# Supplemental Materials: Climate change reshapes the drivers of false spring risk across European trees

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- <sup>4</sup> C. J. Chamberlain <sup>1,2</sup>, B. I. Cook <sup>3</sup>, I. Morales-Castilla <sup>4,5</sup> & E. M. Wolkovich <sup>1,2,6</sup>
- 5 Author affiliations:
- <sup>6</sup> Arnold Arboretum of Harvard University, 1300 Centre Street, Boston, Massachusetts, USA;
- Organismic & Evolutionary Biology, Harvard University, 26 Oxford Street, Cambridge, Massachusetts, USA;
- <sup>3</sup>NASA Goddard Institute for Space Studies, New York, New York, USA;
- GloCEE Global Change Ecology and Evolution Group, Department of Life Sciences, Universidad de Al calá, Alcalá de Henares, 28805, Spain
- <sup>11</sup> Department of Environmental Science and Policy, George Mason University, Fairfax, VA 22030;
- <sup>12</sup> <sup>6</sup>Forest & Conservation Sciences, Faculty of Forestry, University of British Columbia, 2424 Main Mall, Van-<sup>13</sup> couver, BC V6T 1Z4
- \*Corresponding author: 248.953.0189; cchamberlain@g.harvard.edu

#### Methods: Space predictor

Spatial autocorrelation (SA) is a common issue in spatial ecology given that nearby spatial units tend to be more similar than units far apart, and thus, cannot be considered as independent units, which is a frequent assumption in statistical tests (Diniz-Filho *et al.*, 2003). If model residuals are spatially autocorrelated, and thus, non-independent then model coefficients and errors may be biased in a hard-to-predict way (Mauricio Bini *et al.*, 2009). On the contrary, if model residuals are not autocorrelated, then SA should not be of concern (Hawkins, 2012).

To control for spatial autocorrelation and to account for spatially structured processes independent from our environmental predictors of false springs, we generated an additional spatial predictor for the model. To avoid collinearity, we computed our spatial predictor from the residuals of a linear model of false springs as a function (Equation S1) of all other factors that are also spatially structured (e.g. spring temperature, altitude, distance to the coast), following the logic of spatial filter modelling (Diniz-Filho & Bini, 2005). The calculation of the spatial predictor followed the next steps: (a) we fit a linear model of false spring versus environmental factors, (b) we extracted the residuals of the regression Equation S1, which represent the portion of the variation in the number of false springs that is independent from the predictors in the model and (c) we utilized the residuals as our  $y_i$  values in a selection of spatial eigenvectors to retain only the minimal subset of spatial eigenvectors that are able to remove SA from model residuals. Specifically, we selected eigenvectors following the the minimization of Moran's I of the residuals (MIR) approach (Griffith & Peres-Neto, 2006; Diniz-Filho et al., 2012; Bauman et al., 2017). (d) Next, we fit a linear model between the residuals of Equation S1 and the subset of selected eigenvectors. And, finally, (e) we took the fitted values from this regression as our spatial predictor in our final model (see equation from main text, Equation 1), which can be interpreted as a latent variable summarizing the spatial structure in false springs that is unaccounted for by the rest of the environmental factors in our model (Morales-Castilla et al., 2012).

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y_{i} = \alpha_{[i]} + \beta_{NAO_{[i]}} + \beta_{MST_{[i]}} + \beta_{Elevation_{[i]}} + \beta_{DistanceCoast_{[i]}} 
+ \beta_{ClimateChange_{[i]}} + \beta_{NAO \times Species_{[i]}} + \beta_{MST \times Species_{[i]}} + \beta_{Elevation \times Species_{[i]}} 
+ \beta_{DistanceCoast \times Species_{[i]}} + \beta_{ClimateChange \times Species_{[i]}} 
+ \beta_{NAO \times ClimateChange_{[i]}} + \beta_{MST \times ClimateChange_{[i]}} + \beta_{Elevation \times ClimateChange_{[i]}} 
+ \beta_{DistanceCoast \times ClimateChange_{[i]}} + \sigma_{[i]} 
(S1)
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### Species rate of budburst calculations

Due to the paucity of data for BBCH 7 in the PEP725 dataset, we were unable to use observations for both budburst and leafout to determine the durations of vegetative risk. Instead, we used data from a growth chamber experiment (Flynn & Wolkovich, 2018) to determine the average number of days between budburst 43 and leafout for our study species. We took the mean number of days between budburst and leafout for the 44 entire experiment, which was 12 days. We compared this number to a field observation study (Donnelly et al., 45 2017) that looked at the time between budburst and leafout across 10 species over 5 years. Finally, we assessed 46 data that were provided by the USA National Phenology Network and the many participants who contribute 47 to its Nature's Notebook program (USA-NPN,2019; www.usanpn.org/data/observational) for Aesculus flava 48 (Sol.), Aesculus glabra (Willd.), Alnus incana (Moench.), Betula nigra (L.), Betula papyrifera (Marshall), 49 Fagus grandifolia (Ehrh.), Fraxinus americana (L.), Fraxinus nigra (Marshall) and Quercus velutina (Lam.) 50 and took the mean number of days between budburst and leafout. Across all three approaches, the average 51 number of days between budburst and leafout was approximately 12 days. 52

Again, due to a lack of BBCH 7 data, we were unable to determine species-specific averages of number of days between budburst and leafout. We used a similar approach as above by using data from the growth chamber experiment (Flynn & Wolkovich, 2018) but instead of finding whole experiment means we determined species-specific averages. We used the rate of budburst of Acer saccharum (Marshall) for Aesculus hippocastanum (Buerki et al., 2010), Alnus incana for Alnus glutinosa, Betula papyrifera for Betula pendula (Wang et al., 2016), Fagus grandifolia for Fagus sylvatica, Fraxinus nigra for Fraxinus excelsior and Quercus alba (L.) for Quercus robur (Hipp et al., 2017).

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## Supplement: Tables and Figures

Table S1: Data collected from PEP725 for each species and the calculated number of false spring years

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	Species	Num. of Observations	Num. of False Springs	Num. of Sites	Num. of Years
	$Aesculus\ hippocastanum$	156468	44746	10157	66
	$Alnus\ glutinosa$	91094	27296	6775	65
94	$Betula\ pendula$	154897	46685	10139	66
	Fagus sylvatica	129133	29237	9099	66
	$Fraxinus\ excelsior$	92665	8256	7327	65
	$Quercus\ robur$	131635	16657	8811	66

Table S2: Mean day of budburst and standard deviation for each species for before (1951-1983) and after recent climate change (1984-2016).

	1951-	-1983	1984-	-2016
	mean	$\operatorname{sd}$	mean	$\operatorname{sd}$
Aesculus hippocastanum	102.2	12.44	95.35	12.09
$Alnus\ glutinosa$	102.8	14.81	94.90	14.71
$Betula\ pendula$	101.3	11.76	95.44	11.25
$Fagus\ sylvatica$	109.1	9.978	103.7	9.623
$Fraxinus\ excelsior$	119.4	11.79	113.5	11.53
$Quercus\ robur$	115.9	11.31	109.6	10.95

Table S3: Summary of simple linear regression model of day of budburst before and after climate change across species.

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	mean	2%	98%
Intercept	102.27	102.18	102.36
Climate Change	-6.98	-7.13	-6.84
$Alnus\ glutinosa$	0.61	0.45	0.77
Betula pendula	-0.89	-1.02	-0.76
Fagus sylvatica	6.85	6.71	6.98
Fraxinus excelsior	17.16	17.01	17.33
Quercus robur	13.67	13.53	13.81
Climate Change x $Alnus glutinosa$	-0.97	-1.20	-0.74
Climate Change x Betula pendula	1.06	0.86	1.26
Climate Change x Fagus sylvatica	1.61	1.41	1.82
Climate Change x Fraxinus excelsior	1.07	0.84	1.30
Climate Change x $Quercus \ robur$	0.67	0.46	0.88

Table S4: Summary of simple linear regression model of average minimum temperature between budburst and leafout before and after climate change across species.

	mean	2%	98%
Intercept	5.99	5.97	6.00
Climate Change	0.83	0.80	0.85
$Alnus\ glutinosa$	1.65	1.62	1.68
$Betula\ pendula$	0.50	0.48	0.53
$Fagus\ sylvatica$	1.50	1.47	1.52
Fraxinus excelsior	2.76	2.73	2.79
$Quercus\ robur$	1.88	1.86	1.91
Climate Change x $Alnus glutinosa$	-0.04	-0.08	0.01
Climate Change x Betula pendula	-0.31	-0.35	-0.27
Climate Change x $Fagus \ sylvatica$	0.08	0.04	0.11
Climate Change x Fraxinus excelsior	-0.26	-0.30	-0.22
Climate Change x $Quercus \ robur$	-0.10	-0.14	-0.06

Table S5: Summary of simple linear regression model of the number of false springs before and after climate change across species.

	mean	2%	98%
Intercept	5.56	5.52	5.59
Climate Change	1.26	1.21	1.30
$Alnus\ glutinosa$	-1.22	-1.27	-1.17
$Betula\ pendula$	0.13	0.09	0.17
$Fagus\ sylvatica$	-0.94	-0.98	-0.89
Fraxinus excelsior	-3.73	-3.78	-3.68
$Quercus\ robur$	-2.98	-3.03	-2.94
Climate Change x $Alnus\ glutinosa$	1.21	1.14	1.28
Climate Change x Betula pendula	0.08	0.01	0.15
Climate Change x $Fagus sylvatica$	-1.41	-1.48	-1.34
Climate Change x Fraxinus excelsior	-1.56	-1.64	-1.49
Climate Change x $Quercus \ robur$	-1.43	-1.50	-1.36

Table S6: Summary of Bernoulli model with the effects of species, climatic and geographical predictors on false spring risk.

predictors on raise spring risk.	mean	2%	10%	25%	75%	90%	98%
Intercept	-0.88	-0.90	-0.89	-0.89	-0.88	-0.88	-0.87
NAO Index	0.14	0.11	0.12	0.13	0.15	0.16	0.17
Mean Spring Temperature	-0.48	-0.51	-0.50	-0.49	-0.47	-0.45	-0.44
Distance from Coast	0.40	0.37	0.38	0.49	0.41	0.43	0.44
Elevation	0.40 $0.19$	0.37	0.36	0.33	0.20	0.43	0.44 $0.23$
Space Parameter	-0.06	-0.09	-0.08	-0.07	-0.06	-0.05	-0.04
Climate Change	0.35	0.32	0.33	0.34	0.36	0.37	0.38
Alnus glutinosa	0.05	0.02	0.04	0.04	0.06	0.07	0.07
Betula pendula	0.06	0.03	0.04	0.05	0.06	0.07	0.07
Fagus sylvatica	-0.35	-0.37	-0.37	-0.36	-0.35	-0.34	-0.33
Fraxinus excelsior	-1.43	-1.46	-1.45	-1.44	-1.42	-1.41	-1.40
Quercus robur	-1.03	-1.05	-1.04	-1.03	-1.02	-1.01	-1.00
NAO Index x Alnus glutinosa	-0.07	-0.12	-0.11	-0.09	-0.06	-0.04	-0.02
NAO Index x Annas gantinosa NAO Index x Betula pendula	-0.08	-0.12	-0.11	-0.10	-0.07	-0.04	-0.02
NAO Index x Fagus sylvatica	0.12	0.07	0.09	0.10	0.13	0.15	0.17
NAO Index x Fragins sylvatica NAO Index x Frazinus excelsior	0.12	-0.04	-0.02	0.11	0.15	0.13	0.10
NAO Index x Quercus robur	0.03	0.04	0.02	0.01	0.09	0.00	0.13
Mean Spring Temperature x Alnus glutinosa	0.03	0.02	0.04	0.00	0.03	0.12	0.13
Mean Spring Temperature x Betula pendula	-0.02	-0.07	-0.05	-0.03	-0.01	0.10	0.20
Mean Spring Temperature x Fagus sylvatica	-0.02	-0.11	-0.10	-0.08	-0.05	-0.02	-0.01
Mean Spring Temperature x Frazinus excelsior	0.32	0.24	0.26	0.30	0.34	0.38	0.40
Mean Spring Temperature x Quercus robur	0.10	0.24	0.06	0.09	0.12	0.15	0.16
Distance from Coast x Alnus glutinosa	-0.07	-0.13	-0.11	-0.08	-0.05	-0.03	-0.01
Distance from Coast x Betula pendula	0.01	-0.04	-0.02	-0.00	0.03	0.05	0.06
Distance from Coast x Fagus sylvatica	-0.00	-0.06	-0.04	-0.02	0.01	0.04	0.05
Distance from Coast x Frazinus excelsior	0.26	0.18	0.20	0.23	0.28	0.31	0.34
Distance from Coast x Quercus robur	-0.10	-0.16	-0.14	-0.12	-0.08	-0.05	-0.03
Elevation x Alnus glutinosa	0.02	-0.04	-0.02	0.00	0.04	0.07	0.09
Elevation x Betula pendula	0.03	-0.02	-0.01	0.02	0.05	0.07	0.08
Elevation x Fagus sylvatica	0.00	-0.06	-0.04	-0.02	0.02	0.04	0.06
Elevation x Fraxinus excelsior	-0.37	-0.46	-0.43	-0.39	-0.34	-0.31	-0.28
Elevation x Quercus robur	-0.08	-0.15	-0.13	-0.10	-0.06	-0.03	-0.01
Space Parameter x Alnus glutinosa	0.01	-0.03	-0.02	0.00	0.03	0.05	0.06
Space Parameter x Betula pendula	-0.01	-0.05	-0.03	-0.02	0.00	0.02	0.03
Space Parameter x Fagus sylvatica	-0.04	-0.08	-0.07	-0.05	-0.03	-0.01	0.00
Space Parameter x Fraxinus excelsior	0.05	-0.01	0.01	0.03	0.07	0.09	0.11
Space Parameter x Quercus robur	0.02	-0.03	-0.02	0.00	0.03	0.05	0.06
Climate Change x Alnus glutinosa	0.06	0.01	0.03	0.05	0.07	0.09	0.11
Climate Change x Betula pendula	0.06	0.01	0.03	0.04	0.07	0.09	0.10
Climate Change x Fagus sylvatica	-0.32	-0.37	-0.35	-0.34	-0.31	-0.29	-0.28
Climate Change x Fraxinus excelsior	-0.52	-0.59	-0.57	-0.54	-0.50	-0.47	-0.45
Climate Change x Quercus robur	-0.41	-0.46	-0.44	-0.42	-0.39	-0.37	-0.36
NAO Index x Climate Change	-0.83	-0.86	-0.85	-0.84	-0.82	-0.81	-0.80
Mean Spring Temperature x Climate Change	0.42	0.39	0.40	0.41	0.43	0.44	0.45
Distance from Coast x Climate Change	-0.12	-0.16	-0.15	-0.13	-0.11	-0.10	-0.09
Elevation x Climate Change	-0.00	-0.04	-0.03	-0.01	0.01	0.03	0.04
Space Parameter x Climate Change	-0.05	-0.07	-0.07	-0.05	-0.04	-0.03	-0.02

