Table S1. The information of six different scenarios in CZT urban agglomeration from 2000 to 2015.

Scenario	Explanation/purpose
A	Keeping the climate conditions (precipitation, temperature, and radiation) at the level of 2000, the potential total production of 2015 (TP_A) could be calculated by using the land use map and NDVI images of 2015. The effect of all land use/cover changes could be calculated as: $\Delta LUCC = TP_A - TP_{2000}$. On the one hand, we knew that the overall effect equals the difference between the actual TP of 2000 and 2015, i.e., $\Delta = TP_{2015} - TP_{2000}$. On the other hand, we hypothesized that the overall effect only consisted of the effects of climate change and land use changes, i.e., $\Delta = \Delta Climate + \Delta LUCC$. Therefore, we could also calculate the effect of climate change using the equation: $\Delta Climate = TP_{2015} - TP_A$.
B	Only keeping the precipitation at the level of 2000, the potential TP of 2015 (TP_B) could be estimated by using the land use map and NDVI images of 2015. We could then calculate the effect of precipitation according to the equation: $\Delta Precipitation = TP_{2015} - TP_B$.
C	Only keeping the temperature at the level of 2000, the potential TP of 2015 (TP_C) could be estimated by using the land use map and NDVI images of 2015. We could then calculate the effect of temperature according to the equation: $\Delta Temperature = TP_{2015} - TP_C$.
D	Only keeping the radiation at the level of 2000, the potential TP of 2015 (TP_D) could be estimated by using the land use map and NDVI images of 2015. We could then calculate the effect of radiation according to the equation: $\Delta Radiation = TP_{2015} - TP_D$.
E	Keeping the climate conditions and the NDVI values for afforestation pixels as the level of 2000, we could calculate the potential TP of 2015 caused by land use changes except for afforestation (TP_E). Then, we could calculate the effect of afforestation according to the equation: $\Delta Afforestation = TP_A - TP_E$.
F	Keeping the climate conditions and the NDVI values for urbanization pixels as the level of 2000, we could calculate the potential TP of 2015 caused by land use changes except for urbanization (TP_F). Then, we could calculate the effect of urbanization according to the equation: $\Delta Urbanization = TP_A - TP_F$.

Table S2. Parameters of the CASA model for different land use types in CZT urban agglomeration.

Land use type	$NDVI_{max}$	$NDVI_{min}$	SR_{max}	SR_{min}	ε_{max}
Paddy field	0.7994	0.0765	14.393	1.166	0.729
Dry land	0.8824	0.0765	17.002	1.166	0.821
Arboreal forest	0.8979	0.0765	18.793	1.166	0.985
Shrub	0.8983	0.0765	18.666	1.166	0.756
Open forestland 1	0.8889	0.0765	18.589	1.166	0.779
Open forestland 2	0.7994	0.0765	14.393	1.166	0.679
Grass land	0.6653	0.0765	12.576	1.166	0.429
Water	0.5044	0.0765	8.97	1.166	0.429
Build-up land	0.5044	0.0765	8.97	1.166	0.429
Bare land	0.5044	0.0765	8.97	1.166	0.429