

Cumulative N deposition in the UK - a historic perspective

Carnell, E.J.¹, Tomlinson, S.J.¹, Dore, A.J.¹,
Misselbrook, T.H.², Tipping, E.³ and Dragosits, U.¹

¹ NERC Centre for Ecology & Hydrology, Bush Estate, Penicuik, Midlothian EH26 0QB

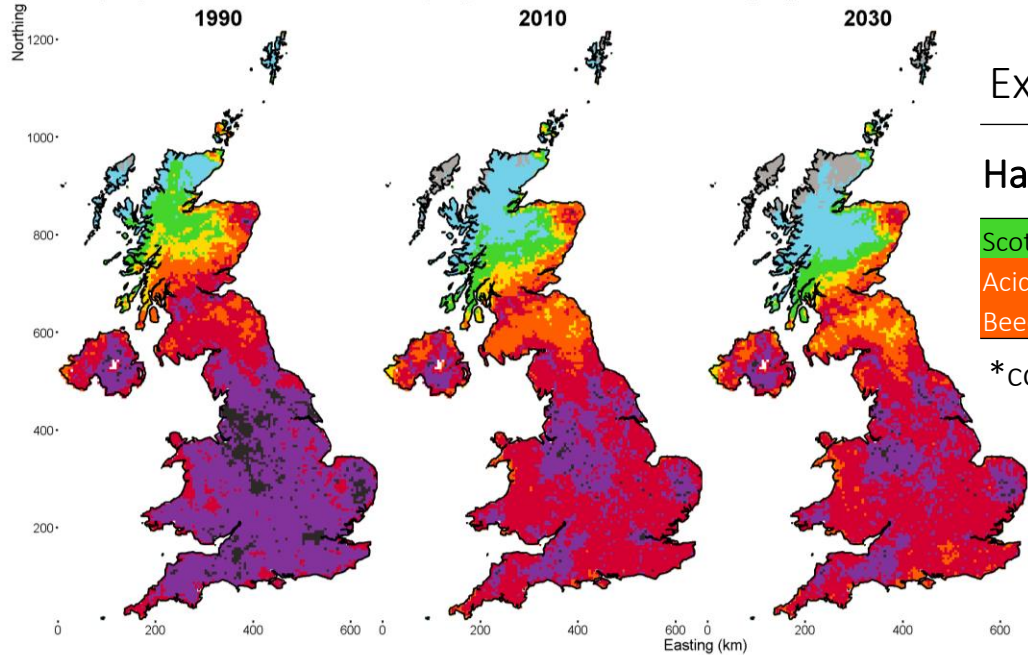
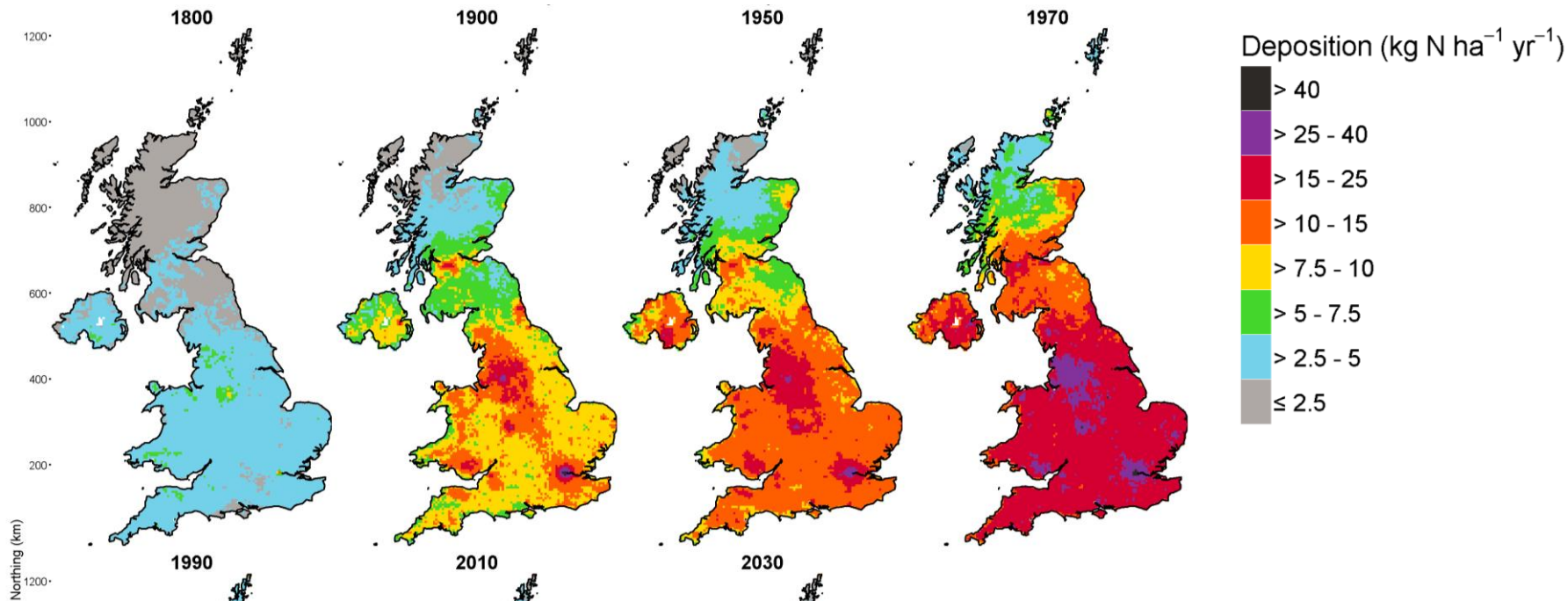
² Rothamsted Research, North Wyke, Okehampton, Devon EX20 2SB

