# Figures

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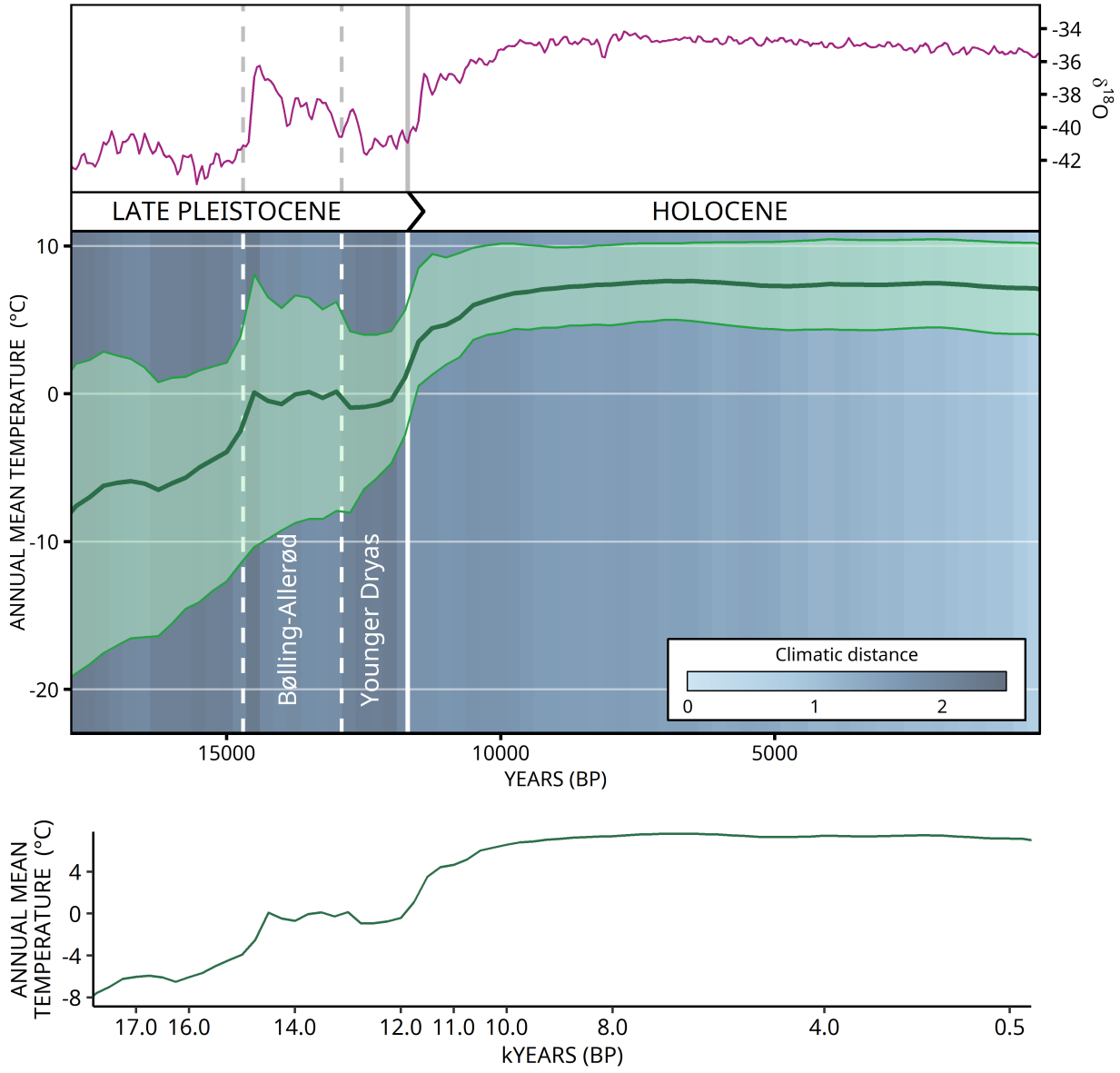
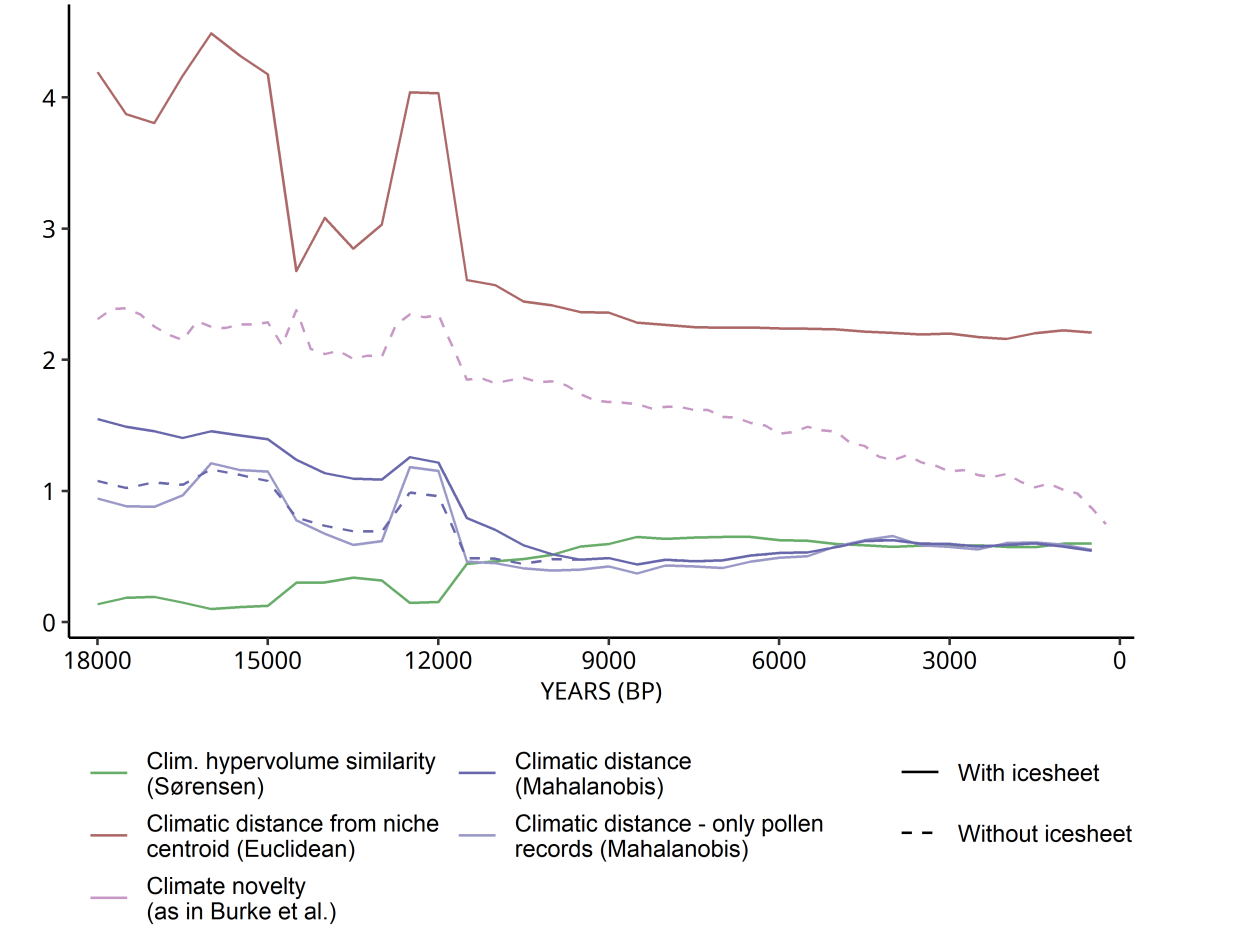
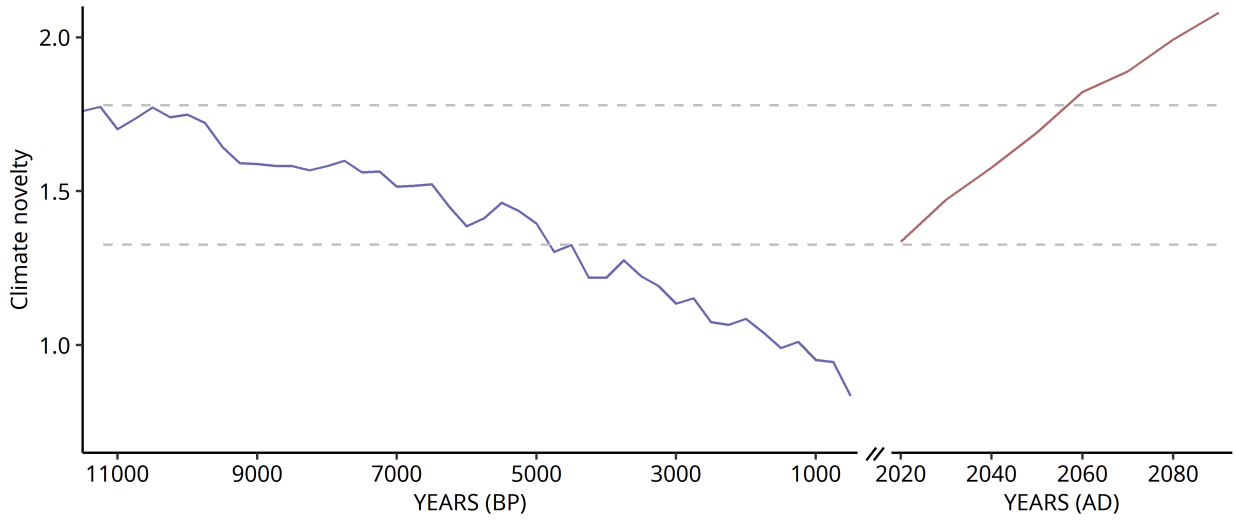
22/03/2023

