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AUTOMATION THE LAND REGISTRATION SYSTEMS IN ARCGIS SOFTWARE

ABSTRACT

In this article, how to create databases in ArcGIS software belonging to GET family, to work with thematic layers, to fill out attribute databases, to integrate data from field research into database, and to modulate automated land registration systems are described. This article is based on theoretical review. In this article provides discussion about using GIS technologies in water management. Provides review about history of the creation of GIS and its advantages and disadvantages. Discussed future of using GIS in different sphere. GIS gives possibilities to collect the data, renewing it or use new information in analysis. It requires quick change of GIS information about Earth because procedures in the Earth are dynamically changeable. Periodically changing information in GIS gives us possibility to get new information and analyze it. GIS technologies and techniques started using widely in all sphere of humanity. It is important to know its properties. This article presents the results of solving engineering problems on topographic maps, changing methods for determining the absolute height of unknown points in a project, and improving these methods. discusses about taking spatial photos from the geographical zoning of SAS Planet software, comparing geospatial files, geospatial linking of the obtained space photos in ArcGIS, identifying connection errors of geospatial photos and comparing with the data obtained from satellites and making the table of errors in geographic areas.

KEYWORDS: scale, ArcGIS, cartography, cadastre, geodesy, electronic, digital, card, state cadastre, ArcCatalog, ArcMap, applications, attributes, automation, land registry, separate state cadastres, applications, layers, databases, integration.

INTRODUCTION

In accordance with the Decree PQ-2045 "Establishment of National Geographic Information System" which was made by the president in September 25 .2013 a number of reforms have been implemented in the country. In particular, 1:10,000 digital maps of agricultural land were developed and maintained by the Davergeodezcadast Committee in ArcGIS. Besides, there is a procedure for creation and maintenance of 21 state cadastres in the territory of the Republic of Uzbekistan, approved by the Law of the Republic of Uzbekistan "On State Cadastres" and the Resolution of the Cabinet of Ministers # 66 of February 16, 2005. In accordance with the Regulation "Davergeodezcadast" the National Center of State Cadastres, Geodesy and Cartography is assigned to the State Unitary Enterprise. In the process of developing and maintaining the state cadastres, the digital card of 1:10 000 scale serves as a

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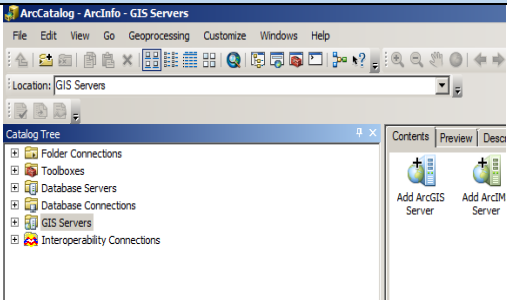
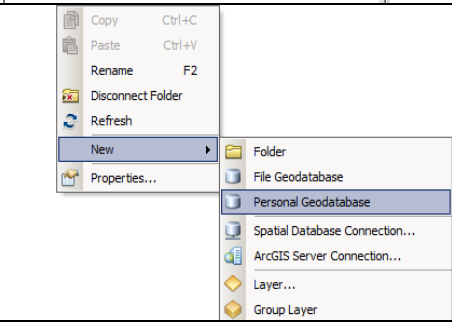
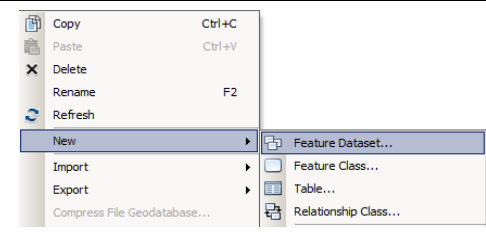
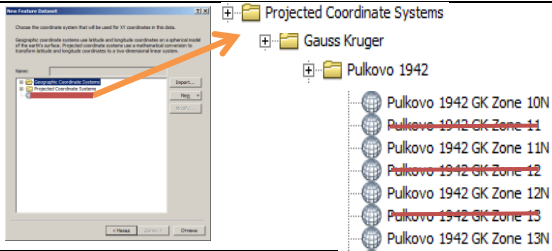
cartographic basis for maintaining the state cadastres. According to the legislation, the Davergeodezcadastre is responsible for maintaining and shaping the following state cadastres:

