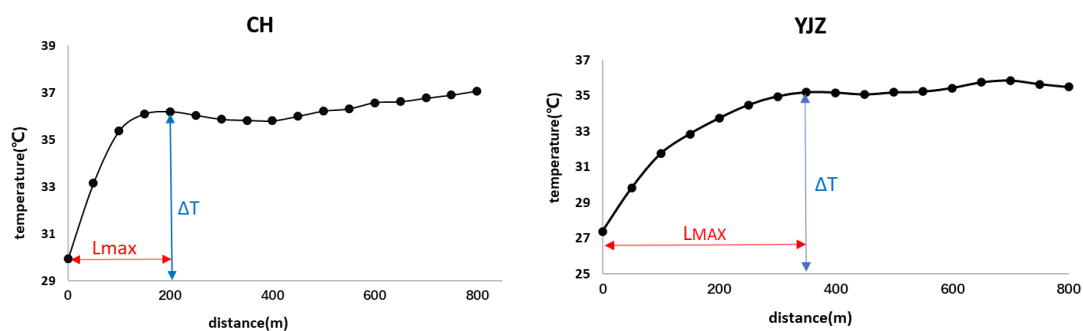


# Supporting information

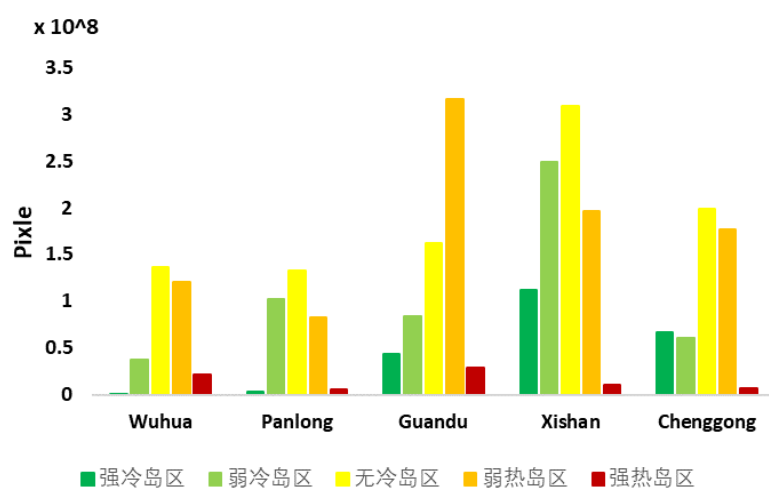
For

Urban water bodies mitigate heat waves, the case of the Chinese  
city Kunming

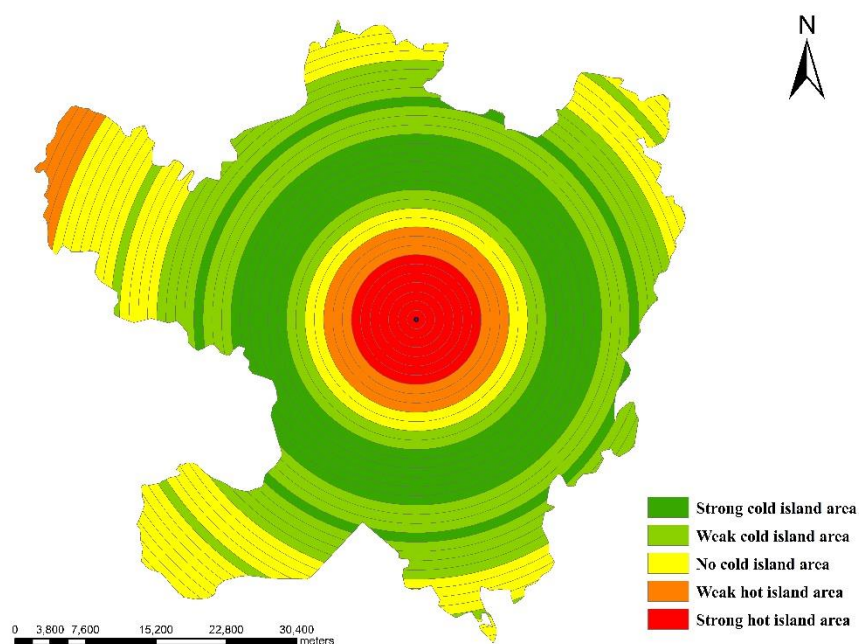
*Yue Ma<sup>1</sup>, Yao Fu<sup>2</sup>, Zhibin Ren<sup>3</sup>, Chang Liu\**



