

RESOURCES AND USES FOR FARM MAPPING

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**Annotation:** *Cartographic data is mainly used to create thematic maps. Plans made as a result of geodetic surveys taken in the field and thematic maps of various purposes and scales form the basis of cartographic information. They include land use drawings and plans of forest lands, and serve for the creation of maps depending on the scope of the scale.*

**Key words:** *Agriculture, thematic maps, digital maps, land use maps, remote sensing, field data, measurement results; hydrometeorological observation, numerical models.*

The sources of agricultural maps include: astronomical-geodetic data; general geographic and thematic cards; geodetic and cartographic maintenance of cadastral works, remote sensing materials; field data and measurement results; results of hydrometeorological observation; environmental and other monitoring materials; economic and statistical data; digital models; laboratory analysis results; textual sources; theoretical and empirical laws

Topographic maps form the geographical basis of mapping any area. It describes the hydrography of the place, soils, topography, settlements, transport routes and other objects

Since 1960, agricultural cards have been created in Uzbekistan as thematic cards by sectors. Among them, in 1961, the "Uzgiprozem" cartography factory created the "Agricultural Map of Uzbekistan" on a scale of 1:1,000,000. In 1963-1965, this organization created maps of agriculture, cotton, cattle breeding, pastures of our republic.

"Album of the agricultural complex of Uzbekistan" created in 1984 is a cartographic work that fully covers the agricultural and agro-industrial complex of our republic and provides information.

The main cartographic sources mentioned above (topographic, thematic and agricultural maps) have not lost their relevance until now. They are the basis for creating different themed cards as well as agricultural cards. In addition, these maps

serve as a comparative resource for the analysis of agricultural sectors, resources, agro-climatic conditions, and conducting evaluation studies.

Electronic maps in Uzbekistan - since 2008, electronic digital maps of agriculture on a scale of 1:10,000 in the section of irrigated land areas of the Republic of Uzbekistan have been created in the ArcGIS software. Prior to this, in 2006-2007, these maps were created and updated by the Central Aerogeodesy and the state unitary enterprise "Geoinformkadastr" with the help of Panarama, Oazis software. These maps are the main source for the creation of electronic maps of agriculture to determine the territorial distribution of agricultural crops, the boundaries of farm lands, district and massif lands in the district.

Remote sensing data - the development of today's techniques and technologies has not bypassed this area. In our republic, mapping works using Earth remote sensing data have not been researched in a wide or complex scope. Some research work in this field can be seen in the research work conducted by several scientific or government organizations in their own directions. is used. Depending on the level of accuracy of the research, the types and characteristics of space photographs are taken into account. For example, spatial characteristics of space images, coverage area, color range, etc.

Depending on the scale, purpose, and content of the theme card, space pictures are additionally used. These space photos allow to get reliable information about the object and events depicted on the card being created.

Among the best-known examples of agricultural monitoring systems available today are the MODIS and MARS (Monitoring Agriculture with Remote Sensing) projects implemented by the European Commission's Joint Research Center for Agricultural Land Monitoring. The technical means (space satellites) and related software used by this center allow to determine the cultivated areas, the condition of plants and the productivity of agricultural crops. Using YeMZ, it determines the yield of crops and, as a result, predicts the supply of agricultural products to the markets. - allows development of measures and adjustment of tax policy.

According to the results of the research, agricultural mapping using YeMZ should ensure the creation of maps of four different administrative regions: region, district, individual farm, by individual crops.

The use of remote sensing methods in agriculture provides fast and accurate performance of:

- classification of agricultural crops;
- assessment of the state of crops (assessment of the development and ripening of crops);
- of erosion , swamping, salinization and desertification;
- determining the disease of agricultural crops;
- predicting crop productivity (quality and quantity);
- accounting and inventory of cultivated areas;



- pasture biomass monitoring;
- to carry out quality and timely monitoring of various agricultural activities.

The above-mentioned features of agricultural research through remote sensing methods, different means of obtaining space images from satellites and the level of their processing in different countries are remote sensing to ensure the sustainable development of agricultural areas. forms the appropriate tasks and methods of using their data.

Statistical information. Currently, one of the main sources for creating agricultural maps is statistical data. Such information is formed by the State Statistics Committee of the Republic of Uzbekistan based on the decision of the Cabinet of Ministers of the Republic of Uzbekistan No. 690 dated September 2, 2017. This committee prepares statistical data covering 26 types of fields related to the socio-economic development of our republic. Statistical information on agriculture is being formed as part of the fields. Statistical information on agriculture is systematized and formed in the sequence of district, region and republic. Agricultural data mainly cover 8 areas: basic indicators of agriculture; growth rates of agricultural production; composition of agricultural production; agricultural products by regions; growth rates of agricultural production in regions; volume of agricultural, forestry and fisheries products (services) in the region; pictures of the growth of agriculture, forestry and fishery products (services) in the cross-section of regions; About agricultural and livestock products produced by the Republic of Uzbekistan in all economic categories.

In addition, there are sites of statistical offices of each region, which contain 18 types of field and analytical data. In the area called "Agricultural indicators" statistical and analytical data on regional agriculture for the last 3 years are presented. In it, you can get acquainted with the information on rural, forest and fishing areas of the region and the administrative areas included in it (district, city, town). Another aspect of this site is that the "Press Releases" section also provides agricultural statistics.

In general, through the analysis of statistical data related to agriculture, the agricultural production potential of the republic, regions and districts, in particular, the branches and territorial composition of agriculture, the specialization of production potential, agriculture characteristics of the formation and development of regions are determined. On the basis of this information, electronic maps, interactive maps, and web maps are created, which serve to describe the network and territorial composition of agriculture and the interrelationship of agricultural objects.

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