Supplementary Information

Supplementary Information 1

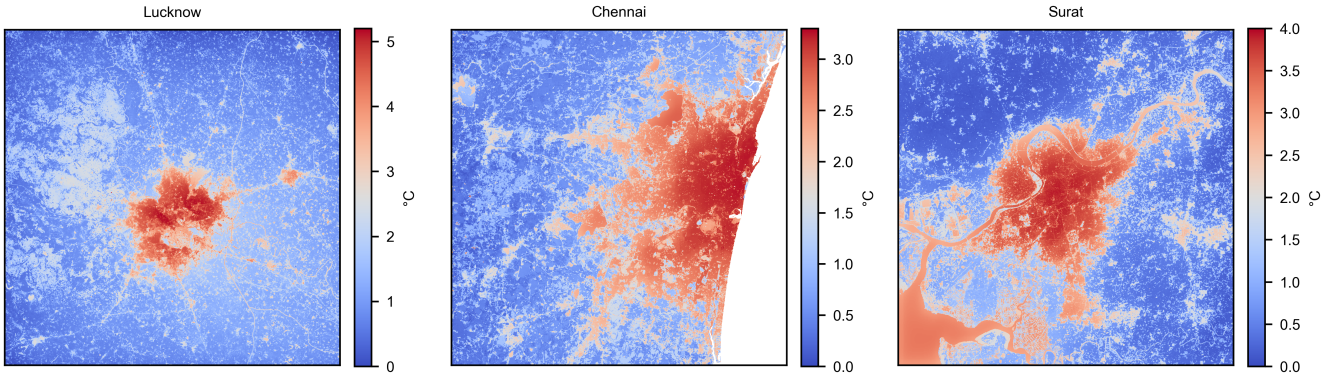

Fig. 1: Urban heat island during night, at present for three Indian cities. Present data is averaged over 20 years (2001-2020).

Supplementary Information 2

Table 1: Distribution of Workforce by Sector and Work Intensity in all three cities Economic losses were estimated by segmenting the working population (ages 15-65, about 65% of the city population) by industry, work intensity (intense, moderate, light), and location (urban/rural) for all climate scenarios and future periods. Employment rates from the PLFS are: Surat (99%), Chennai (95%), and Lucknow (97%). Losses were calculated using the number of workers in each sector, lost working hours based on place and intensity, and average daily earnings for casual labor, excluding public works, taken from the PLFS.

Type of Work	Work Intensity	Lucknow (%)	Chennai (%)	Surat (%)
A - Agriculture, Forestry and Fishing	Intense - rural	54.6	31.0	41.2
B - Mining and Quarrying	Intense - rural	0.0	0.2	0.2
C - Manufacturing	Indoor - NA	8.3	17.4	24.2
D - Electricity, Gas, Steam	Intense - urban	0.2	0.3	0.3
E - Water Supply; Sewerage, Waste Management and Remediation Activities	Moderate - urban	0.3	0.5	0.1
F - Construction	Intense - urban	13.5	16.5	6.7
G - Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	Indoor - NA	10.1	10.2	10.3
H - Transportation and Storage	Moderate - urban	3.1	5.4	4.3
I - Accommodation and Food Service Activities	Indoor - NA	1.2	3.0	1.4
J - Information and Communication	Indoor - NA	0.4	3.1	0.7
K - Financial and Insurance Activities	Indoor - NA	0.4	1.7	1.3
L - Real Estate Activities	Indoor - NA	0.1	0.2	0.1
M - Professional, Scientific and Technical Activities	Indoor - NA	0.5	0.9	0.6
N - Administrative and Support Service Activities	Indoor - NA	0.8	0.8	1.0
O - Public Administration and Defence; Compulsory Social Security	Indoor - NA	0.9	1.3	1.7
P - Education	Indoor - NA	2.2	2.9	1.8
Q - Human Health and Social Work Activities	Light - urban	0.8	1.4	1.6
R - Arts, Entertainment and Recreation	Light - urban	0.2	0.2	0.1
S - Other Service Activities	Light - urban	1.9	1.8	1.6
T - Activities of Households as Employers; Undifferentiated Goods and Services	Indoor - NA	0.4	1.1	0.9
U - Activities of Extraterritorial Organizations	Indoor - NA	0.0	0.0	0.0
Total		**100.0**	**100.0**	**100.0**

