of potential of recreational complex of Podilia it is worth to remember P. L. Tsaryk, N. Y. Hryhoryev, H. I. Denysiuk, A. H. Kryvets, M. Balanchuk and others. H. Denysiuk, A. Kryvets explored nature of Podilia. H. I. Denysiuk in the editions characterized the recreational landscapes of Podilia. A. H. Kryvets wrote the article about natural recreational resources of Podilia and

forming recreational - tourist complex as perspective direction of development of this region. Ukrainian researcher P. L. Tsaryk studied natural resources and worked out criteria for their estimation, also he has studied the development of recreational - tourist complex of the Podilia region

**Allocation of previously unsettled parts of the general problem to which the article is devoted.** In works of the enumerated authors absent description of natural resources is with pointing of all quantitative and quality descriptions on the basis of that it was possible to estimate all natural resources of region and distinguish districts with high recreational - tourist potential, where it is possible to develop different types of tourism. A necessity over of analysis, estimation and exposure of districts for development of recreation was brought to the choice of theme of publication.

**Formation of the article purpose** (statement of the task). A research aim is an estimation of natural recreational - tourist resources of the Podilia region. The achievement of the aim caused the necessity of decision of such tasks: to analyze natural recreational tourist resources; to estimate natural recreational and tourist resources in the cut of science - geographical areas, to educe territorial differences in the degree of favorableness of natural resources for recreational and tourist activity. Research object: natural recreational are tourist resources of the Podilia region.

Subject of study: orographic, climatic, water, biotic resources of the Podilia region. There are different methods were used in this research such as method of analysis of the systems; descriptive method; cartographic method; historical method; statistical method; method of generalization; method of estimation, that allowed to estimate potential of tourist resources of the region. In the process of writing to the publication such materials like monographs, atlases, newspapers, magazines, regional lectures, legislative documents, statistical bulletins were used.

**Presentation of the main research material with a complete justification of the scientific results.** The important component of recreational resources is natural resources. They always were basis of development of tourism. One of the factors that determine the degree of usefulness territory for recreational activity is relief. The relief of the Podilia tourist region has different of large variety. Slope of plain alternate from hilly, by deep river valleys with steep slopes, gullies and beams [1].

For the estimation of the relief such parameters were used: degree of horizontal partitioning, depth of vertical partitioning, display of slopes and amount of geological -

geomorphologic sights of nature [7]. The estimation of the relief attractiveness for recreational activity more in detail is presented in the Table 1.

Table 1

**Estimation of the attractiveness of the relief for the recreational activity of the physical and geographical areas of Podilia [7]**

№ in the scheme	Physical-geographical area	Density of the river network km / km <sup>2</sup>	Balls (5 points)	Vertical dismemberment, m	Balls (5 points)	Inclination of the surface	Balls (5 points)	Number of reserved objects	Balls (5 points)	Overall rating (20 points)
Zone of mixed (coniferous broadleaf) forests Polisye Province										
2	Zhytomyr Polisye	0,35	4	58,4	2	northwestern	2,5	9	1	9,5
Zone of the leafy forests The Province of Western Ukraine										
6	Volyn high area	0,38	4	42,9	1	flat	3	1	1	9
7	Small Polisye	0,25	3	173,6	4	northwestern	2,5	1	1	10,5
8	Roztotsky area	0,40	4	280,9	5	southwestern	4,5	18	2	15,5
9	West-Podilia high-altitude area	0,41	5	319,2	4	southeastern	3,5	103	5	17,5
10	Middle-Podilia high-altitude area	0,39	4	279	5	southeastern	3,5	57	4	16,5
Forest-steppe zone Podilsky - Pridneprovsky Province										
12	North - West Prydniprovsky high-altitude area	0,45	5	130,2	3	southeastern	3,5	5	1	12,5
13	North-East Prydniprovskaya high-altitude area	0,36	4	101,4	3	east	2	2	1	10
15	Prydnistrovcky East Podilsky high-altitude area	0,48	5	332,8	4	southeastern	3,5	35	3	15,5
16	Average high-altitude Bug area	0,35	4	263,3	5	southeastern	3,5	31	3	15,5
17	Central - Pridneprovskaya high-altitude area	0,36	4	147,6	3	southwestern	4,5	8	1	12,5
18	South Podolsk high-altitude area	0,29	3	158,2	4	southeastern	3,5	0	0	10,5

An estimation of the relief attractiveness is for recreational activity of science - geographical areas of Podilia [7].

Territories appeared most favorable Western - the Podilia height area and Middle Podilia height area (more than 16 points). For them characteristic high indexes of horizontal

and vertical partitioning, middle estimations of prevailing inclination of surface and most provision of the geomorphologic protected objects. The pedestrian operate within the limits of Kremenetsk's hills and Podilia Tovtr, equestrian, water, motor-car, bicycle and other tourist routes. A winter is concentrate ski tourism. Kremenetsk's hills is trap as lifted, strongly - dismembering ridge that creates favourable terms for development of cave tourism. The small increases of the Prydnistrovck plain assist to development sport - health and cognitive tourism. The karsts precipices and caves that strengthen recreational potential considerably are here widespread. The least friendly to the recreation are territories of Zhytomyr Polisy, Small Polisy, Volyn high area, South Podilia Highland and North-East Prydniprovskya Highland (less than 12 points).

