

**MAPS OF SPECIES VULNERABILITIES AND ITS  
UNCERTAINTIES FOR PRESENT AND THREE FUTURE  
CLIMATE SCENARIOS**

**D.T1.4.1**

**Conservation and sustainable utilization of forest tree  
diversity in Climate change (SUSTREE Project n° CE614)**

The objective of the project is to improve integrated environmental management capacities  
for the protection and sustainable use of natural heritage and resources

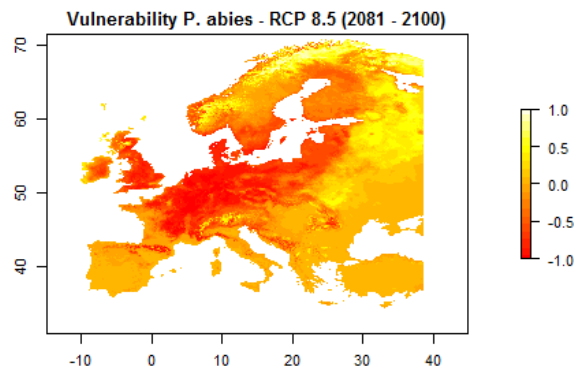
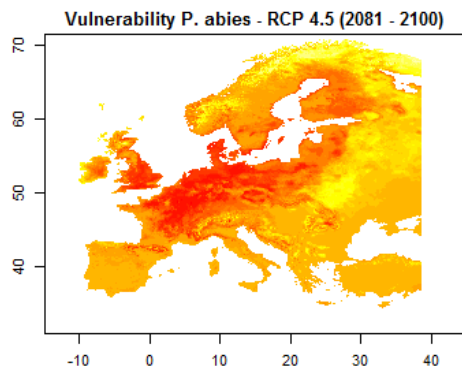
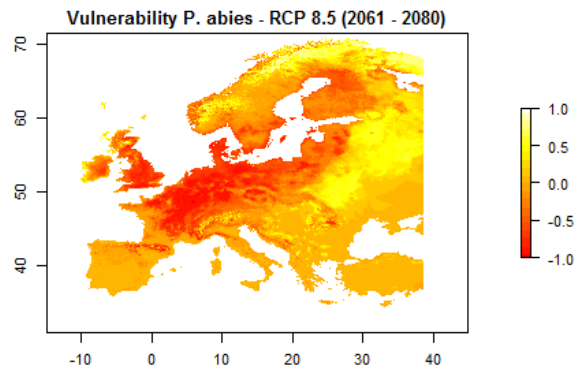
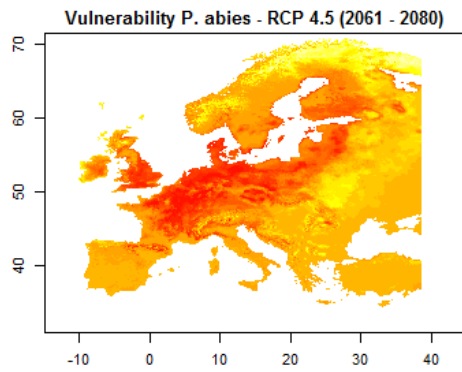
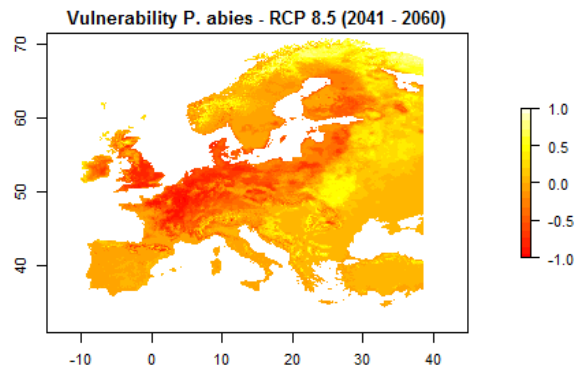
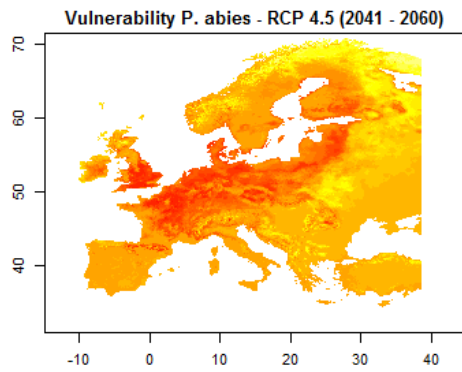
**29<sup>th</sup> January 2019**

