Supplementary Table 1. Comparison of candidate MaxEnt models generated through ENMeval tuning within the accessible area (*M*).

Rank	Feature Class (FC)	Regularization Multiplier (RM)	Mean AUC	ΔAICc
1	LQH	1.0	0.852	0.00
2	LQH	0.5	0.851	7.41
3	LQH	2.0	0.852	16.01
4	LQH	3.0	0.851	29.73
5	LQ	0.5	0.823	336.66
6	LQ	1.0	0.824	377.01
7	LQ	2.0	0.825	441.52
8	LQ	3.0	0.824	471.57
9	L	0.5	0.820	533.08
10	L	1.0	0.820	534.42
11	L	2.0	0.820	535.30
12	L	3.0	0.820	538.61

Supplementary Table 2. Projected distribution-range changes in 2050 under different climate scenarios.

Climate model / ensemble	Scenario	Unsuitable (million km²)	Loss (million km²)	Gain (million km²)	Stable (million km²)
IPSL-CM6A-LR	SSP126	59.53	0.21	3.24	18.71
BCC-CSM2-MR	SSP126	57.37	0.45	5.40	18.47
MPI-ESM1-2-HR	SSP126	60.58	0.22	2.19	18.71
IPSL-CM6A-LR	SSP245	58.92	0.24	3.85	18.69
BCC-CSM2-MR	SSP245	56.90	0.46	5.87	18.46
MPI-ESM1-2-HR	SSP245	60.52	0.26	2.25	18.66
IPSL-CM6A-LR	SSP585	57.77	0.20	5.00	18.72
BCC-CSM2-MR	SSP585	56.21	0.56	6.56	18.37
MPI-ESM1-2-HR	SSP585	59.21	0.36	3.56	18.57
SSP126 Ensemble	—	**59.65**	**0.16**	**3.12**	**18.76**
SSP245 Ensemble	—	**59.18**	**0.15**	**3.59**	**18.78**
SSP585 Ensemble	—	**57.91**	**0.17**	**4.87**	**18.76**

Climate model / ensemble	Scenario	Unsuitable (million km²)	Loss (million km²)	Gain (million km²)	Stable (million km²)
Grand Overall Ensemble	—	**58.92**	**0.13**	**3.85**	**18.80**

Supplementary Table 3. Projected distribution-range changes in 2070 under different climate scenarios.

Climate model / ensemble	Scenario	Unsuitable (million km²)	Loss (million km²)	Gain (million km²)	Stable (million km²)
IPSL-CM6A-LR	SSP126	59.47	0.23	3.30	18.69
BCC-CSM2-MR	SSP126	57.84	0.48	4.93	18.44
MPI-ESM1-2-HR	SSP126	60.38	0.30	2.39	18.63
IPSL-CM6A-LR	SSP245	57.64	0.21	5.13	18.72
BCC-CSM2-MR	SSP245	56.17	0.37	6.61	18.56
MPI-ESM1-2-HR	SSP245	59.61	0.30	3.16	18.63
IPSL-CM6A-LR	SSP585	54.44	0.17	8.33	18.76
BCC-CSM2-MR	SSP585	54.37	0.34	8.40	18.59
MPI-ESM1-2-HR	SSP585	57.64	0.39	5.13	18.54
SSP126 Ensemble	—	**59.64**	**0.17**	**3.13**	**18.76**
SSP245 Ensemble	—	**58.01**	**0.14**	**4.76**	**18.79**
SSP585 Ensemble	—	**55.62**	**0.11**	**7.15**	**18.82**
Grand Overall Ensemble	—	**57.62**	**0.09**	**5.15**	**18.83**

Supplementary Table 4. Distribution shifts between 2050 and 2070.

Climate model / ensemble	Scenario	Unsuitable (million km²)	Loss (million km²)	Gain (million km²)	Stable (million km²)
IPSL-CM6A-LR	SSP126	59.26	0.44	0.48	21.52
BCC-CSM2-MR	SSP126	56.74	1.58	1.09	22.29
MPI-ESM1-2-HR	SSP126	60.00	0.69	0.80	20.21
IPSL-CM6A-LR	SSP245	57.74	0.11	1.42	22.43
BCC-CSM2-MR	SSP245	55.66	0.88	1.70	23.46
MPI-ESM1-2-HR	SSP245	59.49	0.42	1.29	20.50
IPSL-CM6A-LR	SSP585	54.39	0.22	3.59	23.50

Climate model / ensemble	Scenario	Unsuitable (million km²)	Loss (million km²)	Gain (million km²)	Stable (million km²)
BCC-CSM2-MR	SSP585	53.92	0.79	2.85	24.14
MPI-ESM1-2-HR	SSP585	57.55	0.47	2.02	21.66
SSP126 Ensemble	—	**59.34**	**0.47**	**0.48**	**21.41**
SSP245 Ensemble	—	**57.95**	**0.20**	**1.38**	**22.16**
SSP585 Ensemble	—	**55.45**	**0.28**	**2.63**	**23.34**
Grand Overall Ensemble	—	**57.60**	**0.11**	**1.45**	**22.53**