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UZBEKISTAN COUNTRY REPORT

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The State Committee of the
Republic of Uzbekistan on Geology
and Mineral Resources

VISITING RESEARCHER, UZBEKISTAN

August 25 to November 20, 2015

GENERAL INFORMATION

Geography.

Uzbekistan - a country located in the central part of Central Asia.

Name of the State "**Republic of Uzbekistan**".

Uzbekistan has an area of 447,400 square kilometers. It is the 56th largest country in the world by area and the 42nd by population. Among the [CIS](#) countries, it is the 5th largest by area and the 3rd largest by population.

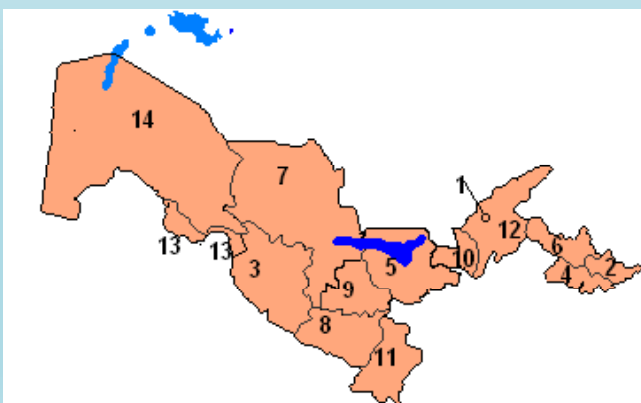
Bordering [Kazakhstan](#) and the [Aral Sea](#) to the north and northwest, [Turkmenistan](#) to the southwest, [Tajikistan](#) to the southeast, and [Kyrgyzstan](#) to the northeast, Uzbekistan is one of the largest [Central Asian](#) states and the only Central Asian state to border all the other four. Uzbekistan also shares a short border (less than 150 km) with [Afghanistan](#) to the south.



Landscape. The main part of Uzbekistan is occupied with plains (about four fifth of the total area). And one of the main ones is Turanian plain. To the East and to the North-East of the country are located mountain ranges of the Than-Shang and Pamir, with the highest top of the country 4,643 m. To the North of the Central part of Uzbekistan is located one the largest deserts in the world – Qyzylqum.

Administrative Divisions

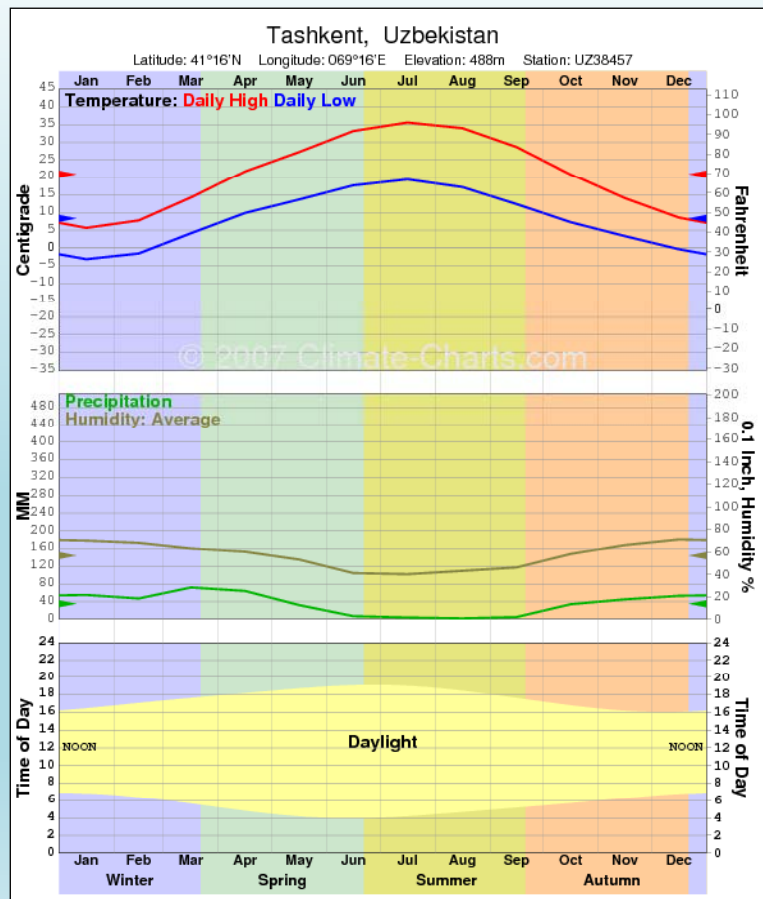
Uzbekistan is divided into 12 [provinces](#) (*viloyatlar*, singular [viloyat](#), compound noun *viloyati* e.g., Toshkent *viloyati*, Samarqand *viloyati*, etc.), one [autonomous republic](#) (*respublika*, compound noun *respublikasi* e.g. Qaraqalpaqstan Avtonom *Respublikasi*, Karakalpakstan *Autonomous Republic*, etc.), and one [independent city](#) ([shahar](#). compound noun *shahri*, e.g., Toshkent *shahri*).



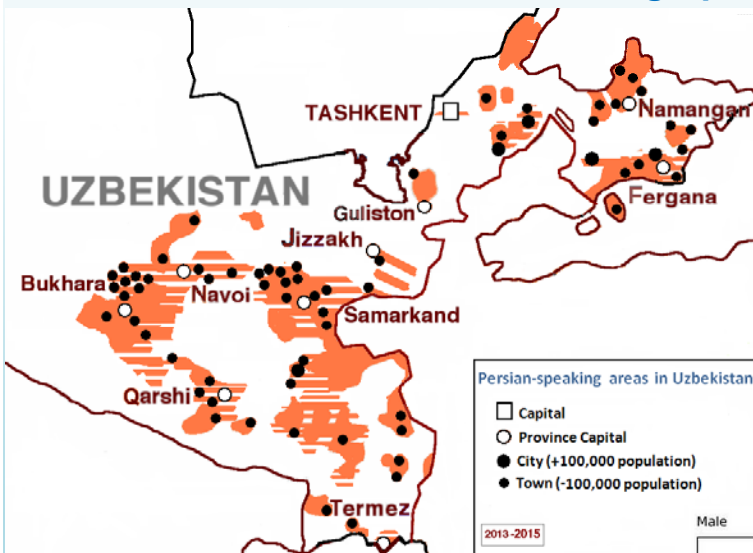
Division	Capital City	Area (km ²)	Population	Key
Andijan Region	Andijan	4,200	2,477,900	2
Bukhara Region	Bukhara	39,400	1,576,800	3
Fergana Region	Fergana	6,800	2,997,400	4
Jizzakh Region	Jizzakh	20,500	1,090,900	5
Karakalpakstan Republic	Nukus	160,000	1,612,300	14
Kashkadarya Region	Karshi	28,400	2,537,600	8
Khorezm Region	Urgench	6,300	1,517,600	13
Namangan Region	Namangan	7,900	2,196,200	6
Navoiy Region	Navoiy	110,800	834,100	7
Samarkand Region	Samarkand	16,400	3,032,000	9
Surkhandarya Region	Termez	20,800	2,012,600	11
Syrdarya Region	Gulistan	5,100	698,100	10
Tashkent City	Tashkent	335	2,352,900	1
Tashkent Region	Tashkent	15,300	2,537,500	12

Climate

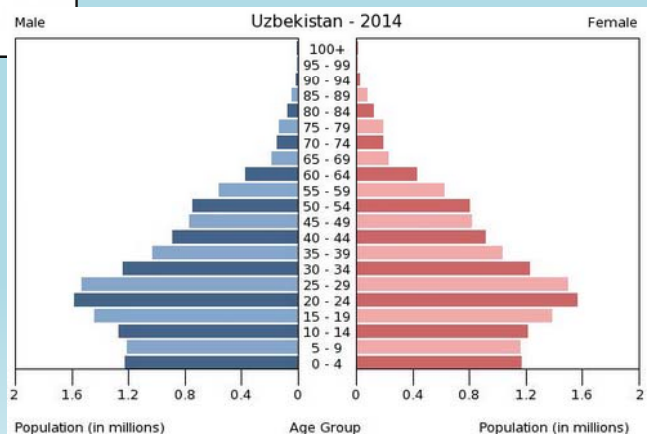
Climate is mainly desert-continental. Seasonal temperature difference is significant. Average winter temperature is lower than 6 degrees Centigrade below zero, while average temperature in July is higher than 35 degrees above zero. Number of precipitations is rather small. It's therefore, that the agriculture mainly depends on irrigation.



