

THEORY AND HISTORY OF CULTURE



UDC 338.48



Original Theoretical Research

<https://doi.org/10.23947/2414-1143-2026-12-2-69-75>



History and Prospects of Popular Science Tourism's Organization in Rural Areas of Rostov Region

Vadim S. Makarenko  , Sophia A. Chernova 

Don State Technical University, Rostov-on-Don, Russian Federation

 vadim251@yandex.ru

Abstract

Introduction. For the development of modern culture, the prospects for organizing popular science tourism in rural areas of the territory are of great interest to researchers, the content side of which is visiting scientific facilities and participating in specialized activities, master classes, seminars. Scientific problems are caused by the need to search for “catalysts” for the development of tourism in rural areas while using new types of resources. The purpose of the article is to identify the prospects for the development of popular science tourism in rural areas of the Rostov region based on the analysis of the popular science tourism's specifics.

Materials and Methods. The conceptual basis of the study lies in the hypothesis of the possibility of developing rural areas through the escalation of certain types of tourism, in particular, popular science. The works of domestic and foreign researchers on the problems of the article are used. At the same time, emphasis is placed on theoretical studies of the content of the “popular science tourism's” concept and the regional aspect of the problems of its development. The resource method, the system analysis method, as well as spatial and predictive methods are used as research methods.

Results. The authors chose the areas located in the west of the region as the objects of research: Kamensky, Belokalitvensky, Tarasovsky, Millerovsky, Chertkovsky, Verkhnedonskoy, Sholokhovskiy. The choice of these areas was due to their geographical location, in particular, being near the Federal Highway, M-4 “Don”, which provides favorable opportunities for the inflow of potential tourists. For each of the areas, potential popular science objects were identified that could become “growth points” of regional popular science tourism. At the same time, objects of both natural and cultural nature (museums, archaeological sites and others) were considered. The results are shown in Table.

Discussion and Conclusion. Based on the analysis, the infrastructural advantages of the studied areas from the standpoint of the potential tourists reception were identified. The number of hotels and other tourist infrastructure facilities is shown, including in tabular form. As a result, as a basis for further research, promising routes of popular science tourism have been offered in the most object and infrastructural provided rural areas. The results of the study can be adapted to other territories of the Russian Federation with agrarian specifics in order to intensify domestic tourism.


Keywords: tourism, popular science tourism, Rostov region, rural areas, resources, routes, promising destinations

For Citation. Makarenko V.S., Chernova S.A. History and Prospects of Popular Science Tourism's Organization in Rural Areas of Rostov Region. *Science Almanac of Black Sea Region Countries*. 2026;12(2):69–75. <https://doi.org/10.23947/2414-1143-2026-12-2-69-75>

История и перспективы организации научно-популярного туризма в сельских районах Ростовской области

В.С. Макаренко  , С.А. Чернова 

Донской государственный технический университет, г. Ростов-на-Дону, Российская Федерация

 vadim251@yandex.ru

Аннотация

Введение. Для развития современной культуры большой интерес для исследователей представляют перспективы организации научно-популярного туризма на сельских территориях территории, содержательной стороной которого являются посещение научных объектов и участие в профильных активностях – мастер-классах, семинарах. Проблематика обусловлена необходимостью поиска «катализаторов» развития туризма на сельских территориях при одновременном задействовании новых видов ресурсов. Цель статьи – на основе анализа специфики научно-популярного туризма выявить перспективы развития научно-популярного туризма в сельских районах Ростовской области.

Материалы и методы. Концептуальная основа исследования заключается в гипотезе возможности развития сельских территорий за счет эскалации отдельных видов туризма, в частности, научно-популярного. Используются труды отечественных и зарубежных исследователей по проблематике статьи. При этом упор сделан на теоретические исследования содержания понятия «научно-популярный туризм» и региональный аспект проблематики его развития. В качестве методов исследования применяется ресурсный метод, метод системного анализа, а также пространственный и прогнозный методы.

Результаты исследования. В качестве объектов исследования авторы выбрали районы, располагающиеся на западе области – Каменский, Белокалитвенский, Тарасовский, Миллеровский, Чертковский, Верхнедонской, Шолоховский. Выбор данных районов был обусловлен их географическим положением, в частности, нахождением вблизи Федеральной трассы М-4 «Дон», что дает благоприятные возможности для притока потенциальных туристов. Для каждого из районов были определены потенциальные научно-популярные объекты, способные стать «точками роста» регионального научно-популярного туризма. При этом рассматривались объекты как природного, так и культурного характера (музеи, территории археологических раскопок и другие). Результаты представлены в таблице.

