



**THE GLOBE PROGRAM**

EUROPEAN PHENOLOGY CAMPAIGN WEBINAR

# Welcome to the Autumn Campaign

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22 September 2022



# WHAT IS PHENOLOGY?

- Response of living organisms' to seasonal and climatic changes in the environment
- Animals and **plants**
- One of the oldest areas of environmental science
- Phenological data are important for various aspects of our life
- Easy and costless way, how to prove climate change.



# 2022 AUTUMN CAMPAIGN

Seasonal changes of trees

September ➡ November / December

**140 school teams from 19 countries**

Belgium, Croatia, Czech Republic, Estonia, Greece, Ireland, Israel, Italy, Lithuania, Malta, Netherlands, Nigeria, North Macedonia, Poland, Slovakia, Slovenia, Switzerland, Ukraine, USA

## Campaign aims

- Learning about nature in nature
- Sharing and cooperation in an international environment
- Source of information for schools projects and scientists

## Cooperation with scientists



CHARLES  
UNIVERSITY



UNIVERSITY  
OF LATVIA



# 2022 AUTUMN PHENOLOGY CAMPAIGN

- Activities to learn about your tree
- Newsletter
- Certificate for active schools

All activities are voluntary.  
Let us know, how it goes!



**Autumn is coming. Let's start watching the trees falling asleep!**

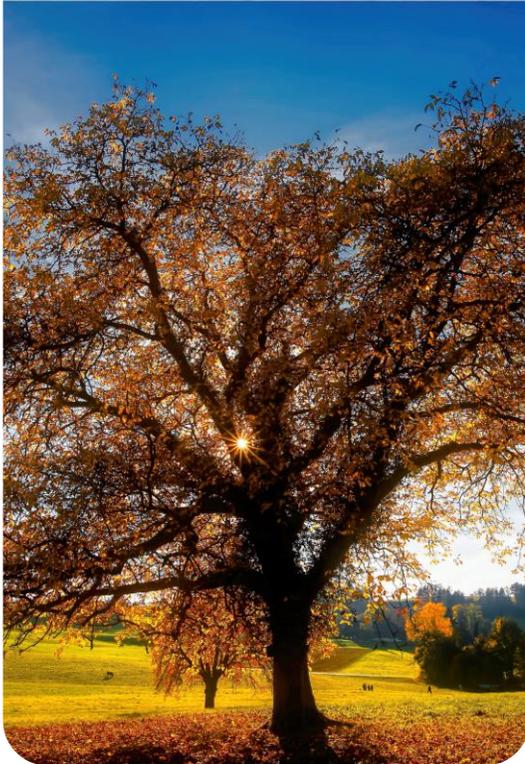


Autumn Campaign! In this newsletter, you will find everything you need easily. To learn even more you are invited to join the next webinar (September 22), visit the [campaign website](#) or contact coordinator [Lenka Kleger](#).

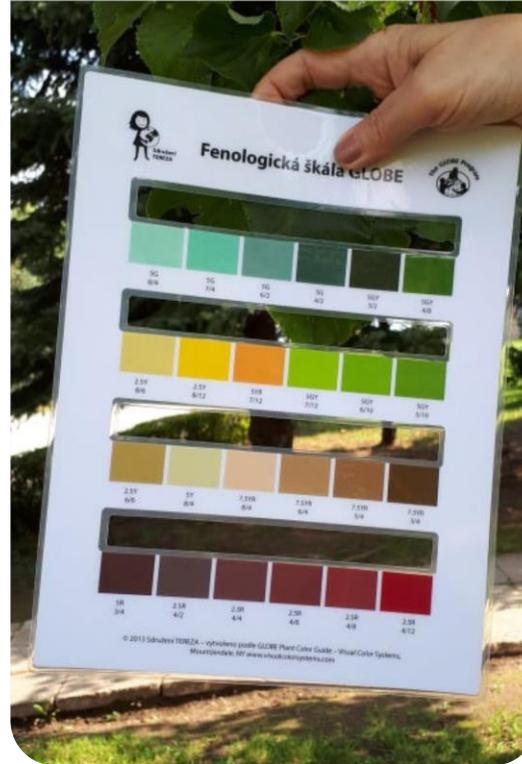


# AUTUMN ACTIVITIES

## ACTIVITY 1 MY TREE



## ACTIVITY 2 COLOR CHANGE

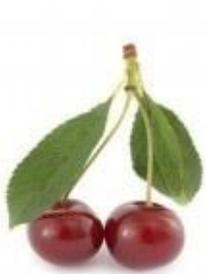


## ACTIVITY 3 GREEN DOWN DATA



# ACTIVITY 1 — MY TREE

- Find a suitable tree
  - Close
  - Low branch
  - Not shaded, fertilised
- Mark 4 leaves at one branch
- Describe the tree and the site where it grows
- Take pictures with GrowApp
- Share pictures of your tree at the discussion forum