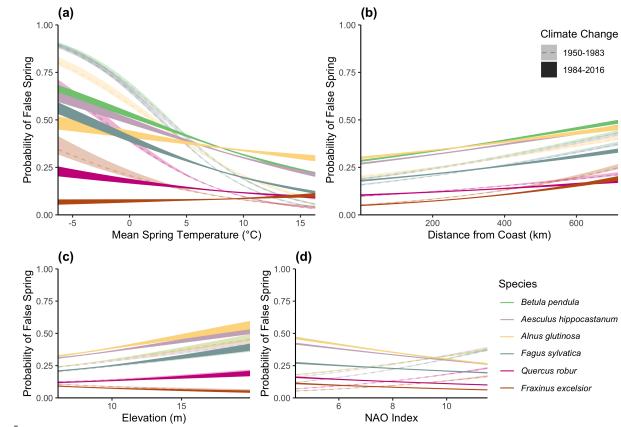


Figure S1: Average predictive comparisons for all climate change interactions with each of the main effects (i.e., mean spring temperature, distance from the coast, elevation, and NAO index) for all species. Shading around the lines represent the 98% uncertainty intervals.

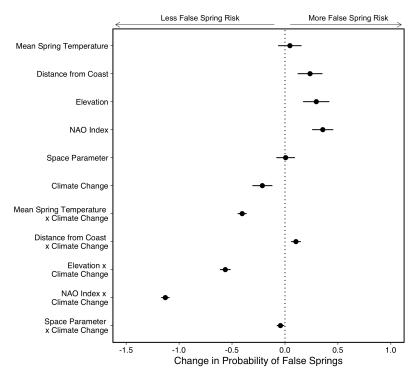


Figure S2: Effects of species, climatic and geographical predictors on false spring risk during the first leaf to full leafout interval. More positive values indicate an increased probability of a false spring whereas more negative values suggest a lower probability of a false spring. Dots and lines show means and 98% uncertainty intervals. See Table S7 for full model output.

Table S7: Summary of Bernoulli model of false spring risk during the first leaf to full leafout interval.

