COST ACTION FP 0703

Echoes: Expected Climate cHange and Options for European Silviculture

Country Report: Major points

United Kingdom

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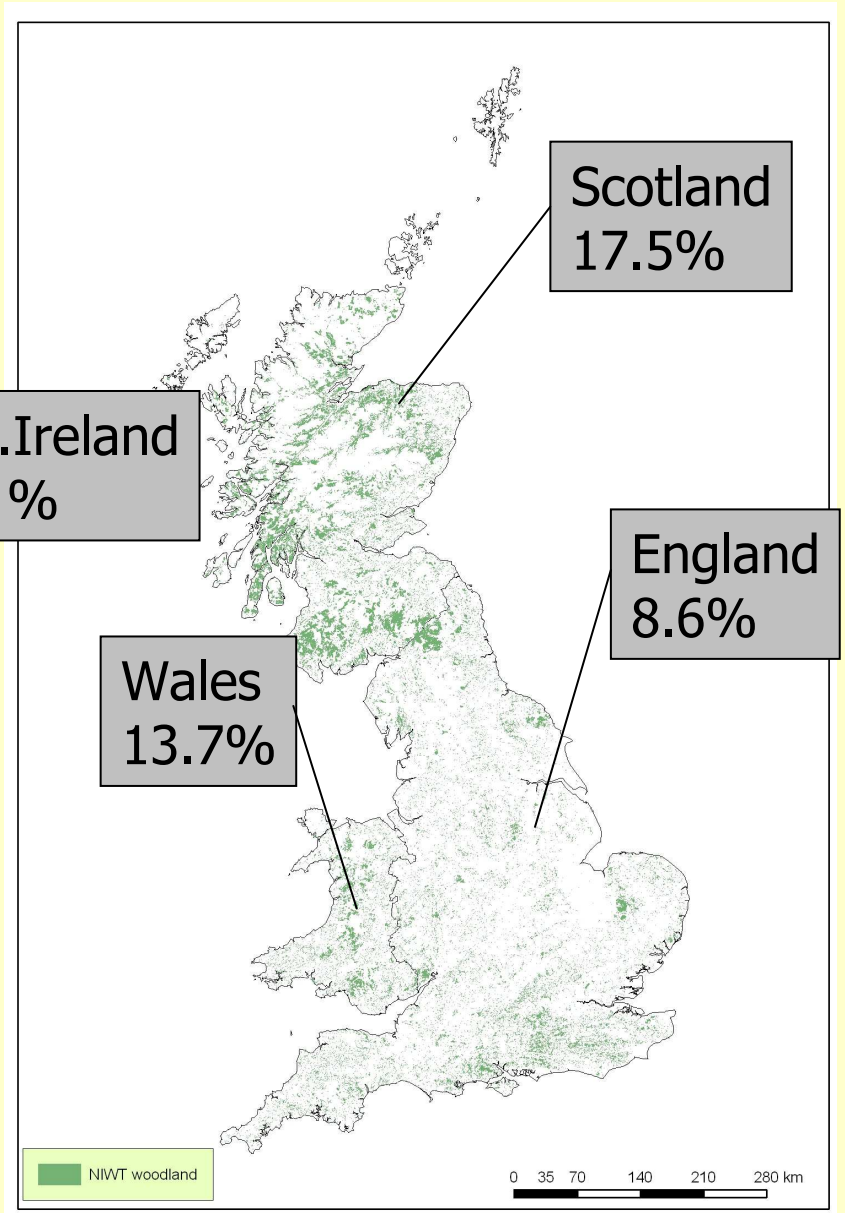
Forest area of UK