Sour cherry



Small-leaved lime



Hazel



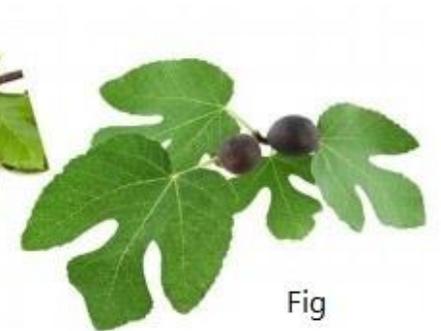
Penduculate oak



Silver birch



Beech



Fig

# ACTIVITY 2 — COLOR CHANGE

- Twice per week until leaves fall down
- Observe color change and falling of leaves
  - the dominant color using the **GLOBE Plant Color Guide**
  - snow covered
  - fallen
- Record data into the data sheet

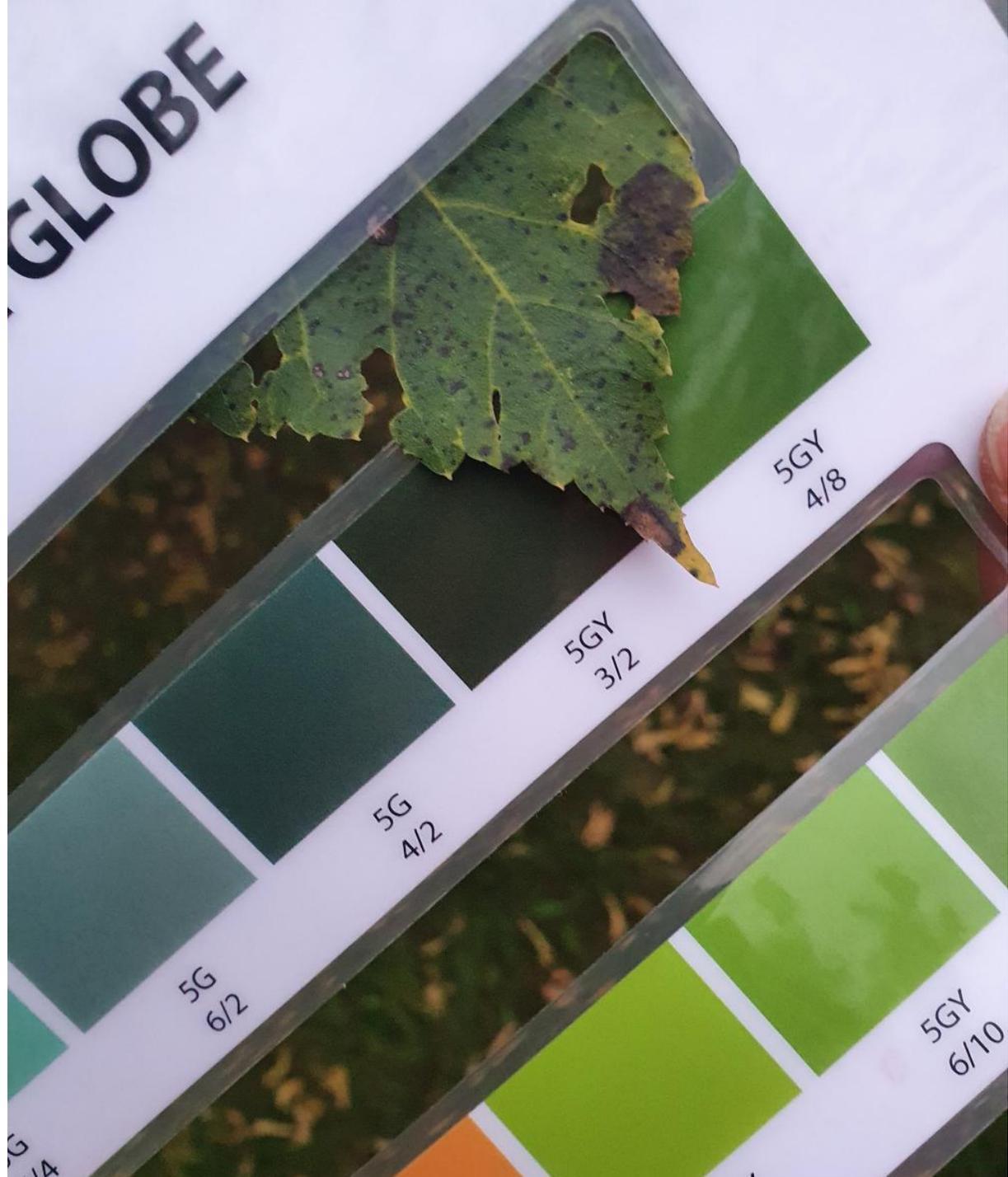
Example of Completed Green-Down Data Sheet