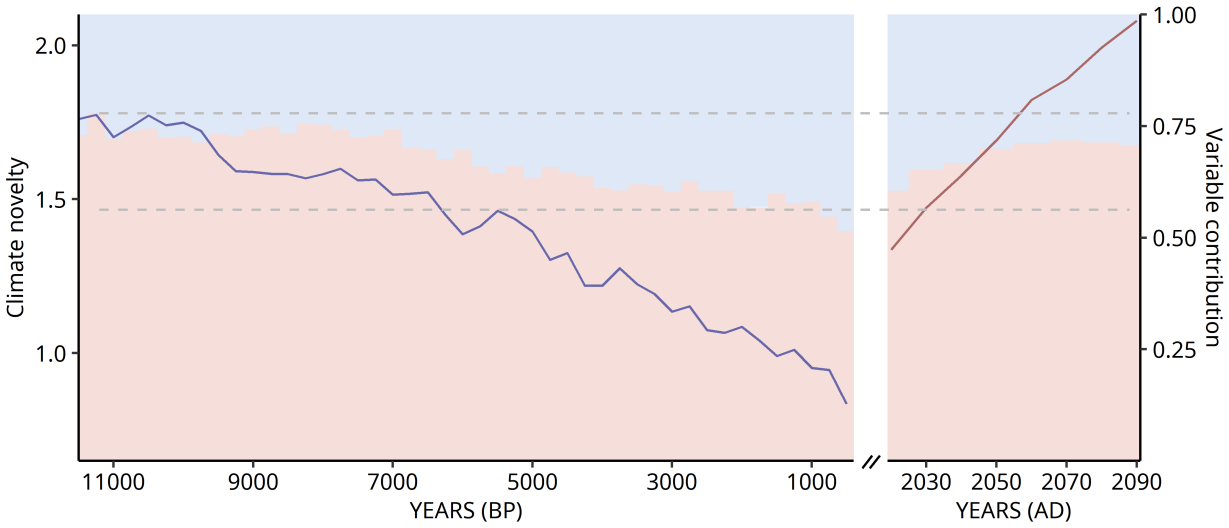
## Climate overview

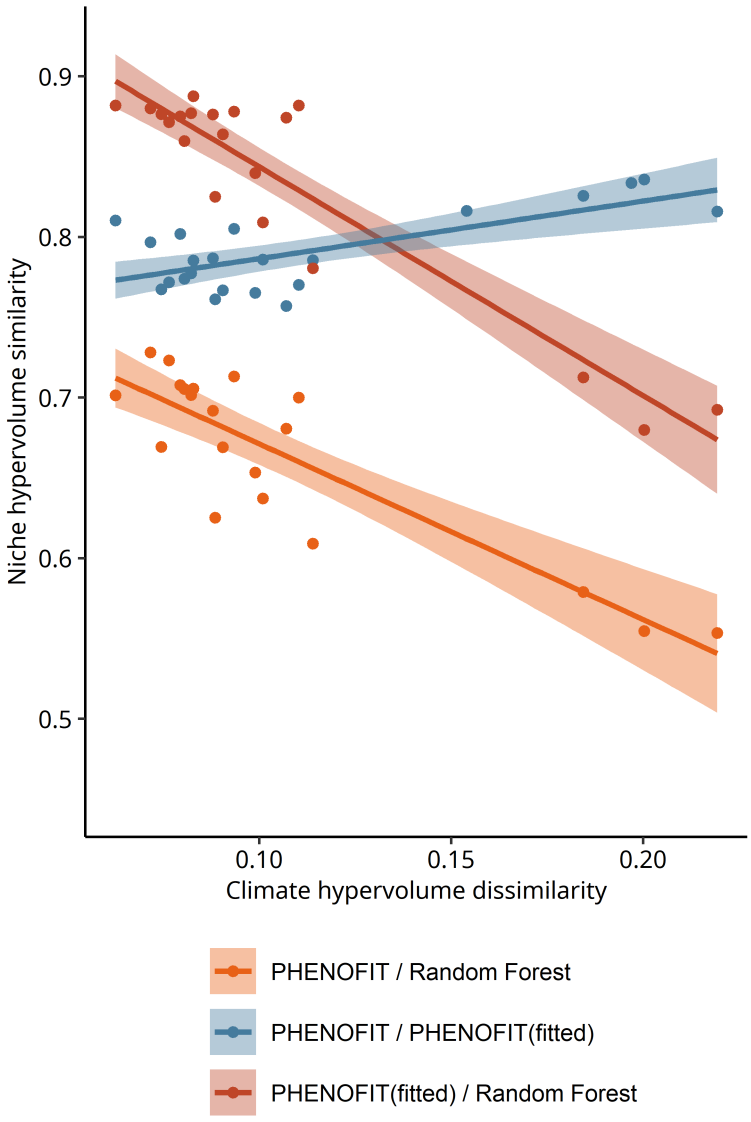


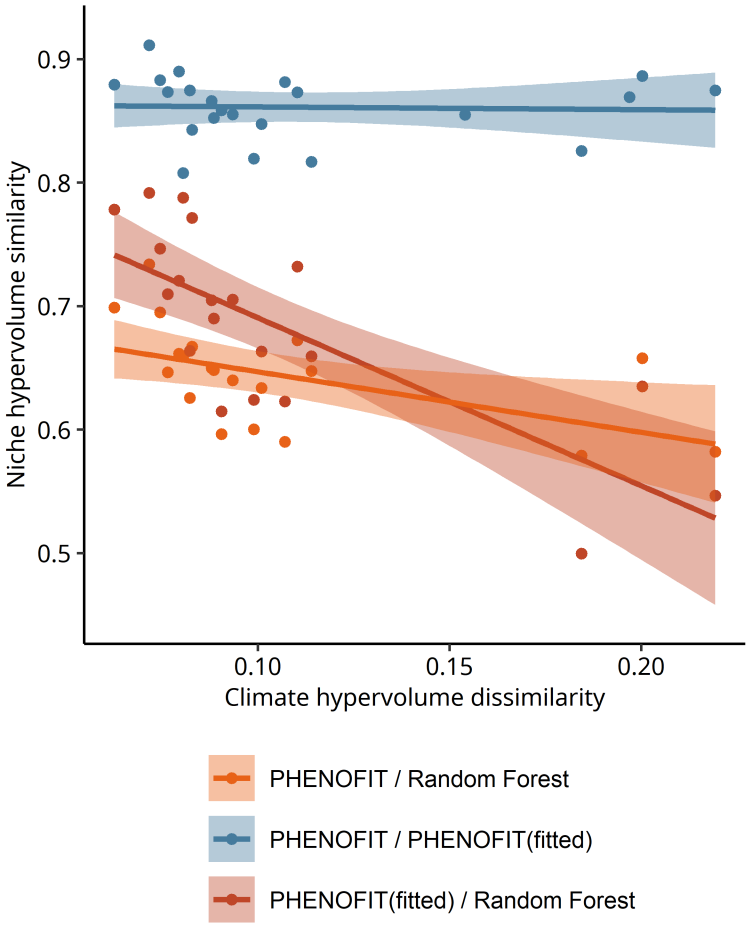
## Climate metrics




Climate novelty
2.0
1.5
1.0
11000
9000
7000
5000
3000
1000
YEARS (BP)
2030
2050
2070
2090
YEARS (AD)
1.00
0.75
0.50
0.25
Variable contribution

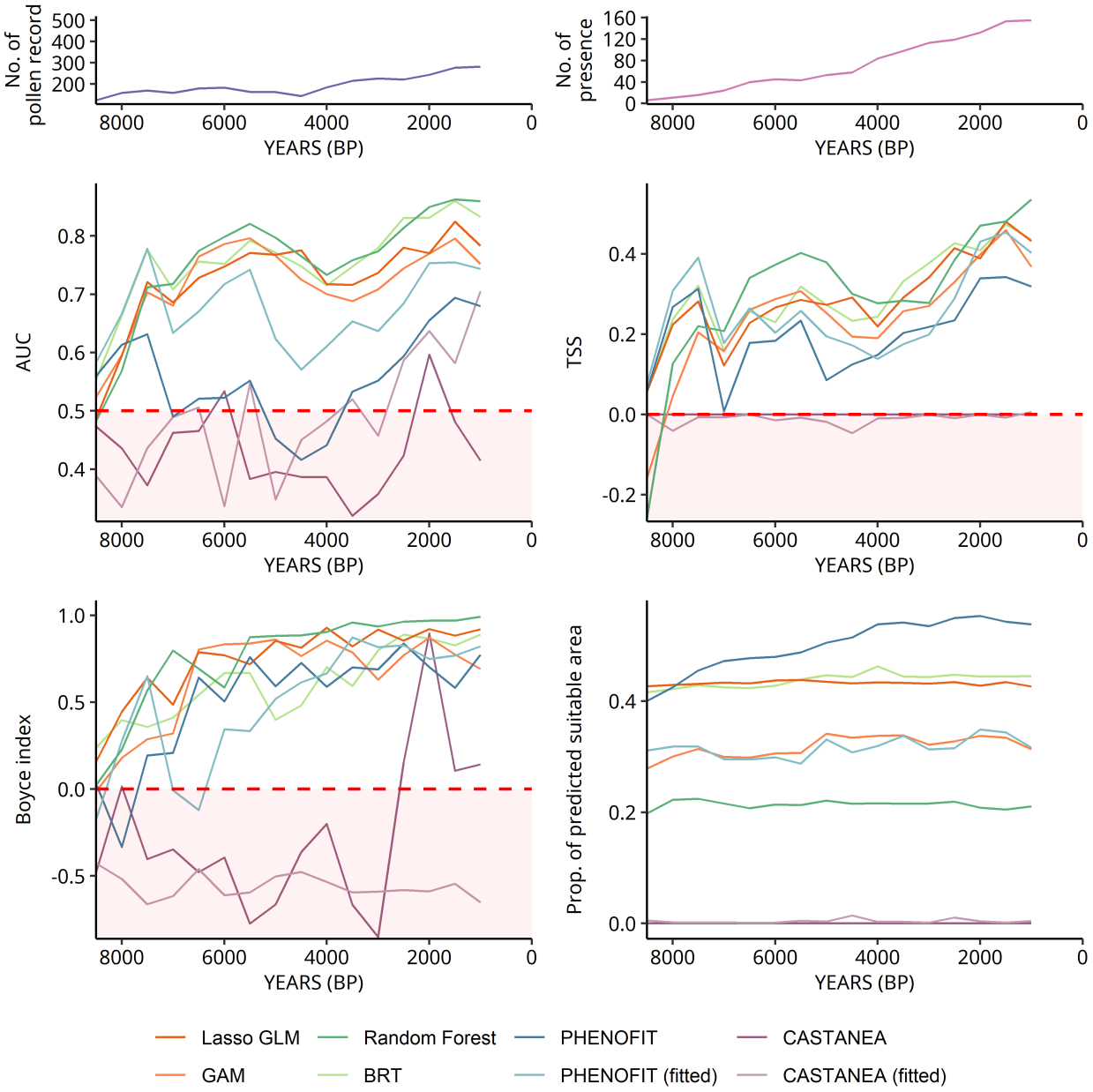

Niche hypervolume similarity
