

WAYS TO USE GAT TECHNOLOGIES AND REMOTE SENSING MATERIALS IN THE CREATION OF MODERN TOURISM MAPS

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Annotation: *The use of modern Gat technologies in tourism cartography research is discussed in this article. Information is also provided on modern tourism cartographic works developed using geographic information systems and remote sensing materials in the development of tourism. Landsat was gathered using the -8 satellite and placed on the Internet photos utilizing Google Earth software when constructing a digital model of the area from remote sensing materials. They're analyzed using specific Gat programs, and a digital model of the land is constructed at a scale of 1: 1 000 000.*

Keywords. *MZM, Gat, anthropologist, archaeologist, inventory, recreation, analytical, photo grammetric, deciphering, standardization, transformation, format, nomenclature, Trapezium, coordinate, , vector, model, mosaic, photograph, ortho photo plan, 3D model.*

Introduction. Scientific research is being carried out around the world to collect, store, digitize, analyze, process, and transfer tourist infrastructure objects from the state cadastr, to evaluate and inventory natural, historical, and cultural resources, to identify tourist-recreational zones, tourist routes, and to develop new scientific and

technical solutions for their implementation using cartographic methods and modern Geo information technologies. In this regard, research aimed at developing new technologies and techniques of delivering Geo information and mapping in order to improve the scientific foundations of the systematic cartography of the tourism industry while taking socioeconomic realities into account is given specific emphasis. In the development of the economy, especially tourism in our republic, modern tourism cartographic works created on the basis of geographic information systems (Gat) and remote sensing materials are of particular importance. Also, the role of GAT technologies and remote sensing materials in the creation, updating and carrying out various scientific researches based on them cannot be overemphasized [1].

Main part. Remote sensing meters are utilized in the tourism industry as well as in the conduct of numerous analytical, mathematical, cartographic, and photogrammetric analyses[3].

As a result of the research, it was discovered that in order to create current tourism cards, these two primary technologies - Gat technology and MZM - must be connected. MZM is also employed in various areas, including geography, forestry, urban planning, and GAT technology environmental research [4].

And one of the most important components in the development of modern tourism is the research of such locations. As a result, it was discovered during the research that it is vital to analyze these two sectors by interacting with one another.

Tourism was studied by geographers, economists, anthropologists and archaeologists with great interest. Currently, many local and regional tourism development has been recognized by the general public as an optimal tool in managing, analyzing and presenting large amounts of data relevant to the activities of the GAT and MZM systems. Thus, modern tourism planning, strengthening in accordance with world requirements can not be done without the MZM and GAT programs.

Remote sensing materials are utilized in the early stages of the construction of modern tourism. The original MZM data will be decoded in this scenario, and the location Photo Frame will be generated with Adobe Photoshop [5]. To accomplish so,

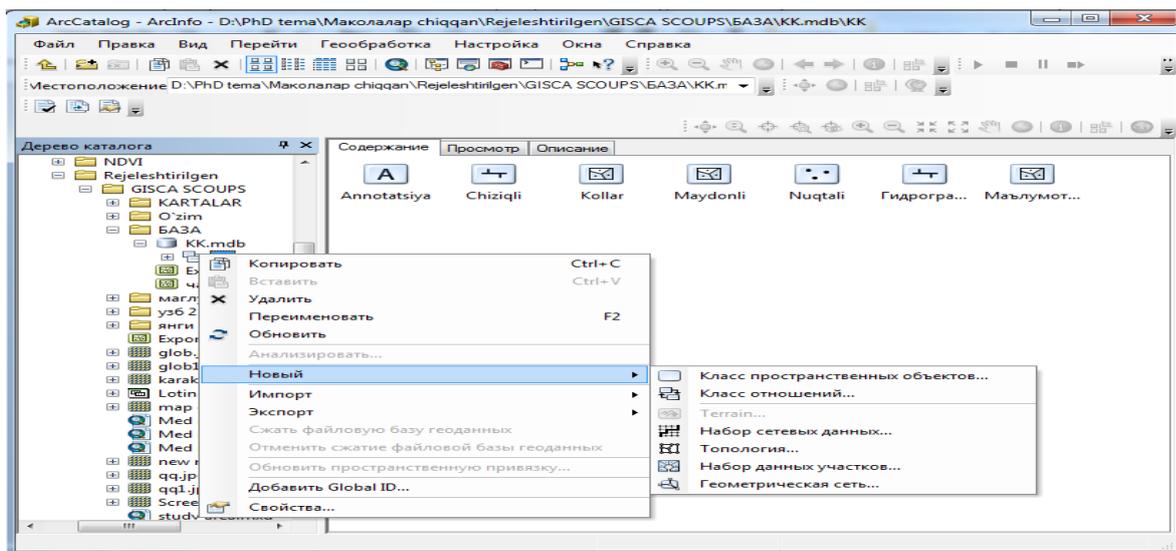
photographs were cropped and standardized to the required dimensions in graphic applications, then saved in the appropriate formats. The topography Trapezium was then connected to the topographic Trapezium on the basis of the classifier in the GAT Panorama program and modified, resulting in the formation of an ortho photo plane of the recreational area, depending on the scale of the topographic foundation of the photograph.