*Tree, Shrub, and Grass Green-Down*

Date YYYY-MM-DD (year-month-day)	Growing season cycle (1, 2 or 3)	Leaf 1 (Color, fallen, snow covered)	Leaf 2 (Color, fallen, snow covered)	Leaf 3 (Color, fallen, snow covered)	Leaf 4 (Color, fallen, snow covered)	Data submitted to GLOBE
2013-09-30	1	5 G 7/4	5 G 7/4	5 G 7/4	5 G 7/4	<input type="checkbox"/>
2013-10-03	1	5 G 7/4	5 G 7/4	5 G 7/4	2.5 Y 8/6	<input type="checkbox"/>
2013-10-07	1	5 G 7/4	2.5 Y 8/6	5 G 7/4	2.5 Y 8/6	<input type="checkbox"/>
2013-10-11	1	5 G 7/4	2.5 Y 8/6	2.5 Y 8/6	2.5 Y 8/6	<input type="checkbox"/>
2013-10-14	1	5 G 7/4	2.5 Y 8/6	2.5 Y 8/6	2.5 Y 8/6	<input type="checkbox"/>
2013-10-16	1	2.5 Y 8/6	2.5 Y 8/6	2.5 Y 8/6	2.5 Y 8/6	<input type="checkbox"/>



GLOBE



5G  
6/2

5G  
4/2

5GY  
3/2

5GY  
4/8

5GY  
6/10

## Example of Completed Green-Down Data Sheet

### *Tree, Shrub, and Grass Green-Down*

<b>Date</b> YYYY-MM-DD (year-month-day)	<b>Growing season cycle</b> (1, 2 or 3)	<b>Leaf 1</b> (Color, fallen, snow covered)	<b>Leaf 2</b> (Color, fallen, snow covered)	<b>Leaf 3</b> (Color, fallen, snow covered)	<b>Leaf 4</b> (Color, fallen, snow covered)	<b>Data submitted to GLOBE</b>
2013-09-30	1	5 G 7/4	5 G 7/4	5 G 7/4	5 G 7/4	<input type="checkbox"/>
2013-10-03	1	5 G 7/4	5 G 7/4	5 G 7/4	2.5 Y 8/6	<input type="checkbox"/>
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2013-10-11	1	5 G 7/4	2.5 Y 8/6	2.5 Y 8/6	2.5 Y 8/6	<input type="checkbox"/>
2013-10-14	1	5 G 7/4	2.5 Y 8/6	2.5 Y 8/6	2.5 Y 8/6	<input type="checkbox"/>
2013-10-16	1	2.5 Y 8/6	2.5 Y 8/6	SNOW COVERED	FALLEN	<input type="checkbox"/>