In order to identify the territorial differences in the degree of favorable climate resources for recreation and tourism purposes for the summer and winter seasons, the following points were scored: mid-January and July temperatures, rainfall, average long-term wind speed [8] (Table 2).

Table 2

**Estimation of the basic indexes of the climate  
in the physical and geographical areas of Podilia (compiled for [5])**

<b>Physical-geographical areas</b>	<b>Average July temperature</b>	<b>Balls (5 points)</b>	<b>Average January temperature</b>	<b>Balls (5 points)</b>	<b>Average wind speed (m / c), year</b>	<b>Balls (5 points)</b>	<b>Rainfall (mm), year</b>	<b>Balls (5 points)</b>
Zhytomyr Polisy, Volyn high area, Small Polesye	18,1	2	-4,4	1	2,7	4	702	1
Roztotsky area	18,1	2	-4,7	2	2,3	5	690	2
West-Podilia high-altitude area	18,5	2	-5	3	3,0	3	652	2
Middle-Podilia high-altitude area	18,3	2	-4,7	2	3,4	3	668	2
Prydnistrovcky East Podilia high-altitude area	20	4	-3,9	1	2,3	5	630	3
Average high-altitude Bug area	18,8	2	-5,6	4	3,0	3	633	3
North - West Prydniprovsky high-altitude area, North-East Prydniprovskya high-altitude area	19	3	-6,0	5	3,7	2	560	4
Central - Pridneprovskaya high-altitude area	19,5	3	-5,7	4	3,6	2	520	5
South Podilia high-altitude area	20	4	-5,5	4	3,5	2	500	5

The South Podilia high area (more than 14 points) appeared the best. Here one of comfort terms for summer will rest, temperature of July more than 20 of C, the amount of precipitations diminishes to a 400 - 500 mm. Indexes of winter period on the whole are

comfort, middle temperature of January is - 5,5 C, power of snow-cover is 25 cm. Taking into account the middle estimation of winter and summer period this territory gets one of the best estimations.

The least amount of points was got by Middle Podilia high area, areas of Polisy and Volyn high area (8-9 points). For the distinguished territory characteristic middle temperatures of July is 18,2 C, amount of precipitations from 702 to 530. This area of the Podilia region has the most of days with precipitations (42 days). The middle temperature of January - 4, 4 C is on the north, to - 4, 7 C on the south. An estimation of comfort is the lowest among all distinguished territories [5, 10].

The river network of region is thick enough, presented by the rivers, that are included in the pool of Dnister, Pripjat, Southern Bug, Dnipro. They can be used for organization of bathing and water types of tourism and the picturesque valleys give to the attractiveness to the landscapes. Fascinations cause waterfalls surrounding villages such as Rukomysh, Pochards and Rusyliv. The estimation of water recreational resources is conducted on such indexes, as length and closeness of coastline of river network, coastline of lakes, ponds and storage pools, amount of the hydrological protected objects [9] (Table 3).

Better in all provided with water recreational resources Western – Podilia high area. High estimations also have Middle Podilia high area, north of the Western Prydniprovsk high area, Middle Buh high area. Districts of high-performance providing water resources, by the mediocre hydro ecological state and general high water-recreational mark. Has the least amount of points Zhytomyr Polisy (5 points). Podilia district with the high not enough indexes of providing water resources, by weak material well-being of protected territories by hydrological objects, and not high general estimation.

Biotic tourist resources are resources of wild-life, favorable as for treatment and making healthy, so satisfaction of spiritual necessities of man and organization of separate types of tourism (hunt tours, fish tours and others like that). Such resources are: recreational forest; fauna recreational resources; resources nature protected fund. Practically all forest, suitable for organizational them to rest of the making healthy of population, there is recreational.

Area of forest region - 805,5th of hectares, (10, 4% from the area of all forests of country) wooded of territory - 12,05%. The pine forests, in that there are birds, maples, linden-trees of gums, grow on the south. The forest of region has an enormous recreational value. The forests of the recreational setting occupy 100,8th hectares that folds the 4,5% areas of the recreational forests of Ukraine and 12,5% forests of region.

