

CREATING AN ELECTRONIC DIGITAL MAP OF LAND TYPES AND
LAND USERS

Sattorov Shakhzod Yarashovich – *teacher*

Asatov Jasurbek Sayitkulovich - *student*

Jo‘raqulov Fazliddin Faxriddinovich *student*

*The Bukhara Institute of Natural Resources Management of the National
Research University "Tashkent Institute of Irrigation and Agricultural
Mechanization Engineers"*

Abstract *In the article today From creating an electronic digital card in the section of land types and land users technical aspects of use, advantages and disadvantages are shown.*

Keywords: *GAT , ArcGIS , fields , geodetic tools , computer technologies , digital tools , electronics tachometers , modern innovative technologies, digital technologies .*

Geographic information system (hereinafter referred to as GAT) is an internally positioned spatial information system designed for data management, cartographic representation and analysis.

This definition is somewhat incomplete because the human being is not shown as an important element of the information system, although the human being plays an important role as an expert, observer, and analyst in all information systems. Therefore, direct human participation plays an important role in GAT, and we have reason to say that the following definition is complete.

The main tasks of the geographic information system are the collection, storage, management, analysis, modeling and representation of spatial-geographical data, a generalized computerized system under the control of expert analysts (Fig. 1).





Figure 1. Overview of GAT

Spatial-geographical information in the above definition includes all information about land, including coordinates, land boundaries, information about their location, legal and economic information of the place and other many important spatial data must be understood.

The above four systems are essential systems of GAT that are indispensable and must be implemented. All processes are carried out within this system, and the human factor certainly plays a very important role in this.

of GAT important 6 component there is . They are human being activity , programming supply , information , analytical processes and of course technologies . Technologies when we say different kind of geodetic tools , computer technologies and digital tools , including electron tachometers , GPS , laptop in the series computers mean we hold

Programs are different in GAT and they perform different tasks depending on their purpose and system, and different programs can be used within the 4 systems mentioned above.

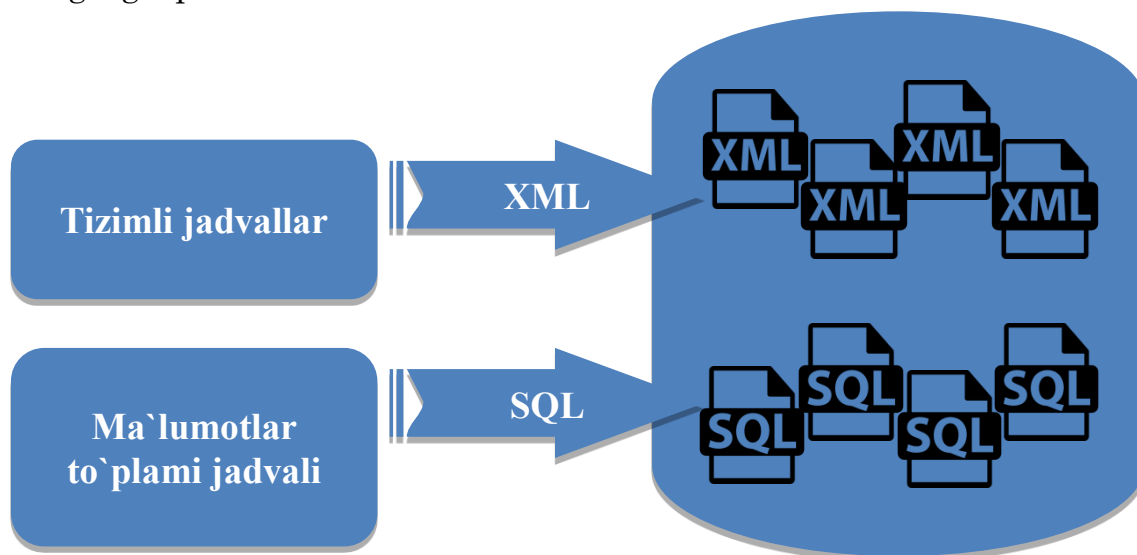
GAT in the fields of land surveying, geodesy, and cartography provides a number of reliefs. In this case, the volume of work increases sharply, and the time spent on such things as data processing and printing, in turn, decreases sharply.

