**Title and acronym of the project**

REINFFORCE: REsource INFrastructure for monitoring and adapting European Atlantic FORests under Changing climatE

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**Project logo**



**Thematic area**

Tree species adaptation to climate change

**Funding Programme**

Interreg IVB Atlantic Area

**Implementation period**

2009-2013

**Coordinator**

EFIATLANTIC

**Countries involved**

France, Spain, United Kingdom, Portugal

**Source of information (link)**

<http://www.iefc.net/newsite/sitereinfforce/es/>

**Project overview**

This project set up a network of 38 arboreta from 37° to 56° N latitude, in order to monitor developments in climate change and to test the adaptation of different tree species and provenances. The focus was on species with an economical interest that can cope with actual and future oceanic climate in Europe. In all arboreta a minimum of 36 trees of the same species and 3 provenances per species can be found.

The main objective of the network of arboreta is to improve our understanding of species’ capacity to cope with future climate by planting the same genetic material under 38 different climates. Forest growth, health and phenology are monitored.

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**Results**

38 arboreta had been established and harmonized protocols for growth, health and phenology developed.

Monitoring for the first 4 years has been successful and as a result the network published the first results in: Correia HA et al. 2018. Early survival and growth plasticity of 33 species planted in 38 arboreta across the European Atlantic area. Forests 2018, 9(10), 630; doi:10.3390/f9100630

Species that showed the greatest variation in survival and growth in response to climatic variation included *Betula pendula*, *Pinus elliottii*., and *Thuja plicata*, and those that were least affected included *Quercus shumardii* and *Pinus nigra*. We also demonstrated that provenance differences were significant for *Pinus pinea*, *Quercus robur*, and *Ceratonia siliqua*.