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Tourist spatial-temporal distribution and hot spots analysis in Hong Kong via instagram geotagged photos using exploratory spatial data analysis and GIS

Chaitamart Jittin, Ding Xiaoli, Wenzhong Shi and **Lilian Pun**
The Hong Kong Polytechnic University, China

Tourist spatial and temporal patterns could be investigated from analysing digital and social clues that tourists leave behind their trips by either accidental or intentional purposes. When considering to tourism sustainability, spatial-temporal distribution of tourists plays an important role in strategic planning. However, tourists spatial-temporal distribution is still a neglected topic in urban tourism field. This research aims to demonstrate the potential of using rich geotagged data from Instagram to investigate and identify the spatial-temporal distribution and main tourist attractions of inbound tourists in Hong Kong. This approach is using geo-spatial data from the popular photo-sharing site which goes far beyond the cost, scale and timeliness of traditional questionnaire surveys. The method is based on exploiting over 1 million geotagged photos from over 200,000 international tourists collected over a period of one year in conjunction with exploratory spatial data analysis (ESDA). ESDA is a collection of GIS spatial statistical approaches that are extensively used to analyse and identify the spatial autocorrelation and heterogeneity as well as visualize hotspots regions of the data over the space. The global Moran's I statistics of the spatial temporal distribution of inbound tourists in Hong Kong indicate the strong positive and significant autocorrelation. In addition, the Moran significant map and the Anselin Local Moran's I (LISA statistic) reveal two significant hot spots of inbound tourists which are Central - Wanchai cluster and Tsim Sha Tsui–Mongkok cluster, other two significant attractions which are Hong Kong Disneyland and the big buddha clusters in the morning and the afternoon, and two additional regions of Hong Kong airport and shatin clusters at night. Based on the results, it's indicated that the spatial distribution is more clustered in the evening and more dispersed during the day time. These areas consist of shopping centers, theme parks and major tourist attractions that attract majority of tourists in Hong Kong. However, there are some different significant hot spots occurred at various time scales.

Biography

Chaitamart Jittin is pursuing her PhD in the Department of Land Surveying and Geo-Informatics, The Hong Kong Polytechnic University. Her areas of research interest include tourist spatial and temporal distribution, tourist behavior and location analysis using geotagged information.

jittin.ch@gmail.com

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