Обсуждение и заключение. На основе проведенного анализа выделены инфраструктурные преимущества исследуемых районов с позиций потенциального приема туристов. Показано, в том числе в табличной форме, количество гостиниц и других объектов туристской инфраструктуры. В результате, как основа для дальнейших исследований, предложены перспективные маршруты научно-популярного туризма в наиболее объектно и инфраструктурно обеспеченных в изучаемых сельских территориях. Результаты исследования можно адаптировать к другим территориям Российской Федерации с аграрной спецификой с целью активизации в них внутреннего туризма.

Ключевые слова: туризм, научно-популярный туризм, Ростовская область, сельские районы, ресурсы, маршруты, перспективные направления

Для цитирования. Макаренко В.С., Чернова С.А. Перспективы организации научно-популярного туризма в сельских районах Ростовской области. *Научный альманах стран Причерноморья*. 2026;12(2):69–75. <https://doi.org/10.23947/2414-1143-2026-12-2-69-75>

Introduction. Popular science tourism is one of the relatively young but dynamically developing types of tourism in the Russian Federation. Since it uses tourist resources that are relatively not covered by other types of routes, it can be recognized that it corresponds to the goals of the “Strategy for the Development of Tourism in the Russian Federation for the Period up to 2035” [1], in particular, the integrated development of domestic and inbound tourism, strengthening the social role of tourism.

The origins of popular science tourism in Russia can be traced back to the 1980s. However, as an independent direction with federal support, it began to take shape only within the framework of the Decade of Science and Technology (2022–2031). In 2022, the first tourist programs appeared, including visits to laboratories, universities and research centers, and by the end of 2025, 93 routes had already been opened throughout the country in 32 regions.

The Rostov region was one of the first among the agrarian subjects of the South of Russia to join this initiative. In October 2025, “Small Cossack Circle” program was launched here, the only officially launched popular science route in the region.

It was developed by scientists of the Don State Technical University together with the tour operator “Sudakov Travel” [2].

The route combines a demonstration of modern agro-industrial developments (laboratories “Winemaking and fermentation industry”, “Technological line of provender milling” and industrial aquaculture of DSTU) with immersion in the traditional culture of the Don Cossacks (study of dialect, life, history). Thus, for the first time in practice, it implements a model that combines the popular science component and the cultural and historical aspect of the region’s areas, including rural ones.

Before the launch of “Small Cossack Circle”, elements of popular science activities, including rural areas of the Rostov Region, existed only in the form of scattered local history museums, archaeological sites (mounds, hillforts) and individual excursions that were not combined into a single popular science program. For example, in 2023, at a round table at SFU, the need to develop children’s popular science tours was discussed, but then no real route was created. It was possible to arrange the first full-fledged product only in 2025.

Thus, the formation of popular science tourism in rural areas of the Rostov region is at the initial stage. The study presented in this article is based on potential objects identified in 2025–2026 and offers the first promising routes that can complement the existing infrastructure and expand the network of popular science programs in the region.

The organization of popular science tours not only involves relatively new objects for tourism in the routes but also attracts additional segments of tourists, in particular, schoolchildren and students, in which its social role is manifested. At the same time, the integration of the route of scientific objects and popular tourist destinations makes it possible to form complex routes focused on interdisciplinarity and diversity of tourist activities.

At the same time, it should be recognized that the resource potential of the studied type of tourism has not been sufficiently studied in all regions. Existing popular science routes mainly include the territories of universities and research facilities, not always fully covering such destinations as museums, archaeological excavations and other locations in rural areas. Nevertheless, this direction seems promising both for scientific research and for practical implementation in tourism.

The Rostov region, being a traditional agrarian region, has a significant share of rural areas. It seems that in most of these territories it is possible to identify potential tourist resources for inclusion in popular science routes.

