Methodology in Hydrology (Proceedings of the Second International Symposium on Methodology in Hydrology held in Nanjing, China, October–November 2005). IAHS Publ. 311, 2007. 3–9.

Hydro-meteorological monitoring and operational hydro-systems for flood management in China

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Abstract China is subject to frequent flood disasters. Following the population increase, rapid city-expansion and socio-economic development, losses caused by flood disasters have become more and more significant, constraining socio-economic development. Statistics show that since the 1990s the annual economic loss caused directly by flood and drought has exceeded RMB 110 billion. Key non-structural measures for flood control, hydro-meteorological monitoring and flood forecasting play important roles in flood control and disaster mitigation, and have brought great economic and social benefits. This article reviews important aspects in hydro-meteorological monitoring and flood forecasting in China, such as the hydro-meteorological gauging network, monitoring and data transmission, and operational hydro-systems for flood forecasting and control. The Hydro-meteorological Information System and China National Flood Forecasting System are such examples. In addition, some models and methods used in practice are introduced.

Key words hydro-meteorological monitoring; operational hydro-systems; flood management