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Formation of a Personal Database of Data in the Creation of Soil Science Cards in GIS Programs

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Annotation: *The subject of this article is the organization and implementation of control over the efficient use of soils, land resources, which are one of the main components of the economy of our country, which are the basis of agriculture, the regular increase of productivity. lib, GISs and their selection, ways of collecting, storing and processing cartographic data on a computer, representation of soil-themed maps in GIS and development of maps based on them. This paper focuses on the use of geoinformation systems and technologies in soil science - the development of fast modern information technologies and their role in research. Spatially distributed data, the most popular GIS - software overview defines the principles of products, data collection and input procedures, their pre-processing in soil science and subsequent storage and use in land use. Internet and mobile systems, as well as the use of remote sensing data in GIS. The use of GIS technology in sustainable land management will be considered in depth.*

Keywords: *GIS, collection, storage, processing, internet, remote sensing, ArcCatalog, attribute.*

Introduction.

Today, the work with information technology and electronic digital data is developing rapidly around the world. However, in recent years, as a result of anthropogenic influences, changes in soil properties have been increasing. Therefore, we need to organize the proper use of land resources, maintain their fertility, and constantly analyze the quality of our soils so that future generations can use the invaluable resources of our motherland.

We know from the long history of mankind that agriculture has always played an important role in the economic development of any society or country. That is why our esteemed President Mirziyoyev Shavkat Miromonovich from the first years of his presidency began to pay great attention to agricultural reforms. [1-5]

As an example, I think it is appropriate to mention a few sentences from a number of centuries of our esteemed president.

We must first deepen our efforts to reform and liberalize the economy, and accelerate the work that has already begun to restructure its sectors and industries. [3-6]

The issues of modernization of industries and regions, increasing their competitiveness, development of export potential should be in the center of our attention. To do this, we need to more actively attract

foreign investment and advanced technologies, as well as information and communication systems in all areas. On this basis, we must more than double the country's GDP by 2030. [7-10]

Agricultural reform, reform and food security will undoubtedly be one of our most important tasks. First of all, great attention will be paid to the consistent development of the agro-industrial complex and its locomotive, that is, the diversified farms that are the driving force. [3]

Literature review

The main objectives of GAT technologies created for the Canadian government are to analyze the large amount of data collected by the Canada Land Inventory and to use large areas of land for various purposes, mainly in agriculture. consists of an analysis of statistical data on soil cover that can be used in the development of design plans. To achieve these goals, the organization of land in agriculture, for recreational purposes, involving land users and landowners, reflecting the complex structure of land use - ecological and also forestry it is required to compile a classification of the use of available data on the degree of suitability in terms of performance [11-15].

At present, the GAT is used in cartography, remote sensing, statistical, cadastral and meteorological data processing, field research, drilling results and underwater sensing, as well as in global, regional and local research. It is noted that it is used in.

In addition to the above data, studies on land use efficiency have been conducted in the United States, developed European countries and the Russian Federation from developed and major countries in the world, which in turn assess the effectiveness of soils using modern GAT technologies and remote sensing methods. and requires the development of science-based methods of enhancement. Such studies were conducted by foreign scholars such as Csillag, Ben-Dor, Banin, Dwivedi, Metternicht, Zinck, Shao, Farifteh, Singh, Nield, Peng, Dehaan, Taylor, Eldiery, Huang, H.Henkel, Spies, Woodgate, and others. [16-20] The main methodological problems of soil cartography are related to the impossibility of direct inventory of soil areas. The laws of spatial organization of soil are determined by the factors available to observe the differentiation factors of soil cover: relief, climate, soil-forming rocks, living organisms, economic activity, maximum condition [goats, Sorokin, 2012]. At present, digital mapping of soils based on parameters calculated on multi-spectral images and digital models of elevations is not methodologically sufficiently developed, which necessitates the development of new approaches to soil mapping [21-25].

Main part

One of the main features of GAT technology is that when creating themed maps in ArcGIS applications, you must first create a region-specific personal database in the ArcCatalog application.