## **SPECIES VULNERABILITIES UNDER CLIMATE CHANGE**

The following maps show the species distribution for the seven most important tree species (*Picea abies*, *Fagus sylvatica*, *Larix decidua*, *Quercus robur*, *Quercus petraea*, *Pinus sylvestris* and *Abies alba*) of Europe. The vulnerabilities and the uncertainties to two different climatic scenarios (RCP 4.5 for moderate climate change effect and RCP 8.5 for severe climate change) for three different periods have been calculated for all species. The periods concern: 2041 to 2060; 2061 to 2080 and 2081 to 2100.

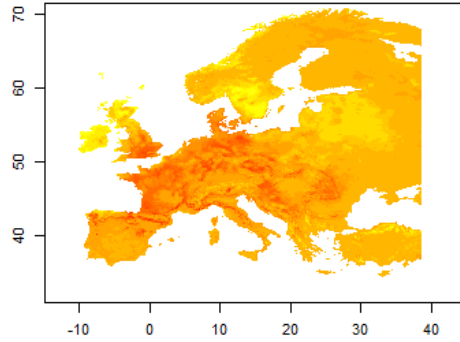
The negative values (red areas) indicate that the probability of a tree species presence is decreasing and that the climate is becoming more unsuitable for the tree species in the future. The closer the value is to one (yellow areas), the higher the suitability of the climate for a certain tree species is in the future.

## 1. NORWAY SPRUCE – *PICEA ABIES*

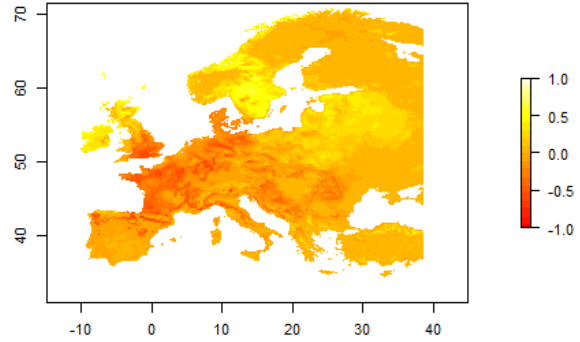


## 2. EUROPEAN BEECH - *FAGUS SYLVATICA*

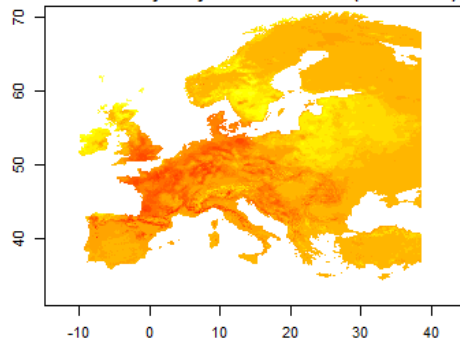
Vulnerability *F. sylvatica* - RCP 4.5 (2041 - 2060)



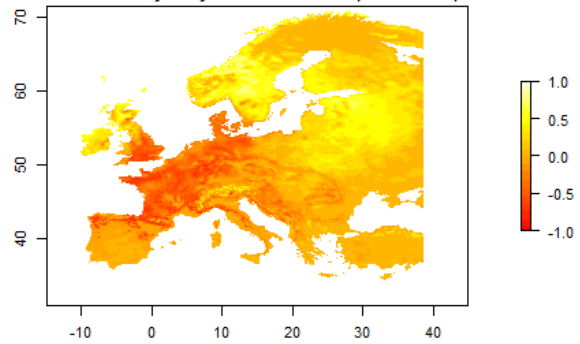
Vulnerability *F. sylvatica* - RCP 8.5 (2041 - 2060)



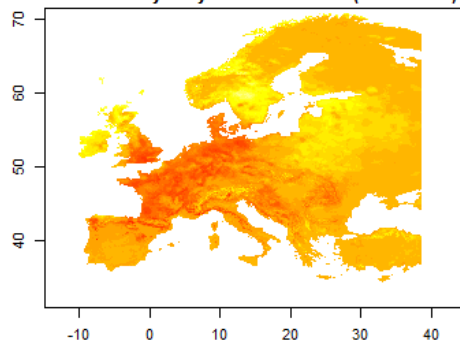
Vulnerability *F. sylvatica* - RCP 4.5 (2061 - 2080)



