UPDATING ELECTRONIC DIGITAL CARDS USING SATELLITE IMAGES

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Abstract In the article today From updating electronic digital cards using cosmographs technical aspects of use, advantages and disadvantages are shown.

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

Due to changes in land users and types of crops, it is necessary to gradually update the electronic digital card. The process of updating the electronic digital card and identifying changes is included in the database based on the results of field research. This ensures that the information in the database is regularly updated based on the terms of the contract concluded on the basis of the annual demand for agricultural crops.

Remotely controlled devices, geodetic surveys and space photography materials are used to update electronic digital maps on a scale of 1:10,000. Space photography materials are mainly used in the updating of electronic digital maps on a scale of 1:10,000. The role of the state geodetic coordinate system in the process of downloading and geospatial linking of space survey materials is incomparable.

In the Republic of Uzbekistan, the 1942 (SK-42) coordinate system, which covers the entire territory of our country, has been used as the state geodetic coordinate system. The SK-42 system was used to create a large volume of classified geodetic information and materials. When creating an open coordinate system, it is necessary to use primary data, different from the data of the SK-42 system. For example, from the data of the international geodetic system (WGS-84) in 1984. There is only one full-fledged international geocentric system of coordinates in the world - ITRS, as well as the WGS-84 international geodetic

system. These systems are recognized as standards by many international organizations and are used in cartographic resources such as Google Maps, Yandex Map, TomTom. On December 26, 2017 No. 1020 of the Cabinet of Ministers of the Republic of Uzbekistan for the application and open use of international geodetic systems of coordinates in the territory of the Republic of Uzbekistan the decision was made. This decision enables the use of geospatial data in the creation and maintenance of a national geographic information system, a unified system of state cadastres, and the production of cadastral cards and other cards open to state organizations and private users. This, in turn, allows to improve the quality of public services provided to land registration and state cadastres, as well as electronic services.

Due to the fact that the geographical location in the territory of our republic is scattered and linear in the maintenance and formation of state cadastres, their research and conducting field research is somewhat inconvenient. In addition, to create the cartographic basis of the state cadastres on a scale of 1:10,000, space photographs obtained from special software can be used as a basis for visualizing the geographical location of objects.

Examples of state cadastres are the cadastres in Table 1 below.

Table 1

N	Naming of state astres	Photo description	N	Naming of state astres	Photo description
1	State cadastre of aulic facilities (III - s below and above)		5	State land astre	
2	State cadastre of ays		6	State cadastre of lings and ctures	
3	State water cadastre		7	State forest astre	

4	State cadastre of ply pipelines			

In order to ensure the geographical location of the objects, it is necessary to connect the above-mentioned state cadastres to the state geodetic networks or satellite geodetic networks. 20% of the total work time is required, based on the total volume of work, to connect the geodetic coordinate values obtained for each object to the state geodetic networks. This process affects the efficiency of land cadastre management and updating and maintenance of topographic basis (electronic digital map). Therefore, using the products (space photos) of special software (SAS Planeta), it is considered appropriate to transform and create a database by downloading geospatial link files.

Using the SAS Planeta program, you can download a large part of the photo of any area of the earth in high quality, use about 10 satellite sources, work on thematic layers, import and export layers, monitor the formation of nomenclature, determine the coordinates of objects, coordinate can be widely used in searching for objects, measuring distance and determining azimuth angles (Fig. 1).

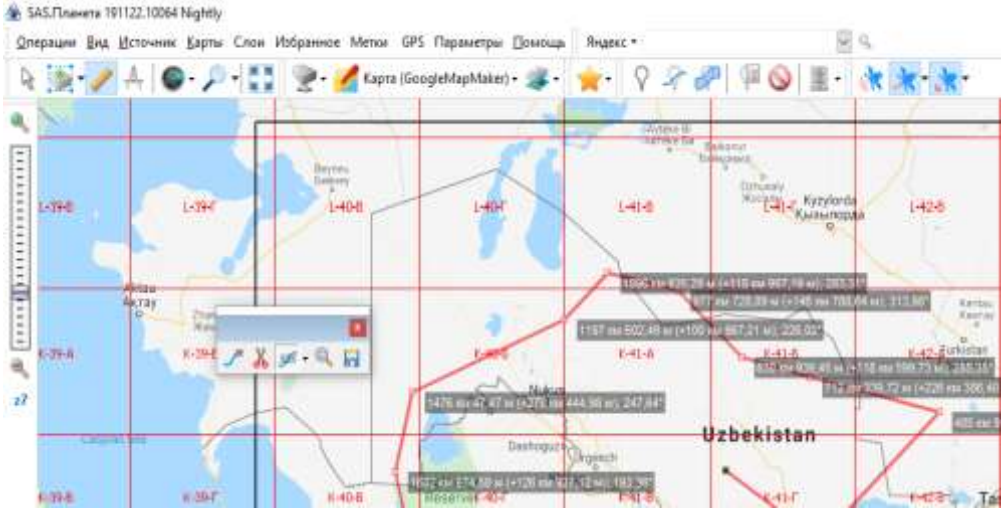

Figure 1. **SAS Planeta program interface**

A projection error is observed when loading spatial images obtained from the SAS Planeta program into a special program (ArcGIS) and spatial linking. The projection error has different values depending on the position of the cosmograph relative to the central meridian. The error decreases as you get closer to the central meridian. On the contrary, the error increases as it moves away from the central meridian. Central meridians pass through the center of meridian cores that pass

every 6 degrees relative to or parallel to the Greenwich axis. We can see this issue in the example of trapezoids, which serve as the basis for graphing topographic maps on a scale of 1:1,000,000 (Fig. 2).

Figure 2. **Graphing scheme of the Republic of Uzbekistan on a scale of 1:1,000,000**

Field research is required to eliminate projection errors in geospatial linking of space images obtained from the SAS Planeta program. When conducting field research, GNSS satellite receivers are installed in state geodetic networks in static mode. The GNSS satellite wave receiver collects data from 1 hour to 8 hours over each state geodetic point based on PDOP, HDOP, VDOP and TDOP error tolerances over the state geodetic network. work is required.

"*Jpeg", "*Png", "*Bmp", "*Ecw" space photos in the SAS Planeta program. Available for download in "*Kmz" and "*Tiff" formats. In the process of downloading cosmophotos, six lines in the item "Cozdavat file privyazki" are specified for downloading with geospatial link files. As a result, geospatial links are automatically created when the images are downloaded to special software.

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