

[1]陈文方,方建,徐伟,等.长三角地区台风危险性定量分析[J].自然灾害学报,2012,01:1-8.

CHEN Wenfang,FANG Jian,XU Wei,et al.Quantitative analysis of typhoon hazard in the Yangtze River Delta region[J].,2012,01:1-8.

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## 长三角地区台风危险性定量分析(PDF)

《自然灾害学报》[ISSN:/CN:23-1324/X] 期数: 2012年01期 页码: 1-8 栏目: 出版日期: 1900-01-01

Title: Quantitative analysis of typhoon hazard in the Yangtze River Delta region

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关键词: [台风灾害](#); [危险性分析](#); [极值理论](#); [长三角地区](#)

Keywords: [typhoon disaster](#); [hazard analysis](#); [extreme value theory](#); [the Yangtze River Delta region](#)

分类号: P458.1<sup>+</sup>24

DOI: -

文献标识码: -

摘要: 台风灾害是影响我国最主要的自然灾害之一。由于地处西北太平洋西侧,长三角地区每年都会受到台风的侵袭。根据中国气象局公布的1949-2010年西北太平洋台风最佳路径数据,首先提取了影响长三角16个城市的台风最大风速数据,分别从台风影响频次、强度和最大风速极值分布的角度定量地分析了各个城市的台风灾害危险性,并通过对比分析得出了台风灾害危险性在长三角地区的分布状况。结果显示,台风影响频次和强度都呈现从东南向西北递减的趋势,综合台风影响频次、强度和极端台风重现水平,这16个城市可以划分为3个危险等级:"高危险"城市,包括台州、绍兴、宁波和舟山;"中危险"城市,包括杭州、上海、嘉兴、湖州、无锡和苏州;"低危险"城市,包括南通、常州、镇江、南京、泰州和扬州。致灾因子危险性定量评估是灾害风险评估中重要的一环,研究结果可供制定长三角地区台风灾害防灾规划参考。

Abstract: Typhoon disaster is one of the most major natural disasters influencing China. Being located in the western side of the northwest Pacific Ocean, the Yangtze River Delta region in China is particularly vulnerable to typhoon hazards. This study proposed a quantitative method to assess the typhoon hazard of specified

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typhoon prone regions. With the best track data of northwestern Pacific typhoon (1949-2010) published by China Meteorological Administration (CMA), this paper first extracted the maximum wind speed data of the typhoons affecting 16 cities in the Yangtze River Delta Region, then analyzed the risk of the typhoon disaster in different cities with respect to typhoon frequencies, intensities and extreme maximum wind speeds, and through comparison and analysis, obtained the spatial distribution of the risk of the typhoon disasters in the Yangtze River Delta Region. Results indicated that, typhoon influence frequencies and intensities both show a trend of decrease from southeast to northwest. Integratedly considered typhoon frequency, intensity and return period of extreme typhoon events, the 16 cities can be classified into three grades of hazard: "high-hazard" cities, including Taizhou (in Zhejiang Province), Shaoxing, Ningbo and Zhoushan, "moderate-hazard" cities, including Hangzhou, Shanghai, Jiaxing, Huzhou, Wuxi and Suzhou, and "low-hazard" cities, including Nantong, Changzhou, Zhenjiang, Nanjing, Taizhou (in Jiangsu Province) and Yangzhou. Because hazard assessment is an important part in disaster risk assessment, the results of the research will provide a reference for typhoon risk assessment, and typhoon disaster prevention and control planning of the Yangtze River Delta region.

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备注/Memo: 收稿日期:2011-7-6;改回日期:2011-10-21。

基金项目:国家"十一五"科技支撑计划项目(2008BAK50B07)

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