**Figure S1.**Characteristics of surface temperature variation in buffer zones at different distances of water bodies



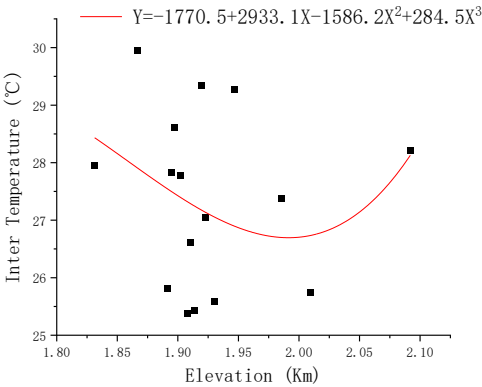
**Figure S2.**The proportion of temperature classification in each main urban area



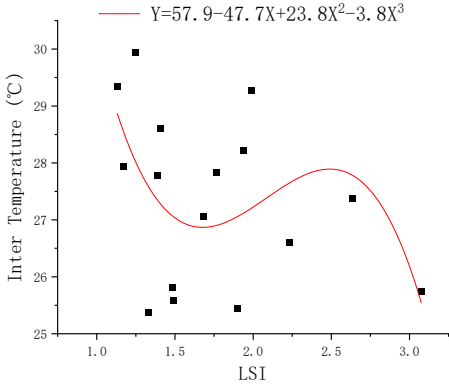
**Figure S3.**UCII digital footprint map

Table S1. Urban water body parameters

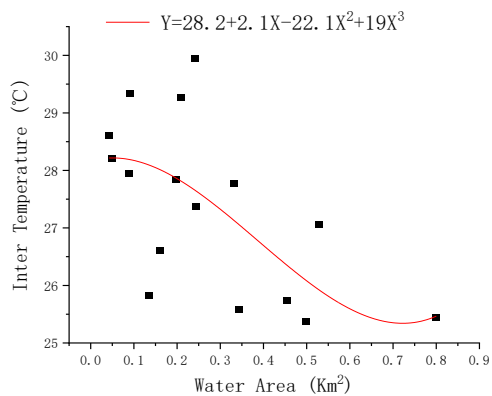
| serial number | code name | Full name of water body       | Area (Km <sup>2</sup> ) | Circumference (Km) | Lmax (m) | Average LST(°C) | WIC (°C) | Green space coverage (%) |
|---------------|-----------|-------------------------------|-------------------------|--------------------|----------|-----------------|----------|--------------------------|
| 1             | YJK       | Yangjiazhuang Reservoir       | 0.243                   | 4.600              | 320~370  | 27.374          | 7.590    | 70.041                   |
| 2             | LSD       | Luoshuidong Reservoir         | 0.209                   | 3.222              | 140~160  | 29.269          | 6.097    | 98.237                   |
| 3             | PB        | Waterfall park                | 0.159                   | 3.160              | 190~210  | 26.609          | 8.490    | 74.23                    |
| 4             | CH        | chestwood                     | 0.240                   | 2.169              | 170~190  | 29.949          | 5.624    | 27.86                    |
| 5             | BND       | Bainidong                     | 0.048                   | 1.510              | 190~210  | 28.714          | 5.38     | 93.710                   |
| 6             | GL        | Guolin reservoir              | 0.800                   | 6.016              | 240~260  | 25.438          | 8.250    | 77.011                   |
| 7             | SYJ       | Shuiyunjian fishing field     | 0.198                   | 2.790              | 280~310  | 27.836          | 6.084    | 46.557                   |
| 8             | DY        | Dayu park                     | 0.042                   | 1.029              | 220~250  | 28.607          | 6.370    | 47.564                   |
| 9             | SLB       | Shilongba Reservoir           | 0.528                   | 4.328              | 240~260  | 27.055          | 9.209    | 89.184                   |
| 10            | LL        | Luolong park                  | 0.134                   | 1.923              | 240~260  | 25.820          | 7.210    | 35.068                   |
| 11            | BL        | Bailongtan                    | 0.331                   | 2.825              | 190~210  | 27.778          | 6.804    | 36.832                   |
| 12            | TF        | Tuofeng street lake           | 0.091                   | 1.211              | 190~210  | 29.345          | 4.823    | 34.113                   |
| 13            | GS        | Guanshan reservoir            | 0.344                   | 3.092              | 140~160  | 25.585          | 6.890    | 51.643                   |
| 14            | YJ        | Yuejiao fishing field         | 0.088                   | 1.227              | 190~210  | 27.947          | 6.857    | 40.038                   |
| 15            | MJP       | Majinpu Longtan fishing field | 0.499                   | 3.333              | 190~210  | 25.375          | 7.038    | 32.606                   |
| 16            | LM        | Longmen fishing field         | 0.454                   | 7.349              | 140~160  | 25.737          | 6.410    | 77.642                   |



