Soil Degradation in Galicia

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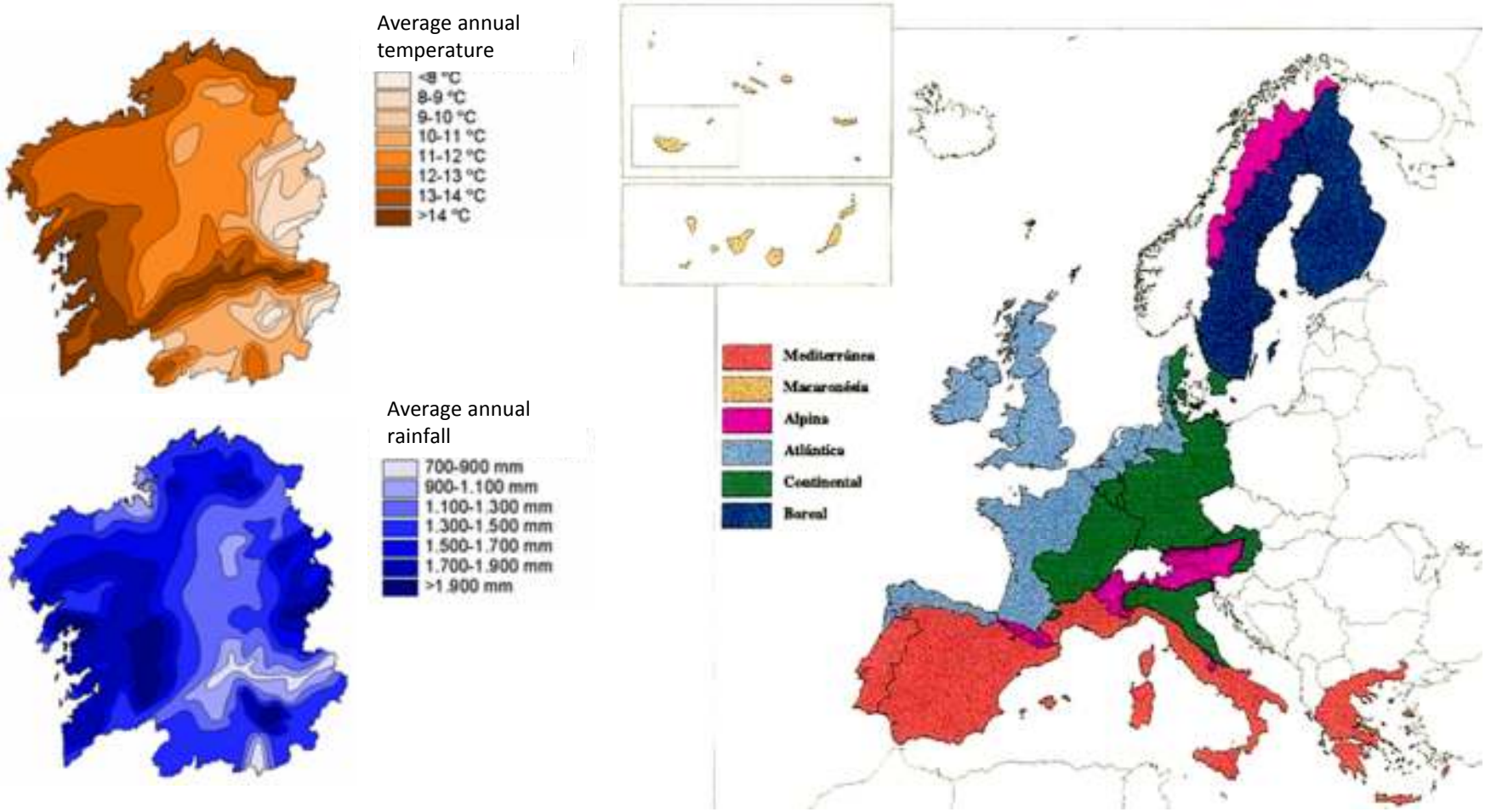
Galicia: geographic situation and climate



