ORIGINAL RESEARCH PAPER

Volume-8 | Issue-8 | August - 2019 | PRINT ISSN No. 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

# GENERAL MAP OF GEORGIA BY ALEXANDER JAVAKHISHVILI – THE COMPLEX ANALYSIS

Geography

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## ABSTRACT

The article describes the General Map of Georgia (scale: 1:200 000) published by Alexander Javakhishvili in 1931-1932. The Map shows the state borders, administrative-territorial division of the country, settled areas (with the number of homesteads), infrastructure (roads, factories, etc.), monuments of culture, etc. Thus, it is the original source for different branch specialists. The study identified the changes in various geographical objects from past to present and some peculiarities of their territorial distribution. The changes in the state border and administrative-territorial units were also identified.

## KEYWORDS

Cartography, map, Georgia, Alexandre Javakhishvili.

## INTRODUCTION

There are more than one maps of the territory of Georgia survived to date, but they are not studied or analysed properly. This is also true about the maps compiled in the I half of the XX century. Virtually, the political state of the country before the 1990s did not give a real basis to study them.

The study of the General Map of Georgia by Alexander Javakhishvili, with some exceptions, has not undertaken to date, despite the fact that the Map gives much valua-ble scientific information (for geographers, demogra-phers, cartographers, historians, ethnographers and spe-cialists of toponymy). It shows the state of the 1930s: the state territory and borders, administrative-territorial divi-sion of the country, density of the settled areas, popula-tion (number of homesteads and population density for some locations), infrastructure (roads, factories, etc.), monuments of culture, toponyms, etc. (Fig. 1). The Map also gives the information about then-time forest and glacier cover and allows comparing it to the present state.

The Map is particularly important in a toponymic re-spect, too. During the Soviet era, many toponyms had their names changed, and many toponyms were even forgotten. Therefore, the toponymy of the Map is the best source for retrospection and study of dynamics of the geographical names.

## MAIN RESULTS

Brief history of the development of cartograp¬hic works in Georgia More than one archeological treasures found on the terri-tory of Georgia have preserved primitive images made on various materials, which can be considered as "prehistor-ic maps", e.g. petrographic scenes of Zurtaket burial moulds (near Dmanisi, XVIII c. BC.), cliff of the River Patara Khrami (near Tsalka), etc. As the scientists think, alongside with other information, cartographic elements can also be read out from these scratches, such as per-spective mountain rows, river networks, lakes, vegetation cover and roads [Sartania, Nikolaishvili the al., 2016].

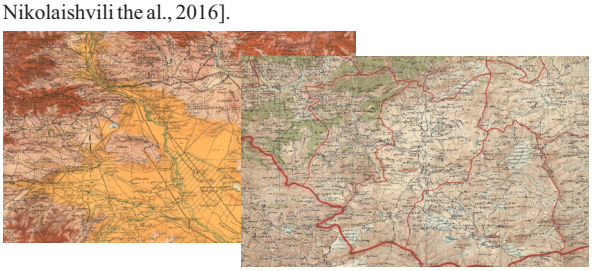

**Fig. 1. General Map of Georgia by Alexander Javakhishvili, 1930-1931 (fragments)**

The data about the existence of maps in ancient Georgia have survived in "The Argonautica" by Apollonius of Rhodes, where we read that the Kolkhi people had "written quirbs inherited from their ancestors, which showed all land and marine ways and borders to the travelers". Karl Ritter, a German geographer and one of the founders of classical geography, whose ideas greatly influenced the development of the geographical reasoning in the XIX century, thought that the honor and glory of inventing the cartographic art does not a bit belong to the Greeks of Asia Minor. Rather, this technique was used even earlier by the traveling traders from Kolkheti. Besides, he supposed that these plates, the original maps, could be owned by Herodotus, as he listed the trade routes of Bosporus and Ponto.

So, map drawing must have a long history in Georgia. However, the hard times in the country, alongside with many historical documents, destroyed the maps as well. Therefore, we do not have the cartographic sources dated earlier than the XVIII century and we can make judgments about them based on other historical sources only.

