Table S1. Model equations of the surface urban heat islands (SUHI) intensities. NDVI: differences in normalized difference vegetation index between urban and rural areas; R²: coefficient of determination; M, differences in moisture index between urban and rural areas; Pr: differences in moisture index between urban and rural areas; Po: resident population; GDP: gross domestic product; RN: the ratio of the number of urban pixels to the number of rural pixels involved in the calculation in each city. *, **or *** indicates significance at the 1%, 5% or 10% levels, respectively.

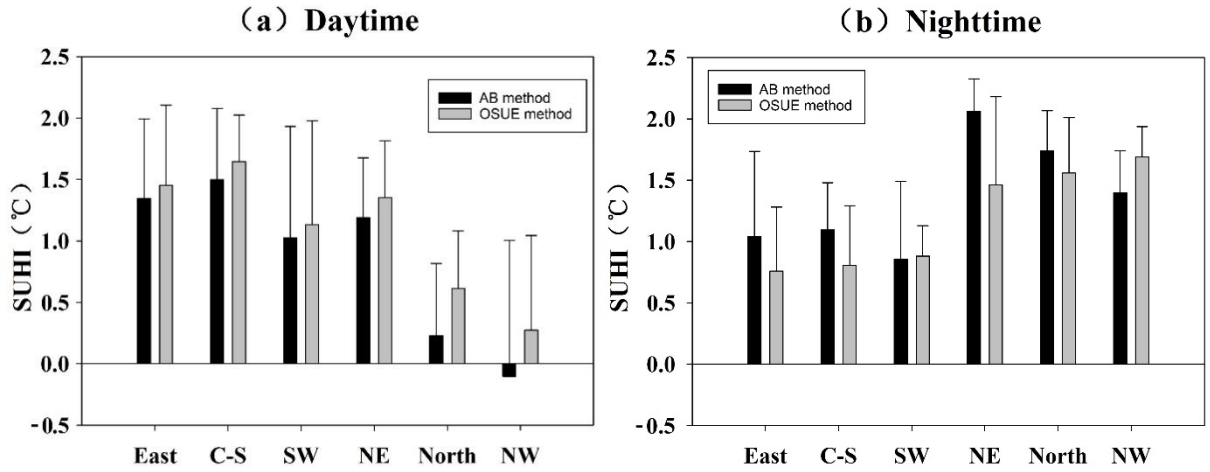| Regression Model	Value of R²
$SUHI_{ABDT}=-0.786-9.77NDVI_{AB}+2.39M_{AB}-0.467Pr_{AB}-0.00435Po+0.00625GDP+0.0294RN_{BDT}$	0.731*
$SUHI_{OSDT}=-0.127-10.02NDVI_{OS}-21.3M_{OS}+1.74Pr_{OS}+0.00895Po-0.000185GDP+0.112RN_{OSDT}$	0.652*
$SUHI_{ABDA}=-0.728-11.3NDVI_{AB}+2.80M_{AB}-0.546Pr_{AB}-0.00314Po+0.00594GDP+0.0301RN_{ABDA}$	0.743*
$SUHI_{OSDA}=0.0103-12.0NDVI_{OS}-19.8M_{OS}+1.35Pr_{OS}+0.0107Po-0.00211GDP+0.154RN_{OSDA}$	0.625*
$SUHI_{ABNT}=1.52+3.91NDVI_{AB}-7.02M_{AB}+1.237Pr_{AB}-0.00274Po+0.00333GDP+0.0257RN_{ABNT}$	0.544*
$SUHI_{OSNT}=1.70+5.57NDVI_{OS}-17.1M_{OS}+1.91Pr_{OS}+0.00819Po-0.00289GDP-0.0668RN_{OSNT}$	0.318***
$SUHI_{ABNA}=1.62+4.74NDVI_{AB}-7.74M_{AB}+1.31Pr_{AB}-0.0283Po+0.00272GDP+0.0239RN_{ABNA}$	0.591*
$SUHI_{OSNA}=1.69+6.51NDVI_{OS}-17.5M_{OS}+1.98Pr_{OS}+0.00301Po-0.00277GDP-0.114RN_{OSNA}$	0.405**

Figure S1. Daytime and nighttime SUHI intensity (mean ± standard error) from the administrative borders (AB) and the optimized simplified urban-extent (OSUE) methods for each region.