0.9
0.8
0.7
0.6
0.5
0.10
0.15
0.20
Climate hypervolume dissimilarity
PHENOFIT / Random Forest
PHENOFIT / PHENOFIT(fitted)
PHENOFIT(fitted) / Random Forest

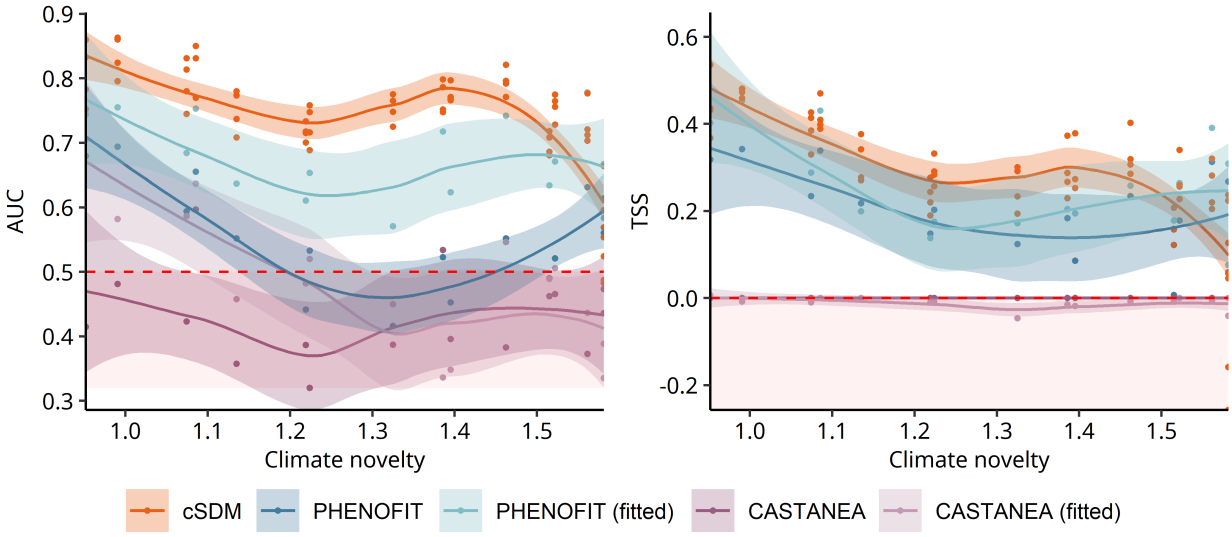

0.9
0.8
0.7
0.6
0.5
Niche hypervolume similarity
0.10
0.15
0.20
Climate hypervolume dissimilarity
PHENOFIT / Random Forest
PHENOFIT / PHENOFIT(fitted)
PHENOFIT(fitted) / Random Forest

