SOME ECOLOGICAL PROBLEMS OF GEORGIAN TERRITORY

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Environment protection is one the most urgent issues of today. So the diagnosis of adverse substances and prognosis of there space-time distribution is one of the main problems of modern science. Mathematical and computer simulation and numerical experiment is once of the efficient methods for analysis, diagnosis and forecases of the factors causing ecological balance changes.

At present air pollution in urban areas from traffic durring the rush hours is very high. Tbilisi air pollution is not different from other urban areas in the world, but Tbilisi has some special features connected with city architecture and meteorological conditions. That is way our main direction of the our study is investigation of the connection between air polution from traffic in the Tbilisi street canyons and the meteorological conditions and the estimation of the leved of atmospheric air pollution caused by the mototransport in Tbilisi. Numerical calculations were carried out on the basis of hydrotermodynamics equations using experimental data. The model predicts the highest concertration depending on the wind velocity, on the wind direction and on the turbulance.

The bitter experiences of the previous years and present objective reality shows the necessity of careful study and forecasting of the radioecological situation on the territory of Georgia, which is caused by climatic and orographic features of this region. Chernobil Nuclear Power Station (CNPS) disaster (April, 1986) has caused a lot of problems to the regions of Kiev, Gomel, Mogilev, Zhitomir and also to the Black Sea shore of Georgia, Kolkhida lowland and West Georgian highland. After the CNPS accident the Armenian Nuclear Power Station (ANPS) stopped functioning, but realazing critically energetic situation in Armenia in spite of the protest made by the neighbouring goverments, the station renewed working. In view of the hard economical situation and high seismological zone in which ANPS is the problem of danger really exists.

The main directions of our studies of this problem are: investigation of the main meteorological procceses dominating over the territory of the Caucasus, investigation of influence of the Caucasus relief on the development of atmosphere processes, estimation of posible distribution of radionuclades on the territory of Georgia in case of accident of the CNPS for different types of the sources of powers and varieties of meteorological processes.

The study of the above problem was carried out with the aid of mathematical and numerical modeling and also with the help of statistical and empirical methods.