

## Georgia - Country Overview



Area:	69,700 km <sup>2</sup>
Population:	3, 723 mln
Life expectancy:	75 years
Official language:	Georgian
Literacy rate:	100%
Capital:	Tbilisi
Currency (code):	Lari (GEL)
GDP per capita for 2018:	USD 4 722.0
GDP of Georgia for 2018:	US D 17.6 bln

**Georgia** is a country of Eurasian continent, situated in the Caucasus region. It is Located at the crossroads of Western Asia and Eastern Europe. The country is bounded by the Black Sea to the west, by Russia - to the north, by Turkey and Armenia - to the south, and by Azerbaijan - to the south-east. Due to its location, Georgia has had an important transit route since ancient times. The Silk Road began in the third century BC.

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### History and Culture

Georgia has its antique history, which is proved by archaeological excavations. The Remains of the earliest human ancestors, who had been migrating from Africa into Europe, have been found in Georgia. Two skulls, which are probably about 1.7 million years old, have been found during an archaeological excavation at a medieval castle at Dmanisi.

The Georgian language has its own script, which is one of the 14 scripts known in the world, and which was invented by the King Pharnavaz I in the 3<sup>rd</sup> century BC.

The first Georgian literary monument "The Torture of St. Shushaniki", which has been survived and reached us, was written in the 5th century by Iakob Tsurtaveli and belongs to work of hagiography. The work expresses the political, social, religious and cultural aspects of Georgia of that time.

Georgian culture has been developed for thousands of years since its foundation and had a renaissance and golden age of its classical literature, arts, philosophy, architecture and science in the 11th century.

Georgia is known for its folklore, traditional music, national dances, theatre, cinema, and art. Georgia has an ancient musical tradition, which is primarily known for its early development of polyphony. The Georgian folk song "Chakrulo" was sent into space on the 20<sup>th</sup> of August in 1977.

### Religion

Georgia was christianized by Saint Nino from Cappadocia in the early 4th century. Santa Nino was a woman who completed her mission of Christianizing Georgia under the protection and guidance of the Holy Mother of God, who is considered as the protector of Georgia.

Today 83.4 % of Georgia's population is Orthodox Christians. The rest of the inhabitants are Muslims, Armenian Christians, Catholics, Georgian Jews and adherents of other religions. Despite the fact, that Georgian major population are Orthodox Christians, country is very tolerant to other religions, cultures and traditions. For example, on one of the main streets of the capital city Tbilisi, there is a church, mosque, synagogue, catholic church next to one another.

### Irrigation and Drainage

As in an agrarian country, irrigation was always paid much attention in Georgia. It has an ancient tradition. This is proved by the irrigation infrastructure (Tamari canal) that was built in the 12th century during King Tamar's reign and, which reached us. This canal is still operating. In the period of King Tamar's reign, large irrigation canals were arranged in Shida Kartli and Kakheti regions. All this provided good conditions for the development of cereal culture, viticulture and fruit growing. Strabon, a Greek historian and geographer (64/63 B.C.– 23/24 A.D.), said about Georgian irrigation: "Georgia is irrigated better than Babylon and Egypt."

In 1950-1970, most of existing Georgian irrigation schemes were constructed, and 500,000 hectares of land area were irrigated. Most of irrigation systems were generally designed to serve large state and collective farms. Designs were done by scientific-research institutes based on historic surface water availability, geology, hydrogeology, soil cover, and climatic factors. In the early 1980s, 72 % (357,000 ha) of this area was irrigated by gravity flow, while the remaining 28 % (143,000 ha) was designed to be irrigated by pumps (FAO, 2008). The systems mainly consisted of engineering constructions with headworks, water outlets, inverted siphons, tunnels, pumping stations and concrete main canals. Some systems were non-engineering constructions with partially lined or earth canals. Most of the systems are located in Eastern Georgia having relatively dry climate.

As a result of the collapse of the Soviet Union and consequently, a difficult economic transition period in Georgia, the condition of irrigation systems became worse and the irrigation area fell to a historically low level: In 2017, the irrigation area was reduced to one fifth and only 47,700 hectares were actually irrigated. Along with the reduction of area, also agricultural production and productivity were reduced. In 2000-2010, production of annual crops was decreased by 44%, while productivity of perennial crops was decreased by 10%.

In 2017, the Government of Georgia developed a complex strategy of irrigation, which aims to develop irrigation systems in Georgia for the period of 2017-2025. The strategy outlines main legal and institutional reforms needed to support expanding irrigation systems, managing main systems, managing at local level, and regulating irrigation tariffs. It includes both, the rehabilitation of irrigation infrastructure out of order, as well as the development of irrigation management capabilities. The strategy aims to increase irrigation farming to 200,000 hectares by 2025. Rehabilitation and modernization of irrigation systems is a principal step towards this level, along with market development, extension services and the implantation of drip irrigation technology at the on-farm level. In achieving the set goals, Georgia is supported and helped by such international financial institutions, as the World Bank (WB), the International Fund for Agricultural Development (IFAD), the Asian Development Bank (ADB), etc.

