

**Table S1. Resistance values and resistance coefficients.**

| Land Type                      | Resistance Value | Slope                             | Slope Resistance Coefficient | Distance from Cultivated Land | Distance Resistance Coefficient |
|--------------------------------|------------------|-----------------------------------|------------------------------|-------------------------------|---------------------------------|
| Paddy field                    | 80               | $0 < \text{Slope} \leq 15^\circ$  | 1.0                          | 0–100                         | 2                               |
| Dry farmland                   | 80               | $15 < \text{Slope} \leq 20^\circ$ | 1.1                          | 100–200                       | 1.8                             |
| Forest with high coverage      | 2                | $20 < \text{Slope} \leq 25^\circ$ | 1.2                          | 200–500                       | 1.5                             |
| Shrub land                     | 4                | $25 < \text{Slope} \leq 30^\circ$ | 1.4                          | 500–1000                      | 1.3                             |
| Sparse woodland                | 15               | $30 < \text{Slope} \leq 35^\circ$ | 1.6                          | 1000–2000                     | 1.1                             |
| Other forest                   | 20               | $35 < \text{Slope} \leq 40^\circ$ | 1.8                          |                               |                                 |
| Grassland with high coverage   | 10               | $40 < \text{Slope}$               | 2.0                          |                               |                                 |
| Grassland with medium coverage | 20               |                                   |                              |                               |                                 |
| Grassland with low coverage    | 30               |                                   |                              |                               |                                 |
| River                          | 180              |                                   |                              |                               |                                 |
| Lake                           | 180              |                                   |                              |                               |                                 |
| Pond                           | 160              |                                   |                              |                               |                                 |
| Tidal flats                    | 120              |                                   |                              |                               |                                 |
| Urban area                     | 250              |                                   |                              |                               |                                 |
| Rural area                     | 150              |                                   |                              |                               |                                 |
| Other cultivated land          | 280              |                                   |                              |                               |                                 |
| Unused land                    | 180              |                                   |                              |                               |                                 |
| sea                            | 300              |                                   |                              |                               |                                 |