

Annual and monthly risk assessment of typhoon disasters in China based on the information diffusion method.

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In the context of typhoon disasters information, social and economic data of China during 1985 and 2014, temporal and spatial characteristics of annual and monthly typhoon direct economic losses are analyzed in China and on provincial scale. Risk assessments are carried out by the information diffusion method as the references for improving the capabilities of typhoon disaster risk management. The results are showed as following. Annual and monthly typhoon-caused direct economic losses from July to September of China show slightly increasing trends during 1985 and 2014. The monthly variation of direct economic losses are obvious, particularly in August, with the most number of disaster-caused typhoon and the most serious losses in a year. Comparing to the period during 1985-1994, the range of monthly variations became greater and total economic losses of September and October are greater than that of June and July in recent two ten-years periods: 1995-2004 and 2005-2014. Along with the increasing of direct economic losses levels, the numbers of province with middle and high risk level are all decreased gradually. Under the condition with annual direct economic losses greater than and equal to 5 or 10 billion RMB, the risk probability in Zhejiang is the most of China. Under the three risk levels (returning period=10,20,30 years), annual direct economic losses of Zhejiang, Guangdong, Fujian and Guangxi kept in the special serious degree. Under the risk levels with 20, 30 years returning periods, annual and monthly direct economic losses of Shandong and Liaoning and annual losses of Hebei also reached the special serious degree, the defense response to typhoon should not be neglected in these areas.

Keywords: Thphoon, economic losses, risk assessment, information diffusion method

(r) 10月直接经济损失 ≥ 100 亿元



Distributions of risk grades evaluated by exceeding probability under conditions which typhoon-caused direct economic losses are equal or greater than 10 billion RMB for October in China.