Intercept	intervar.	moon	2%	10%	25%	75%	90%	98%
NAO Index         0.44         0.49         0.41         0.43         0.45         0.46         0.47           Mean Spring Temperature         -0.07         -0.01         -0.01         -0.08         -0.06         -0.04         -0.05           Elevation         0.23         0.18         0.20         0.22         0.24         0.26         0.28           Space Parameter         0.00         -0.01         -0.04         -0.03         -0.02         0.00         0.02         0.03           Climate Change         -0.01         -0.04         -0.03         -0.02         0.00         0.07         0.08           Betula pendula         0.05         0.03         0.03         0.04         0.06         0.07         0.08           Pagus sylbatica         -0.94         -0.97         -0.96         -0.95         -0.93         -0.91         -1.98         -1.96         -1.98         -1.90         -1.98         -1.96         -1.98         -1.96         -1.98         -1.90         -0.93         -0.91         -0.14         -1.10         -1.06         -1.60         -1.60         -1.60         -1.60         -1.60         -1.60         -1.60         -1.60         -1.60         -1.50         -1.00	Intercept	mean						
Mean Spring Temperature         0.07         0.11         0.10         0.08         -0.06         0.04         -0.03           Distance from Coast         0.12         0.07         0.09         0.10         0.12         0.26         0.28           Elevation         0.23         0.18         0.20         0.22         0.24         0.20         0.02         0.03         0.02         0.03         0.02         0.03         0.02         0.03         0.02         0.03         0.02         0.03         0.02         0.03         0.02         0.03         0.02         0.03         0.02         0.03         0.02         0.03         0.02         0.03         0.02         0.03         0.02         0.03         0.02         0.03         0.02         0.03         0.01         0.04         0.06         0.03         0.01         0.08         0.09         1.02         0.03         0.01         0.01         0.02         0.03         0.01         1.08         1.09         1.94         1.94         1.94         1.96         1.94         1.94         1.96         1.94         1.94         1.94         1.96         1.93         1.94         1.94         1.94         1.95         1.96         1.93 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
Distance from Coast   0.12   0.07   0.09   0.10   0.13   0.15   0.26   0.28								
Elevation								
Space Parameter         0.00         -0.03         -0.02         -0.01         0.02         0.03         0.02         0.00         0.02         0.03         0.01         0.08         0.09         0.03         0.01         0.01         1.04         0.15         0.03         0.01         0.01         1.04         0.06         0.03         0.01         0.01         0.04         0.06         0.03         0.01         0.04         0.06         0.03         0.01         0.01         0.04         0.06         0.03         0.01         0.04         0.06         0.03         0.01         0.04         0.05         0.03         0.01         0.04         0.05         0.03         0.03 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
Climate Change         -0.01         -0.04         -0.03         -0.02         0.00         0.02         0.08           Alnus glutinosa         0.05         0.03         0.04         0.06         0.07         0.08         0.09           Egus sylvatica         -0.94         -0.97         -0.96         -0.95         -0.93         -0.92         -0.91           Fraxinus excelsior         -2.00         -2.05         -2.03         -2.01         -1.98         -1.96         -1.94           Quercus robur         -1.63         -1.67         -1.66         -1.64         -1.62         -1.60         -1.59           NAO Index x Alnus glutinosa         -0.12         -0.18         -0.10         -0.01         0.01         0.00         0.02         0.03         -0.01         0.01         0.01         0.08         0.06         NAO Index x Fausus ylutatica         0.07         -0.00         0.02         0.05         0.09         0.12         -0.14           NAO Index x Fausus ylutatica         0.07         -0.01         0.02         -0.05         0.09         0.12         0.14           NAO Index x Fausus ylutatica         0.02         0.07         0.01         0.01         0.01         0.02								
Alnus glutinosa         0.05         0.03         0.03         0.04         0.06         0.07         0.08         0.09           Betula pendula         0.07         0.04         0.05         0.06         0.07         0.03         0.09         0.11         0.01         1.08         1.06         1.59           NAO Index x Dursus plutinosa         0.02         -0.03         -0.01         0.01         0.01         0.06         0.08           NAO Index x Fagus sylvatica         0.07         0.00         0.02         0.05         0.09         0.12         0.14           NAO Index x Fagus sylvatica         0.07         0.06         0.03         0.09         0.12         0.12         0.12         0.12         0.12         0.12         0.12         0.12         0.05         0.01         0.02           NAO Index x Fagus sylvatica         0.02         0.07         0.06         0.03         0.00         0.03         0.00         0.03 <td><del>-</del></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	<del>-</del>							
Betula pendula         0.07         0.04         0.05         0.06         0.07         0.092         0.99         2.092         0.91         2.092         0.93         0.92         0.91         2.09         2.05         2.03         2.01         1.98         1.96         1.91         1.92         0.19         Praximus excelsior         2.00         2.05         2.03         2.01         1.98         1.96         1.15           NAO Index x Alnus glutinosa         0.12         0.18         0.16         0.14         0.11         0.01         0.00         0.02         0.05         0.09         0.12         0.14           NAO Index x Faqus sylvatica         0.07         0.00         0.02         0.05         0.09         0.12         0.14           NAO Index x Faqus sylvatica         0.07         0.16         0.13         0.01         0.05         0.01         0.02           NAO Index x Faqus sylvatica         0.02         0.07         0.16         0.13         0.01         0.05         0.03         0.00         0.02         0.07           NAO Index x Faqus sylvatica         0.12         0.02         0.07         0.06         0.03         0.00         0.02         0.07         0.00         0.03								
Fagus sylvatica         -0.94         -0.97         -0.96         -0.95         -0.93         -0.91         -0.94           Fraxinus excelsior         -2.00         -2.05         -2.05         -2.03         -2.01         -1.98         -1.96         -1.94           Quercus robur         -1.63         -1.67         -1.66         -1.62         -1.62         -1.60         -1.63           NAO Index x Brus sylvatica         -0.12         -0.18         -0.16         -0.14         -0.11         -0.08         -0.06           NAO Index x Fagus sylvatica         -0.07         -0.09         -0.02         -0.05         -0.09         -0.25         -0.39         -0.41         -0.10         -0.05         -0.01         -0.12         -0.14         -0.02         -0.05         -0.03         -0.21         -0.02         -0.07         -0.06         -0.42         -0.35         -0.30         -0.31         -0.10         -0.05         -0.01         -0.02         -0.07         -0.06         -0.42         -0.03         -0.01         -0.02         -0.07         -0.06         -0.03         -0.01         -0.02         -0.01         -0.02         -0.01         -0.02         -0.01         -0.02         -0.01         -0.02         -0.01								
Fraxinus excelsior	<del>-</del>							
Quercus robur         -1.63         -1.67         -1.66         -1.64         -1.61         -1.61         -1.61         -1.61         -1.61         -1.61         -1.61         -1.61         -1.60         -1.60         -1.60         -1.60         -1.60         -1.60         -1.60         -1.60         -1.60         -1.60         -1.60         -1.60         -1.60         -1.61								
NAO Index x Alnus glutinosa         -0.12         -0.18         -0.16         -0.14         -0.11         -0.08         -0.06           NAO Index x Estula pendula         0.02         -0.03         -0.01         0.01         0.04         0.06         0.08           NAO Index x Fagus sylvatica         0.03         -0.09         -0.42         -0.35         -0.30         -0.27           NAO Index x Quercus robur         -0.07         -0.16         -0.13         -0.10         -0.05         -0.01         0.02           Mean Spring Temperature x Alnus glutinosa         0.26         -0.09         -0.12         0.21         0.24         -0.03         -0.00         0.02         0.03           Mean Spring Temperature x Estula pendula         -0.02         -0.07         -0.06         -0.33         -0.00         0.02         0.04           Mean Spring Temperature x Fagus sylvatica         -0.12         -0.20         -0.18         -0.14         -0.10         -0.07         -0.05           Mean Spring Temperature x Quercus robur         0.02         -0.07         -0.02         0.04         -0.00         0.05         0.05         0.05           Distance from Coast x Fagus sylvatica         0.02         -0.04         -0.00         0.04         0								
NAO Index x Betula pendula         0.02         -0.03         -0.01         0.01         0.04         0.06         0.08           NAO Index x Fagus sylvatica         0.07         0.00         0.02         0.05         0.09         0.12         0.14           NAO Index x Faxinus excelsior         -0.39         -0.49         -0.46         -0.42         -0.35         -0.30         -0.27           NAO Index x Quercus robur         -0.07         -0.16         -0.13         -0.01         -0.05         -0.01         0.02           Mean Spring Temperature x Betula pendula         -0.02         -0.07         -0.06         -0.03         -0.00         0.02         0.04           Mean Spring Temperature x Fagus sylvatica         -0.12         -0.20         -0.18         -0.11         -0.10         -0.05         0.65         0.68         0.65         0.68         0.65         0.68         0.65         0.68         0.66         0.63         0.01         0.00         0.03         0.07         0.05         0.04         0.00         0.05         0.05         0.04         0.00         0.05         0.05         0.05         0.02         0.04         0.01         0.05         0.05         0.05         0.05         0.05								
NAO Index x Fagus sylvatica         0.07         0.09         0.02         0.09         0.12         0.14           NAO Index x Fraxinus excelsior         -0.39         -0.49         -0.46         -0.42         -0.35         -0.30         -0.27           MAO Index x Quercus robur         -0.07         -0.16         -0.13         -0.10         -0.05         -0.01         0.02           Mean Spring Temperature x Alnus glutinosa         0.26         0.19         -0.06         -0.03         -0.00         0.02         0.04           Mean Spring Temperature x Fagus sylvatica         -0.12         -0.02         -0.18         -0.14         -0.10         -0.07         -0.05           Mean Spring Temperature x Fagus sylvatica         0.02         -0.02         -0.04         0.01         0.05         0.68           Mean Spring Temperature x Quercus robur         0.02         -0.07         -0.04         -0.0         0.05         0.09         0.11           Distance from Coast x Alnus glutinosa         0.05         -0.02         -0.00         0.03         0.07         0.01         0.02           Distance from Coast x Pagus sylvatica         0.02         0.04         0.16         0.20         0.24         0.28         0.30           D								
NAO Index x Frazinus excelsior         -0.39         -0.49         -0.46         -0.42         -0.35         -0.30         -0.27           NAO Index x Quercus robur         -0.07         -0.16         -0.13         -0.10         -0.05         -0.01         0.02           Mean Spring Temperature x Betula pendula         -0.02         -0.07         -0.06         -0.03         -0.00         0.02         0.04           Mean Spring Temperature x Fagus sylvatica         -0.12         -0.20         -0.17         -0.04         -0.01         -0.07         -0.05           Mean Spring Temperature x Fraxinus excelsior         0.55         0.42         0.46         0.51         0.59         0.65         0.68           Mean Spring Temperature x Quercus robur         0.02         -0.07         -0.04         -0.00         0.05         0.09         0.11           Distance from Coast x Betula pendula         0.01         -0.05         -0.03         -0.01         0.00         0.03         0.07         0.01         0.02         0.04         0.06         0.02         0.24         0.28         0.30         0.05         0.07         0.01         0.02         0.04         0.06         0.02         0.04         0.06         0.02         0.04         0	<del>-</del>							
NAO Index x Quercus robur         -0.07         -0.16         -0.13         -0.10         -0.05         -0.01         0.02           Mean Spring Temperature x Alnus glutinosa         0.26         0.19         0.21         0.24         0.27         0.30         0.33           Mean Spring Temperature x Fagus sylvatica         -0.12         -0.20         -0.18         -0.14         -0.10         -0.07         -0.05           Mean Spring Temperature x Fraxinus excelsior         0.55         0.42         0.46         0.51         0.59         0.65         0.68           Mean Spring Temperature x Quercus robur         0.02         -0.07         -0.04         -0.00         0.05         0.09         0.11           Distance from Coast x Alnus glutinosa         0.05         -0.02         -0.00         0.03         0.07         0.10         0.12           Distance from Coast x Fagus sylvatica         0.02         0.14         0.16         0.20         0.24         0.28         0.30           Distance from Coast x Fagus sylvatica         0.22         0.14         0.16         0.20         0.24         0.28         0.30           Distance from Coast x Praxinus excelsior         0.42         0.29         0.33         0.39         0.46         0.52 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
Mean Spring Temperature x Alnus glutinosa         0.26         0.19         0.21         0.24         0.27         0.30         0.33           Mean Spring Temperature x Betula pendula         -0.02         -0.07         -0.06         -0.03         -0.00         0.02         0.04           Mean Spring Temperature x Fagus sylvatica         -0.12         -0.20         -0.18         -0.11         -0.10         -0.07         -0.05           Mean Spring Temperature x Frazinus excelsior         0.55         0.42         0.46         0.51         0.59         0.65         0.68           Mean Spring Temperature x Quercus robur         0.02         -0.07         -0.04         -0.00         0.05         0.09         0.11           Distance from Coast x Alnus glutinosa         0.05         -0.02         -0.00         -0.03         -0.01         0.05         0.07           Distance from Coast x Edula pendula         0.01         -0.05         -0.03         -0.01         0.05         0.02         0.24         0.22         0.04         0.02         0.04         0.02         0.04         0.02         0.04         0.02         0.04         0.05         0.05         0.05         0.05           Distance from Coast x Pagus sylvatica         0.01         -0								
Mean Spring Temperature x Betula pendula         -0.02         -0.07         -0.06         -0.03         -0.00         0.02         0.04           Mean Spring Temperature x Fagus sylvatica         -0.12         -0.20         -0.18         -0.14         -0.10         -0.07         -0.05           Mean Spring Temperature x Fraxinus excelsior         0.55         0.42         0.06         0.51         0.59         0.65         0.68           Mean Spring Temperature x Quercus robur         0.02         -0.07         -0.04         -0.00         0.03         0.07         0.11           Distance from Coast x Alnus glutinosa         0.05         -0.02         -0.00         0.33         0.07         0.10         0.12           Distance from Coast x Fagus sylvatica         0.22         0.14         0.16         0.20         0.24         0.28         0.30           Distance from Coast x Fagus sylvatica         0.22         0.14         0.16         0.20         0.24         0.28         0.30           Distance from Coast x Pagus sylvatica         0.01         -0.09         -0.06         -0.02         0.04         0.08         0.11         0.17         0.19           Elevation x Alnus glutinosa         0.01         0.03         -0.07         -0.04 </td <td><del>-</del></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	<del>-</del>							
Mean Spring Temperature x Fagus sylvatica         -0.12         -0.20         -0.18         -0.14         -0.10         -0.07         -0.05           Mean Spring Temperature x Fraxinus excelsior         0.55         0.42         0.46         0.51         0.59         0.65         0.68           Mean Spring Temperature x Quercus robur         0.02         -0.07         -0.04         -0.00         0.05         0.09         0.11           Distance from Coast x Alnus glutinosa         0.05         -0.02         -0.00         0.03         0.07         0.10         0.12           Distance from Coast x Fagus sylvatica         0.22         0.14         0.16         0.20         0.24         0.28         0.30           Distance from Coast x Praxinus excelsior         0.42         0.29         0.33         0.39         0.46         0.52         0.56           Distance from Coast x Quercus robur         0.01         -0.09         -0.06         -0.02         0.04         0.08         0.11           Elevation x Betula pendula         0.01         -0.07         -0.06         -0.09         0.14         0.17         0.19           Elevation x Fagus sylvatica         0.01         -0.07         -0.01         -0.01         0.04         0.04 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>								
Mean Spring Temperature x Fraxinus excelsior         0.55         0.42         0.46         0.51         0.59         0.65         0.68           Mean Spring Temperature x Quercus robur         0.02         -0.07         -0.04         -0.00         0.05         0.09         0.11           Distance from Coast x Alnus glutinosa         0.05         -0.02         -0.00         0.03         0.07         0.10         0.12           Distance from Coast x Fagus sylvatica         0.22         0.14         0.16         0.20         0.24         0.28         0.30           Distance from Coast x Fagus sylvatica         0.22         0.14         0.16         0.20         0.24         0.28         0.30           Distance from Coast x Quercus robur         0.01         -0.09         -0.06         -0.02         0.04         0.08         0.11           Elevation x Alnus glutinosa         0.12         0.04         0.06         0.09         0.14         0.17         0.19           Elevation x Fagus sylvatica         0.01         -0.07         -0.04         -0.01         0.04         0.07         0.09           Elevation x Fagus sylvatica         0.02         -0.04         -0.02         0.00         0.03         0.05         0.07								
Mean Spring Temperature x Quercus robur         0.02         -0.07         -0.04         -0.00         0.05         0.09         0.11           Distance from Coast x Alnus glutinosa         0.05         -0.02         -0.00         0.03         0.07         0.10         0.12           Distance from Coast x Eagus sylvatica         0.22         0.14         0.16         0.20         0.24         0.28         0.30           Distance from Coast x Fraxinus excelsior         0.42         0.29         0.33         0.39         0.46         0.52         0.56           Distance from Coast x Quercus robur         0.01         -0.09         -0.06         -0.02         0.04         0.08         0.11           Elevation x Alnus glutinosa         0.12         0.04         -0.06         0.09         0.14         0.17         0.19           Elevation x Fagus sylvatica         0.01         -0.07         -0.04         -0.01         0.05         0.07         0.09           Elevation x Fagus sylvatica         0.01         -0.07         -0.04         -0.01         0.04         0.07         0.09           Elevation x Fagus sylvatica         0.02         -0.04         -0.10         0.04         -0.01         0.04         0.04         0.07	Mean Spring Temperature x Fagus sylvatica							
Distance from Coast x Alnus glutinosa         0.05         -0.02         -0.00         0.03         0.07         0.10         0.12           Distance from Coast x Betula pendula         0.01         -0.05         -0.03         -0.01         0.03         0.05         0.07           Distance from Coast x Fragus sylvatica         0.22         0.14         0.16         0.20         0.24         0.28         0.30           Distance from Coast x Frazinus excelsior         0.42         0.29         0.33         0.39         0.46         0.52         0.56           Distance from Coast x Quercus robur         0.01         -0.09         -0.06         -0.02         0.04         0.08         0.11           Elevation x Alnus glutinosa         0.12         0.04         0.06         0.09         0.14         0.17         0.19           Elevation x Fagus sylvatica         0.01         -0.07         -0.04         -0.01         0.01         0.05         0.07         0.09           Elevation x Fagus sylvatica         0.01         -0.07         -0.04         -0.01         -0.04         -0.01         0.04         0.07         0.01           Elevation x Quercus robur         0.24         0.14         0.17         0.21         0.27	Mean Spring Temperature x Fraxinus excelsior							
