

The Distributed Hydrological Model Design and Its Primary Test on Flood Simulation

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The distributional hydrology model is designed and developed by ourself, which can be applied to make the short-term flood warning and forecasting in medium and small catchment. On the basis of rainfall observation data, we make the flood simulation test on 5 floods process in 2004 flood season in BaiLianhe reservoir. The model can simulate the reservoir water-holding capacity better, the simulation precision can achieve 82.32%, but the peak flood and happening-time exists some error, its main cause is that the system error is bigger. So we make the simple correction on the peak flood and happening-time, and then it gets the large improvement. The model bases on the 3 " resolution digital elevation raster data, consider the water budget in hour criterion. On each grid, the soil infiltration, the vegetation cut-off, evapotranspiration is considered to calculate the water holding, the dynamical wave equation is used to calculate the overland flow and river afflux. Keywords: distributed Hydrological model, numerical simulation, water storage, peak flood simulation, the happening time of peak flood

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