Using the Ranorama program [3, the ortho photo plane is numbered according to its layers. That is MZM mainly numbered materials were obtained in Landsat-7 Apparat and used geo-engineered materials for the Internet (Figure 1).



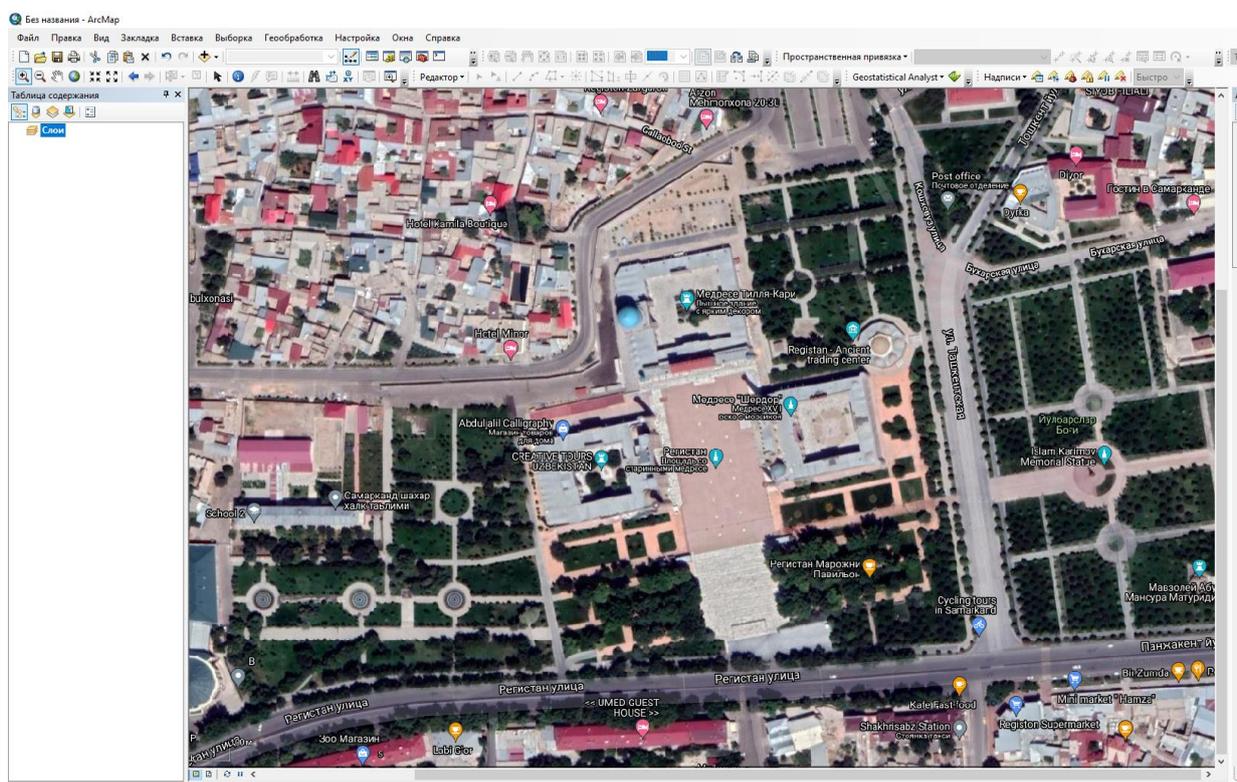
1-picture. A-mosaic, V-photo shoot, s-orthophotoplan, D-3D model

In the processing of remote sensing materials, ArcGIS has been chosen as the best application. They are loaded into these programs after being processed in Adobe Photoshop in the graphics software. This is where the worked photos are loaded first, and then the program is launched. To do so, select a custom map after loading the application "Create" (picture 2).



2-picture. ArcGIS program to create a trapeze

The selected territory is marked and the trapezium is dressed using the nomenclature of the cards while establishing this Trapezium. After putting the photo into the application, it will be changed using the dressing Trapezium 3-figure coordinates. After connecting to the image coordinates in the program, the primary items are first numbered, and then the remaining objects are numbered according to layers. It is feasible to avoid negative environmental consequences by determining acceptable locations for tourism activities using models generated using remote sensing materials [2]. A similar number of individual criteria is achieved on the basis of analytical, cartographic and mathematical analysis of the models in order to study them, to determine the degrees of relative importance and determine the most optimal place.