Distance from Coast x Betula pendula         0.01         -0.05         -0.03         -0.01         0.03         0.05         0.07           Distance from Coast x Fagus sylvatica         0.22         0.14         0.16         0.20         0.24         0.28         0.30           Distance from Coast x Fraxinus excelsior         0.42         0.29         0.33         0.39         0.46         0.52         0.56           Distance from Coast x Quercus robur         0.01         -0.09         -0.06         -0.02         0.04         0.08         0.11           Elevation x Alnus glutinosa         0.12         0.04         0.06         0.09         0.14         0.17         0.19           Elevation x Betula pendula         0.03         -0.03         -0.01         0.01         0.05         0.07         0.09           Elevation x Fagus sylvatica         0.01         -0.07         -0.04         -0.01         0.04         0.07         0.01         0.05         0.07         0.09           Elevation x Fagus sylvatica         0.02         0.04         -0.01         0.07         0.04         0.01         0.04         0.07         0.01         0.05         0.05         0.05         0.06         Space Parameter x Alnus glutinosa <t< td=""><td>Mean Spring Temperature x Quercus robur</td><td></td><td>-0.07</td><td></td><td></td><td>0.05</td><td>0.09</td><td></td></t<>	Mean Spring Temperature x Quercus robur		-0.07			0.05	0.09	
Distance from Coast x Fagus sylvatica         0.22         0.14         0.16         0.20         0.24         0.28         0.30           Distance from Coast x Fraxinus excelsior         0.42         0.29         0.33         0.39         0.46         0.52         0.56           Distance from Coast x Quercus robur         0.01         -0.09         -0.06         -0.02         0.04         0.08         0.11           Elevation x Alnus glutinosa         0.12         0.04         0.06         0.09         0.14         0.17         0.19           Elevation x Betula pendula         0.03         -0.03         -0.01         0.01         0.01         0.05         0.07         0.09           Elevation x Fagus sylvatica         0.01         -0.07         -0.04         -0.01         0.04         0.04         0.01         0.07         0.01           Elevation x Fagus sylvatica         0.02         -0.04         -0.01         -0.04         -0.01         0.04         0.01         0.07         0.31         0.31           Space Parameter x Alnus glutinosa         0.02         -0.03         -0.02         0.00         0.03         0.05         0.06           Space Parameter x Fagus sylvatica         -0.04         -0.01	Distance from Coast x Alnus glutinosa		-0.02		0.03			
Distance from Coast x Fraxinus excelsior         0.42         0.29         0.33         0.39         0.46         0.52         0.56           Distance from Coast x Quercus robur         0.01         -0.09         -0.06         -0.02         0.04         0.08         0.11           Elevation x Alnus glutinosa         0.12         0.04         0.06         0.09         0.14         0.17         0.19           Elevation x Betula pendula         0.03         -0.03         -0.01         0.01         0.05         0.07         0.09           Elevation x Fagus sylvatica         0.01         -0.07         -0.04         -0.01         0.04         0.01         0.14         0.10         0.14           Elevation x Fraxinus excelsior         -0.00         -0.15         -0.11         -0.04         0.04         0.00         0.14           Elevation x Quercus robur         0.24         0.14         0.17         0.21         0.27         0.31         0.34           Space Parameter x Alnus glutinosa         0.02         -0.04         -0.02         0.00         0.03         0.05         0.06           Space Parameter x Fagus sylvatica         -0.04         -0.10         -0.08         -0.06         -0.02         0.00         0.02 </td <td>Distance from Coast x Betula pendula</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Distance from Coast x Betula pendula							
Distance from Coast x Quercus robur         0.01         -0.09         -0.06         -0.02         0.04         0.08         0.11           Elevation x Alnus glutinosa         0.12         0.04         0.06         0.09         0.14         0.17         0.19           Elevation x Betula pendula         0.03         -0.03         -0.01         0.01         0.05         0.07         0.09           Elevation x Fagus sylvatica         0.01         -0.07         -0.04         -0.01         0.04         0.04         0.07         0.10           Elevation x Fraxinus excelsior         -0.00         -0.15         -0.11         -0.04         0.04         0.01         0.14           Elevation x Quercus robur         0.24         0.14         0.17         0.21         0.27         0.31         0.34           Space Parameter x Alnus glutinosa         0.02         -0.04         -0.02         0.00         0.03         0.05         0.07           Space Parameter x Fagus sylvatica         -0.04         -0.10         -0.08         -0.06         -0.02         0.00         0.02           Space Parameter x Fagus sylvatica         -0.04         -0.01         -0.08         -0.07         -0.02         0.06         0.09         0.11 <td></td> <td>0.22</td> <td>0.14</td> <td>0.16</td> <td>0.20</td> <td>0.24</td> <td>0.28</td> <td>0.30</td>		0.22	0.14	0.16	0.20	0.24	0.28	0.30
Elevation x Alnus glutinosa       0.12       0.04       0.06       0.09       0.14       0.17       0.19         Elevation x Betula pendula       0.03       -0.03       -0.01       0.01       0.05       0.07       0.09         Elevation x Fagus sylvatica       0.01       -0.07       -0.04       -0.01       0.04       0.07       0.10         Elevation x Fraxinus excelsior       -0.00       -0.15       -0.11       -0.04       0.04       0.10       0.14         Elevation x Quercus robur       0.24       0.14       0.17       0.21       0.27       0.31       0.34         Space Parameter x Alnus glutinosa       0.02       -0.04       -0.02       0.00       0.03       0.05       0.07         Space Parameter x Betula pendula       0.02       -0.03       -0.02       0.00       0.03       0.05       0.06         Space Parameter x Fraxinus excelsior       0.01       -0.09       -0.07       -0.02       0.00       0.09       0.01         Space Parameter x Quercus robur       0.04       -0.04       -0.01       0.02       0.06       0.09       0.11         Climate Change x Betula pendula       -0.01       -0.06       -0.05       -0.03       0.00       0.02	Distance from Coast x Fraxinus excelsior	0.42	0.29	0.33	0.39	0.46	0.52	0.56
Elevation x Betula pendula       0.03       -0.03       -0.01       0.01       0.05       0.07       0.09         Elevation x Fagus sylvatica       0.01       -0.07       -0.04       -0.01       0.04       0.07       0.10         Elevation x Fraxinus excelsior       -0.00       -0.15       -0.11       -0.04       0.04       0.10       0.14         Elevation x Quercus robur       0.24       0.14       0.17       0.21       0.27       0.31       0.34         Space Parameter x Alnus glutinosa       0.02       -0.04       -0.02       0.00       0.03       0.05       0.06         Space Parameter x Betula pendula       0.02       -0.03       -0.02       0.00       0.03       0.05       0.06         Space Parameter x Fagus sylvatica       -0.04       -0.10       -0.08       -0.06       -0.02       0.00       0.03       0.05       0.06         Space Parameter x Fraxinus excelsior       0.01       -0.09       -0.07       -0.02       0.03       0.08       0.11         Space Parameter x Quercus robur       0.04       -0.01       -0.01       0.02       0.06       0.09       0.11         Climate Change x Betula pendula       -0.01       -0.06       -0.05	Distance from Coast x $Quercus \ robur$				-0.02	0.04		
Elevation x Fagus sylvatica       0.01       -0.07       -0.04       -0.01       0.04       0.07       0.10         Elevation x Fraxinus excelsior       -0.00       -0.15       -0.11       -0.04       0.04       0.10       0.14         Elevation x Quercus robur       0.24       0.14       0.17       0.21       0.27       0.31       0.34         Space Parameter x Alnus glutinosa       0.02       -0.04       -0.02       0.00       0.03       0.05       0.07         Space Parameter x Betula pendula       0.02       -0.03       -0.02       0.00       0.03       0.05       0.06         Space Parameter x Fagus sylvatica       -0.04       -0.10       -0.08       -0.06       -0.02       0.00       0.03       0.08       0.11         Space Parameter x Fagus sylvatica       -0.04       -0.01       -0.08       -0.06       -0.02       0.00       0.03       0.08       0.11         Space Parameter x Quercus robur       0.04       -0.04       -0.01       0.02       0.06       0.09       0.11         Climate Change x Betula pendula       -0.01       -0.06       -0.05       -0.03       0.00       0.02       0.04         Climate Change x Fraxinus excelsior       -0.44 </td <td>Elevation x Alnus glutinosa</td> <td>0.12</td> <td>0.04</td> <td>0.06</td> <td>0.09</td> <td>0.14</td> <td>0.17</td> <td>0.19</td>	Elevation x Alnus glutinosa	0.12	0.04	0.06	0.09	0.14	0.17	0.19
Elevation x Fraxinus excelsior         -0.00         -0.15         -0.11         -0.04         0.04         0.10         0.14           Elevation x Quercus robur         0.24         0.14         0.17         0.21         0.27         0.31         0.34           Space Parameter x Alnus glutinosa         0.02         -0.04         -0.02         0.00         0.03         0.05         0.06           Space Parameter x Betula pendula         0.02         -0.03         -0.02         0.00         0.03         0.05         0.06           Space Parameter x Fagus sylvatica         -0.04         -0.01         -0.08         -0.06         -0.02         0.00         0.03         0.05         0.06           Space Parameter x Fraxinus excelsior         0.01         -0.09         -0.07         -0.02         0.03         0.08         0.11           Space Parameter x Quercus robur         0.04         -0.04         -0.01         0.02         0.06         0.09         0.11           Climate Change x Alnus glutinosa         -0.03         -0.08         -0.07         -0.04         -0.01         0.01         0.03           Climate Change x Fagus sylvatica         -0.04         -0.05         -0.03         0.00         0.02         0.04		0.03	-0.03	-0.01	0.01	0.05	0.07	0.09
Elevation x Quercus robur       0.24       0.14       0.17       0.21       0.27       0.31       0.34         Space Parameter x Alnus glutinosa       0.02       -0.04       -0.02       0.00       0.03       0.05       0.07         Space Parameter x Betula pendula       0.02       -0.03       -0.02       0.00       0.03       0.05       0.06         Space Parameter x Fagus sylvatica       -0.04       -0.10       -0.08       -0.06       -0.02       0.00       0.03       0.08       0.11         Space Parameter x Fagus sylvatica       0.01       -0.09       -0.07       -0.02       0.03       0.08       0.11         Space Parameter x Quercus robur       0.04       -0.04       -0.01       0.02       0.06       0.09       0.11         Climate Change x Alnus glutinosa       -0.03       -0.08       -0.07       -0.04       -0.01       0.01       0.03         Climate Change x Betula pendula       -0.01       -0.06       -0.05       -0.03       0.00       0.02       0.04         Climate Change x Fagus sylvatica       -0.44       -0.51       -0.49       -0.46       -0.42       -0.40       -0.38         Climate Change x Quercus robur       -0.34       -0.42	Elevation x Fagus sylvatica	0.01	-0.07	-0.04	-0.01	0.04	0.07	0.10
Space Parameter x Alnus glutinosa         0.02         -0.04         -0.02         0.00         0.03         0.05         0.07           Space Parameter x Betula pendula         0.02         -0.03         -0.02         0.00         0.03         0.05         0.06           Space Parameter x Fagus sylvatica         -0.04         -0.10         -0.08         -0.06         -0.02         0.00         0.02           Space Parameter x Fraxinus excelsior         0.01         -0.09         -0.07         -0.02         0.03         0.08         0.11           Space Parameter x Quercus robur         0.04         -0.04         -0.01         0.02         0.06         0.09         0.11           Climate Change x Alnus glutinosa         -0.03         -0.08         -0.07         -0.04         -0.01         0.01         0.03           Climate Change x Betula pendula         -0.01         -0.06         -0.05         -0.03         0.00         0.02         0.04           Climate Change x Fagus sylvatica         -0.44         -0.51         -0.49         -0.46         -0.42         -0.40         -0.38           Climate Change x Praxinus excelsior         -0.40         -0.51         -0.48         -0.43         -0.37         -0.32         -0.28	Elevation x Fraxinus excelsior	-0.00	-0.15	-0.11	-0.04	0.04	0.10	0.14
Space Parameter x Betula pendula         0.02         -0.03         -0.02         0.00         0.03         0.05         0.06           Space Parameter x Fagus sylvatica         -0.04         -0.10         -0.08         -0.06         -0.02         0.00         0.02           Space Parameter x Fraxinus excelsior         0.01         -0.09         -0.07         -0.02         0.03         0.08         0.11           Space Parameter x Quercus robur         0.04         -0.04         -0.01         0.02         0.06         0.09         0.11           Climate Change x Alnus glutinosa         -0.03         -0.08         -0.07         -0.04         -0.01         0.01         0.03           Climate Change x Betula pendula         -0.01         -0.06         -0.05         -0.03         0.00         0.02         0.04           Climate Change x Fagus sylvatica         -0.44         -0.51         -0.49         -0.46         -0.42         -0.40         -0.38           Climate Change x Fraxinus excelsior         -0.40         -0.51         -0.48         -0.43         -0.37         -0.32         -0.29           Climate Change x Quercus robur         -0.34         -0.42         -0.40         -0.36         -0.32         -0.28         -0.26	Elevation x Quercus robur	0.24	0.14	0.17	0.21	0.27	0.31	0.34
Space Parameter x Fagus sylvatica       -0.04       -0.10       -0.08       -0.06       -0.02       0.00       0.02         Space Parameter x Fraxinus excelsior       0.01       -0.09       -0.07       -0.02       0.03       0.08       0.11         Space Parameter x Quercus robur       0.04       -0.04       -0.01       0.02       0.06       0.09       0.11         Climate Change x Alnus glutinosa       -0.03       -0.08       -0.07       -0.04       -0.01       0.01       0.03         Climate Change x Betula pendula       -0.01       -0.06       -0.05       -0.03       0.00       0.02       0.04         Climate Change x Fagus sylvatica       -0.44       -0.51       -0.49       -0.46       -0.42       -0.40       -0.38         Climate Change x Fraxinus excelsior       -0.40       -0.51       -0.48       -0.43       -0.37       -0.32       -0.29         Climate Change x Quercus robur       -0.34       -0.42       -0.40       -0.36       -0.32       -0.28       -0.26         NAO Index x Climate Change       -1.13       -1.17       -1.16       -1.14       -1.12       -1.10       -1.09         Mean Spring Temperature x Climate Change       0.10       0.06       0.07	Space Parameter x $Alnus glutinosa$	0.02	-0.04	-0.02	0.00	0.03	0.05	0.07
Space Parameter x Fraxinus excelsior       0.01       -0.09       -0.07       -0.02       0.03       0.08       0.11         Space Parameter x Quercus robur       0.04       -0.04       -0.01       0.02       0.06       0.09       0.11         Climate Change x Alnus glutinosa       -0.03       -0.08       -0.07       -0.04       -0.01       0.01       0.03         Climate Change x Betula pendula       -0.01       -0.06       -0.05       -0.03       0.00       0.02       0.04         Climate Change x Fagus sylvatica       -0.44       -0.51       -0.49       -0.46       -0.42       -0.40       -0.38         Climate Change x Fraxinus excelsior       -0.40       -0.51       -0.48       -0.43       -0.37       -0.32       -0.29         Climate Change x Quercus robur       -0.34       -0.42       -0.40       -0.36       -0.32       -0.28       -0.26         NAO Index x Climate Change       -1.13       -1.17       -1.16       -1.14       -1.12       -1.10       -1.09         Mean Spring Temperature x Climate Change       -0.40       -0.45       -0.43       -0.42       -0.39       -0.37       -0.36         Distance from Coast x Climate Change       0.10       0.06       0.07 </td <td>Space Parameter x Betula pendula</td> <td>0.02</td> <td>-0.03</td> <td>-0.02</td> <td>0.00</td> <td>0.03</td> <td>0.05</td> <td>0.06</td>	Space Parameter x Betula pendula	0.02	-0.03	-0.02	0.00	0.03	0.05	0.06
Space Parameter x Quercus robur       0.04       -0.04       -0.01       0.02       0.06       0.09       0.11         Climate Change x Alnus glutinosa       -0.03       -0.08       -0.07       -0.04       -0.01       0.01       0.03         Climate Change x Betula pendula       -0.01       -0.06       -0.05       -0.03       0.00       0.02       0.04         Climate Change x Fagus sylvatica       -0.44       -0.51       -0.49       -0.46       -0.42       -0.40       -0.38         Climate Change x Fraxinus excelsior       -0.40       -0.51       -0.48       -0.43       -0.37       -0.32       -0.29         Climate Change x Quercus robur       -0.34       -0.42       -0.40       -0.36       -0.32       -0.28       -0.26         NAO Index x Climate Change       -1.13       -1.17       -1.16       -1.14       -1.12       -1.10       -1.09         Mean Spring Temperature x Climate Change       -0.40       -0.45       -0.43       -0.42       -0.39       -0.37       -0.36         Distance from Coast x Climate Change       0.10       0.06       0.07       0.09       0.12       0.14       0.15         Elevation x Climate Change       -0.56       -0.61       -0.60	Space Parameter x Fagus sylvatica	-0.04	-0.10	-0.08	-0.06	-0.02	0.00	0.02
Climate Change x Alnus glutinosa       -0.03       -0.08       -0.07       -0.04       -0.01       0.01       0.03         Climate Change x Betula pendula       -0.01       -0.06       -0.05       -0.03       0.00       0.02       0.04         Climate Change x Fagus sylvatica       -0.44       -0.51       -0.49       -0.46       -0.42       -0.40       -0.38         Climate Change x Fraxinus excelsior       -0.40       -0.51       -0.48       -0.43       -0.37       -0.32       -0.29         Climate Change x Quercus robur       -0.34       -0.42       -0.40       -0.36       -0.32       -0.28       -0.26         NAO Index x Climate Change       -1.13       -1.17       -1.16       -1.14       -1.12       -1.10       -1.09         Mean Spring Temperature x Climate Change       -0.40       -0.45       -0.43       -0.42       -0.39       -0.37       -0.36         Distance from Coast x Climate Change       0.10       0.06       0.07       0.09       0.12       0.14       0.15         Elevation x Climate Change       -0.56       -0.61       -0.60       -0.58       -0.55       -0.53       -0.53       -0.51	Space Parameter x Fraxinus excelsior	0.01	-0.09	-0.07	-0.02	0.03	0.08	0.11
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Space Parameter x $Quercus \ robur$	0.04	-0.04	-0.01	0.02	0.06	0.09	0.11
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Climate Change x Alnus glutinosa	-0.03	-0.08	-0.07	-0.04	-0.01	0.01	0.03
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Climate Change x Betula pendula	-0.01	-0.06	-0.05	-0.03	0.00	0.02	0.04
Climate Change x Fraxinus excelsior       -0.40       -0.51       -0.48       -0.43       -0.37       -0.32       -0.29         Climate Change x Quercus robur       -0.34       -0.42       -0.40       -0.36       -0.32       -0.28       -0.26         NAO Index x Climate Change       -1.13       -1.17       -1.16       -1.14       -1.12       -1.10       -1.09         Mean Spring Temperature x Climate Change       -0.40       -0.45       -0.43       -0.42       -0.39       -0.37       -0.36         Distance from Coast x Climate Change       0.10       0.06       0.07       0.09       0.12       0.14       0.15         Elevation x Climate Change       -0.56       -0.61       -0.60       -0.58       -0.55       -0.53       -0.51		-0.44	-0.51	-0.49	-0.46	-0.42	-0.40	-0.38
Climate Change x Quercus robur       -0.34       -0.42       -0.40       -0.36       -0.32       -0.28       -0.26         NAO Index x Climate Change       -1.13       -1.17       -1.16       -1.14       -1.12       -1.10       -1.09         Mean Spring Temperature x Climate Change       -0.40       -0.45       -0.43       -0.42       -0.39       -0.37       -0.36         Distance from Coast x Climate Change       0.10       0.06       0.07       0.09       0.12       0.14       0.15         Elevation x Climate Change       -0.56       -0.61       -0.60       -0.58       -0.55       -0.53       -0.51		-0.40	-0.51	-0.48	-0.43	-0.37	-0.32	-0.29
NAO Index x Climate Change       -1.13       -1.17       -1.16       -1.14       -1.12       -1.10       -1.09         Mean Spring Temperature x Climate Change       -0.40       -0.45       -0.43       -0.42       -0.39       -0.37       -0.36         Distance from Coast x Climate Change       0.10       0.06       0.07       0.09       0.12       0.14       0.15         Elevation x Climate Change       -0.56       -0.61       -0.60       -0.58       -0.55       -0.53       -0.51	•							
Mean Spring Temperature x Climate Change       -0.40       -0.45       -0.43       -0.42       -0.39       -0.37       -0.36         Distance from Coast x Climate Change       0.10       0.06       0.07       0.09       0.12       0.14       0.15         Elevation x Climate Change       -0.56       -0.61       -0.60       -0.58       -0.55       -0.53       -0.51		-1.13					-1.10	
Distance from Coast x Climate Change 0.10 0.06 0.07 0.09 0.12 0.14 0.15 Elevation x Climate Change -0.56 -0.61 -0.60 -0.58 -0.55 -0.53 -0.51	•							
Elevation x Climate Change -0.56 -0.61 -0.60 -0.58 -0.55 -0.53 -0.51								