Uzbek scientists S.Avezboev and O.Avezboev defined the concept of geoma database as follows in their work. Data storage in geodatabase is based on

relational models . The center (core) of a geodatabase is a standard relational database schema (set of standard database tables, frame types, indexes and other database, objects). The schema is in the form of a set of geodatabase tables that determine the integrity and location of geographic data (Database Management System - Systematic Geodatabase Tables in MBBT). These are stored as tables or files on disk or in MBBT, such as Oracle, IBM, DBR, Postgre SQL, IBM Informix, or Microsoft SQL Server.

A geodatabase consists of two main sets of tables: structural tables and dataset tables (Figure 2).

Geodata can be in different forms. Unlike other data (photos and Word documents), geodata is usually not a single file, but a collection of files. The Catalog application in ArcGIS is designed to organize and manage various types of geographic information.



2 . Tabular data in a geodatabase

A geodatabase can be created in two formats, the first is a file (*gdb - File Geodatabase) and the second is a personal (mdb* - Personal geodatabase) geodatabase. Using the created geodatabase, the steps for creating electronic digital maps using the ArcMap application of the ArcGIS program were developed, and they are presented in the following order:

- The ArcMap application is selected from the ArcGIS menu using the "Pusk" button
- From the ArcMap application, click the "Dobavit danye" button and select the thematic layers created in the ArcCatalog application and click the "Dobavit" button
- From the editor panel, the line "New editing" is selected, and the working panels become active



- Field research results are imported into the program and geodetic-cartographic support is checked
- Layers are assigned conditional labels and thematic layers are summarized by land users and land types
- According to the results of the field research, the information is included in the attributive database

The main database of electronic digital cards is enumerated attributive tables. Attribute tables contain all the information related to thematic layers and are defined as follows. Attributes are numerical and symbolic descriptions contained in the database. The data stored in the attributes can belong to general, structural and marked types. For example, in the GAT, the information about the road depicted on the map can be described in the form of attributes as follows.

One of the main formulas for describing attribute data in the database of GAT is a tabular view. (Figure 3)

OBJECTID *	SHAPE *	Фермер хужалиги номи	Кадастр раками *	Ихтисослиги	Умумий ер майдони	Экин ер жами	Су
7186	Полигон	Низмат бобо-Шухрат	13:12:02:01:01:0011	Ғалпачилик	142	139	<NU
7142	Полигон	Низомжон Райимкул угли	13:12:02:01:01:0012	Ғалпачилик	68	64,3	<NU
7189	Полигон	Нур-Убайдулло	13:12:02:01:01:0014	Ғалпачилик	154	153	<NU
9451	Полигон	Отажонов Алишер	13:12:02:01:01:0015	Ғалпачилик	60	60	<NU
9452	Полигон	Райимберди бобо	13:12:02:01:01:0016	Ғалпачилик	82,4	82,2	<NU
9453	Полигон	Роҳилябону Абдувоҳид кизи	13:12:02:01:01:0017	Ғалпачилик	282,4	282,3	<NU
9454	Полигон	Сардор	13:12:02:01:01:0018	Ғалпачилик	86,8	81,8	<NU
9455	Полигон	Улмас Турсун	13:12:02:01:01:0019	Ғалпачилик	83,4	83,2	<NU
9456	Полигон	Хамракулов Кайнар	13:12:02:01:01:0020	Ғалпачилик	98	98	<NU
9430	Полигон	Ҳожиёв Гайрат	13:12:02:01:01:0021	Ғалпачилик	260	242	<NU
9431	Полигон	Ҳолмирзаев Баҳром	13:12:02:01:01:0022	Ғалпачилик	61,6	60,6	<NU
9432	Полигон	Шодмонкулов Эргаш	13:12:02:01:01:0023	Ғалпачилик	160,3	159,3	<NU

Figure 3. An overview of the attribute data table

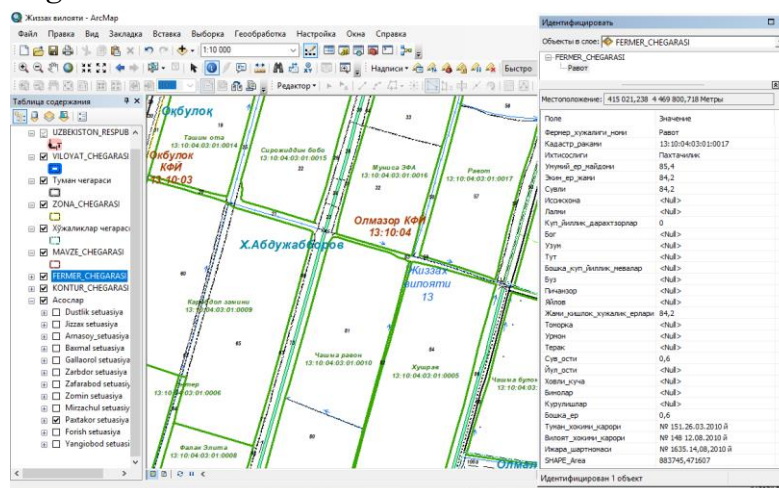


Figure 4. The working window of the ArcMap application



of the object and correspond to the thematic representation of the data are stored in a table view. While each object is placed in rows, their attribute information is placed in columns (Figure 4).

