

Existing Class I Height in the Area of Samarkand Current Status of Points

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ABSTRACT

In this article, detailed studies were carried out about the implementation of the uniform height system of the state leveling network of the Republic of Uzbekistan throughout the country and the current state of a total of 109 class I height network points in the territory of Samarkand region.

INTRODUCTION

We know that as each field develops, various changes and innovations begin to appear in it. Because all the developing fields are created to improve and ease the life of mankind, as well as to make our future life prosperous.

Especially in the field of geodesy and cartography, many reforms and practical works have been carried out in recent years. It is worth noting that only during 2022, a number of works were carried out by the Cadastre Agency and its system organizations in the field of remote sensing of the earth, geodesy and cartography. Including:

Regarding the improvement of regulatory documents - in the field of geodesy and cartography, a total of 15 normative legal documents were developed and 14 were adopted. Among them, 1 law of the Republic of Uzbekistan, 3 decisions of the Cabinet of Ministers of the Republic of Uzbekistan and 10 departmental documents were adopted;

In the field of geodesy - 5,084 triangulation points and 1,738 level markers were checked by the Republican Aerogeodesy Center of the Cadastre Agency and its regional units in order to study whether the points of the State Geodetic Network were preserved in place, and Fergana Valley, Syrdarya and Jizzakh regions, 47 geodetic points were established in places where the density of points was insufficient, and 982 km. 4th grade level work has been completed. 861 geodetic measurement works were performed in the Republic of Karakalpakstan, Jizzakh, Navoi, Namangan, Samarkand, Syrdarya and Tashkent regions.

In order to create a state height network, in 2022, 752.1 km long leveling works were carried out in

Kashkadarya, Navoi and Samarkand regions.

In the Republic of Karakalpakstan, Bukhara, Kashkadarya, Navoi, Samarkand and Surkhandarya regions, 8,953 aerial photographs were connected in plan and elevation;

In the field of cartography - during 2022, topographic maps were updated on a total area of 117,707 sq.km across the republic, including 26,101 sq.km in the Republic of Karakalpakstan, 9,770 sq.km in Bukhara Region, 19,837 sq.km in Jizzakh Region, Kashkadarya 5,100 sq. km in the region, 7,550 sq. km in the Navoi region, 15,650 sq. km in the Samarkand region, and 33,699 sq. km in the Surkhandarya region. A total of 63,900 sq.km across the republic orthophotoplanes were created in the field. Economic maps were created in the Republic of Uzbekistan, the Republic of Karakalpakstan and the regions on a total area of 448,900 sq. km. Interactive digital maps of the Republic of Karakalpakstan (166,590 sq.km), Andijan (4,240 sq.km), Kashkadarya (28,570 sq.km) and Fergana (6,760 sq.km) regions were created. Topographic maps of 5,460 sq.km of Andijan region, 32,280 sq.km of Kashkadarya region, 9,440 sq.km of Namangan region, 8,570 sq.km of Fergana region and 12,930 sq.km of Khorezm region were published. Topographical maps of 32,300 sq. km of Kashkadarya region and 12,930 sq. km of Khorezm region were completed. In addition, an educational atlas and maps without inscriptions were created for geography students of the 4th, 5th and 6th grades.

RESEARCH MATERIALS AND METHODOLOGY

Today, theoretical issues related to the construction of high-precision geodetic base networks, as well as the structure of high-precision geodetic instruments and theoretical and practical information related to their research are the work of all enterprises, organizations and institutions that perform topography, geodesy and cartography work. plays an important role in its activity. In particular, the theoretical issues of building level networks, their design and accuracy assessment, high-precision levels, their study, and the use of leveling methods are the mandatory tasks of every employee and specialist working in the field. Today, work is being done to create a high-class leveling network in the territory of Uzbekistan in order to develop and maintain state height networks in working condition.

The state leveling network of Uzbekistan is divided into leveling networks of classes I, II, III and IV. State leveling networks of classes I and II are the main height bases of Uzbekistan. These networks are mainly laid along highways or railways, and in their absence along river banks, trails and country roads.

It is created according to specially developed programs and schemes, which provide for leveling according to class I, their terms and sequence are determined by the Cadastre Agency.

RESEARCH RESULTS

There are a total of 109 first-class high-altitude network points in Samarkand region, 9 of which are fundamental rapiers. There are also 54 ground rappers, 16 wall stamps, 19 wall rappers, 2 rock rappers, 9 horizontal stamps. Today, they are all preserved.

In Samarkand region, 161 op.znak type centers with a depth of 2.5 m and a column height of 1.5 m have been installed for fundamental rappers. Satellite-ground rappers are installed at a distance of 50-150 m from the fundamental rappers.

160 op.znak type rappers are installed for Grunt rappers. In addition, there are different levels depending on the location.

Figure 1 shows the diagram of class I elevation networks passing through the territory of Samarkand region.

