

Table S1. Geographic and climate data of collection sites

Variables	Location									
	A	B	C	D	E	F	G	H	I	J
Elevation (m)	75.6	82.5	116.1	125.3	89.4	88.1	83.6	328.0	198.8	164.5
Curvature	0.11	−0.11	−0.11	0.22	0.67	0	−0.22	−0.78	2.22	−0.11
Hillshade (°)	0	0	0	0	92	0	0	112	110	86
Aspect (°)	135.0	213.7	127.9	187.6	255.9	225	153.4	6.5	7.2	253.7
Slope (°)	0.7	0.9	2.9	8.5	4.8	1.9	1.9	21	15.7	13.4
Average temp. (°C)*	20.4	19.9	21.1	21.1	19.4	19.4	19.4	18.3	19.4	19.4
Maximum temp. (°C)*	37.1	37.1	37.1	37.1	37.1	37.1	37.1	39.6	39.6	37.1
Minimum temp. (°C)*	2.5	2.5	2.5	2.5	2.5	2.5	2.5	−2.0	−2.0	−2.0
Maximum daily rainfall (mm)*	62.5	62.5	12.5	12.5	12.5	12.5	12.5	62.5	62.5	62.5
Average areal precipitation (mm)*	900	900	900	900	900	900	900	900	1100	1100
Precipitation efficiency index**	−9.5	−9.5	−9.5	−9.5	10.5	10.5	10.5	30.5	30.5	30.5
Average annual temp. (°C)***	19.4	19.4	19.5	19.5	19.5	19.4	19.5	18.0	19.1	19.2
Average max. temp. of warmest month (°C)***	32.2	32.2	33.0	33.0	32.6	32.9	32.8	32.3	33.8	32.9
Average min. temp. of coldest month (°C)***	6.1	6.1	6.0	6.0	5.5	5.3	5.4	4.1	5.0	5.5
Average annual precipitation (mm)***	855	855	813	813	731	702	720	890	778	836
Average precipitation of wettest month (mm)***	139	139	132	132	123	120	122	172	145	151
Average precipitation of driest month (mm)***	9	9	8	8	5	4	5	5	4	7

* Recorded in 2019 (Turkish Ministry of Agriculture and Forestry, General Directorate of Meteorology. <https://www.mgm.gov.tr/>. (Accessed on Jan.11th 2020))

** Climate classification based on Thornthwaite method for the period 1981–2010 (Thornthwaite 1948)

***Bioclimatic variables for the period 2010-2018 (WorldClim, Bioclimatic variables. <https://www.worldclim.org/data/bioclim.html>. (Accessed on May 1st 2020))

