

Supplementary Materials:

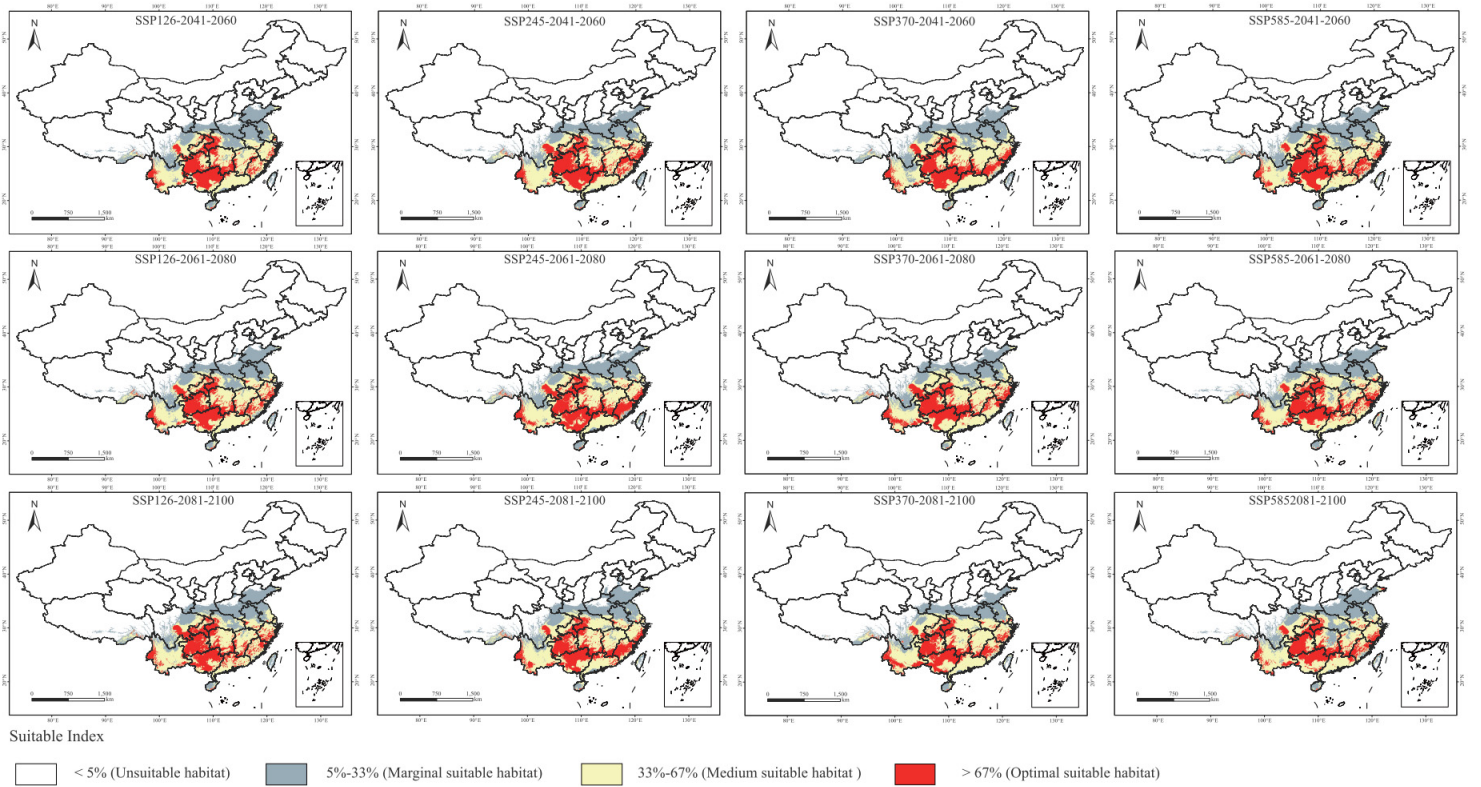


Figure S1: The potential distribution area of Tea based on the future bioclimatic variables at 2050s (2041-2060), 2070s (2061-2080), and 2090s (2081-2100)