- - State Land Cadastre,
- - State Cadastre of Buildings and Structures,
- - State Cadastre of Geodesy and Cartography,
- - State Geographical Data Bank of Territories.
- The importance of land cadastre is very important. Maintenance of the state land cadastre is assigned to the State Scientific Design Institute "Uzdaverproject" under the Committee of "Davergeodezkadastri". Regional branches and subdivisions of the State Research Design Institute "Uzdavyerloyiha" are currently creating a database of land users and crops in ArcGIS for all land users.

MATERIALS AND METHODS

Database formation is performed as described in Table 1 below.

Table 1

№	Photo comment	Sequence
1		<p>ArcGis, which is owned by ESRI, uses Arc Catalog of this program to create geographic databases. When the ArcCatalog maintenance window opens, the Directory tree selects the required disk.</p>
2		<p>Right-click on the toolbar to create a popup window. In the auxiliary item, select the new Geodatabase (Personal Database) and name it.</p>
3		<p>The created personal data database will be accessed and the right-click mouse button will select the Feature Dataset. The resulting New Feature Dataset window will be named and the next coordinate system will be entered using the button.</p>
4		<p>The sequence of the coordinate systems is as follows. The zone belongs to the selected area and the fins button finishes the back of the Feature Dataset window after double-clicking on the key.</p>

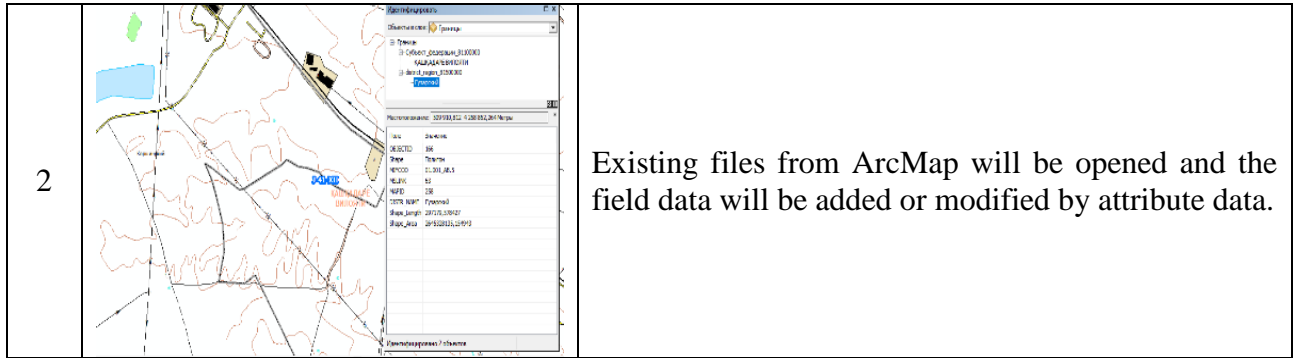
5		The resulting Feature Dataset will be accessed, and then right-click the Feature Class row.																				
6		When the new New Feature Class application is inserted in the Name field, the layer type will be selected based on the type of layer. For example, the Polygon Features for the layered layer, the Line Features for the linear layer, the Point Features for the layer and the Annotation Features for the layer are selected.																				
7	<table border="1" data-bbox="263 795 845 1243"> <thead> <tr> <th>Field Name</th> <th>Data Type</th> </tr> </thead> <tbody> <tr> <td>OBJECTID</td> <td>Object ID</td> </tr> <tr> <td>SHAPE</td> <td>Geometry</td> </tr> <tr> <td>ROOM</td> <td>Text</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	Field Name	Data Type	OBJECTID	Object ID	SHAPE	Geometry	ROOM	Text													When you click the Next button, you will see a table showing the layers that you want to create. If you type words in the Field Name column, the Data type column will indicate what the words are in. For example: if the answer to a question in the form of a question is in the form of a word Type in the Data type column Text, a numeric question Double, if a date is asked . The number (50) shown in the Length row in the Field Properties command at the bottom of the window (i) is the number of rooms (for example, 4-room, unlimited number of rooms) to answer the question words in the Field Name column and Finish button is pressed. This is the process of creating each layer.
Field Name	Data Type																					
OBJECTID	Object ID																					
SHAPE	Geometry																					
ROOM	Text																					