## Fagus

### Much evaluation points as possible - from 15000BP

### Much evaluation points as possible - Holocene only




AUC
0.9
0.8
0.7
0.6
0.5
0.4
0.3
1.0
1.1
1.2
1.3
1.4
1.5
Climate novelty
TSS
0.6
0.4
0.2
0.0
-0.2
1.0
1.1
1.2
1.3
1.4
1.5
Climate novelty
cSDM
PHENOFIT
PHENOFIT (fitted)
CASTANEA
CASTANEA (fitted)

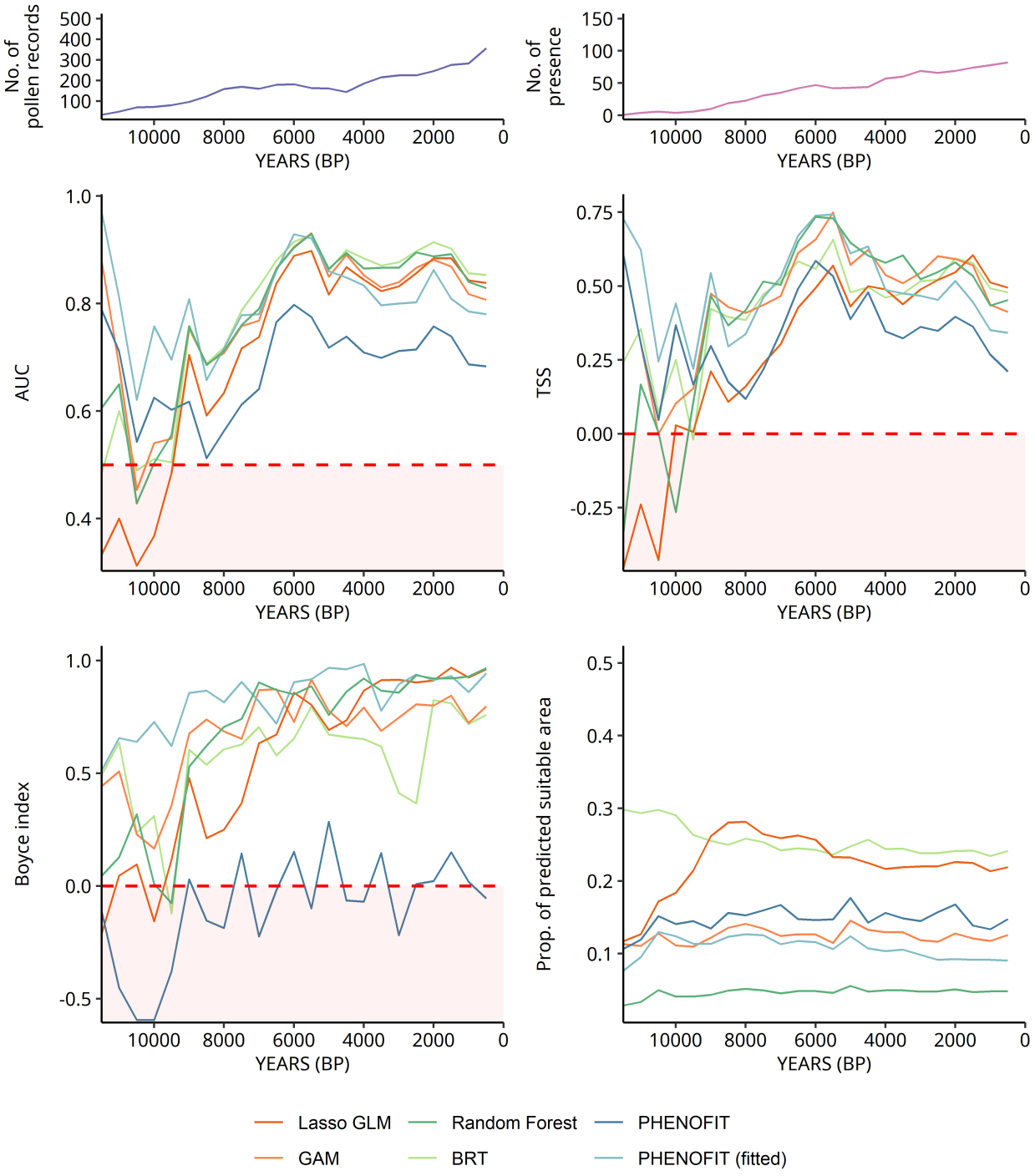
