Influence of climate changes on the river flow on the background of global warming (on the example of the riv. Vere)

Merab Alaverdashvili, Daredjan Kiknadze, Nunu Tsintsadze, Nestan Khupenia, Nana Kokaia

E-mail: merab.alaverdashvili@tsu.ge

Department of Geography, Ivane Javakhishvili Tbilisi State University, Tbilisi, 0179, 3, I. Chavchavadze Ave.

In the conditions of global warming the great attention is paid to instrumental hydrometeorological observance system. The fact that the observances at the river Vere and the laboratory territory are carried out since 1962 up today is to be mentioned. It actively involves the professor-teachers and students of the university.

Our task is to compare the meteorological data (atmospheric precipitations - h mm, air temperature - t°, relative humidity - % and evaporation - E mm) of the last decade of the previous century (1991-2000) with the ones of the first 12 years of the new century (2001-2012) and determine the influence of the received changes on the river Vere's flow of the appropriate periods. It appeared that the precipitations have been increased from 439 mm to 540 mm, air temperature from 12.6° to 13.5°, relative humidity from 69.2% to 78.2%, and evaporation has been decreased from 494 mm to 303 mm. Due to all of the abovementioned, the average multi-annual discharge of the river Vere has been increased from 0.87 m³/sec to 1.30 m³/sec for 49%, which is the result of global warming.