RESEARCH ON HEAVY RAIN AND WATERLOGGING SIMULATION OF LIN'AN ASIAN GAMES VENUES BASED ON INFOWORKS ICM

Bachelor's thesis

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ABSTRACT

The relevance of the research is the Hangzhou Asian Games is held in a flood season, and then the risk of waterlogging disaster risk at Asian Games venues and their surrounding areas increase significantly, for which the hydrology-hydrodynamic model-based rainstorm waterlogging model is an important means to prevent and reduce the losses in the relevant key areas from waterlogging disaster.

The current direction of research is the application of spatial information in the GIS environment and InfoWorks ICM, remote sensing imagery.

The object of the research is the stormwater recycling system in the Lin'an Asian Games Venues area, and **the subject** is the use of models to simulate waterlogging in the study area for different design rainfalls (10-, 20-, 50-, and 100-years).

The purpose of the research is to develop an urban waterlogging simulation model for the study area, to analyze the water ponding points generated by the simulation, and to propose retrofitting countermeasures and suggestions.

To achieve the purpose of the work, the following **tasks** were set:

1. To study the development of urban waterlogging simulation modeling.

2. To establish the waterlogging model of Lin'an Asian Games venue based on InfoWorks ICM.

3. To simulate the results under different design rainfall (10-, 20-, 50-, and 100-years).

4. Analyze the causes of water ponding points and consider effective measures to reduce the degree of waterlogging in the study area.

Structure of the work. The thesis consists of an introduction, five chapters, and conclusions. The work is laid out on 40 pages, includes 7 figures, 3 tables. The reference list includes 51 sources.