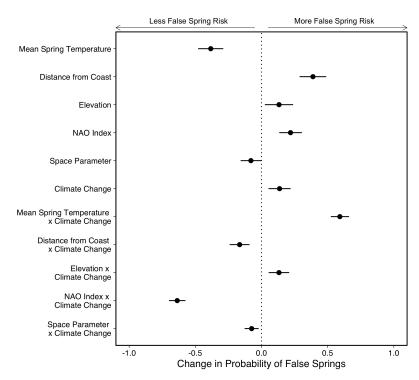


Figure S3: Effects of species, climatic and geographical predictors on false spring risk with different rates of leafout for each species. More positive values indicate an increased probability of a false spring whereas more negative values suggest a lower probability of a false spring. Dots and lines show means and 98% uncertainty intervals. See Table S8 for full model output.

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Table S8: Summary of Bernoulli model of false spring risk with varying rates of leafout for each species.

Intercept	species.	moon	2%	10%	25%	75%	90%	98%
NAO Index   NAO	Turkamanak							
Mean Spring Temperature         0.50         0.54         0.53         0.51         0.49         0.48         0.47           Distance from Coast         0.40         0.37         0.38         0.39         0.42         0.43         0.49           Elevation         0.15         0.11         0.12         0.14         0.16         0.11           Space Parameter         0.06         0.09         -0.08         0.07         -0.06         -0.04         -0.04           Climate Change         0.34         0.31         0.32         0.34         0.35         0.37         0.32           Almus glutinosa         0.20         0.18         0.19         0.21         0.21         0.21           Betula pendula         0.04         0.02         0.03         0.04         0.05         0.06         0.06           Fozius sylvatica         -1.75         1.79         -1.78         1.76         -1.74         1.73         -1.35           Frazinus excelsior         -0.11         -0.14         -0.12         -0.17         -0.75         -0.77         -0.05           NAO Index x Faus sylvatica         0.33         0.27         0.28         0.31         0.35         0.38         0.33								
Distance from Coast         0.40         0.37         0.38         0.39         0.42         0.43         0.49           Space Parameter         -0.06         -0.09         -0.08         -0.07         -0.06         -0.04         -0.04           Climate Change         0.34         0.31         0.32         0.34         0.35         0.37         0.08           Abrus glutinosa         0.20         0.18         0.19         0.21         0.22         0.23           Betula pendula         0.04         0.02         0.03         0.04         0.05         0.06         0.06           Fayus sylvatica         -1.38         -1.41         -1.40         -1.39         -1.37         -1.36         -1.35           Praximus excelsior         -1.75         -1.79         -1.78         -1.76         -1.74         -1.73         -1.72           NAO Index x Fayus sylvatica         0.03         0.27         0.28         0.31         0.35         0.38         0.39           NAO Index x Fayus sylvatica         0.08         -0.01         0.01         -0.14         -0.13         -0.17         -0.15         0.14         -0.17         -0.12         0.24         0.26           NAO Index x Fayus sylvat								
Elevation								
Space Parameter         -0.06         -0.09         -0.08         -0.07         -0.06         -0.04         -0.04           Climate Change         0.34         0.31         0.32         0.34         0.35         0.37         0.38         0.38         0.38         0.38         0.38         0.38         0.10         0.16         0.12         0.12         0.21         0.20         0.06         0.06         0.06         0.12         0.12         0.21         0.21         0.21         0.21         0.21         0.21         0.21         0.21         0.21         0.21         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.02         0.00         0.01         0.05           NAO Index x Faugus sylvatica         0.03         0.07         0.02         0.06         0.11         0.12         0.12         <								
Climate Change         0.34         0.31         0.32         0.34         0.35         0.37         0.38           Alnus glutinosa         0.20         0.18         0.19         0.21         0.22         0.23           Betula pendula         0.04         0.02         0.03         0.04         0.05         0.06         0.06           Fagus sylvatica         -1.38         -1.41         -1.40         -1.39         -1.37         -1.36         -1.35           Fraxinus excelsior         -2.11         -2.16         -2.14         -2.12         -2.10         -2.08         -2.06           NAO Index x Alnus glutinosa         -0.10         -0.16         -0.14         -0.12         -0.09         -0.07         -0.05           NAO Index x Fagus sylvatica         -0.03         -0.27         -0.28         -0.11         -0.08         -0.01         -0.01         -0.01         -0.01         -0.01         -0.01         -0.01         -0.01         -0.02         -0.06         -0.01         -0.05         -0.05         -0.05         -0.05         -0.05         -0.05         -0.05         -0.05         -0.05         -0.05         -0.05         -0.06         -0.01         -0.05         -0.03         -0.07								
Almus glutinosa         0.20         0.18         0.18         0.19         0.21         0.22         0.23           Betula pendula         0.04         0.02         0.03         0.04         0.05         0.06         0.06           Fagus sylvatica         1.38         1.41         1.40         1.39         1.37         1.36         1.35           Fraxinus excelsior         2.11         2.16         2.14         2.12         2.10         2.08         2.06           NAO Index x Dursus glutinosa         0.10         0.16         0.14         0.12         0.09         0.07         0.05           NAO Index x Betula pendula         0.01         0.14         0.13         0.11         0.08         0.07         0.05           NAO Index x Fagus sylvatica         0.33         0.27         0.28         0.31         0.35         0.38         0.39           NAO Index x Fagus sylvatica         0.01         0.02         0.06         0.11         0.15         0.18         0.12         0.14         0.17         0.21         0.24         0.26           NAO Index x Fagus sylvatica         0.04         0.12         0.01         0.02         0.06         0.01         0.02         0.02	-							
Betula pendula         0.04         0.02         0.03         0.04         0.05         0.06           Fagus sylvatica         -1.38         -1.41         -1.40         -1.39         -1.37         -1.36         -1.35           Fraxinus excelsior         -2.11         -2.16         -2.14         -2.12         -2.10         -2.08         -2.00           Quercus robur         -1.75         -1.79         -1.78         -1.76         -1.74         -1.73         -1.72           NAO Index x Betula pendula         -0.10         -0.14         -0.13         -0.11         -0.08         -0.07         -0.05           NAO Index x Fagus sylvatica         0.33         0.27         0.28         0.31         0.35         0.38         0.39           NAO Index x Fagus sylvatica         0.08         -0.01         0.02         0.06         0.11         0.15         0.18           NAO Index x Fagus sylvatica         0.04         -0.12         0.14         0.16         0.01         0.15         0.18           NAO Index x Fagus sylvatica         0.08         0.06         0.01         0.10         0.02         0.06         0.01         0.02         0.08           Mean Spring Temperature x Betula pendula								
Fagus sylvatica         1.38         1.41         1.40         1.30         1.37         1.36         1.35           Fraxinus excelsior         2.11         2.16         2.14         2.12         2.10         2.20         2.08         2.06           Quercus robur         1.75         1.78         1.76         1.74         1.74         1.73         1.72           NAO Index x Bulus glutinosa         0.01         0.14         0.13         0.11         0.08         0.07         0.05           NAO Index x Fagus sylvatica         0.33         0.27         0.28         0.31         0.35         0.38         0.39           NAO Index x Fagus sylvatica         0.08         0.01         0.02         0.06         0.11         0.15         0.18           NAO Index x Quercus robur         0.18         0.12         0.14         0.16         0.19         0.22         0.24           Mean Spring Temperature x Alnus glutinosa         0.18         0.12         0.14         0.16         0.19         0.02         0.04           Mean Spring Temperature x Pagus sylvatica         0.01         0.02         0.04         0.07         0.06         0.01         0.01         0.03           Mean Spring Temperature x	· ·							
Fraxinus excelsior         2.11         2.16         2.14         2.12         2.10         2.08         2.06           Quercus robur         1.75         1.79         1.78         1.76         1.74         1.73         1.73           NAO Index x Betula pendula         -0.10         -0.14         -0.13         -0.11         -0.08         -0.07         -0.05           NAO Index x Fagus sylvatica         0.33         0.27         0.28         0.31         0.35         0.38         0.39           NAO Index x Fagus sylvatica         0.08         -0.01         0.012         0.014         0.017         0.015         0.018           NAO Index x Fagus sylvatica         0.09         0.012         0.014         0.017         0.01         0.01         0.01         0.01         0.01         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.02         0.03         0.07         0.06         0.04         0.01         0.02         0.03         0.07         0.06         0.04         0.01         0.02         0.03         0.06         0.01         0.02								
Quercus robur         -1.75         -1.79         -1.78         -1.76         -1.74         -1.73         -1.72           NAO Index x Betula pendula         -0.10         -0.14         -0.12         -0.09         -0.07         -0.05           NAO Index x Fagus sylvatica         0.33         0.27         0.28         0.31         0.35         0.38         0.39           NAO Index x Fagus sylvatica         0.08         -0.01         0.02         0.06         0.11         0.15         0.18           NAO Index x Quercus robur         0.19         0.12         0.14         0.17         0.21         0.24         0.22         0.24           Mean Spring Temperature x Alnus glutinosa         0.18         0.12         0.14         0.16         0.19         0.22         0.24           Mean Spring Temperature x Fagus sylvatica         -0.04         -0.11         -0.08         -0.06         -0.04         -0.01         0.02           Mean Spring Temperature x Fagus sylvatica         -0.04         -0.01         -0.01         0.01         0.02           Mean Spring Temperature x Quercus robur         0.10         0.02         0.04         0.07         0.01         0.05           Mean Spring Temperature x Quercus robur         0.01								
NAO Index x Alnus glutinosa         -0.10         -0.1d         -0.1d         -0.12         -0.09         -0.07         -0.05           NAO Index x Estula pendula         -0.10         -0.14         -0.13         -0.11         -0.08         -0.07         -0.05           NAO Index x Fagus sylvatica         0.33         0.27         0.28         0.31         0.35         0.38         0.39           NAO Index x Fagus sylvatica         0.08         -0.01         0.02         0.06         0.11         0.15         0.18           NAO Index x Quercus robur         0.19         0.12         0.14         0.17         0.21         0.24         0.26           Mean Spring Temperature x Alnus glutinosa         0.18         0.12         0.14         0.16         0.01         0.02         0.24           Mean Spring Temperature x Fagus sylvatica         -0.04         -0.11         -0.08         -0.06         -0.04         -0.01         0.03           Mean Spring Temperature x Pagus sylvatica         -0.04         -0.11         -0.08         -0.06         -0.02         0.04         0.07         0.02           Distance from Coast x Alnus glutinosa         -0.08         -0.14         -0.12         -0.17         -0.17         -0.13 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>								
NAO Index x Betula pendula         -0.10         -0.14         -0.13         -0.11         -0.08         -0.07         -0.05           NAO Index x Fagus sylvatica         0.33         0.27         0.28         0.31         0.35         0.38         0.39           NAO Index x Faxinus excelsior         0.08         -0.01         0.02         0.06         0.11         0.12         0.24         0.26           Mean Spring Temperature x Alnus glutinosa         0.18         0.12         0.14         0.16         0.19         0.22         0.24           Mean Spring Temperature x Fagus sylvatica         -0.04         -0.01         -0.06         -0.04         -0.01         0.02           Mean Spring Temperature x Faxinus excelsior         0.51         0.40         0.43         0.48         0.54         0.59         0.63           Mean Spring Temperature x Quercus robur         0.10         0.02         0.04         0.07         0.12         0.15         0.17           Distance from Coast x Alnus glutinosa         -0.08         -0.14         -0.12         -0.01         -0.07         -0.04         -0.02           Distance from Coast x Fagus sylvatica         -0.06         -0.13         -0.11         -0.08         -0.04         -0.01 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>								
NAO Index x Fagus sylvatica         0.33         0.27         0.28         0.31         0.35         0.38         0.39           NAO Index x Fraxinus excelsior         0.08         -0.01         0.02         0.06         0.11         0.15         0.18           NAO Index x Quercus robur         0.19         0.12         0.14         0.17         0.21         0.24         0.26           Mean Spring Temperature x Alnus glutinosa         0.18         0.12         0.14         0.16         0.19         0.22         0.24           Mean Spring Temperature x Fagus sylvatica         -0.04         -0.01         -0.08         -0.06         -0.02         0.01         0.03           Mean Spring Temperature x Fagus sylvatica         -0.04         -0.11         -0.08         -0.06         -0.02         0.01         0.03           Mean Spring Temperature x Quercus robur         0.10         0.02         0.04         0.43         0.48         0.54         0.59         0.63           Mean Spring Temperature x Quercus robur         0.10         0.02         0.04         0.07         0.12         0.15         0.17           Distance from Coast x Alnus glutinosa         0.02         -0.03         -0.01         0.07         0.00         0.02								
NAO Index x Fraxinus excelsior         0.08         -0.01         0.12         0.14         0.17         0.21         0.14         0.17         0.21         0.24         0.26           Mean Spring Temperature x Alnus glutinosa         0.18         0.12         0.14         0.16         0.19         0.22         0.24           Mean Spring Temperature x Betula pendula         -0.03         -0.07         -0.06         -0.04         -0.01         0.02           Mean Spring Temperature x Fraxinus excelsior         0.51         0.40         0.43         0.48         0.54         0.59         0.63           Mean Spring Temperature x Fraxinus excelsior         0.51         0.40         0.43         0.48         0.54         0.59         0.63           Mean Spring Temperature x Quercus robur         0.10         0.02         0.04         0.07         0.12         0.15         0.15         0.07           Distance from Coast x Betula pendula         0.02         0.03         -0.02         0.00         0.03         0.05         0.07           Distance from Coast x Fagus sylvatica         -0.06         -0.13         -0.11         -0.18         -0.01         0.18         -0.21         -0.10         0.14         0.18         -0.01         -0.01								