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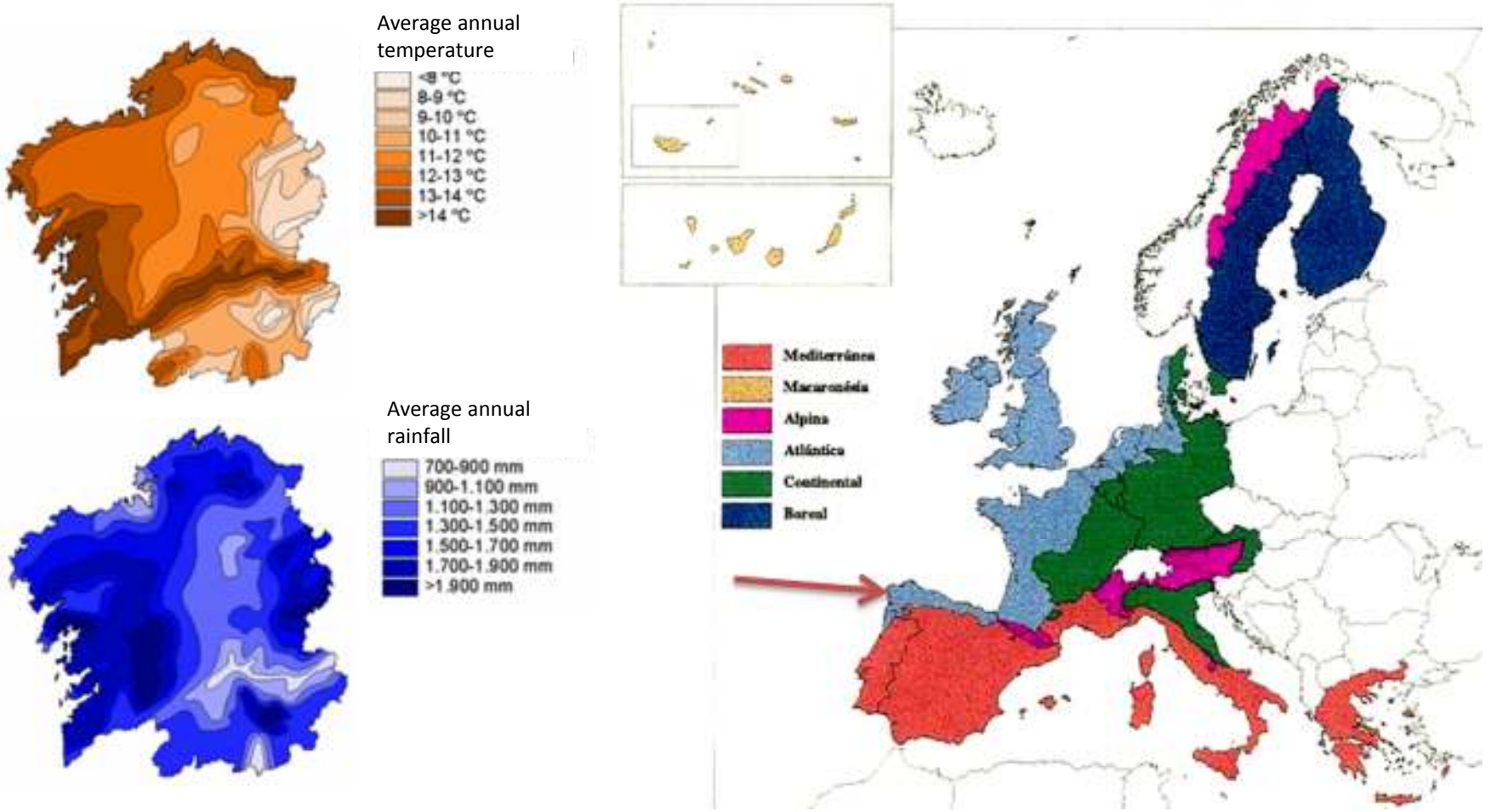