Materials and Methods. The authors rely on theoretical research by Russian and foreign scientists. The first group of works is devoted to theoretical and methodological aspects of popular science tourism: A.V. Afanasyeva, E.V. Logvin, T.T. Hristov [3]. I.S. Shershova and A.Ya. Tamakhina consider popular science tourism as a type of scientific tourism [4]. The significant contribution to the study of popular science tourism was made by V.V. Verna, S.S. Skaranik, A.V. Soroka [5], A.V. Frygin and I.Yu. Fedorova [6]. From the standpoint of the educational component, we highlight the works of E.P. Ananicheva and a contributing author [7], A.V. Khanina [8]. The second group of studies is regional studies of the popular science tourism development: I.Yu. Ponomareva and V.Yu. Savinov [9], R.I. Loktev and a contributing author [10], E.S. Malykh, A.I. Smetanina [11], Y.S. Testina, N.Yu. Belyakova, A.M. Vorotnikov [12], research by E.G. Kropinova and a contributing author [13], D.Yu. Shishkina [14].

Methodological basis of this study is the following: a resource method by which objects were identified that could potentially be used in popular science routes; a method of system analysis, which made it possible to compare the resources of popular science tourism in certain areas of the Rostov region; a spatial method involved in matching the localization of core resources; a forecast method by which promising routes of popular science tourism were determined.

Results. The Rostov region is traditionally an agrarian region, which is a consequence of natural conditions: climate features, seasonal distributions of temperature and humidity, soil cover and others. In particular, the ploughness of the region’s territory is 64.7% [13], which is a rather high indicator. Accordingly, rural areas on the scale of the region are predominant, which actualizes the issue of developing the main spheres of life in them, which can include tourism.

Traditionally, the types of tourism common in rural areas include agritourism, ethnographic, gastronomic, environmental. Nevertheless, in order to implement the “Strategy for the development of tourism in the Russian Federation for the period up to 2035”, it seems rational to pay additional attention to the types of tourism previously actively unorganized in certain regions. Such types of tourism, in particular, include popular science one.

The objects of popular science routes are locations in one way or another related to scientific activities: universities, research institutes, laboratories and others. At the same time, visits to such objects are complemented by an interactive program, including master classes, demonstration of experiments, introduction to scientific activities. Such routes are informative, educational, instructional and career-oriented in nature, which determines the specifics of this type of tourism. The development of popular science tourism in our country is determined by the Concept for the development of popular science tourism in the Russian Federation for the period up to 2035 [14].

It is assumed that in rural areas it is possible to use popular science routes, museums, farms, archaeological excavations and other objects. Integrating into the development of the economy of such areas, popular science routes can become a regional "growth point".

For analysis, the article selected areas located in the west of the region, in particular, Kamensky, Belokalitvensky, Tarasovsky, Millerovsky, Chertkovsky, Verkhnedonskoy, Sholokhovskiy. The choice of these areas was due, among other things, to their geographical location, in particular, being near the Federal Highway M-4 "Don", which provides favorable opportunities for the inflow of potential tourists.

Potential objects of popular science tourism identified in the Kamensky district are mainly of a local history and educational nature. For example, the Kamensky Museum of Local Lore, dedicated to the culture of the Don Cossacks, to the history and culture of the city, as well as the People's Museum of Local History in the village of Gundorovskaya, which is aimed at preserving the memory of the history of the village and the events of the Great Patriotic War. In addition to cultural and historical objects there are natural heritage sites and archeological monuments: mounds and hillforts that preserve the ancient history of the district.

In the Belokalitvensky district there are significant cultural, historical and natural objects. In particular, the Belokalitvinsky Museum of History and Local Lore named after M.A. Sholokhov, which is dedicated to the work and life of the great Don writer, as well as the history of the Cossacks on the Don, an art gallery in Belaya Kalitva, which presents works by local artists and masters of decorative art, as well as White Rock and numerous caves in the district.

Analyzing potential objects of popular science tourism in the Tarasovsky district, the following tourist sites can be distinguished: the Tarasovsky Museum of History and Local Lore (Tarasovsky settlement), which is dedicated to the events of the Great Patriotic War, as well as the life of villagers and Don Cossacks. The Museum of Military Glory named after Hero of the Soviet Union of V.A. Khalzunov (Tarasovsky, in the school building), this exposition is dedicated to the feat of a native of the Tarasovsky district, Hero of the Soviet Union Vasily Alexandrovich Khalzunov. There are archeological monuments such as burial mounds testifying to the ancient world of the district.

Speaking about the Millerovsky district, we can note the following cultural and educational tourist sites: the Millerovsky District Museum of Local Lore (Millerovo), which is dedicated to the Great Patriotic War, famous fellow countrymen and the development of agriculture. The Memorial House-Museum of the Hero of the Soviet Union of A.M. Likholetoy (Verkhnetalovka), dedicated to the life and feat of the Hero of the Soviet Union Alexander Mikhailovich Likholetoy, as well as the Museum of the History of the Cossacks (Malchevskaya). It should be noted the presence of mounds, the Kalitva River, Lake Bolshoy and Lake Lebyazhye.

