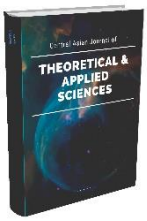

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Ways to Improve the Application of Cartographic Research Method in the Development and Equipment of Land Resources Cards (Based on GIS Technology)

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Abstract: *In this article, ways to improve the use of cartographic research methods in the development of maps of land resources in agriculture and their equipment are determined by electronic mapping using the modern "ArcGIS" program.*

Keywords: *ArsGIS, Survey, Cartographic, Map, Development, Equipment, ArcInfo, MapInfo, Phonarama, AutoCAD.*

Introduction.

One of the most important tasks of today is to modernize the country's economy, to re-equip it technically and technologically, to find ways to effectively use the scientific and technical potential and the opportunities of the regions, which are the basis for the development of all its sectors.

The main issue of economic and social geography and thematic cartography is aimed at finding solutions to these actual problems. For this purpose, it is necessary to pay great attention to the management and effective use of land resources, which play a leading role in the formation of the country's national economy[1,3,5,7].

There are many ways and methods of management and effective use of land resources, and the role of thematic cartography in their implementation is also great. It should be noted here that in the years of independence, general maps and atlases of many socio-economic areas, including land resources, were created. Cards of different content and scale are becoming increasingly important in showing the essence of ongoing processes, development and forecasting, as well as visually reflecting the modernization of society and further liberalization of economic processes[1,2,4,6,8].

Methods.

The analysis of scientific literature on the subject shows that a number of studies have been carried out in the Commonwealth countries, including our republic, on the geographical research of the scientific and

practical issues of territorial organization of agriculture. Theoretical and methodological issues of territorial organization of land resources, especially agricultural land use, are covered in several scientific areas of geography. In the studies conducted on regional organization of agriculture (O.Abdullaev, Z.M.Akramov, K.I.Ivanov, V.G.Kryuchkov, K.I.Lapkin, A.M. Nosonov, A.N. Rakitnikov, A.N. Riziev, A.Gofurov) economic geographical foundations were created. In the concept of rural areas (A.I.Alekseev, E.A.Ahmedov, S.A.Kovalev, O.B.Otamirzaev, V.A.Pulyarkin, A.Soliev, A.A.Qayumov) the study of the aspects of the territorial organization of the use of land resources related to population, density, location and employment is the main attention was drawn[1,9,10,11].

Results.

The series of Land Resources Cards being created is designed as a complementary, educational reference card, which will provide farmers with an opportunity to have detailed information about the resources of our republic, and therefore, at the same time, the public They can have in-depth knowledge and information about the most important areas of the industry. It is a very good guide for all farmers, water users and those engaged in hydrological work in our republic, as well as for courses taught in lyceums, colleges and universities, for example, in geography, economics and other important fields of agriculture, used as[1,12,13].

The main purpose of the card is to show the agriculture of our republic and the land and water resources, which are considered to be its largest branch, its main branches are farmers, water users, the water used in them and other farms with general and detailed information by region. providing relevant information for each interested user[14,15].

The composition of the cards should be based on a special program. The composition of the cards includes the presence of additional cutting cards and tables, diagrams, profiles reflecting small quantitative changes. Also, the quality of the cards is brought to a higher level by placing auxiliary photos and color photos. It is necessary to know its characteristics in order to make maps of land resources and to use them fully. Therefore, an analytical way is used in the creation and use of the card. Each element of the card should be studied separately, the function, importance and interrelationship between these elements should be known. Cartographic image is the basis of maps of land resources, it provides enough information about natural and hydrographic events and phenomena, describes their distribution and condition. These data form the basis of land resources maps. The content of the map consists of several geographical elements. For example, the content of the Earth resources map consists of the following elements: land and water objects, underground and surface water, lakes, reservoirs, populated areas, communication routes and borders. In economic diagrams, it is necessary to distinguish between the published statistical data characteristic of the hydrographic development of this region and the country. unpublished data can be included in the card with the permission of the statistics department or other relevant bodies. Cards should be colored, easy to read and transparent[1,16,17,18,19,20,21].