NAO Index x Quercus robur         0.19         0.12         0.14         0.17         0.21         0.24         0.26           Mean Spring Temperature x Alnus glutinosa         0.18         0.12         0.14         0.16         0.19         0.22         0.24           Mean Spring Temperature x Fagus sylvatica         -0.04         -0.11         -0.08         -0.06         -0.02         0.01         0.03           Mean Spring Temperature x Frazinus excelsior         0.51         0.40         0.43         0.48         0.54         0.59         0.63           Mean Spring Temperature x Quercus robur         0.10         0.02         0.04         0.07         0.12         0.15         0.17           Distance from Coast x Alnus glutinosa         -0.08         -0.14         -0.12         -0.10         -0.07         -0.02         0.03         0.05         0.07           Distance from Coast x Fagus sylvatica         -0.06         -0.13         -0.11         -0.08         -0.04         0.18         0.01         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
Mean Spring Temperature x Alnus glutinosa         0.18         0.12         0.14         0.16         0.19         0.22         0.24           Mean Spring Temperature x Betula pendula         0.03         -0.07         -0.06         -0.04         -0.01         0.02           Mean Spring Temperature x Fagus sylvatica         0.04         -0.11         -0.08         -0.06         -0.02         0.01         0.03           Mean Spring Temperature x Fagus sylvatica         0.01         0.02         0.04         0.43         0.48         0.54         0.59         0.63           Mean Spring Temperature x Quercus robur         0.10         0.02         0.04         0.07         0.12         0.15         0.17           Distance from Coast x Alnus glutinosa         -0.08         -0.14         -0.12         -0.10         -0.04         -0.07         -0.04         -0.02           Distance from Coast x Fagus sylvatica         -0.06         -0.13         -0.11         -0.18         0.25         0.29         0.33           Distance from Coast x Quercus robur         -0.19         -0.27         -0.25         -0.21         -0.16         -0.13         -0.11         -0.02           Distance from Coast x Quercus robur         -0.02         -0.02         -0.02								
Mean Spring Temperature x Betula pendula         -0.03         -0.07         -0.06         -0.04         -0.01         0.02           Mean Spring Temperature x Fagus sylvatica         -0.04         -0.11         -0.08         -0.06         -0.02         0.01         0.03           Mean Spring Temperature x Frazinus excelsior         0.51         0.40         -0.43         0.48         0.54         0.59         0.63           Mean Spring Temperature x Quercus robur         0.10         0.02         -0.04         0.07         0.12         0.15         0.17           Distance from Coast x Alnus glutinosa         -0.08         -0.14         -0.12         -0.10         -0.07         -0.04         -0.02           Distance from Coast x Fagus sylvatica         -0.06         -0.13         -0.11         -0.08         -0.04         -0.01         0.02           Distance from Coast x Fagus sylvatica         -0.06         -0.13         -0.11         -0.08         -0.04         -0.01         0.02           Distance from Coast x Fagus sylvatica         -0.07         -0.02         -0.05         -0.21         -0.10         0.14         0.18         0.25         0.29         0.33           Distance from Coast x Fagus sylvatica         -0.07         -0.03         -0	<del>-</del>							
Mean Spring Temperature x Fagus sylvatica         -0.04         -0.11         -0.08         -0.06         -0.02         0.01         0.03           Mean Spring Temperature x Fraxinus excelsior         0.51         0.40         0.43         0.48         0.54         0.59         0.63           Mean Spring Temperature x Quercus robur         0.10         0.02         0.04         0.07         0.12         0.15         0.17           Distance from Coast x Alnus glutinosa         -0.08         -0.14         -0.12         -0.10         -0.07         -0.04         -0.07         -0.04         -0.07         -0.04         -0.02         0.00         0.03         0.05         0.07           Distance from Coast x Regul sylvatica         -0.06         -0.13         -0.11         -0.08         -0.04         -0.01         0.02         0.03         0.05         0.07           Distance from Coast x Fagus sylvatica         -0.01         -0.10         0.14         0.18         0.25         0.29         0.33           Distance from Coast x Quercus robur         -0.19         -0.27         -0.25         -0.21         -0.14         0.18         0.25         0.29         0.33           Distance from Coast x Quercus robur         -0.02         -0.03         -0								
Mean Spring Temperature x Fraxinus excelsior         0.51         0.40         0.43         0.48         0.54         0.59         0.63           Mean Spring Temperature x Quercus robur         0.10         0.02         0.04         0.07         0.12         0.15         0.17           Distance from Coast x Alnus glutinosa         -0.08         -0.14         -0.12         -0.10         -0.07         -0.04         -0.02           Distance from Coast x Fetula pendula         0.02         -0.03         -0.01         -0.08         -0.14         -0.18         -0.04         -0.01         0.02           Distance from Coast x Fetula pendula         0.02         -0.03         -0.01         -0.14         0.18         0.25         0.29         0.33           Distance from Coast x Quercus robur         -0.19         -0.27         -0.25         -0.21         -0.16         -0.13         -0.10           Elevation x Alnus glutinosa         0.07         -0.00         0.02         0.05         0.08         0.11         0.13           Elevation x Fetula pendula         0.02         -0.03         -0.02         0.01         0.04         0.06         -0.7           Elevation x Fagus sylvatica         0.06         -0.33         -0.00         0.03								
Mean Spring Temperature x Quercus robur         0.10         0.02         0.04         0.07         0.12         0.15         0.17           Distance from Coast x Alnus glutinosa         -0.08         -0.14         -0.12         -0.10         -0.07         -0.04         -0.02           Distance from Coast x Eagus sylvatica         -0.06         -0.13         -0.11         -0.08         -0.24         -0.01         0.02           Distance from Coast x Faxinus excelsior         0.21         0.10         0.14         -0.18         0.25         0.29         0.33           Distance from Coast x Quercus robur         -0.19         -0.27         -0.25         -0.21         -0.16         -0.13         -0.11         -0.16         -0.13         -0.11         -0.16         -0.13         -0.11         -0.08         0.02         0.05         0.08         0.11         -0.10           Distance from Coast x Faxinus excelsior         -0.01         -0.02         -0.02         -0.05         0.08         0.11         0.13         -0.10         0.01         0.06         0.03         -0.00         0.00         0.08         0.11         0.13         0.01         0.03         0.01         0.03         0.01         0.03         0.01         0.03         <	Mean Spring Temperature x Fagus sylvatica							
Distance from Coast x Alnus glutinosa         -0.08         -0.14         -0.12         -0.10         -0.07         -0.04         -0.02           Distance from Coast x Betula pendula         0.02         -0.03         -0.02         0.00         0.03         0.05         0.07           Distance from Coast x Frazinus excelsior         0.21         0.10         0.14         0.18         -0.04         -0.01         0.02           Distance from Coast x Quercus robur         -0.19         -0.27         -0.25         -0.21         -0.16         -0.13         -0.10         -0.14         0.18         0.25         0.29         0.33           Distance from Coast x Quercus robur         -0.19         -0.27         -0.25         -0.21         -0.16         -0.13         -0.10           Elevation x Alnus glutinosa         0.07         -0.00         0.02         0.05         0.08         0.11         0.13           Elevation x Fagus sylvatica         -0.05         -0.13         -0.10         -0.07         -0.03         0.01         0.03           Elevation x Quercus robur         0.06         -0.03         -0.00         0.03         0.08         0.12         -0.19           Elevation x Quercus robur         0.06         -0.01								
Distance from Coast x Betula pendula         0.02         -0.03         -0.02         0.00         0.03         0.05         0.07           Distance from Coast x Fagus sylvatica         -0.06         -0.13         -0.11         -0.08         -0.04         -0.01         0.02           Distance from Coast x Fraxinus excelsior         0.21         0.10         0.14         0.18         0.25         0.29         0.33           Distance from Coast x Quercus robur         -0.19         -0.27         -0.25         -0.21         -0.16         -0.13         -0.10           Elevation x Alnus glutinosa         0.07         -0.00         0.02         0.05         0.08         0.11         0.13           Elevation x Betula pendula         0.02         -0.03         -0.02         0.01         0.04         0.06         0.07           Elevation x Fagus sylvatica         -0.05         -0.13         -0.10         -0.07         -0.03         0.08         0.12         -0.19           Elevation x Quercus robur         0.06         -0.03         -0.00         0.03         0.08         0.12         -0.09           Elevation x Quercus robur         0.06         -0.01         -0.05         -0.04         -0.01         0.03         0.08	Mean Spring Temperature x Quercus robur	0.10	0.02		0.07			
Distance from Coast x Fagus sylvatica         -0.06         -0.13         -0.11         -0.08         -0.04         -0.01         0.02           Distance from Coast x Fraxinus excelsior         0.21         0.10         0.14         0.18         0.25         0.29         0.33           Distance from Coast x Quercus robur         -0.19         -0.27         -0.25         -0.21         -0.16         -0.13         -0.10           Elevation x Alnus glutinosa         0.07         -0.00         0.02         0.05         0.08         0.11         0.13           Elevation x Betula pendula         0.02         -0.03         -0.02         0.01         0.04         0.06         0.07           Elevation x Fagus sylvatica         -0.05         -0.13         -0.10         -0.07         -0.03         0.01         0.04         0.06         0.03           Elevation x Fagus sylvatica         -0.21         -0.34         -0.30         -0.25         -0.18         -0.12         -0.09           Space Parameter x Alnus glutinosa         0.02         -0.01         0.01         0.03         0.05         0.02           Space Parameter x Fagus sylvatica         -0.09         -0.15         -0.13         -0.11         -0.08         0.01         0.03	Distance from Coast x Alnus glutinosa		-0.14					
Distance from Coast x Fraxinus excelsior         0.21         0.10         0.14         0.18         0.25         0.29         0.33           Distance from Coast x Quercus robur         -0.19         -0.27         -0.25         -0.21         -0.16         -0.13         -0.10           Elevation x Alnus glutinosa         0.07         -0.00         0.02         0.05         0.08         0.11         0.13           Elevation x Betula pendula         0.02         -0.03         -0.02         0.01         0.04         0.06         0.07           Elevation x Fagus sylvatica         -0.05         -0.13         -0.10         -0.07         -0.03         0.01         0.03         0.01         0.03           Elevation x Fraxinus excelsior         -0.21         -0.34         -0.30         -0.25         -0.18         -0.12         -0.09           Elevation x Quercus robur         0.06         -0.03         -0.00         0.03         0.08         0.12         0.14           Space Parameter x Alnus glutinosa         0.02         -0.02         -0.01         0.01         0.01         0.03         0.05         0.04           Space Parameter x Fagus sylvatica         -0.01         -0.05         -0.13         -0.11         -0.08	Distance from Coast x Betula pendula	0.02			0.00	0.03		
Distance from Coast x Quercus robur   -0.19   -0.27   -0.25   -0.21   -0.16   -0.13   -0.10     Elevation x Alnus glutinosa   0.07   -0.00   0.02   0.05   0.08   0.11   0.13     Elevation x Betula pendula   0.02   -0.03   -0.02   0.01   0.04   0.06   0.07     Elevation x Fagus sylvatica   -0.05   -0.13   -0.10   -0.07   -0.03   0.01   0.03     Elevation x Fraxinus excelsior   -0.21   -0.34   -0.30   -0.25   -0.18   -0.12   -0.09     Elevation x Quercus robur   0.06   -0.03   -0.00   0.03   0.08   0.12   0.14     Space Parameter x Alnus glutinosa   0.02   -0.02   -0.01   0.01   0.03   0.05   0.07     Space Parameter x Betula pendula   -0.01   -0.05   -0.04   -0.02   0.00   0.02   0.03     Space Parameter x Fagus sylvatica   -0.09   -0.15   -0.13   -0.11   -0.08   -0.05   -0.04     Space Parameter x Fuxinus excelsior   -0.01   -0.10   -0.07   -0.04   0.01   0.05   0.08     Space Parameter x Quercus robur   -0.00   -0.07   -0.05   -0.02   0.01   0.04   0.06     Climate Change x Alnus glutinosa   0.06   0.01   0.03   0.05   0.08   0.10   0.11     Climate Change x Fagus sylvatica   -0.47   -0.53   -0.52   -0.49   -0.45   -0.43   -0.41     Climate Change x Fagus sylvatica   -0.47   -0.58   -0.55   -0.51   -0.46   -0.42   -0.39     Climate Change x Quercus robur   -0.42   -0.49   -0.47   -0.45   -0.46   -0.42   -0.39     Climate Change x Quercus robur   -0.42   -0.49   -0.47   -0.45   -0.46   -0.42   -0.39     Climate Change x Quercus robur   -0.42   -0.49   -0.47   -0.45   -0.46   -0.42   -0.39     Climate Change x Quercus robur   -0.42   -0.49   -0.47   -0.45   -0.46   -0.42   -0.39     Climate Change x Climate Change   -0.64   -0.70   -0.68   -0.65   -0.62   -0.59   -0.57     Mean Spring Temperature x Climate Change   -0.47   -0.42   -0.22   -0.19   -0.14   -0.11   -0.09     Elevation x Climate Change   -0.17   -0.24   -0.22   -0.19   -0.14   -0.11   -0.09     Elevation x Climate Change   -0.17   -0.24   -0.22   -0.19   -0.14   -0.11   -0.09     Elevation x Climate Change   -0.17   -0.24   -0.22   -0.19   -0.14		-0.06	-0.13	-0.11	-0.08	-0.04	-0.01	0.02
Elevation x Alnus glutinosa       0.07       -0.00       0.02       0.05       0.08       0.11       0.03         Elevation x Betula pendula       0.02       -0.03       -0.02       0.01       0.04       0.06       0.07         Elevation x Fagus sylvatica       -0.05       -0.13       -0.10       -0.07       -0.03       0.01       0.03         Elevation x Praxinus excelsior       -0.21       -0.34       -0.30       -0.25       -0.18       -0.12       -0.09         Elevation x Quercus robur       0.06       -0.03       -0.00       0.03       0.08       0.12       -0.14         Space Parameter x Alnus glutinosa       0.02       -0.02       -0.01       0.01       0.03       0.05       0.03         Space Parameter x Betula pendula       -0.01       -0.05       -0.04       -0.02       0.00       0.02       0.03         Space Parameter x Fraxinus excelsior       -0.01       -0.07       -0.03       -0.01       -0.03       0.01       0.05       -0.04         Space Parameter x Quercus robur       -0.00       -0.07       -0.05       -0.02       0.01       0.01       0.03       0.05       0.08       0.10       0.01       0.03       0.05       0.08 <t< td=""><td>Distance from Coast x Fraxinus excelsior</td><td>0.21</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	Distance from Coast x Fraxinus excelsior	0.21						