Table S2. Pearson`s correlation

Variables	Elevation (m)	Curvature	Hillshade (°)	Aspect (°)	Slope (°)	glycyrrhizic acid (%)	glabridin (%)	liquiritin (%)	Soil bearing capacity (t sf ⁻¹)	pH	VSMC (m³ m ⁻³)	root diameter (cm)	Average temp. (°C)*	Maximum temp. (°C)*	Minimum temp. (°C)*	Maximum daily rainfall (mm)*	Average areal precipitation (mm)*	Precipitation efficiency index**	Average annual temp. (°C)***	Average max. temp. of warmest month (°C)***	Average min. temp. of coldest month (°C)***	Average annual precipitation (mm)***	Average precipitation of wettest month (mm)***	Average precipitation of driest month (mm)***
Elevation (m)	1	-0.065	0.714	-0.726	0.940	-0.057	0.196	-0.239	-0.061	-0.163	0.922	-0.391	-0.552	0.857	-0.829	0.554	0.292	0.670	-0.954	0.038	-0.829	0.574	0.901	-0.296
Curvature	-0.065	1	0.357	-0.242	0.148	-0.144	0.211	0.302	-0.112	0.235	-0.287	-0.010	0.071	0.349	-0.218	0.113	0.571	0.225	0.237	0.765	0.022	-0.325	-0.163	-0.342
Hillshade (°)	0.714	0.357	1	-0.394	0.822	0.072	0.422	-0.145	0.042	0.217	0.515	-0.056	-0.663	0.711	-0.823	0.525	0.576	0.839	-0.644	0.191	-0.709	0.220	0.629	-0.493
Aspect (°)	-0.726	-0.242	-0.394	1	-0.613	0.218	-0.106	0.072	0.076	0.069	-0.632	0.412	0.273	-0.887	0.533	-0.384	-0.162	-0.371	0.665	-0.288	0.621	-0.339	-0.582	0.304
Slope (°)	0.940	0.148	0.822	-0.613	1	-0.092	0.251	-0.170	-0.093	-0.142	0.816	-0.358	-0.513	0.820	-0.914	0.571	0.529	0.765	-0.829	0.232	-0.758	0.488	0.846	-0.329
glycyrrhizic acid (%)	-0.057	-0.144	0.072	0.218	-0.092	1	0.454	0.587	-0.461	0.290	-0.195	0.338	-0.397	-0.089	-0.013	-0.139	-0.020	0.301	-0.067	-0.069	-0.275	-0.397	-0.162	-0.467
glabridin (%)	0.196	0.211	0.422	-0.106	0.251	0.454	1	0.215	0.145	0.233	0.077	-0.025	-0.364	0.263	-0.406	0.455	0.402	0.410	-0.206	0.029	-0.233	0.114	0.281	-0.165
liquiritin (%)	-0.239	0.302	-0.145	0.072	-0.170	0.587	0.215	1	-0.496	0.176	-0.424	0.408	-0.042	-0.052	-0.024	-0.098	0.324	0.177	0.265	0.486	0.018	-0.490	-0.322	-0.358
Soil bearing capacity (t sf ⁻¹)	-0.061	-0.112	0.042	0.076	-0.093	-0.461	0.145	-0.496	1	-0.040	0.133	-0.063	0.144	-0.098	0.033	0.473	-0.043	-0.302	0.038	-0.508	0.355	0.616	0.287	0.689
pH	-0.163	0.235	0.217	0.069	-0.142	0.290	0.233	0.176	-0.040	1	-0.443	0.449	-0.648	0.126	0.045	0.070	-0.034	0.322	-0.004	-0.148	-0.308	-0.493	-0.230	-0.578
VSMC (m³ m ⁻³)	0.922	-0.287	0.515	-0.632	0.816	-0.195	0.077	-0.424	0.133	-0.443	1	-0.489	-0.286	0.661	-0.660	0.483	0.106	0.385	-0.873	-0.145	-0.599	0.772	0.905	0.048
