GEODESIC MONITORING OF HIGH FLOOD RISK AREAS OF SAMARKAND CITY

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Abstract:

In this article, the areas of high natural risk and the geodetic works performed in them are monitored. Natural hazards can occur both independently and interdependently: one of them can lead to the other. It is almost impossible to get information about the risk of natural disasters in our country's agriculture. There is no information on disaster mapping, emergency response plans, vulnerability assessments, preparedness plans or GIS capabilities, making it difficult to identify specific gaps. Permanent statistics on damage caused by natural disasters cannot be compiled. Geodetic monitoring allows analysis of landslides, avalanches, rockfalls, and associated hazards. It provides information on the risk level of areas with high natural hazards and how to combat them. GPS, GNNS, drones, tachyometers, laser scanners, and geodetic software can be used in this monitoring. Conducting analysis and monitoring is one of the types of research that never goes out of date. They are only adapted to the requirements of the times. That is, the digitalization of this system will further increase the possibilities of their use. In this respect, the analysis of the reduction of the risk of natural disasters in the agriculture of our country sheds light on many issues.

Keywords: Natural disasters, monitoring, drones, tachyometers, landslides, floods, rockslides, GPS, GNNS.

Introduction

In recent years, a lot of attention has been paid to the construction of new transport communications and the reconstruction of existing ones in Uzbekistan. The construction of new roads in the mountainous regions, the increase in the traffic of motor vehicles from year to year causes the emergence of a dangerous geological process. Water and agricultural facilities, mining enterprises, and infrastructure of residential complexes operated in mountainous areas increase the impact of irrational loads in individual sections of urbanized mountainous areas and lead to the formation of new landslide areas. is coming Based on the developed analysis and report, it is planned to create a

database, carry out zoning and mapping according to the Global Positioning System (GPS) throughout our country. This will create the basis for Uzbekistan to join the ranks of countries with experience in identifying natural disasters in agriculture in the near future.

The main part. Natural disasters, as their name implies, are natural phenomena that occur naturally, without the influence of the human factor. Earthquakes, floods, floods, etc. Regardless of their size, they have an impact on people. The same is true of natural disasters in agriculture. Drought, desertification, global warming, etc. have a negative impact on the quality of land, thereby affecting food security. Drought is one of the most devastating natural disasters in terms of widespread crop loss, forest fires, and human damage caused by water shortages. Drought, compounded by land degradation and climate change, is 29 percent more common worldwide today than it was in 2000, affecting 55 million people each year. By 2050, drought may affect three-quarters of the world's population. First of all, a national platform for reducing the risk of natural disasters should be created in our country. Naturally, the speed and accuracy of the system can be ensured only if several organizations are attached to the process and their actions are coordinated. It is necessary to introduce a comprehensive, nationwide framework for adaptation to climate change, to integrate disaster risk reduction into agricultural development sector plans and socio-economic development strategies.

In the process, of course, improvement of institutional foundations is required. Currently, agricultural research institutes are conducting research in many directions. Their application in practice also gave results, and the agriculture of our country has become one of the modern industries that have been digitized in recent years. In this process, there is a high demand to increase the number of studies on natural disaster risk reduction. Identifying them in advance, taking timely measures against the danger will drastically reduce the losses that farmers and farmers may suffer from natural disasters.

For this, first of all, it is necessary to improve the system of early warning of natural disasters. This includes continuous assessment of these events, accurate monitoring, digitization of the system, etc. The time has come to adapt to the requirements of the times in the provision of agrometeorological services. A farmer or a farmer in any corner of our country should be able to directly use weather data, increase the periodicity of meteorological observations, including short- and long-term forecasting.

Flooding. A flood is a short-term strong flow of water mixed with muddy or muddy rock, flowing from mountain valleys, streams and ravines, with great destructive power. As a result of the rapid melting of snow and heavy rain, it occurs in the basins of small rivers and streams that begin in the mountains. mixed stone, gravel is washed away. To fight against floods, flood protection measures consisting of agroforestry and hydrotechnical measures are used. planib is causing inconvenience to the people's way of life.Using the SASPLANET program, we determine the points and coordinates of the following areas (table 1) where water accumulates as a result of the following floods:

Picture-1 Kurchatov road.

Picture-2. Gagarin street.

Table 1

**Kurchatov road and Gagarin street, Samarkand city**

No. Names of place where flood occurs	No. Names of place where flood occurs	Код	Х, (м)	У, (м)	Н, (м)
1 Kurchatov road	1 Kurchatov road	01	11508735	6371857	100

		01 11508696	6371927	100
		01 11508747	6371899	100
		01 11508783	6371864	100
2 Gagarin street	2 Gagarin street	02 11508100	6372044	200
		02 11508092	6372098	200
		02 11508126	6372077	200
		02 11508069	6372054	200

After we have determined the areas of water accumulation, an electronic map of these points will be created using the ArcCIS program of the geodetic software system. We perform operations in the following ArcCatalog (picture 3), ArcMap (picture 4) applications of the ArcCIS software system.
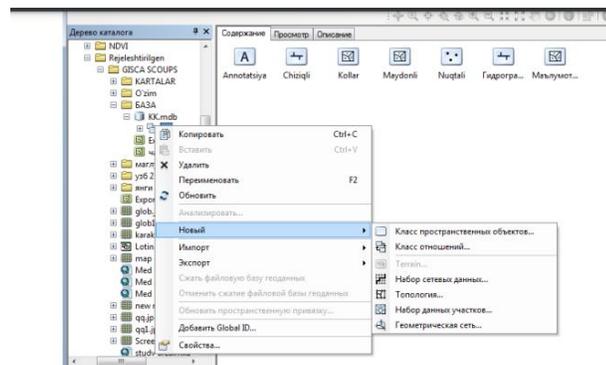
Picture-3. Gagarin street.
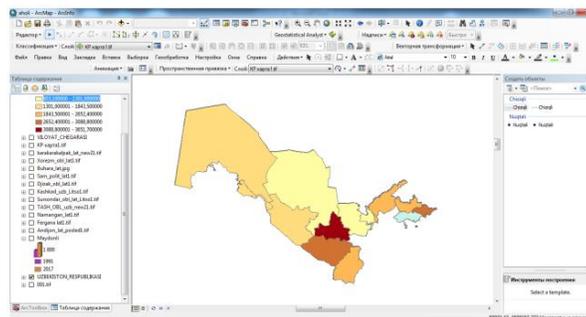
Picture-4. Gagarin street.

Summary. Monitoring using GPS receivers and tachyometer and laser scanner technology can reduce the time and volume of work by 50-60% compared to the traditional method, create a picture view of the place during the camera works, and use them to study the place in detail. , monitoring in areas where water accumulates provides an opportunity to monitor work with great accuracy.

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