Nowadays, the main irrigation service provider in Georgia is "Georgian Amelioration" LTD, state owned company under the "Ministry of Environment Protection and Agriculture of Georgia". The company provides irrigation and drainage services and carries out large-scale rehabilitation works over all Georgia. It supplies water from head works to on-farms networks, though communicating with more than 60,000 farmers is a great challenge and the situation will be much more complicated with the enlargement of irrigation area.

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According to the above mentioned and considering that one of the major tasks of the country is to increase fruiting and productivity of soil through rehabilitation and modernization of amelioration systems, it became necessary to adopt the Law of Georgia on Water Users' Organizations. The approved law regulates the activities and relationships of Water Users' Organizations with individuals and legal entities.

The most experienced irrigation methods in Georgia are:

Sprinkle Irrigation



Drip Irrigation



Flood Irrigation.



## Water Resources

The country is divided into two surface water drainage basins: with the Eastern portion draining - to the Caspian Sea; and the West draining - to the Black Sea. Major rivers are: 1)The Mtkavari (Kura) with its tributaries The Alazani and The Iori - in the East; and 2)The Rioni - in The West. The climate in the East is semi-arid, receiving from 600 mm to 800 mm of rainfall a year. The West is more sub-tropical with over 1,000 mm of rainfall a year. Therefore, irrigation is a common requirement in the East, while in the West artificial drainage is often required.

Georgia's main natural resource, water, is unequally distributed on the territory of the country. Due to unequal distribution of rivers' annual flow (65 billion m<sup>3</sup>) in Georgia, (only 24% in eastern Georgia), during the vegetative irrigation period, the irrigation water supply is not fully satisfied, especially during the peak water demand period (July-August), when the rivers' flows are significantly reduced.

Currently, in Georgia only 8 out of 34 irrigation reservoirs are in operation, which can store less than 4 % of the annual flow of the Eastern Georgia's rivers. Snowpack on mountains provides additional reserve, but this reserve reduces with climate warming. Georgia also has groundwater potential, though they are less used for irrigation.

## Agriculture

Agriculture is traditionally a key economic sector in Georgia, where approximately 42% of the population is employed. Despite the high rate of GDP, agriculture contributes just 10%.

According to official statistics, there are about 640,000 agricultural land in Georgia, out of which 500,000 units are less than 1 ha. Particularly, there should be noted regions of Eastern Georgia - Kakheti, Shida Kartli and Kvemo Kartli, which play a key role in the country's food security. The land area used in all three regions totally is 520,000 ha, while the number of people employed in agriculture is 840,000. In the abovementioned regions, crops, such as barley, maize, sunflower, watermelon are dominated. Perennial crops, for example grapes and olive, also are grown. However, a great potential exists for developing horticultural crop production.

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One of the most important agricultural products in Georgia is wine. Georgia has the oldest and finest winemaking tradition in the world. Archeological excavations prove that wine was produced in Georgia more than 8000 years ago, that gives Georgia the status of “Country of wine”. The center of the wine industry is the region Kakheti in The Eastern Georgia.

Georgia is also known for the high quality of its mineral waters, for example Borjomi. Important crops are tea, citrus and other fruits.

Animal husbandry, mainly the keeping of cattle, pigs and sheep, play an important role in agricultural products - about 25%.

### Geography and climate

Georgia is located in the South Caucasus with 67,900 km<sup>2</sup> of area. It is a very mountainous country. The Greater Caucasus Mountain Range forms the northern border of Georgia. The southern portion of the country is bounded by the Lesser Caucasus Mountains. The highest mountain in Georgia is Mount Shkhara at 5,068 meters (16,627 ft). Other prominent peaks include: Mount Janga (Dzhangī-Tau) at 5,059 m (16,598 ft) above sea level; Mount Kazbegi at 5,047 m (16,558 ft), Mount Shota Rustaveli 4,860 m (15,945 ft), Mount Tetnuli 4,858 m (15,938 ft), The two-headed peak Ushba 4,700 m (15,420 ft), and Ailama 4,547 m (14,918 ft). Among the abovementioned peaks, only Kazbegi is of volcanic origin. The region between Kazbegi and Shkhara (a distance of about 200 km (124 mi) along the Main Caucasus Range) is dominated by numerous glaciers. Out of the 2,100 glaciers that exist in the Caucasus today, approximately 30% are located within Georgia.