root diameter (cm)	-0.391	-0.010	-0.056	0.412	-0.358	0.338	-0.025	0.408	-0.063	0.449	-0.489	1	-0.193	-0.332	0.232	-0.265	-0.039	0.063	0.313	-0.055	0.081	-0.502	-0.424	-0.249
Average temp. (°C)*	-0.552	0.071	-0.663	0.273	-0.513	-0.397	-0.364	-0.042	0.144	-0.648	-0.286	-0.193	1	-0.558	0.582	-0.439	-0.208	-0.816	0.690	0.197	0.851	0.010	-0.459	0.681
Maximum temp. (°C)*	0.857	0.349	0.711	-0.887	0.820	-0.089	0.263	-0.052	-0.098	0.126	0.661	-0.332	-0.558	1	-0.759	0.561	0.364	0.657	-0.803	0.279	-0.806	0.331	0.710	-0.487
Minimum temp. (°C)*	-0.829	-0.218	-0.823	0.533	-0.914	-0.013	-0.406	-0.024	0.033	0.045	-0.660	0.232	0.582	-0.759	1	-0.739	-0.759	-0.866	0.726	-0.291	0.692	-0.443	-0.825	0.330
Maximum daily rainfall (mm)*	0.554	0.113	0.525	-0.384	0.571	-0.139	0.455	-0.098	0.473	0.070	0.483	-0.265	-0.439	0.561	-0.739	1	0.561	0.475	-0.548	-0.118	-0.334	0.695	0.802	0.125
Average areal precipitation (mm)*	0.292	0.571	0.576	-0.162	0.529	-0.020	0.402	0.324	-0.043	-0.034	0.106	-0.039	-0.208	0.364	-0.759	0.561	1	0.657	-0.107	0.629	-0.184	0.100	0.357	-0.203
Precipitation efficiency index**	0.670	0.225	0.839	-0.371	0.765	0.301	0.410	0.177	-0.302	0.322	0.385	0.063	-0.816	0.657	-0.866	0.475	0.657	1	-0.638	0.292	-0.823	0.007	0.541	-0.703
Average annual temp. (°C)***	-0.954	0.237	-0.644	0.665	-0.829	-0.067	-0.206	0.265	0.038	-0.004	-0.873	0.313	0.690	-0.803	0.726	-0.548	-0.107	-0.638	1	0.200	0.880	-0.544	-0.871	0.328
Average max. temp. of warmest month (°C)***	0.038	0.765	0.191	-0.288	0.232	-0.069	0.029	0.486	-0.508	-0.148	-0.145	-0.055	0.197	0.279	-0.291	-0.118	0.629	0.292	0.200	1	-0.039	-0.383	-0.164	-0.393
Average min. temp. of coldest month (°C)***	-0.829	0.022	-0.709	0.621	-0.758	-0.275	-0.233	0.018	0.355	-0.308	-0.599	0.081	0.851	-0.806	0.692	-0.334	-0.184	-0.823	0.880	-0.039	1	-0.096	-0.603	0.732
Average annual precipitation (mm)***	0.574	-0.325	0.220	-0.339	0.488	-0.397	0.114	-0.490	0.616	-0.493	0.772	-0.502	0.010	0.331	-0.443	0.695	0.100	0.007	-0.544	-0.383	-0.096	1	0.830	0.588
Average precipitation of wettest month (mm)***	0.901	-0.163	0.629	-0.582	0.846	-0.162	0.281	-0.322	0.287	-0.230	0.905	-0.424	-0.459	0.710	-0.825	0.802	0.357	0.541	-0.871	-0.164	-0.603	0.830	1	0.050
Average precipitation of driest month (mm)***	-0.296	-0.342	-0.493	0.304	-0.329	-0.467	-0.165	-0.358	0.689	-0.578	0.048	-0.249	0.681	-0.487	0.330	0.125	-0.203	-0.703	0.328	-0.393	0.732	0.588	0.050	1