The Sholokhovskiy district is rich in historical and cultural objects, which are also necessary for the development of popular science tourism in the region. In particular, on the territory of the district there is the State M.A. Sholokhov Museum-Reserve (Veshenskaya), Memorial and historical complex "Kruzhilinsky", a courtyard recreating the life of a Cossack family (Table 1).

Table 1

Potential objects of popular science tourism in the studied districts of the Rostov region

№	District name	Objects
1	Sholokhovskiy district	1. The State M.A. Sholokhov Museum-Reserve (Veshenskaya). 2. The Memorial and Historical Complex "Kruzhilinsky", a courtyard recreating the life of a Cossack family. 3. The stable yard where Don horses are kept (Veshenskaya).
2	Verkhnedonskoy district	1. The Museum of History and Culture of the Verkhnedonsky district (Kazanskaya). 2. Branches of the State M.A. Sholokhov Museum-Reserve. 3. Monuments of archeology: ancient mounds. 4. The Natural Monument "Island Forest" (neighborhood of Kazanskaya), a unique forest located on an island in the middle of the river Don.
3	Chertkovskiy district	1. The Chertkovskiy Museum of Local Lore (Chertkovo). 2. The Museum of History and Life of the village of Mankovo-Berezovskoye (Mankovo-Berezovskoye). 3. The Nature Reserve "Chertkovskiy sands": a unique natural object, which is a section of the sandy steppe. 4. Monuments of archeology: ancient mounds.

№	District name	Objects
4	Millerovsky district	1. The Millerovsky Museum of Local Lore (Millerovo). 2. The Museum of History of the Cossacks (Malchevskaya). 3. Monuments of archeology: ancient mounds.
5	Tarasovsky district	1. The Tarasovsky Museum of History and Local Lore (Tarasovsky). 2. Monuments of archeology: ancient mounds.
6	Belokalitvinsky district	1. The Belokalitvinsky Museum of History and Local Lore named after M.A. Sholokhov (Belaya Kalitva). 2. White rock (neighbourhood of Belaya Kalitva): a rock located on the bank of the Kalitva River, made of limestone. 3. Caves (neighbourhood of Belaya Kalitva): in the Belokalitvinsky district there is a complex of caves, in particular, the “Skelya” cave.
7	Kamensky district	1. The Kamensky Museum of Local Lore (Kamensk-Shakhtinsky, in fact, it is located on the territory administratively subordinate to the city). 2. The People’s Museum of History and Local Lore in the village of Gundorovskaya. 3. Monuments of archeology: mounds and settlements.

In the Verkhnedonsky district there is the Museum of History and Culture of the Verkhnedonsky district (Kazanskaya), the expositions of which are devoted to the history, customs and traditions of the Don region, archeological monuments (mounds), the natural monument “Island Forest” (neighborhood of Kazanskaya), a unique forest located on an island in the middle of the river Don.

Discussion and Conclusion. Popular science tourism is a type of tourism based on the acquaintance of tourists with scientific objects: museums, laboratories, research centers. The above districts of the Rostov region have significant potential for the development of popular science tourism; they have a considerable number of important and necessary tourist resources. However, there are certain factors that interfere with the full development of popular science tourism in the listed districts of the southern region: a low level of infrastructure (guesthouses, hotels), equipment for tourists to visit, transport accessibility of dedicated facilities, and so on. The number of guesthouses in these districts is presented in Table 2.

Table 2

Number of accommodation facilities in the studied districts of the Rostov region

№	District name	Number of accommodation facilities
1	Sholokhovsky district	18
2	Verkhnedonskoy district	3
3	Chertkovsky district	13
4	Millerovsky district	17
5	Tarasovsky district	8
6	Belokalitvinsky district	7
7	Kamensky district	37

Table 2 shows that there are 37 accommodation facilities in the Kamensky district, 7 in Belokalitvinsky, 8 in Tarasovsky, 17 in Millerovsky, 13 in Chertkovsky, 3 in Verkhnedonskoy, 18 in Sholokhovsky. The analysis of the number of guesthouses in these areas revealed a noticeable imbalance in the number of accommodation facilities and, therefore, an imbalance in the ability to receive large groups of tourists. In particular, the Kamensky district, which has the largest number of guesthouses and the greatest opportunities. At the same time, some areas (Verkhnedonskoy, Tarasovsky, Belokalitvinsky) have a small number of guesthouses and have lower infrastructure potential for the implementation of popular science routes.

