Forestry Commission

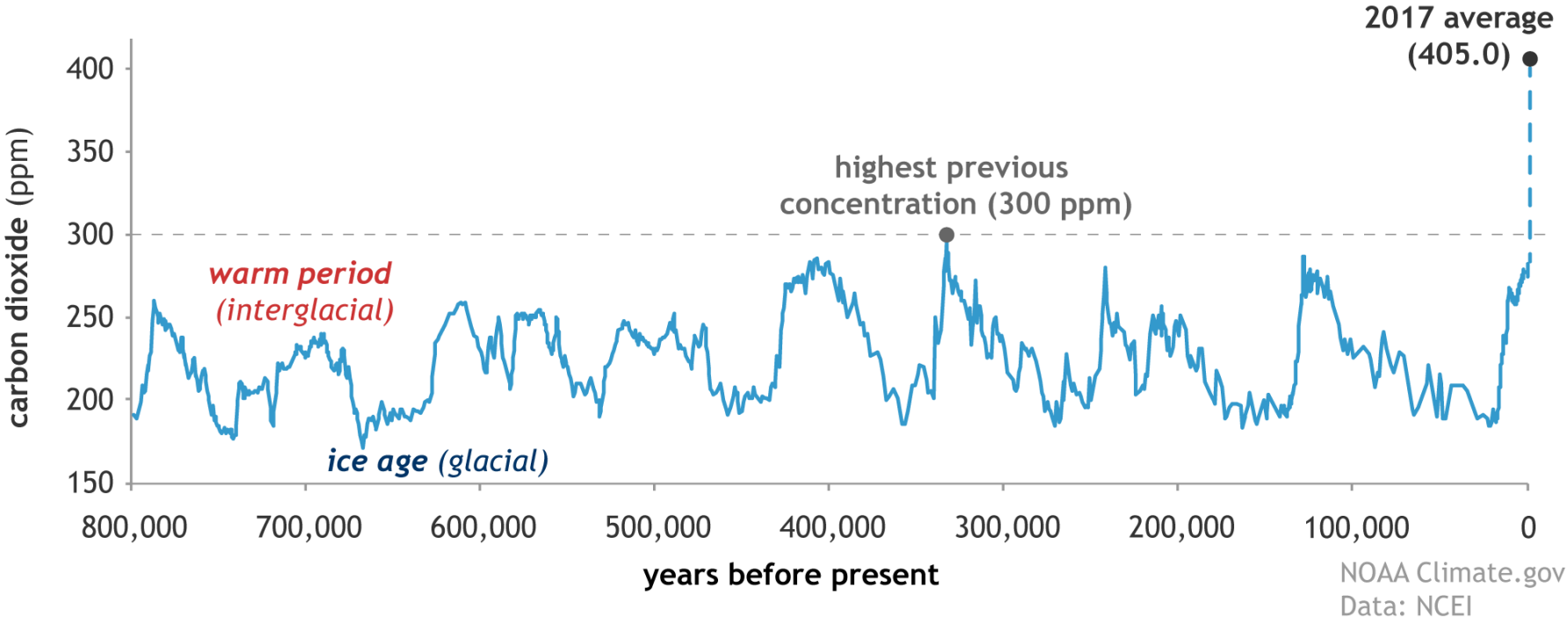
Trees for a Climate Emergency

Kate Tobin

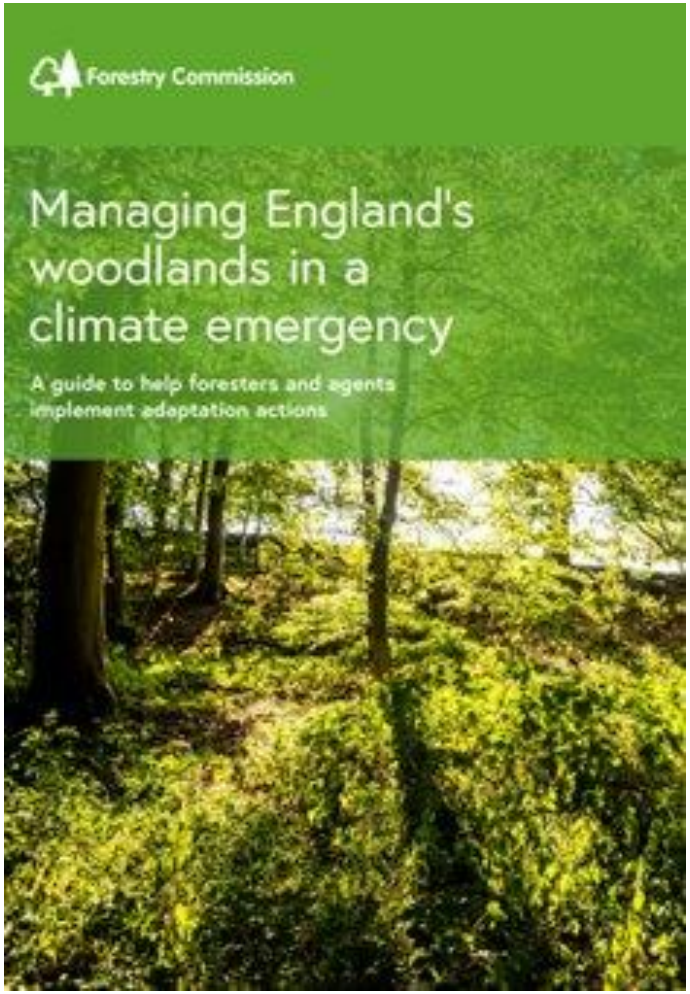
Local Partnership Advisor
South West Area Team

What Climate Emergency?

CO_2 during ice ages and warm periods for the past 800,000 years



What does this mean for trees?



- England's woodlands have developed in a stable and predictable climate
- Global warming is predicted to increase by 1°C within two decades and could rise by 10°C degrees in parts of England, esp S & E
- Winters are predicted to get wetter, and summers drier, with more frequent and severe periods of drought and intense rainfall
- It is probably that the rate of change is greater than our woods can adapt to without human action.

Carbon value of different habitats

Table 7 Carbon stock average estimates by broad habitat

