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Methods for short-, medium-, and long-term forecasting of water inflow into the Tsimlyansk Reservoir have been developed. The methods are based on climatic and anthropogenic changes in the conditions for the inflow formation over the past decades. Their verification showed satisfactory and good results.

Average daily water inflow discharges are predicted throughout the year with a lead time of 1 to 10 days based on the hydrograph extrapolation method. The resulting forecasts are used to predict the volume of water inflow for 5 and 10 days. The monthly inflow for the low-water period of the year from June to February of the next year is predicted according to its dependence on the inflow for the previous month.

In long-term forecasting of the volume of the water inflow into the reservoir for the second quarter, the forecast of the inflow layer for the spring flood period and the precipitation layer averaged over the catchment area for March obtained by V. D. Komarov's method is taken into account.

The proposed system of methods provides the reasonable use of water resources of the Tsimlyansk Reservoir in modern conditions.

Keywords: reservoir, inflow, water discharge, volume, forecast, lead time, error, accuracy

Tab. 9. Ref. 18.