



June 17, 2020

Dear Dr. Medlyn:

Please consider our revised manuscript 'Climate change reshapes the drivers of false spring risk across European trees' as a Full Paper for *New Phytologist*.

Climate change has brought renewed interest to late spring freeze events—commonly called 'false springs'—which shape the life history of many temperate and boreal plant species. Increased interest has led to a growing number of studies, but results are often contradictory, suggesting an increased or decreased risk of false spring with warming, sometimes even for the same region. We argue these discrepancies may come from a lack of focus on how the drivers of false spring risk have changed. By combining multiple, known climatic and geographic factors that contribute to a plant's false spring risk with data from 66 years and across 11648 sites, we show which predictors most influence risk across species and how these predictors have changed with recent warming.

Comments from reviewers have greatly improved this manuscript and led us to enhance our questions, revise our models and analyses and refine the language throughout the text. Both reviewers suggested that we modify the timeframe in which a plant is at risk of false spring damage. We have updated all three models with this new, longer timeframe and have added another model that looks at different temperature thresholds for different species. Additionally, we have added a code availability statement with a link to the code repository, updated the text to improve the manuscript's flow and have modified the figures to be colorblind-friendly.

We have attempted to address the reviewer concerns and detail our changes in our point-by-point response (note that reviewer comments are in *italics*, while our responses are in regular text). The manuscript is 5211 words with 198 word summary, and five figures. We feel the new submission is much improved. This Full Paper is not under examination for publication elsewhere. We hope that you will find it suitable for *New Phytologist*, and look forward to hearing from you.

Sincerely,

A handwritten signature in black ink, appearing to read "Cath Chamberlain".

Catherine J Chamberlain