

## Supplementary Materials

Table S1. List of Countries in which the Japanese beetle was observed.

Continent	Infested State	Infested Territories	Regulatory Status Category	Surface km <sup>2</sup>
<b>Asia</b>	India	Kerala	Present, no details	38,863
	Japan	Hokkaido	Present, no details	83,454
	Japan	Honshu	Present, no details	227,960
	Japan	Kyushu	Present, no details	36,782
	Russia	Kunaschir islands	Present, restricted distribution	10,503.2
	Japan	Shikoku	Present, no details	18,800
<b>Total</b>				<b>416,362.2</b>
<b>Europe</b>	Italy	Piemonte	Present, restricted distribution	25,387
	Italy	Lombardia	Present, restricted distribution	23,844
	Portugal	Azores islands	no detail	2346
	Switzerland	Municipality of Genestrerio-Mendrisio	Present, restricted distribution	100.9
<b>Total</b>				<b>62,181.1</b>
<b>U.S.A.</b>	Connecticut		Present, restricted distribution	14,357
	Delaware		Present, restricted distribution	5133
	District of Columbia		Present, restricted distribution	177
	Georgia		Present, restricted distribution	69,700
	Illinois		Present, restricted distribution	149,998
	Indiana		Present, restricted distribution	94,322
	Iowa		Present, restricted distribution	144,669
	Kentucky		Present, restricted distribution	104,659
	Maine		Present, restricted distribution	91,646
	Maryland		Present, restricted distribution	32,134
	Massachusetts		Present, restricted distribution	27,363
	Michigan		Present, restricted distribution	250,493
Minnesota		Present, restricted distribution	225,181	

	Missouri	Present, restricted distribution	180,561
	New Hampshire	Present, restricted distribution	24,214
	New Jersey	Present, restricted distribution	22,591
	New York	Present, restricted distribution	783.8
	North Carolina	Present, restricted distribution	13,939
	Ohio	Present, restricted distribution	116,096
	Pennsylvania	Present, restricted distribution	119,282
	Rhode Island	Present, restricted distribution	3144
	South Carolina	Present, restricted distribution	82,931
	Tennessee	Present, restricted distribution	109,247
	Vermont	Present, restricted distribution	24,905
	Virginia	Present, restricted distribution	110,786
	West Virginia	Present, restricted distribution	62,259
	Wisconsin	Present, restricted distribution	169,639
	Alabama	Present, few occurrences	135,765
	Arkansas	Present, few occurrences	137,733
	Colorado	Present, few occurrences	269,837
	Kansas	Present, few occurrences	213,099
	Mississippi	Present, few occurrences	125,433
	Nebraska	Present, few occurrences	200,356
	Oklahoma	Present, few occurrences	181,037
	South Dakota	Present, few occurrences	199,730
	Texas	Present, few occurrences	695,662
	New Brunswick	Partially or generally infested	72,908
	Nova Scotia	Partially or generally infested	55,284
<b>Canada</b>	Ontario	Partially or generally infested	1,076,000
	Prince Edward Island	Partially or generally infested	5660
	Quebec	Partially or generally infested	484.1
<b>Totale North America</b>			<b>5,619,197.9</b>

Table S2. Proportion of land use variables under current (2010–2020) and future (2050) conditions (mean  $\pm$  standard deviation). Difference between mean future and current conditions is also shown.

<b>Region</b>	<b>Land use variable</b>	<b>Current</b>	<b>Future</b>	<b>Future - Current</b>
<b>Europe</b>	Bare areas	6.952 $\pm$ 22.724	6.759 $\pm$ 21.551	-0.193
	Croplands	34.616 $\pm$ 40.889	26.844 $\pm$ 34.923	-7.772
	Grasslands, scrubs, shrubs	10.375 $\pm$ 20.942	16.908 $\pm$ 24.399	6.533
	Shannon habitat diversity Index	0.747 $\pm$ 0.597	0.926 $\pm$ 0.562	0.179
	Sparse vegetation	6.219 $\pm$ 19.098	7.181 $\pm$ 19.056	0.962
	Human settlements	1.618 $\pm$ 7.306	1.316 $\pm$ 5.284	-0.302
	Waters	9.054 $\pm$ 23.287	5.8 $\pm$ 16.647	-3.254
	Wetlands	4.706 $\pm$ 14.675	3.624 $\pm$ 10.542	-1.082
<b>Asia</b>	Bare areas	14.104 $\pm$ 32.633	13.603 $\pm$ 31.709	-0.501
	Croplands	20.402 $\pm$ 34.962	14.831 $\pm$ 28.842	-5.571
	Grasslands, scrubs, shrubs	14.457 $\pm$ 26.084	20.012 $\pm$ 28.65	5.555
	Shannon habitat diversity Index	0.639 $\pm$ 0.59	0.715 $\pm$ 0.569	0.076
	Sparse vegetation	7.552 $\pm$ 20.823	8.783 $\pm$ 22.048	1.231
	Human settlements	0.752 $\pm$ 5.533	0.685 $\pm$ 4.693	-0.067
	Waters	8.72 $\pm$ 22.246	4.694 $\pm$ 13.947	-4.026
	Wetlands	2.928 $\pm$ 11.988	2.452 $\pm$ 9.725	-0.476
<b>Africa</b>	Bare areas	40.075 $\pm$ 47.577	39.811 $\pm$ 47.284	-0.264
	Croplands	19.846 $\pm$ 34.084	13.86 $\pm$ 27.518	-5.986
	Grasslands, scrubs, shrubs	16.321 $\pm$ 30.973	21.901 $\pm$ 34.041	5.58

