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Hydro-Meteorological Forecasting System of Changjiang River

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Abstract:

The Bureau of Hydrology (BOH) under Changjiang Water Resources Commission (CWRC) begun to make flood forecasting for the Changjiang River in the early 1950s. As a non-engineering flood management measure, flood forecasting plays a significant role in real time flood management in Changjiang (Yangtze) River, which has largely reduced flood damage during big floods such as the basin-wide floods occurred in 1954 and 1998. Since the 1980s, with the increasing use of computer technologies and the development of forecasting technologies, flood forecasting technologies in the Yangtze River has been improved significantly. As the result, an automatic flow and rainfall information acquisition and transmission system has been established; database consisting all real time and historical hydro-meteorological data has been developed. For flood forecasting, in addition to observed rainfall data, the quantitative precipitation forecast is also used to improving accuracy and to increase lead-time. Different hydrological models and hydraulic models are then applied which obtain different model results. After comparison and analyses of these modeling results, in consideration of the forecasters' knowledge and experiences, a final forecast is determined. The forecast information will be given to flood prevention department and public.

Keywords: Hydro-Meteorological information, flood forecast, quantitative precipitation forecast, Changjiang River