As a result of changes in land users and crops, a digital card must be updated periodically. The process of updating and identifying changes to a digital card is based on the results of fieldwork and is included in the database. This requires that the database be updated regularly based on the terms of the annual agricultural contract.

Formation and updating of electronic digital cards is as follows
This is done in the manner described in Table 2.

Table 2

№	Photo comment	Sequence
1		Press the Start button to select ArcMap from the ArcGIS menu



Attributes are numeric and symbolic descriptions in the database. The information stored in attributes can be general, contextual, and specific types. For example, the GIS path map information can be described as an attribute.

This table is one of the key formulas for describing attribute data in GIS. (Figure 1)

Номи	Майдони	Пахта	Галла	Бошқалар	SHAPE Length	SHAPE Area
Элёржон	136,953837	61,629227	68,478918	6,847692	13276,416554	1369538,367192
Элибек ИМ	50,54447	22,745012	25,272235	2,527224	3675,512149	505444,703257
Элита	220,434525	99,195536	110,217262	11,021726	7554,156759	2204345,24857
Элиод Нуробод	85,211778	38,3453	42,605889	4,260589	4304,133985	852117,776319
Энтер	33,739195	15,182638	16,869598	1,68696	3150,452524	337391,953962
Энтер	50,668003	22,800601	25,334002	2,5334	3692,291117	506680,032564
Эргаш	92,700185	41,715083	46,350092	4,635009	6430,560927	927001,845101
Эргаш ота	44,919241	20,213659	22,459621	2,245962	3197,085381	449192,414091
Эргаш ота	96,745908	43,535658	48,372954	4,837295	5390,470728	967459,076399
Эрк Шер Шароф	79,459793	35,756907	39,729897	3,97299	4021,559186	794597,931926
Эркин само	55,199467	24,83976	27,599733	2,759973	3398,355322	551994,668805
Эркин чорва даласи	93,213343	41,946004	46,606671	4,660667	4592,486134	932133,425973
Эски Бог Собир	54,542854	24,544284	27,271427	2,727143	3279,062958	545428,541362
Эсонбой ота	51,919238	23,363657	25,959619	2,595962	3191,609316	519192,382
Эхсон	160,331935	72,149371	80,165967	8,016597	7860,839366	1603319,34993
Эхсон Савоб	78,596161	35,368272	39,29808	3,929808	4646,898303	785961,608931
Эшбек Полвон	48,096553	21,643449	24,048276	2,404828	3099,53991	480965,527892
Эшбек Полвон	42,481328	19,116598	21,240664	2,124066	3041,41412	424813,283785
Эшназар ота	71,801671	32,310752	35,900836	3,590084	3875,6881	718016,710611
Эшназаров Ш	52,794345	23,757455	26,397173	2,639717	3544,90477	527943,451393
Эшназаров Шомурод	60,997201	27,44874	30,4986	3,04986	3976,74218	609972,008208
Эъзоа	129,09991	58,094959	64,549955	6,454995	6089,821932	1290999,097905
Юлчираев Ихтиёр	23,916132	10,762259	11,958066	1,195807	2791,639445	239161,32067

Figure 1. The layout of the Attributes Database is displayed in a generic layer

Attributes that represent object symbols and those that match the subject matter of the data are stored in a table view. When each object is placed in rows, its attribute information is placed in columns.