Values in bold are different from 0 with a significance level alpha=0.05

* Recorded in 2019 (Turkish Ministry of Agriculture and Forestry, General Directorate of Meteorology. <https://www.mgm.gov.tr/>. (Accessed on Jan.11th 2020))

** Climate classification based on Thornthwaite method for the period 1981–2010 (Thornthwaite 1948)

***Bioclimatic variables for the period 2010-2018 (WorldClim, Bioclimatic variables. <https://www.worldclim.org/data/bioclim.html>. (Accessed on May 1st 2020))

p-values (Pearson):

Variables	Elevation (m)	Curvature	Hillshade (°)	Aspect (°)	Slope (°)	glycyrrhizic acid (%)	glabridin (%)	liquiritin (%)	Soil bearing capacity (t sf ⁻¹)	pH	VSMC (m³ m ⁻³)	root diameter (cm)	Average temp. (°C)*	Maximum temp. (°C)*	Minimum temp. (°C)*	Maximum daily rainfall (mm)*	Average areal precipitation (mm)*	Precipitation efficiency index**	Average annual temp. (°C)***	Average max. temp. of warmest month (°C)***	Average min. temp. of coldest month (°C)***	Average annual precipitation (mm)***	Average precipitation of wettest month (mm)***	Average precipitation of driest month (mm)***
Elevation (m)	0	0.743	<0.0001	<0.0001	<0.0001	0.771	0.317	0.220	0.759	0.409	<0.0001	0.039	0.002	<0.0001	<0.0001	0.002	0.132	<0.0001	<0.0001	0.849	<0.0001	0.001	<0.0001	0.127
Curvature	0.743	0	0.062	0.215	0.453	0.464	0.280	0.118	0.572	0.229	0.139	0.958	0.720	0.069	0.266	0.567	0.001	0.250	0.224	<0.0001	0.913	0.091	0.407	0.075
Hillshade (°)	<0.0001	0.062	0	0.038	<0.0001	0.715	0.025	0.461	0.833	0.268	0.005	0.777	0.000	<0.0001	<0.0001	0.004	0.001	<0.0001	0.000	0.330	<0.0001	0.260	0.000	0.008
Aspect (°)	<0.0001	0.215	0.038	0	0.001	0.266	0.590	0.716	0.702	0.727	0.000	0.029	0.160	<0.0001	0.003	0.044	0.409	0.052	0.000	0.137	0.000	0.078	0.001	0.116
Slope (°)	<0.0001	0.453	<0.0001	0.001	0	0.643	0.197	0.388	0.638	0.469	<0.0001	0.062	0.005	<0.0001	<0.0001	0.001	0.004	<0.0001	<0.0001	0.236	<0.0001	0.008	<0.0001	0.087
glycyrrhizic acid (%)	0.771	0.464	0.715	0.266	0.643	0	0.015	0.001	0.014	0.135	0.321	0.079	0.036	0.654	0.948	0.481	0.920	0.119	0.736	0.729	0.156	0.036	0.410	0.012
glabridin (%)	0.317	0.280	0.025	0.590	0.197	0.015	0	0.272	0.461	0.232	0.696	0.901	0.057	0.177	0.032	0.015	0.034	0.030	0.294	0.884	0.232	0.565	0.148	0.400
liquiritin (%)	0.220	0.118	0.461	0.716	0.388	0.001	0.272	0	0.007	0.370	0.025	0.031	0.832	0.791	0.904	0.621	0.093	0.366	0.173	0.009	0.928	0.008	0.094	0.061
Soil bearing capacity (t sf ⁻¹)	0.759	0.572	0.833	0.702	0.638	0.014	0.461	0.007	0	0.840	0.500	0.749	0.466	0.619	0.869	0.011	0.827	0.118	0.847	0.006	0.064	0.000	0.139	<0.0001
