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Study on Simulation of Flash Flood in Meixi basin Based on SWMM and BTOP

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China is the country which suffered most from typhoon in the world. Typhoon caused great economic loss to south-east littoral of China annually. Thus, Meixi Basin in Quanzhou city was chosen as object of study. In September 2016, due to “MERANTI” Typhoon, torrential rainfall took place in Meixi basin, which led to great disaster. Typically, one hydrology model is independently applied in a basin. In the study, hydrology model was divided into two parts according to their features. First part was to simulate mountainous area based on BTOP (Block-wise use of TOPMODEL and Muskingum-Cunge method) model. Second part was to simulate urban region based on SWMM (Storm Water Management Model) model. The output of BTOP provided boundary conditions for SWMM. Result was considered reliable which showed that BTOP was finely applied to mountainous area, while SWMM was finely applied to urban region. In addition, possible flooded area was simulated under different rainfall situations, which can offer reference to flood warning and flood prevention.