# ACTIVITY 3 — MY GREEN-DOWN DATA

Upload your green down data to globe.gov website

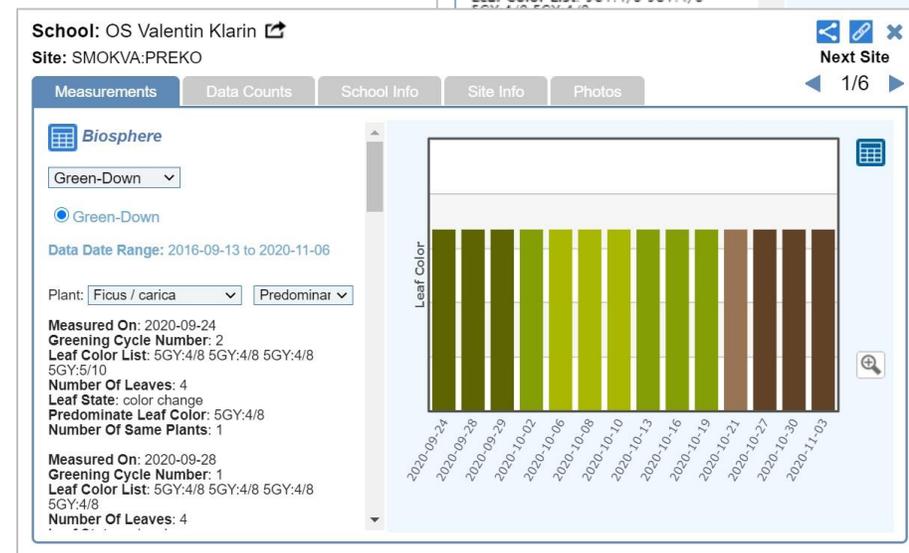
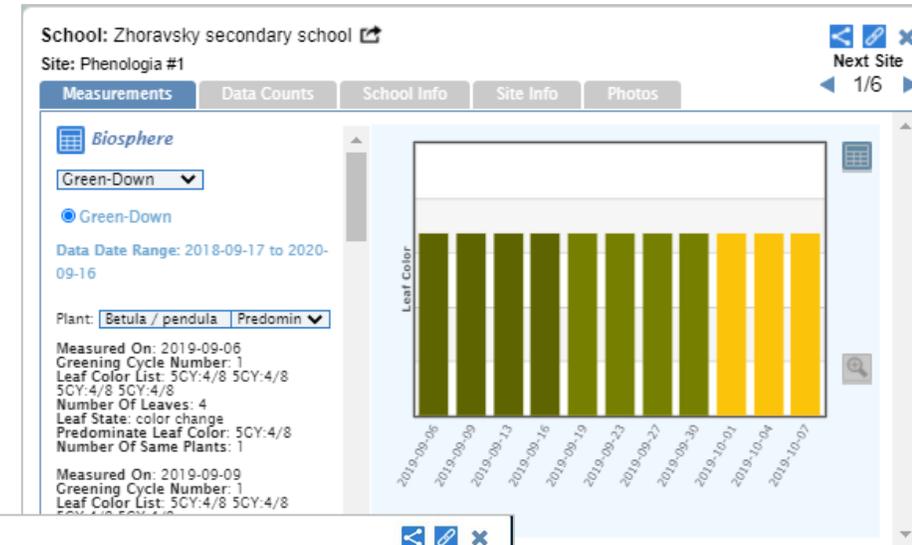
- Login to your GLOBE account
- Data collected at Activities 1 and 2

Try GLOBE Visualization tool

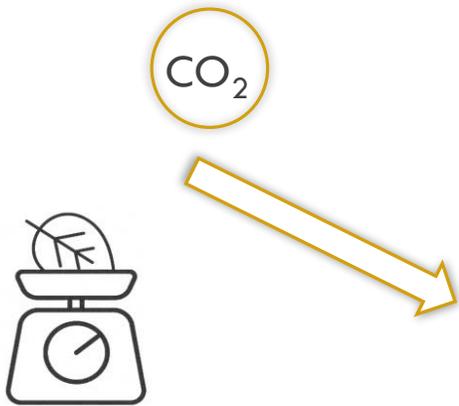
- See the data on world map
- Draw and share a graph with your data

