

Die-off of large trees drives forest Collapse to non-forest state

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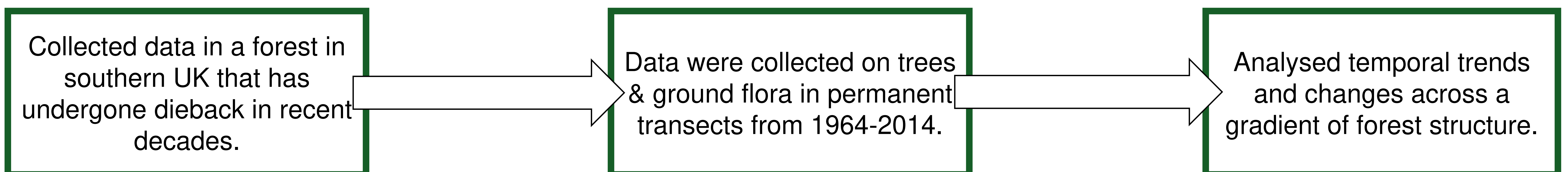
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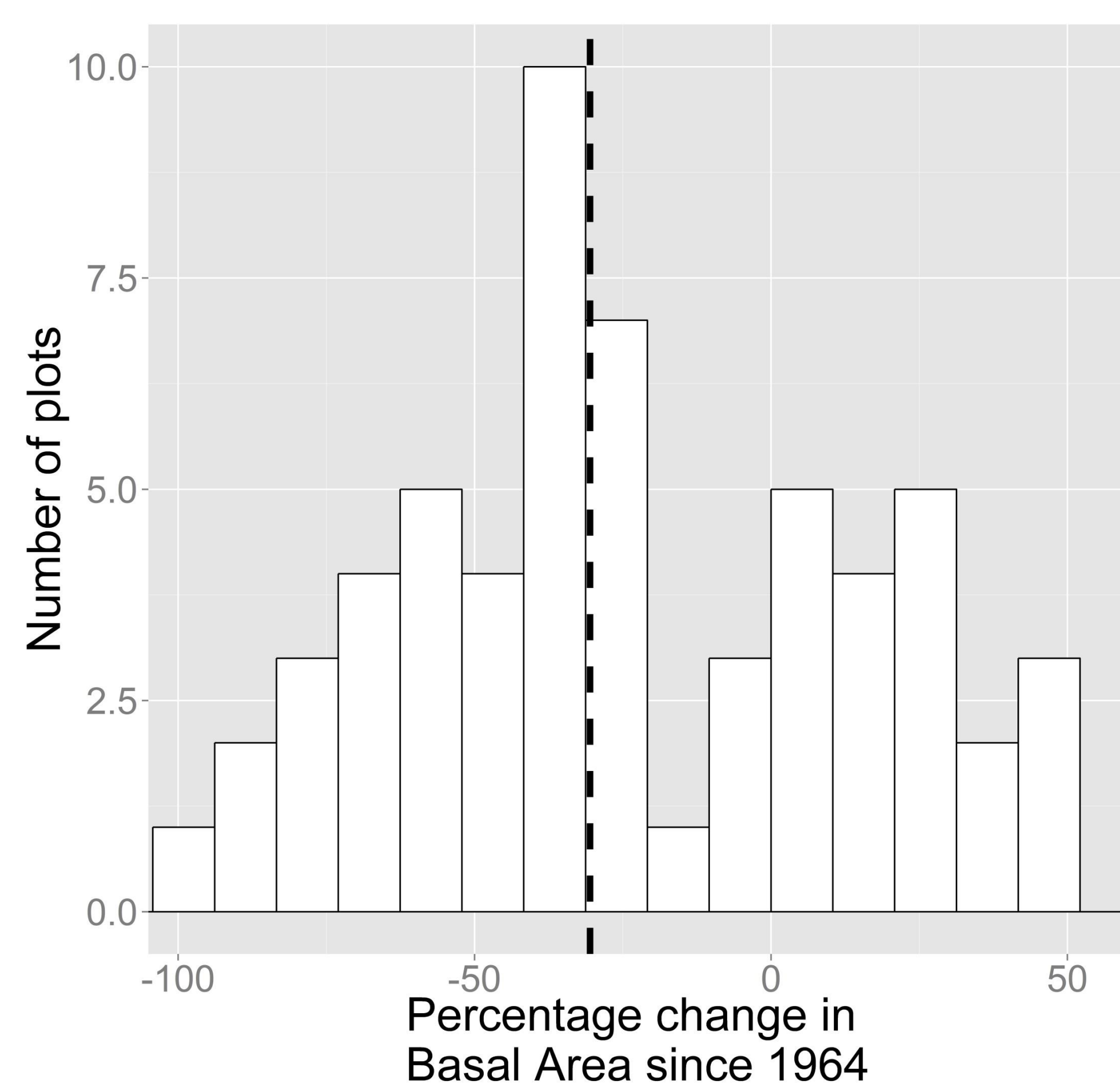
The problem



