USING REMOTE SENSING AND GIS TECHNIQUES TO MODEL THE EFFECTS OF PILGRIMS AND VISITORS ON URBAN ACTIVITIES IN ALMADINAH ALMUNAWWARAH

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ABSTRACT

Land-use and land-cover changes in Almadinah Almunawwarah are widespread, accelerating, and significant process due to its high developing rate. Modeling these changes is critical for formulating effective environmental policies and management strategies. Remote sensing images have opened a new era for evaluate and monitor landuse and land-cover changes. Global coverage, high spatial resolution, and revisit capabilities of modern remote sensing satellites provide us with a large amount of valuable data for accurate land use estimation. In addition, geographic information systems provide the tools to store, edit, process, analysis, visualize such data. The aim of this project is to investigate the use of remotely sensed data, spatio-temporal databases, and geographic information systems to provide reliable and accurate estimations for the changes in Almadinah Almunawwarah. Different satellite and aerial images for the study area will be used. First, these images need to be registered. In the next step, several image processing algorithms will be developed to extract ground features from the images. In the last step, a GIS will be developed to model the urban changes in the test area. Results will be evaluated on the base of completeness and accuracy.