

Urban form datasets of 194 cities delineated based on the contiguous urban fabric for 1990 and 2015

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Abstract

The present research datasets were processed for the article “The global homogenization of urban form. An assessment of 194 cities across time” [1]. They consist of land cover spatial layers, longitude and latitude point data and tabulated data with computed landscape metrics and the characterization of urban form of 194 cities for 1990 and 2015. Contiguous urban fabric at 30 m spatial resolution was derived from the Atlas of Urban Expansion database for 1990 and 2015 [2]. Landscape metrics were computed as quantitative measures of composition and spatial arrangement of each city and dimensions of the database were reduced employing correlation and principal components analysis. Hierarchical clustering was employed to group cities according to the similarity of their urban form and analysis of variance was applied to test for significant differences between them. The spatial layers contained in this article can be complemented with past and future land cover data to model urban form change at broader temporal scales. The landscape metrics are useful for cross-city comparisons at regional, national and global levels in combination with other complementary indicators. The datasets are valuable for urban planners, urban ecologists, NGO's, decision makers and other with interest on local and global landscape change in urban areas, particularly urban expansion and its impacts.

Author keywords

Land cover
Landscape change
Urban expansión
Urban fabric
Urban form