³ NERC Centre for Ecology & Hydrology, Lancaster Environment Centre, Library Avenue, Bailrigg, Lancaster, LA1 4AP

edcarn@ceh.ac.uk



N deposition to woodland features



Exceedance of critical loads

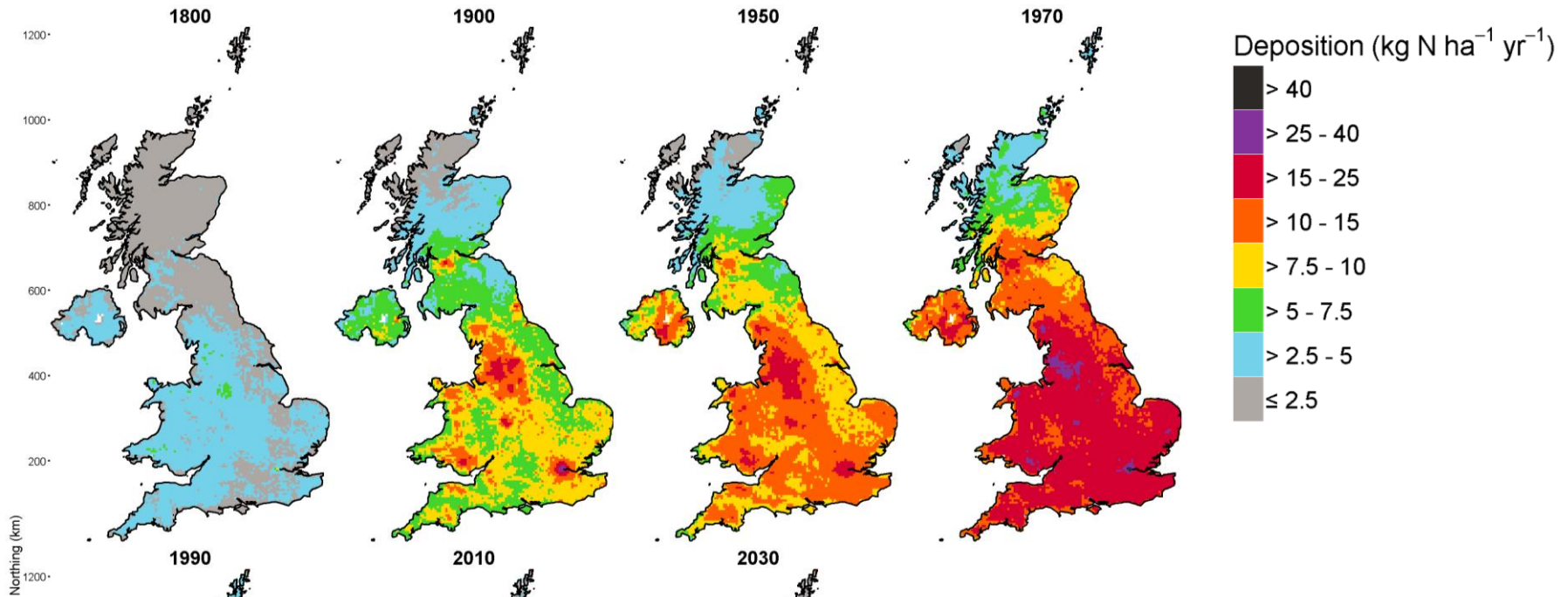
Habitat type

CL range
($\text{kg N ha}^{-1} \text{ year}^{-1}$)

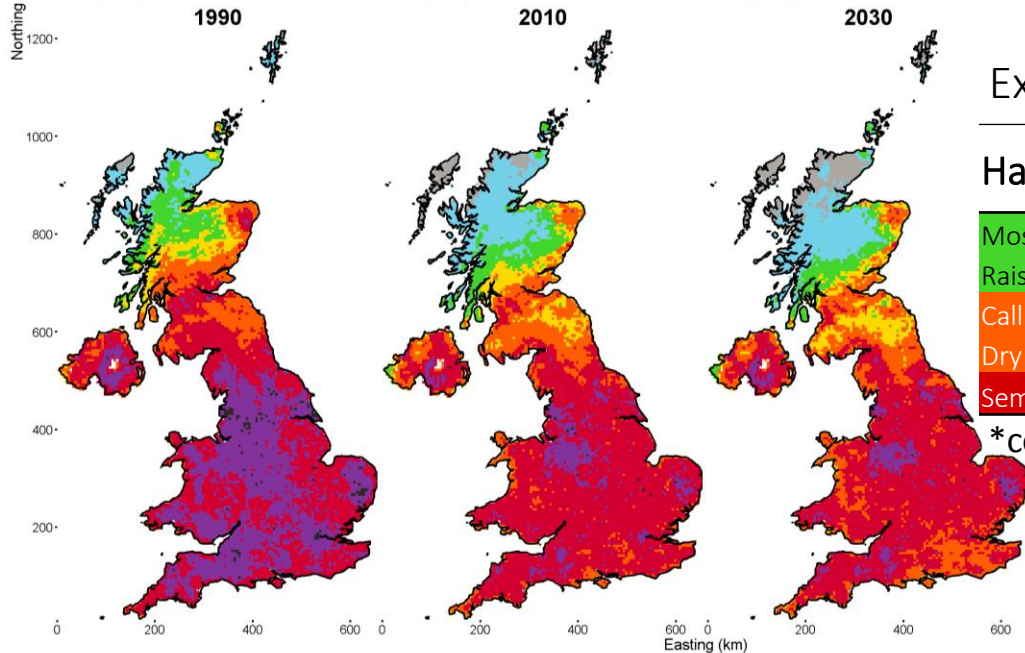
Scots Pine woodland	5 - 15
Acidophilous oak-dominated woodland	10 - 15
Beech woodland	10 - 20

