Table S1. Information on the origin of seed samples, the representation at the trial sites, and characteristics of the climate in the four periods considered in the study.

						Experimental site[1]				
Code	**Origin**	**Region**	**Altitude**	**Latitude**	**Longitude**	**ARA**	**BAZ**	**CUR**	**GUD**	**NAV**
Le	1 Puebla de Lillo	1	1550	43°04′ N	05°15′ W	x	x	L	x	x
Bu	2 San Zadornil	2	1000	42°50′ N	03°11′ W	x	x	x	x	x
Hu1	4 Morrano	4	700	42°12′ N	00°06′ W	x	x	x	x	o
Hu2	5 Borau	5	1550	42°42′ N	00°35′ W	L	x	x	o	x
Bu	7 Pobla de Lillet	7	1100	42°14′ N	01°58′ W	x	o	x	o	x
So	8 Covaleda	8	1550	41°56′ N	02°48′ W	x	x	x	x	x
Gu1	91 Galve de Sobre	9	1400	41°15′ N	03°07′ W	x	x	x	x	x
Gu2	92 Campisabalos	9	1400	41°13′ N	03°12′ W	x	x	x	x	x
Sg1	101 Valsaín	10	1550	40°49′ N	04°01′ W	x	x	x	o	x
Sg2	102 Navafria	10	1600	41°00′ N	03°50′ W	x	x	x	o	L
Av	11 Navarredonda de Gredos	11	1550	40°21′ N	05°07′ W	x	x	x	x	X
Te1	12 Orihuela del Tremedal	12	1750	40°31′ N	01°38′ W	x	o	x	o	x
Te2	14 Gudar	14	1700	40°25′ N	00°41′ W	x	x	x	L	x
Cs	151 Castell de Cabres	15	1150	40°45′ N	00°12′ E	x	x	x	x	x
T	152 La Cenia	15	1100	40°45′ N	00°03′ E	x	x	x	x	x
Gr	17 Baza	17	2050	37°22′ N	02°51′ W	x	L	x	o	x

[1] L: local provenance, x: present, o: absent.

Table S2. Pairwaise population differentiation. The estimation was made using the Phist estimate implemented in Genalex (Peakall and Smouse, 2012) based in 7 CpSSR data in the populations of Scots pine.

P01	**P02**	**P04**	**P05**	**P07**	**P08**	**P091**	**P092**	**P101**	**P102**	**P11**	**P12**	**P14**	**P152**	**P17**	
0.000															**P01**
-0.009	0.000														**P02**
0.570	0.571	0.000													**P04**
0.594	0.570	0.276	0.000												**P05**
0.601	0.595	0.122	0.359	0.000											**P07**
0.009	0.040	0.539	0.569	0.586	0.000										**P08**
0.021	-0.011	0.513	0.528	0.554	-0.018	0.000									**P091**
-0.012	0.024	0.586	0.604	0.613	0.060	0.029	0.000								**P092**
0.024	-0.007	0.574	0.569	0.602	-0.036	-0.017	0.077	0.000							**P101**
0.049	-0.021	0.508	0.524	0.539	0.004	-0.031	0.074	-0.010	0.000						**P102**
0.045	0.036	0.597	0.601	0.600	-0.014	0.019	0.044	-0.007	0.029	0.000					**P11**
0.499	0.478	0.090	0.292	0.116	0.443	0.408	0.491	0.459	0.410	0.448	0.000				**P12**
0.564	0.544	0.250	-0.019	0.316	0.568	0.521	0.568	0.559	0.511	0.593	0.257	0.000			**P14**
0.568	0.549	0.198	0.015	0.292	0.568	0.511	0.569	0.570	0.514	0.598	0.228	0.024	0.000		**P152**

0.015	0.054	0.546	0.566	0.584	0.040	0.027	0.059	0.061	0.067	0.103	0.497	0.553	0.532	0.000	**P17**

Table S3. Bootstrap analysis of the scenarios for the variable HT15 (50-trees samples).