	Shannon habitat diversity Index	0.388 ± 0.505	0.42 ± 0.494	0.032
	Sparse vegetation	2.63 ± 12.37	3.203 ± 13.316	0.573
	Human settlements	0.3 ± 3.534	0.338 ± 3.417	0.038
	Waters	1.741 ± 11.231	1.313 ± 9.135	-0.428
	Wetlands	1.434 ± 8.923	1.367 ± 8.184	-0.067
North America	Bare areas	15.867 ± 34.202	15.323 ± 33.219	-0.544
	Croplands	20.019 ± 34.989	14.832 ± 29.176	-5.187
	Grasslands, scrubs, shrubs	14.473 ± 25.887	19.989 ± 28.363	5.516
	Shannon habitat diversity Index	0.649 ± 0.592	0.734 ± 0.571	0.085
	Sparse vegetation	8.635 ± 22.17	10.033 ± 23.322	1.398
	Human settlements	0.795 ± 5.69	0.724 ± 4.815	-0.071
	Waters	9.209 ± 22.694	4.913 ± 14.007	-4.296
	Wetlands	2.66 ± 11.363	2.212 ± 9.047	-0.448
Central and South America	Bare areas	2.846 ± 14.598	2.517 ± 13.336	-0.329
	Croplands	27.352 ± 36.747	16.447 ± 26.753	-10.905
	Grasslands, scrubs, shrubs	18.812 ± 27.914	28.683 ± 31.639	9.871
	Shannon habitat diversity Index	0.642 ± 0.575	0.694 ± 0.538	0.052
	Sparse vegetation	4.748 ± 17.236	4.752 ± 16.403	0.004
	Human settlements	0.472 ± 4.481	0.379 ± 3.494	-0.093
	Waters	4.437 ± 16.53	2.531 ± 10.586	-1.906
	Wetlands	3.392 ± 13.707	3.019 ± 12.17	-0.373

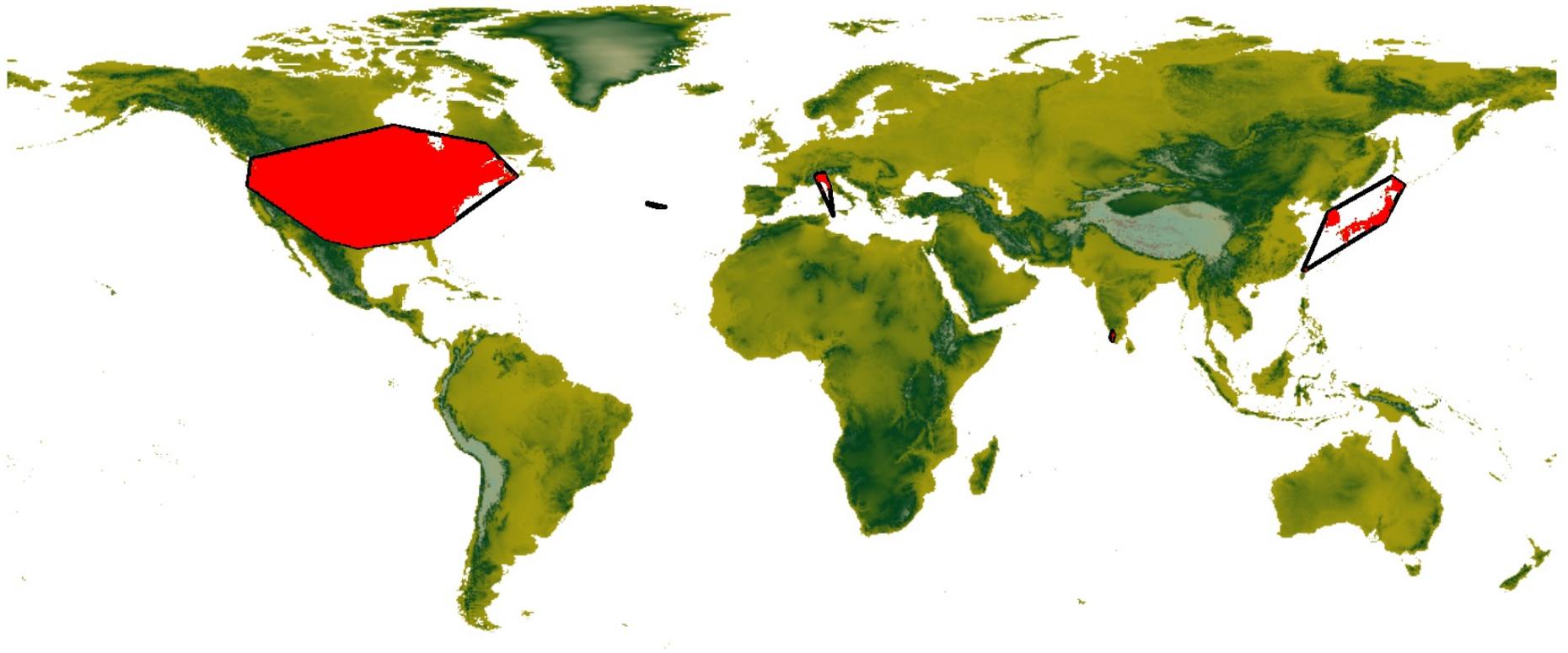


Figure S1. Minimum convex polygons, delimited with black lines and corresponding surfaces above sea level in red, estimated around locations of the Japanese beetle.