*colour corresponds to the lower end of CL range

N deposition to low-growing semi-natural features



Exceedance of critical loads



Habitat type

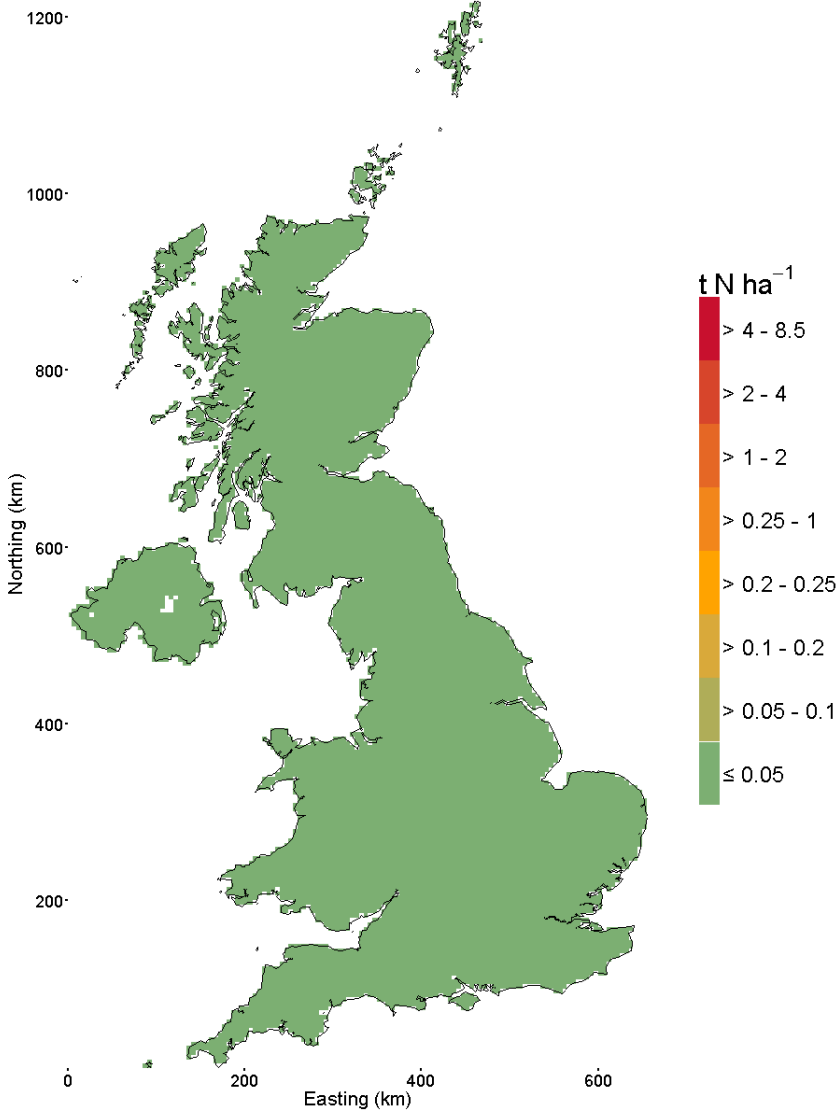
Habitat type	CL range ($\text{kg N ha}^{-1} \text{ year}^{-1}$)
Moss & lichen dominated mountain summits	5 - 10
Raised & blanket bogs	5 - 10
Calluna heaths	10 - 20
Dry heaths	10 - 20
Semi-dry calcareous grassland	15 - 25

*colour corresponds to the lower end of CL range

Cumulative N Deposition (1800 – 2010)