To create a personal database, you must first create a file folder on this topic. [26-30]

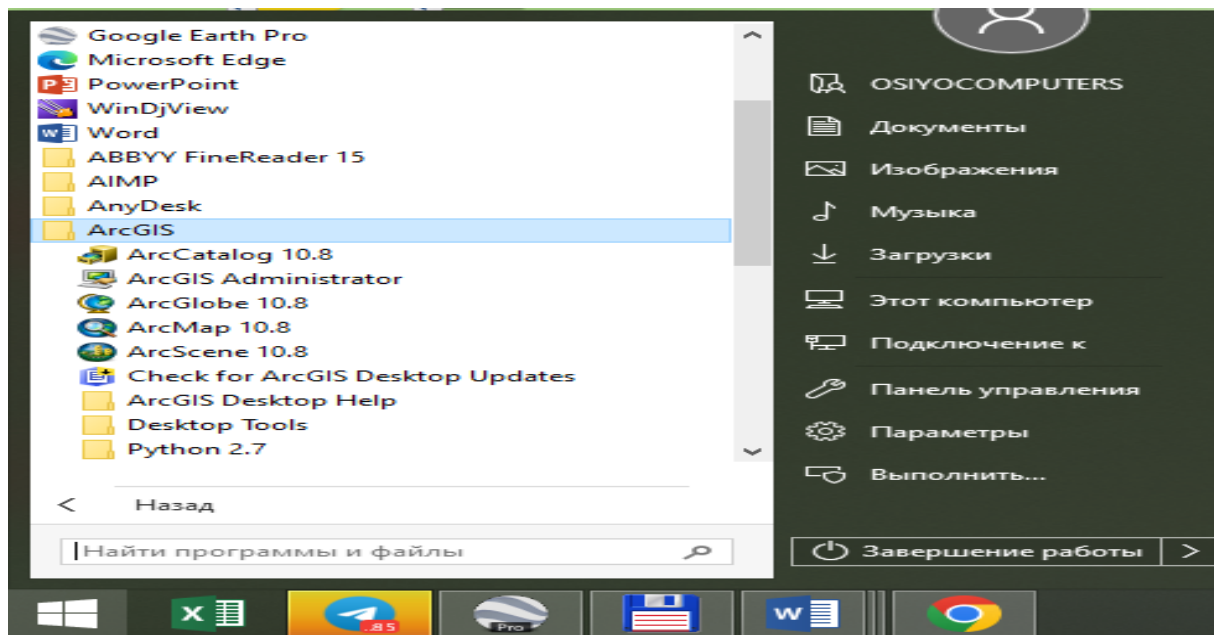


Figure 1. ArcGIS application ArcCatalog application

To create a database, you must first create a file folder on this topic.

