THE STABILITY OF THE GEODESIC POINTS IN CONNECTION WITH GEODYNAMIC PROCESSES IN AZERBAIJAN

Magsad Gojamanov

Baku State University
AZ1148, Azerbaijan, Baku, 23, Z. Khalilov str.
mgodja@yandex.ru
The State Geodetic Networks, if it is not systematically updated and do not improve, gradually aging, loses part of points, loses accuracy in its individual parts, especially due to the modern movements of the earth crust. Main centers of modern movements of the earth crust on the territory of the Azerbaijan Republic (AR) are the phenomena of the tectonic character, high seismic activity, caused by technogenic and anthropogenic processes.
Tectonic position of Azerbaijan in the General structure of the Caucasus and adjacent folded regions is determined by the main structural complexes: megantiglininy the Greater and Lesser Caucasus (east end) and separating them Kur river between mountain deflection. These patterns go under the latest deposits meridional depression of the Caspian Sea. The Caspian Sea is located at the junction of large, heterogeneous geostructural elements of the Northern Caspian, the Caucasus, Central Asia (Kazakhstan, Turkmenistan and Northern Iran. Caspian depression consists of two basins: the Mid-Caspian and South Caspian separated by the Absheron-Balxan area of young highs.
DIAGRAM OF THE LOCATIONS OF DEEP FAULTS IN AR
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1-Siyazan; 2-Maincaucucus; 3-Kaynar-Zangy; 4-North-Ajinohur; 5-Aji-Alyat; 6-Kur; 7- Small Caucasus; 8-Murovdag; 9-Karabakh; 10-Bashlibel; 11-Hankavan-Syunik; 12-Nakhchivan.

Analysis of the geological structure of Azerbaijan shows that now observed faults deep-have a considerable length and extending mainly from North-West to South-East and North-East to South-West divide the whole territory of the Republic. In the Lesser Caucasus modern movements are differentiated and, if in extreme mountain zones occur raising with a speed of 4-5 mm/year, in the inland areas, on the contrary, lowering of 0.1-1 mm/year. In Kura-Araz lowland in General is sinking, and its speed reaches 0.5-5 mm/year, in Mil-Karabakh an inclined plain overall speed is 2-3 mm/year. In Adjinour zone differential raising with a speed of 4-6 mm/year. Ganykh-Agrichay zone, located between Adjinour and the Greater Caucasus is also an area of uplift (4 mm/year).
The results of repeated levelling show that on the Absheron Peninsula there are significant movement of the earth's surface. Analysis of instrumental data, morphostructural features and geodynamics of the Peninsula has allowed establishing that these movements have tectonic nature. At the same time lowering the areas connected with the oldest oil fields in Sabunchi, Surakhani, Ramana and Bibieybat (for the period from 1912 until 1962, the General lowering of the earth's surface Surakhani oil field has reached 2450 mm), have been interpreted as the result of long-term oil and gas production, i.e. as a manifestation of anthropogenic factor on the background of purely tectonic movements.
Azerbaijan with the adjacent water area of the Caspian Sea presents a vast range of distribution of mud volcanoes. In the South-Eastern Caucasus, there are over 200, including about 30 active mud volcanoes.
The territory of Azerbaijan has long differed high seismic activity. So, district, Shamakhi - most seismic active item Caucasus. Pockets of earthquakes in AR scattered almost on the whole territory of the Republic. Over the past 25 years there have been earthquakes great strength - 7-point on the Richter scale, such as, the Caspian (May 1980), Ismailly (November 1981), Caspian (March 1986), Lankaran (October 1987), Caspian (September 1989), on the border with Iran (February 1997), Lerik (July 1998), Baku (November 2000).
Figure below presents a map of the epicenters of earthquakes on the territory of the AR from 1979 to 2001. During this period, the number of earthquakes with the power of three or more points - 372, total the number of jerks - 1515 (average of the year), from them earthquakes force five and more points - 75 with the number of aftershocks 242 (average for the year). Shamakhy EPI centric area against the background of other stands out with a 9-point izoseyt, 8-point izoseyt: in Shamakhi, Nakhichevan areas in the North The Absheron Peninsula, in Nagorno-Karabakh, Lenkoran area and in the border zone with Iran. Analysis of the distribution of earthquakes shows the high seismicity of the Caspian Sea, and the vast majority of epicenters of earthquakes are situated in the Western band.
A MAP OF THE EPICENTERS OF EARTHQUAKES ON THE TERRITORY AR

