



MAXIMUM RUNOFF IN THE RIVER BASIN BORZHAVA: DYNAMICS, CONDITIONS OF FORMING AND RISKS OF OCCURRENCE

V. Bibik, L. Gorbachova

*Ukrainian Hydrometeorological Institute
Nauki Prospekt 37, 03028 Kyiv – Ukraine*

ABSTRACT

Carpathian territory belongs to the most flood dangerous region of Ukraine. Significant rises in water levels by the rivers of Ukrainian Carpathians can be observed several times a year, they in turn can lead to the formation of significant floods that often have catastrophic nature. This leads to significant damages as a country generally and individual citizens. Therefore, accordance with Directive 2000/60/EU and 2007/60/EU one of the most important tasks for today is scientifically analysis of flood danger areas in order to assess risks of flooding territories and hydrological predicting occurrence of dangerous situations on rivers and their timely prevention.

Therefore, to achieve the requirements of the European and national practices on the issue, the paper paid considerable attention to the problem of assessments of the time homogeneity of maximum water discharges, the analysis of historical flood of warm and cold season and the study of formation conditions of maximum runoff of the rivers of the Ukrainian Carpathians on the example of the river basin Borzhava.

As noted above, the assessment of data homogeneity for any hydrologic analysis is one of the most important tasks. Therefore, in these studies the authors proposed a comprehensive approach to its solution: use both statistically criterions (Fisher and Stjudent statistical significance of linear trends) and hydrological genetic methods (total, difference-integral curves compatible chronological charts), which allows with more accuracy to make conclusions.

Keywords: maximum runoff, linear trend stationarity, homogeneity, statistical criteria, historic floods, probability, water flow, module flow, the coefficient of variation and asymmetry