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A Development of System for Web-Based Flood Runoff

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The forecasting of flood runoff in the river is essential for flood control. The purpose of this study is to test a development of system for flood runoff forecasting using neural network model. For the flood events the tested rainfall and runoff data were the input to the input layer and the flood runoff data were used in the output layer. To choose the forecasting model which would make up of runoff forecasting system properly, real-time runoff in the river when flood periods were forecasted by using the neural network model and the state-space model. A comparison of the results obtained by the two forecasting models indicated the superiority and reliability of the neural network model over the state-space model. The neural network model was modified to work in the Web and developed to be the basic model of the forecasting system for the flood runoff. The neural network model developed to be used in the Web was loaded into the server and was applied to the main stream of Geum river in Korea. For the main stage gauging stations mentioned above the applicability of the selected forecasting model, the neural network model, was verified in the Web. The Web-based system developed in the present study could give the information on flood runoff to the local residents and accept their opinions on related matters in river management through the Web.