Elevation x Betula pendula         0.02         -0.03         -0.02         0.01         0.04         0.06         0.07           Elevation x Fagus sylvatica         -0.05         -0.13         -0.10         -0.07         -0.03         0.01         0.03           Elevation x Fraxinus excelsior         -0.21         -0.34         -0.30         -0.05         -0.18         -0.12         -0.09           Elevation x Quercus robur         0.06         -0.03         -0.00         0.03         0.08         0.12         0.14           Space Parameter x Alnus glutinosa         0.02         -0.02         -0.01         0.01         0.03         0.05         0.07           Space Parameter x Betula pendula         -0.01         -0.05         -0.04         -0.02         0.00         0.02         0.03           Space Parameter x Fagus sylvatica         -0.09         -0.15         -0.13         -0.11         -0.08         -0.05         -0.04           Space Parameter x Praxinus excelsior         -0.01         -0.07         -0.05         -0.02         0.01         0.05         0.08           Climate Change x Alnus glutinosa         0.06         0.01         0.03         0.05         0.08         0.10         0.11           <	Distance from Coast x $Quercus \ robur$	-0.19	-0.27			-0.16		
Elevation x Fagus sylvatica         -0.05         -0.13         -0.10         -0.07         -0.03         0.01         0.03           Elevation x Fraxinus excelsior         -0.21         -0.34         -0.30         -0.25         -0.18         -0.12         -0.09           Elevation x Quercus robur         0.06         -0.03         -0.00         0.03         0.08         0.12         0.14           Space Parameter x Alnus glutinosa         0.02         -0.01         -0.01         0.01         0.03         0.05         0.07           Space Parameter x Betula pendula         -0.01         -0.05         -0.04         -0.02         0.00         0.02         0.03           Space Parameter x Fagus sylvatica         -0.09         -0.15         -0.13         -0.11         -0.08         -0.05         -0.04           Space Parameter x Fagus sylvatica         -0.01         -0.10         -0.07         -0.04         0.01         0.05         0.08           Space Parameter x Quercus robur         -0.00         -0.07         -0.05         -0.02         0.01         0.01         0.03         0.05         0.08         0.10         0.11           Climate Change x Betula pendula         0.07         0.02         0.04         0.06	Elevation x Alnus glutinosa	0.07	-0.00	0.02	0.05	0.08	0.11	0.13
Elevation x Fraxinus excelsior       -0.21       -0.34       -0.30       -0.25       -0.18       -0.12       -0.09         Elevation x Quercus robur       0.06       -0.03       -0.00       0.03       0.08       0.12       0.14         Space Parameter x Alnus glutinosa       0.02       -0.02       -0.01       0.01       0.03       0.05       0.07         Space Parameter x Betula pendula       -0.01       -0.05       -0.04       -0.02       0.00       0.02       0.03         Space Parameter x Fagus sylvatica       -0.09       -0.15       -0.13       -0.11       -0.08       -0.05       -0.04         Space Parameter x Praxinus excelsior       -0.01       -0.01       -0.07       -0.04       0.01       0.05       -0.04         Space Parameter x Quercus robur       -0.00       -0.07       -0.05       -0.02       0.01       0.05       0.08       0.10       0.01         Climate Change x Betula pendula       0.06       0.01       0.03       0.05       0.08       0.10       0.11         Climate Change x Fagus sylvatica       -0.47       -0.53       -0.52       -0.49       -0.45       -0.43       -0.41         Climate Change x Fraxinus excelsior       -0.49       -0.58 </td <td></td> <td>0.02</td> <td>-0.03</td> <td>-0.02</td> <td>0.01</td> <td>0.04</td> <td>0.06</td> <td>0.07</td>		0.02	-0.03	-0.02	0.01	0.04	0.06	0.07
Elevation x Quercus robur       0.06       -0.03       -0.00       0.03       0.08       0.12       0.14         Space Parameter x Alnus glutinosa       0.02       -0.02       -0.01       0.01       0.03       0.05       0.07         Space Parameter x Betula pendula       -0.01       -0.05       -0.04       -0.02       0.00       0.02       0.03         Space Parameter x Fagus sylvatica       -0.09       -0.15       -0.13       -0.11       -0.08       -0.05       -0.04         Space Parameter x Fraxinus excelsior       -0.01       -0.10       -0.07       -0.04       0.01       0.05       0.08         Space Parameter x Quercus robur       -0.00       -0.07       -0.05       -0.02       0.01       0.05       0.08         Climate Change x Alnus glutinosa       0.06       0.01       0.03       0.05       0.08       0.10       0.11         Climate Change x Betula pendula       0.07       0.02       0.04       0.06       0.08       0.10       0.11         Climate Change x Fagus sylvatica       -0.47       -0.53       -0.52       -0.49       -0.45       -0.43       -0.41         Climate Change x Quercus robur       -0.49       -0.58       -0.55       -0.51	Elevation x Fagus sylvatica	-0.05	-0.13	-0.10	-0.07	-0.03	0.01	0.03
Space Parameter x Alnus glutinosa         0.02         -0.02         -0.01         0.01         0.03         0.05         0.07           Space Parameter x Betula pendula         -0.01         -0.05         -0.04         -0.02         0.00         0.02         0.03           Space Parameter x Fagus sylvatica         -0.09         -0.15         -0.13         -0.11         -0.08         -0.05         -0.04           Space Parameter x Fraxinus excelsior         -0.01         -0.01         -0.07         -0.05         -0.04         0.01         0.05         0.08           Space Parameter x Quercus robur         -0.00         -0.07         -0.05         -0.02         0.01         0.04         0.06           Climate Change x Alnus glutinosa         0.06         0.01         0.03         0.05         0.08         0.10         0.11           Climate Change x Betula pendula         0.07         0.02         0.04         0.06         0.08         0.10         0.11           Climate Change x Fagus sylvatica         -0.47         -0.53         -0.52         -0.49         -0.45         -0.43         -0.41           Climate Change x Fraxinus excelsior         -0.49         -0.58         -0.55         -0.51         -0.46         -0.42	Elevation x Fraxinus excelsior	-0.21	-0.34	-0.30	-0.25	-0.18	-0.12	-0.09
Space Parameter x Betula pendula         -0.01         -0.05         -0.04         -0.02         0.00         0.02         0.03           Space Parameter x Fagus sylvatica         -0.09         -0.15         -0.13         -0.11         -0.08         -0.05         -0.04           Space Parameter x Fraxinus excelsior         -0.01         -0.01         -0.07         -0.04         0.01         0.05         0.08           Space Parameter x Quercus robur         -0.00         -0.07         -0.05         -0.02         0.01         0.04         0.06           Climate Change x Alnus glutinosa         0.06         0.01         0.03         0.05         0.08         0.10         0.11           Climate Change x Betula pendula         0.07         0.02         0.04         0.06         0.08         0.10         0.11           Climate Change x Fagus sylvatica         -0.47         -0.53         -0.52         -0.49         -0.45         -0.43         -0.41           Climate Change x Fraxinus excelsior         -0.49         -0.58         -0.55         -0.51         -0.46         -0.42         -0.39           Climate Change x Quercus robur         -0.42         -0.49         -0.47         -0.45         -0.40         -0.38         -0.36	Elevation x Quercus robur	0.06	-0.03	-0.00	0.03	0.08	0.12	0.14
Space Parameter x Fagus sylvatica       -0.09       -0.15       -0.13       -0.11       -0.08       -0.05       -0.04         Space Parameter x Fraxinus excelsior       -0.01       -0.07       -0.05       -0.02       0.01       0.05       0.08         Space Parameter x Quercus robur       -0.00       -0.07       -0.05       -0.02       0.01       0.04       0.06         Climate Change x Alnus glutinosa       0.06       0.01       0.03       0.05       0.08       0.10       0.11         Climate Change x Betula pendula       0.07       0.02       0.04       0.06       0.08       0.10       0.11         Climate Change x Fagus sylvatica       -0.47       -0.53       -0.52       -0.49       -0.45       -0.43       -0.41         Climate Change x Fraxinus excelsior       -0.49       -0.58       -0.55       -0.51       -0.46       -0.42       -0.39         Climate Change x Quercus robur       -0.42       -0.49       -0.47       -0.45       -0.51       -0.46       -0.42       -0.39         NAO Index x Climate Change       -0.64       -0.70       -0.68       -0.65       -0.62       -0.59       -0.57         Mean Spring Temperature x Climate Change       -0.17       -0.24	Space Parameter x Alnus glutinosa	0.02	-0.02	-0.01	0.01	0.03	0.05	0.07
Space Parameter x Fraxinus excelsior       -0.01       -0.10       -0.07       -0.04       0.01       0.05       0.08         Space Parameter x Quercus robur       -0.00       -0.07       -0.05       -0.02       0.01       0.04       0.06         Climate Change x Alnus glutinosa       0.06       0.01       0.03       0.05       0.08       0.10       0.11         Climate Change x Betula pendula       0.07       0.02       0.04       0.06       0.08       0.10       0.11         Climate Change x Fagus sylvatica       -0.47       -0.53       -0.52       -0.49       -0.45       -0.43       -0.41         Climate Change x Fraxinus excelsior       -0.49       -0.58       -0.55       -0.51       -0.46       -0.42       -0.39         Climate Change x Quercus robur       -0.42       -0.49       -0.47       -0.45       -0.40       -0.38       -0.36         NAO Index x Climate Change       -0.64       -0.70       -0.68       -0.65       -0.62       -0.59       -0.57         Mean Spring Temperature x Climate Change       0.59       0.52       0.54       0.57       0.61       0.64       0.66         Distance from Coast x Climate Change       0.13       0.05       0.08 <td< td=""><td>Space Parameter x Betula pendula</td><td>-0.01</td><td>-0.05</td><td>-0.04</td><td>-0.02</td><td>0.00</td><td>0.02</td><td>0.03</td></td<>	Space Parameter x Betula pendula	-0.01	-0.05	-0.04	-0.02	0.00	0.02	0.03
Space Parameter x Quercus robur         -0.00         -0.07         -0.05         -0.02         0.01         0.04         0.06           Climate Change x Alnus glutinosa         0.06         0.01         0.03         0.05         0.08         0.10         0.11           Climate Change x Betula pendula         0.07         0.02         0.04         0.06         0.08         0.10         0.11           Climate Change x Fagus sylvatica         -0.47         -0.53         -0.52         -0.49         -0.45         -0.43         -0.41           Climate Change x Fraxinus excelsior         -0.49         -0.58         -0.55         -0.51         -0.46         -0.42         -0.39           Climate Change x Quercus robur         -0.42         -0.49         -0.47         -0.45         -0.40         -0.38         -0.36           NAO Index x Climate Change         -0.64         -0.70         -0.68         -0.65         -0.62         -0.59         -0.57           Mean Spring Temperature x Climate Change         0.59         0.52         0.54         0.57         0.61         0.64         0.66           Distance from Coast x Climate Change         -0.17         -0.24         -0.22         -0.19         -0.14         -0.11         -0.09	Space Parameter x Fagus sylvatica	-0.09	-0.15	-0.13	-0.11	-0.08	-0.05	-0.04
Climate Change x Alnus glutinosa       0.06       0.01       0.03       0.05       0.08       0.10       0.11         Climate Change x Betula pendula       0.07       0.02       0.04       0.06       0.08       0.10       0.11         Climate Change x Fagus sylvatica       -0.47       -0.53       -0.52       -0.49       -0.45       -0.43       -0.41         Climate Change x Fraxinus excelsior       -0.49       -0.58       -0.55       -0.51       -0.46       -0.42       -0.39         Climate Change x Quercus robur       -0.42       -0.49       -0.47       -0.45       -0.40       -0.38       -0.36         NAO Index x Climate Change       -0.64       -0.70       -0.68       -0.65       -0.62       -0.59       -0.57         Mean Spring Temperature x Climate Change       0.59       0.52       0.54       0.57       0.61       0.64       0.66         Distance from Coast x Climate Change       -0.17       -0.24       -0.22       -0.19       -0.14       -0.11       -0.09         Elevation x Climate Change       0.13       0.05       0.08       0.11       0.15       0.19       0.21	Space Parameter x Fraxinus excelsior	-0.01	-0.10	-0.07	-0.04	0.01	0.05	0.08
Climate Change x Betula pendula $0.07$ $0.02$ $0.04$ $0.06$ $0.08$ $0.10$ $0.11$ Climate Change x Fagus sylvatica $-0.47$ $-0.53$ $-0.52$ $-0.49$ $-0.45$ $-0.45$ $-0.43$ $-0.41$ Climate Change x Fraxinus excelsior $-0.49$ $-0.58$ $-0.55$ $-0.51$ $-0.46$ $-0.42$ $-0.39$ Climate Change x Quercus robur $-0.42$ $-0.49$ $-0.47$ $-0.45$ $-0.40$ $-0.38$ $-0.36$ NAO Index x Climate Change $-0.64$ $-0.70$ $-0.68$ $-0.65$ $-0.62$ $-0.59$ $-0.57$ Mean Spring Temperature x Climate Change $0.59$ $0.52$ $0.54$ $0.57$ $0.61$ $0.64$ $0.66$ Distance from Coast x Climate Change $-0.17$ $-0.24$ $-0.22$ $-0.19$ $-0.14$ $-0.11$ $-0.09$ Elevation x Climate Change $0.13$ $0.05$ $0.08$ $0.11$ $0.15$ $0.19$ $0.21$	Space Parameter x $Quercus \ robur$	-0.00	-0.07	-0.05	-0.02	0.01	0.04	0.06
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Climate Change x $Alnus glutinosa$	0.06	0.01	0.03	0.05	0.08	0.10	0.11
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Climate Change x Betula pendula	0.07	0.02	0.04	0.06	0.08	0.10	0.11
Climate Change x Quercus robur       -0.42       -0.49       -0.47       -0.45       -0.40       -0.38       -0.36         NAO Index x Climate Change       -0.64       -0.70       -0.68       -0.65       -0.62       -0.59       -0.57         Mean Spring Temperature x Climate Change       0.59       0.52       0.54       0.57       0.61       0.64       0.66         Distance from Coast x Climate Change       -0.17       -0.24       -0.22       -0.19       -0.14       -0.11       -0.09         Elevation x Climate Change       0.13       0.05       0.08       0.11       0.15       0.19       0.21		-0.47	-0.53	-0.52	-0.49	-0.45	-0.43	-0.41
Climate Change x Quercus robur       -0.42       -0.49       -0.47       -0.45       -0.40       -0.38       -0.36         NAO Index x Climate Change       -0.64       -0.70       -0.68       -0.65       -0.62       -0.59       -0.57         Mean Spring Temperature x Climate Change       0.59       0.52       0.54       0.57       0.61       0.64       0.66         Distance from Coast x Climate Change       -0.17       -0.24       -0.22       -0.19       -0.14       -0.11       -0.09         Elevation x Climate Change       0.13       0.05       0.08       0.11       0.15       0.19       0.21	Climate Change x Fraxinus excelsior	-0.49	-0.58	-0.55	-0.51	-0.46	-0.42	-0.39
NAO Index x Climate Change       -0.64       -0.70       -0.68       -0.65       -0.62       -0.59       -0.57         Mean Spring Temperature x Climate Change       0.59       0.52       0.54       0.57       0.61       0.64       0.66         Distance from Coast x Climate Change       -0.17       -0.24       -0.22       -0.19       -0.14       -0.11       -0.09         Elevation x Climate Change       0.13       0.05       0.08       0.11       0.15       0.19       0.21		-0.42	-0.49	-0.47	-0.45	-0.40	-0.38	-0.36
Mean Spring Temperature x Climate Change       0.59       0.52       0.54       0.57       0.61       0.64       0.66         Distance from Coast x Climate Change       -0.17       -0.24       -0.22       -0.19       -0.14       -0.11       -0.09         Elevation x Climate Change       0.13       0.05       0.08       0.11       0.15       0.19       0.21		-0.64		-0.68			-0.59	
Distance from Coast x Climate Change -0.17 -0.24 -0.22 -0.19 -0.14 -0.11 -0.09 Elevation x Climate Change 0.13 0.05 0.08 0.11 0.15 0.19 0.21								
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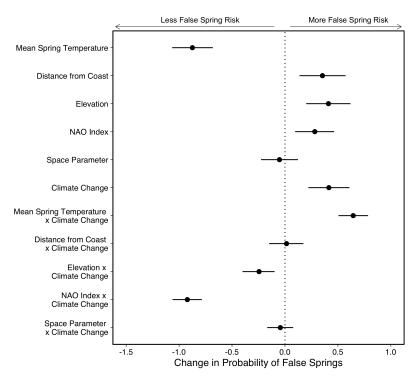