All GIS programs have the ability to create, edit, and manage attribute data. Smaller applications that control the databases in these programs also provide this option. While some programs are important for database management, some programs have put much emphasis on data analysis.

RESULTS

Currently a database of manufacturing organizations is being formed. The process is mechanically updated each season. In addition, entering data into the database in the context of the land contour does not provide visualization of information in the attributes of the land users. It requires inputting information into both thematic layers for visualization of the outline and information of the land users (Figure 2).

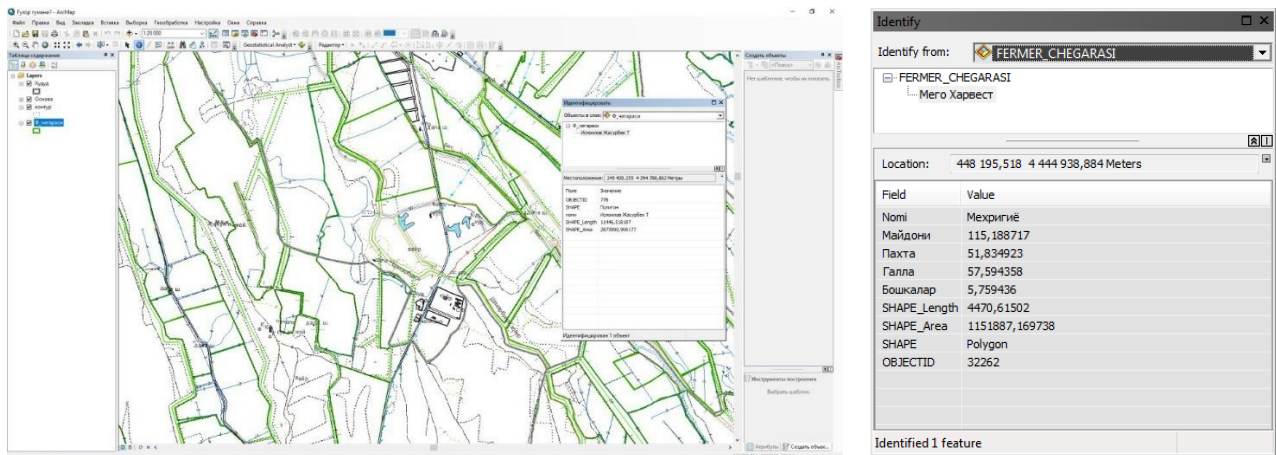


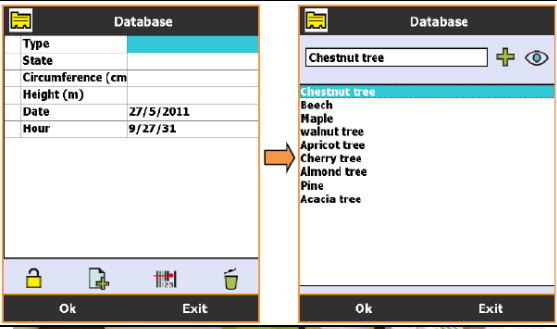

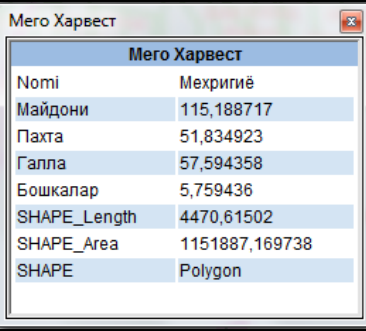
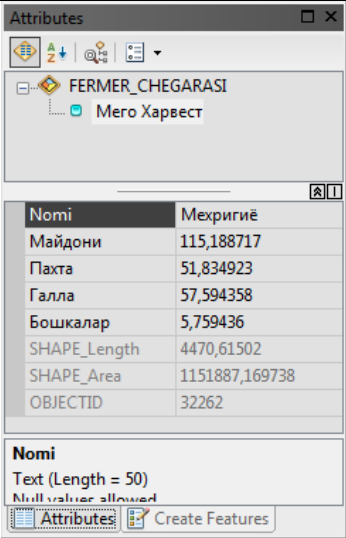
Figure 1. ArcMap working window