Currently, a database is being formed by production organizations. Renewing this process every season is done mechanically. In addition, entering information on the land contour section into the database does not provide visualization of information in the attributes of land users. Land contour and land user information visualization requires input to both thematic layers

LIST OF REFERENCES:

[16] Спутник Технологиялари Асосида Автомобил Транспорт Воситалари Харакатини Бошқариш Ва Назорат Қилиш ШЯ Сатторов, ЖС Асатов, ФФ Жўракулов - o'zbekistonda fanlararo innovatsiyalar va ..., 2023

[17] Global Iqlim O'zgarishi O'zbekistonning Barqaror Rivojlanishiga Salbiy Ta'siri. SS Yarashovich, AJ Sayitkulovich, AI Hasan o'g'li... - O'zbekistonda fanlararo innovatsiyalar va ..., 2023

[18] Sattorov Sh Y, Ahmadov S O, Akhtamov S A 2021 Mechanisms of rice growing and rice development in Uzbekistan *online-conferences* 5 183

[19] Sattorov S Y 2020 Use of aerocosmic methods and gis programs in construction of space data models of pastural land *Current scientific research in the modern world*

[20] Abduloev A M 2020 The use of advanced technologies in geodetic and geoinformatics *Journal agro processing*

[21] Sattorov S. Y., Muhammadov Q., Bobojonov S. QURILISH JARAYONIDA ELEKTRON TAXEOMETRLARLARNI O 'RNI //Euro-Asia Conferences. – 2021. – Т. 5. – №. 1. – С. 235-237.

[22] Сатторов Ш.Я, Муҳаммадов Қ., Бобожонов С. ҚУРИЛИШ ЖАРАЁНИДА ЭЛЕКТРОН ТАХЕОМЕТРЛАРЛАРНИ О ЁРНИ //Эуро-Асиа Сонференсес. – 2021. – Т. 5. – №. 1. – С. 235-237.

[23] Сатторов Ш. Я. и др. USE OF AEROCOSMIC METHODS AND GIS PROGRAMS IN CONSTRUCTION OF SPACE DATA MODELS OF PASTURAL LAND //Актуальные научные исследования в современном мире. – 2020. – №. 5-4. – С. 16-22.

[24] Сатторов Ш. Я. ЯЙЛОВ ЕРЛАРИНИНГ ДЕГРАДАЦИЯ ОМИЛЛАРИ //ЖУРНАЛ АГРО ПРОЦЕССИНГ. – 2020. – №. SPECIAL ISSUE.



[25] Абдуллоев, А. М. (2020). ГЕОДЕЗИК ВА ГЕОИНФОРМАТИК ИШЛАРНИ БАЖАРИШДА ИЛФОР ТЕХНОЛОГИЯЛАРДАН ФОЙДАЛАНИШ. *ЖУРНАЛ АГРО ПРОЦЕССИНГ*, (SPECIAL ISSUE).

[26] Muzaffarovich, Abdulloev Ashraf. "USE OF ADVANCED TECHNOLOGIES IN GEODESIC AND GEOFORMATIC WORK." *Агропроцессинг SPECIAL* (2020).

[27] Ашраф, Мудасир, Яс Худхейр Салал и С.М. Абдуллаев. «Интеллектуальный анализ образовательных данных с использованием базового (индивидуального) и ансамблевого подходов к обучению для прогнозирования успеваемости учащихся». *Наука о данных*. Спрингер, Сингапур, 2021. 15–24.

[28] [Geoportal visualization of state cadastre objects:\(a case study from Uzbekistan\)](#) A Inamov, S Sattorov, A Dadabayev, A Narziyev - IOP Conference Series: Earth and Environmental , 2022

[29] [Conventional and current approaches of urban mapping and geodetic base formulation for establishing demographic processes database: Tashkent, Uzbekistan](#) S Abdurakhmonov, M Khamidova, Y Romanyuk - E3S Web of Conferences, 2024

