Diurnal Asymmetry in Nonlinear Responses of Canopy Urban Heat Island to Urban Morphology in Beijing during Heat Wave Periods

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Table S1: The calculation and definitions of urban morphology indicators involved in this paper.

Type	Indicators	Calculation	Definitions
2D	BCR	$BCR = \frac{\sum a_i}{A}$ a_i: Area of individual building patches A: Total area.	Building coverage ratio (BCR): The ratio of building base area to buffer area.
	NEAR	$NEAR = min(\sqrt{(x_i - x_j)^2 + (y_i - y_j)^2})$ (x,y): Coordinates of building centroids.	Average adjacent building distance (NEAR): A lower value indicates higher building density.
	NP	$NP = \sum BP$ BP: building patches.	Number of building patches (NP): Reflects the fragmentation degree of regional buildings.
	SPLIT	$SPLIT = \frac{A^2}{\sum a_i^2}$	Split index (SPLIT): A larger value indicates a higher degree of landscape fragmentation.
	AI	$AI = \left[\frac{g_{ij}}{max(g_{ij})}\right] \times 100$	Aggregation index (AI): A

		g_{ii}: Number of like adjacencies between buildings.	smaller value indicates weaker connectivity of landscape patches.
	L/W	$L/W = \left[\frac{\text{Longest axis length}}{\text{Shortest axis length}} \right] \times 100$	Building length-width ratio (L/W): Characterizes the planar morphological characteristics of buildings.
	H	$H = \frac{\sum h_i}{NP}$ hi: Height of individual buildings.	Average building height (H): The mean value of building heights within the buffer.
	H-max	$H\text{-}max = max(h_1, h2, ..., h_n)$	Maximum building height (H_max): The highest building height in the region.
	H-std	$H\text{-}std = \sqrt{\frac{\sum (h_i - H)^2}{NP}}$	Building height standard deviation (H_std): Reflects the difference in building heights in the region.
3D	FAR	$FAR = \frac{\sum a_i * n}{A}$ n: Number of floors in the building.	Floor area ratio (FAR): The ratio of total building area to buffer area, where a higher value indicates greater development intensity per unit land.
	CI	$CI = \frac{V_{building}}{V_{total\ area}}$ $V_{building}$: Building volume. $V_{total\ area}$: Neighborhood volume.	Volume index (CI): The ratio of building volume to the total volume of the study area, where a larger value indicates a higher degree of space occupation.
	SVF	$SVF = 1 - \frac{\sum \gamma_i * \Delta\theta}{2\pi}$ γ_i: Obstruction elevation angle. $\Delta\theta$: Azimuth interval.	Sky view factor (SVF): Ranges from 0 to 1, where a smaller value indicates more significant sky

obstruction.