



A Study on the Land Use Characteristics of Urban Medium and Small stream Depending on the Width of stream

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Due to the increase of impervious layers caused by increased rainfall and urbanization which were brought about by the climate change after the late 1990s, the flood damage in urban watersheds is rising. The recent flood damage is occurring in medium and small stream rather than in large stream. Particularly, in medium stream which pass the cities, sudden flood occurs due to the short concentration of rainfall and urban areas suffer large damage, even though the flood damage is small, since residential areas and social infrastructures are concentrated. In spite of the importance of medium and small stream to pass the cities, there is no certain standard for classification of natural or urban stream and existing studies are mostly focused on the impervious area among the land use characteristics of watersheds. Most of existing river studies are based on the watershed scale, but in most urban watersheds where stream pass, urban areas are concentrated in the confluence, so urban areas only occupy less than 10% of the whole watershed and there is a high uncertainty in the classification of urban areas, based the watershed of stream. This study aims to suggest a classification standard of medium and small stream between local stream and small stream where suffer flood damage. According to the classified medium and small stream, this study analyzed the stream area to the stream width and distance using Arcgis Buffer tool, based on the stream line, not the existing watershed scale. This study then chose urban watersheds by analyzing the river area at certain intervals from the center of the chosen medium and small stream, in different ways. Among the land use characteristics in urban areas, the impervious area was applied to the selection standard of urban watersheds and the characteristics of urban watersheds were presented by calculating the ratio of the stream area to the impervious area using the Buffer tool.

Acknowledgement

"This research was supported by a grant [NEMA-NH-2011-45] from the Natural Hazard Mitigation Research Group, National Emergency Management Agency of Korea."

Keywords: land use, urban watershed, medium and small stream, impervious area