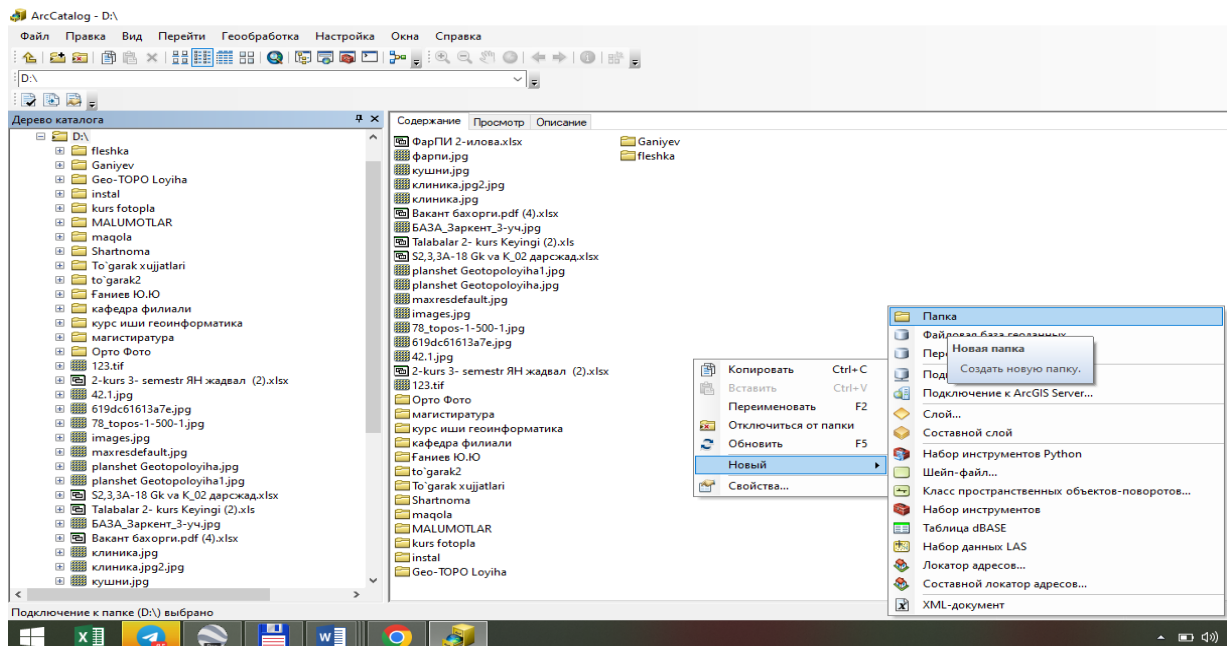


Figure 2. Create a themed file folder in the ArcCatalog application of the ArcGIS application.

After creating a separate folder for thematic maps, a database will be created in this folder and named according to the theme.[31-35]

