Date of study
Fall 2018

Date of Public Archiving:
Fall 2021

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8 December 2023

Goal
The primary aim of this study is to link spring phenology data from the Arnold Arboretum Tree Spotters, John O'Keefe's Harvard Forest data and the Common Garden data. We will assess the differences in cue strength on budburst and duration of vegetative risk between the two sites and, at a finer scale, investigate the role of microclimates on budburst and leafout timing across species.

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General Files

File	**Where**	**What**
Microclimate publication	https://doi.org/10.1016/j.ecochg.2023.100071	Variation across space, species and methods in models of spring phenology
microclimates_README.txt	Github: microclimates_README.txt	General breakdown of study and where data lives
Arboretum Hobo Logger Data	Github: arb_data/	Hobo logger data for the Arboretum
Harvard Forest Hobo Logger Data	Github: hf_data/	Hobo logger data for Harvard Forest
Phenology Data	Github: phendata/	Phenology data
Phylogeny Data and Tree	Github: phylodata/	Phylogeny data
Additional Notes	Github: notes/	Extra information on Arboretum, Harvard Forest data and breakdown of data

Data and Code

Github https://github.com/cchambe12/microclimates/analyses

File	Where	What
General Cleaning Files	Github: analyses/cleaning/	Cleans all Tree Spotters data and imports climate data from Weld Hill
Calculating Forcing and Chiling	Github: analyses/calculating	Calculates GDD and chilling temperatures for budburst and duration of vegetative risk
Additional Cleaning of Hobo Loggers	Github: cleaningloggerdata/	Cleans hobo logger data for both the arboretum and Harvard Forest
Shiny App script	Github: analyses/micro_shiny.R	Prepares and runs models and figures for Shiny app
Notes on hypotheses	Github: analyses/simcode_micro_notes.txt	Notes about different hypotheses to be tested and assessed using simulations
Hypothesis: Noisy weather station data, simple	Github: analyses/hyp_noisyws_simple.R	Simulation code for hypothesis assessing noisy weather station data
Hypothesis: Noisy weather station data, with microclimates	Github: analyses/hyp_noisyws_micro.R	Simulation code for hypothesis assessing noisy weather station data with microclimatic effects

Possible extras: