عنوان مقاله:

(Analysis and Evaluation of Effective Environmental Indicators in the Heat Island of District ۱ of Tehran using (RS

نویسندگان:

Ali Sayyadi - *Faculty of Environment, College of Engineering, University of Tehran, Tehran, Iran*.

Mohamad Javad Amiri - *Faculty of Environment, College of Engineering, University of Tehran, Tehran, Iran*.

خلاصه مقاله:

One of the environmental problems today is the rising land surface temperature and the formation of heat islands in metropolitan areas, which have arisen due to the unplanned expansion of these cities. Satellite imagery is widely used in urban environmental studies to provide an integrated view and reduce costs and time. In this study, Landsat satellite imagery in TM, ETM+, and OLI sensors from ۱۹۸۴ to ۲۰۲۰, remote sensing techniques, and GIS is used to analyze the data, and SPSS software is employed to examine the correlation between the data. The results indicate that the land surface temperature in District ۱ of Tehran has increased during the last ۳۸ years. Moreover, land use in District ۱ has changed significantly over this period, and urban land use increased from ۱۶ % (۱۹۸۴) to ۳۵ % (۲۰۲۰) while vegetation declined from ۳۲ % to ۱۴ %. The results of linear regression analysis show a significant correlation between satellite images and weather station data. The significance coefficient (Sig) in all stations is less than ۰.۰۵ with a ۹۵ % confidence interval. Besides, the coefficient of variation (R) for all stations is above ۸۰ %, and the coefficient R۲ has a desirable value. The findings suggest that the trend of rising temperatures in District ۱ of Tehran has become an environmental problem and the changes in land use such as declining vegetation and increasing the acceleration of urbanization are among the factors that affect it.

کلمات کلیدی:
heat island, NDVI, LST, SPSS

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