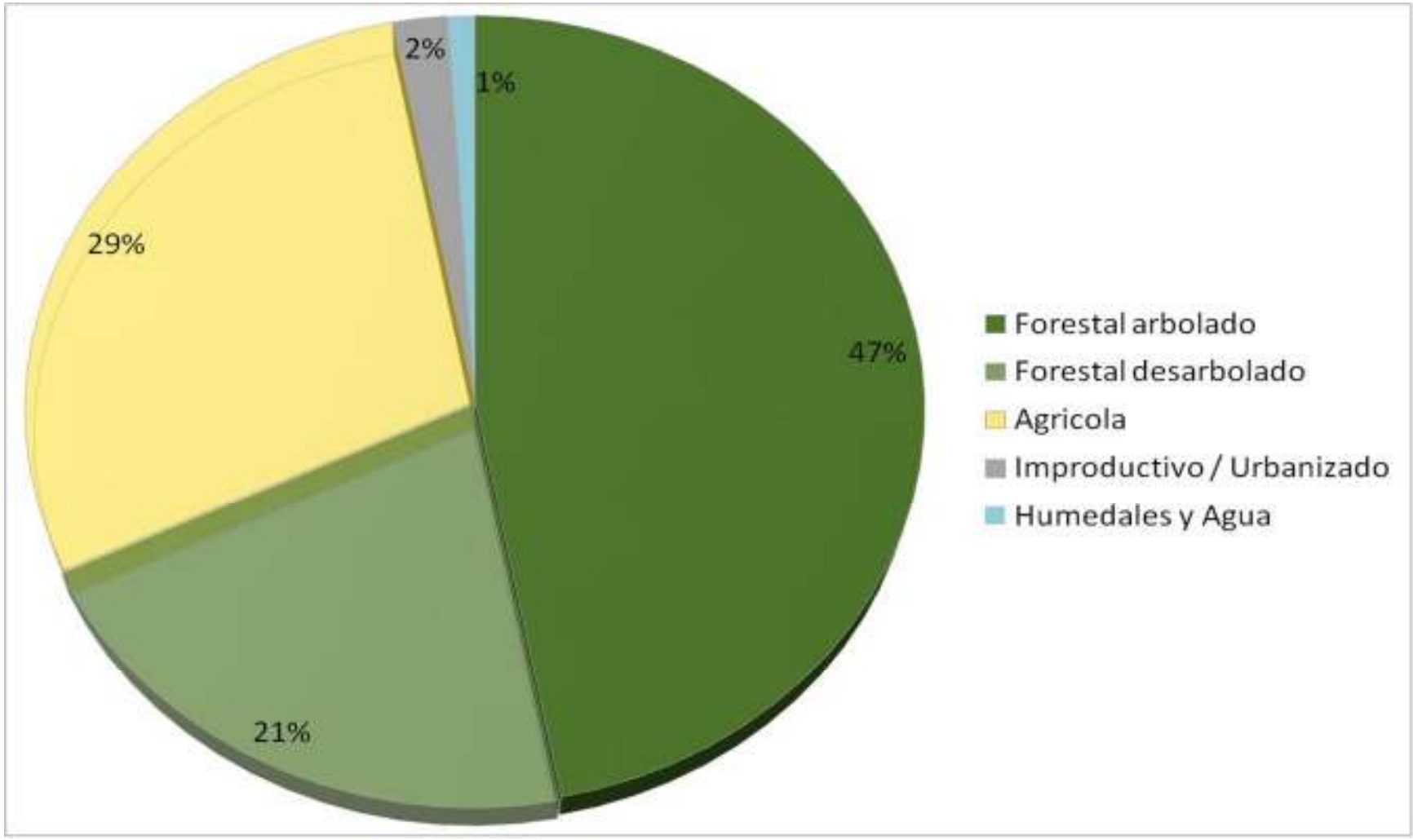
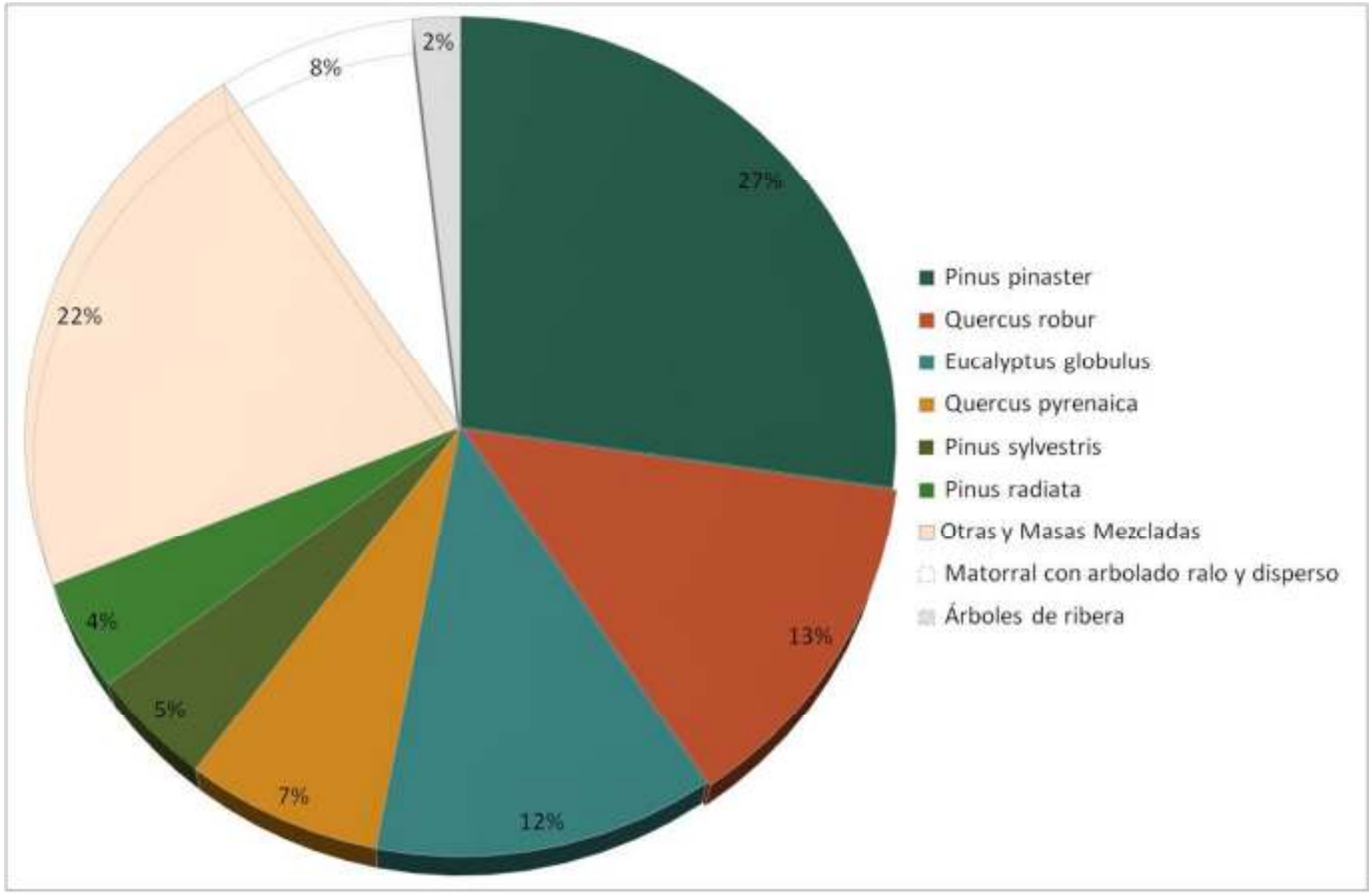
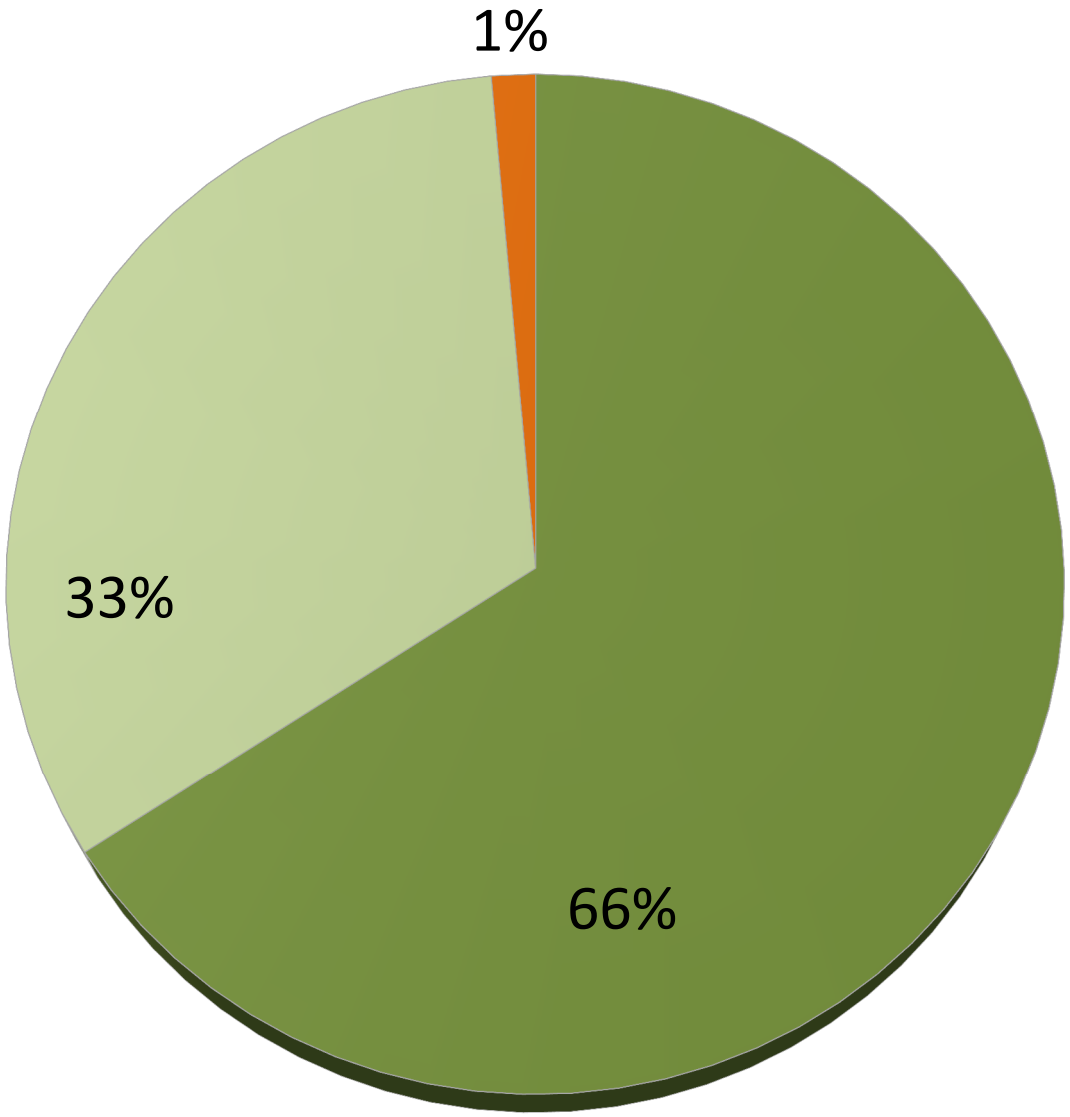