Discussion

Currently, GIS-technologies are rapidly developing, as a result of which new views, groupings, interpretations, measurement methods, etc. are emerging. GIS has no equal in terms of its scope of use - it is widely used in navigation, transport, construction, geology, geography and military affairs, thematic cartography and other fields. Rapid development of GIS, in our opinion, is driving further development of aerospace sensing, telecommunication networks, earth sciences and related socio-economic sciences. In all GIS, data collection, processing, storage, updating, analysis, and data processing are carried out by means of a computer or special software technical tools that adequately process image features[22,23,24].

Among other methods, the cartographic research method has an incomparable place in the management and planning of land resources. The method of cartographic research is a method of knowing the phenomena described on the map using cards. It means to study the composition, interrelationship, dynamics and evolution of the events depicted on the cards in time and space, to analyze their development, to obtain information about them with various quantitative and qualitative indicators. The use of the cartographic method of research in science and practice is diverse. The cartographic method serves as a decision-making tool in the understanding of existence, practical work, planning, land development, population studies, nature protection and solving various other issues in every field of science[25,26,27,28].

The use of cards is closely related to their composition. This is clearly visible in the diagram "making a map - using it". When making maps, the environment is taken as a source of data, the data of the results of mapping observations is selected and turned into a map, and a model of the entity is created. Cartographic modeling is a complex scientific work on data processing, which is related to approximation, analysis and synthesis[29,30].

Such work depends on the purpose of the map and to whom it is intended, the level of knowledge of the researcher, the object's research, the scientific methodology of mapping, the logical correctness of the classification, the level of generalization, etc depends.

In the process of using the cards as a research method, the information is reprocessed and depends on the purpose of the work, the researcher's level, experience and several other indicators[1,2,3]. It should be said that the processes of the ongoing research have certain errors. Therefore, the obtained information and conclusions must be verified with real existence, and if necessary, changes will be made to them[31,32,33].

There are two interrelated methods in the "Create and use cards" system:

1. The method of mapping or cartographic representation means the transition from the target real entity to the map (creating a model of events and phenomena).
2. The cartographic method of research - knowing the existence using a ready-made map.

The methods named above are closely related to each other. The ability to use cards determines the order in which other cards are drawn[1,34,35,36].

Today, many GISs are used in scientific research and practical activities, among which personal GISs are widespread. Among them, we can mention GeoDraw GeoGraph (Institute of Geography, Russia), AtlasGis (USA), ArcInfo, MapInfo (USA), Phonarama, AutoCAD and other programs[1,2,37,38,39,40].

Creating maps using GIS is widely used nowadays. GIS technology in map making is distinguished by its convenience compared to the options of maps published on traditional paper. In this case, the necessary information is first collected when creating a map with the help of GIS. Cards published in the form of paper are also used as initial, primary materials. In this case, these data are brought into digital format[1,41,42].

Conculsion.

Development of the project of land resources maps, correct placement and development of its components is carried out based on the unique natural, economic and social conditions of each region. Taking into account these factors, assessing their current situation and creating future perspectives of economic development on this basis is one of the important tasks of the transition period to today's market relations. Proportionately organizing production based on natural geographical conditions, land and water It is of great scientific and practical importance to increase the productivity of the existing irrigated land in the

conditions of the region with limited resources, to achieve its intensification by improving the natural melioration of the soil, and in this regard, the use of new techniques and technologies, advanced scientific achievements.

The results of this article show that its object, the Earth's resources, is a unique complex according to the design and development characteristics of the cards. The analysis of the economic and social development of the post-independence years shows the importance of scientific justification and implementation of a series of activities aimed at improving the living standards of the population by territorially correct organization and quality improvement of its structure in its future development. With their help, the distribution of events and phenomena in space and time is visually represented, and it is possible to determine the location and specific characteristics of Earth and water resources.

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