

Application of Fuzzy Multiple Criteria Decision Making for Flooded Risk Region Selection in Thailand

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Abstract : This research will select regions which are vulnerable to flooding in different level. Mathematical principles will be systematically and rationally utilized as a tool to solve problems of selection the regions. Therefore the method called Multiple Criteria Decision Making (MCDM) has been chosen by having two analysis standards, TOPSIS (Technique for Order Preference by Similarity to Ideal Solution) and AHP (Analytic Hierarchy Process). There are three criterions that have been considered in this research. The first criterion is climate which is the rainfall. The second criterion is geography which is the height above mean sea level. The last criterion is the land utilization which both forest and agriculture use. The study found that the South has the highest risk of flooding, then the East, the Centre, the North-East, the West and the North, respectively.

Keywords : multiple criteria decision making, TOPSIS, analytic hierarchy process, flooding

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