Forests occupy 68.96 % of the land surface competing with pastures for cattle management and agriculture.



Tree species



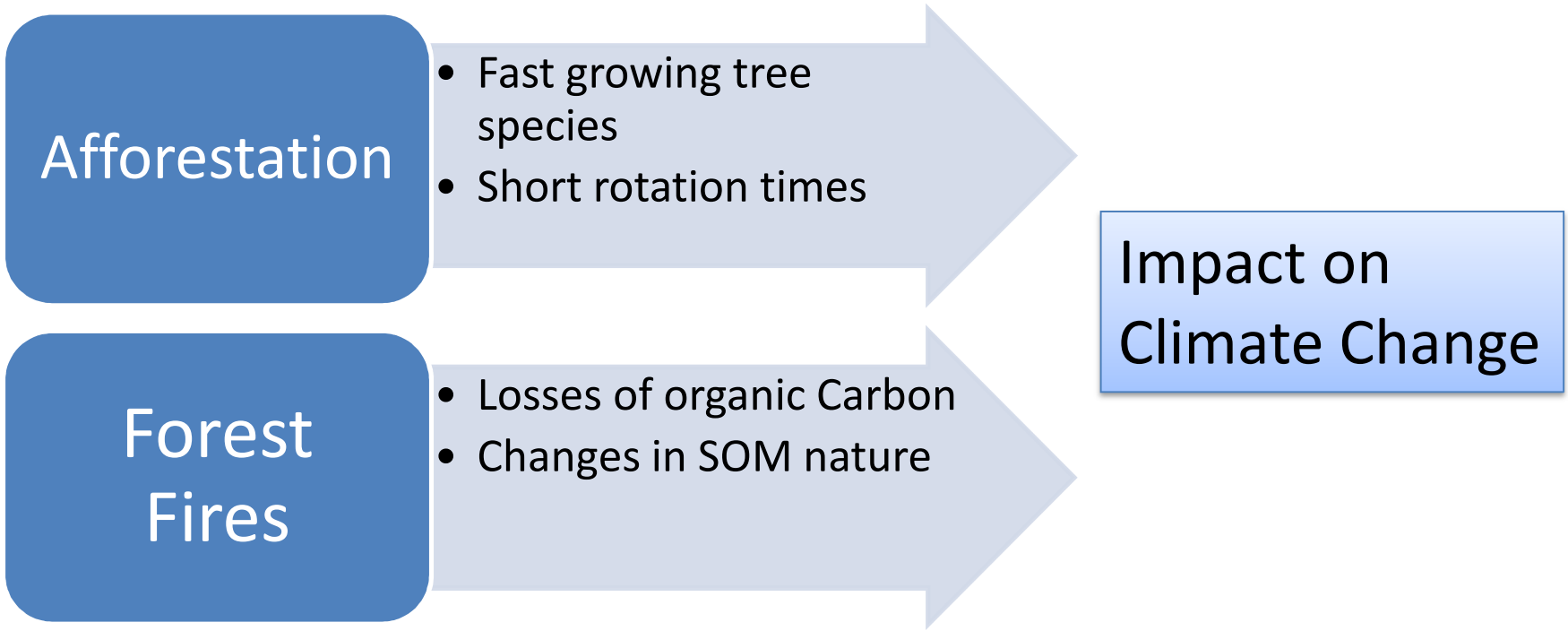


GALICIA:
Forest management

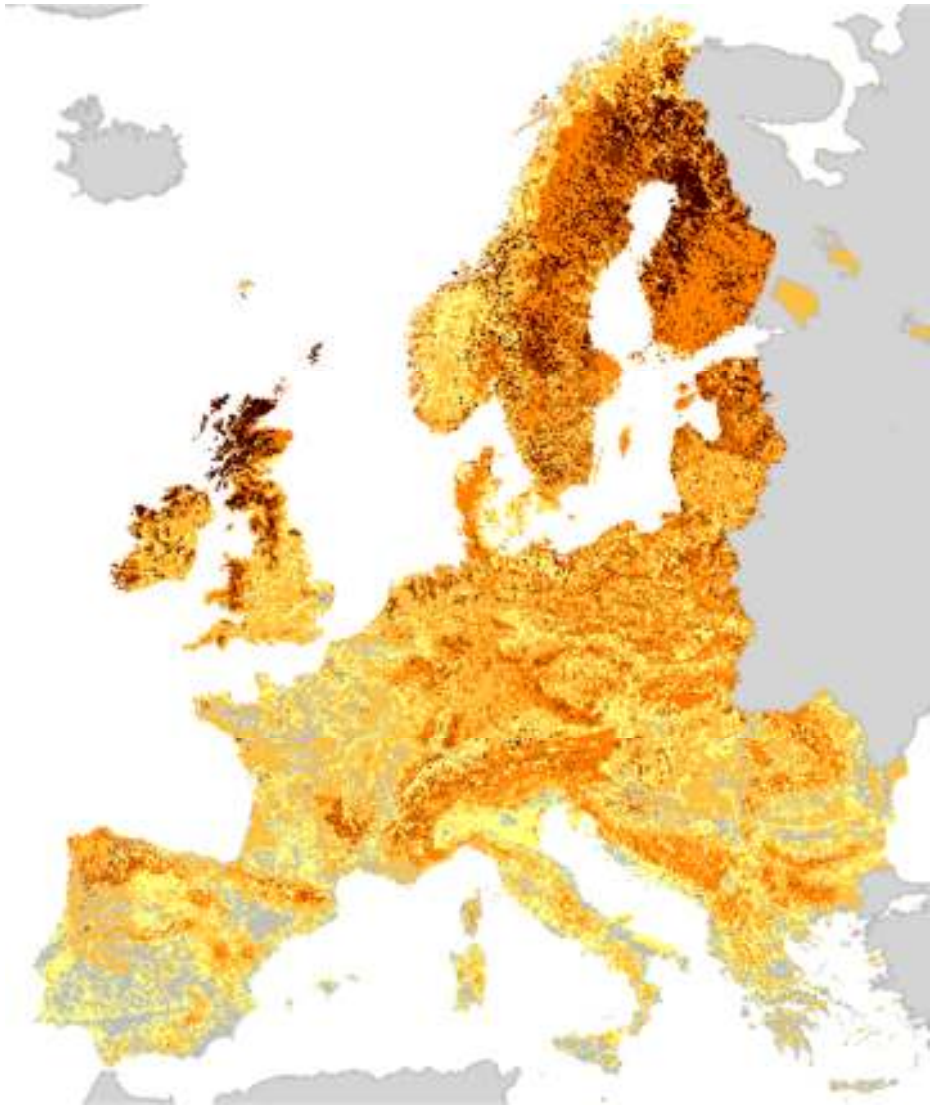
- Privada Particular
- Privada Vecinal
- Pública

