

DOI: <https://doi.org/10.37162/2618-9631-2025-2-141-158>

A probabilistic form of streamflow forecasts / Simonov Yu.A., Khristoforov A.V. // Hydrometeorological research and forecasts, 2025, no. 2 (396), pp. 141-158.

Recommendations are proposed for issuing streamflow forecasts in a probabilistic form, which, in addition to the forecast in a deterministic form, gives an idea of the range of possible forecasted values.

It is proposed to obtain the probabilistic form of long-term and some medium-term streamflow forecasts based on the fact that forecast errors follow the normal probability distribution with constant variance. It is proposed to obtain the probabilistic form of issuing short-term and some medium-term forecasts based on the fact that the errors in the logarithms of streamflow forecasting follow the normal probability distribution with constant variance. Statistical criteria are given to test applicability of each of the methods. Examples of streamflow forecasts in the probabilistic form obtained using each of the proposed methods are given.

The proposed recommendations are intended to improve the scientific validity of the results of operational hydrological forecasting.

Keywords: streamflow, deterministic and probabilistic forecasts, verification forecasts, statistical analysis

Tab. 4. Fig. 2. Ref. 22.