High efficiency can be achieved through automation and modulation of this process. This requires field research using GPS, and coding in ArcGIS. The GPS data includes the following information:

- The name of the land user,
- Legal name,
- Cadastral number,
- Address,
- Outline numbers,
- Types of crops,
- Total land area,
- irrigated area,
- Price,
- Legal document,
- Rental agreement,
- Date of state registration.

Field and camaraderie surveys using GPS and ArcGIS software are as follows:

№	Steps	Remarks
1	With the help of GPS, ground contours are investigated in the field view	

2	All information received in the location is entered in the device attribute table	
3	Project information will be sent to processing centers. The centers will retrieve the information and enter it into the database.	
4	Each location is linked to the outline	
5	The outlines of the earth are linked to the land users	

ArcGIS allows you to integrate themed layers and data into an automated system of land records by using the "Class autosync ..." command. Ensuring that the GPS data comes directly from the database helps to automate the automated system (Figure 3).

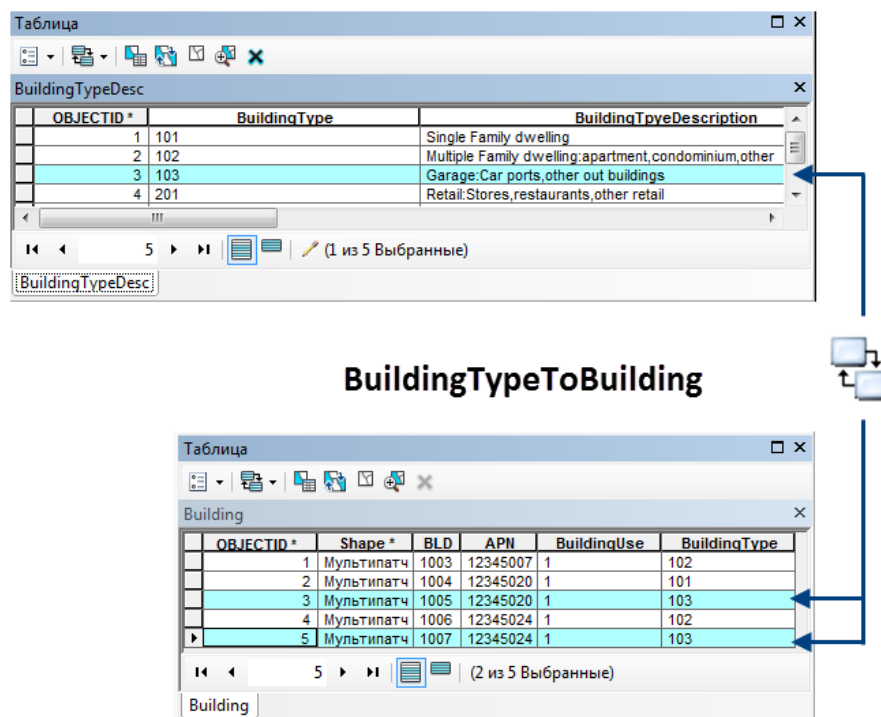


Figure 2. Binding layers attributes

CONCLUSION

By modulating an automated land registration system, we will achieve the following benefits:

- Increasing the use of modern techniques and technologies;
- High accuracy results;
- Short-term exchange of information;
- Increase of efficiency of work;
- Electronic data interchange;
- Database systematization.

The use of geoscience software for land records, integration of software with modern field research equipment, nationalization of program interfaces and creation of additional modular features to automated systems prevent land surveillance and land rights violations in the country.

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