What we did to address knowledge gap

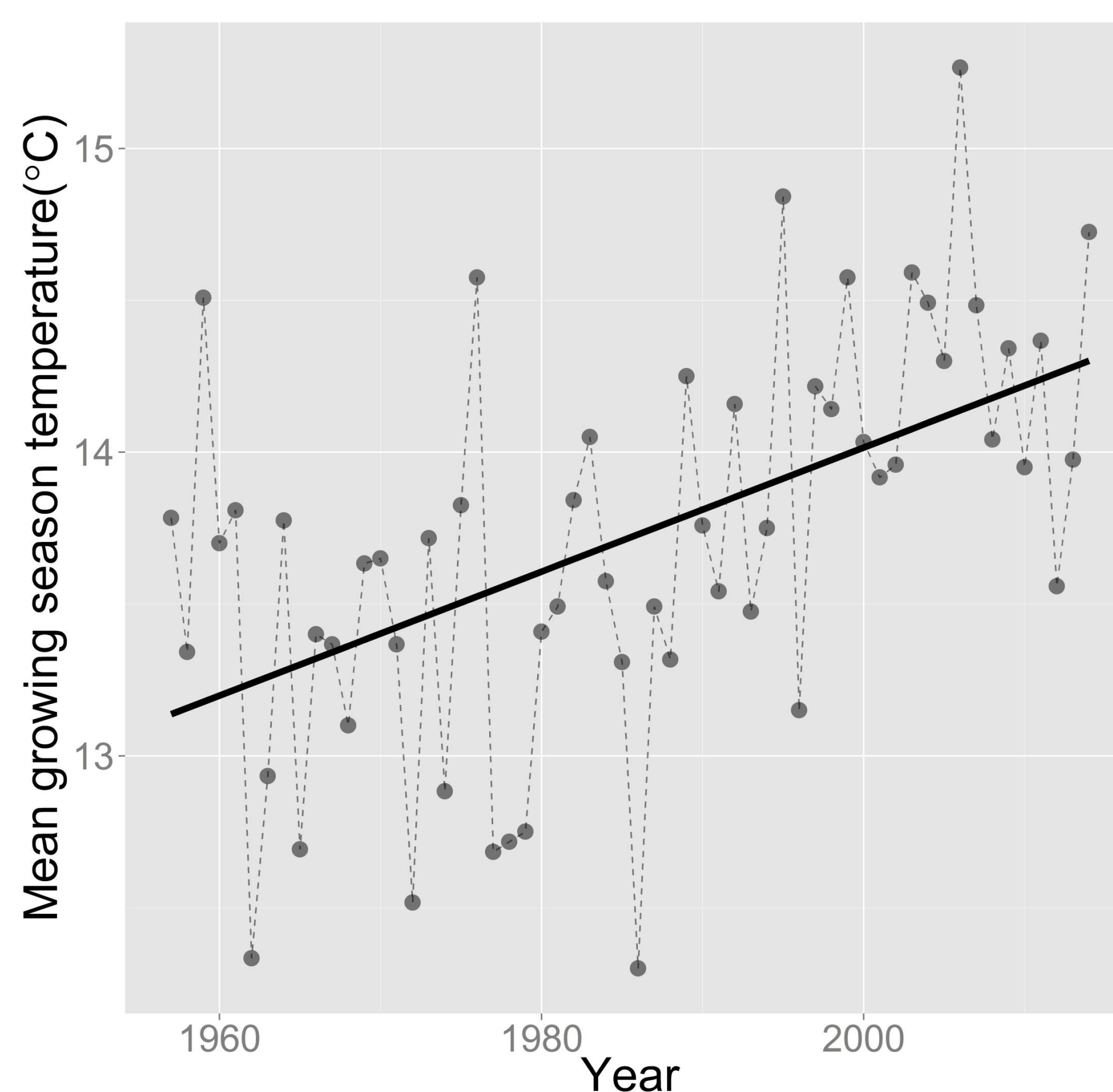


1. Pattern of dieback



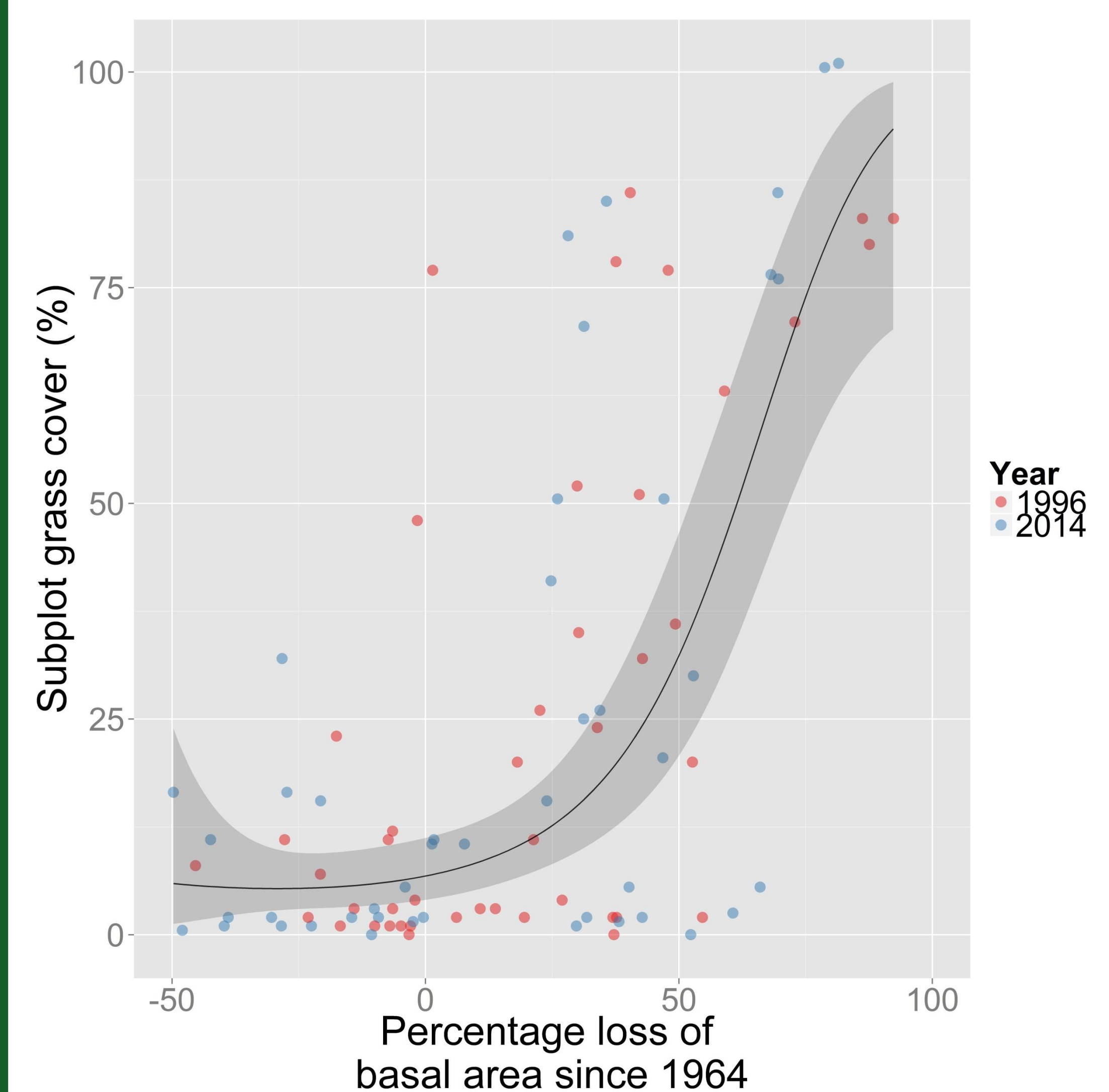
- Basal area of plots reduced by a median of 33% over 50 years
- Collapsed plots lost ~40% of large trees
- ~70% loss of small trees in all plots

2. Causes of change



- Temperature increases resulted in more hot, drought years which may have caused mortality of larger trees
- High density of ponies & deer limited tree recruitment

3. Consequences



- Losses in basal area led to increases in grass cover representing a transition to non-forest state

Implications for management

- Large tree death, and lack of recruitment as a result of heavy grazing are resulting in dramatic changes in the forest
- Interaction of high density of livestock with other drivers, such as changing climate, can reduce forest resilience endangering persistence of forest ecosystems
- Climate change can reduce forest resilience, so local disturbances must be minimised in order to reduce the possibility of transitions to non-forest states

References

Lindenmayer, D.B., et al., 2013. New policies for old trees: averting a global crisis in a keystone ecological structure. *Conserv. Lett.* doi:10.1111/cons.12013

Want to know more?



For more information on this study and my other work use the QR code to visit my blog or email me at martinp@bournemouth.ac.uk

P.S. I am looking for post-doc work, so if you have any jobs going, please tell me!