The transport factor can also be distinguished. Despite the fact that the studied areas are located along the federal highway of M-4 “Don”, connecting the central part of Russia and its south, individual objects of popular science are located far from places of concentration of traffic flows. For example, some settlements located in the west of the

Chertkovsky district are far from the main highway, despite the fact that these settlements contain objects significant for tourism. The Verkhnedonskoy and Sholokhovskiy districts are also located far from M-4 "Don", which makes it difficult to create popular science routes in these regions.

In addition, the information factor restrains the development of popular science tourism in the studied areas. Most of the local objects of popular science tourism almost do not position themselves in this status and do not implement excursion programs, master classes, newsworthy events.

Consequently, it seems rational to form popular science routes in the studied areas in territories largely provided with the appropriate tourist infrastructure. It can also be considered optimal to lay one route through the territory of several neighboring regions to increase the concentration of potential scientific objects in their content. As a result, we have offered 3 potential popular science routes.

1. Popular science route "Kamensky meridian: from history to nature" in the Kamensky district. The offered route project is the following:

- The Kamensky Museum of Local Lore (Kamensk-Shakhtinsky, in fact, it is located on the territory administratively subordinate to the city);
- The People's Museum of History and Local Lore in the village of Gundorovskaya;
- Archeological monuments: mounds and hillforts;
- The Kamensky Museum of Decorative and Folk Art;
- Natural heritage sites: Picturesque banks of the Seversky Donets River, steppe landscapes.

2. Popular science route "Belokalitvinsky Heritage: Museums, Rocks and Underground Worlds" in the Belokalitvinsky district. The offered route project is the following:

- The Belokalitvinsky Museum of History and Local Lore named after M.A. Sholokhov (Belaya Kalitva);
- White Rock (neighborhood of Belaya Kalitva): a rock located on the banks of the Kalitva River, made of limestone;
- Caves (neighborhood of Belaya Kalitva): there is a complex of caves, in particular, the "Skelya" cave;
- The river Seversky Donets and its banks;
- The Art Gallery in Belaya Kalitva: presents works by local artists and masters of arts and crafts.

3. Popular science route "Don Crossroads: Millerovo, Chertkovo, Verkhnedonye – a journey through time". The offered route project is the following:

- The Millerovsky Museum of Local Lore (Millerovo);
- The Museum of History of the Cossacks (Malchevskaya);
- The Chertkovskiy Museum of Local Lore (Chertkovo);
- The Nature Reserve "Chertkovskiy sands";
- The Museum of History and Culture of the Verkhnedonskoy District (Kazanskaya);
- Branches of the State M.A. Sholokhov Museum-Reserve;
- Archeological monuments: ancient mounds (Verkhnedonskoy district);
- The Natural Monument "Island Forest" (neighborhood of Kazanskaya).

It is assumed that the allocated routes can contribute to the development of rural areas of the Rostov region. Popular science routes, if implemented, can not only become a "catalyst" for the development of tourism in the studied areas but also lead to the development of the local economy through a multiplier effect.

The presented study can become a pioneer in terms of the problem of organizing popular science routes in rural areas and in the future can be transferred to other areas of the Rostov region and constituent entities of the Russian Federation.

References

1. Strategy for the development of tourism in the Russian Federation for the period up to 2035 (approved by order of September 20, 2019 No. 2129-r). *Official website of the Ministry of Economic Development of the Russian Federation*. URL: https://www.economy.gov.ru/material/dokumenty/strategiya_razvitiya_turizma_v_rossiyskoy_federacii_na_period_do_2035_goda_utverzhdena_rasporyazheniem_ot_20_sentyabrya_2019_g_2129_r.html (accessed: 24.06.2025).
2. The first popular science tourism route is launched in the Rostov region. *Official website of the Government of the Rostov region*. URL: <https://xn--80aa3ak5a.xn--p1ai/news/zapushchen-pervyy-v-rostovskoy-oblasti-marshrut-nauchno-populyarnogo-turizma/> (accessed: 19.04.2026).
3. Afanasieva A.V., Logvina E.V., Khristov T.T. Methodological bases of popular science tourism. *Services in Russia and Abroad*. 2023;17(2/104):5–25. <https://doi.org/10.5281/zenodo.8104849>
4. Shershova I.S., Tamakhina A.Ya. Popular science tourism as a variety of scientific tourism. In: *Current issues in*

food technology, tourism and trade. Materials of VI All-Russian scientific-practical conferences. Nalchik. 2023. pp. 150–155 (In Russ.)

