



2023 GLOBE Student Research Symposium Professional Development

GLOBE North America Fall Phenology Campaign: Measuring Green-Down



What is Green-Down?

- Green-down marks the end of the growing season for many plants.
- A color change is generally associated with green-down of leaves. The color will vary by species.
- Plant green-down is also called senescence. It is initiated when environmental conditions change:
 - Fewer hours of sunlight and lower temperatures in temperate regions.
 - Drier and warmer temperatures in desert areas.

North America Phenology Campaign

- Starting September 2023
- Open to all U.S. and Canada GLOBE Educators and Partners
- Webinars for learners and educators
- Links to resources that support the content
- Information about phenology-related opportunities



Get Prepared to Measure Green-Down

- Complete the [Intro to Biosphere and Tree and Shrub Green-Down eTrainings](#)
- Define your site and pick your tree— find guidance in the [Green-Down Protocol](#)
- Follow the steps in the Tree and Shrub Green-Down Protocol field guide
- Use the GLOBE Plant Color Guide* to match leaf color with Munsell color codes



How to Measure Green-Down: Quick Guide

At your first observation:

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

At every observation:

- Examine each of your leaves. Use the GLOBE Plant Color Guide to estimate the dominant color of each leaf.
- Record your observations on the Tree, Shrub, and Grass Green-Down Data Sheet.





Stay Informed

Campaign webpage



Sign up for emails





GLOBE eTraining

On the [Biosphere eTraining page](#),
find the eTrainings for:

- Introduction to Biosphere
- Green Up-Green Down—Tree and Shrub Green-Down