**Constant prevalence - from 15000BP**

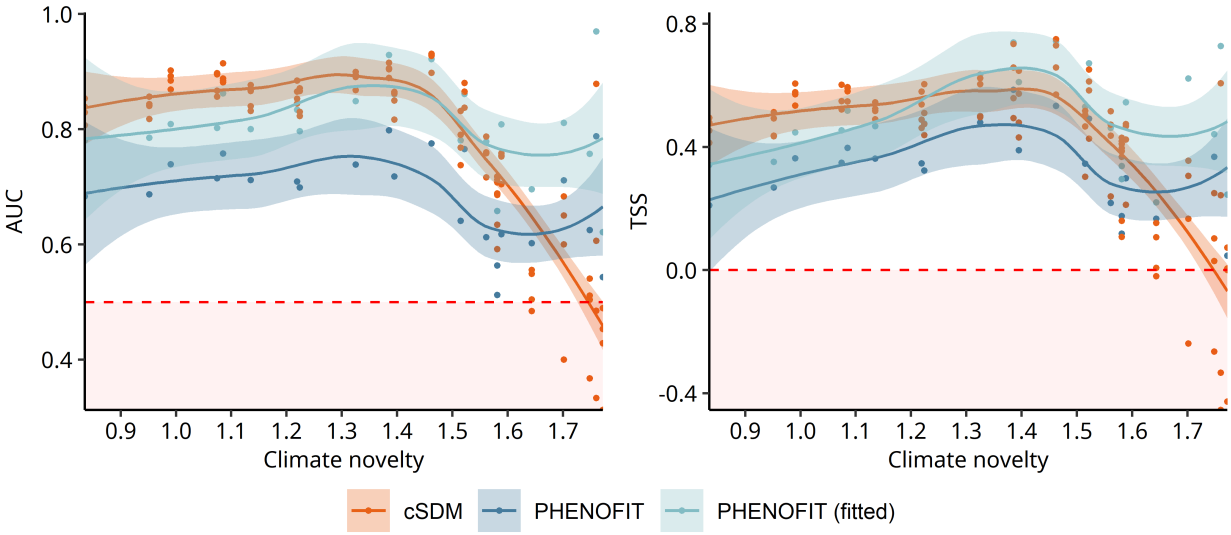
**Constant prevalence - Holocene only**

## Abies

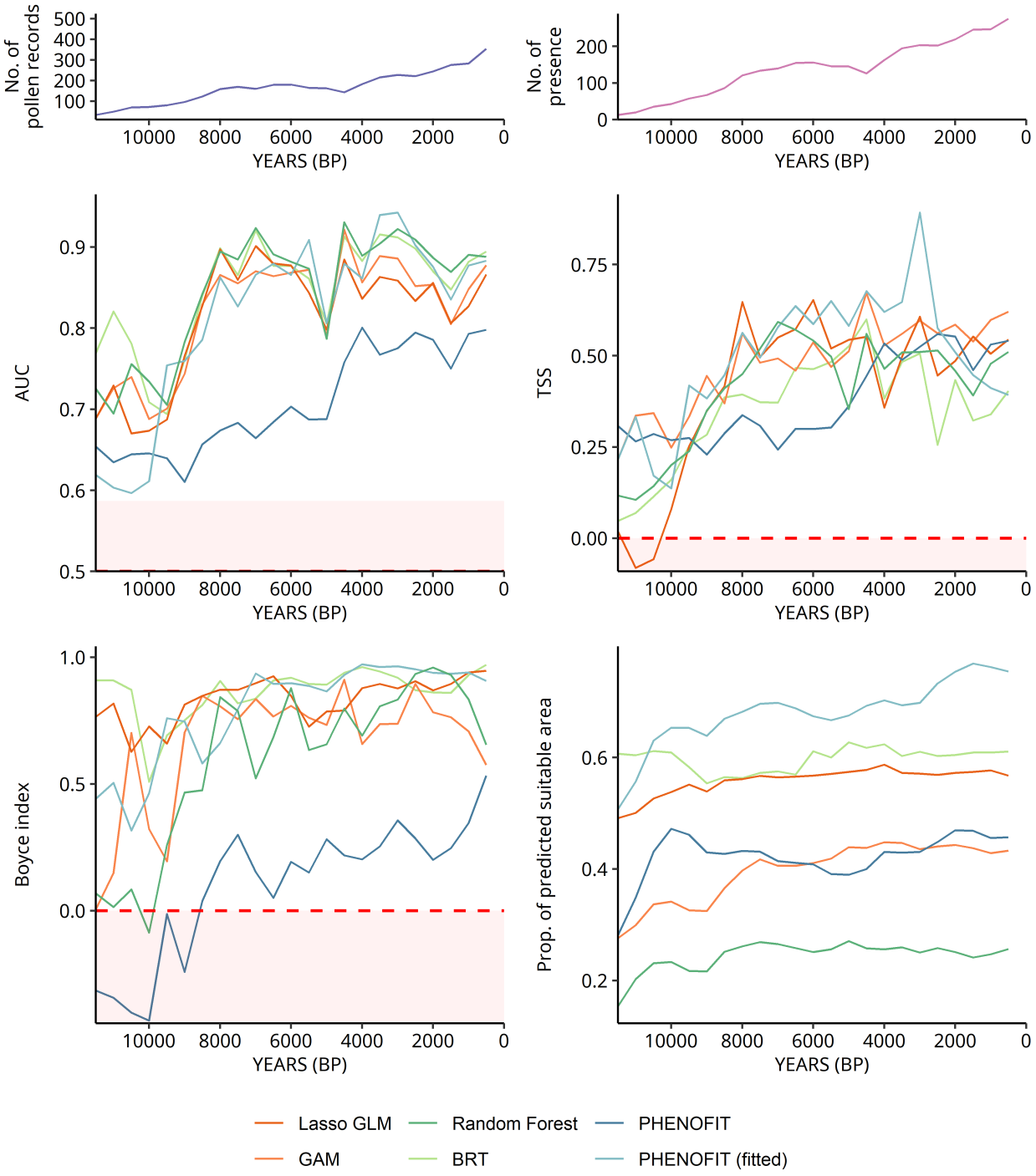
**Much evaluation points as possible - from 15000BP**

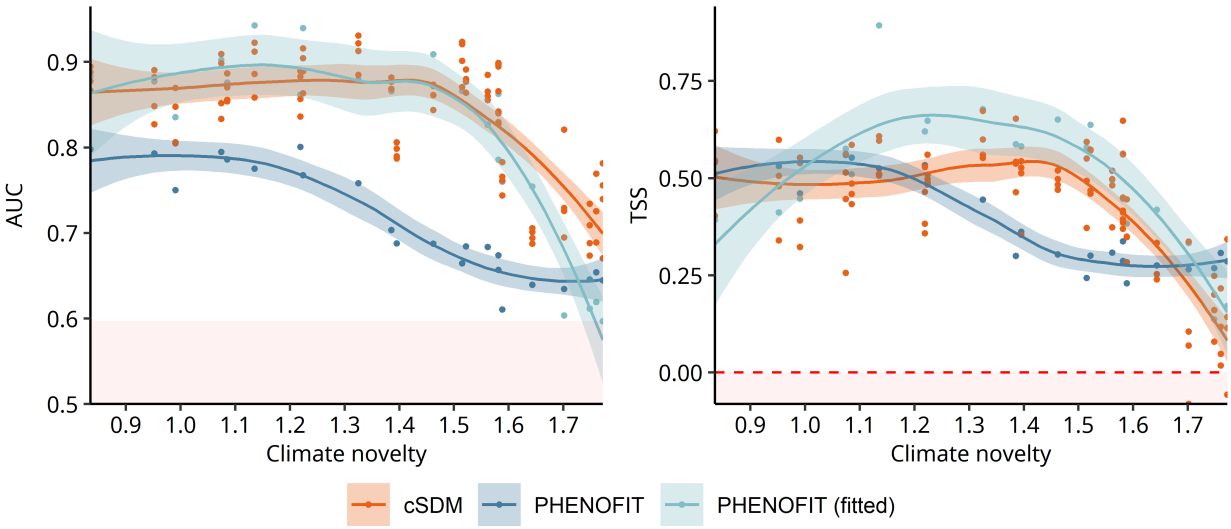
**Much evaluation points as possible - Holocene only**