Two major rivers in Georgia are the Mtkvari and the Rioni. The Southern Georgia’s Volcanic Highland is a young and unstable geological region with high seismic activities and has experienced some of the most significant earthquakes that have been recorded in Georgia.

There are also some caves in Georgia. The Krubera Cave is the deepest among the world's most famous caves. It is located in the Arabika Massif of the Gagra Range, in Abkhazia.

Uplistsikhe Cave City (literally translated as “Fortress of God”) is an ancient rock-hewn town, which played a significant role in Georgian history over a period of approximately 3.000 years. Archaeological excavations have revealed extraordinary artifacts dating from the late Bronze Age all the way up to the late middle ages.

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Uplistsikhe Cave Town-Fortress, recognized by UNESCO, is situated on a rocky massif in Eastern Georgia. Its history begins in the I-II millennium B.C. Uplistsikhe was an important religious, political and cultural center in the Hellenistic and the late Antique periods (IV c. B.C. – IV c. A.D.).

Vardzia is a cave monastery in southern Georgia. The main period of its construction was the second half of the 12th century. The Cave is stretched over several five hundred meters along the rock and up to the nineteen steps of the inner staircase in height.

View of the cave city of Vardzia



Much of the natural habitat in the low-lying areas of western Georgia has disappeared during the past 100 years because of the agricultural use of lands and urbanization. The large majority of the forests today don't exist, with the exception of the regions that are included in the national parks and reserves. Western Georgia's forests consist mainly of deciduous trees below 600 meters (1,969 ft) above sea level and contain species such as oak, hornbeam, beech, elm, ash, and chestnut. Evergreen species, such as box, may also be found in many areas. Among every 4000 tall plants, 1000 of them are endemic in Georgia.

The general landscape of Eastern Georgia comprises numerous valleys and gorges that are separated by mountains. Unlike Western Georgia, about 85% of the region's forests are deciduous. Among the deciduous species of trees, especially beech, oak, and hornbeam dominate. Other deciduous species include several varieties of maple, ash, and hazelnut.

## Climate

The climate of Georgia is extremely varied, despite its small size. There are two main climatic zones, corresponding to the eastern and western parts of the country.

A large part of Western Georgia is located in the northern part of the subtropical zone with annual precipitation ranging from 1,000–4,000 mm (39.4–157.5 in). The precipitation is distributed equally throughout the year, although in autumn months it is in a larger amount. The climate of the region varies significantly with elevation and, while the lowland areas of western Georgia are relatively warm throughout the year, the foothills and mountainous areas (including both the Greater and Lesser Caucasus Mountains) experience cool, wet summers and snowy winters (snow cover often exceeds 2 meters in many regions).

Eastern Georgia is characterized by a transitional climate, starting with a humid subtropical climate and ending with continental. Annual precipitation is considerably less than that of western Georgia and it ranges from 400 mm till 1,600 mm (15.7–63.0 in).

The wettest periods generally occur during spring and autumn, while winter and summer months are the driest. In a large part of eastern Georgia, there are hot summers (especially in the low-lying areas above sea level) and relatively cold winters.

### Government and politics

Georgia is a democratic republic, with the President as the head of state, and Prime Minister as the head of government. Prime Minister appoints and dismisses ministers. Prime Minister represents Georgia in foreign relations and concludes international treaties on behalf of Georgia.

### Foreign relations

Georgia maintains good relations with its direct neighbours (Armenia, Azerbaijan, and Turkey) and is a member of different international organizations. Among them are: the United Nations Organization, the Council of Europe, the World Trade Organization, Black Sea Economic Cooperation, Organization for Security and Cooperation in Europe (OSCE), the Community of Democratic Choice, the GUAM Organization (Intergovernmental Organization – Georgia, Ukraine, Azerbaijan and Moldova) for Democracy and Economic Development, the European Bank for Reconstruction and Development, the Asian Development Bank.

Georgia contains two *de facto* independent regions, Abkhazia and South Ossetia, which gained very limited international recognition after the 2008 Russo-Georgian War. Georgia and most of the world's countries consider these regions to be Georgian territory, under Russian occupation. Georgia also maintains political, economic, and military relations with France, Germany, Israel, Japan, South Korea, Sri Lanka, Turkey, Ukraine, the United States, and many other countries.

### Georgia and ICID

Georgia became a member of ICID on January 1, 2018. “Georgian Amelioration” LTD, as the ICID membership candidate, made a presentation on the Successes and Challenges of the Georgian Amelioration, on the 23<sup>rd</sup> Congress of International Commission on Irrigation & Drainage, including Georgia’s expectations from becoming a member of ICID congress.