pH	0.409	0.229	0.268	0.727	0.469	0.135	0.232	0.370	0.840	0	0.018	0.016	0.000	0.524	0.820	0.722	0.863	0.095	0.983	0.452	0.111	0.008	0.239	0.001
VSMC (m³ m ⁻³)	<0.0001	0.139	0.005	0.000	<0.0001	0.321	0.696	0.025	0.500	0.018	0	0.008	0.140	0.000	0.000	0.009	0.592	0.043	<0.0001	0.463	0.001	<0.0001	<0.0001	0.807
root diameter (cm)	0.039	0.958	0.777	0.029	0.062	0.079	0.901	0.031	0.749	0.016	0.008	0	0.325	0.084	0.235	0.172	0.843	0.749	0.104	0.782	0.684	0.006	0.025	0.202
Average temp. (°C)*	0.002	0.720	0.000	0.160	0.005	0.036	0.057	0.832	0.466	0.000	0.140	0.325	0	0.002	0.001	0.019	0.288	<0.0001	<0.0001	0.315	<0.0001	0.961	0.014	<0.0001
Maximum temp. (°C)*	<0.0001	0.069	<0.0001	<0.0001	<0.0001	0.654	0.177	0.791	0.619	0.524	0.000	0.084	0.002	0	<0.0001	0.002	0.057	0.000	<0.0001	0.150	<0.0001	0.086	<0.0001	0.009
Minimum temp. (°C)*	<0.0001	0.266	<0.0001	0.003	<0.0001	0.948	0.032	0.904	0.869	0.820	0.000	0.235	0.001	<0.0001	0	<0.0001	<0.0001	<0.0001	<0.0001	0.133	<0.0001	0.018	<0.0001	0.087
Maximum daily rainfall (mm)*	0.002	0.567	0.004	0.044	0.001	0.481	0.015	0.621	0.011	0.722	0.009	0.172	0.019	0.002	<0.0001	0	0.002	0.011	0.003	0.549	0.082	<0.0001	<0.0001	0.526
Average areal precipitation (mm)*	0.132	0.001	0.001	0.409	0.004	0.920	0.034	0.093	0.827	0.863	0.592	0.843	0.288	0.057	<0.0001	0.002	0	0.000	0.589	0.000	0.348	0.613	0.062	0.301
Precipitation efficiency index**	<0.0001	0.250	<0.0001	0.052	<0.0001	0.119	0.030	0.366	0.118	0.095	0.043	0.749	<0.0001	0.000	<0.0001	0.011	0.000	0	0.000	0.132	<0.0001	0.973	0.003	<0.0001
Average annual temp. (°C)***	<0.0001	0.224	0.000	0.000	<0.0001	0.736	0.294	0.173	0.847	0.983	<0.0001	0.104	<0.0001	<0.0001	<0.0001	0.003	0.589	0.000	0	0.309	<0.0001	0.003	<0.0001	0.089
Average max. temp. of warmest month (°C)***	0.849	<0.0001	0.330	0.137	0.236	0.729	0.884	0.009	0.006	0.452	0.463	0.782	0.315	0.150	0.133	0.549	0.000	0.132	0.309	0	0.844	0.044	0.404	0.038
Average min. temp. of coldest month (°C)***	<0.0001	0.913	<0.0001	0.000	<0.0001	0.156	0.232	0.928	0.064	0.111	0.001	0.684	<0.0001	<0.0001	<0.0001	0.082	0.348	<0.0001	<0.0001	0.844	0	0.626	0.001	<0.0001
Average annual precipitation (mm)***	0.001	0.091	0.260	0.078	0.008	0.036	0.565	0.008	0.000	0.008	<0.0001	0.006	0.961	0.086	0.018	<0.0001	0.613	0.973	0.003	0.044	0.626	0	<0.0001	0.001
Average precipitation of wettest month (mm)***	<0.0001	0.407	0.000	0.001	<0.0001	0.410	0.148	0.094	0.139	0.239	<0.0001	0.025	0.014	<0.0001	<0.0001	<0.0001	0.062	0.003	<0.0001	0.404	0.001	<0.0001	0	0.802
Average precipitation of driest month (mm)***	0.127	0.075	0.008	0.116	0.087	0.012	0.400	0.061	<0.0001	0.001	0.807	0.202	<0.0001	0.009	0.087	0.526	0.301	<0.0001	0.089	0.038	<0.0001	0.001	0.802	0