Demographics



Uzbekistan is Central Asia's most populous country. Its 31,025,500 citizens comprise nearly half the region's total population. The population of Uzbekistan is very young: 34.1% of its people are younger than 14. According to official sources, [Uzbeks](#) comprise a majority (80%) of the total population. Other ethnic groups include [Russians](#) 6%, [Tajiks](#) 5% (official estimate and disputed), [Kazakhs](#) 3%, [Karakalpaks](#) 2,5% and [Tatars](#) 1%.



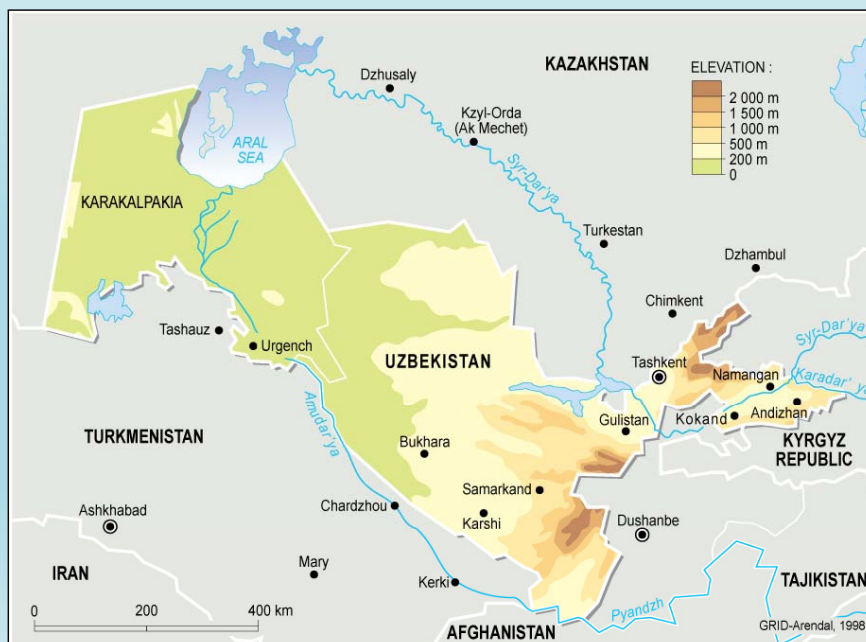
Nature

Nature of Uzbekistan consists of combination of sub-tropical features with moderate zones. Land, air, water and fire (sun) have been respected in Central Asia from the times of Zoroastrians calling people in ancient times to care for purity of rivers and abundance of soils.



Mountain system

Mountains and foothills comprise about one fifth of the country's area. In the East, mid and high mountain reliefs prevail: the boundaries of Uzbekistan embrace the slopes or ends of mountain ranges of the Western Than-Shang (Ugam, Pskem, Chotqol, Kurama) and Pamir-Oloy (Zarafshon, Turkiston, Gissar, Kugitangtau, Baysuntau). To the South and West, they gradually descend and change to plains. Among the mountains span quite large trough: Qashqadaryo, Surhondaryo, Zarafshon, Samarqand. The biggest intermountain trough is Farghona hollow (valley) – 370 km, and the width reaches 190 km. It's framed by the mountain ridges from three sides, and is open only from the West. On the border with Afghanistan is located vast Amudaryo basin.



Water Resources.

People that lived in the Asian region had always cherish the water. There is a saying in the Orient: «There is life in places with water». Since olden days settled population had chosen places for inhabitation near to rivers and canals. Two large rivers flow through the territory of Uzbekistan: Amudarya and Sirdarya that spring from the outside of the country. However, Amudarya in its lower part of flow (1,415 km) is within borders of Uzbekistan, and Sirdarya being the second river by water-bearing is within borders of our country in its middle part of the flow (2,212 km). There are few lake on the territory of our republic. The most number of lakes are situated in mountainous area at the height of 2,000-3,000 meters. Large lakes include the Sudoche Lake in Amudarya' delta and Arnasay Lakes. There are also a great number of artificial reservoirs in Uzbekistan among which the largest one are Kattakurgan, Chardara, Tuyabuguz and Charvak reservoirs. The largest lake - Aral Sea had significantly decreased its level in recent years and its shores left by tens of kilometers.



Environment

Global problem of the Aral Sea

Uzbekistan has rich and diverse natural environment. The Aral Sea used to be the fourth-largest inland sea on Earth, acting as an influencing factor in the air moisture and arid land use. Since the 1960s, the decade when the misuse of the Aral Sea water began, it has shrunk to less than 50% of its former area and decreased in volume threefold.

Due to the Aral Sea problem, high salinity and contamination of the soil with heavy elements are especially widespread in Karakalpakstan, the region of Uzbekistan adjacent to the Aral Sea. The bulk of the nation's water resources is used for farming, which accounts for nearly 84% of the water usage and contributes to high soil salinity. Heavy use of pesticides and fertilizers for cotton growing further aggravates soil pollution.

The dried bottom of the Aral Sea photos



July – September, 1989



August 16, 2009

THE DRIED BOTTOM OF THE ARAL SEA

photos



Natural resources

The Republic of Uzbekistan possesses large production and mineral resource potential, unique agricultural resources, significant volumes of prepared raw materials (semi-finished products), derived as a result of processing, rich natural resources, developed infrastructure. Modern level of prospecting minerals is connected with development of richest deposits of precious, non-ferrous and rare metals, all types of organic fuel – oil, natural gas and gas condensate, brown and low temperature coking coal, oil shale, uranium, many types of resources for construction materials.

On the territory of the Republic of Uzbekistan was found broad range of treasures of the soil, which includes more than 100 minerals, out of which 60 are already used in the economy.





According to confirmed reserves of such minerals as gold, uranium, copper, natural gas, tungsten, potassium salts, phosphorus, kaolin, Uzbekistan ranks leadership positions not only in CIS, but in the entire world. Thus, Uzbekistan is the 4th largest on gold reserves, and is the 7th largest on mining hereof, 10th-11th – on copper reserves; uranium – 7th-8th, on mining – 11th-12th. Available reserves of mineral resources in majority not only supply mining complexes for the long perspective, but also allow to raise the capacities to set up new mining of a number of the most important minerals such as gold, uranium, copper, lead, silver, lithium, phosphorus, potassium salts, fluorspar, wollastonite, agrochemical ores and others.

The State symbols

The State FLAG of the Republic Of Uzbekistan

The law about "The State Flag of the Republic of Uzbekistan" was adopted on November 18 in 1991 in the 8th session of the Supreme Council of Uzbekistan. The flag of our country is a symbol of the sovereignty of the Republic. The national flag of the Republic represents the country internationally when official delegations from Uzbekistan visit foreign countries, as well as at conferences, world exhibition, and sports competitions. The national flag of the Republic is a right-angled colored cloth of three horizontal stripes: blue, white and green



The State Emblem

The law about "The State Emblem" was approved by the 10-th session of the Supreme Council of the Republic of Uzbekistan on July 2, 1992. The new state emblem of the Republic of Uzbekistan was created to reflect the many centuries of experience of the Uzbek people. The state emblem of the Republic presents the image of the rising sun over a flourishing valley. Two rivers run through the valley, representing the Syrdarya and Amudarya.