Habitats	Carbon stock in soils (t Cha^{-1})	Carbon stock in vegetation (t Cha^{-1})
Dwarf shrub Heath	88	2
Acid grassland	87	1
Fen, mash and swamp	76	?
Bog	74	2
Coniferous woodland	70	70
Broad leaf, mixed & yew woodland	63	70
Neutral grassland	60	1
Improved grasslands	59	1
Arable and horticulture	43	1
Coastal margins (UK)	48	?

Natural England: Carbon storage by habitat 2012

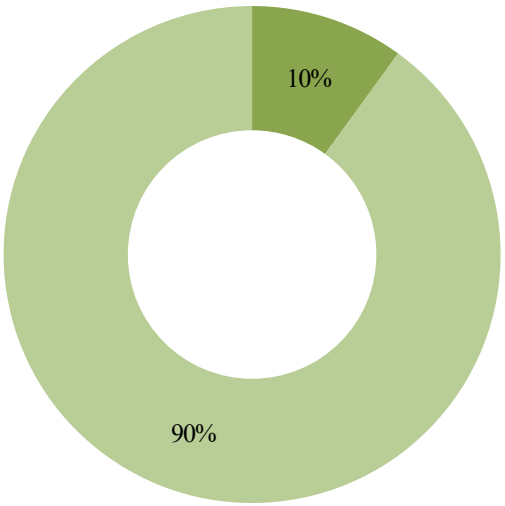
Rising Awareness

- 60% of councils in the UK have declared a climate emergency
- 32 local authorities in the South West have declared and are starting to take action

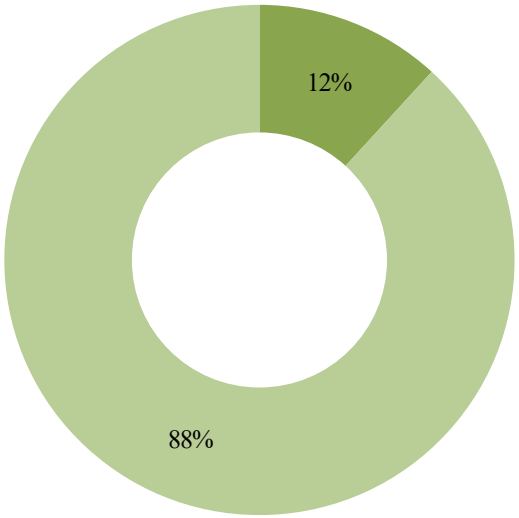
Example: Cornwall Council have created a "Forest for Cornwall" programme designed to create 8000ha of new woodland by 2030. They will restore trees and woodlands to the landscape at all levels – hedges, agro-forestry, urban trees & new woodlands, large and small, commercial and conservation.

