The ARNOLD ARBORETUM of HARVARD UNIVERSITY

July 17, 2020

Dear Dr. Findlay:

Please consider our paper, entitled "Winter temperatures predominate in spring phenological responses to warming" for publication as a 'Letter' in *Nature Climate Change*. This manuscript is a third revision of an earlier submission (NCLIM-19081773,A,B). We include a point-by-point response to reviewer comments.

As you may recall, our manuscript utilizes a new global database to address a research topic of critical relevance to a broad reach of *Nature Climate Change* readers: the timing of spring phenology (e.g., budburst) in woody plants. Spring phenology impacts plant fitness, shapes plant and animal communities, affects wide-ranging ecosystem services from crop productivity to carbon sequestration and unites the fields of biometeorology, ecology, cellular and molecular biology. Our work is groundbreaking in its synthesis of four decades of research across 72 experiments to quantify the relative importance of three environmental cues critical to phenology for 203 species from around the globe.

We addressed the recommendations of Reviewer 1 by adding a new figure and a new table to the supplemental materials. We also modified text to address additional minor comments of Reviewer 1 and those of Reviewer 2. We incorporated the Editor's changes to the Abstract, moved relevant content from the Supplemental Materials to the Methods and other relevant content to the Extended Data; added Correspondence, Author Contribution and Data and Code Availability Statements to the main manuscript; and edited the manuscript to comply with the *Nature Climate Change* Guide to Authors.

Upon acceptance for publication, the database and relevant code will be freely available at KNB (currently meta-data are there); the full database is available to reviewers and editors upon request. This work is a meta-analysis, so data have been previously published; however, the synthesis of these data and the tables, figures, models, and materials presented in this manuscript have not been previously published nor are they under consideration for publication elsewhere.

Sincerely,

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