S1 Table. Posterior Inclusion Probabilities for the Variables Assessed in the Bayesian Variable Selection Procedure.

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| Variables | Posterior mean of indicators | Selected\* |
| Land cover | Croplands | 1.00 | Yes |
| Forest |
| Shrublands and grass |
| Urban |
| Wet areas |
| Urban extends | rural | 0.31 | No |
| urban |
| Annual precipitation | Continuous | 0.02 | No |
| Categorical | ≤1,200 mm | 0.03 | No |
| >1,200 mm |
| GDP per capita | Continuous | 0.10 | No |
| Categorical | ≤20,000 yuan | 0.02 | No |
| >20,000 yuan |
| HII | Continuous | 0.01 | No |
| Categorical | ≤30 | 0.13 | No |
| >30 |
| Soil moisture | Continuous | 0.29 | No |
| Categorical | ≤100 mm | 0.18 | No |
| >100 mm |
| Elevation | Continuous | 1.00 | Yes |
| Categorical | ≤100 m | 0.00 | No |
| 100-500 m |
| >500 m |
| NDVI | Continuous | 1.00 | Yes |
| Categorical | ≤0.45 | 0.00 | No |
| 0.45-0.55 |
| >0.55 |
| Distance to the nearest waterbodies | Continuous | 0.00 | No |
| Categorical | ≤2.5 km | 0.99 | Yes |
| 2.5-7.0 km |
| >7.0 km |
| PH in water | Continuous | 0.23 | No |
| Categorical | ≤6 | 0.00 | No |
| 6-7 |
| >7 |
| LST at day | Continuous | 0.03 | No |
| Categorical | ≤18 ℃ | 0.07 | No |
| 18-23 ℃ |
| >23 ℃ |
| LST at night# | - | - |

\*Variables with inclusion probabilities higher than 50% were included in the final geostatistical model; #dropped due to high correlation with LST at day and annual precipitation (i.e., correlation coefficient >0.8).