Compare your data

- with another school
- to your data from previous years

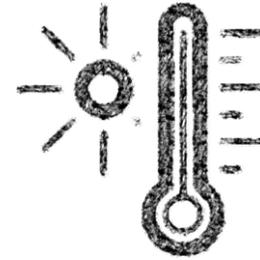
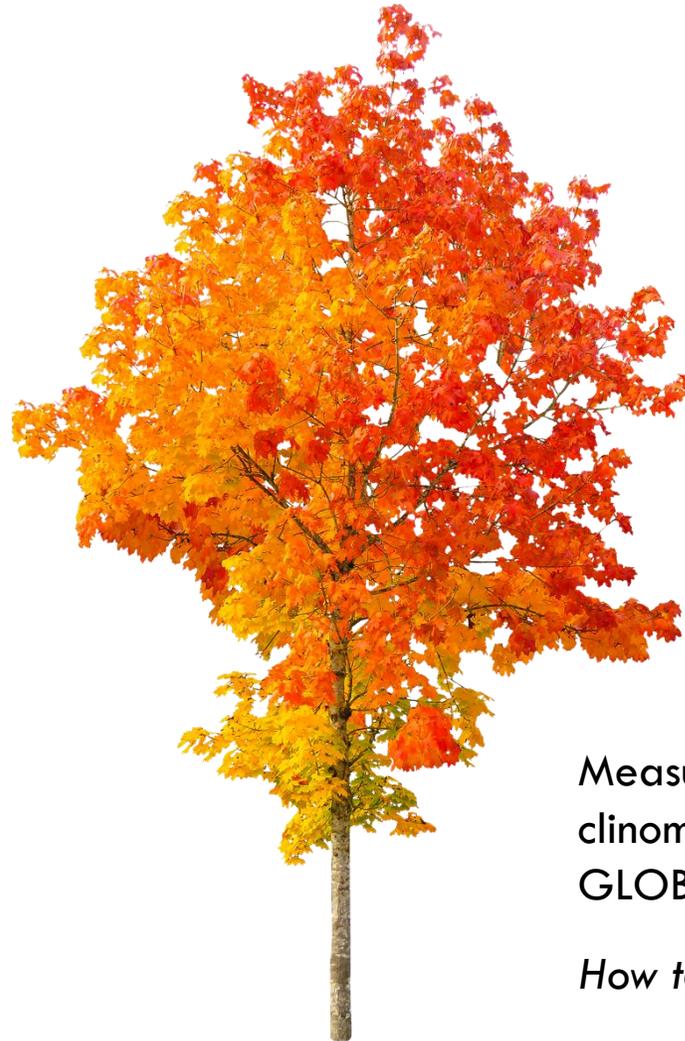


# WHAT ELSE CAN YOU DO?



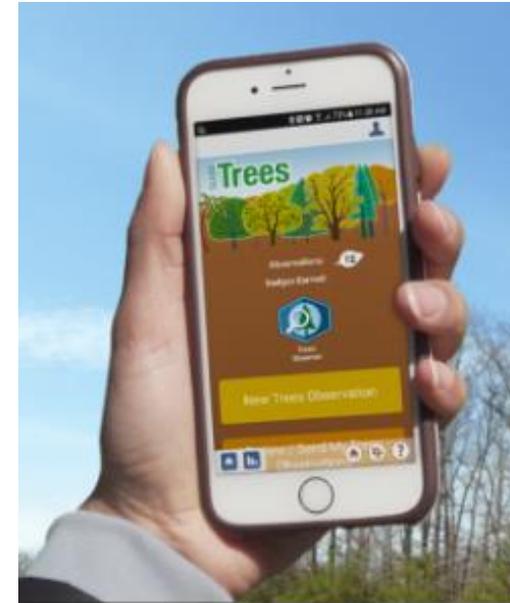
Find out, how much carbon is stored in leaves

*How leaves lose weight?*



Measure tree height with clinometer or using GLOBE Observer tool

*How tall is my Tree?*



# GROWAPP

Mobile application

Time lapse videos

Use # to describe tree species and your school

[www.growapp.today](http://www.growapp.today)