Holidays

- **January 1 – New Year** "Yangi Yil Bayrami"
- **January 14** – Vatan Himoyachilari kuni
- **March 8** – International Women's Day – "Xalqaro Xotin-Qizlar kuni"
- **March 21** – Navrooz – "Navro'z Bayrami"
- **May 9** – Remembrance Day – "Xotira va Qadirlash kuni"
- **September 1** – Independence Day – "Mustaqillik kuni"
- **October 1** – Teacher's Day – "O'qituvchi va Murabbiylar"
- **December 8** – "Constitution Day" – Konstitutsiya kuni

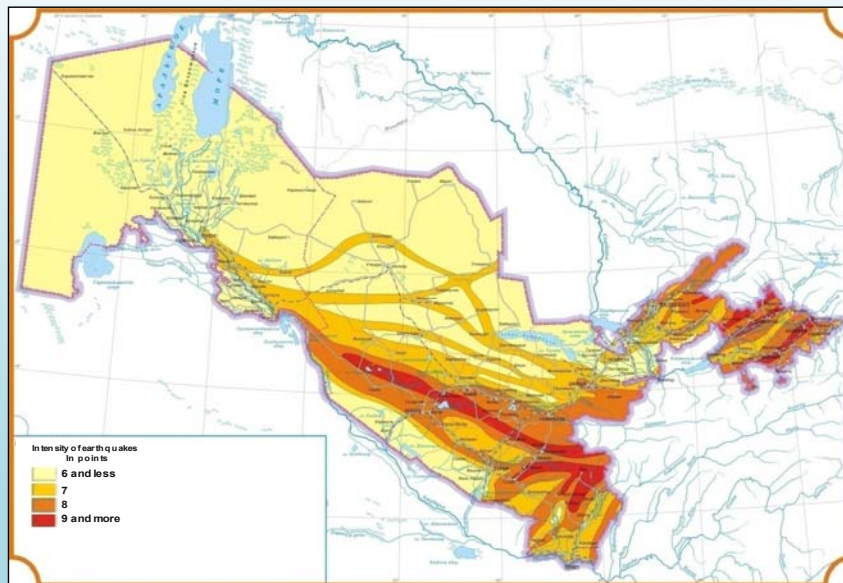
Variable date

- End of Ramazon Ramazon Hayit Eid al-Fitr
- 70 days later Qurbon Hayit Eid al-Adha



NATURAL HAZARDS

Natural Hazards Likely to Affect the (features, tendency).



MAP OF SEISMIC RISK ZONING OF THE REPUBLIC OF UZBEKISTAN

Uzbekistan ranks high among countries that have endured significant loss of life and property due to earthquakes and other natural disasters. As one of the most seismic active regions in Central Asia, Uzbekistan is struck by earthquakes in the eight to ten point ranges. In addition to its seismic vulnerability, Uzbekistan is affected by hydro-meteorological hazards affecting the agricultural sector with seasonal floods and periods of drought.

Recent Major Disasters

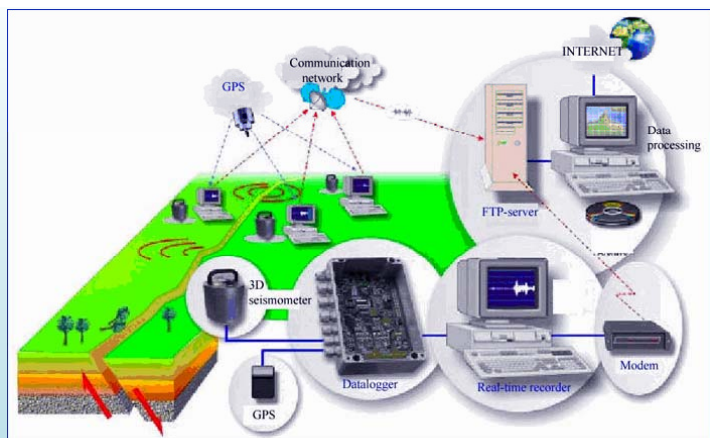
Tashkent earthquake happened at 5:23 am April 26, 1966 At the relatively small magnitude ($M = 5.2$ on the Richter scale), but because of the shallow (3 to 8 km) of occurrence of the hearth, it caused a 8-9 -point (on a 12-point scale MSK-64), shake the earth's surface and substantial damage of buildings in the city centre. At Tashkent, 10 were killed, 1,000 were injured, and about 100,000 were left homeless. 28,000 buildings were destroyed, including 200 hospitals and clinics, and 180 schools, in the Old Quarter of Tashkent, the principal damage area. Thousands of the ancient, one-story adobe dwellings were flattened. Additional damage was sustained from the hundreds of aftershocks which followed.





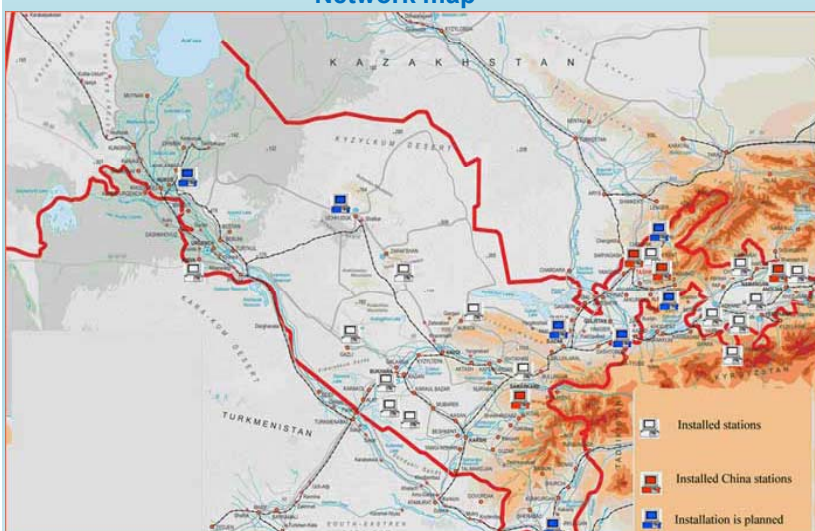
Andijan earthquake – the catastrophic earthquake that occurred two (16) December 1902 in the city of Andijan Fergana region. The death toll of about 4000. The earthquake consisted of three roughly equal strength shocks. The first of which, a magnitude 8.9, occurred at 10:00 am. 1-1.5 minutes there was a second, the most powerful force on the push-magnitude 9-9.5. After 30 minutes, after the first two followed by a third push, magnitude 8. The earthquake had destroyed 11,000 buildings and 161 types of local building the "European style". Survived only three buildings of European architecture: urban Orthodox Church, Prison and City Bank. Material losses, net of government agencies accounted for 12 million rubles. The death toll was 4602 people, which is about 9 per cent of the residents of the city in 1902.

Seismic network of Institute of seismology Academy of sciences of Uzbekistan includes 23 items of registration. The majority of devices with photo-registration. The first step was made through the experts China Seismological Bureau. On grant, a basis to Institute of seismology the government of China gave five digital seismic stations - 2 EDAS-24 and 3 EDAS-3. They were established around of Tashkent's for the control of a seismic situation around of capital of Uzbekistan. Care of the data, the radio telemetry is used



Network map

Seismic network circuit



Transfer of the data. Maintenance of data transmission on a FTP-server of service of urgent reports is made by means of a network of the Project [UzSciNet](#), as in all regional centers of Uzbekistan there is a unit of access. A number of stations (Andijan, Fergana, Namangan, Samarkand, Khiva, Karshy) is connected to the allocated Internet channels. Event files are automatically sent on FTP- server, located in a building Tashkent seismic observatory. At other seismic stations after operation of the trigger event files are sent on server on dial-up connection.