Table 3

**Assessment of water resources of Podilia for the purposes of recreation  
(compiled for [6])**

<b>№ in the scheme</b>	<b>Physical-geographical area</b>	<b>length and closeness of coastline of river network, km/km<sup>2</sup></b>	<b>Balls (5 points)</b>	<b>Density of the coastline of lakes and ponds m / km<sup>2</sup></b>	<b>Balls (5 points)</b>	<b>Number of hydrological reserves objects</b>	<b>Balls (5 points)</b>	<b>Overall balls (15 points)</b>
<b>Zone of mixed (coniferous broadleaf) forests Polisyje Province</b>								
2	Zhytomyr Polisyje	0,57	2	83,7	2	1	1	5
<b>Zone of the leafy forests The Province of Western Ukraine</b>								
6	Volyn high area	0,76	4	140,5	3	0	0	7
7	Small Polisyje	0,59	2	131,9	3	12	2	7
8	Roztotsky area	0,76	4	69,5	1	18	2	7
9	West-Podilia high-altitude area	0,89	5	94,7	2	47	5	12
10	Middle-Podilia high-altitude area	0,75	4	128,0	2	53	5	11
<b>Forest-steppe zone Podilsky - Pridneprovsky Province</b>								
12	North - West Prydniprovsky high-altitude area	0,87	5	278,7	5	6	1	11
13	North-East Prydniprovskaya high-altitude area	0,72	4	208,6	4	0	0	8
15	Prydnistrovcky East Podilia high-altitude area	0,76	4	87,3	2	24	3	9
16	Average high-altitude Bug area	0,70	3	193,8	4	38	4	11
17	Central - Pridneprovskaya high-altitude area	0,69	3	193,0	4	7	1	8
18	South Podilia high-altitude area	0,58	2	120,2	2	7	1	5

Special place among biotic recreational resources occupy nature protected territory. The naturally-protected fund of the Podilia tourist region by the state on January, 1, 2018 compiles 1581 units of territories and objects. An actual area of the naturally-protected fund of this area

(case-insensitive area of those objects that enter in the complement of territories of other protected objects) is 511518,6499 hectares. The estimation of biotic resources of the tree breed of forest stands and percentage of reserves is presented in Table 4.

Table 4

**Assessment of the favorable biotic recreational resources of Podilia  
(compiled for [6])**

<b>№ in the scheme</b>	<b>Physical-geographical area</b>	<b>Estimation of the tree breed of forest stands (5 points)</b>	<b>Percentage of Reserves (5 points)</b>	<b>Overall grade (10 points)</b>
Zone of mixed (coniferous broadleaf) forests Polisy Province				
2	Zhytomyr Polisy	2,5	4	6,5
Zone of the leafy forests The Province of Western Ukraine				
6	Volyn high area	2	1	3
7	Small Polesye	4,5	5	9,5
8	Roztotsky area	3,5	2	5,5
9	West-Podilia high-altitude area	1,8	3	4,8
10	Middle-Podilia high-altitude area	2,1	1	3,1
Forest-steppe zone Podilsky - Pridneprovsky Province				
12	North - West Prydniprovsky high-altitude area	2,5	1	3,5
13	North-East Prydniprovskaya high-altitude area	2	1	3
15	Prydnistrovcky East Podilia high-altitude area	1,6	1	2,6
16	Average high-altitude Bug area	2,3	1	3,3
17	Central - Pridneprovskaya high-altitude area	1,5	1	2,5
18	South Podilia high-altitude area	4	2	6

The most of points was got by the area of Small Polisy (9,5), that in the north of the Khmelnytsk and Ternopil area. The highest rates of biotic resources are available in Opilsky and Polissky districts (except Volynskiy Highland region). The lowest are Transnistria (except for the Southern Podilia Highland) and the Dnieper districts.

**Conclusion.** Summing up, on the basis of quantitative and quality descriptions of resources all natural resources of region were appraised and territories (science are geographical areas) are distinguished with high and subzero recreation and tourist potential.



For the assessment of the relief, important indicators such as the degree of horizontal dismemberment, the depth of the vertical dismemberment of the relief, the exposure of the slopes and the availability of protected objects were used. As a result of the study, it was found that the region has high rates indicating a rather high favorable orographic conditions for the development of recreation within the region.

For the exposure of territorial differences in the degree of favorableness of climatic resources, the ball estimation of amount precipitations, middle long-term speed of wind, middle temperature of July and January is conducted. The general estimation of climatic resources allows asserting about relative friendliness of climatic indexes of Podilia to the recreation and rest especially in a warm period of year. In relation to the winter types of rest, then territory of Podilia can be defined, as limit favorable, foremost for lack of permanent snow-cover, presence of frequent thaw, by frequent repetition of temperatures of winter period with a transition through 0°C.

Research of hydro system of region, gave an opportunity to conduct the ball estimation of basic indexes: length and closeness of coastline of river network and coastline of lakes, ponds and storage pools, amount of the hydrological protected objects. On the whole it is possible to assert that water recreational resources of Podilia are friendly to development of various types of recreation and tourism. The main disadvantages are unsatisfactory ecological status of water in most rivers and reservoirs, low water content of a large part of watercourses, frequent clogging of the coastline, poor level of arrangement of places for water recreation and tourism, etc.

The overall assessment of biotic resources in terms of forest composition and conservation is not high, primarily due to the high economic development of the territory, the age of its development, a high proportion of reclaimed land, the availability of protected sites with significant areas of agricultural land, low level of forest cover and significant mosaic of natural vegetation cover.

Thus, the Podilia region is rich on natural resources. Favorable climatic conditions, picturesque landscapes, forest massifs, mineral water sources, healing mud form the recreational and tourist potential of Podilia.

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