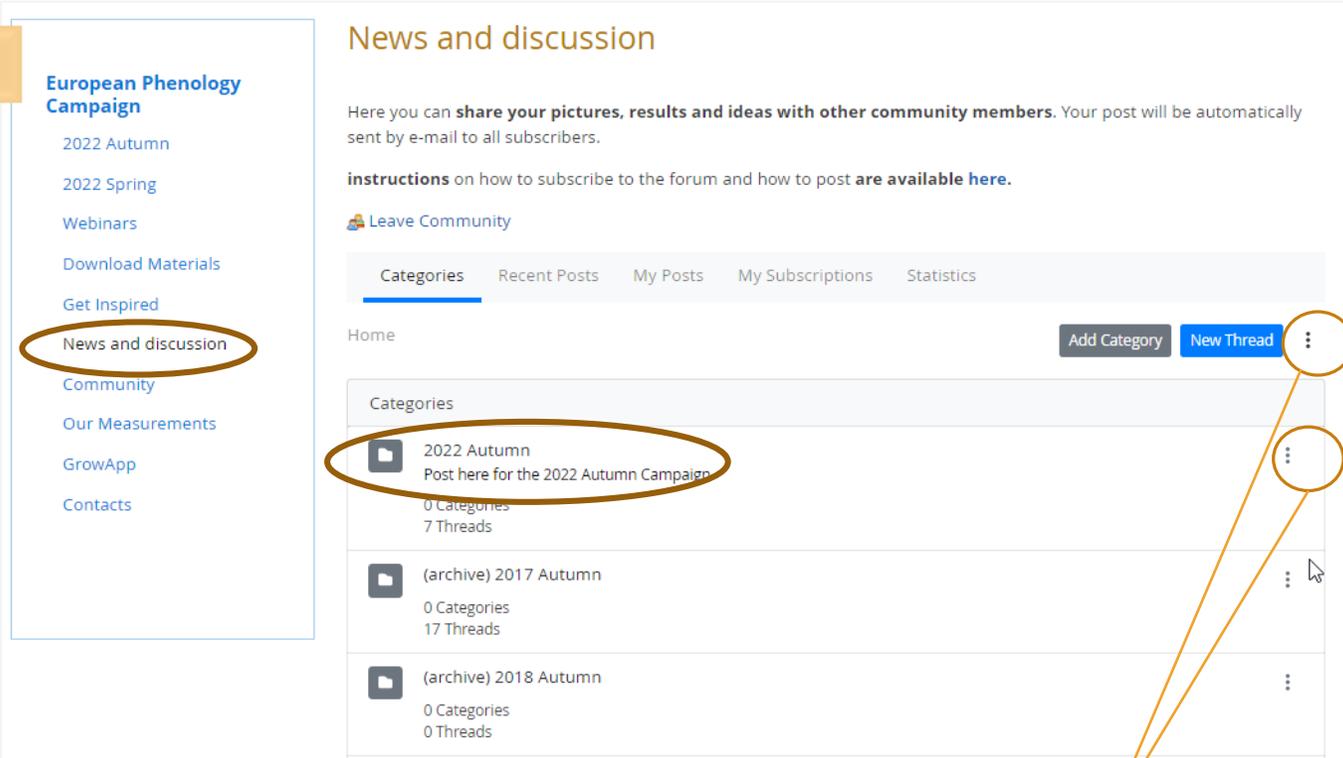
# DISCUSSION FORUM

## Share your pictures and results

### How to do it?

- Sign in to GLOBE account
- Choose „2022 Autumn“
- Add New Thread
  - Add pictures
  - Publish your post

**1**



European Phenology Campaign

- 2022 Autumn
- 2022 Spring
- Webinars
- Download Materials
- Get Inspired
- News and discussion**
- Community
- Our Measurements
- GrowApp
- Contacts

News and discussion

Here you can **share your pictures, results and ideas with other community members**. Your post will be automatically sent by e-mail to all subscribers.

**instructions** on how to subscribe to the forum and how to post **are available here**.

 Leave Community

Categories Recent Posts My Posts My Subscriptions Statistics

Home Add Category New Thread 

Categories

-  2022 Autumn  
Post here for the 2022 Autumn Campaign  
0 Categories  
7 Threads
-  (archive) 2017 Autumn  
0 Categories  
17 Threads
-  (archive) 2018 Autumn  
0 Categories  
0 Threads

**2**



Add Category New Thread 

2022 Autumn

**SUBSCRIBE to receive posts by e-mail**

## European Phenology Campaign

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## My Tree in Autumn



In autumn, the trees shine with many shades of yellow and red as they prepare for winter sleep. Their leaves gradually turn colour and fall down in a process called green-down.

Let´s experience the beauty of autumn change together!

**Schools registered for the campaign** receive 3 learning activities for students and regular newsletters with invitations to webinars. They also have the opportunity to **earn a GLOBE certificate** and be part of the lively campaign community!

[Join the 2022 autumn campaign - register now!](#)

For further information about the campaign, please read below or write to [lenka.kleger@terezanet.cz](mailto:lenka.kleger@terezanet.cz).

Select one of the 7 species (Hazel, Fig, Lime, Oak, Sour cherry, Birch, Beech) that GLOBE students around Europe follow in autumn.



[www.globe.gov/web/european-phenology-campaign](http://www.globe.gov/web/european-phenology-campaign)



## European Phenology Campaign

[2022 Autumn](#)

[2022 Spring](#)

[Webinars](#)

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## Webinars

Webinars became an important part of the campaign. Below you will find a list of webinars planned for the 2022 Autumn Tree Campaign as well as invitations to webinars organised by the Trees Around the GLOBE Campaign team. We look forward to meeting you!