Woodland cover statistics

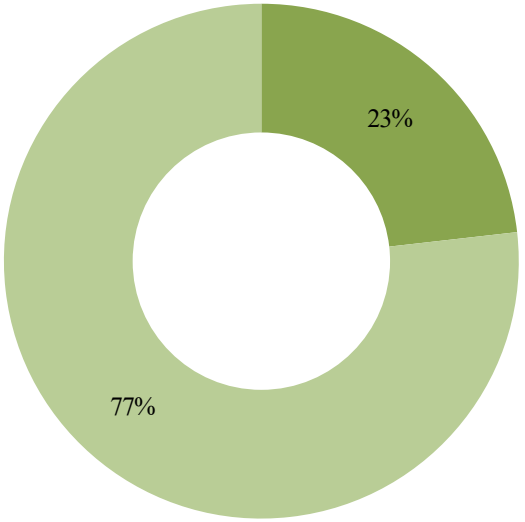
England



Devon



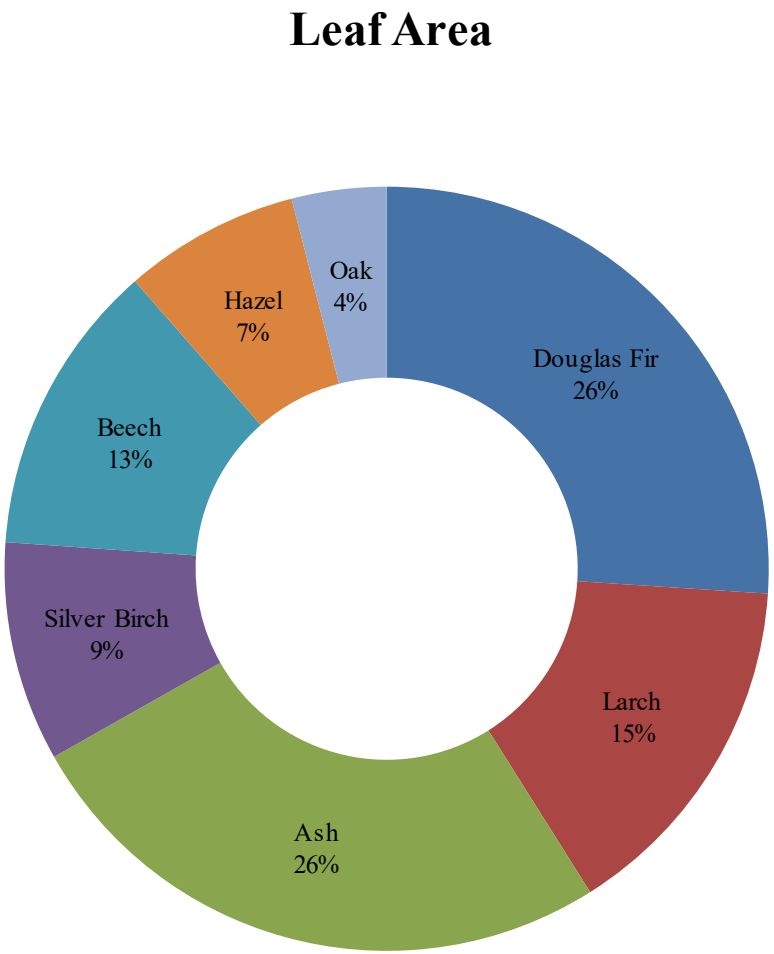
Sidmouth



From the National Forest Inventory

From Sidmouth I-Tree report

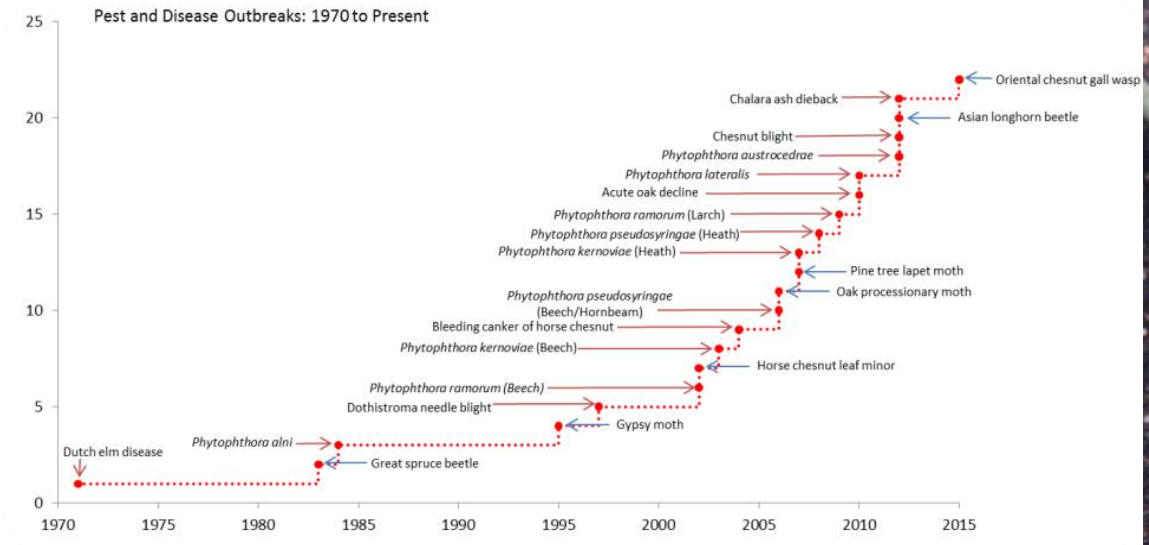
So nothing more to do in Sidmouth?



Figures from Sidmouth i-Tree report

- Nationally, five conifer species account for 80% of softwoods in forests
- Nationally five broadleaf species account for 72% of hardwoods