The Forestry autonomous administration manages approximately 1 of each 5 forestry has

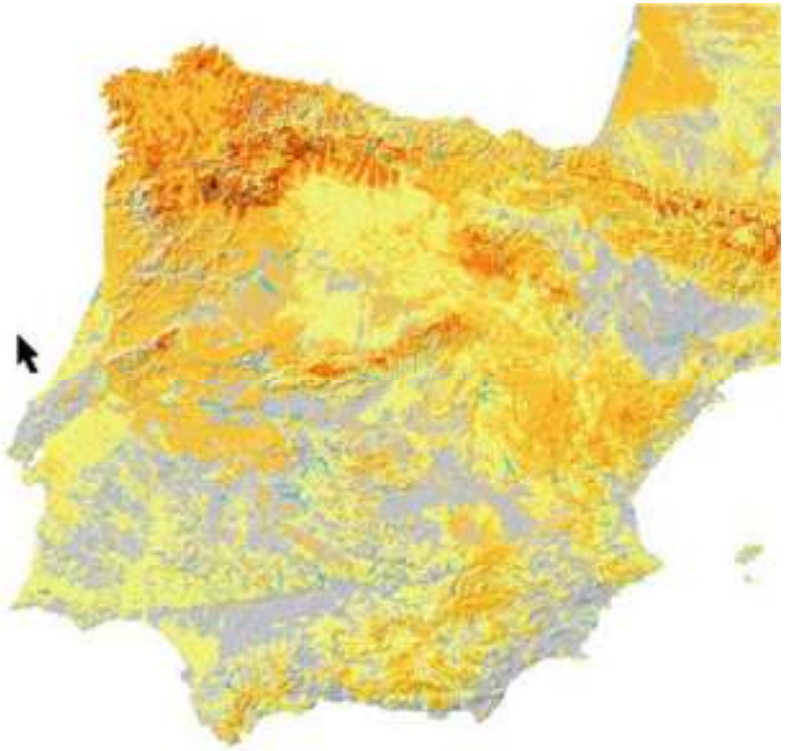
Main reasons of soil degradation:



Galician soil properties



Jones et al 2003. The map of organic carbon in top soils in Europe. Version 1.2



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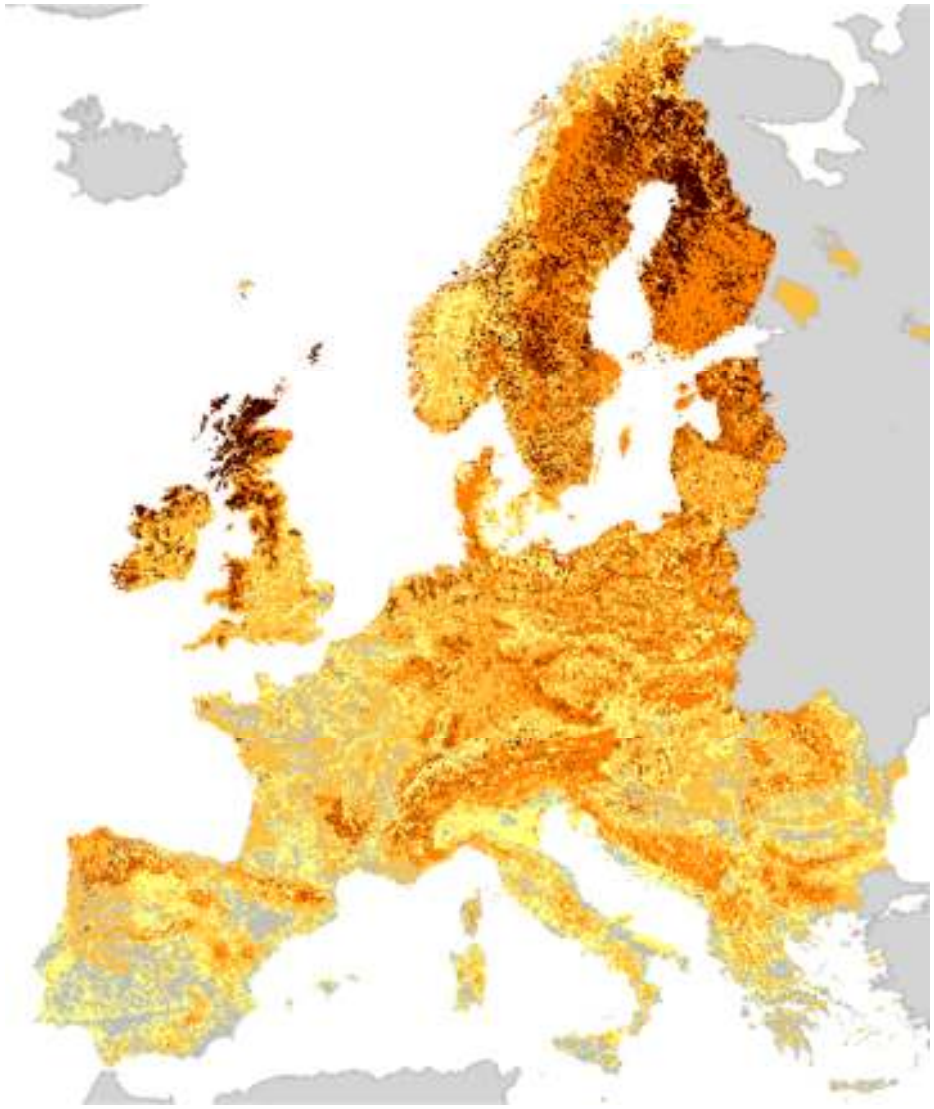

