

ADVANTAGES OF CREATING DIGITAL MAPS IN THE ARCGIS PROGRAM FOR
LAND MANAGEMENT AND STATE LAND CADASTRE PURPOSES



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Abstract: The geographic information system (GAT) is an accelerated data acquisition system that is rapidly growing, concentrating knowledge on several disciplines. This technology can serve as a scientific basis for managing natural resources, studying the demographic situation, finding solutions to health, emergency phenomena and other similar territorial issues and spatial problems.

Keywords: Geographic Information System, digital cards, vectorization, ArcGIS, Oasis, PANORAMA, Land Management

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Introduction Today, as in all spheres, it is possible to effectively use the achievements of Informational Technology in the cartography of the effective use of land. Topical issues are the application of models created on a global scale, their complete, accurate and high level of organization, making the most of the computer programs used to process, store and transfer data sets. Currently, the technology of creating electronic digital maps with a high level of accuracy has been established with the widespread use of space and aerial photography, and work in this area is being improved. Electronic digital maps are created on the basis of space and aerial photographs by vectorizing (drawing) and calculating areas on a computer according to a special program of deciphered photo frames in field conditions.

The importance of GIS lies in its ability to pull together the vast amounts of information necessary to balance competing priorities and solve complicated problems – optimizing new land uses to accommodate growing populations. GIS data is commonly used for managing transportation issues. With the addition of environmental and topical data in a GIS platform, companies can plan for a new road or rail route. GIS technology integrates common database operations such as query and statistical analysis with unique visualization & geographic analysis offered by maps. GIS readily converts data between different data models (unlike most database and statistical software). The most important feature of GIS is that spatial data are stored in a structured format referred to as a spatial data base. The way spatial data are structured will determine the how easy it is for the user to store, retrieve and analyze the information.

Nowadays, electronic digital maps are used in various sectors of the national economy, that is, in which area the map was used first, electronic digital maps are

entering instead of old maps in these areas. Including: electronic digital maps are used to design work on the transfer of channels, reservoirs, electricity networks, gas, oil, water pipelines, to place and monitor agricultural crops, to create land, to conduct land cadastre, to create a land card, to clearly indicate the location and boundaries of land areas used by land owners, land users and tenants, as well as farms, to indicate

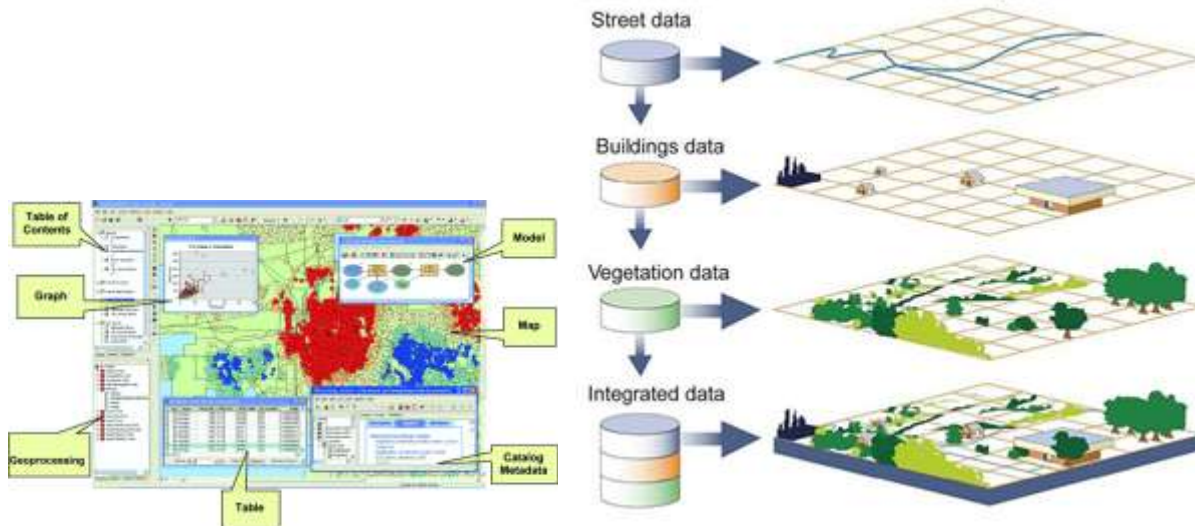
In the world computer industry, previously developed programs are being improved, and in our country, among the developed countries of the world, there is a gradual transition to work on the basis of modern programs. One such program is ArcGIS.