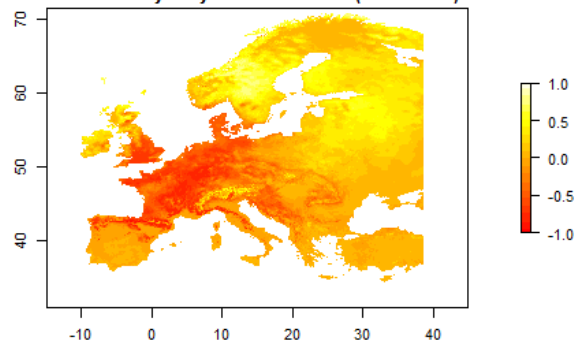
Vulnerability *F. sylvatica* - RCP 8.5 (2061 - 2080)



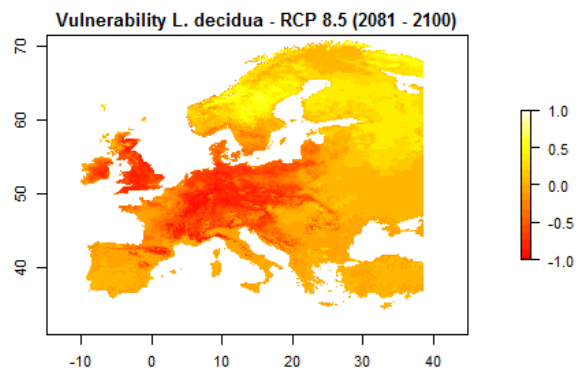
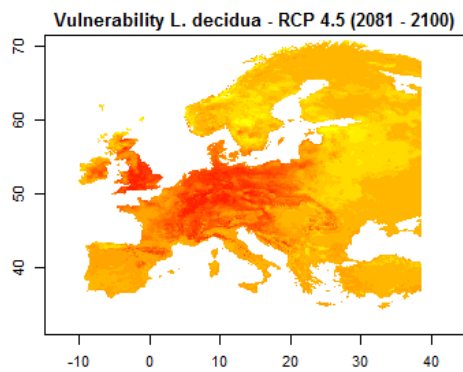
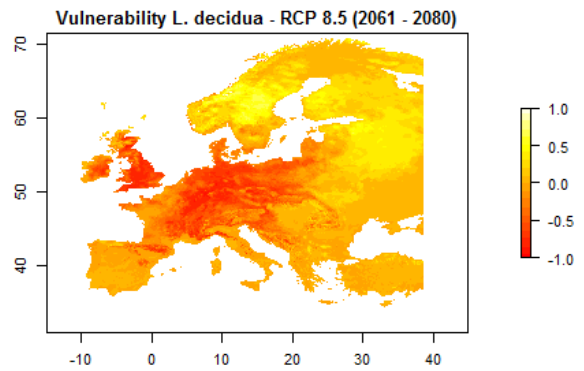
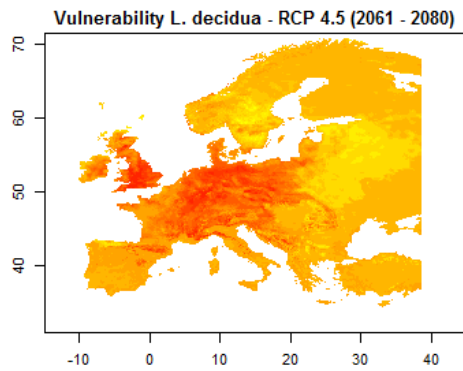
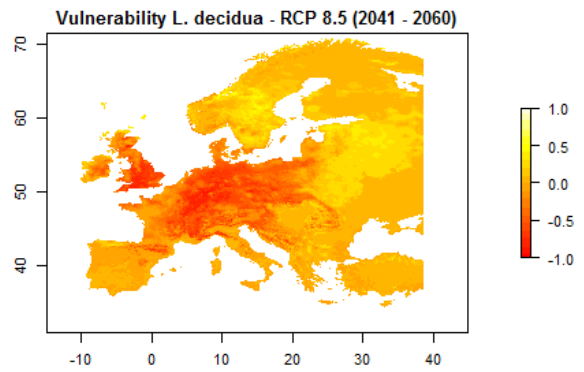
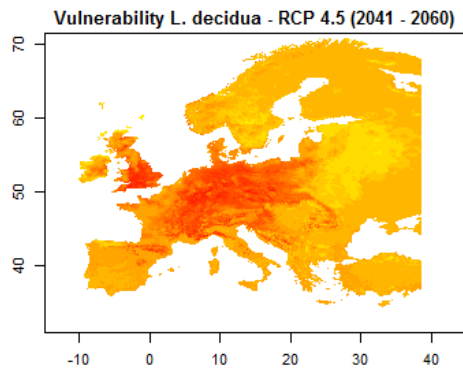
Vulnerability *F. sylvatica* - RCP 4.5 (2081 - 2100)