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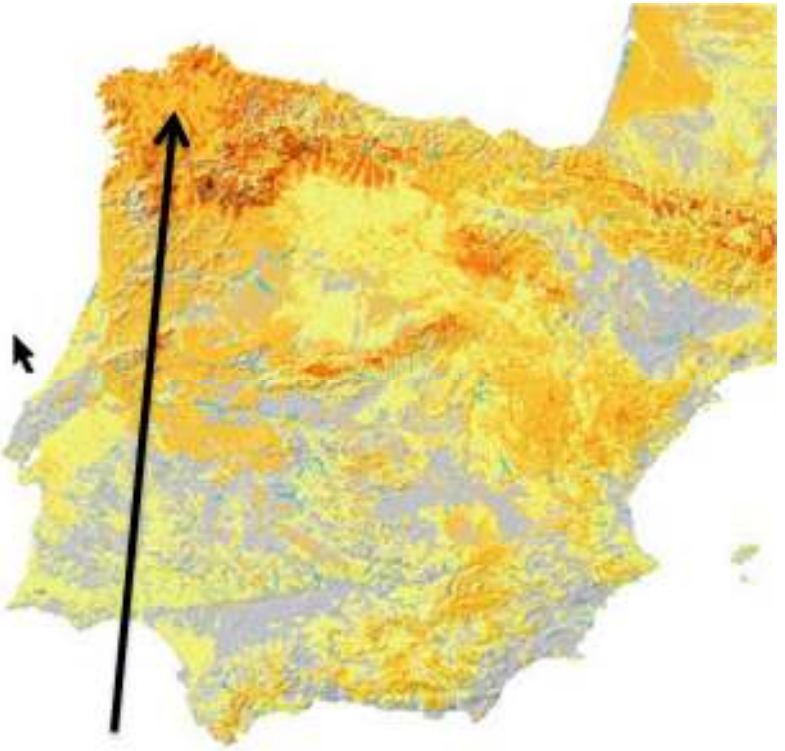

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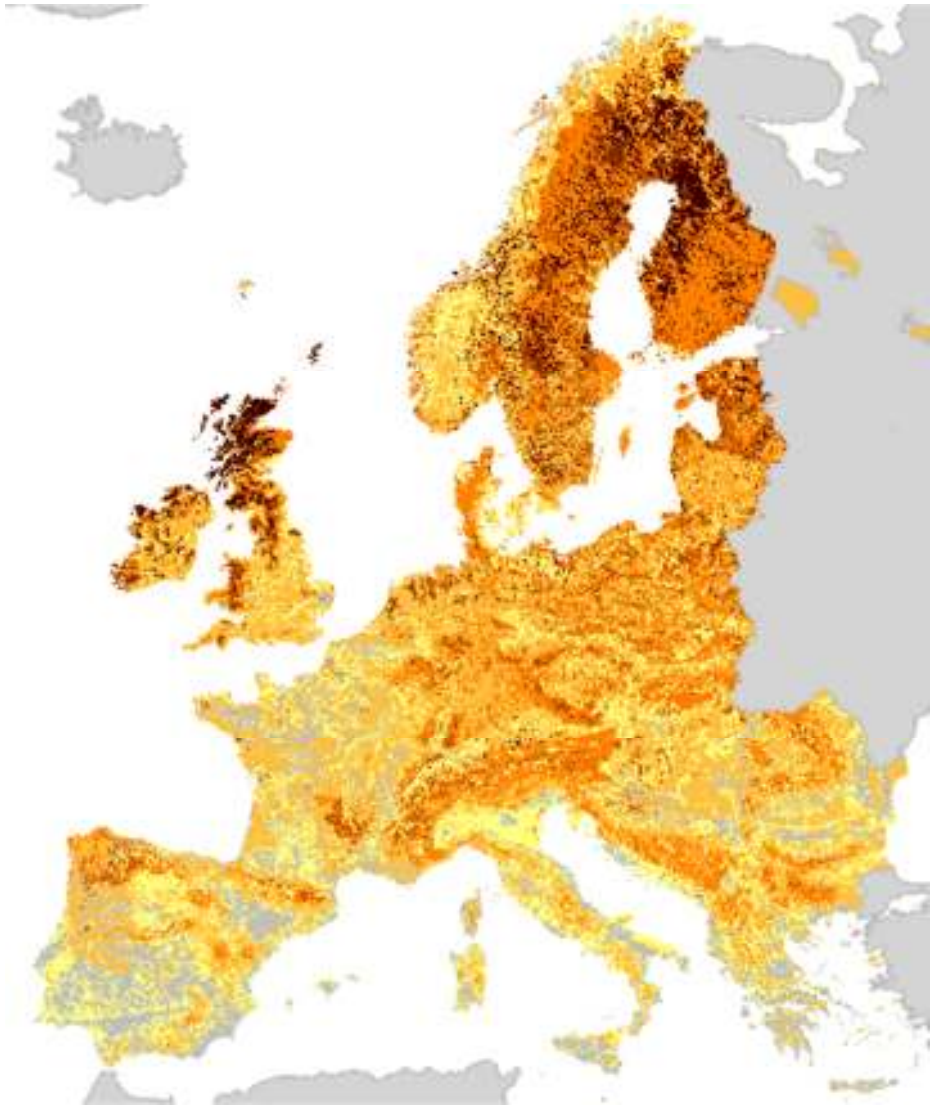

