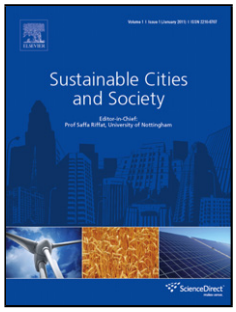

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Investigating spatial and seasonal variations of urban heat island effect over Jaipur city and its relationship with vegetation, urbanization and elevation parameters

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Research Highlights

- *Significant surface urban heat island (SUHI) exists over the Jaipur study area.*
- *The extent of green vegetation is better represented by EVI than by NDVI.*
- *The relationship of LST with NDVI, EVI and NDBI is season dependent.*
- *%ISA can be used as a better urbanization parameter than NDBI for SUHI studies.*
- *A consistent positive linear trend has been observed between LST and elevation.*

Abstract

Land Surface Temperature (LST) is one of the principal parameters for the analysis of surface urban heat island (SUHI) effect. Analysis of 8-day night-time LST data shows that significant SUHI exists over the Jaipur study area. Average maximum UHI intensity from 2003 to 2015 varies from 5.12 K to 10.37 K, and overall average maximum UHI intensity is 7.86 K. A negative correlation exists between LST and vegetation indices. The