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Analysis of 50a' Geological Disaster and Extreme Rainfall in South West of China

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This paper analyzes geological disaster over 20000 cases in south west of China during 1961-2010, constructs the 11 division of hazardous area of geological disaster. It reveals that northeastern in Sichuan and eastern in Guizhou are with the highest dangerousness. Eastern in Sichuan and Chongqing, ?southern in Yunnan-Guizhou Plateau are the second high dangerous region, Sichuan?Basin southern and western and northern in Yunnan-Guizhou Plateau are with middle dangerousness. The northwest in Yunnan-Guizhou Plateau and western Sichuan plateau are with lower dangerousness. The Sichuan basin are the last area for the geological disaster happening. On this basis [U+FF0C] the extreme rainfall with threshold of 75% with which the disaster happening were selected to be used in the Gauss fit. By using the precipitation on that day and 1-day antecedent precipitation, the dynamic division of hazardous area of geological disaster can be obtained. Furthermore, the relationship of the extreme rainfall and disaster happening odds has been analyzed, with the increasing of the rainfall, the odds of the disaster happening are increasing in every area and every decade, some areas even gets to the 100% odds with the extreme rainfall. With the same amount rainfall, probability of occurrence are rather big than others in 1991-2010 especially in Western Sichuan Plateau and the Yunnan-Guizhou Plateau which illustrate that geological disaster are more easily to happen in this 2 decades.