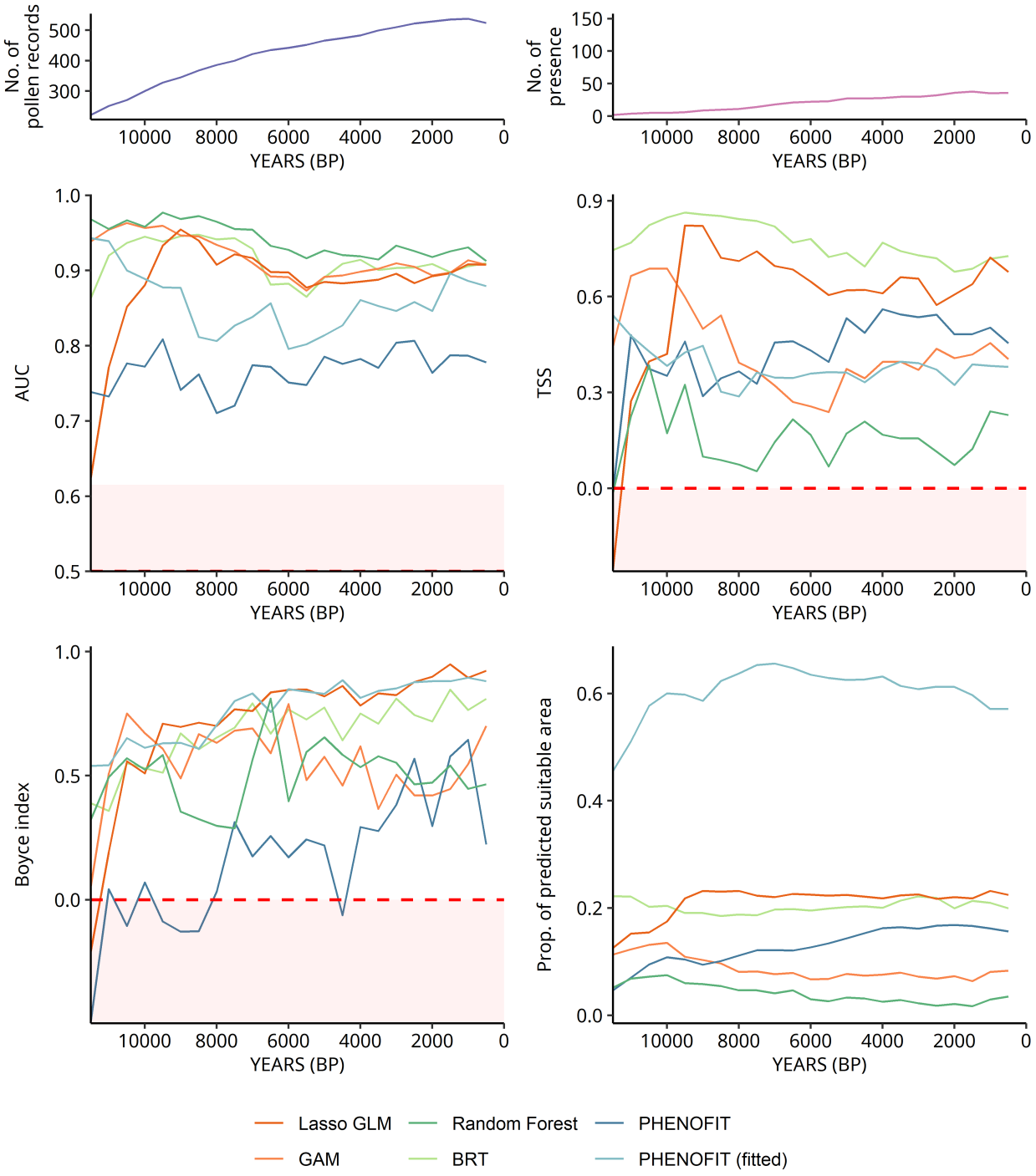

AUC
1.0
0.8
0.6
0.4
0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7
Climate novelty
TSS
0.8
0.4
0.0
-0.4
0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7
Climate novelty
cSDM
PHENOFIT
PHENOFIT (fitted)

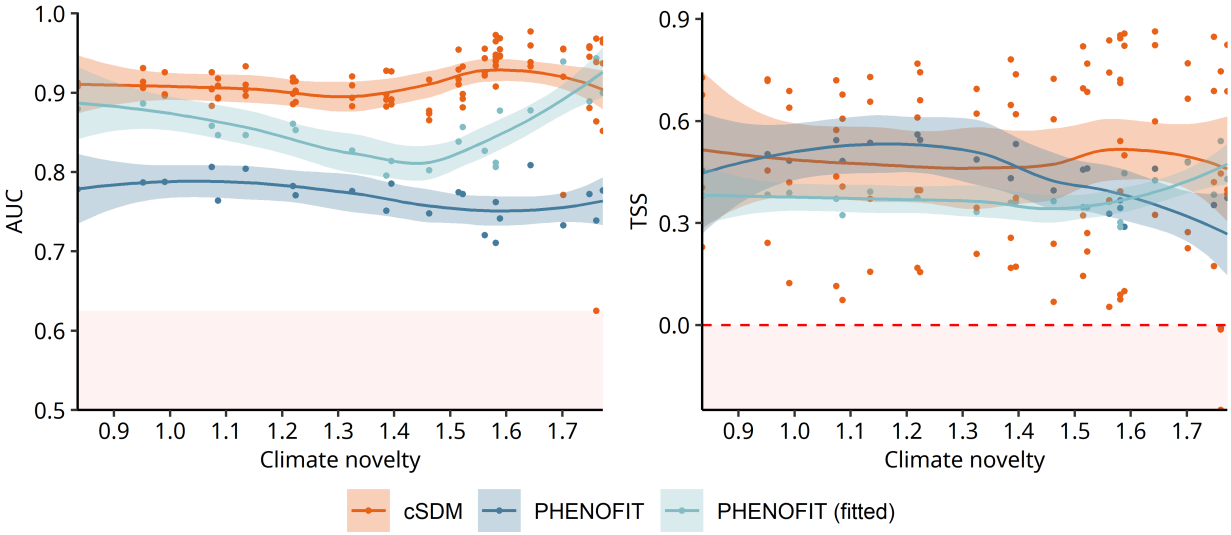
## Quercus - all type



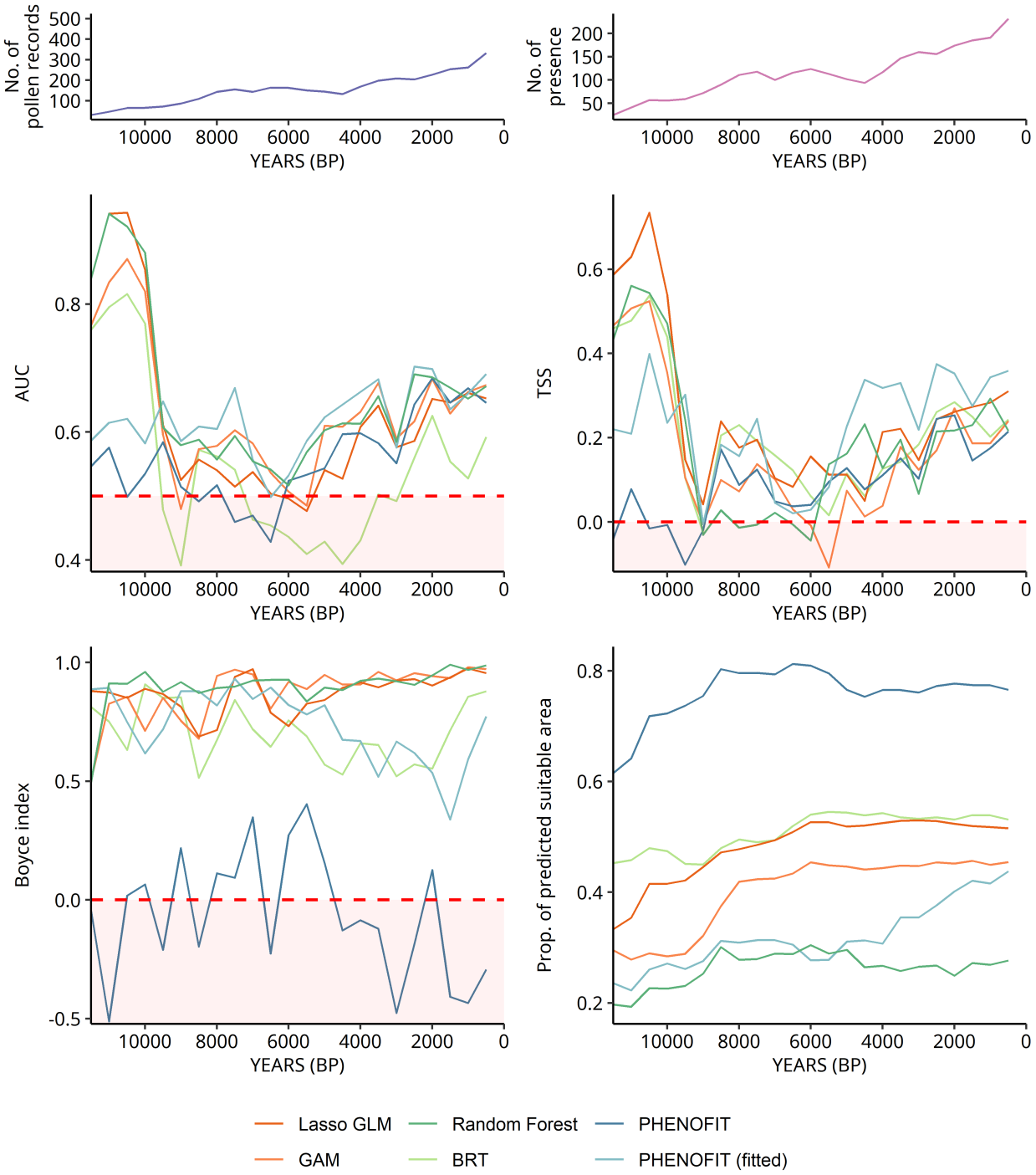

AUC
0.9
0.8
0.7
0.6
0.5
0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7
Climate novelty
TSS
0.75
0.50
0.25
0.00
0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7
Climate novelty
cSDM
PHENOFIT
PHENOFIT (fitted)

