

A comparative study of the Xin'anjiang model and the Vertical-mixed runoff model

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Abstract A comparison of the Xin'anjiang model with the Vertical-mixed runoff model was carried out; this was based on the view of universality of real-time flood forecasting attributes. Simulation and calculation were performed using the observed data of arid and semi-arid areas (including the Qingfengling reservoir basin and Jinping reservoir basin) and humid areas (including the Weishui reservoir basin and Shimen reservoir basin). The results revealed that the two models can give good results for humid areas, but for semi-arid areas, Xin'anjiang model's performance was not very satisfactory, while the Vertical-mixed runoff model yielded better results. It was noted that the proportions of areas of runoff formation in excess of infiltration and runoff formation on saturation of storage changed with antecedent moisture and actual infiltration volume in the Vertical-mixed runoff model calculation.

Key words reservoir basin; Vertical-mixed runoff model; Xin'anjiang model