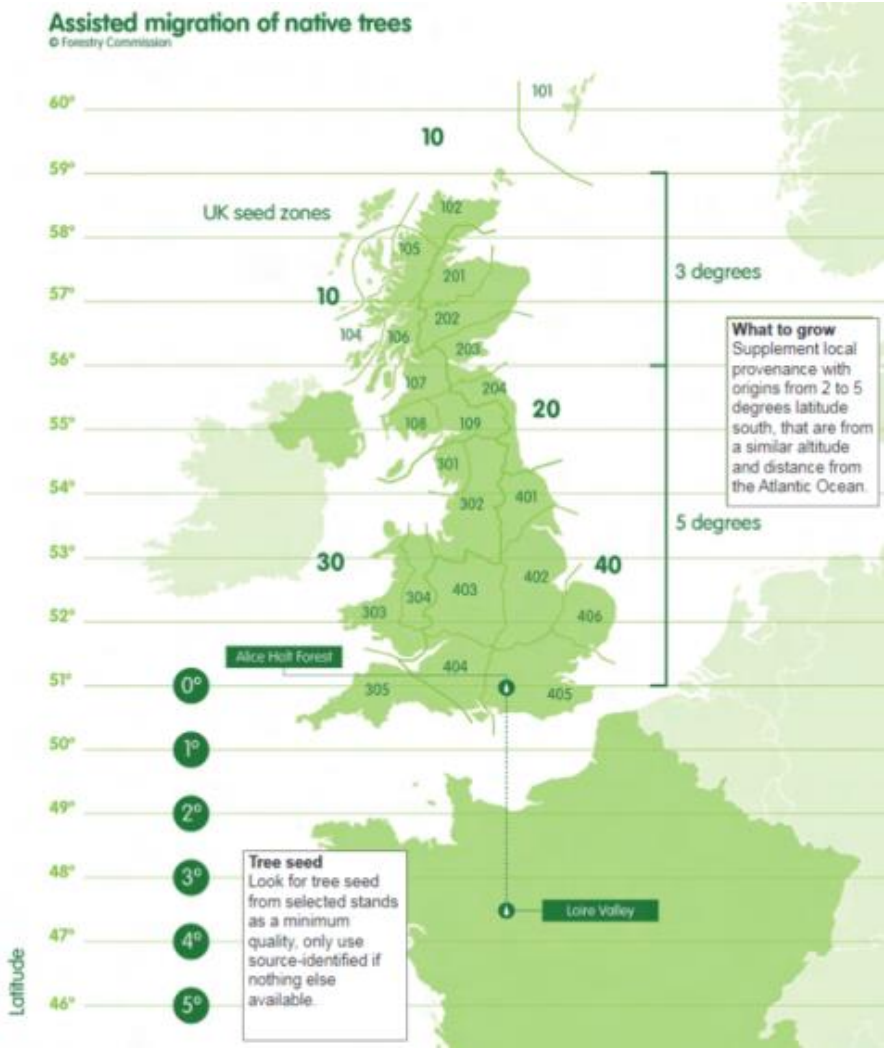
Increase in pest and diseases



Importance of Woodland Resilience

Woodland adaption is the key to stronger resilience – with diversity at its core:

- Plant a wider range of tree species
- Wider genetic diversity within species
- Greater stand and age structure
- Encourage natural regeneration



Choosing species

Common name	Species Code	Suitability		YC	Lim	AT	CT	DAMS	MD	SMR	SNR	Suit.	AT	CT	DAMS	MD	SMR	SNR	Version (Rating)
		Ecological	Timber																
Corsican pine	[CP]	0.72	0.72	14	DAMS	1	1	0.72	1	0.75	1								3.3(A)
Lodgepole pine	[LP]	0.84	0.75	10	DAMS	0.89	1	0.84	1	1	1								3.1(A)
Macedonian pine	MCP	0.81	0.78	11	DAMS	0.96	1	0.81	1	1	1								3.1(C)
Maritime pine	MAP	0.35	0.35	5	SMR	1	0.9	0.48	1	0.35	1								3.1(C)
Monterey/Radiata pine	RAP	0.58	0.58	12	SMR	1	1	0.77	1	0.58	1								3(C)
Scots pine	SP	0.63	0.63	9	SMR	1	1	0.72	1	0.63	1								3.3(A)
Weymouth pine	WEP	0	0	0	SMR	0.79	1	0.52	0.88	0	1								3(C)
Rowan	ROW	0.6	0.52	2	SMR	0.87	1	0.95	1	0.6	1								