The development of cartography in Georgia has a long history. In this respect, Vakhushti Bagrationi, the XVIII-century Georgian historian, geographer and cartographer, who compiled 3 atlases of Georgia, played an important role in the development of cartographic and geographic science. During the century, his works became the major source of the geographical and cartographic science of the country for the West-European scholars writing essays of the Caucasus.

In the XIX century and at the beginning of the XX century, the surveys and map drawing of the territory of Georgia was mostly done by Russian, German and French military topographers and geodesists. Despite the rich traditions of cartographic science in Georgia, virtually no Georgian-language maps were compiled in this period.

In the I half of the XIX century, the situation changed and Georgian cartographers appeared on the international arena. In 1910-1920, different-scale Georgian maps both, of the whole territory of Georgia and its individual parts, were created. Most of them were small-scale maps, but gradually, they started to compile average-scale Georgian maps as well. In this respect, a great contribution was made by Ivane Javakhishvili, who, in 1922 and 1923, compiled the maps of Georgia scaled 1: 420,000 (10 Verst : 1 inch) [Sartania, Nikolaishvili the al., 2016].

A new wave of publication of large-scale Georgian maps of the territory of Georgia was seen in the 1930s. In this period, the maps with supreme cartographic accuracy published under the authorship and editorship of Alexander Javakhishvili (1875-1973), a great Georgian geographer and anthropologist (scaled 1:400,000 and 1:200,000), are worth mentioning.

General overview of the General Map of Georgia by Alexander Javakhishvili. This general geographical map was compiled at the Cartographic Institute of Georgia and was published under the leadership of Alexander Javakhishvili by the state publishing house in 1931-1932. The map scale is 1:200,000. The orographic units on the map are plotted by means of an inking method. The map is published in two versions. The first version has colored hypsometric steps, while another one gives the colored forest cover. Both of them have 12 pages. Both maps show general geographical objects (hydrographic network and orographic objects), settled areas, cult buildings (over 200), railways and motor roads, forest cover, etc. The legend of the study map shows borderlines and levels of altitudinal steps in meters (Table 1).

**Table 1. Legend of the map**

| Localized at point | Localized in line | Localized in area |
|---|---|---|
| Settlements | State border | Glaciers |
| Height marks | Administrative border | Lakes |
| Passes | Coast line | Reservoirs |
| Religious buildings | Railway roads | Swampy places |
| Fortification facilities | Motorways | Forest cover |
| Cemeteries | Melioration network | Agricultural lands |
| Enterprises | | |
| Railway stations | | |

The map has no other legend. However, we can make judgment about them by using the legend system of the 5-Verst maps, as so called "Verst maps" compiled with Russian metric system at the turn of the XIX century were used as the basis for the study map.

Oro-hydrographic objects of the map. The map has over 2000 elevation marks (in terms of meters). All of them have their absolute altitudes, and more than 1000 of them also have their names written next to them. If we compare these objects to the modern map, we will see that they differ not only with their names, but with their heights also. For instance, the absolute altitude of the highest peak of Georgia is 5203 m, 5201 m or 5068 m on the modern maps [Elizbaarshvili, et al, 2000; Physical map of Georgia, 2012], while the study map shows 5183 m. The same is true with the peaks (Table 2).

**Table 2. Absolute heights of some orographic objects in various sources**

| Orographic objects | | Absolute height, m | |
|---|---|---|---|
| | | On the study map | As per the later sources |
| Shkhara | peak | 5183 | 5203 / 5201 / 5068 |
| Mkinvartsveri / Kazbegi | peak | 5043 | 5047 / 5033 |
| Tetnuldi / Tvetnuldi | peak | 4858 | 4852 |
| Ushba | peak | 4697 | 4700 |
| Tebulosmta | peak | 4505 | 4493 |
| Dombai-Ulgeni | peak | 3977 | 4046 / 4047 |
| Mamisoni / Chanchakhi | pass | 2850 | 2819 |
| Klukhori | pass | 2815 | 2781 |
| Marukhi | pass | 2769 | 2746 |

