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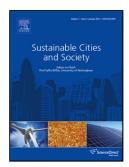
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Investigating spatial and seasonal variations of urban heat island effect over

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

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