True service tree	TST	0	0	0	SMR	1	1	0.39	0.89	0	1								
Wild service tree	WST	0.26	0.26	2	SMR	1	1	0.7	1	0.26	1								
Black walnut	JNI	0	0	0	SMR	1	1	0.67	1	0	1								
Common walnut	JRE	0.1	0.1	1	SMR	1	0.98	0.49	1	0.1	0.65								
Hornbeam	HBM	0.58	0.58	6	DAMS	1	1	0.58	1	0.75	1								
Small-leaved lime	SLI	0.61	0.59	6	DAMS	0.97	1	0.61	1	0.7	0.8								
Wych elm	WEM	0.46	0.46	5	DAMS	1	1	0.46	0.95	1	0.67								
Wild cherry	WCH	0.47	0.42	5	DAMS	0.9	1	0.47	1	0.7	0.99								
Sweet chestnut	SC	0	0	0	SMR	1	1	0.69	1	0	1								

Selection of species suitability focussed on Sidmouth, from ESC 4: http://www.forestdss.org.uk/geoforestdss/#

Choosing species

- Japanese red cedar
- Atlas cedar
- Eucalyptus
- New varieties of pine and fir, eg Macedonian Pine and Silver Fir
- Aspen

- Small leaved Lime
- Field Maple
- Hazel
- Oak
- Alder

Examples of species being chosen by woodland managers in Sid Valley, for future climate resilience

Grants for planting

- Variety of grants – contact Forestry Commission and/or Woodland Trust for more details.