

The Redbud Phenology Project: The November 2022 Update¹

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Abstract: An update on our *Cercis canadensis* phenology project for 2022 is provided based on trees located in 229 sites mostly in the eastern half of the United States and southeastern Canada. The data presented is not adjusted for geographical origin or frequency of observations by provenance. In 2022, peak ripe fruits, yellow leaves, and falling leaves occurred from mid-September to early December. We invite anyone interested to get involved in our project by signing in Nature's Notebook.

Key Words: *Cercis canadensis*, eastern North America redbuds, phenology, The Redbud Phenology Project, Nature's Notebook

Introduction

As the year ends, we take one more look at the eastern redbud, *Cercis canadensis* Linnaeus, data. The data submitted as part of The Redbud Phenology Project will help researchers better understand the timing of flowering and fruiting of these iconic spring flowering trees. In our last paper (Brewer and Santiago-Blay 2022), we examined the timing of ripe fruits for redbuds. Herein we will continue examining the ripe fruit observations. Also, we examine the reports of colored and falling leaves - phenophases that characterize the autumn season.



Figure 1. Autumn-colored leaves of *Cercis canadensis*. Image credit: eastern redbud colored leaves by Kirk and Barb Nelson. Originally published by the USA National Phenology Network, www.usanpn.org , <https://conta.cc/3GXWRNc> .

This year of citizen scientists tracked eastern redbuds at 229 sites across the USA and southeastern Canada. The map below (Figure 2) shows the sites that have reported "yes" for ripe fruits (triangles), colored leaves (squares),

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and falling leaves (hexagons). The color of the icons indicates the approximate date of the first "yes" that followed a "no".

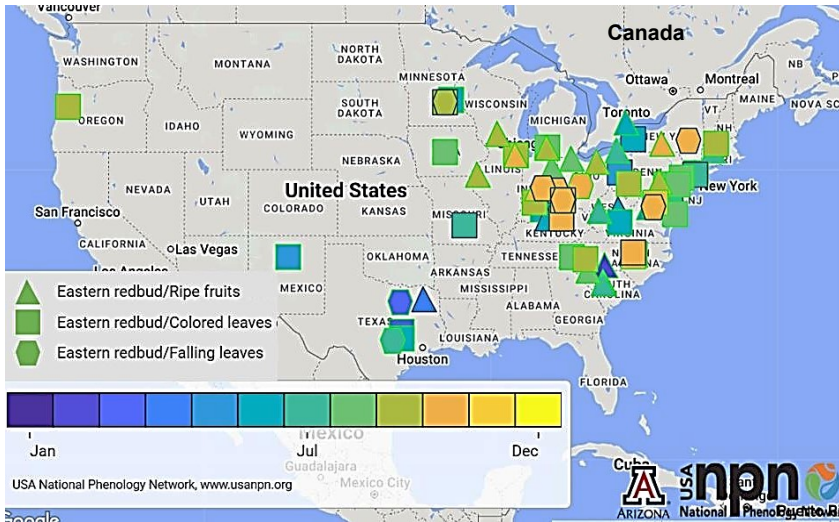


Figure 2. Map of the United States and southern Canada depicting the observation sites and phenophases of *Cercis canadensis* (January-December 2022). Originally published by the USA National Phenology Network, www.usanpn.org , <https://conta.cc/3GXWRNc> .

The activity curve (Figure 3) shows the proportion of "yes" observations for ripe fruits, colored leaves, and falling leaves. Since September 2022, over half of the eastern redbud observations were "yes" for these phenophases.