DISASTER MANAGEMENT SYSTEM

Administrative system

The State system of prevention and emergency response consists of controls and capabilities of the Council of Ministers of the Republic of Karakalpakstan, 12 regions, districts and municipalities, ministries and departments, enterprises, institutions and organizations.

The structure and functioning of the state system of prevention and emergency action by the Cabinet of Ministers of the Republic of Uzbekistan.

The Cabinet of Ministers of the Republic of Uzbekistan:

- ensures the creation of state reserves of financial and material resources for disaster management, as well as the procedure for its use;
- responsible for financial and resource support capabilities for the prevention and liquidation of emergency situations, equip them special appliances and other material and technical means;
- classification of states of emergency situations and determines the degree of involvement of the executive power to eliminate them;
- monitors the activities of ministries, departments, local authorities in the protection of population and territories from emergency situations;

Specially authorized state body for the protection of the **Ministry of Emergency Situations** for Emergency Situations of the Republic of Uzbekistan.

Ministry of Emergency Situations:

- develop and adopt action to prevent emergency situations save lives and preserve health, protect the material and cultural values, as well as the recovery and reduce damages in emergency situations;

- organizes the development and implementation of targeted programs and research in the field of population and territories from emergency situations;

- takes within their jurisdiction, obligatory for execution by ministries, departments, enterprises, institutions and organizations, officials and citizens;

- organize the preparation of controls, forces and protection frames the population and territories for actions in emergency situations;

- controls the forces and means for dealing with emergencies, creates a control posts, warning systems and communications;

- organizes the emergency rescue and other emergency operations in emergency situations;

- carries out state control over the implementation protection measures the population and territories from emergency situations;



Legal System and Framework

The Ministry of Emergency Situations of the Republic of Uzbekistan is a central government body responsible for directing and coordinating activities in the field of civil protection, prevention and response to emergency situations caused by accidents, catastrophes and natural disasters.

Ministry of Emergency situations has few documents for disaster management of the Republic of Uzbekistan. There are:

Decree of the President of the Republic of Uzbekistan № VII-1378 dated 4.03.1996 "On establishment of MoES in the Republic of Uzbekistan"

RCM of the Republic of Uzbekistan № 558 dated 23.12.1997 "On SSES of the Republic of Uzbekistan"

RCM of the Republic of Uzbekistan № 71 dated 3.04.2007 "On approval of the National Program on emergency situation forecast and prevention"

The Law of the Republic of Uzbekistan "On protection of population and territories from emergency situations of natural and technological origin"

The Law of the Republic of Uzbekistan "On Civil Protection"

The Law of the Republic of Uzbekistan "On safety of hydraulic facilities"

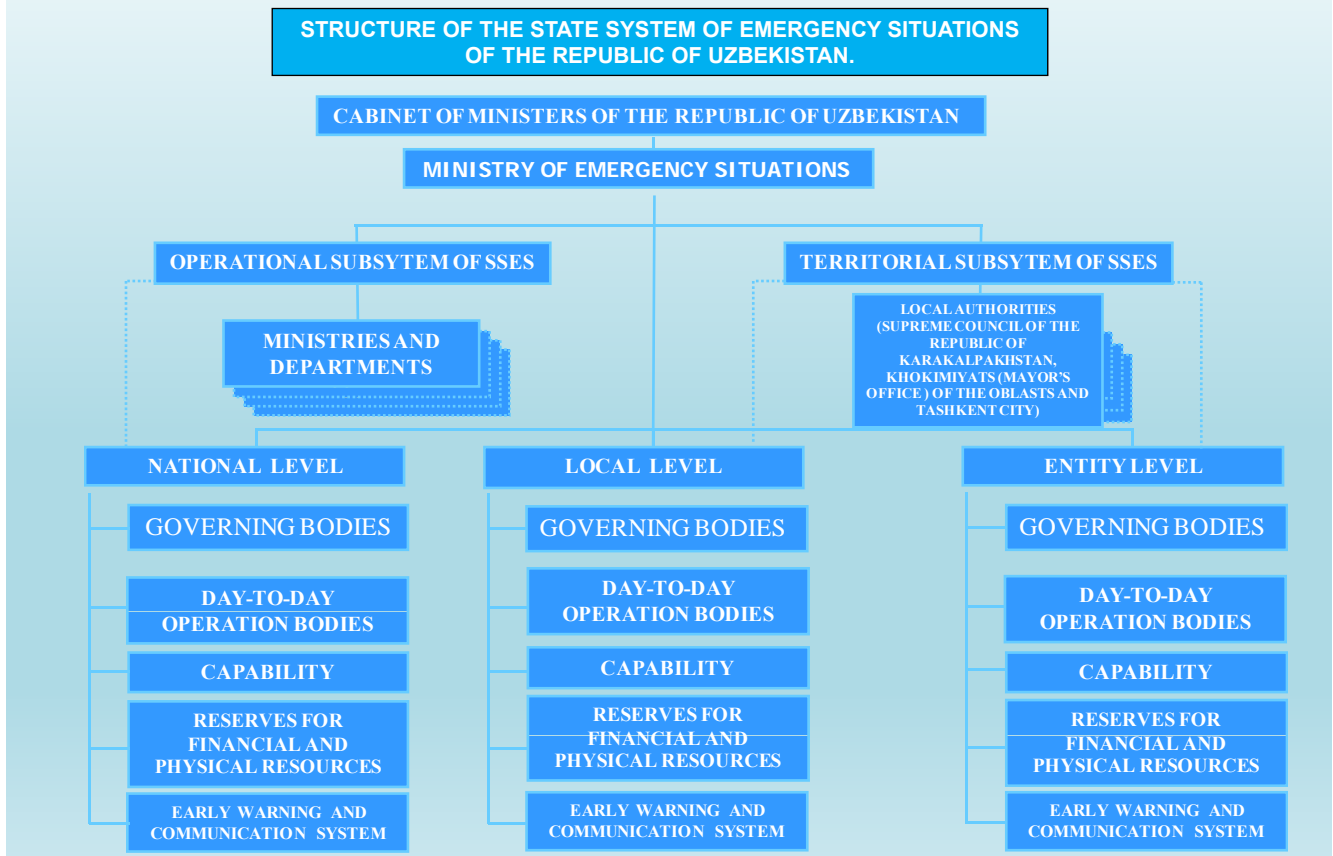
Resolution of the Cabinet of Ministers (RCM) of the Republic of Uzbekistan № 143 dated 11.04.1996 "On the issues related to MoES activities of the Republic of Uzbekistan"

RCM of the Republic of Uzbekistan № 427 dated 7.10.1998 "On procedure of preparedness of the population of the Republic of Uzbekistan to protection from emergency situations"

RCM of the Republic of Uzbekistan № 585 dated 19.02.2007 "On the activities on prevention and recovery of emergency situations related to floods, mudflows, avalanches and landslides"