Figure S4: Effects of species, climatic and geographical predictors on false spring risk with a lower temperature threshold  $(-5^{\circ}\text{C})$  for defining a false spring. More positive values indicate an increased probability of a false spring whereas more negative values suggest a lower probability of a false spring. Dots and lines show means and 98% uncertainty intervals. There were 730,996 zeros and 23,855 ones for false springs in the data. See Table S9 for full model output.

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Table S9: Summary of Bernoulli model of false spring risk with a lower temperature threshold  $(-5^{\circ}\mathrm{C})$  for defining a false spring.

(-5 C) for defining a raise spring.	mean	2%	10%	25%	75%	90%	98%
Intercept	-3.35	-3.38	-3.37	-3.36	-3.34	-3.32	-3.31
NAO Index	0.09	0.02	0.05	0.07	0.11	0.14	0.16
Mean Spring Temperature	-0.72	-0.79	-0.77	-0.74	-0.70	-0.67	-0.65
Distance from Coast	0.12	0.13	0.15	0.14	0.23	0.27	0.29
Elevation	0.63	0.15	0.13	0.10	0.25	0.68	0.23 $0.71$
Space Parameter	-0.02	-0.09	-0.06	-0.04	0.00	0.03	0.71 $0.05$
Climate Change	0.58	0.51	0.53	0.56	0.60	0.63	0.65
Alnus glutinosa	0.33	0.31 $0.27$	0.33	0.30	0.34	0.03	0.38
Betula pendula	0.08	0.02	0.20	0.06	0.09	0.37 $0.12$	0.33
Fagus sylvatica	-0.45	-0.51	-0.49	-0.46	-0.43	-0.40	-0.38
Fraxinus excelsior	-0.43 -1.58	-1.70	-1.66	-1.61	-0.45	-1.50	-1.47
Quercus robur	-1.26	-1.34	-1.32	-1.28	-1.24	-1.20	-1.18
NAO Index x $Alnus \ glutinosa$	-0.16	-0.26	-0.23	-0.19	-0.12	-0.08	-0.05
NAO Index x Atmas gratinosa NAO Index x Betula pendula	-0.10	-0.20	-0.28	-0.13	-0.12	-0.15	-0.12
NAO Index x Fagus sylvatica	0.36	0.24	0.28	0.33	0.39	0.44	0.48
NAO Index x Fragins sylvatica NAO Index x Frazinus excelsior	0.54	0.24	0.20	0.48	0.60	0.44	0.46
NAO Index x Quercus robur	0.54	0.54	0.49	0.40	0.63	0.70	0.74
Mean Spring Temperature x Alnus glutinosa	0.33 $0.28$	0.44 $0.15$	0.43 $0.19$	0.33	0.03	0.36	0.40
Mean Spring Temperature x Betula pendula	0.20	-0.09	-0.06	-0.02	0.03	0.07	0.40
Mean Spring Temperature x Fagus sylvatica	-0.31	-0.43	-0.39	-0.35	-0.28	-0.23	-0.20
Mean Spring Temperature x Frazinus excelsior	-0.21	-0.46	-0.39	-0.28	-0.14	-0.04	0.04
Mean Spring Temperature x Quercus robur	-0.67	-0.81	-0.77	-0.71	-0.63	-0.58	-0.53
Distance from Coast x Alnus glutinosa	0.10	-0.03	0.01	0.06	0.14	0.19	0.23
Distance from Coast x Betula pendula	0.14	0.02	0.06	0.10	0.17	0.13	0.25
Distance from Coast x Fagus sylvatica	0.19	0.05	0.09	0.15	0.23	0.29	0.32
Distance from Coast x Frazinus excelsior	0.44	0.19	0.26	0.37	0.52	0.62	0.70
Distance from Coast x Quercus robur	0.01	-0.17	-0.11	-0.04	0.06	0.02 $0.14$	0.19
Elevation x Alnus glutinosa	-0.13	-0.26	-0.23	-0.17	-0.10	-0.04	-0.01
Elevation x Betula pendula	-0.04	-0.15	-0.11	-0.07	-0.01	0.03	0.06
Elevation x Fagus sylvatica	-0.12	-0.24	-0.21	-0.16	-0.08	-0.03	0.01
Elevation x Fraxinus excelsior	-0.68	-0.95	-0.87	-0.75	-0.60	-0.49	-0.42
Elevation x Quercus robur	-0.34	-0.50	-0.45	-0.39	-0.29	-0.22	-0.18
Space Parameter x Alnus glutinosa	-0.04	-0.14	-0.11	-0.07	-0.01	0.03	0.06
Space Parameter x Betula pendula	0.01	-0.08	-0.05	-0.02	0.03	0.07	0.10
Space Parameter x Fagus sylvatica	-0.10	-0.21	-0.18	-0.13	-0.07	-0.02	0.01
Space Parameter x Fraxinus excelsior	-0.04	-0.25	-0.19	-0.10	0.02	0.10	0.17
Space Parameter x Quercus robur	-0.03	-0.17	-0.13	-0.07	0.01	0.07	0.11
Climate Change x Alnus glutinosa	0.10	-0.02	0.02	0.06	0.13	0.17	0.21
Climate Change x Betula pendula	0.07	-0.03	-0.00	0.04	0.10	0.14	0.17
Climate Change x Fagus sylvatica	-0.34	-0.46	-0.43	-0.37	-0.30	-0.25	-0.21
Climate Change x Fraxinus excelsior	-0.47	-0.69	-0.63	-0.54	-0.41	-0.31	-0.25
Climate Change x Quercus robur	-0.35	-0.51	-0.46	-0.40	-0.30	-0.23	-0.18
NAO Index x Climate Change	-0.92	-1.06	-1.02	-0.96	-0.88	-0.83	-0.79
Mean Spring Temperature x Climate Change	0.64	0.51	0.55	0.60	0.69	0.74	0.79
Distance from Coast x Climate Change	0.01	-0.15	-0.10	-0.03	0.06	0.13	0.17
Elevation x Climate Change	-0.24	-0.40	-0.35	-0.29	-0.20	-0.14	-0.10
Space Parameter x Climate Change	-0.04	-0.17	-0.13	-0.08	-0.01	0.05	0.08