АЗЕРБАЙДЖАНСКАЯ РЕСПУБЛИКА
LANDSLIDE PROCESSES ON THE TERRITORY OF AZERBAIJAN

For Baku and some regions (Khizi, Shamakhi and other) Azerbaijan is characterized by recurrent landslide processes covering significant area (in Baku in 1998 landslides occurred with the area of about 100 ha and depth of about 30 m), leading to the deformation of geodetic networks in these areas.

In order to study the geodynamic regime in the most seismically active zones AR created six geodynamic polygon (GPA): Absheron special network -80, Shamakhi geodynamic polygon, the Caspian civic Democrats, ODS «Sheki-Kurdamir», Technogenic polygon Apsheron, GFC Azerbaijan NPP.
SCHEMA OF LOCATION
GEODYNAMIC POLYGONS
Using the results of repeated levelling in different years are investigated oscillatory motion of the earth's surface Absheron many scientists and other results of re-leveling show that the surface of the Absheron Peninsula everywhere feels uneven deformation. In the Central part of the registered maximum lowering of the rate of 48 mm/year, and on the peripheral areas of the Peninsula it is sometimes replaced by show.
SHAMAKHI GEODYNAMIC POLYGON

was created in 1974 in the Southeast part of the Great Caucasus. Over the past 150 years, there are more than 200 significant earthquakes, among which highlights the catastrophic earthquake 1859, 1869, 1872 and 1902, almost completely destroyed the city of Shamakha. Geodetic basis of instrumental measurements of modern tectonic movements on the site are re-leveling and re-triangulation. The results of the comparison of measurements from different cycles show that Shemakha GFC there is intense movement of the earth's crust, as in a high-rise, and the planned arrangements. During the last decades at the landfill repeated geodetic measurements were not made.
is created in 1981 along the Western coast of the Caspian sea from Makhachkala to Astara on the territories of the Dagestan Republic and the Azerbaijan Republic. In the course of leveling I class were included gravimetric points from the Gravimetric points of geopolygon”. Also included in the polygon leveling line, constructed in 1950, 1971, partly in 1912, 1936, 1940-1944, 1976 Recent geodetic measurements performed on this test site in 1982-1986's. the total length of the leveling of I class separate lines amounted 1253,3 line km, class II, 56,8 line km On the General background there is a sharp rotation direction of movement of the earth's crust along the lines of Makhachkala-Astara.
created in 1982-1984, in the southeastern Caucasus (areas: Agdash, Aksu, Gabala, Goychay, Yevlakh, Ismayilli, Oghuz, Kurdamir, Ujar, Sheki) to detect preceding the earthquake deformation of the earth surface. A polygon consists of linearly-angular first class network, of level lines of I and II classes. The results of measurements suggest that the area of the polygon occur horizontal and vertical movements of the earth's crust of the oscillatory character. The main scientific task in the organization of this site was to examine the influence of oil and gas extraction on the movement of the earth's surface and the establishment of parities of the latter with the slow vertical movements.
is located North of the station Navai in Pirsaat valley. In 1985, was laid down 11 deep and 143 ground reper. Projected leveling-I class on the existing line leveling class I Alat-Khashuri. In 1985-1987 he was done three cycles (interval between cycles in 1 year) leveling of the I class with the total length of 69,5km, class II - 67,5km. The Purpose of creation of this site was to study the seismicity of the area, where the projected construction of the Azerbaijan NPP. Currently repeated measurements of at the landfill is terminated in connection with the suspension of nuclear power plant construction
THANKS
FOR ATTENTION