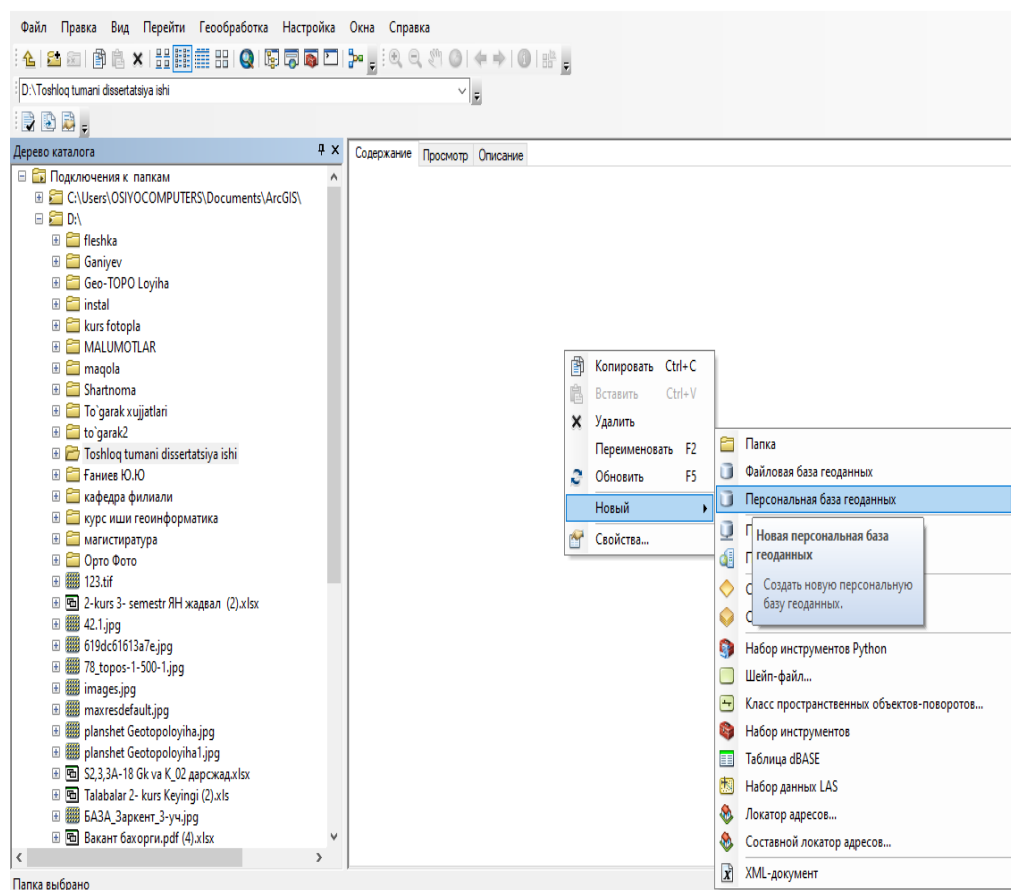


Figure 3. Creating a database in the ArcCatalog application.

After that, the personal geodetic base consists of three types of non-dimensional, ie point, one-dimensional linear, two-dimensional area layers (layers).

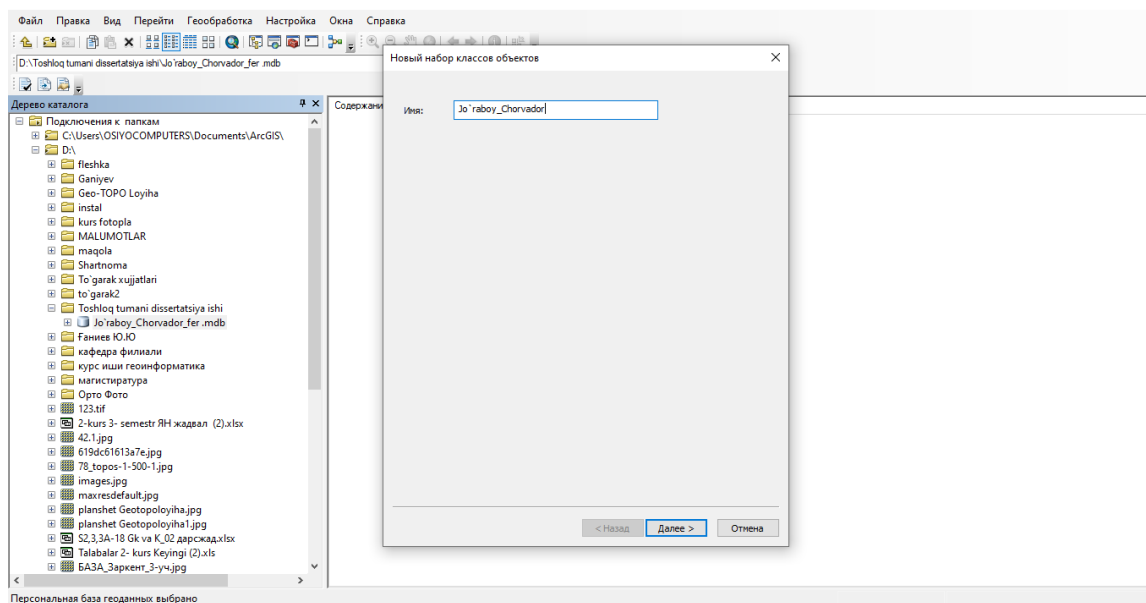


Figure 4. ArcGIS is the name of the layer class in the ArcCatalog application.

In the process shown in the picture above, in the process of creating a class of layers, we choose coordinate systems so that the geographical details of the place are clear, then we can measure the elements of the place (such as ditches, ditches, canals, roads, shelter trees) on maps. we need to select one-dimensional, two-dimensional, three-dimensional layers, and then form attribute tables to enter and analyze the data.[36-40]

