

Error matrices for the three classified LULC maps

Table S1. Error matrix for the classified LULC map of 2018

2018	Class types determined from Reference Source				
Class types determined from Classified Map		Vegetation	Built-up	Water	Σ
	Vegetation	774	32	10	816
	Built-up	14	157	0	171
	Water	1	0	12	13
	Σ	789	189	22	1000

Table S2. Error matrix for the classified LULC map of 2003

2003	Class types determined from Reference Source				
Class types determined from Classified Map		Vegetation	Built-up	Water	Σ
	Vegetation	810	32	8	850
	Built-up	12	117	0	129
	Water	5	0	16	21
	Σ	827	149	24	1000

Table S3. Error matrix for the classified LULC map of 1991

1991	Class types determined from Reference Source				
Class types determined from Classified Map		Vegetation	Built-up	Water	Σ
	Vegetation	845	37	9	891
	Built-up	13	78	0	91
	Water	2	0	16	18
	Σ	789	115	25	1000

Transition probability and transition area matrices of 2018, 2033, and 2048 based on Markov chain model

Table S4. Transition probability matrix of 2018 based on past LULC of 1991–2003

	Class 1	Class 2	Class 3
Class 1	0.9586	0.0327	0.0087
Class 2	0.1431	0.8565	0.0003
Class 3	0.0445	0.0035	0.9520

Table S5. Transition area matrix of 2018 based on past LULC of 1991–2003

	Class 1	Class 2	Class 3
Class 1	1897479	64727	17217
Class 2	30747	184029	75
Class 3	1210	96	25894

Table S6. *Transition probability matrix of 2033 based on past LULC of 2003–2018*

	Class 1	Class 2	Class 3
Class 1	0.9322	0.0664	0.0013
Class 2	0.0419	0.9581	0.0001
Class 3	0.2116	0.0049	0.7835

Table S7. *Transition area matrix of 2033 based on past LULC of 2003–2018*

	Class 1	Class 2	Class 3
Class 1	1733970	123581	2474
Class 2	14126	323350	17
Class 3	5069	117	18769

Table S8. *Transition probability matrix of 2048 based on past LULC of 2003–2018*

	Class 1	Class 2	Class 3
Class 1	0.8721	0.1256	0.0023
Class 2	0.0791	0.9207	0.0001
Class 3	0.3633	0.0226	0.6141

Table S9. *Transition area matrix of 2048 based on past LULC of 2003–2018*

	Class 1	Class 2	Class 3
Class 1	1622154	233620	4251
Class 2	26707	310738	49
Class 3	8702	541	14712

The transition potential maps resulted from Land Change Modeler from expressing the transition from “vegetation” to “built-up” class in the periods of 1991-2003, 2003-2018, and 1991-2018