5. Verna V.V., Skaranik S.S., Soroka A.V. Modern aspects of the development of popular science tourism. *Geopolitics and ecogeodynamics of the regions*. 2023;9(2):141–50. (In Russ.)

6. Frygin A.V., Fedorova I.Yu. Decade of science and technology: development of popular science tourism. *Bulletin of RIAT*. 2024;1:23–30. (In Russ.)

7. Ananicheva E.P., Gaprindashvili R.T., Nabiev S.R., Pozdnyakova E.A. Popular science tourism in the higher education system of the Russian Federation: Legal aspect. *Services in Russia and Abroad*. 2024;18(3/112):73–86. <https://doi.org/10.5281/zenodo.14262691>

8. Khanina A.V., Yakimenko M.V. Popular science tourism as a vector of the development of student tourism in the regions of Russia (on the example of Southern Federal University). *Professorial journal. Series: Recreation and Tourism*. 2023;19(3):35–42. <https://doi.org/10.18572/2686-858X-2023-19-3-35-42>

9. Ponomareva I.Yu., Savinov V.Yu. Historical prerequisites for the development of popular science tourism in the Tula region. *Russian regions: prospection*. 2022;9(3-4):64–73. (In Russ.)

10. Loktev R.I., Kolesnikov R.A., Chernykh D.V. Scientific and popular tourism in the Yamal-Nenets Autonomous District. *Bulletin of Karaganda University. Series: Biology, medicine, geography*. 2024;113(1):159–170. <https://doi.org/10.31489/2024bmg1/159-170>

11. Malykh E.S., Smetanina A.I. The development prospects of popular science tourism in Kirov Oblast. *Vestnik of North-Eastern Federal University Series "Earth Sciences"*. 2023;2:114–118. <https://doi.org/10.25587/SVFU.2023.30.2.010>

12. Testina Ya. S., Belyakova N.Yu., Vorotnikov A.M. Prospects for the development of popular science tourism in the arctic. *The North and the Market: Forming the Economic Order*. 2024;17(1/83):93–107. <https://doi.org/10.37614/2220-802X.1.2024.83.007>

13. Anokhin A.Yu., Zakharov S.E., Chernyaeva L.V. On the possibility of including the Vishtynetsky regional natural park of the Kaliningrad region in the all-Russian register of popular science tourism facilities. *Geographic environment and living systems*. 2023;4:35–52. (In Russ.)

14. Shishkina D.Y. Agricultural impact on agricultural landscapes of the Rostov Region. *Samara Journal of Science*. 2021;10(4):129–133. <https://doi.org/10.17816/snv2021104120>

About the Authors:

Makarenko Vadim Sergeevich, Cand. Sci. (Geographical Sciences), Associate Professor, “Department of Service Tourism and Hospitality Industry”, Don State Technical University, (1, Gagarin Sq., Rostov-on-Don, 344003, Russian Federation), [ORCID](#), [SPIN-code](#), [ScopusID](#), vadim251@yandex.ru

Chernova Sofia Alexandrovna, student, Don State Technical University, (1, Gagarin Sq., Rostov-on-Don, 344003, Russian Federation), [ORCID](#), sofiya.chernova.2005@list.ru

Conflict of Interest Statement: the authors declare no conflict of interest.

All authors have read and approved the final manuscript.

Об авторах:

Макаренко Вадим Сергеевич, кандидат географических наук, доцент кафедры «Сервис туризм и индустрия гостеприимства», Донской государственной технической университет (344003, Российская Федерация, г. Ростов-на-Дону, пл. Гагарина, 1), [ORCID](#), [SPIN-код](#), [ScopusID](#), vadim251@yandex.ru

Чернова София Александровна, студентка, Донской государственной технической университет (344003, Российская Федерация, г. Ростов-на-Дону, пл. Гагарина, 1), [ORCID](#), sofiya.chernova.2005@list.ru

Конфликт интересов: авторы заявляют об отсутствии конфликта интересов.

Все авторы прочитали и одобрили окончательный вариант рукописи.

Received / Поступила в редакцию 19.04.2026

Reviewed / Поступила после рецензирования 02.05.2026

Accepted / Принята к публикации 04.05.2026