

USE OF GEOGRAPHIC INFORMATION SYSTEM

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Annotation. This article discusses the advantages and requirements for the rational and economical use of land and water resources, environmental safety and market reforms in accordance with the conditions, the use of accurate and scientifically based information.

Keywords. Land, water resources, geographic information system, taximeter, land monitoring, database.

The rational and economical use of land and water resources requires the implementation of environmental security and market reforms in accordance with the conditions, the implementation of the resulting tasks on the basis of accurate and scientifically based data. Today, as in all areas of environmental security, there is an opportunity to effectively use the achievements of information technology. The effective use of computer programs used to process, store, and transmit data sets, the application of world-class models, and their complete, accurate, and high-level organization are pressing issues.

1. The Geographic Information System (GIS) is a rapidly growing fast data acquisition system that combines knowledge from several disciplines. This technology can serve as a scientific basis for the management of natural resources, the study of the demographic situation, health, emergencies and other similar regional issues and the solution of spatial problems. The use of GIS is a complex process that involves obtaining, processing, analyzing, and describing data with the help of computer programs and experts. This requires a lot of time and effort to analyze the spatial data that are the primary source of GIS, to collect the attributes (specific character, feature) that belong to them, and to create the GIS database layers. Spatial data representation and analysis involves operations, measurements, and data queries of one or more of the GIS database layers. Based on this system, it is possible to create various linked graphs by analyzing geographical events and phenomena.

Geographic information systems are showing their effectiveness in the development of plans for the territorial organization of agricultural sectors, which, in turn, greatly helps to identify in a timely manner the solution of problems that are important for management organizations.

2. Cartography and GIS are areas of knowledge that have become more closely intertwined in recent years. Today, cartographers are engaged in GIS and creating cartographic models.

The stages of work in the design and creation of environmental safety cards in GIS can be described as follows: collection of initial data, data entry into computer memory and storage on "external" means, data processing, selection and creation of symbols, creation of a bank of symbols, their system and thematic maps creating layers and placing them, editing on structured maps.

3. GIS is a hardware-software automated complex that collects, processes, transmits, and stores spatial data that changes regionally and over time, and provides analysis and mapping of interregional relationships or differences between multiple components.

Effective use of GIS technology programs, which are rapidly entering our country, allows to collect information on the territorial organization and management of agriculture, their rapid processing, effective analysis. However, there are many unresolved technological and organizational problems with the application of the GIS program in agriculture, and the principles of creating a

database on various sectors of the economy have not been developed. There are also no cartographic bases required for GIS technology; GIS is also almost never used in solving many pressing issues, such as the organization of land monitoring, protection of lands from degradation, monitoring of environmental processes.

4. The factors that we perform in GIS carry out a single process, which is of particular importance for each region. It is a spatial model that is generated according to the requirements of the event and event for a particular project. The processes that are managed in GIS are therefore also unique to the project. Consequently, a geographic information system is understood as a process that is executed on the basis of computer support, collected, analyzed and describes spatial data as well as their attributes. The original meaning of this concept is the analysis of spatial data, which is the technical ability of GIS. The analysis is this—it is based on a geographic location with GIS distribution in cartography and database management with the help of computer. GIS is a set of functions that are very important because it opens up new ways to manipulate and visualize geographic data, and also dramatically increases the efficiency of spatial data analysis, which is traditionally conducted.

With the rapid growth of development, GIS combines knowledge of geography, geodesy, cartography, computer systems, mathematics, statistics and many other disciplines. The number of users of microcomputers has also increased as a result of the recent increase in the capacity of microcomputers and the availability of GIS software.

Such information has the following characteristics: geographical location, legal address, territorial integrity, completeness, continuity, appearance, accuracy, etc.

1. Geographical (spatial) location - geodetic, geographical and other coordinates of objects;
2. Ways of land management, duration, etc. ;
3. Natural, economic and legal information;
4. Continuity - a database should be created and constantly updated;
5. In terms of accuracy - to ensure the real state of compliance with the current situation;
6. Demonstration is complete, clear, simple;
7. On the basis of information on the ecological situation, thematic maps are created, which are constantly updated based on cartographic laws.
8. Collection of information on environmental safety in a hierarchical (tribal division) model.

When creating a database, the necessary resources are entered into computer memory. If the sources are at different scales, the scaling work is performed at the photogrammetric transformation stage of the GIS system. Reading and analyzing aerial photographs and space images can also be done in a photogrammetric process. At this time, attention is focused on indicators developed for the natural conditions of the land on which the farm is located, such as relief, water, soil composition.

The management of environmental information and its delivery to relevant organizations and individuals also play an important role. At this time, the process of management work in the GIS is generated. To organize this technology, it is necessary to select GIS programs, develop requirements for computers and monitors.

Conclusion: The rational and economical use of land and water resources in the country, the use of thematic and comprehensive maps in the preparation of environmental safety cards and environmental safety management, planning is one of the most convenient tools in this regard. It would be expedient to use a modern geographic information system (GIS) to create them.

List of used literature

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