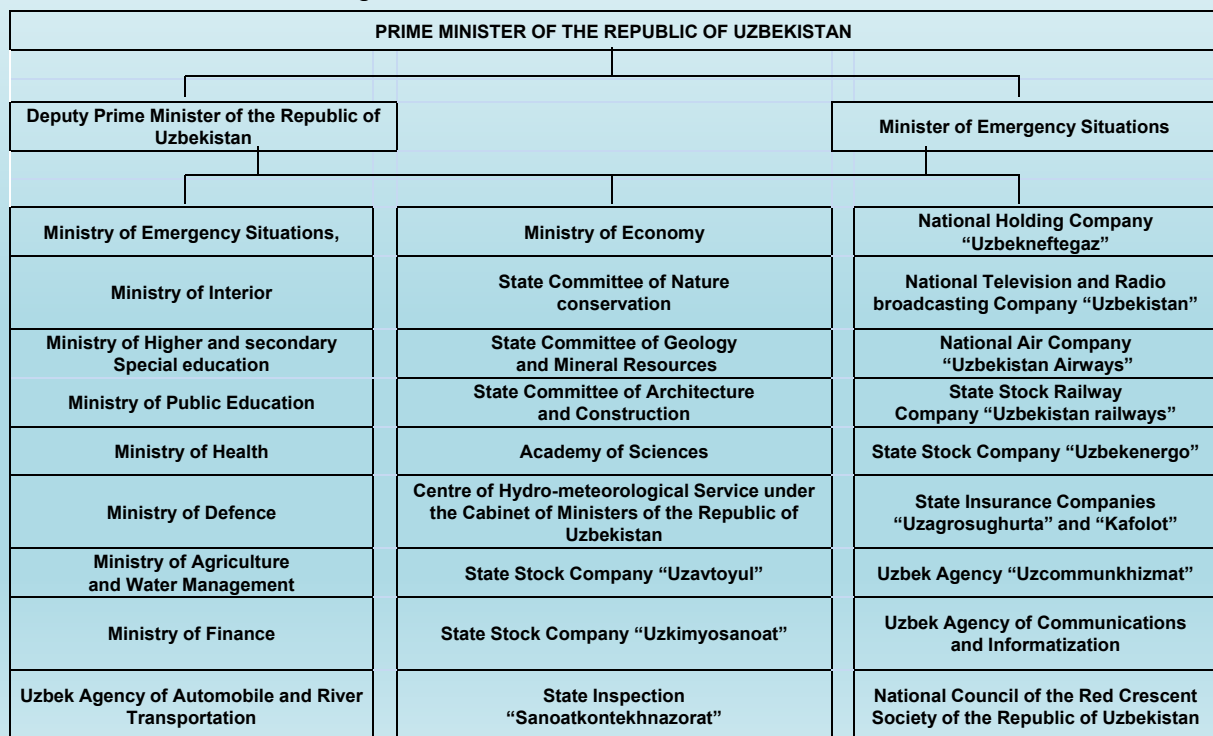
Structure of Disaster Management

National platform for Disaster Risk Reduction.



National Organizations for Disaster Risk Reduction

There are sector oriented concepts and target programmers on natural disaster risk reductions which are specified depending on the area of activity and nature of disasters. The SSES functional and territorial subsystems' action plans have been developed, approved and are systematically adjusted based on the Decrees of the President of the Republic of Uzbekistan, the Laws of the Republic of Uzbekistan and resolutions of the Cabinet of Ministers of the Republic of Uzbekistan which govern the functioning of the SSES and those of the following bodies:



Disaster Management Strategy, Policy, and Plan.

For the implementation of the state policy in the field of vital interests of the individual, society and the state act legal framework regulating the activities the state authorities and enterprises and organizations, as well as civil self in the area of civil protection. The Laws of the Republic of Uzbekistan "On protection of population and territories from emergency situations of natural and man-made" and "Civil Protection", and a number of resolutions of the Cabinet of Ministers.

The world practice shows that timely prevention of hazards of natural and man-made hazards, the priority realization of measures to prevent and reduce their negative impacts are much more economical and more effective than emergency response.

In order to realize these tasks, the Ministry of Emergency Situations together with the interested ministries and departments of the Republic of Uzbekistan, the Council of Ministers of the Republic of Karakalpakstan, regional and Tashkent city State program is designed to forecast and prevention of emergency situations (hereinafter - the State program).

The purpose of this state program is to provide a guaranteed level of protection of the population and territories from emergency situations, risk reduction and mitigation of accidents and natural disasters in the country, taking into account achievements of the national science and technology, as well as international experience in this field.

The State Program included the following:

Natural disaster risk reduction

1. Risk reduction program for the effects of earthquake
2. Program on prevention of floods, mudflows, avalanches and landslides
3. Program on prevention of epidemics, epizootic outbreak, epiphytotic

Technological disaster risk reduction

4. Program on prevention of chemical emergency
5. Program on prevention of accidents at explosive and fire hazardous sites
6. Program on prevention of accidents at the sites and power network
7. Program on prevention of transport accidents and disaster (motor transport, railway, aircraft, the Metro)
8. Program on prevention of disaster at hydraulic engineering structures

Early warning of population

9. Program on creation of territorial and local systems and early warning

Improvement of emergency rescue services

10. Program on equipping the Center on training and advanced training of rescue workers of MoES with rescue gear, equipment, outfit and on construction of training centers

Training of the population on disaster preparedness

11. Program on training of population

PROGRAM ON PREVENTION OF FLOODS, MUDFLOWS, AVALANCHES AND LANDSLIDES

Landslides

Under implementation:

- control at technical points
- survey and monitoring investigations
- observation of hazardous geological processes (HGP)
- observation of underground water level
- scientific – research work
- notification and warning on hazards

Required:

- Improvement of information- analytical system (GIS, space borne remote sensing)
- Insurance system updating
- Maps of territory exposure to HGP with recommendation on risk reduction

PROGRAM ON CREATION OF TERRITORIAL AND LOCAL SYSTEMS AND WARNING UNDER HAZARDS AND EMERGENCY

Early warning systems

Currently implemented:

- Territorial systems for communication and warning are in operation
- Local warning systems at some water storage basins and industrial objects are in operation
- Reconstruction of the national warning system is carried out

Required:

- Replace obsolete analog warning system with a digital one
- Follow up with creation of local warning system for makhallas
- Set up an integrated computer-assisted system for collection and processing of information on hazards and warning for makhallas

PROGRAM ON IMPROVEMENT OF EMERGENCY RESCUE SERVICE

Training of emergency rescue service staff

Currently implemented:

- mobile emergency rescue teams capable to respond to different emergencies are raised
- there is a training center for training and advanced training of rescue workers

Required :

- instructional technologies for training of rescue workers by specialties
- modern instruction techniques for rescue workers
- modern emergency rescue gear, equipment and outfit

PROGRAM ON TRAINING OF ALL THE POPULATION CATEGORIES

Training of the population

- Training of the teachers at 15 institutes for training and education of teachers
- Training of children with life safety fundamentals at 6565 kindergartens, 9748 schools, 28 charity homes
- Training of students with life safety principles at 1000 colleges and lyceums, 64 higher educational establishments
- Training of the executives and employees of the ministries, departments and organizations
- Training of economically inactive population

