Sensitivities are not declining with warming

E. M. Wolkovich^{1,2,3,a}, C. J. Chamberlain^{1,2}, D. M. Buonaiuto^{1,2}, A. K. Ettinger¹, I. Morales-Castilla^{1,2,4}

December 3, 2019

1 Outline & notes

Need to work on this, notes to date on here

2 Tasks, milestones etc.

- Finish minimal analyses we think we need:
 - Produce simulated data where chilling is not met (Lizzie has notes on this below enddocument command ... (bucket model).
 - Do sliding windows for ... BETPEN (done) and FAGSYL from PEP725 and for simulated data.
- Review the literature
 - Cat did some of this [add LINK HERE]
 - Review beyond phenology?
- Outline the paper
- Decide on targeted journals
- Write the paper
- Submit the paper

¹Arnold Arboretum of Harvard University, Boston, Massachusetts 02131, USA

²Department of Organismic and Evolutionary Biology, Harvard University, Cambridge, Massachusetts, USA

³Forest & Conservation Sciences, Faculty of Forestry, University of British Columbia, Vancouver, British Columbia, Canada

⁴Department of Life Sciences, University of Alcalà CTRA N-II, KM., 33,600, 28802, Alcalà de Henares, Spain

^aCorresponding author.

Figures

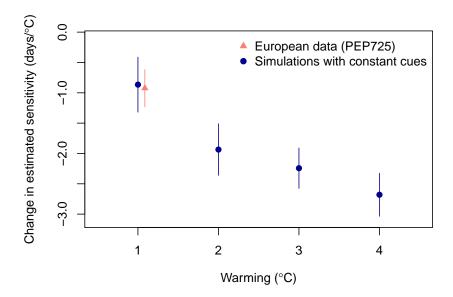


Figure 1: Declining sensitivities observed in long-term European data for a suite of common trees may be explained by a statistical artifact. We compared the sensitivity estimated from linear regressions of day of leafout versus mean spring temperature (estimated thus as days/°C) from PEP725 data for *Betula pendula* from 45 sites ("European data") with estimated declines in simulations where the cues were held constant but spring temperatures warmed by 1-4°C ("Simulations") and found the estimated temperature sensitivity measured as days/°C declined even though the underlying cues had not changed, see *Understanding declines in temperature sensitivity in European long-term data* for further details.