

Forest Fire Risk Mapping Using Analytic Hierarchy Process and GIS-Based Application: A Case Study in Hua Sai District, Thailand

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Abstract : Fire is one of the main causes of environmental and ecosystem change. Therefore, it is a challenging task for fire risk assessment fire potential mapping. The study area is Hua Sai district, Nakorn Sri Thammarat province, which covers in a part of peat swamp forest areas. 55 fire points in peat swamp areas were reported from 2012 to 2016. Analytic Hierarchy Process (AHP) and Geographic Information System (GIS) methods were selected for this study. The risk fire area map was arranged on these factors; elevation, slope, aspect, precipitation, distance from the river, distance from town, and land use. The results showed that the predicted fire risk areas are found to be in appreciable reliability with past fire events. The fire risk map can be used for the planning and management of fire areas in the future.

Keywords : analytic hierarchy process, fire risk assessment, geographic information system, peat swamp forest

Conference Title : ICGGRS 2019 : International Conference on Geology, Geoscience and Remote Sensing

Conference Location : Sydney, Australia

Conference Dates : December 02-03, 2019