Table S1: Distribution areas ($10^4 \times \text{km}^2$) under different suitability classes of Tea under current and future climate conditions, 2050s: 2041-2060, 2070s: 2061-2080, 2090s: 2081-2100

Climate Scenarios	Year	Areas under different suitability classes ($10^4 \times \text{km}^2$)			
		(Percentage is shown in brackets)			
		Unsuitable	Marginal	Medium	Optimal
SSP126	Current Climate	698.72 (72.49%)	82.01 (8.51%)	115.97 (12.03%)	67.14 (6.97%)
	2050s	697.75 (72.39%)	89.92 (9.33%)	117.94 (12.24%)	58.24 (6.04%)
	2070s	695.88 (72.20%)	87.37 (9.06%)	118.45 (12.29%)	62.16 (6.45%)
	2090s	697.21 (72.34%)	83.29 (8.64%)	116.17 (12.05%)	67.18 (6.97%)
SSP245	2050s	700.07 (72.63%)	81.14 (8.42%)	113.41 (11.77%)	69.23 (7.18%)
	2070s	699.10 (72.53%)	80.54 (8.36%)	116.67 (12.1%)	67.54 (7.01%)
	2090s	693.53 (71.95%)	81.69 (8.47%)	124.87 (12.96%)	63.76 (6.62%)
SSP370	2050s	698.35 (72.45%)	85.80 (8.9%)	116.82 (12.12%)	62.88 (6.52%)
	2070s	699.08 (72.53%)	78.07 (8.10%)	121.47 (12.60%)	65.22 (6.77%)
	2090s	702.01 (72.83%)	71.64 (7.43%)	128.92 (13.38%)	61.28 (6.36%)
SSP585	2050s	696.21 (72.23%)	88.04 (9.13%)	114.74 (11.9%)	64.85 (6.73%)
	2070s	694.77 (72.08%)	82.38 (8.55%)	120.94 (12.55%)	65.76 (6.82%)
	2090s	695.00 (72.11%)	88.48 (9.18%)	118.98 (12.34%)	61.39 (6.37%)

Table S2: The Spatial coverage area ($10^4 \times \text{km}^2$) of habitat suitability category code at future scenarios. “0” indicates Unsuitable habitat, “1” indicates Marginal suitable habitat, “2” indicates Medium suitable habitat, “3” indicates Optimal suitable habitat; 2050s: 2041-2060, 2070s: 2061-2080, 2090s: 2081-2100

Climate Scenarios	Year	Area changes of category code ($10^4 \times \text{km}^2$)								
		0 to 1	0 to 2	1 to 2	1 to 3	2 to 3	1 to 0	2 to 1	3 to 1	3 to 2
SSP126	2050s	3.52	0	2.49	0	7.29	2.55	9.4	0.0278	16.17
	2070s	4.88	0	5.95	0.0052	9.15	2.03	8.45	0.0157	14.12
	2090s	3.95	0	7.4	0.0157	12.91	2.44	7.19	0.007	12.88
SSP245	2050s	2.57	0	7.68	0	8.76	3.92	8.11	0.0522	8.36
	2070s	5.46	0	8.47	0	13.99	5.8	7.32	0.0348	13.53
	2090s	8	0	11.57	0.0139	11.2	2.8	6.06	0.0087	14.58
SSP370	2050s	3.35	0	4.55	0.0035	10.17	2.98	7.96	0	14.44
	2070s	3.59	0	9.51	0.0122	15.14	3.95	5.9	0.0452	17.02
	2090s	2.94	0.0591	13.4	0.1026	13.3	6.32	6.49	0.0261	19.26
SSP585	2050s	6.19	0	11.49	0.0487	13.87	2.26	7.97	0.0017	15.31
	2070s	5.23	0	4.97	0.0035	10.1	2.72	8.49	0	12.4
	2090s	6.38	0	9.74	0.0087	11.48	2.67	12.48	0.0122	17.23