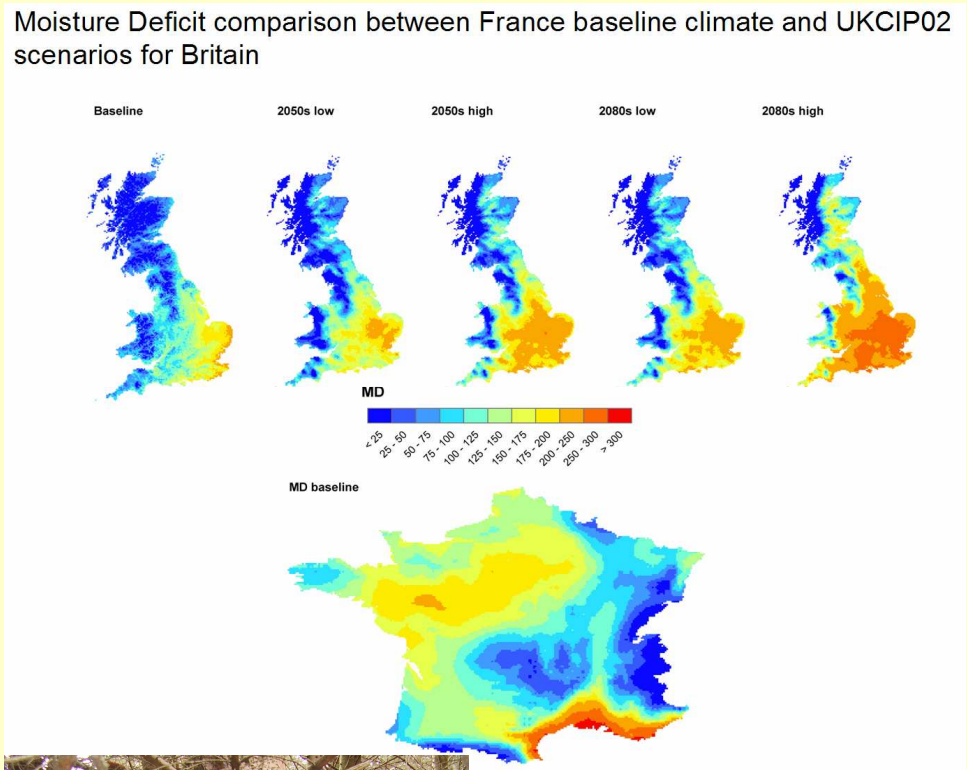
Year	Forest Cover
1924	5%
2007	11.9%

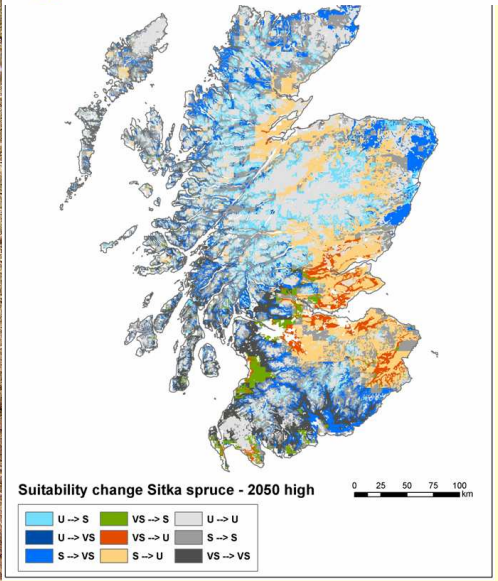
Forest area	*2.84 M ha*
Conifers	58% = 9 M m^3 yr^{-1}
Broadleaves	42% = 0.4 M m^3 yr^{-1}

Climate Change Publications: 2000 to present

Impacts

- Milder winters – Warmer summers – Inc. CO2
  - Earlier budburst – later bud set
  - Increased growth in warmer and wetter summers
- Wetter winters – Drier summers
  - Winter water logging, summer drought – abiotic damage, reduced growth in dry summers
  - Biotic damage, reduced growth + increased mortality
  - Reduced tree stability
  - Increased incidence of fire
  - Slope stability, soil erosion, water quality
- Changing suitability – Ecological Site Classification
  - Biophysical suitability model
  - Main drivers being drier summers and wetter winter soils