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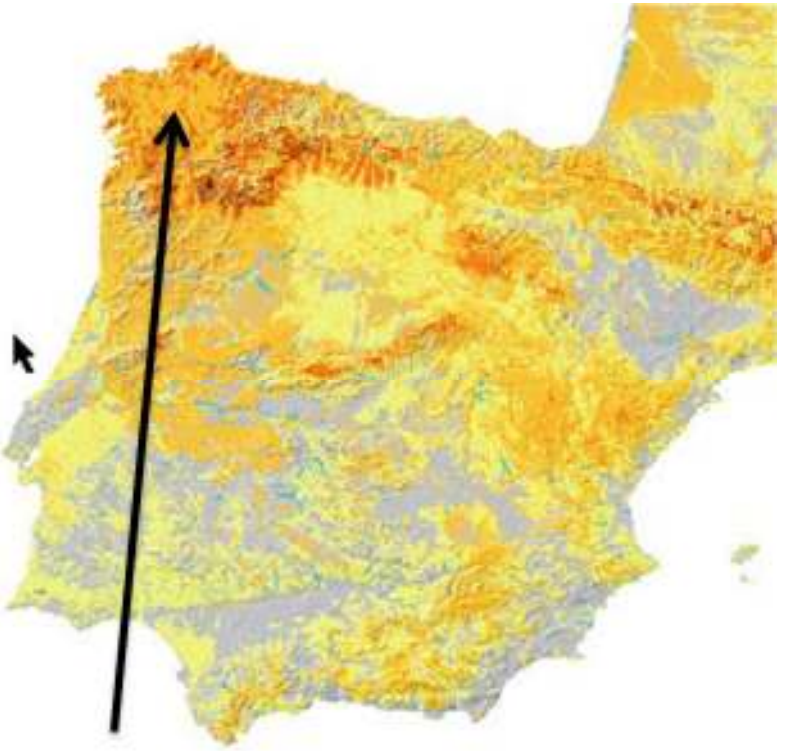
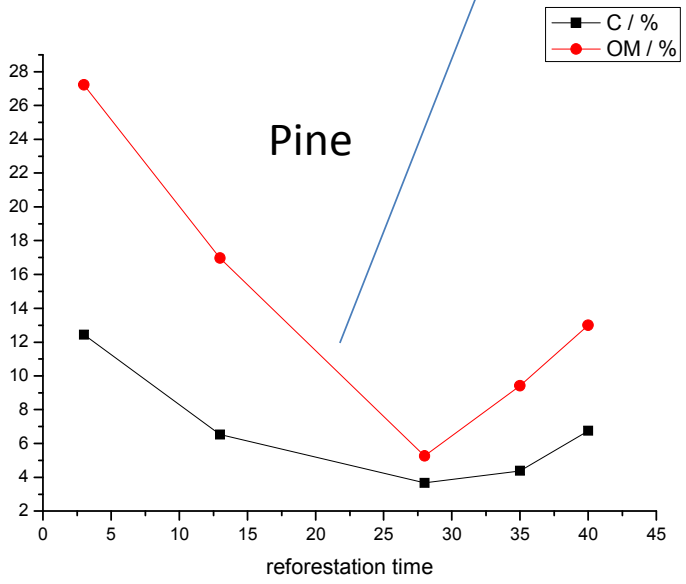


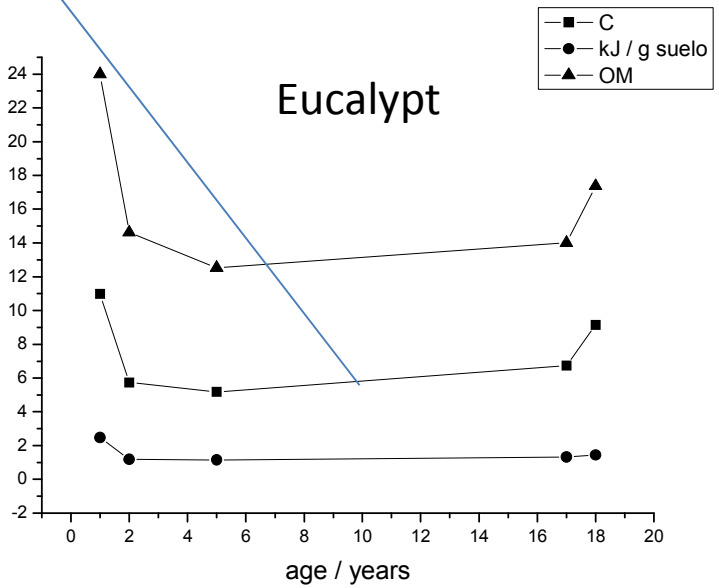
C percentages in Galicia are considered High (5-10 % but can be even higher than 12 %)

Effect of afforestation with fast growing tree species:

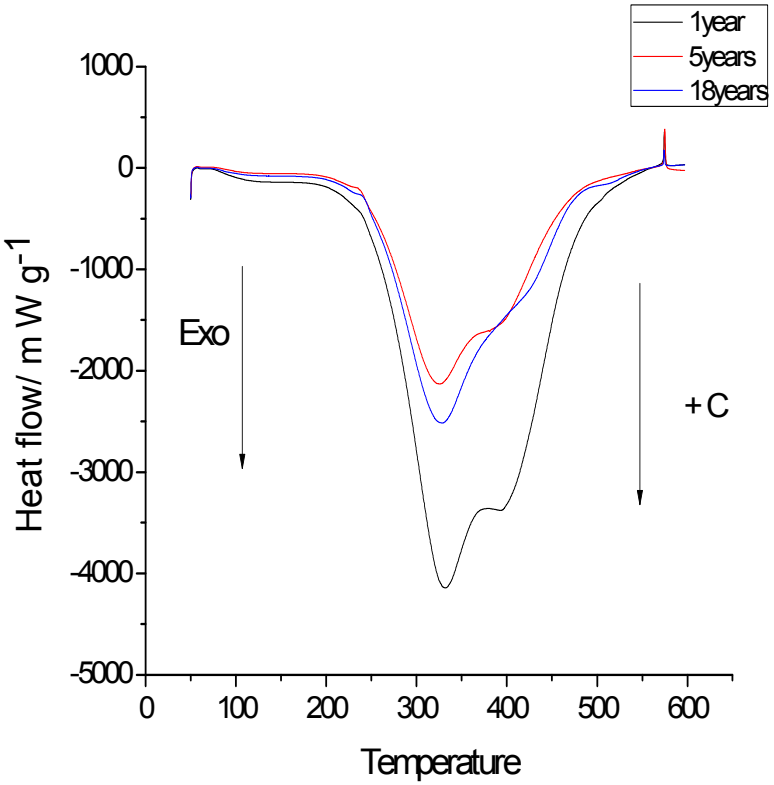
50-60 % of initial carbon is lost through soil microbial metabolism during the first years after afforestation

CO2





C losses through microbial metabolism is accompanied by changes in the SOM nature affecting C mineralization and C balances.



