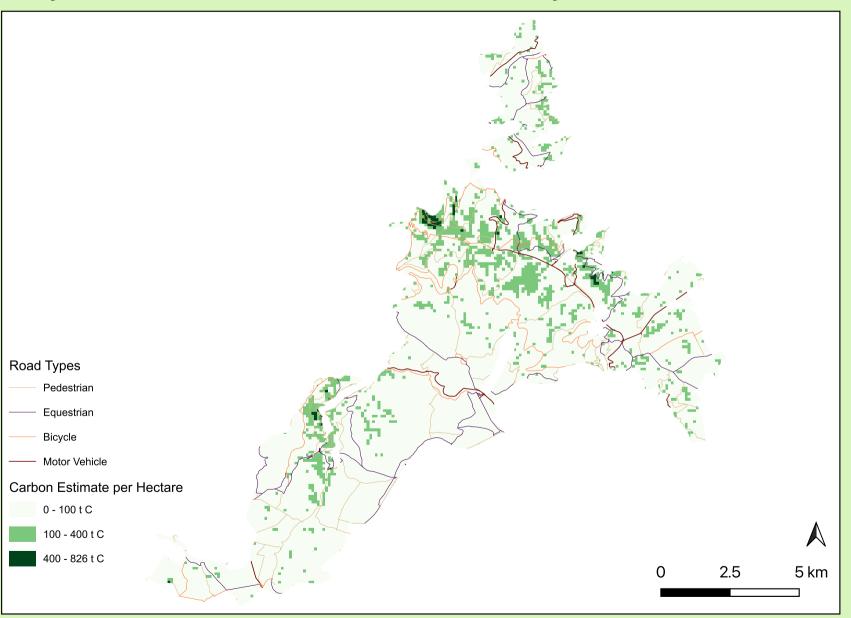# Tree Carbon Stock Estimation (in Relation to Road Type Distance)
Study Case: Eifel National Park, Germany

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Projection: EPSG:25832
Source: geoportal.nrw

Estimation method:
1. Combining different species-specificallometric equations to calculate above-ground biomass (AGB) using only diameter at breast height (DBH) and tree height (H):
$AGB = AGB = 0.04 \times DBH^{2.42} \times H^{1.125}$
2. Approximating diameter at breast height (DBH) by tree height
$DBH = \exp(-0.45 + 1.1 \times \ln(H))$
3. Approximating tree carbon by
kg C / tree = 0.5 AGB
Sources (see Readme):
Cienciala et al. 2005
Pretzsch 2009
Chave et al. 2014
IPCC 2006

Road Types

— Pedestrian
— Equestrian
— Bicycle
— Motor Vehicle

Carbon Estimate per Hectare

- 0 - 100 t C
- 100 - 400 t C
- 400 - 826 t C

0   2.5   5 km

Correlation of Tree Height and Access Types

	Tree Height	Pedestrian	Equestrian	Bicycle	Motor Vehicle
Tree Height	1.00	-0.07	0.11	-0.10	-0.07
Pedestrian	-0.07	1.00	0.05	0.07	0.02
Equestrian	0.11	0.05	1.00	-0.02	0.14
Bicycle	-0.10	0.07	-0.02	1.00	0.10
Motor Vehicle	-0.07	0.02	0.14	0.10	1.00

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