

# Trees for the Future

Richard Jinks

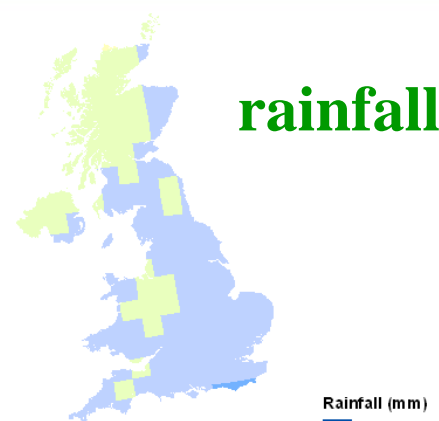
Centre for Forest Resources and Management  
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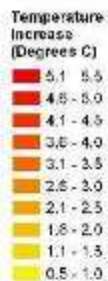
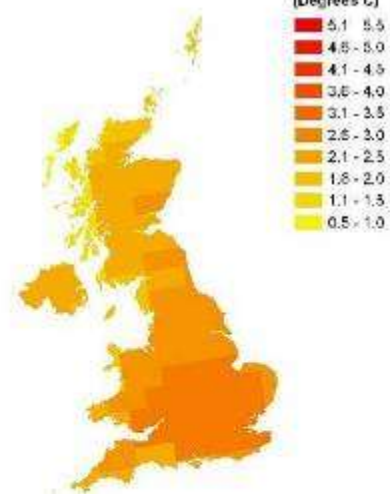
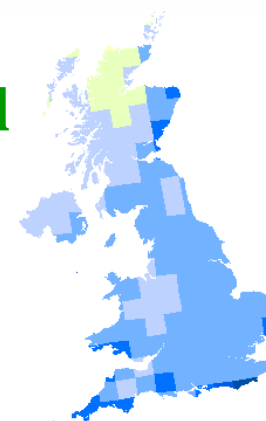
temp



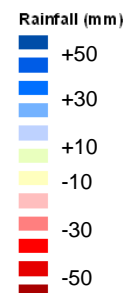
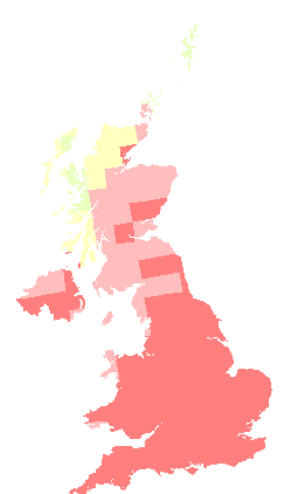
winter



rainfall



summer



Low (B2) scenario

High (A1FI) scenario

Low (B2) scenario

High (A1FI) scenario

Source: Hulme et al. (2002). UKCIP02 climate change scenarios.

Drought



Also









*Phytophthora ramorum*



Dothistroma needle blight

Substitute and contingency species



## Diversity is key to woodland adaptation

- species
- genetics within species
- stand structure
- age structure

## Diversity is key to woodland adaptation

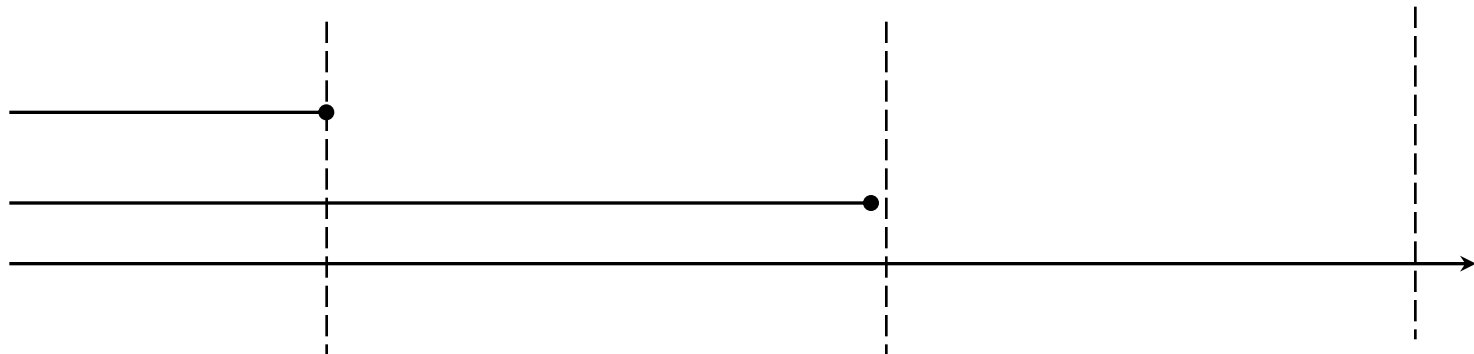
- species
- genetics within species
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Introduction

1. Specimen

2. Plot

3. Plantation





## A Major species

Currently widely used

## B Minor species

Reasonably well trialled or previous minor use

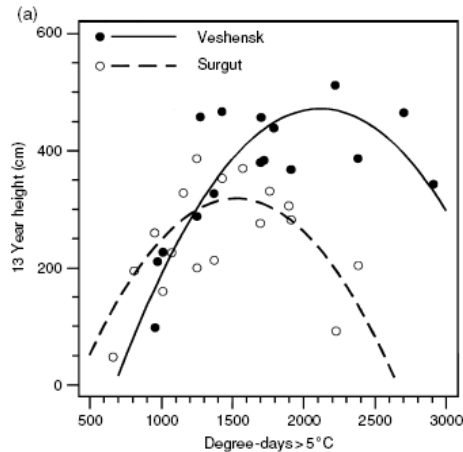
## C Potential species

Little used in forestry, but specimen growth and other information suggest worth further experimentation.



Aim: establish a network of 37 'arboretums' along the Atlantic region of Europe, containing the same 3 provenances of 30 species.

- Determine responses to climatic variables and events



Rehfeldt et al. 2002. Global Change Biology

- Test our existing provenances in warmer climates
- Access to new species and provenances

*Abies cephalonica*  
*Acer pseudoplatanus*  
*Betula pendula*  
*Calocedrus decurrens*  
*Castanea sativa*  
*Cedrus atlantica*  
*Cedrus libani*  
*Ceratonia siliqua*  
*Cupressus sempervirens*  
*Fagus orientalis*  
*Larix decidua*  
*Liquidambar styraciflua*  
*Pinus brutia*  
*Pinus nigra*  
*Pinus pinaster*  
*Pinus pinea*

*Pinus ponderosa*  
*Pinus sylvestris*  
*Pinus taeda*  
*Pseudotsuga menziesii*  
*Quercus petraea*  
*Quercus robur*  
*Quercus suber*  
*Robinia pseudoacacia*  
*Sequoia sempervirens*  
*Pinus elliottii*  
*Pinus peuce*  
*Thuja plicata*  
*Cunninghamia lanceolata*  
*Eucalyptus globulus/Gundal/nitens*  
*Quercus ilex/rotundifolia*  
*Quercus rubra/phellos*



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*Quercus rubra/phellos*



*Ceratonia siliqua*  
Carob



*Quercus suber*  
Cork oak

Examples:



*Pinus pinaster*  
Maritime pine



*Cedrus atlantica*  
Atlantic cedar



*Pinus peuce*  
Macedonian pine



*Sequoia sempervirens*  
Coast redwood



Examples:



*Picea orientalis*  
Oriental spruce



*Cryptomeria japonica*  
Japanese red cedar



*Pinus radiata*  
Monterey pine





## Trees for the Future

Thank you.