Table S3. Data used for spatial modeling

Sl. No.		Variables		Reclassify		Classes and subclass				Plant Pixels			FR	RF	RF (non%)	RF (INT)	Min(RF)	Max(RF)	Max(RF) - Min(RF)	[Max-Min]Min(RF)	PR	PR Value
		Class	no. classes	OID	Value	Class Pixel	%Subclass Pixel		Area	Pixels	%Pixels											PR Value
1	Aspect (°)	(-)1-40	1	0	1	259477	12.83		996300	1107	14.08		1.10	0.12	12.28	12						
		40-80	2	1	2	231529	11.45		415800	462	5.87		0.51	0.06	5.74	5						
		80-120	3	2	3	234080	11.57		574200	638	8.11		0.70	0.08	7.84	7						
		120-160	4	3	4	258309	12.77		1125900	1251	15.91		1.25	0.14	13.93	13						
		160-200	5	4	5	247161	12.22		1442700	1603	20.38		1.67	0.19	18.66	18						
		200-240	6	5	6	190569	9.42		721800	802	10.20		1.08	0.12	12.11	12						
		240-280	7	6	7	171593	8.48		700200	778	9.89		1.17	0.13	13.05	13						
	280-320	8	7	8	222734	11.01		562500	625	7.95		0.72	0.08	8.07	8							
	320-360	9	8	9	207199	10.24		539100	599	7.62		0.74	0.08	8.32	8							
	Total					2022651				7865		8.94	1.00	100.00		0.06	0.19	0.13	0.07	1.87	1.86	
2	Curvature	(-)25-(-)1.5	1	0	1	139370	6.90		351000	390	4.96		0.72	0.27	26.62	26						
		(-)1.5-1.5	2	1	2	1741293	86.15		6256800	6952	88.39		1.03	0.38	37.97	37						
		1.5-25	3	2	3	140482	6.95		470700	523	6.65		0.96	0.35	35.41	35						
	Total					2021145				7865		2.70	1.00	100.00		0.27	0.38	0.11	0.07	1.64	1.64	
3	Elevation (m)	75-130	1	0	1	1178213	58.25		4721400	5246	66.70		1.15	0.11	10.84	10						
		130-185	2	1	2	322827	15.96		788400	876	11.14		0.70	0.07	6.61	6						
		185-240	3	2	3	381501	18.86		785700	873	11.10		0.59	0.06	5.57	5						
		240-295	4	3	4	112594	5.57		0	0	0.00		0.00	0.00	0.00	0						
		295-350	5	4	5	27516	1.36		783000	870	11.06		8.13	0.77	76.98	76						
	Total					2022651				7865		10.56	1.00	100.00		0.00	0.77	0.77	0.07	11.11	11.11	
4	Soil bearing capacity (t sf ⁻¹)	2.5-3.0	1	0	1	21852	1.08		785700	873	11.10		10.27	0.68	68.47	68						
		3.0-3.5	2	1	2	392009	19.38		1900800	2112	26.85		1.39	0.09	9.23	9						
		3.5-4.0	3	2	3	1458332	72.10		2933100	3259	41.44		0.57	0.04	3.83	3						
		4.0-4.5	4	3	4	150458	7.44		1458900	1621	20.61		2.77	0.18	18.47	18						
	Total					2022651				7865		15.01	1.00	100.00		0.04	0.68	0.65	0.07	9.33	9.33	
5	Hillshade (°)	0-23	1	0	1	1142838	56.50		4176000	4640	59.00		1.04	0.21	20.68	20						
		23-68	2	1	2	131839	6.52		504000	560	7.12		1.09	0.22	21.64	21						
		68-111	3	2	3	154800	7.65		605700	673	8.56		1.12	0.22	22.14	22						
		111-152	4	3	4	219283	10.84		787500	875	11.13		1.03	0.20	20.32	20						
		152-181	5	4	5	373891	18.49		1005300	1117	14.20		0.77	0.15	15.22	15						
	Total					2022651				7865		5.05	1.00	100.00		0.15	0.22	0.07	0.07	1.00	1	
6	pH	6.5-6.6	1	0	1	390	0.02		336600	374	4.76		246.58	0.89	89.19	89						
		6.6-6.7	2	1	2	54997	2.72		569700	633	8.05		2.96	0.01	1.07	1						
		6.7-6.8	3	2	3	248041	12.27		788400	876	11.14		0.91	0.00	0.33	0						
		6.8-6.9	4	3	4	1263009	62.45		1460700	1623	20.64		0.33	0.00	0.12	0						
		6.9-7.0	5	4	5	446397	22.07		3138300	3487	44.34		2.01	0.01	0.73	0						
		7.0-7.1	6	5	6	9475	0.47		784800	872	11.09		23.66	0.09	8.56	8						
	Total					2022309				7865		276.45	1.00	100.00		0.00	0.89	0.89	0.07	12.86	12.86	
7	Average areal precipitation (mm)*	900-940	1	0	1	1221090	60.37		5504400	6116	77.76		1.29	0.22	22.04	22						
		940-980	2	1	2	453773	22.43		0	0	0.00		0.00	0.00	0.00	0						
		980-1020	3	2	3	133972	6.62		0	0	0.00		0.00	0.00	0.00	0						
		1020-1060	4	3	4	115083	5.69		0	0	0.00		0.00	0.00	0.00	0						
		1060-1100	5	4	5	98733	4.88		1574100	1749	22.24		4.56	0.78	77.96	77						
	Total					2022651				7865		5.84	1.00	100.00		0.00	0.78	0.78	0.07	11.25	11.25	
8	Average temp. (°C)*	18-19	1	0	1	164026	8.11		783000	870	11.06		1.36	0.04	3.54	3						
		19-20	2	1	2	1440412	71.21		4518000	5020	63.83		0.90	0.02	2.33	2						
		20-21	3	2	3	410943	20.32		871200	968	12.31		0.61	0.02	1.57	1						
		21-22	4	3	4	7270	0.36		906300	1007	12.80		35.62	0.93	92.55	92						
	Total					2022651				7865		38.49	1.00	100.00		0.02	0.93	0.91	0.07	13.13	13.13	
9	VSMC (m³ m ⁻³)	0.10-0.18	1	0	1	1071748	52.99		3815100	4239	53.90		1.02	0.09	8.84	8						
		0.18-0.25	2	1	2	727666	35.98		2480400	2756	35.04		0.97	0.08	8.47	8						
		0.25-0.33	3	2	3	199709	9.87		0	0	0.00		0.00	0.00	0.00	0						
		0.33-0.40	4	3	4	23528	1.16		783000	870	11.06		9.51	0.83	82.69	82						
	Total					2022651				7865		11.50	1.00	100.00		0.00	0.83	0.83	0.07	11.94	11.93	