A dense network of rivers is plotted on the map showing the load adequate to the map scale. It is true that not all of them have their names inscribed, but in a graphical respect, they are presented in sufficient details and river braches and small islands between them are a good evidence of the changes in the network of rivers. Today, there are hydropower plants provided across some of the rivers, and consequently, the original landscapes are disturbed and the original eco-systems do not exist anymore. For instance, in addition to the former river network on the site of Tsalka water reservoir, it is also possible to specify the exact location of the past settled areas (such as Kukia, Peniaki, Tsalka, Khadiki) and cultural monuments (Gunia-Kala, Sanameri).

The map shows great number of lakes as well, totaling to 87, with 20 of them with names. Particularly many lakes are shown in Samtske-Javakheti with their water surfaces specified with absolute heights. The map also shows many marshes. Today, some of them are dried manually, while others give us an idea about the duration of bogging.

The glacier cover plotted on the map gives the opportunity of an almost 100-year retrospective of the modern glaciation. As the map suggests, the total area of the glaciers is 662 km2, which is reduced to 235.27km2 at present [Gobejishvili, 2006].

Forest cover. Georgia has a high humidity index (39,7%). However, forests occupied much greater areas in the past. This is evidenced by a number of historical documents and historical-literary works and epigraphic monuments showing the areas with vast forests and great many wild animals and birds, today occupied by sparse forests, meadows, steppes, bushes and settled areas. A good evidence of this fact is the study map as well.

Destruction of forests in Georgia is mainly associated with an anthropogenic factor. In particular, the reason for the absence of forests on Kolkheti Valley, Javakheti Plateau, Shida Kartli Plain and in Tbilisi environs, together with the natural factors, is a long anthropogenic impact. For example, the forests on Somkheti-Javakheti Plateau were destroyed by the people as early as in the Holocene age [Maruashvili, 1964; Dolukhanov, 1979].

Besides, the forests in Georgia were destroyed intensely in the first half of the XX century. This process was associated with the political and economic processes taking place in Georgia and in the Caucasus region in general. In 1918-1921, import of oil from Baku was nearly stopped. As for the local fuel, it could not meet the economic and domestic demands of the country. His led to an increased impact on the forest massifs by the population. The forests along the railway line and roads were cut down with particular intensity. The forests of Georgia were badly destroyed in the 1930-1950s. In this respect, Svaneti is worth mentioning where large forest massifs were cut down.

Until the 1950-1960s, industrial-selective cuttings were done in the forests of Georgia and the established cutting norms were violated. In particular, 200-300 m3 and sometimes, 400-500 m3 of trees with valuable timber were cut down per hectare. As G. Gigauri thinks, as a result, the total area of the rarified forests have amounted 356,7 thousand ha, i.e. 17,4% of the Georgian forests [Kadjaia, 1999]. In order to increase the areas of cereal crops in many regions, the forests were also cut down, even over the slopes. As a result, these areas turned into useless lands in 1 or 2 years' time [Targamadze, Chikhradze, 1976]. Consequently, the study map gives a clear picture of the past forest cover of Georgia.

As the map shows, most badly destroyed were the plain forests. For example, the map shows forest massifs on a number of location of Shida Kartli Plain (e.g. in the environs of villages Artsevi, Mukhrani, Natakhtari, Kveshi, Tsilkani). It is true that such forests are shown as fragments or derivates, but it is their great areas that count. Forest massifs are also shown across the river branches where there are only bushes or agricultural plots today.

Map toponymy. In restoring old, historical names, the given map is a kind of historical document [Gabisonia, 2015]. In this respect, the study map is of a particular value.