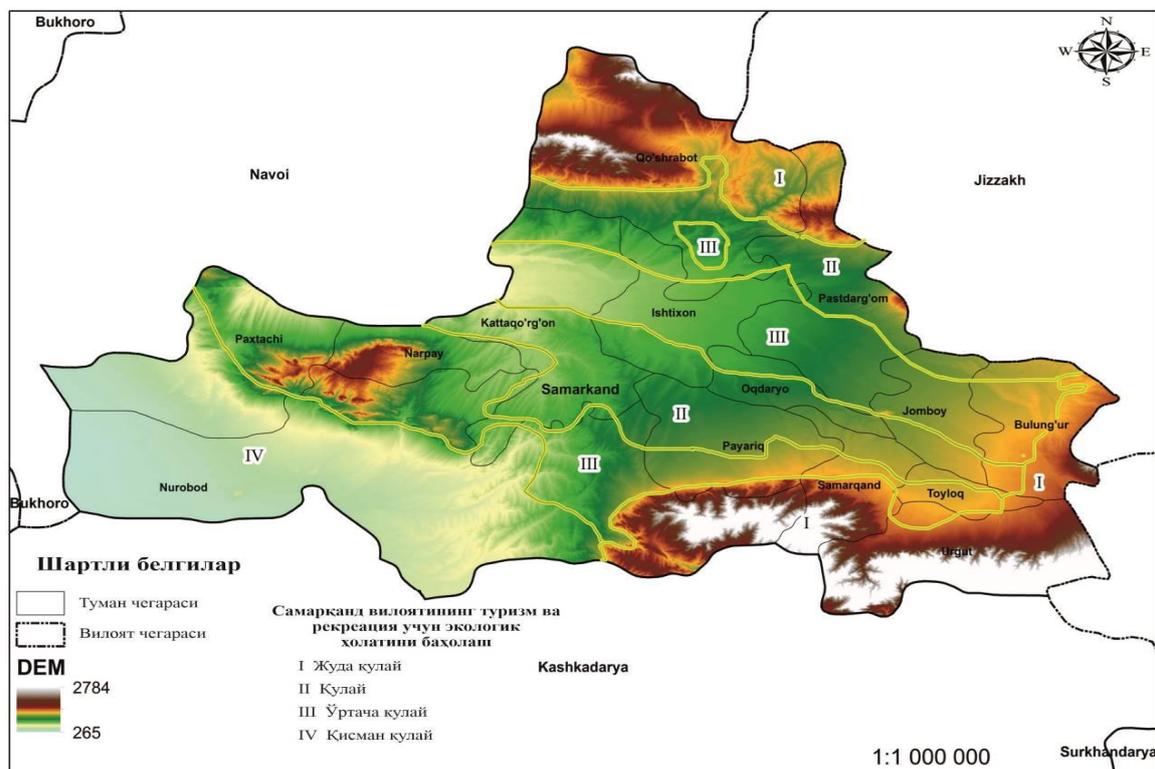


3-picture. Rast transform rastr in GIS software

This distance was calculated using data from the Landsat -8 spacecraft to create a digital model of the area, which was then uploaded to the internet using Google Earth software. They were processed using the aforementioned special algorithms, and a digital model of the region with a scale of 1: 1 000 000 was constructed (Figure 4).

Based on the study's findings, it was established that the area should be separated into four levels in terms of tourist and recreational amenities.

Very favorable, moderately advantageous, and partly favorable level criteria were created in the development of tourism and the proper distribution of tourist and leisure activities. A "degree" was assigned to each of the criteria in the study, indicating their relative relevance. These levels were assigned numbers ranging from 1 to 4, with 1 denoting higher level significance and 4 denoting lower level significance. For example, the relevance of natural circumstances and environmental factors will be highlighted. The criteria of resource potential, tourism infrastructure facility placement, and road network have all been used to formulate tourism in relation to national highways and municipal roads.



4-picture. The digital model of the Samarkand region on tourist opportunities

Conclusion. We looked at the concept of a geographic information system as well as its components in this project. The development of cards and the study of their location are not new concepts. However, geo information system technology is a new, effective, and convenient companion to the analysis of problems that meet

modern standards, as well as the resolution of numerous difficulties in which the information needed to make a choice must be in cartographic form.

Two important technologies - GAT technologies and the necessity to connect with MZM in the design of new tourism cards - were also discussed and demonstrated their utility in the essay. They were processed on the basis of special, GAT programs and created a digital model of the 1: 1 000 000 scale of the territory.

The application of GAT in scientific research in today's era of Advanced Science, Technology and technology provides a great foundation for the prompt and qualitative performance of the work.

REFERENCES:

1. Гулмуродов Ф.Э. Туризмни тизимли картага олишнинг илмий асосларини такомиллаштириш (Самарқанд вилояти мисолида). т.ф.ф.д. (PhD). илмий даражасини олиш учун дисс.автореф. – Тошкент.2021. 45 б.
2. Gonzalez R. C., Woods R. E. Digital image processing. – Pearson India , 2012. – 954 p.
3. Ковалев Н.В. ва бошқ. Фотограмметрия ва ерни масофадан тадқиқ этиш. – Т.: ТАҚИ, 2015. – 159 б.
4. Охунов З.Д. ва б. Маълумотларни олиш ва интеграциялаш. – Т.:Иқтисод – Молия, 2016. – 306 б.
5. Топчилов М.А., Полещенков В.Н. Применение компьютерной графики для перспективного изображения рельефа на туристских картах // Исследования в области геодезии, фотограмметрии и картографии.–М.: 1994.-С.78-86.