

CONTRIBUTIONS OF CLIMATE CHANGE AND URBANIZATION TO URBAN FLOOD HAZARD CHANGES IN CHINA'S 293 MAJOR CITIES SINCE 1980

Bachelor's thesis

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ABSTRACT

The relevance of the research lies in the need to find ways to deal with the growing incidence of urban flood disasters poses a major challenge to urban sustainability in China.

Previous studies have reported that climate change and urbanization exacerbate urban flood risk in some major cities of China. However, few assessments have quantified the contributions of these two factors to urban flood changes in recent decades at the nationwide scale.

The object of the research is the urban flood hazard in China's 293 major cities, and **the subject** is the influence of climate change and urbanization on urban flood hazard in China's 293 major cities since 1980.

The purpose of the research is to fill the gaps in the existing research, that is to adopt a consistent framework for quantitative assessment of urban flood hazard across the country to determine how climate change and urbanization have affected changes in urban flood hazards in recent decades. To achieve the purpose of the study, the following **tasks** were set:

1. To calculate the trend patterns of extreme precipitation and urban land area from 1980s to 2010s, and use SCS-CN model to calculate urban surface runoff as an indicator to measure urban flood hazard, the change trend of urban flood hazard from 1980s to 2010s was also calculated.

2. To quantitatively assess the contribution of climate change and urbanization to urban flood hazard.

3. To identify urban flood hazard hotspot cities.

Structure of the work. The qualification work consists of introduction, three chapters and conclusions. The reference list includes 82 positions. The thesis is laid out on 54 pages. Contains 14 figures and 3 tables.