

Flood Susceptibility Assessment of Mandaluyong City Using Analytic Hierarchy Process

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Abstract : One of the most catastrophic natural disasters in the Philippines is floods. Twelve (12) million people reside in Metro Manila, National Capital Region (NCR), prone to flooding. A flood can cause widespread devastation resulting in damaged properties and infrastructures and loss of life. By using the analytical hierarchy process, six (6) parameters were selected, namely elevation, slope, lithology, distance from the river, river network density, and flow accumulation. Ranking of these parameters demonstrates that distance from the river with 25.31% and river density with 17.30% ranked the highest causative factor to flooding. This is followed by flow accumulation with 16.72%, elevation with 15.33%, slope with 13.53%, and the least flood causative factor is lithology with 11.8%. The generated flood susceptibility map of Mandaluyong has three (3) classes: high susceptibility, moderate susceptibility, and low susceptibility. The flood susceptibility map generated in this study can be used as an aid for planning flood mitigation, land use planning, and general public awareness. This study can also be used for emergency management and can be applied in the disaster risk management of Mandaluyong.

Keywords : analytical hierarchy process, assessment, flood, geographic information system

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