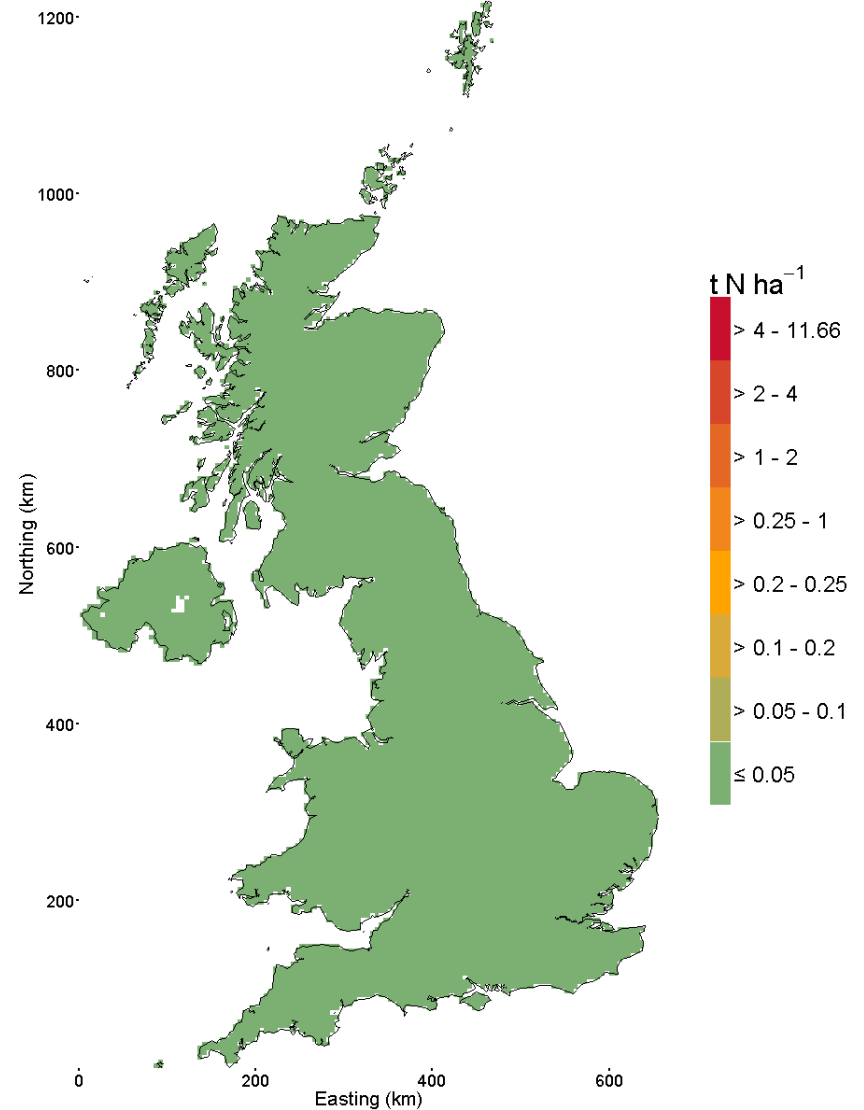
Low-growing semi-natural features

1800



Woodland features

