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СУЧАСНІ ІНФОРМАЦІЙНО-ВИМІРЮВАЛЬНІ СИСТЕМИ

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SOME ASPECTS OF THE APPLICATION OF THE GEOGRAPHIC ANALYSIS SYSTEM IN THE MILITARY FIELD

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The analysis of modern wars, including the Second Karabakh War and the ongoing Russia-Ukraine war, shows that military operations mainly take place in dynamically changing conditions. Thus, the influence of geography on the implementation of military operations is very large. Therefore, in the stage of preparation for the operation, it is one of the most important issues to study the geography and relief conditions of the area (region) where the operation will be carried out and to analyze it in a timely manner. Geographical analysis of the area is needed for the most suitable placement of the offensive units, artillery and missile troops, material and technical support units and forces that will be felt in the area, as well as to study the future directions of movement. Detailed information about the territory, maps and other descriptions of the territory, organization and planning of military operations, calculation of coordinates, etc. very important for military affairs. Therefore, geospatial information always occupies an important place in military affairs [1-6]. The analysis of the geographical factors affecting the military operation is carried out by a close study and evaluation of the territory. A close study of the terrain and a correct assessment gives the commanders the opportunity to foresee all possible movements of the enemy.

In order to organize the battle and effectively manage the available forces and resources in its course, each commander must know where the enemy is, what he is doing and what he is preparing to do, as well as the characteristics of the terrain in the area of the upcoming combat operations. Observational data must be obtained in a timely manner and delivered to the commander in a timely manner. Anticipating these requirements is especially important in modern, highly maneuverable warfare.

Geospatial technologies, especially map and geographic information systems (GIS), are used in the military as well in Azerbaijan. Its fields of application, methods of use and technologies are known to many military specialists. Geospatial technologies is a generalized term that includes technologies of geodesy, cartography, photogrammetry, geographic information systems, and remote space exploration of the Earth [1,7-10].

The report discusses the application and benefits of the Geographical Analysis System (GAS) developed on the basis of Geographical Information Systems and successfully used in the Turkish Armed Forces.

The GAS software platform is a desktop 3D "Virtual Sphere" application running on a server-client architecture. GAS can be used online (server-connected) or offline (server-independent) and works on laptops, tablets, mobile phones as well as desktop computers. Thanks to the GAS Algorithm, GAS displays data very quickly and ensures immediate data exchange between all users. The GAS software platform allows users to perform various queries and analyses, and to create new data and modify existing data. Buffer zone analysis, profiling, determination of visible and dead zones, and threat area analysis are examples of the simplest geographic analyses. Users can perform accurate 2D and 3D distance, area and perimeter calculations on the site.

The GAS software platform has a modular structure and can be constantly improved since the source code is completely nationally developed. The intensive use of the software platform is of great importance in terms of ensuring the security of the defense and security forces and the data they use.

It is advisable to widely use the GAS software platform in creating a visual image of the operational field in units and formations, determining the depth of enemy defenses, obtaining an idea of the terrain shape, and studying the operational field in parts or in its entirety using satellite images and aerial photographs.

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