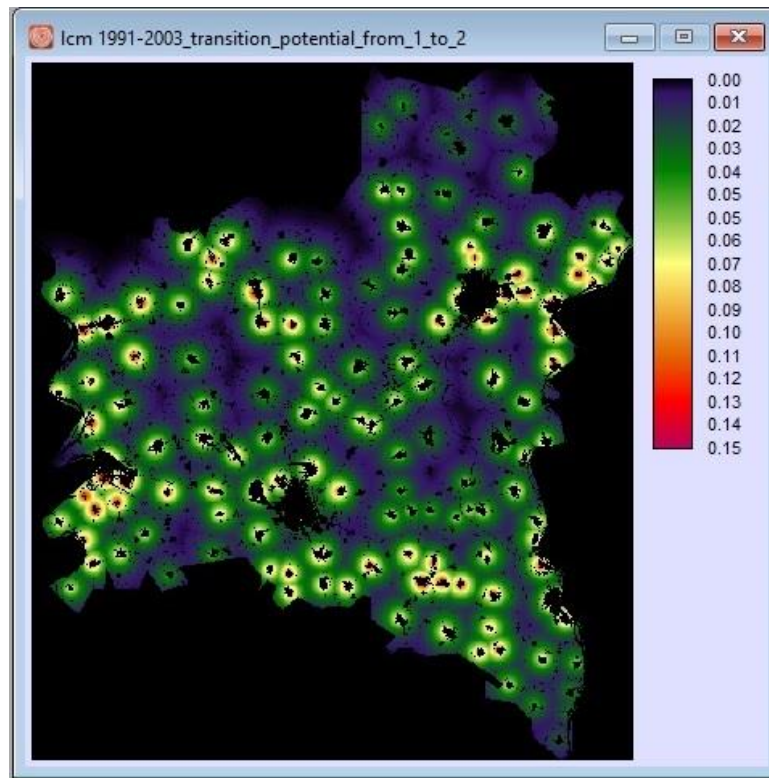


Figure S1. LCM 1991-2003_map of transition potential from vegetation to built-up

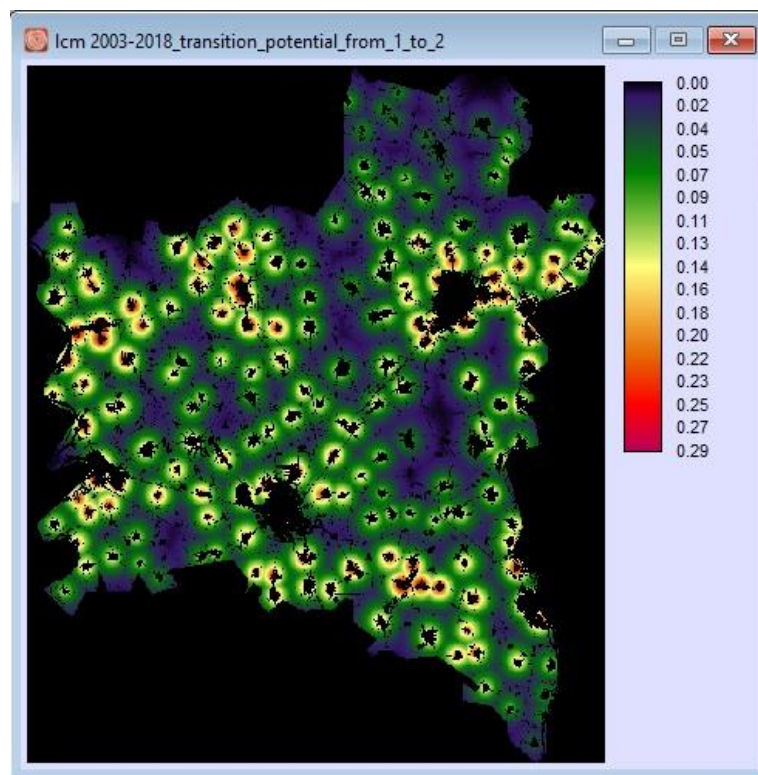


Figure S2. LCM 2003-2018_map of transition potential from vegetation to built-up

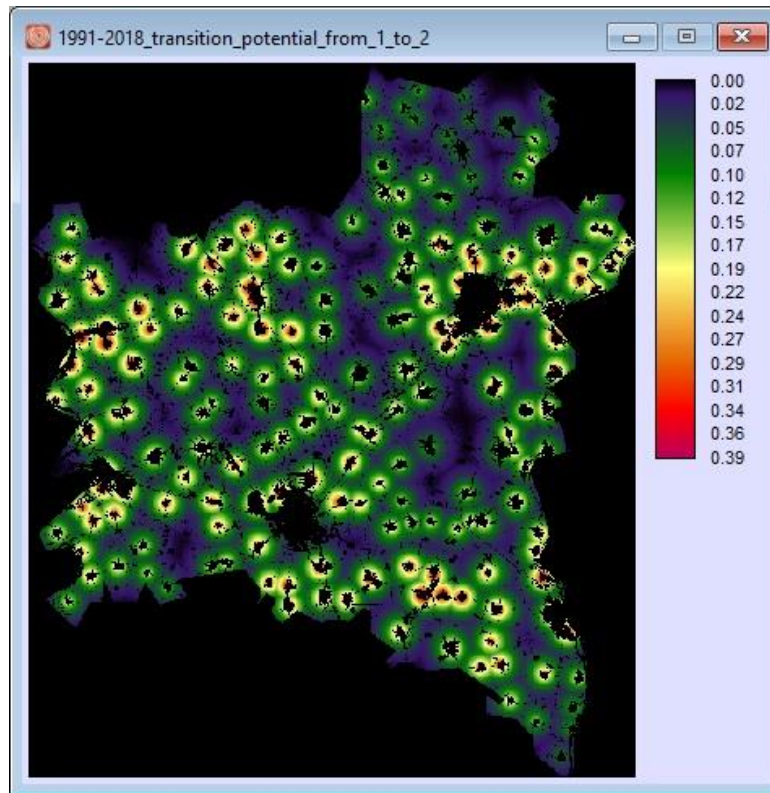


Figure S3. LCM 1991-2018_map of transition potential from vegetation to built-up

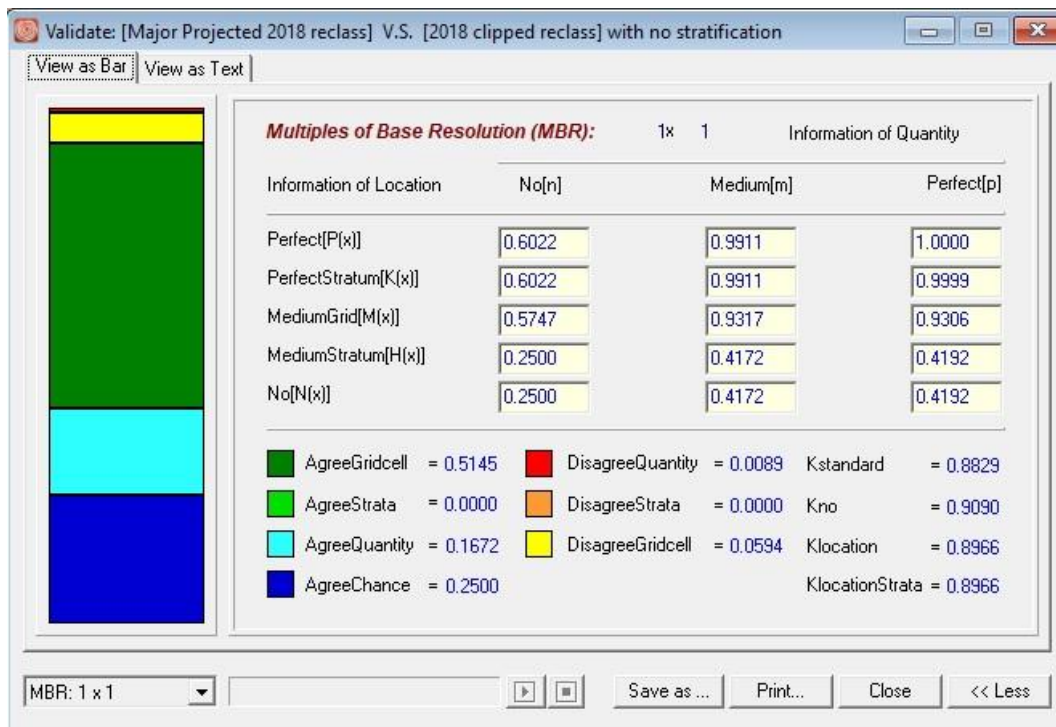


Figure S4. Results of model validation (observed 2018 LULC map V.S. simulated one