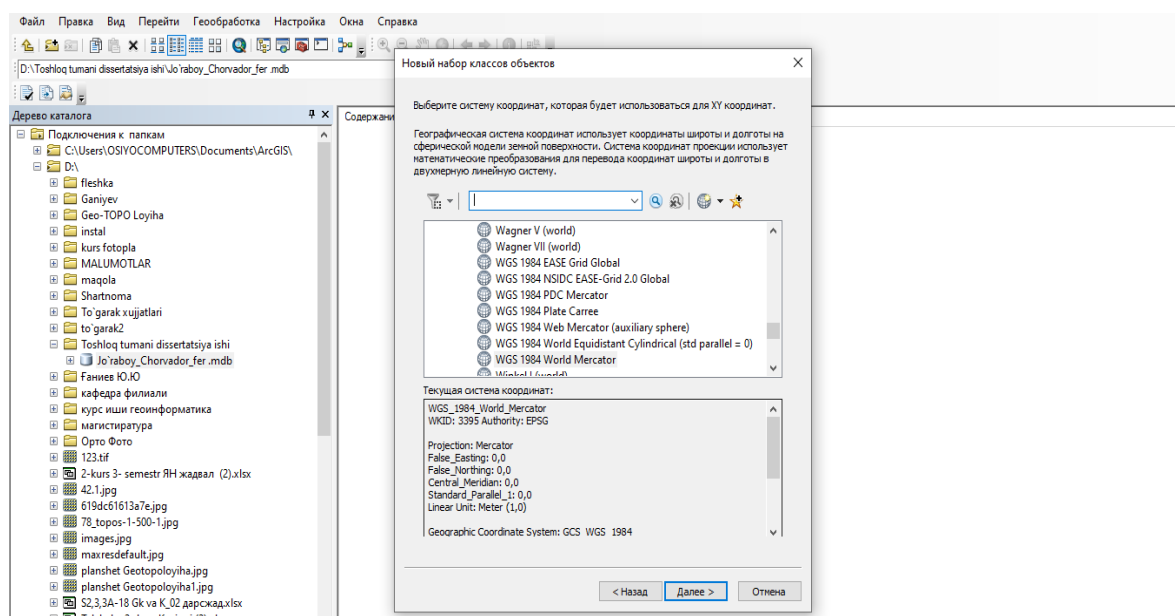


Figure 5. Selection of coordinate systems

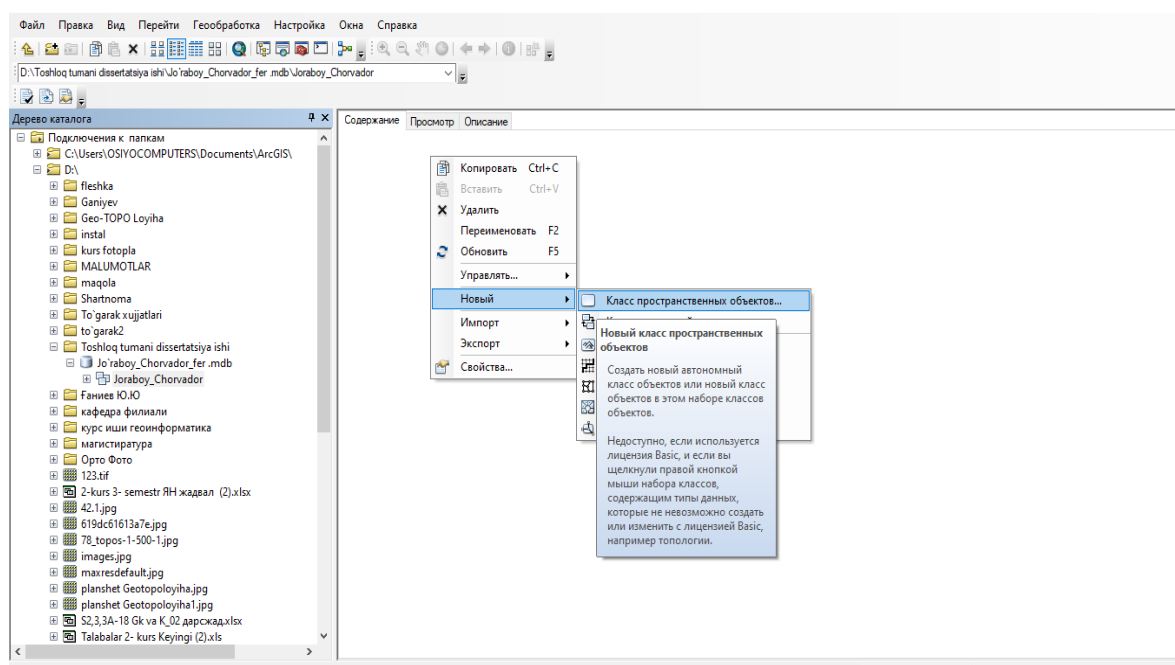


Figure 6. Select a layer of objects.