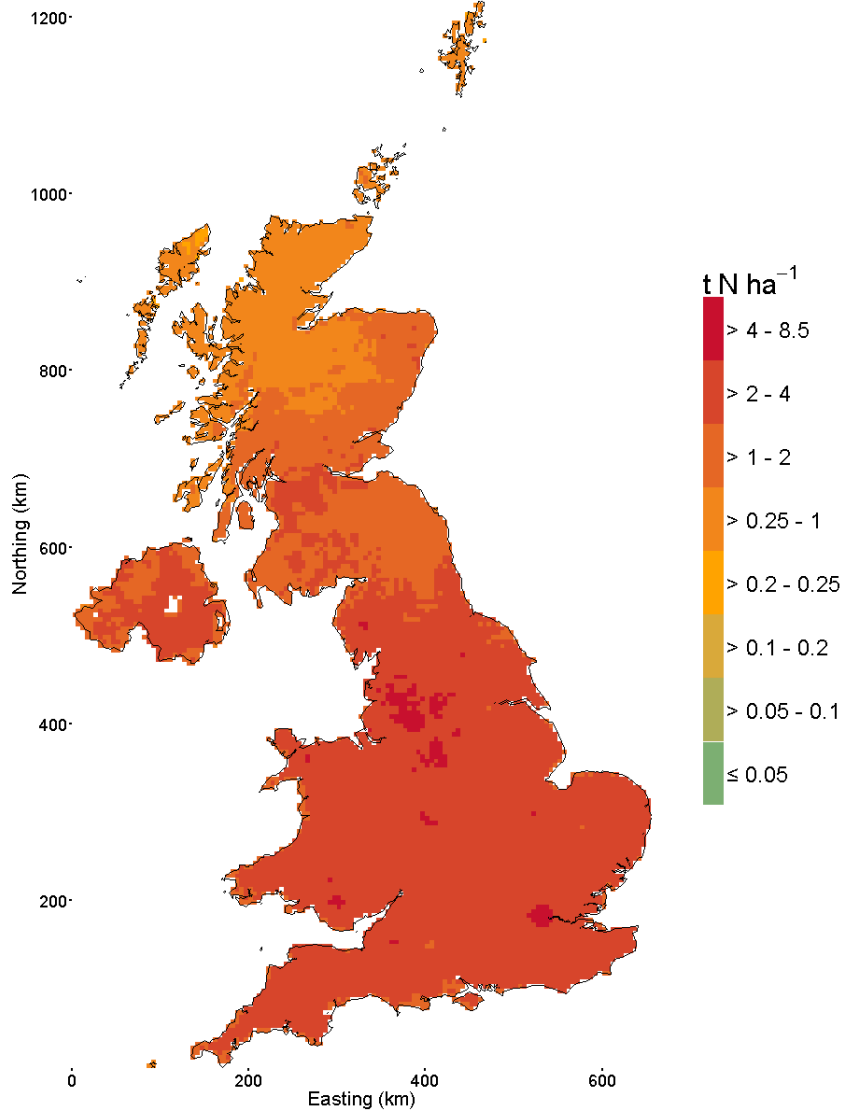
1800



Cumulative N Deposition (1800 – 2010)