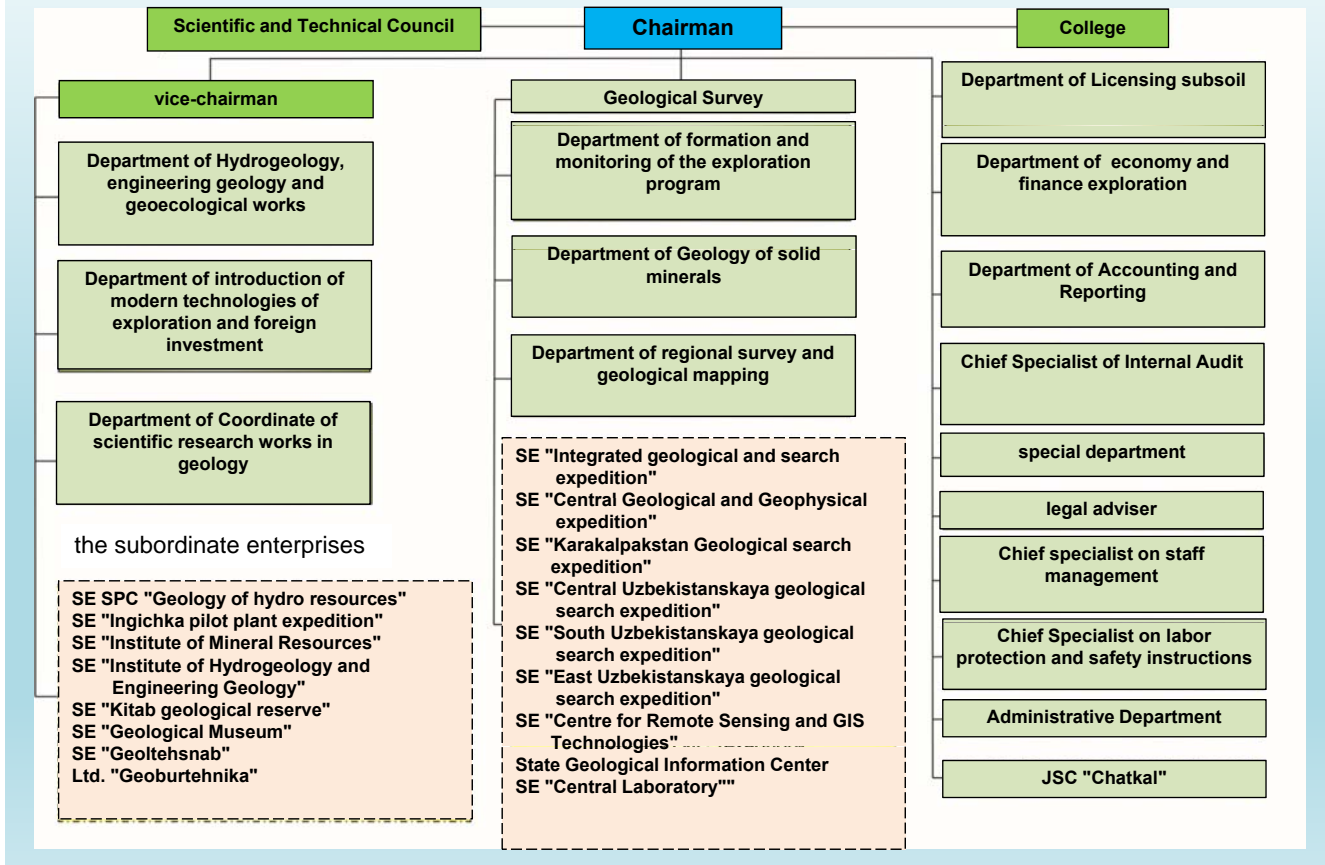
STATE COMMITTEE OF THE REPUBLIC OF UZBEKISTAN ON GEOLOGY AND MINERAL RESOURCES

STATE COMMITTEE OF THE REPUBLIC OF UZBEKISTAN ON GEOLOGY AND MINERAL RESOURCES



State committee of the Republic of Uzbekistan on geology and mineral resources carries out geologic analysis of entrails with the purpose of strengthening and development of the mineral base of the mining and process industry, provides coordination of different branches of industry connected to the geologic analysis of entrails of the territory of Uzbekistan, carries out the state control over the geologic analysis of entrails by all enterprises and organizations irrespective of patterns of ownership, creates and provides functioning of a databank on the geologic structure of entrails and mineral resources of the republic, conducting the State balance on mineral reserves, etc. with the purpose of definition of conditions of their economic and rational use.

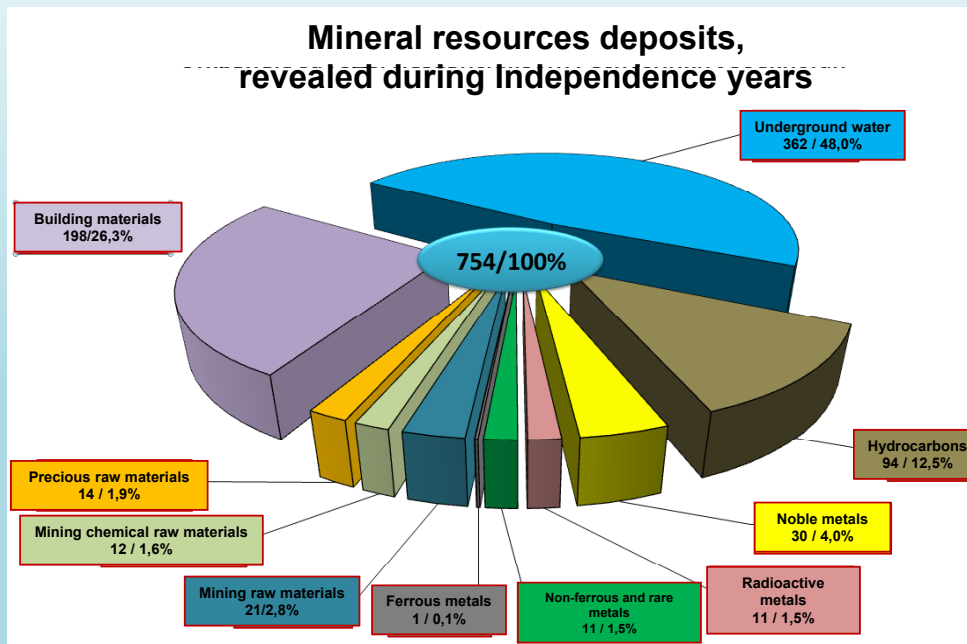
STRUCTURE OF STATE COMMITTEE OF THE REPUBLIC OF ZBEKISTAN ON GEOLOGY AND MINERAL RESOURCES



MAIN TASKS OF GOSCOMGEOLOGY

- Implementation of a unified state policy in the field of geological study, use and protection of subsoil and reproduction of mineral resources, the implementation of public administration in the field of mining relations;
- Organization of geological exploration of mineral resources, forecasting and identifying fields for geological and economic evaluation of mineral resources (except hydrocarbons), justification of the possibility of subsoil use for purposes not related to the extraction of mineral resources;
- Management, within their competence, the state subsoil fund and the state fund of geological materials of stone, as well as specially protected geological objects;
- Coordination of activities related to geological exploration in Uzbekistan (with the exception of work on hydrocarbons).

STATE COMMITTEE OF THE REPUBLIC OF UZBEKISTAN ON GEOLOGY AND MINERAL RESOURCES



After independence, the Republic of Uzbekistan has significantly increased its position at the world market of mineral resources in many directions.

Department of Hydrogeology, engineering geology and geocological works

- Regularly carries out the analysis of a condition of resources, the control and realization of offers on full and rational use of the reconnoitered stocks of underground waters;
- Carries out the control under the prevention of catastrophic consequences of dangerous geological processes and radiating conditions on objects of works;
- Participates in work by definition of optimum directions of hydrogeological, engineering-geological and geocological works, buildings of water in taking constructions on use of the reconnoitered stocks of underground waters, working out of protective actions from landslips and collapses in mountain areas of Uzbekistan;

