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The Impact of Land Cover Changes on Housing Prices in Zhubei City (Northern Taiwan)

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The impact of human activities on the environmental geography was demonstrated as land cover changes. It was reflected on the numbers of buildings and the road network density. This study examined the relationship among human activities on land cover change area, growth and decline of population density and the housing prices. The multi-temporal satellite images were adopted to detect the land cover changes area every year from 2011 to 2018. Four classes were included in the land cover classification: buildings, roads, vegetation and water. The change areas were detected and estimated. The population numbers and the actual transaction housing price was collected from Ministry of the Interior (MOI, Taiwan) open database. The data was accumulated from May 2011 to December 2018. In the background information of Zhubei City, there are two main provincial highways, one high speed rail station and one county government and urban service center. Several research and industrial institutions have set up branches here over the last decade, where they are also close to the Hsinchu Science Park. According to the statistics, there has been a rapid progress on the density and construction of population in the past eight years. Approximately 23% of the population was also increased compared to the number in eight years ago, and the average rate of birth was around 15% within recent five years. We expect that the increasing of human activities to show the marks on the land cover change. By using Hot Spot Analysis on annual data such as human-environmental interaction with different housing prices and population density change, temporal and spatial results will be obtained.