It is known that the names of many geographical objects in Georgia changed and many original old Georgian toponyms disappeared during the Soviet period. Many toponyms were named memoratives and given the names of Bolshevik leaders, heads of the state or the Communist Party or military Soviet figures. The same happened with the names of revolutionists, Bolsheviks and Soviet Party leaders famous in Georgia and in the Union. Besides, many new names of Soviet ideals appeared, e.g. Komsolmolskoe (Komsomol), Ksanogorsky, Krasnoe (Red), Oktyabrskoe, Oktomberi (October), Pirveli Maisi (The First of May), Sabchota Chai (Soviet Tea), Shromisubani (Labor District), Tsiteli Varskvlavi (Red Star), Tsitelsopeli (Red Village), Tsitelskrao (Red Spring), Tsitelkhevi (Red Gorge), etc.

This old map of the 1930s still shows many old Georgian toponyms. In this respect, the map also helps us with the retrospection of old names. Soviet names were common in all corners of Georgia, but in the 1930s, the map of Georgia was not that "Red".

It is true that many old names of geographical objects are still known today, but they are interesting in the orographic forms given on the map.

Transformations of the state borders of Georgia and administrative-territorial division of the country. The comparison between the old and present-day territory and state border contours of Georgia has made it clear that the state borders are almost the same, with minor exceptions.

For instance, such an exception is the north-western border of the country, which more repeats short-term changes of the given perimeter at the turn of the XIX century.

In the XIX century, the Black Sea Okrug (District) was established. Later, in May of 1896, under the Tsar's order, this territory was included in the Black Sea Province, which incorporated three administrative units: Sochi, Tuapse and Novorossiysk District (Okrugs). The southern administrative border of the Province near Sokhumi Okrug (with Georgia) was passed along the Mzimta River. On February 25, 1904, the border was moved even more southwards. A part of Sokhumi Okrug, the territory adjacent to Gagra weather station, comprising total of 150 desetina (163,5 ha) land area, with forests and alpine pastures, was incorporated in the Black Sea Province.

In 1917, so called OZAKOM (Special Transcaucasian Committee), which had the power in the region of Viceroy of the Caucasus, on the mediation of the Executive Committee of the Peasants' Deputies of Sokhumi Okrug and local foresters, restored the old state before 1904 of the administrative border. In 1918-1919, Sochi zone was controlled by Georgia, but due to the grave military and political circumstances, it was impossible to maintain it. In 1921, the border ran along the river Kholodnya Rechka, ascended to the watershed crest, followed Gagra Ridge along the Arabika mountain (2656 m) to Agepsta mountain (3256 m), then followed Atsetuka Ridge, crossed Akhundara Pass (2072 m) and ascended to the main watershed ridge. It is this contour of the border plotted on the study map. Later, the border was changed and Georgia recovered the part of its historical territory. The border moved to the Psou River.

The situation with the internal territorial division is different. The administrative division of the country changed during the whole history. These changes were caused by the political surroundings and decisions made by the authority. In 1921, following the forced Sovietization of Georgia, important changes were made to the administrative-territorial division of the country what is also shown on the map.

Then-time literary sources wrote that the pre-Revolutionary administrative division was not in line with the new political and economic objectives and demands. The Soviet ideology explained their decision about using the new administration division by the failure of the administrative division of tsarist Russia to consider the economic, cultural, domestic and national homogeneity [Administrative division of Georgian SSR.., 1930].

In the Soviet period, the main accent was made on improving the service of the national minorities and it was thought that it was an organizational registration of the fundamentals of self-determination. We think that this approach was incorrect, as it created potential focuses of tensions.

Georgia was divided into small administrative units – the regions. Division of the country into regions was done in 1930 and the number of regions was over 60. The purpose of such a division into very small units was to strictly control the population and the economy.

The map shows 65 regions on the territory of Georgia. The picture on the study map differs from the present-day administrative division not only by the number of units, but by the names of the geographical objects as well.

## CONCLUSION

The study showed that the General Map of Georgia published by Alexander Javakhishvili in 1931-1932 shows many such data, which were “erased” later, during the Soviet era and no doubt the map is an important original source for different branch specialists.

## ACKNOWLEDGMENTS

This research would not have been possible without the support of the Student's project at Tbilisi State University and participants in the project. The authors of the work express their gratitude to all them.

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