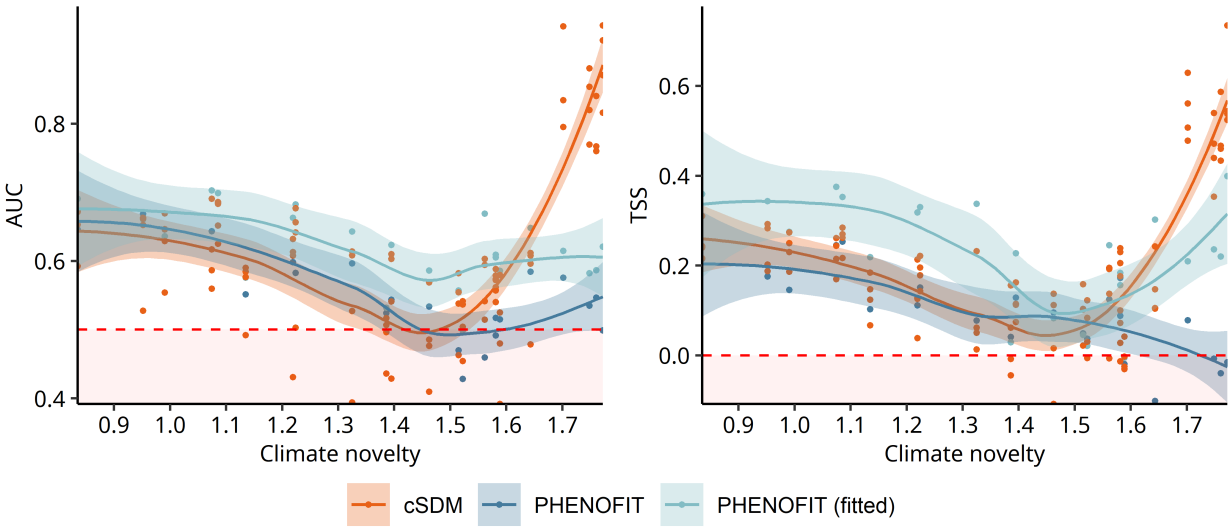
## Quercus - evergreen type



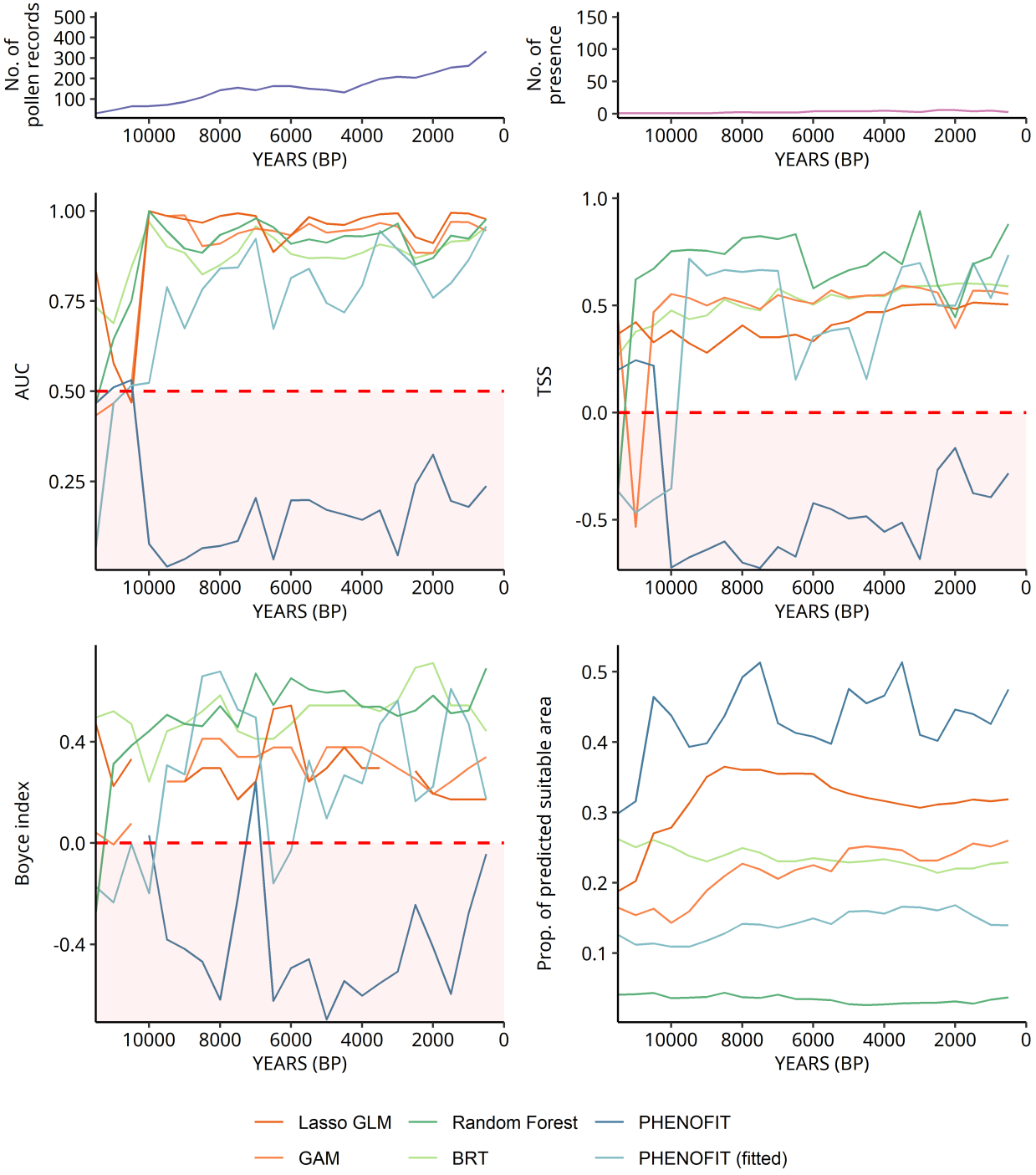

AUC
1.0
0.9
0.8
0.7
0.6
0.5
0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7
Climate novelty
TSS
0.9
0.6
0.3
0.0
0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7
Climate novelty
cSDM
PHENOFIT
PHENOFIT (fitted)