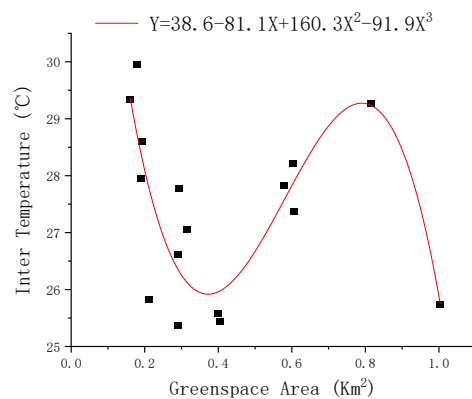
(A)



(B)

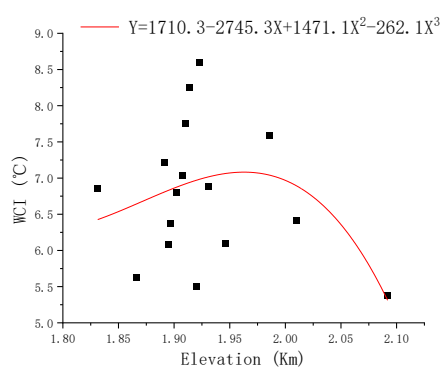


(C)

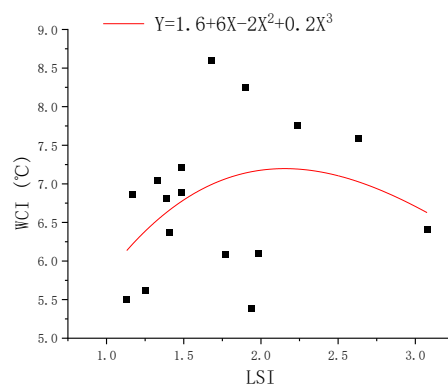


(D)

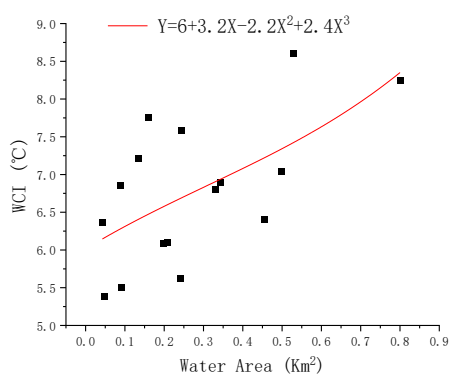
**Figure S4.** The relationship between different landscape indices and water temperature in urban water bodies



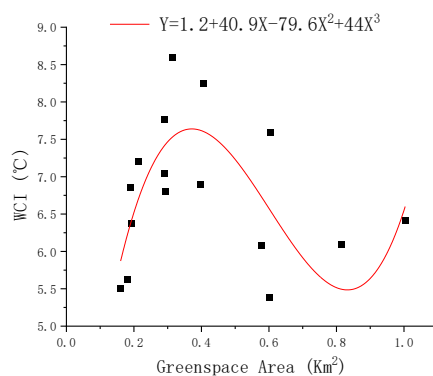
(A)



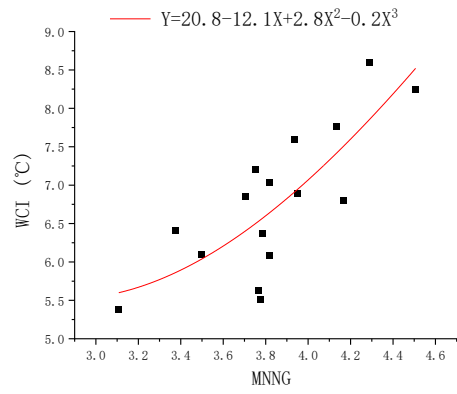
(B)



(C)



(D)



(E)

**Figure S5.** The relationship between different landscape indices of urban water bodies and WCI