

Coupling Fuzzy Analytic Hierarchy Process with Storm Water Management Model for Site Selection of Appropriate Adaptive Measures

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Abstract : Best Management Practices (BMPs) are considered as one of the most important structural adaptive measures to climate change and urban development challenges in recent decades. However, not every location is appropriate for applying BMPs in the watersheds. In this paper, location prioritization of two kinds of BMPs was done: Poured pavement and Detention pond. West Flood-Diversion (WFD) catchment in northern parts of Tehran, Iran, was considered as the case study. The methodology includes integrating the results of Storm Water Management Model (SWMM) into Fuzzy Analytic Hierarchy Process (FAHP) method using Geographic Information System (GIS). The results indicate that mostly suburban areas of the watershed in northern parts are appropriate for applying detention basin, and downstream high-density urban areas are more suitable for using permeable pavement.

Keywords : adaptive measures, BMPs, location prioritization, urban flooding

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