Recordings of webinars from previous campaigns are available below in the Archived Webinars section and are listed by date.

### 2022 Autumn Campaign Webinars

#### **Welcome to the Autumn Campaign, September 22 at 3 pm CEST (Prague time)**

An introduction to 2022 Autumn Campaign activities and schedule - all you need to know about green-down activities, carbon activity and tree height measurements.

The webinar will be organised on ZOOM Platform. To join, please register [here](#).



#### **Virtual Student Conference, November 28 and 29**

The Virtual Student Conference will provide an opportunity to present your fall activities and collaborations to other students, teachers, and researchers. More information will be available here and will also be sent to you in the newsletter.



- Invitation to upcoming webinars
- Recordings at Archived webinars
- Trees Around the GLOBE Campaign Webinars

## European Phenology Campaign

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2022 Spring

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## Download Materials

[activities](#) | [field guides](#) | [e-training](#) | [protocols](#) | [GLOBE data tutorials](#) | [lesson plans](#)

- **Why do the leaves change color?** - learn why and how the autumn change of trees happens.
- **GLOBE 365 Poster** - there is a place to stick photos of your tree as well! If you want to receive a hard copy of the poster, contact your GLOBE country coordinator.
- **Winter twigs** - a key to recognising buds
- **2022 Spring Campaign Flyer** - basic information about the campaign



### 2022 Autumn Campaign Newsletters

Newsletter #1 - How to start the Autumn Campaign

### Activities for students

#### Spring

**Activity 1:** My Tree + carbon activity: Tree Growth Game

**Activity 2:** Look at the Buds + Data Sheet + Carbon Around Me

**Activity 3:** First Leaves + carbon activity: Carbon in my tree

**Activity 4:** My Green Up Data + Data Upload Guide + carbon activity: The Case of Missing Carbon + Data Sheet

**Activity 5:** Green Color Scale

**How Tall Is My Tree** - measuring tree height



#### Autumn

**Activity 1:** My Tree

**Activity 2:** Color Change of Leaves

**Activity 3:** My Green Down Data + Data Upload Guide

**How Leaves Lose Weight** - carbon activity

**How Tall Is My Tree** - measuring tree height



# THE GLOBE PROGRAM

### Green Up/Down e-training

To enter Green up/down data and work with it in the GLOBE program, you need to be trained. You can take the training online here: [protocol e-training](#).

If you haven't yet done any GLOBE training, you will need to take the modules: Introduction to GLOBE, Introduction to Biosphere and then Green-up or Green-down protocol.

### GLOBE protocols

#### Green up



- Green up protocol
- General field guide Trees
- Data Sheet Trees and Shrubs

#### Green down



- Green down protocol
- General field guide Trees
- Data Sheet Trees and Shrubs

### How to work with GLOBE data?

**GLOBE Data Entry** - GLOBE data can be submitted on a [desktop pc](#) or using the [GLOBE data entry app](#).

**Green-down Data Upload Guide** - how to upload autumn data to the GLOBE Database

**Green-up Data Upload Guide** - how to upload spring data to the GLOBE Database

**Phenology Data Visualization Guide** - Instruction for visualizing GLOBE phenology data



### Lesson plans and activities

- **A first look at phenology** - Students explore patterns, similarities, and differences among plants at the same location.
- **A sneak preview of budburst** - Students observe the relationship between the budburst and temperature.
- **An Alaskan Spring Mystery** (Middle and high school, grades 6-12) - Students learn about the timing of spring budburst and practice asking questions and analyzing and interpreting data
- **What's hidden in tree buds** (age 11-14) - Students get familiar with the structure of the buds of deciduous trees, they observe the bud sprouting and the changes that trees undergo in spring.
- **Confused buds** (primary school) - Students learn how to record measurements, sort and evaluate data.
- **Green down** (age 11-14) - Students learn to ask questions while using the research cycle.
- **Color Palette** (age 11-14) - Students record the color change of an observed tree.



# THE GLOBE PROGRAM

THANK YOU!

Lenka Kleger

[lenka.kleger@terezanet.cz](mailto:lenka.kleger@terezanet.cz)

[www.globe.gov/web/european-phenology-campaign](http://www.globe.gov/web/european-phenology-campaign)