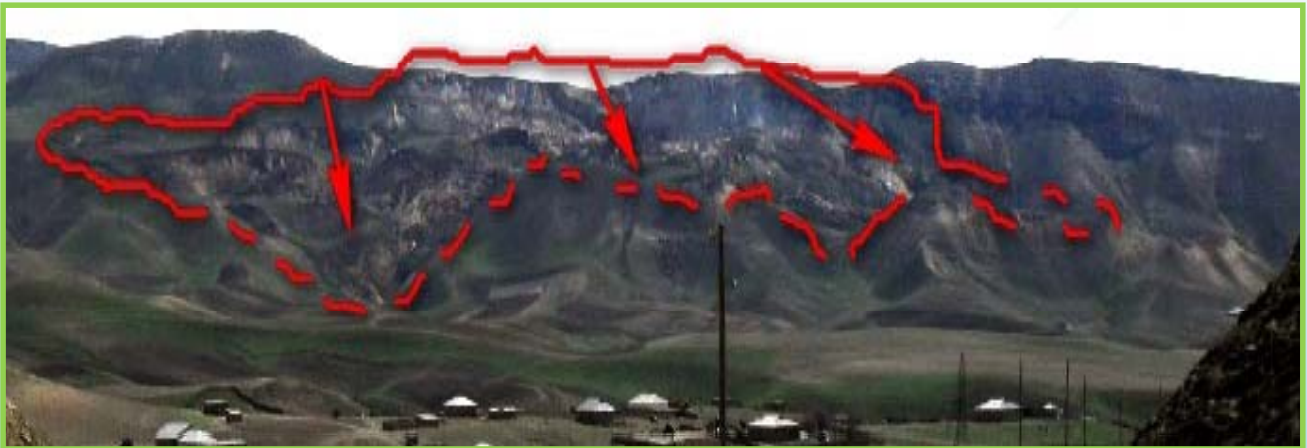
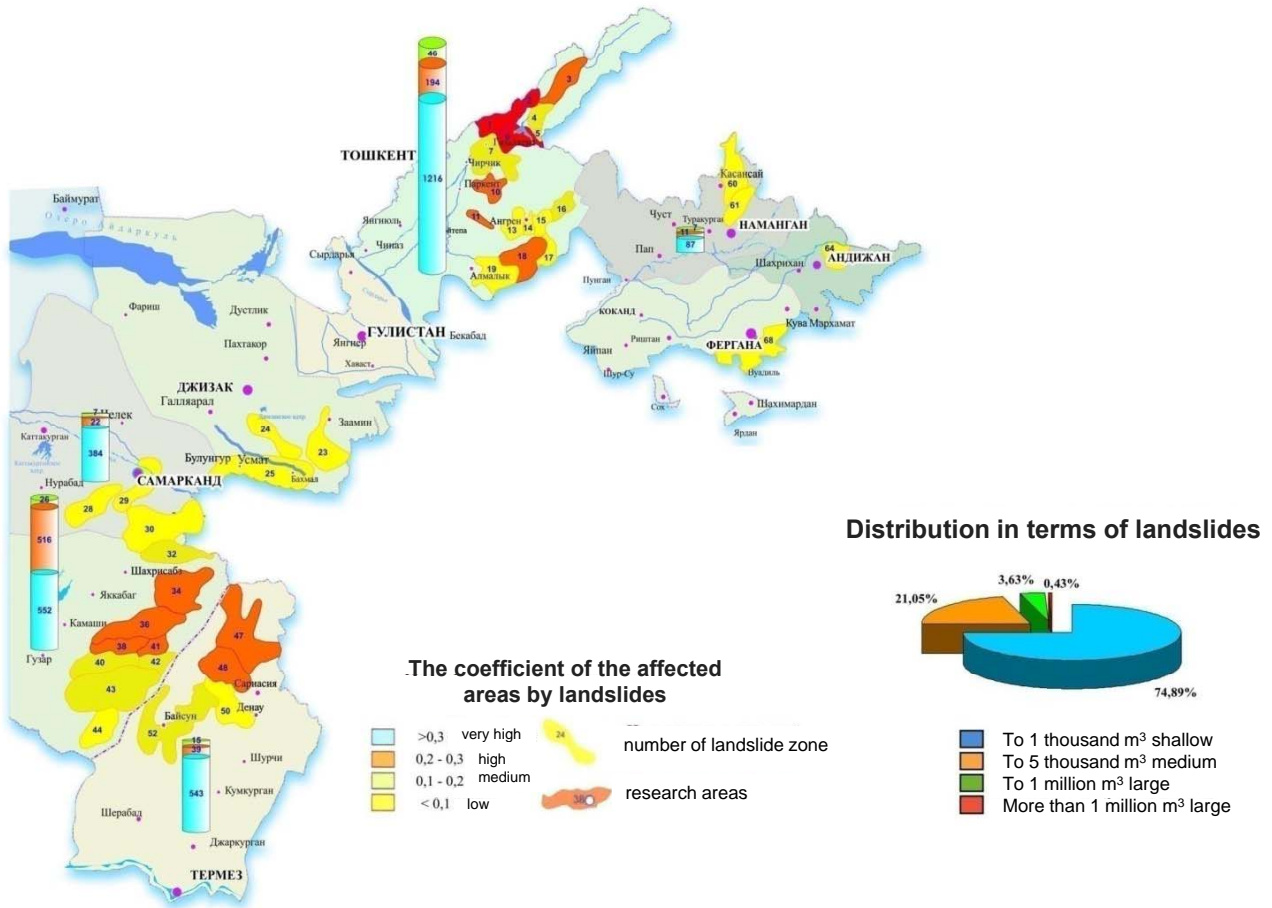
RESEARCH LANDSLIDES IN UZBEKISTAN



In Uzbekistan

- **21,3% (90,0 thousand km²)** - of the total area is mountainous;
 - **10-11% (2,6-3,0 mln. people.)** - population live in the mountainous area;
 - **40%** - mountainous area susceptible to landslides, avalanches, mud flows and debris processes;
 - **17%** - mountainous area at risk of landslides;
 - **2,0** - thousand landslides;
 - **8,3 thousand** - landslide displacements recorded in 50 years:
1. **65%** of the landslides caused by snowmelt, precipitation and groundwater
 2. **15-20%** of the historical and contemporary earthquakes
 3. **20-25%** of man-made factors

MAP OF GEOLOGICAL THREAT

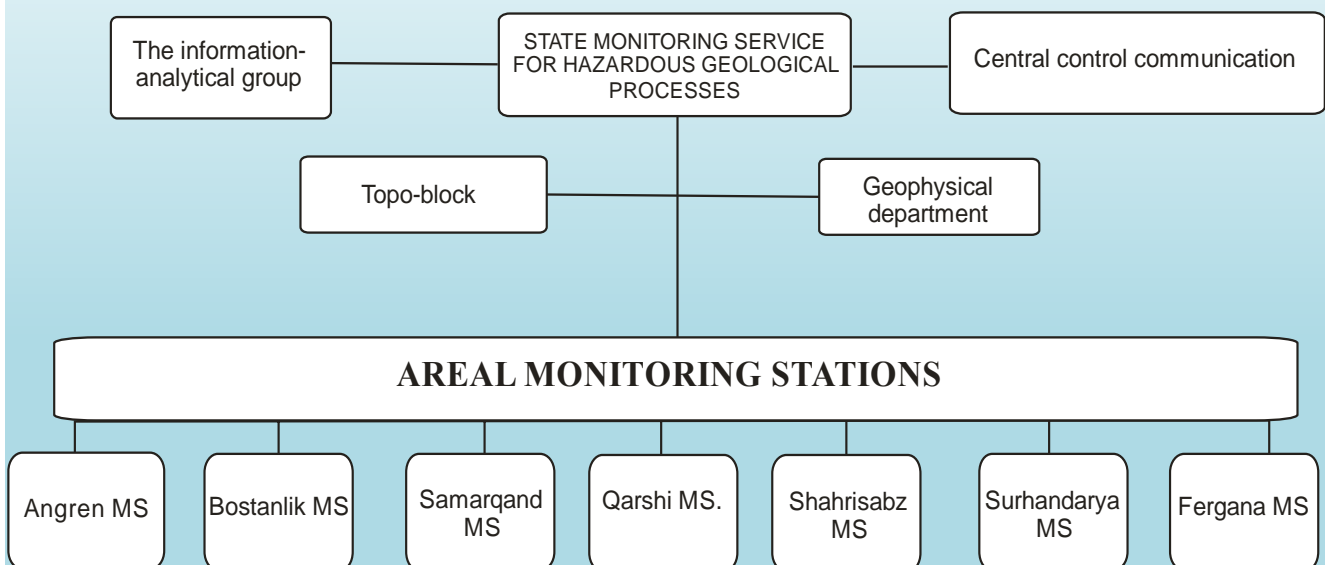


In Uzbekistan monitoring over the landslides is lead since 1958. At the present, in the system of the State Committee of the Republic of Uzbekistan on geology and mineral resources there exist special structure - State Service on Monitoring over the dangerous geological processes, consisting of 7 regional monitoring stations.

