Urban Environment's Micro Regional Climate Modelling using Geospatial Technologies: A Study of Delhi's Sub-Region of National Capital Region

Madan Mohan (India)

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SUMMARY

Urban environment's micro regional climate's have been widely transformed due to urban regeneration and urban sprawl processes over recent periods. Geospatial technologies especially the remote sensing and GIS have widely been effectively used in climate modelling of urban landscape. The remote sensing imagery of Landsat satellite thermal imagery and Enhanced Thematic Mapper (ETM+) sensors of higher resolution have been used in the present study for mapping and monitoring of urban environmental landscape. There has been occurred a continuous change in the land use land cover during 1977 to 2009, over a span of 32 years, over the Delhi's urban landscape and its surrounding urban environment. It is noteworthy to mentioned that the built-up area accounted for about 11.95 per cent in 1977 which increased to about 19.74 per cent in 1999 and further increased to about 24.54 per cent in 2009 in the study area, which comprises by the Delhi NCT and neighbouring urban centres. The Delhi Ridge area which is functioning as a Green Lung was continuously encroached over the periods. The Delhi Ridge area accounted for about 7.58 per cent in 1977 which decreased to about 4.21 per cent in 2009. Later, the forests area increased to about 10.04 per cent in 1999. It is a clear sign for environmental protection particularly the restoration and regeneration of the green vegetation cover over the south Delhi Ridge region which is functioning as a green lung for the Delhi's urban landscape.