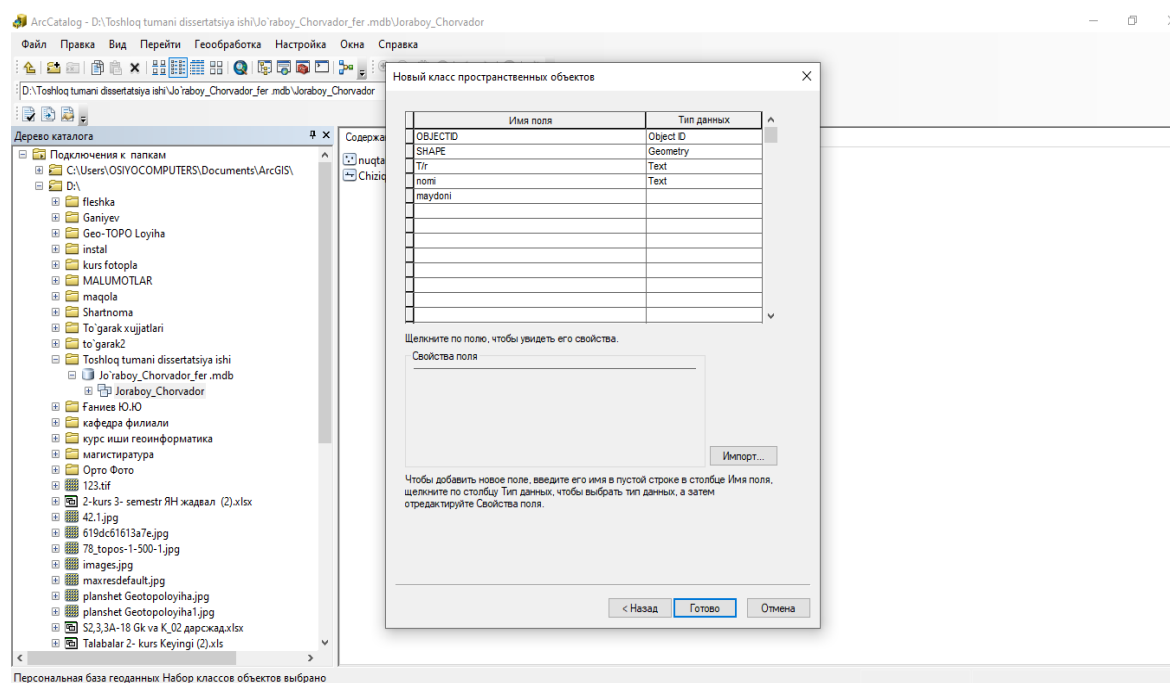


Figure 7. Forming object attribute tables

After creating a personal database of thematic soil maps in the order described above, it is necessary to link the application ArcMAP with the application ArcCatalog to enter the actual data and convert them into vector data. [41-43]

Conclusions

1. The groundwater depth of the lands of the cotton-grain and fishery farm "Fergana Yorqin Istiqboli" of Yangiabad massif in the first and second sections was 1.65 and 1.55 m, respectively. More than 530 hectares of the area are moderately saline, which requires the repair of drainage systems, land reclamation, and the use of local fertilizers.
2. A relatively high yield can be obtained from agricultural crops currently planted on irrigated meadow soils, and this work is being done in practice, but it is advisable to expand research to achieve even higher efficiency.
3. The work carried out will allow to solve the above-mentioned problems, the proper use of land, the development of farm production.

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