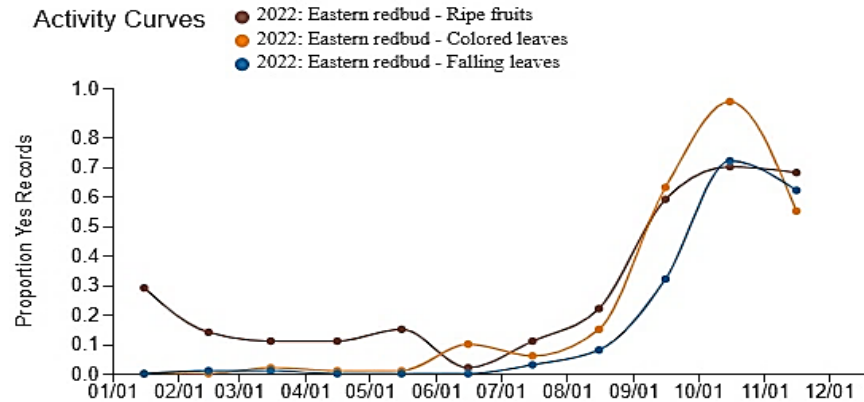


Figure 3. Activity curve for ripe fruits (brown), colored leaves (gold) and fallen leaves (green) in *C. canadensis* during 2022. Originally published by the USA National Phenology Network, www.usanpn.org , <https://conta.cc/3GXWRNc> .

Two Years of Redbud Observations

Although this marks the end of this year of the Redbud Phenology Project, the citizen scientists also recorded redbud observations in the pilot year of 2021! Together with historical data, we hope that these observations (Figure 4) will help us understand patterns in the flowering and fruiting of eastern redbuds, and whether they have shifted in recent years.

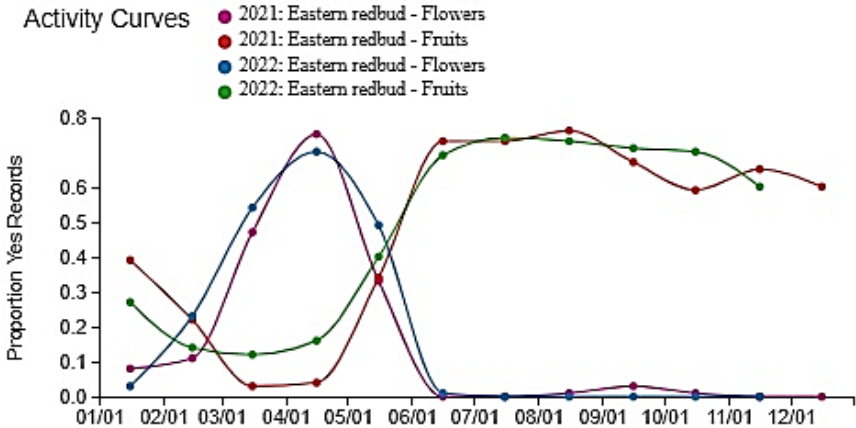


Figure 4. Activity curve for flowers (purple) during 2021, fruits (red) during 2021, flowers (blue) during 2022, and fruits (green) during 2022 in *C. canadensis*. Originally published by the USA National Phenology Network, www.usanpn.org , <https://conta.cc/3GXWRNc> .

Citizen scientists can earn the digital badge shown in Figure 5 by submitting observations of eastern redbud in six different weeks within the year. The badge will appear on the Observation Deck. Thanks for your contributions to this important project!



Figure 5. Citizen scientists' badge. Originally published by the USA National Phenology Network, www.usanpn.org .

Want to learn more about what the data revealed this year? Join a free, redbud online training **January 5, 2023 at 1:00 pm eastern USA time**. We will also provide an overview on how to observe redbuds with Nature's Notebook and talk

about a new addition to the campaign for next year: Western redbuds, *Cercis occidentalis* Torrey ex Gray! Register here:

[https://arizona.zoom.us/meeting/register/tZApC-mupz4rE9AHiBSIMA0U5OSLD7voRvwj](https://arizona.zoom.us/join/zoom/register/tZApC-mupz4rE9AHiBSIMA0U5OSLD7voRvwj).

We invite our readers to continue observing redbuds in 2023 so that we may examine what the larger phenological patterns are! Feel free to sign up to receive Redbud Phenology Project messages here:

https://lp.constantcontactpages.com/su/hruAXKC/redbuds?source_id=e4a59631-5615-45f3-b646-be5a50e9bb07&source_type=em&c= .

Literature Cited

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Eastern Redbud, *Cercis canadensis*, in flower. Photographed in Howard County, Maryland, USA by Helen Lowe Metzman. USGS Bee Inventory and Monitoring Lab from Beltsville, Maryland, USA. <https://flickr.com/photos/usgsbiml/44013062951/in/photolist-M7N196-NKa139-2a4hsdX-28XMehq-27ipYfq> , <https://www.flickr.com/photos/usgsbiml/44013062951/> .