**Table S1 LULC categorical data**

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| LULC | Description |
| Cropland | Cultivated land for crops. Including long-term cultivated land, newly cultivated land, fallow, shifting cultivated land; intercropping land such as crop-fruit, crop-mulberry, and crop‐forestry land in which a crop is a dominant species; Bottomland and beach that has been cultivated for at least 3 years. |
| Forestland | Land where trees are grown, including arbor, shrub, bamboo, and for forestry use. |
| Grassland | Land covered by herbaceous plants with coverage greater than 5%, including shrub rangeland and mixed rangeland with the coverage of shrub canopies less than 10%. |
| Water body | Natural surface, natural water bodies, or constructed reservoirs for irrigation and water reservation. |
| Built-up land | Land used for urban and rural settlements, factories, and transportation facilities. |
| Unutilized land | Land that is not put into practical use or that is difficult to use. |