



GLOBE North America Spring Phenology Campaign: Measuring Green-Up

A close-up photograph of a tree branch showing the process of green-up. Several bright green, serrated leaves are emerging from the branch. Below the leaves, several buds are visible, some of which are swelling and beginning to burst. The buds have a reddish-brown hue, likely from the protective scales. The background is a soft, out-of-focus grey.

What is Green-Up?

- Green-up begins when dormancy is broken and buds begin to swell and burst signaling the start of a new growing season cycle.
- The start of green-up occurs when one of the observed buds swells and the tips of the green leaves emerge.
- Green-up is initiated when environmental conditions change:
 - Longer daylight hours and higher temperatures (temperate areas)
 - Rains and cooler temperatures (desert areas)

The Spring Phenology Campaign

- Starts February 2024
- Join a network of U.S. and Canadian GLOBE educators, Partners, scientists and students
- Measure green-up of your plants to validate the start of the growing season





Resources

- [Webinars for learners and educators](#)
- [Protocol how-to videos](#)
- [Career-oriented scientist Q&A videos](#)
- [Links to resources that support the content](#)
- Information about phenology-related opportunities



Get Started!

- Complete the [Intro to Biosphere and Tree and Shrub Green-Up eTrainings](#)
- Define your site and pick your tree—find guidance in the [Green-Up Protocol](#) and [our mini protocol tutorials](#)

How to Measure Green-Up: Quick Guide

At your first observation:

- Locate the bud at the end of the branch. Label it by marking one dot on the branch next to the bud with a permanent felt tip marker.
- Locate the three buds on this branch closest to this terminal bud. Label these buds by marking two, three, or four dots.

At every observation:

- Examine each of your buds. Record whether the bud is dormant, swelling, budburst, or lost.
- After budburst, measure and record the length of the leaves in millimeters. Continue until the length stops increasing.





Stay Informed

Campaign webpage



Register to participate