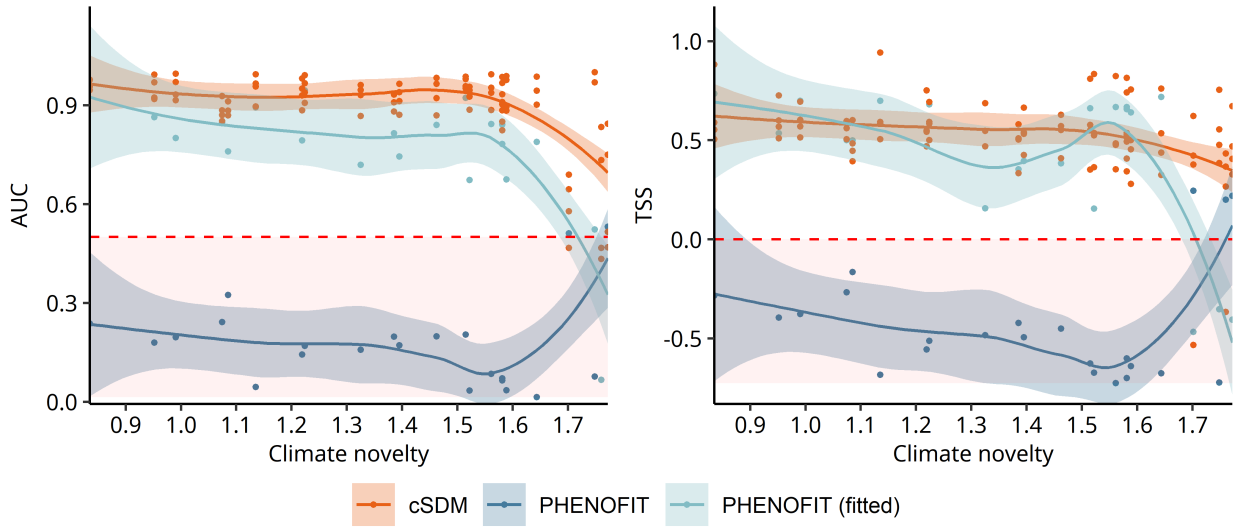
## Betula pendula



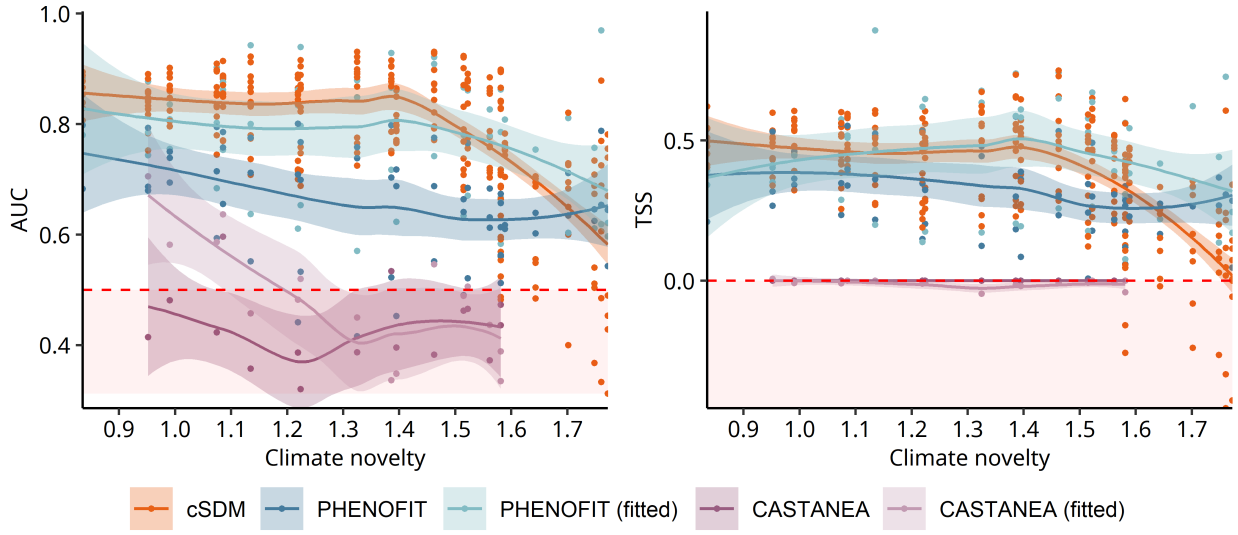

AUC
0.8
0.6
0.4
0.9
1.0
1.1
1.2
1.3
1.4
1.5
1.6
1.7
Climate novelty
TSS
0.6
0.4
0.2
0.0
0.9
1.0
1.1
1.2
1.3
1.4
1.5
1.6
1.7
Climate novelty
cSDM
PHENOFIT
PHENOFIT (fitted)

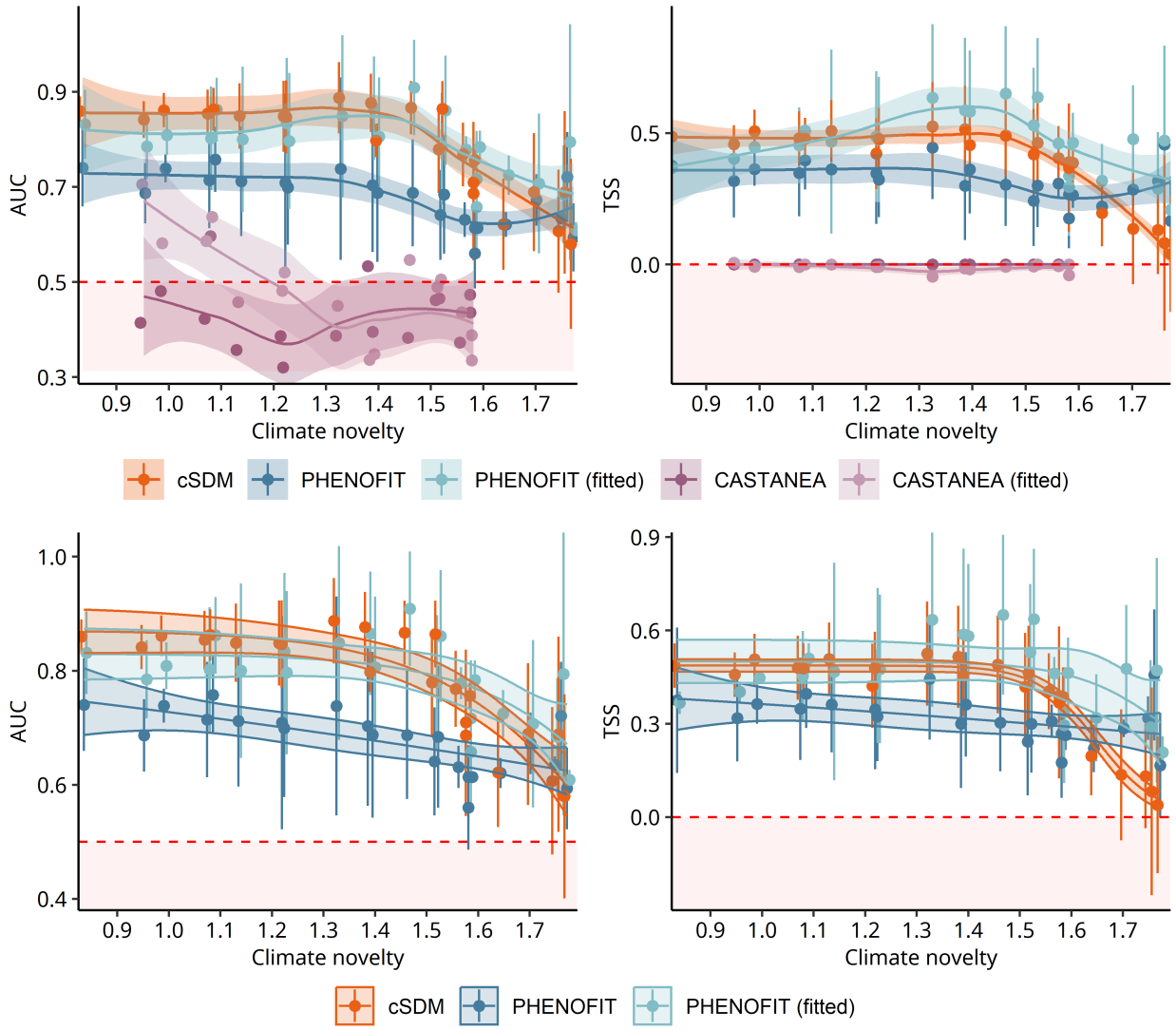
## Larix decidua




AUC
TSS
Climate novelty
Climate novelty
cSDM
PHENOFIT
PHENOFIT (fitted)

## All species


AUC
TSS
Climate novelty
Climate novelty
cSDM
PHENOFIT
PHENOFIT (fitted)
CASTANEA
CASTANEA (fitted)


AUC
TSS
Climate novelty
cSDM
PHENOFIT
PHENOFIT (fitted)
CASTANEA
CASTANEA (fitted)


AUC
TSS
Climate novelty
cSDM
PHENOFIT
PHENOFIT (fitted)

## Observed response curves

### Fagus sylvatica

### Fagus sylvatica across interpolation/extrapolation domains

## Future confidence in models