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ESTIMATING AREAL AVERAGE RAINFALL FOR AN UNGAGED MOUNTAINOUS BASIN IN THE AMUR BASIN

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ABSTRACT
A rainfall interpolation method is proposed to estimate areal mean precipitation of a mountainous 212 km2 basin. The objective was to use two permanent rain gages located more than 50 km away. Rainfall data were obtained from temporary rain gages in a 14-point network installed for four years in the basin. The empirical relationships between the temporary and permanent rain gages were used to predict rainfall totals at four most representative points of the basin. The analysis of the influence of altitude on short-term rainfall allows the part of the basin represented by each rain gage to be defined. The data were used to calculate average basin rainfall. To assess the performance of the rainfall interpolation method, fifty average basin rainfall totals were predicted with a root mean square error of 8.45 mm and a correlation coefficient of 0.94. The direction of improving the method based on basin coverage by the rainfall field is considered.

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