

# Retrospective Mapping of Forest Cover in Tbilisi and its surrounding area

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Tbilisi is very old city. It was covered by forest from very beginning. Nowadays the situation has been changing dramatically, you can hardly find very old plants and artificially cultivated forest arrays. Dozens of problems are caused by damages/destruction of green cover and solution, at one glance, seems to be uncomplicated (planting trees and creating green quarters), but on the other hand, according to the increasing tendency, the built up of areas still remains unsolved. Finding out the ways to overcome such obstacles is important even for protecting health of society.

Making of Retrospective cartography of the forest area of Tbilisi with help of using GIS technology and remote sensing was the main aim of the research.

Research about the dynamic (from XIX till today) of forest-cover in Tbilisi and its surroundings included the following steps: there was studied the dynamic of forest in Tbilisi and its surroundings. The survey was mainly based on the retrospective mapping method. Using of GIS technology, studying, comparing and identifying the narrative sources was the next step. And the last one was analyze of the changes from 80s to the present days on the basis of decryption of cosmic photos.

After creating a unified cartographic basis, the mapping and plans of different periods have been linked to this basis. There was made specification of forest-cover areas and was also made cartography of Tbilisi. To this basis was connected Data about green parks, individual old plants that exist in private yards, the general plan of Tbilisi and Scientific works as well.

On the basis of analysis of historic, including cartographic sources, forest-cover maps for different periods of time were made. In addition, was made passportization of individual green parks (location, area, name and so on), which was the basis of creating several thematic maps. There were identified areas where green cover has greatly degraded.

There were made maps which depicting the dynamic of forest cover of Tbilisi. There was also done complex analyze of them. The methods of linking the data of the old cartographic sources to the modern basis were developed too, the result of which may be used in Urban Planning of Tbilisi. Understanding, perceiving and analyzing the real condition of green cover in Tbilisi and its problems, in turn, will help to take appropriate measures for the maintenance of ancient plants, to develop forests and to plan properly parks, squares, and recreational sites. Because the healthy environment is the main condition of human health and implies to rational development of the city.