		Mean					Variance				
Site	**Scenario1**	**Mean**	**Perc. 5%**	**Perc. 95%**	**Perc. > S1**	**Group**	**Mean**	**Perc. 5%**	**Perc. 95%**	**Perc. > S1**	**Group**
ARA	S1	587.5	560.0	615.0	0.49	a	13859	10104	17703	0.50	b
	S3	525.8	501.5	550.9	0.00	c	13709	8737	19411	0.46	c
	S4	533.9	517.9	549.4	0.00	b	12518	9794	15472	0.22	c
	S5	532.4	507.8	555.9	0.00	b	13895	9619	18812	0.48	b
	S6	524.4	498.4	549.8	0.00	c	13961	9488	19307	0.50	a
BAZ	S1	249.0	226.6	272.0	0.50	e	9262	6812	11704	0.49	b
	S2	282.7	263.9	302.1	1.00	b	6505	4787	8544	0.02	c
	S5	255.9	235.2	276.4	0.69	d	9367	6599	12452	0.52	a
	S6	268.6	249.5	287.7	0.96	c	9157	6723	12106	0.44	a
CUR	S1	212.3	199.7	225.6	0.50	b	3086	2226	4039	0.49	e
	S2	218.1	204.7	231.8	0.77	a	3422	2369	4638	0.68	d
	S3	149.0	138.8	158.7	0.00	e	2042	1334	2837	0.02	c
	S4	193.9	180.4	207.1	0.02	d	4146	3015	5430	0.93	c
	S5	199.7	187.1	213.2	0.06	c	3471	2444	4535	0.73	d
	S6	199.3	186.5	212.0	0.05	c	3604	2576	4789	0.78	d
GUD	S1	165.0	155.9	173.2	0.52	f	1420	930	1926	0.48	e
	S2	247.8	231.9	263.5	1.00	a	5041	3744	6521	1.00	a
	S5	184.9	171.2	198.5	0.99	d	4598	3178	6355	1.00	b
	S6	175.2	161.8	188.1	0.89	e	4431	3096	6010	1.00	c
NAV	S1	484.5	448.4	521.9	0.52	a	32714	21219	45311	0.48	a
	S3	367.9	313.3	420.1	0.00	d	28219	14261	46799	0.29	b
	S4	367.9	315.0	416.2	0.00	d	28275	14103	47006	0.30	a
	S5	436.6	398.1	472.9	0.01	b	30267	18868	43961	0.34	a
	S6	431.9	393.4	470.3	0.01	c	30475	19656	42739	0.34	a

[1]Code for the seed-sourcing scenarios, S1: Local, S2: Predictive, S3: Predictive-Climate, S4: Climate-Adjusted, S45: Composite, S6: Admixture

Table S4. Bootstrap analysis of the scenarios for the variable DBH15. (50-trees samples).

		Mean					Variance				
Site	Scenario1	Mean	Perc. 5%	Perc. 95%	Perc. > S1	Group	Mean	Perc. 5%	Perc. 95%	Perc. > S1	Group
ARA	S1	120.3	114.1	126.5	0.48	a	714	524	914	0.47	c
	S3	109.6	103.7	115.4	0.00	d	729	460	1063	0.48	a
	S4	111.6	107.6	115.6	0.00	b	672	520	845	0.32	e
	S5	111.1	104.8	117.5	0.01	c	803	542	1140	0.66	b
	S6	108.9	102.5	115.0	0.00	e	820	528	1145	0.68	a
BAZ	S1	53.1	47.5	59.1	0.49	b	610	450	794	0.46	c
	S2	64.8	59.8	69.6	1.00	a	485	312	689	0.15	c
	S5	46.2	41.0	51.8	0.02	e	633	461	825	0.58	bc
	S6	48.5	43.2	53.5	0.07	d	608	441	796	0.47	f
CUR	S1	27.0	23.5	30.7	0.48	a	236	179	292	0.49	b
	S3	13.5	10.8	16.2	0.00	d	145	88	206	0.01	b
	S4	22.5	19.1	26.2	0.02	c	253	178	329	0.62	b
	S5	23.0	19.7	26.7	0.04	b	247	175	330	0.57	a
	S6	23.2	19.8	26.6	0.04	b	244	173	322	0.55	f
GUD	S1	18.8	16.3	21.3	0.50	f	120	77	166	0.48	f
	S2	43.7	38.6	48.8	1.00	a	461	353	575	1.00	a
	S5	27.1	23.7	30.3	1.00	d	306	206	416	1.00	d
	S6	25.1	21.9	28.4	1.00	e	259	171	361	1.00	d
NAV	S1	102.5	94.6	110.0	0.52	a	1498	1028	2034	0.48	a
	S3	72.4	60.4	83.9	0.00	d	1442	846	2086	0.44	b
	S4	71.8	60.6	82.7	0.00	d	1468	916	2089	0.45	d
	S5	88.9	80.0	97.7	0.01	b	1503	1088	1960	0.50	c
	S6	87.6	79.0	96.0	0.00	c	1459	1030	1918	0.41	a

[1]Code for the seed-sourcing scenarios, S1: Local, S2: Predictive, S3: Predictive-Climate, S4: Climate-Adjusted, S45: Composite, S6: Admixture