

## **Spatio-temporal analysis of urban footprint of Jaipur city (1989-2011)**

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### **Abstract**

Expansion of urban footprint is an omnipresent challenge with greater distinction in developing countries. This involves land conversion from natural and vegetated moisture-rich to impervious surfaces. In this paper, expansion of urban footprint of Jaipur is mapped using Landsat 5 Thematic Mapper satellite data over two decades (1989-2011). For this, biophysical parameters [Normalised Difference Vegetation Index (NDVI), Normalised Difference Built-up Index (NDBI), Normalised Difference Water Index (NDWI), Normalised Difference Bareness Index (NDBal), Modified NDWI] are computed using temporal satellite datasets. These parameters are analyzed to identify the footprints of urban fabric while assessing the correlations among them. The developed methodology can be customized for rapid analysis of development and expansion of urban footprints. Such rapid assessments are useful for planners and decision makers to bring interventions in the planning process. **Keywords:** Urbanization, biophysical parameters, remote sensing, Jaipur, India