Supplementary Information 3

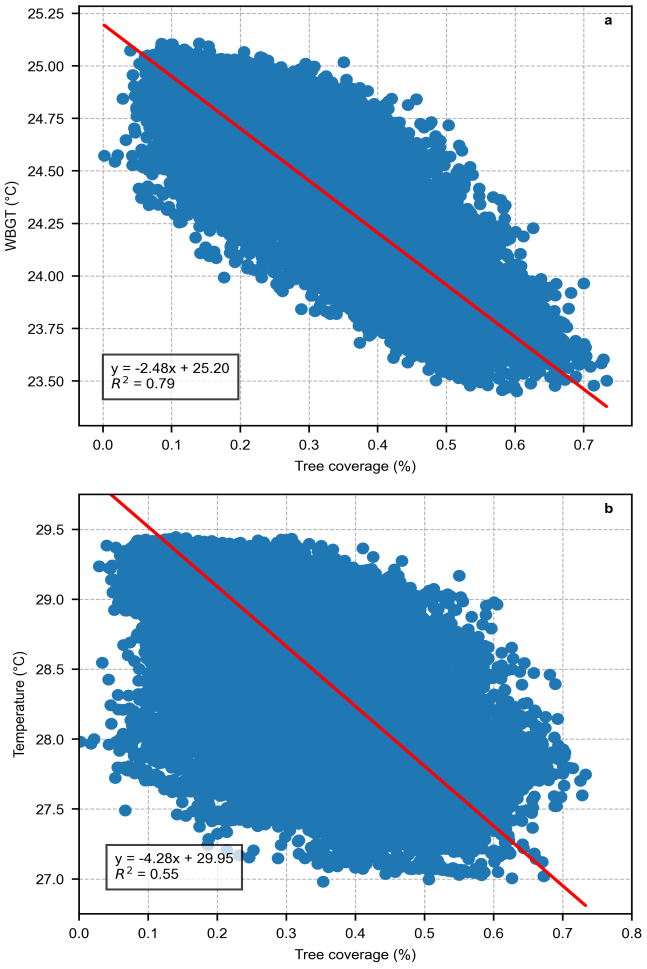

Fig. 2: Tree Canopy Coverage and its impact on heat stress and temperature. a, The relationship between tree canopy coverage and heat stress, as measured by the WBGT index. **b**, The relationship between tree canopy coverage and temperature. In both panels, the blue points represent the original data points, and the red line represents the fitted curve.

Supplementary Information 4

Table 2: Input Datasets Used for UrbClim

Type	**Source**	**Spatial Resolution**
Land use	ESA WorldCover (Zanaga et al., 2021)	10 m
Soil Sealing	Zhang et al. (2020)	30 m
Vegetation (NDVI)	Landsat 8 archive	30 m
Anthropogenic heat flux	Jin et al. (2019)	30 m
Population density	Corbane et al. (2021)	10 m
Soil texture	Hengl and MacMillan (2019)	250 m
Digital elevation model	Copernicus DEM	30 m

Supplementary Information 5: Converting prices to India

To convert the price from one country to another, the following ratio is used:

$$\text{VOLY}^A = \frac{\text{VOLY}^B}{\text{PPP}^B} \times \text{PPP}^A$$

Where:

- **A**: Refers to the country where the price or value is being converted to.
- **B**: Refers to the country from which the price or value is being converted.

Purchasing power parities (PPPs) are the rates of currency conversion that equalize the purchasing power of different currencies by adjusting for differences in price levels between countries. The data used here are sourced from the World Bank https://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD.