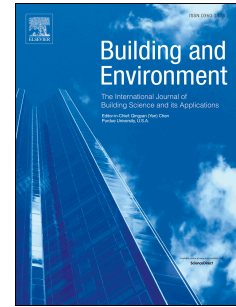


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# An integrated local climatic evaluation system for green sustainable eco-city construction: a case study in Shenzhen, China

Lin Liu<sup>a</sup>, Yaoyu Lin<sup>b</sup>, Lina Wang<sup>c</sup>, Junliang Cao<sup>a</sup>, Dan Wang<sup>d</sup>, Puning Xue<sup>a</sup>, Jing Liu<sup>a, e, \*</sup>

<sup>a</sup> School of Municipal and Environmental Engineering, Harbin Institute of Technology, Harbin 150000, China.

<sup>b</sup> Harbin Institute of Technology Shenzhen Graduate School, Shenzhen 518055, China.

<sup>c</sup> State Environmental Protection Key Laboratory of Environmental Risk Assessment and Control on Chemical Process, School of Resource and Environmental Engineering, East China University of Science and Technology, Shanghai 200237, China

<sup>d</sup> Shenzhen Tourism College of Jinan University, Shenzhen 518053, China.

<sup>e</sup> State Key Laboratory of Urban Water Resource and Environment, Harbin Institute of Technology, Harbin 150000, China.

**Abstract:** Rapid urbanization has caused a series of environmental problems and increased demand for urban resources. The concept of green, sustainable eco-city constructions is becoming a world-wide common view. Considering the energy configuration and environmental suitability assessment, the outdoor local climate and thermal comfort conditions in a regional area should be effectively evaluated and analyzed to satisfy the resource-saving and environment-friendly demands. This paper proposes a new local climatic evaluation system (LCES) to predict and express local climatic patterns under different urban forms. The system has three modules: a pre-processing module, a dynamic calculation module, and a post-processing module. The pre-processing module uses GIS for parameter design and statistics. The calculation module adopts a regional climatic prediction model to calculate hourly climatic parameters from five dynamically linked sub-modules. The post-processing module expresses the climatic spatial visualizations through the temporal-spatial distributions of climatic

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\*Corresponding author: Jing Liu

Address: School of Municipal and Environmental Engineering, Harbin Institute of Technology, No.73, Huanghe Road, Nangang District, Harbin 150000, China.

Tel./fax: +86 0451 8628 2123.

E-mail: liujinghit0@163.com

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