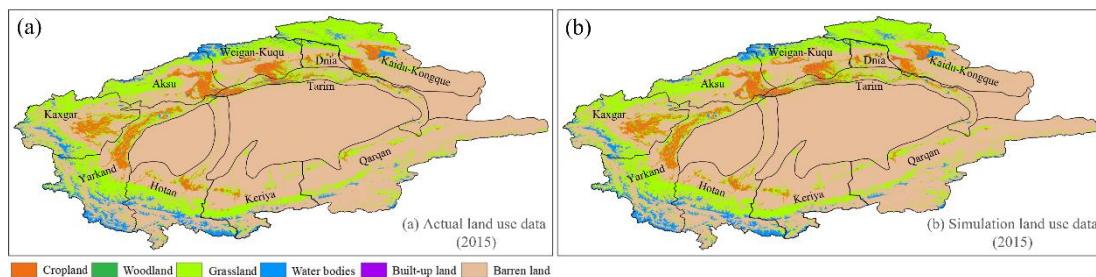




## Supplementary Materials



**Figure S1.** Map of simulated and actual land use change in the Tarim River Basin in 2015.

**Table S1.** Area changes by land type in the Tarim River Basin ( $\text{km}^2$ ).

Land Type	Cropland	Woodland	Grassland	Water Bodies	Built-Up Land	Barren Land
1990	33585.89	646.57	199806.96	34491.37	88.63	781380.57
2000	36258.51	1263.44	199860.36	33289.44	447.34	778880.91
2010	44830.48	1379.22	199508.18	38814.31	1683.77	763784.05
2019	52436.40	1661.93	198148.26	34109.29	2860.84	760783.29

**Table S2.** Type areas and errors of simulated and actual land classes in the Tarim River Basin in 2015.

Land Type	Simulation Data( $\text{km}^2$ )	Actual Data( $\text{km}^2$ )	Error (%)
Cropland	51774.63	51336.39	0.85
Woodland	1558.45	1498.44	4.01
Grassland	198956.08	200315.17	0.68
Built-up land	2389.66	2251.46	6.14
Water bodies	38238.67	37684.31	1.47
Barren land	757082.50	756914.23	0.02