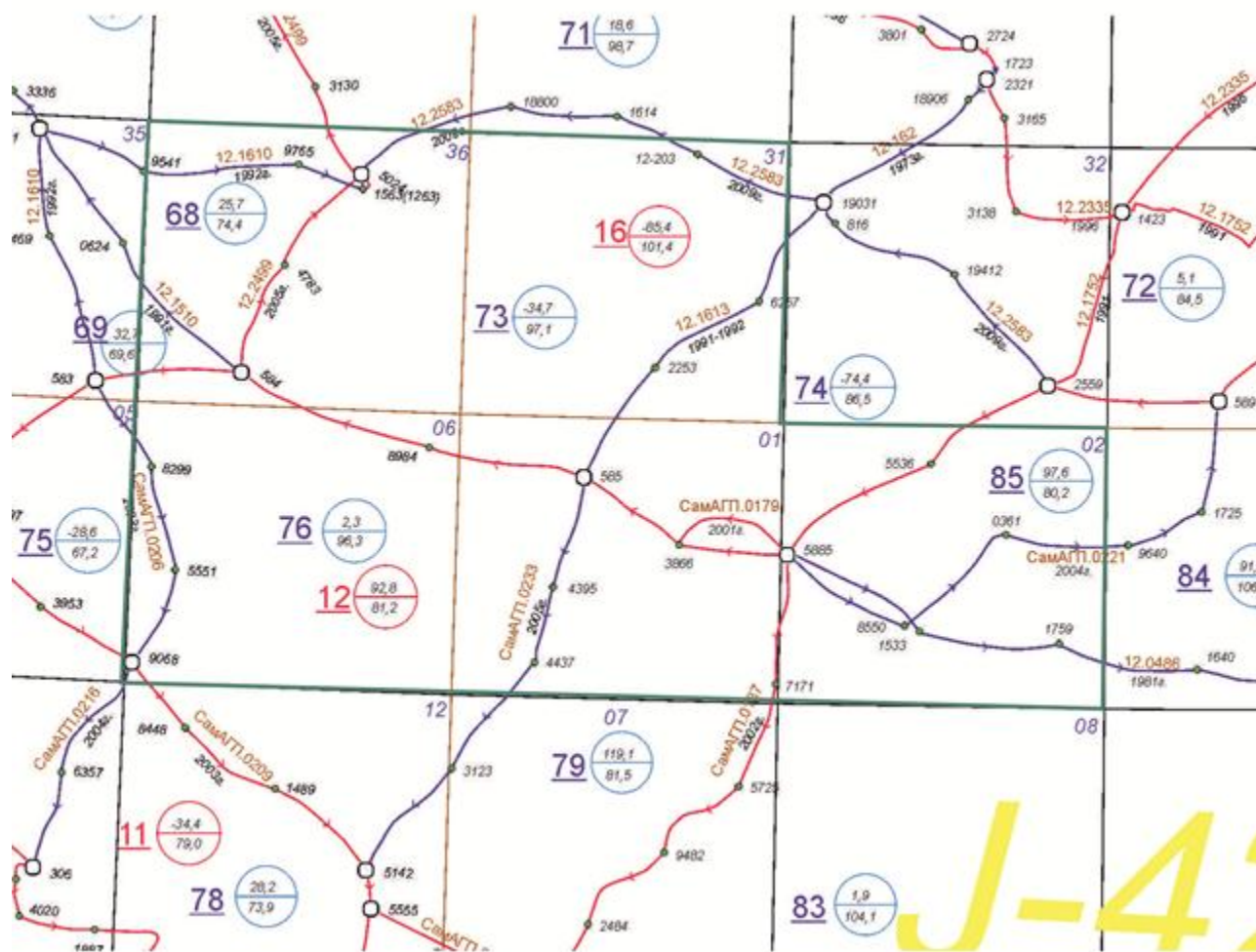


Figure 1. Here, class I line is red and class II line is black.

Many high-altitude networks of the first class pass through the territory of Samarkand region, they are as follows:

- Xovost-Navoi-Kogon-Chorjuy;
- Samarqand-Juma;
- Samarqand-G‘uzor;
- Xovost-Jizzakh-Navoi-Kogon-Qorako‘l;
- Kone-Bugut – Navoi.

The state leveling network for class I is used to solve the following scientific problems:

- to study the shape of the earth and its external gravity field;
- maintaining the height network at the level of modern requirements;
- study of modern vertical movements of the earth's surface;
- predicting the environmental impact of production, especially the extraction of oil, gas and other minerals;
- Seismic zoning of the territory of Uzbekistan, determining the signs of earth quakes.

CONCLUSION

To sum up, the essence of leveling and its types is to determine the height difference (relative height) between points on the earth's surface or in engineering structures as a result of geodetic measurement

work and to calculate the height of these points in the accepted systems.

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