10	Slope (°)	0–3	1	0	1	1268826	62.73		4706100	5229	66.48	1.06	0.18	18.32	18						
		3–7	2	1	2	231927	11.47		691200	768	9.76	0.85	0.15	14.72	14						
		7–12	3	2	3	196895	9.73		670500	745	9.47	0.97	0.17	16.82	16						
		12–17	4	3	4	150517	7.44		568800	632	8.04	1.08	0.19	18.66	18						
		17–24	5	4	5	109658	5.42		324000	360	4.58	0.84	0.15	14.59	14						
		24–32	6	5	6	47809	2.36		92700	103	1.31	0.55	0.10	9.58	9						
		32–64	7	6	7	17019	0.84		25200	28	0.36	0.42	0.07	7.31	7						
	Total					2022651				7865		5.79	1.00	100.00		0.07	0.19	0.11	0.07	1.64	1.64
11	Average annual mean temperature (°C)**	12–14	1	0	1	1647	0.08		0	0	0.00	0.00	0.00	0.00	0						
		14–16	2	1	2	11990	0.59		0	0	0.00	0.00	0.00	0.00	0						
		16–18	3	2	3	269896	13.34		0	0	0.00	0.00	0.00	0.00	0						
		18–20	4	3	4	1739118	85.98		7078500	7865	100.00	1.16	1.00	100.00	100						
	Total					2022651				7865		1.16	1.00	100.00		0.00	1.00	1.00	0.07	14.44	14.43
12	Average max. temperature of warmest month (°C)**	29.5–31.8	1	0	1	106336	5.26		0	0	0.00	0.00	0.00	0.00	0						
		31.8–32.4	2	1	2	575022	28.43		1836000	2040	25.94	0.91	0.22	22.15	22						
		32.4–32.99	3	2	3	591537	29.25		3550500	3945	50.16	1.72	0.42	41.63	41						
		32.99–33.9	4	3	4	544024	26.90		993600	1104	14.04	0.52	0.13	12.67	12						
		33.9–34.8	5	4	5	205732	10.17		698400	776	9.87	0.97	0.24	23.55	23						
	Total					2022651				7865		4.12	1.00	100.00		0.13	0.42	0.29	0.07	4.18	4.18
13	Average min. temperature of coldest month (°C)**	(–)1.6–0.2	1	0	1	3941	0.19		0	0	0.00	0.00	0.00	0.00	0						
		0.2–1.3	2	1	2	2708	0.13		0	0	0.00	0.00	0.00	0.00	0						
		1.3–2.2	3	2	3	11450	0.57		0	0	0.00	0.00	0.00	0.00	0						
		2.2–2.9	4	3	4	36359	1.80		0	0	0.00	0.00	0.00	0.00	0						
		2.9–3.6	5	4	5	103930	5.14		0	0	0.00	0.00	0.00	0.00	0						
		3.6–4.3	6	5	6	201169	9.95		377100	419	5.33	0.54	0.16	15.89	15						
		4.3–4.9	7	6	7	270508	13.37		483300	537	6.83	0.51	0.15	15.15	15						
		4.9–5.4	8	7	8	439229	21.72		1314000	1460	18.56	0.85	0.25	25.36	25						
	Total					2022651	.			7865		3.37	1.00	100.00		0.00	0.44	0.44	0.07	6.29	6.29
14	Average annual precipitation (mm)**	550–650	1	0	1	179515	8.88		0	0	0.00	0.00	0.00	0.00	0						
		650–750	2	1	2	497152	24.58		0	0	0.00	0.00	0.00	0.00	0						
		750–850	3	2	3	571596	28.26		2356200	2618	33.29	1.18	0.21	21.03	21						
		850–950	4	3	4	600861	29.71		2862900	3181	40.45	1.36	0.24	24.31	24						
		950–1050	5	4	5	173527	8.58		1859400	2066	26.27	3.06	0.55	54.66	54						
	Total					2022651				7865		5.60	1.00	100.00		0.00	0.55	0.55	0.07	7.89	7.89
15	Average precipitation of wettest month (mm)**	100–125	1	0	1	597932	29.56		2356200	2618	33.29	1.13	0.34	34.20	34						
		125–150	2	1	2	661037	32.68		3150900	3501	44.51	1.36	0.41	41.37	41						
		150–175	3	2	3	558164	27.60		1571400	1746	22.20	0.80	0.24	24.43	24						
		175–200	4	3	4	193456	9.56		0	0	0.00	0.00	0.00	0.00	0						
		200–225	5	4	5	12062	0.60		0	0	0.00	0.00	0.00	0.00	0						
	Total					2022651				7865		3.29	1.00	100.00		0.00	0.41	0.41	0.07	5.97	5.97
16	Average precipitation of driest month (mm)**	1–3	1	0	1	134516	6.65		0	0	0.00	0.00	0.00	0.00	0						
		3–6	2	1	2	1144927	56.61		4407300	4897	62.26	1.10	0.47	46.79	46						
		6–9	3	2	3	610285	30.17		2671200	2968	37.74	1.25	0.53	53.21	53						
		9–12	4	3	4	132923	6.57		0	0	0.00	0.00	0.00	0.00	0						
	Total					2022651				7865		2.35	1.00	100.00		0.00	0.53	0.53	0.07	7.68	7.68