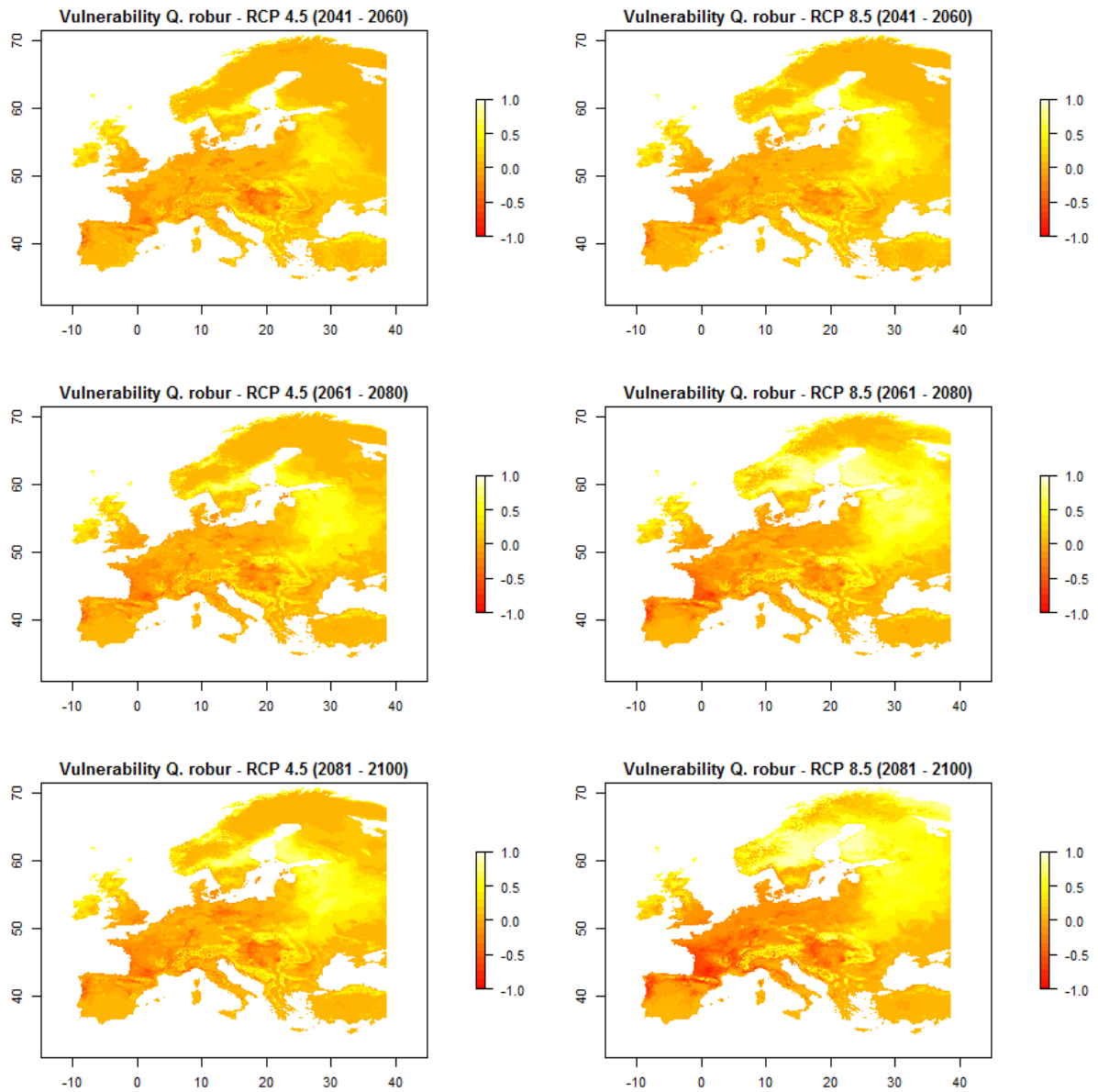
Vulnerability *F. sylvatica* - RCP 8.5 (2081 - 2100)