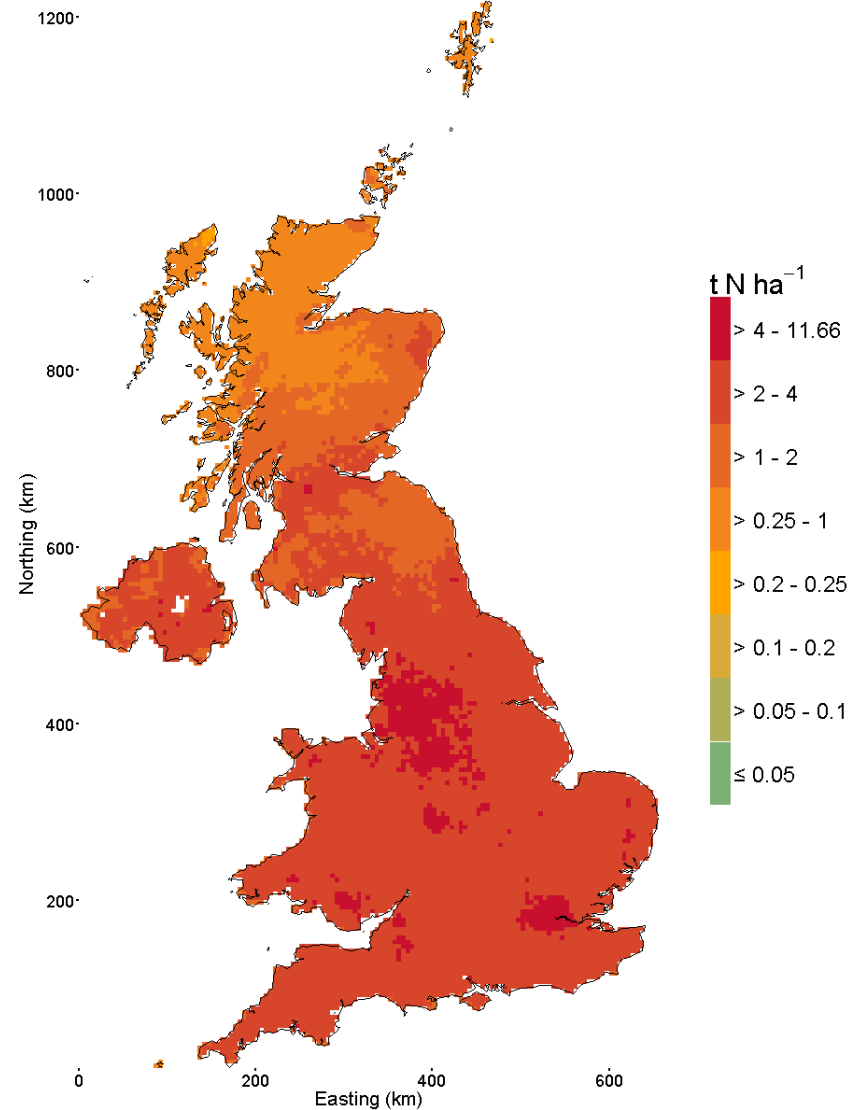
Low-growing semi-natural features

2010



Woodland features

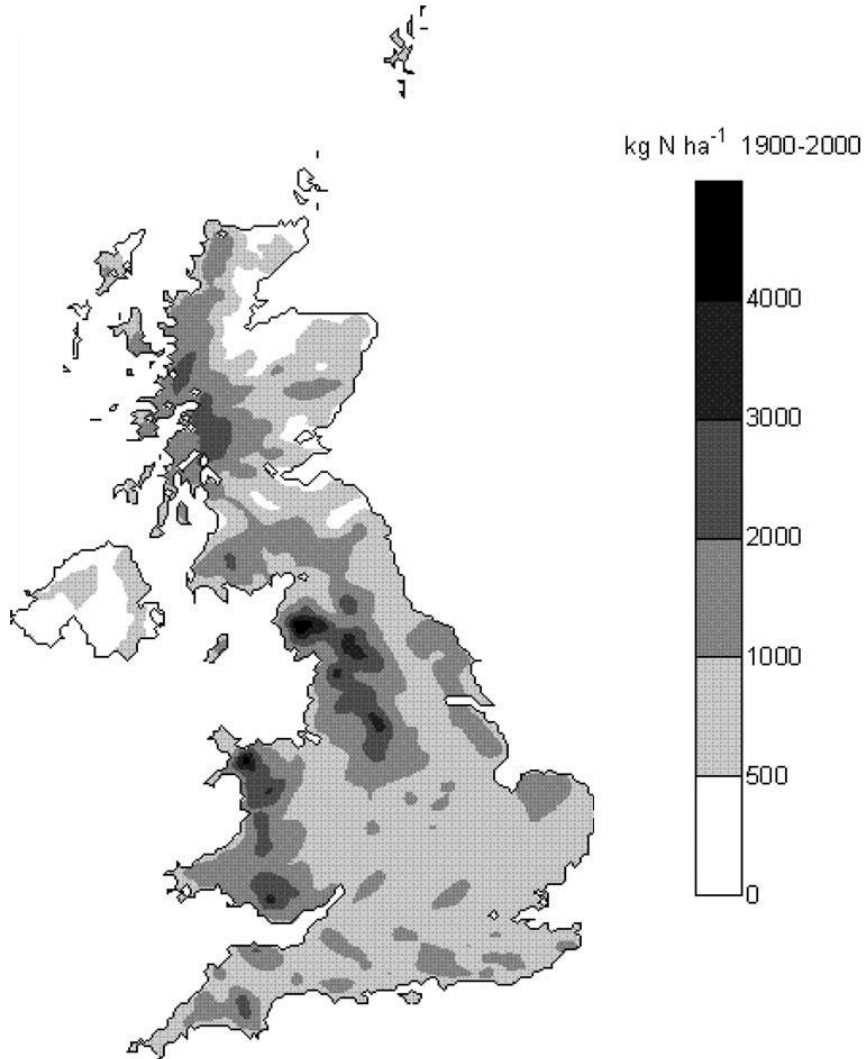
2010



Accumulation of N Deposition (1900 – 2000)

Fowler *et al.* 2004

Total 29 Mt N deposited



Current project

Total 31 Mt N deposited