* Recorded in 2019 (Turkish Ministry of Agriculture and Forestry, General Directorate of Meteorology. <https://www.mgm.gov.tr/>. (Accessed on Jan.11th 2020))

**Bioclimatic variables for the period 2010-2018 (WorldClim, Bioclimatic variables. <https://www.worldclim.org/data/bioclim.html>. (Accessed on May 1st 2020))

Location	pH	EC^a	N^b	(NO³⁻)^b	(P)^b	(K)^b	[Ca(OH)₂]^b	(Mg)^b	(Mn)^c	(Fe)^c	(Cu)^c	(Zn)^c	(B)^c
Point - 1*	8.4	0.29	5.3	4.6	7.4	70	797	201	5.9	2.3	0.23	0.29	0.73
Point - 2*	8.5	0.31	4.6	4.3	5.0	55	785	203	5.7	2.3	0.21	0.21	0.84
Point - 3*	8.5	0.29	5.1	5.3	8.8	127	686	159	4.9	3.5	0.26	0.30	1.60
Point - 4**	8.6	0.28	7.0	3.2	16.0	98	782	195	4.3	1.2	0.38	0.37	1.90
Point - 5**	8.7	0.26	6.8	1.6	10.0	63	775	218	4.5	1.3	0.45	0.36	1.80
Standard value (Japan standard) ***	6.0-6.5	0.10-0.30	0.3-1.5	0.7-3.5	20-60	15-40	200-400	35-70	7.0-20.0	15-100	1.0-3.5	10.0-40.0	0.7-2.5

* at 36° 24' 8.36" (Longitude) and 36° 21' 25.76" (Latitude)

**at 36° 26' 22.75" (Longitude) and 36° 22' 33.42" (Latitude)

*** Source: (<https://n-seikaken.co.jp/soil/check-shindan.html>)

^a Unit is mS/cm

^b Unit is mg/100g

^c Unit is mg/Kg

Table S5. Photographs of *G. glabra* in situ (at the collection sites).

Location	Longitude	Latitude	Elevation (m)
A	36° 16' 0.27" E	36° 24' 21.59" N	75.6
B	36° 16' 30.41" E	36° 24' 19.29" N	82.5
C	36° 19' 5.3" E	36° 27' 54.3" N	116.1
D	36° 19' 5.25" E	36° 27' 50.27" N	125.3
E	36° 26' 45.21" E	36° 26' 3.21" N	89.4
F	36° 29' 30.94" E	36° 25' 52.03" N	88.1
G	36° 27' 44.42" E	36° 24' 1.09" N	83.6
H	36° 15' 52.8" E	36° 8' 56.47" N	328.0
I	36° 21' 42.68" E	36° 3' 45.51" N	198.8
J	36° 19' 50.46" E	36° 11' 2.27" N	164.5