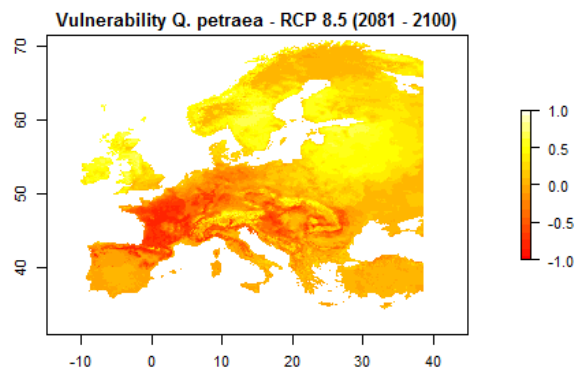
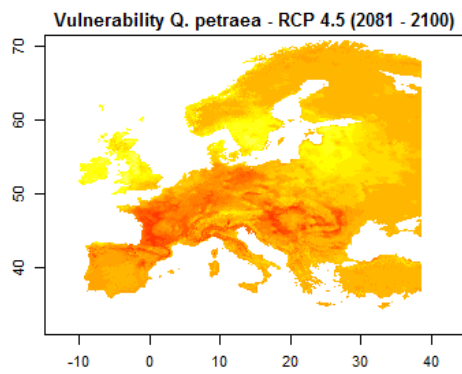
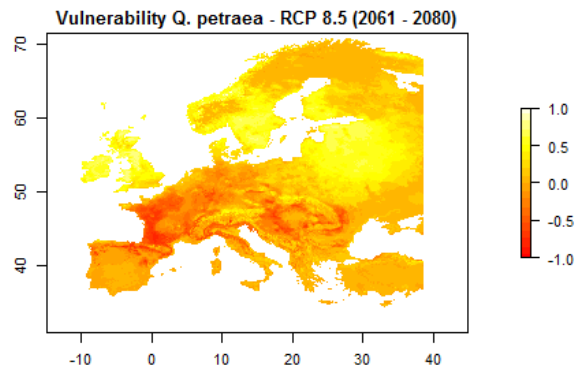
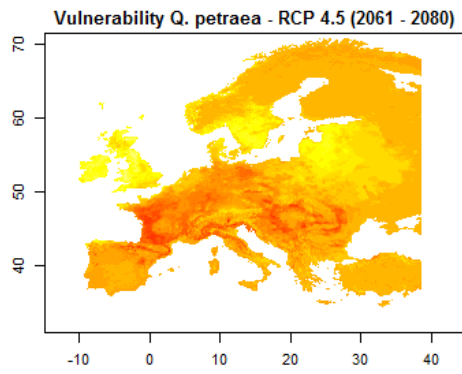
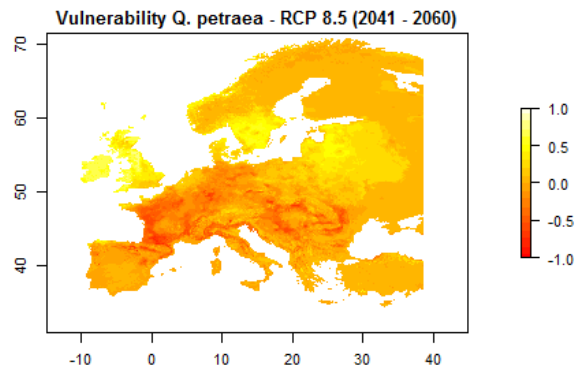
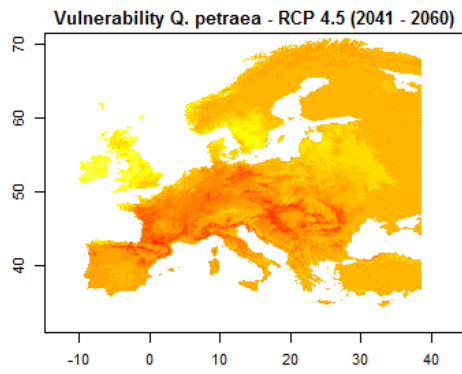
### 3. EUROPEAN LARCH – *LARIX DECIDUA*



