

The statistic structure of the distribution of the air temperature in the troposphere under the territory of Kakheti for the last 5 years

Khatia Tavidashvili

E-mail: khatia.tavidashvili194@ens.tsu.edu.ge;

Department of Geograhyy, Faculty of Exact and Natural sciences, Iv. Javakhishvili

Tbilisi State University #1, I. Chavchavadze Avenue, Tbilisi 0179, Georgia

In the previous work is presented detailed analysis of the temperature of atmosphere, daily vertical radiological sounding out detailed analysis in Telavi for four periods of observations (4, 10, 16, and 22 hours on the local time) . The data of 2012-2016 is utilized from the international information base. The information about the earth temperature is received from the site of the world base. The statistic analyses of the air temperature's vertical profiles 7308 data was completely done. Range of heights from 0.543 to 27 km. (The height of Telavi's underground-station)

In the previous work on the given stage it is studied : the vertical distribution of the average monthly values of the air temperature above the territory of Kakheti. (January – December), The detailed statistic of heights of zero and -6°C isotherm, (April – October, the season of fight against the hail), the monthly average data variability of zero Isotherm. On the discussed territory the data of -6°C Isotherm and the vertical gradients of air temperature was compared to the data of past century . (The beginning of 50th and the end of 60th)

The result of the research is established that in the region of Kakheti, especially in the last period, compared to the previous century , is grows to 0°C isotherm from June to October. And the grows of -6°C Isotherm from June to August and September. Diminish of the monthly average air temperature from May to October in 2012-2016 happens with the bigger gradient , compared to 1958-1961.

During in the last 5 year (2012-2016) ,the heights of -6°C isotherm was increased in June, July August, and in October. (The highest is in October – 219 m, the smallest in July – 143 m) and is decreased in may (280 m) and is September (38 m)

The results of the research will be used for optimal choice of the rocket to influence on the weather, also to compose the detail maps of potential damages of the agriculture, infrastructure, transport and buildings, and for radar of the height of the place, the height of the zero-isotherm and the size of the hail pieces into the clouds.