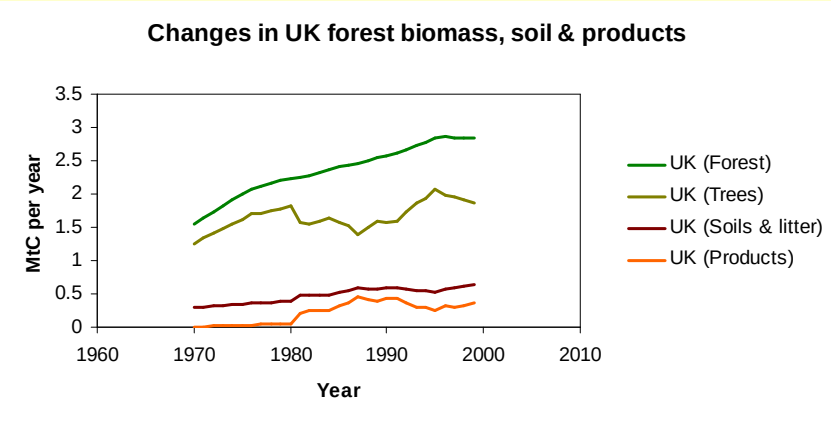


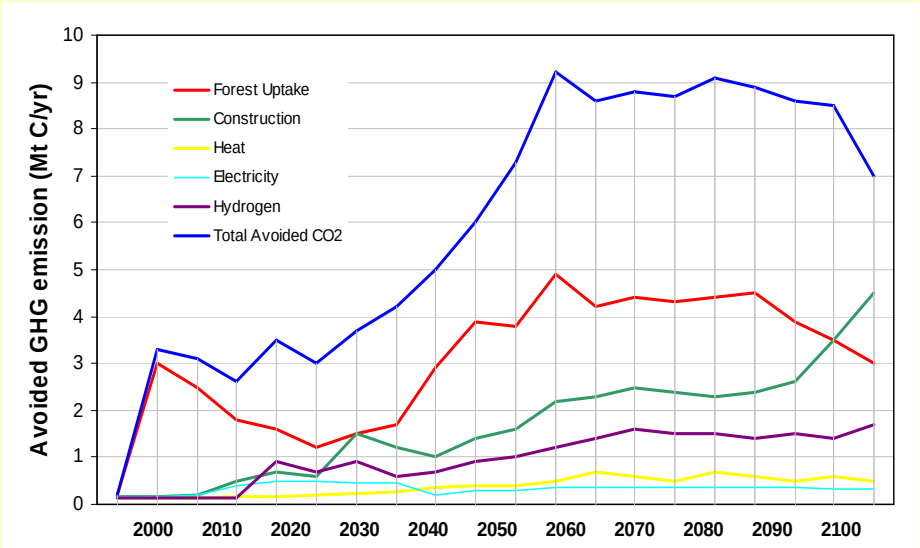
Adaptation

- Spread risk and increase resilience of existing stands
  - Greater use of mixtures;
  - More dynamic silviculture;
  - More diverse stand structures
- Adopt shorter rotations
  - Accelerated tree breeding;
  - More deployment of improved (conifer) genotypes;
  - Timber products from trees with more juvenile wood.
- Improved support tools
  - Better growth and yield models;
  - Decision support systems.

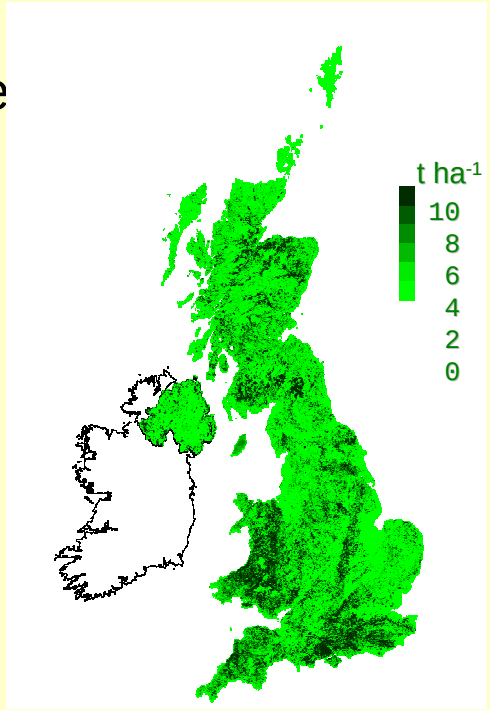
Mitigation

- Maintaining/increasing C pools (also soil)
- Reforestation & forest management to enlarge CSS
- Short rotation forestry
- Using wood for fuel: C neutral, effective, reliable, sustainable & cheap (1m^3 wood used instead of coal avoids 0.2tC)
- Wood products: 1m^3 timber to replace V of bricks/concrete avoids 1-2 tC emissions

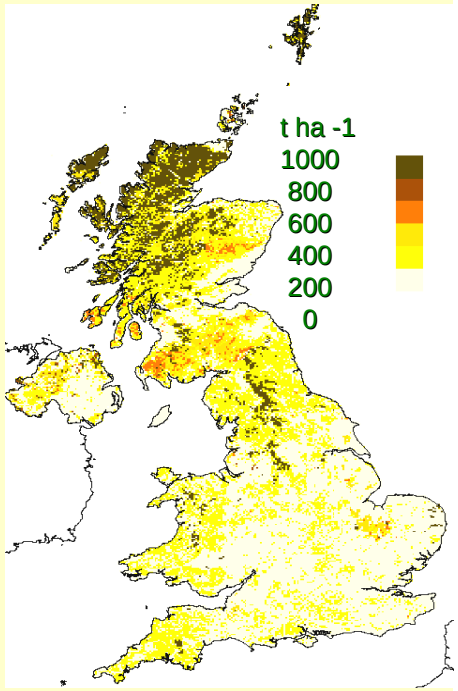




(Tipper et al., 2004)



Vegetation Carbon



Soil Carbon

(MLURI, 2000)

Conclusions

- Need for continuing and consistent knowledge transfer;
- Closer research-policy-practice interface;
- Practical guidance and decision tools;
- Understand foresters' perceptions of climate change;
- Appreciate foresters' time horizons and their willingness to act;
- Design effective incentives for adaptation/mitigation;
- Consider an appropriate regulatory structure.