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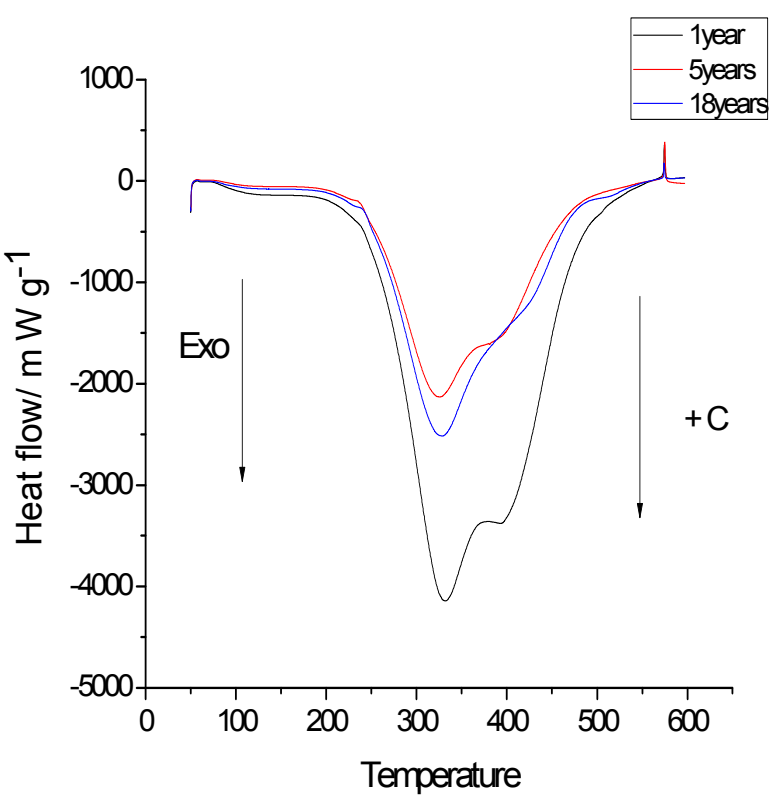
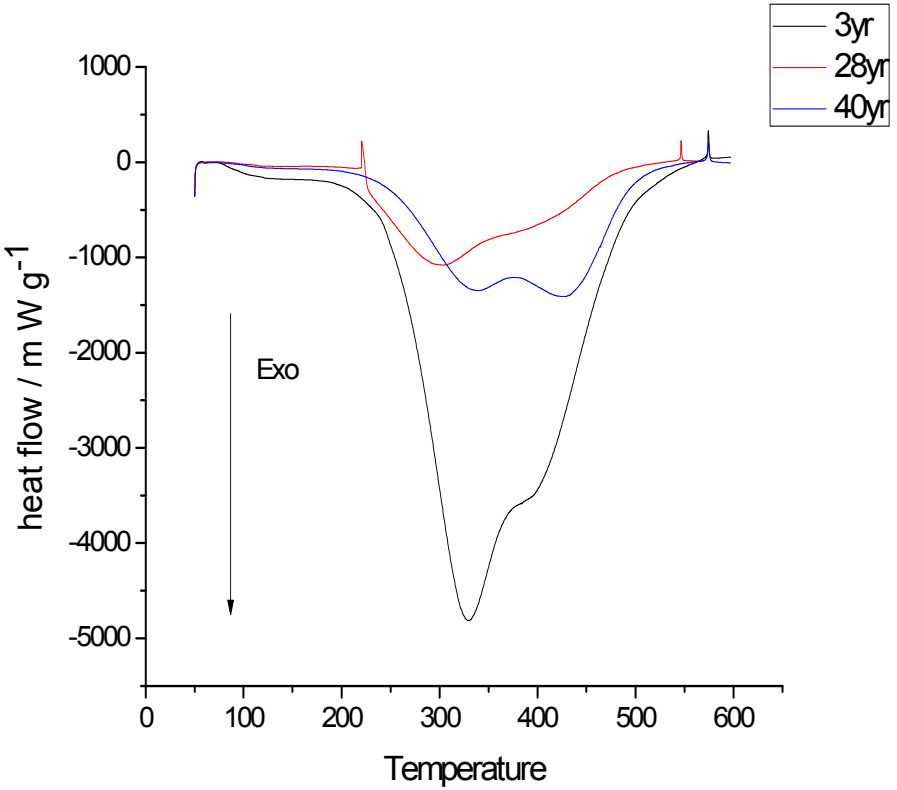
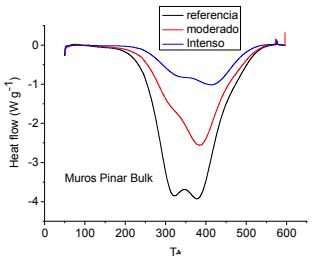


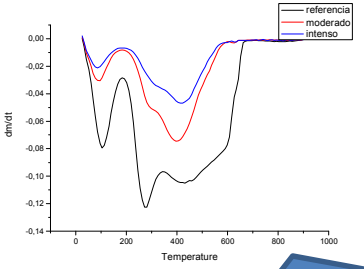


Effect of fires on soil in Galicia: In Spain, an average number of 20.887 fires pear year were registered during the period 1996-2005. 50 % took place in Galicia.

CO2

50-60 % of C depending on fire severity





Assessesment of Post-fire SOM nature and evolution

Prevention of erosion inmediatelly after fire

Most adequate Post-fire treatments

Re-balances Global C

Future trends and trendy topics

- Forestry management:

To control soil compacting

To control C losses by election and development of adequate fertilizers.

Avoid erosion

- To keep and improve soil fertility

Temporal monitorization of C pools through landscape units (maps of C pools and fluxes)

Better knowlegde about SOM properties in Galicia: Development of technology and procedures.

- Fires:

Adequate post-fire treatments based on fire severity, type of soil, and properties of the terrain affected.