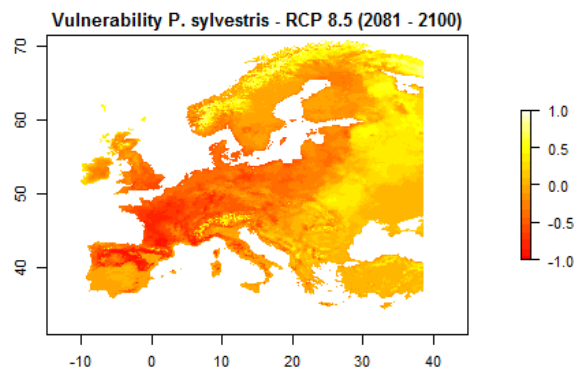
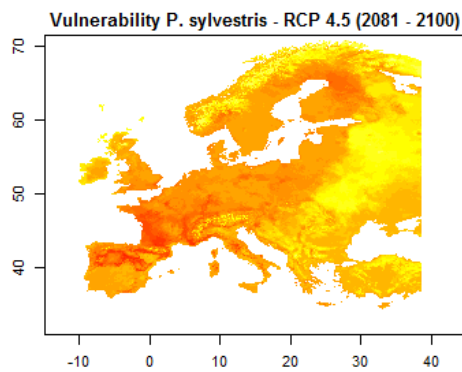
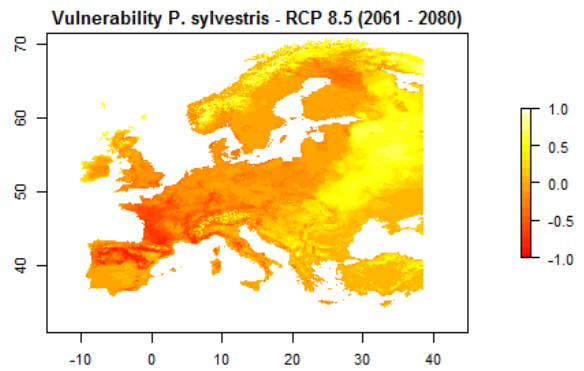
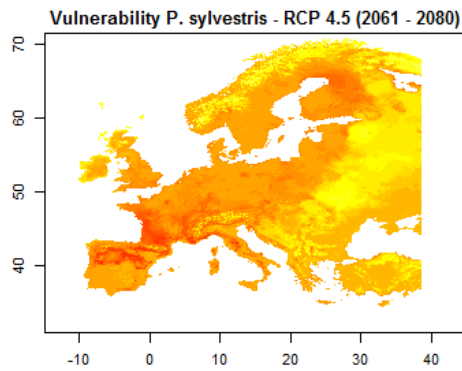
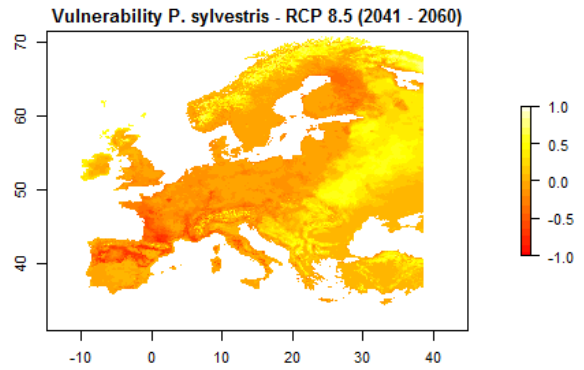
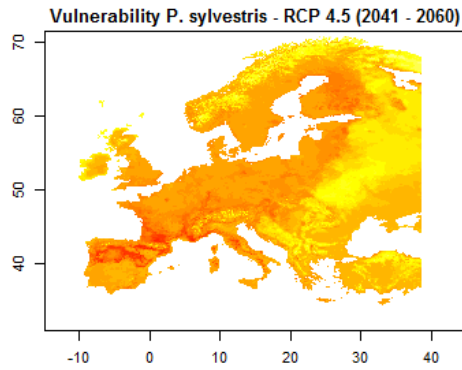
#### 4. COMMON OAK – *QUERCUS ROBUR*



## 5. SESSILE OAK – *QUERCUS PETRAEA*



## 6. SCOTS PINE – *PINUS SYLVESTRIS*





## 7. SILVER FIR – *ABIES ALBA*

