

## AVAILABLE DATE BASE AND GIS OF THE CAUCASUS

*Neli Jamaspashvili<sup>a</sup>, N.N. Beruchashvili<sup>a</sup>, L.N. Beruchashvili<sup>a</sup>, M. Elizbarashvili<sup>a</sup>*

email: neli.jamaspashvili@tsu.ge

<sup>a</sup> Department of Geography, Ivane Javakhsishvili Tbilisi State University  
I.Chavchavadze ave. 3, Tbilisi, 0128

Data base and gis systems which were developed at Tbilisi state university (**prof. N.L. Beruchashvili**) at a regional level it is possible to divide them on five basic groups.

1. BASE GIS OF CAUCASUS in scale 1:500 000; 2. LANDSCAPES GIS; 3. Dynamical Databases which includes environment and social and economic parameters from the period 1970 till recently; 4. Databases and GIS developed in cooperation with WWF with allocation of critical areas and protected territories of Caucasus; 5. **GIS of the Geopolitical atlas of Caucasus.**

It need to mentioned that all GIS easily become attached to GIS of space images for Caucasus (landsat5-1landsat 7, orbital station Souz).

Base GIS of Caucasus covers the area 1760 thousand sq. km. and cover territories between 48 and 36 degrees of north latitude and 36 and 52 degree of east longitude. Thus considered GIS covers not only actually territory of Caucasus, but a part of adjacent territories, beginning from the south of Russia, up to sulfuric border of Iraq. We want to remind, that the area of Caucasus in traditional understanding is about 440 thousand sq. km. The area which is located northern than 40 degrees cover territory of 1 120 thousand sq. km.

The General GIS landscapes of Caucasus made on the basis of topographical maps scale 1:500 000 and contains traditional layers of BASE GIS - layers of hydrography (linear and polygonal objects separately), the orography (ridges and the basic tops), transport network, settlements network, the forest territories, etc. Total number of is around 100 000 units.

All data in general GIS Caucasus are organized in search system which allows on the basis of the name of object in English, Russian and Georgian languages to find about 20 000 called objects on Caucasus and adjacent territories. Besides this in general GIS of Caucasus present 5 levels of generalization and at gradual increase in scale there is an increase in detail GIS.

More detailed GIS is available for territory of Georgia (70000 sq. km.) and adjacent territories (150 thousand sq. km.) made in scale 1:200 000. The General GIS of Caucasus is easily transformed to thematic layers. For example, on a slide 5 the map of a transport infrastructure of Caucasus with a network of settlements is shown.

In commonwealth with WWF a lot different GIS of Caucasus is made. As it known WWF mapped 200 ecoregions on globe with the raised biological variety. In number of these regions Caucasus, with an adjoining part of northeast Turkey and northwest Iran has got also. In the subsequent this territory has got in the list of 25 critical territories on Globe which demand detailed research and preservation. Thus by a special technique have been made GIS of kinds of plants and the animals of Caucasus being under threat of disappearance or representing the big scientific interest. On the basis of concentration of similar kinds

critical sites are allocated for territories of Caucasus which should get in a network of protected territories.

**Together with the French colleagues (the Parisian university) was made « Geopolitic atlas of Caucasus ».** This atlas has already been published in 1996 and 1998 in Paris. The third edition of this atlas now prepares. Besides in the third edition the list of parameters is essentially expanded on the basis of which a plenty of new thematic maps will be made.

**In Geopolitical atlas of the Caucasus present** a powerful database in a level of administrative districts of Caucasus. In total on Caucasus 390 administrative districts are allocated and on each district the social and economic indices given under conflicts and territorial problems and many other data, down to electoral data are brought more than 100 parameters, concerning demographic position, national structure. In total in a lumpsum section in the Databank contains up to 30 000 units of the information. During existence of the project a plenty of data on dynamics has collected (information exceeds 100 000) These data allow build a lot of interesting and detailed maps.