ArcGIS software products, created on the basis of the most modern computer technologies, comply with all open (OGC) standards, which makes it possible to use them in many practical areas and at different levels of work Organization (individual, server and mobile GIS).

Main Part It will be appropriate to carry out various tasks in the national economy, create and maintain a unified system of State cadastres, and transfer (conversion) electronic digital maps to the ArcGIS program on the basis of bringing them to an integrated software platform in these systems.

The main place is occupied by the creation of digital maps in the ArcGIS program for Land Management and state land cadastre purposes. The advantage of the ArcGIS program is the following:

- development of high-resolution maps and plans for land cadastre, Cadastral purposes of buildings and structures;
- fast provision of land owners, land users and tenants with digital maps of various scales;
- the speed of the map creation process compared to other applications;
- availability of the ability to compare data;
- creation of centralized Geoinformation bases;
- remote digital map editing (Internet Network); ability to correctly transmit maps to GPS and electronic tacheometers;
- Providing interactive services on Geoinformation;
- economy advantage and time savings.



Electronic digital maps of districts in the Republic Oasis and PANORAMA is available in applications.

- Digital maps created in the OASIS or PANORAMA application are converted to SHP format through special programs;
- With the help of special classifiers, digital maps are divided into thematic layers;
- The regions that need to be updated are photographed in Aero and space style, and photo frames are made according to the specified technology using these pictures. The scale of the photo frames to be prepared may vary according to the need.



Electronic digital maps can be used to solve thematic issues of enterprises and organizations of various sectors of the national economy. Including: when registering lands;

- when drawing up digital maps of buildings and structures;

- when drawing up a soil map; users of farm (massive) lands and drawing up a cadastral map; when conducting land monitoring; when placing crops on land plots by type;

- in the indication of the location and boundaries of farms, as well as the location of infrastructures serving them; when planning work on the transfer of channels, reservoirs, Power Networks, gas pipelines;

- it can be used in the justification of public-scale projects.

- when conducting land monitoring;

- when placing crops in land areas by type;

- location and boundaries of farms, as well as their services
In the indication of the location of the infrastructures;

Conclusion Conducting land accounting in the array and the procedure for issuing Cadastral numbers through the use of modern methods gives a high and very large economic effect. On the day of buguing, the implementation of work without the use of zamanovy techniques and Tehnologies in the work of Land Management and land cadastre work is a requirement of buguing day.

The speed of land management works by doing land management work in an automated way gives a slightly higher effect.

The ArcGIS program is divided within itself into different modules according to its purpose:

a) data entry;

b) display of the information provided;

C) transfer of the coordinate system from one state to another or transfer of cartographic projections from one state to another;

g) organization and modeling of data;

D) data storage;

e) contact with users.

In ArcGIS, attribute standard database networks are usually used when entering, storing, processing, and extracting data. (standard database networks) Standard Database Networks-it consists of a complete program and language source, which is used to create, maintain and use a database. Geodetic network analysis in ArcGIS provides solutions to 3 interrelated problems:

1) displaying and storing topological and mainland information in a database

2) the ability to issue geographical grids on the screen in the form of a map, a diagram and the issuance of a request for each type of product.

3) approximation of the map structure based on the algorithm and modeling of graph theory

The following are important technological features of ArcGIS:

1. The level of information support;

2. Transfer of Information (This parameter occupies the main place in the construction of numerical maps, determines the qualitative assessment of information)

3. Accuracy (the concept of accuracy in a numerical map refers to the accuracy of dimensions when transferring maps to a numerical state..)

4. The level of Correction of the internal structure (the internal structure of the map of the finished number must be properly organized. For example, at GAT, the nucleus of a cartographic system is formed by numerical, vector maps. Here, the actions to be performed on a multi-layer map should be the same as the initial sign of the object)

The main feature of the ArcGIS program is its popularity, that is, it is a system: Reading (viewing) graphic images and processing them; working with the database; performing search work in the database, redaction work; building cartographic characters; drawing up diagrams; being able to carry out work on preparing and publishing the maps for publication.

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