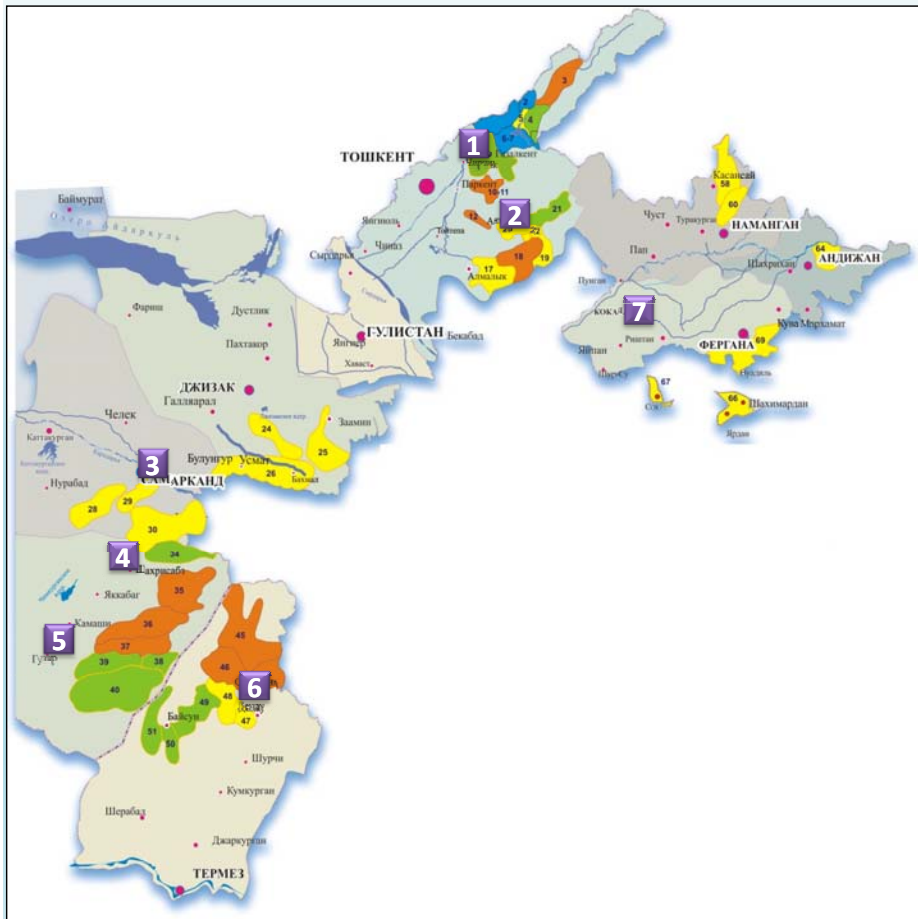
The history of landslides monitoring service in Uzbekistan

- 1958 - Landslide station;
- 1961 - Bostanlyk landslide party;
- 1991 - Specialized engineering and geological expedition.
- 1994 - State Service on Monitoring over the dangerous geological processes of the Republic of Uzbekistan

STRUCTURE OF STATE MONITORING SERVICE FOR HAZARDOUS GEOLOGICAL PROCESSES



MAP OF LANDSLIDE-PRONE AREAS OF THE REPUBLIC OF UZBEKISTAN



Monitoring stations:

- 1** -Bostanlyk
- 2** -Angren
- 3** -Samarkand
- 4** -Shaxrisabz
- 5** -Karshi
- 6** -Surkhandarya
- 7** -Fergana

The tasks of the State Service Monitoring :

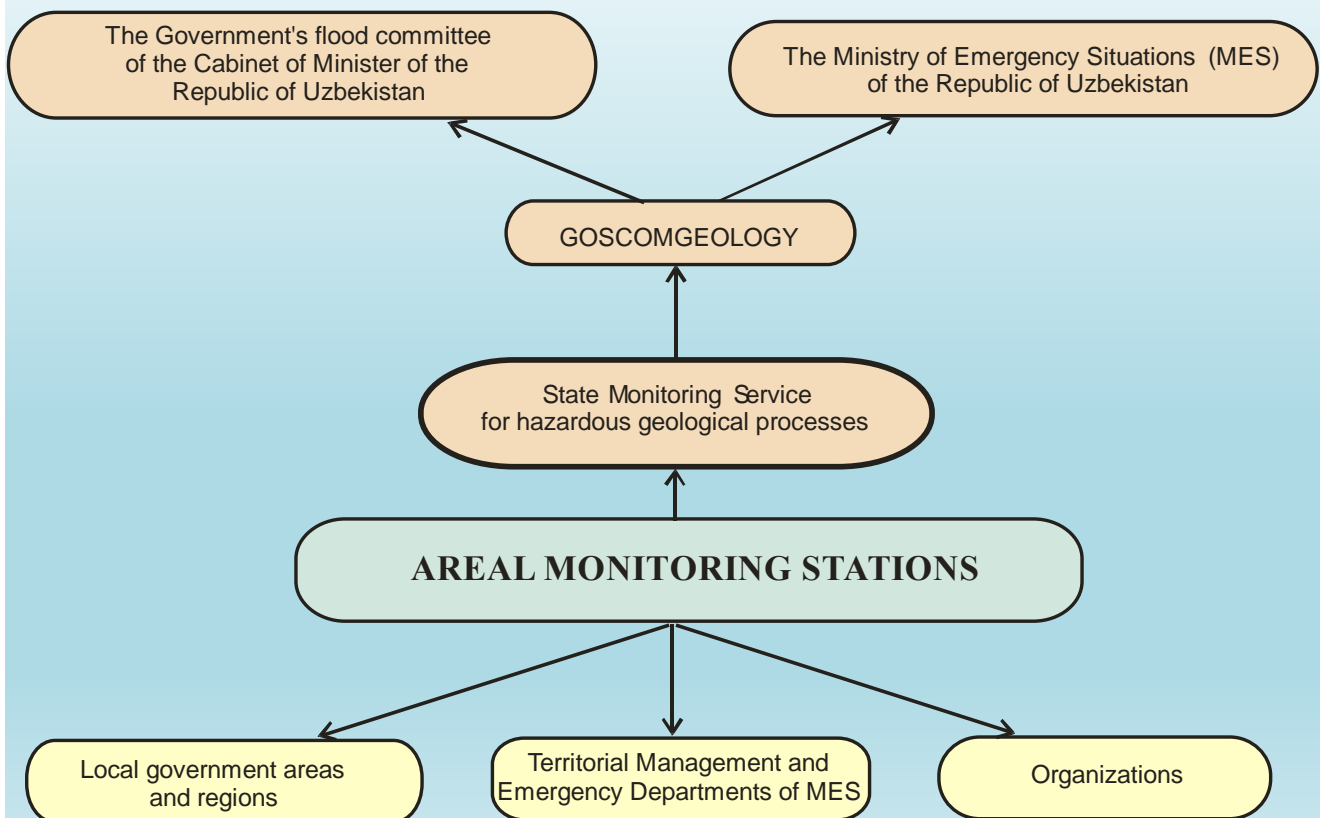
1. Identification of areas of dangerous geological processes and the evaluation of their activation;
2. Organization of monitoring;
3. State control of hazardous geological processes;
4. Preparation and issuance of recommendations;

Structure of monitoring

Structure monitoring geohazards – more attention is paid to the forecast, and risk assessment and management, and the prevention process. On this basis, the monitoring of hazardous geological processes consists of 4 blocks:

- observation
- evaluation
- control
- warning

Transfer Scheme operational information about the manifestations of dangerous geological processes



Public service monitoring annually conducts surveillance for objects 700-750

- **450 mountain villages**
- **115 health facilities**
- **147 plots of mountain roads**
- **40 mining and hydraulic structures**
- **85 plots of channels, culverts, etc.**