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# Projected Risk of Flooding Disaster over China in 21st Century Based on CMIP5 Models

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Based on the simulations from CMIP5 models, using climate indices which have high correlation with historical disaster data, and in combination with terrain elevation data and the socio-economic data, to project the flooding disaster risk, the vulnerability of flooding hazard affected body and the risk of flooding hazard respectively during the near term(2015-2039),medium term(2045-2069) and long term(2075-2099) under RCP8.5. According to the IPCC AR5 WGII, we used risk evaluation model of disaster: R=E*H*V. R on behalf of disaster risk index. H, E and V express risk, exposure and vulnerability respectively. The results show that the extreme flooding disaster risk will gradually increase during different terms in the future, and regions with high risk level of flooding hazard are might mainly located in southeastern and eastern China. Under the RCP8.5 greenhouse gas emissions scenario, the high risk of flooding disaster in future might mainly appear in eastern part of Sichuan, most of North China, and major of East China. Compared with the baseline period,21st century forward, although the occurrence of floods area changes little, the regional strong risk will increase during the end of the 21st century. Due to the coarse resolution of climate models and the methodology for determining weight coefficients, large uncertainty still exists in the projection of the flooding disaster risk.