



Osnovna šola Vencija Perka, Domžale

mag. Katarina Vodopivec Kolar, izbirni predmet: OKOLJSKA VZGOJA

BIOSFERA

jesenska akcija: green down

pomladanska akcija: green up

NAVADNA BREZA IN LIPA na šolskem igrišču:

marec – junij 2022: opazovanje olistanosti

september – november 2022: opazovanje obarvanosti in odpadanja listov



Spring has started and the buds on your trees are growing bigger. So what to do next?

You will find guidance in **Activity 3 for students** called **First Leaves**. Once you see tips of the green leaves on your buds:

- Measure the **length of leaves** twice a week
- **Record the results** into your data sheet
- Continue **sharing pictures and results** on the discussion forum.

Do you want to try something more? Then explore **how much carbon is stored in your tree** following the Carbon Activity 3 – Carbon in my Tree.

1) Select a tree:

- Close to your school or home, so that you can observe it often
- One of the [7 species of the campaign](#)



- If possible, choose a tree that is not shaded by a building (Ideally the tree-building distance is more than the height of the building), watered or fertilized. If any of these conditions cannot be met, make a note of this when creating your site.
- With at least one branch is positioned low so that you can observe the leaves closely.

2) Describe the tree and the site where it grows:

- Take GPS coordinates and write down altitude as well
- Find out the Latin name of the tree species (e.g. *Corylus avellana* for hazel)
- Name the tree (e.g. Hazel 1)
- If your tree has some specific conditions (watering etc.), note it down

3) Take pictures of the tree using GrowApp.

- The use of [GrowApp](#) is very easy and intuitive. See the [manual](#) on the GLOBE website.
- Share your picture at the [Discussion forum](#).

- Izbor primernih dreves v okolici šole: BREZA in LIPA
- 2X tedensko beleženje rezultatov

- Označitev 4 popkov na izbrani veji drevesa.
- 2X tedensko beleženje rezultatov: opazovanje oblike popka in nato merjenje dolžine razvoja prvih 4 listov izbrane vejice.

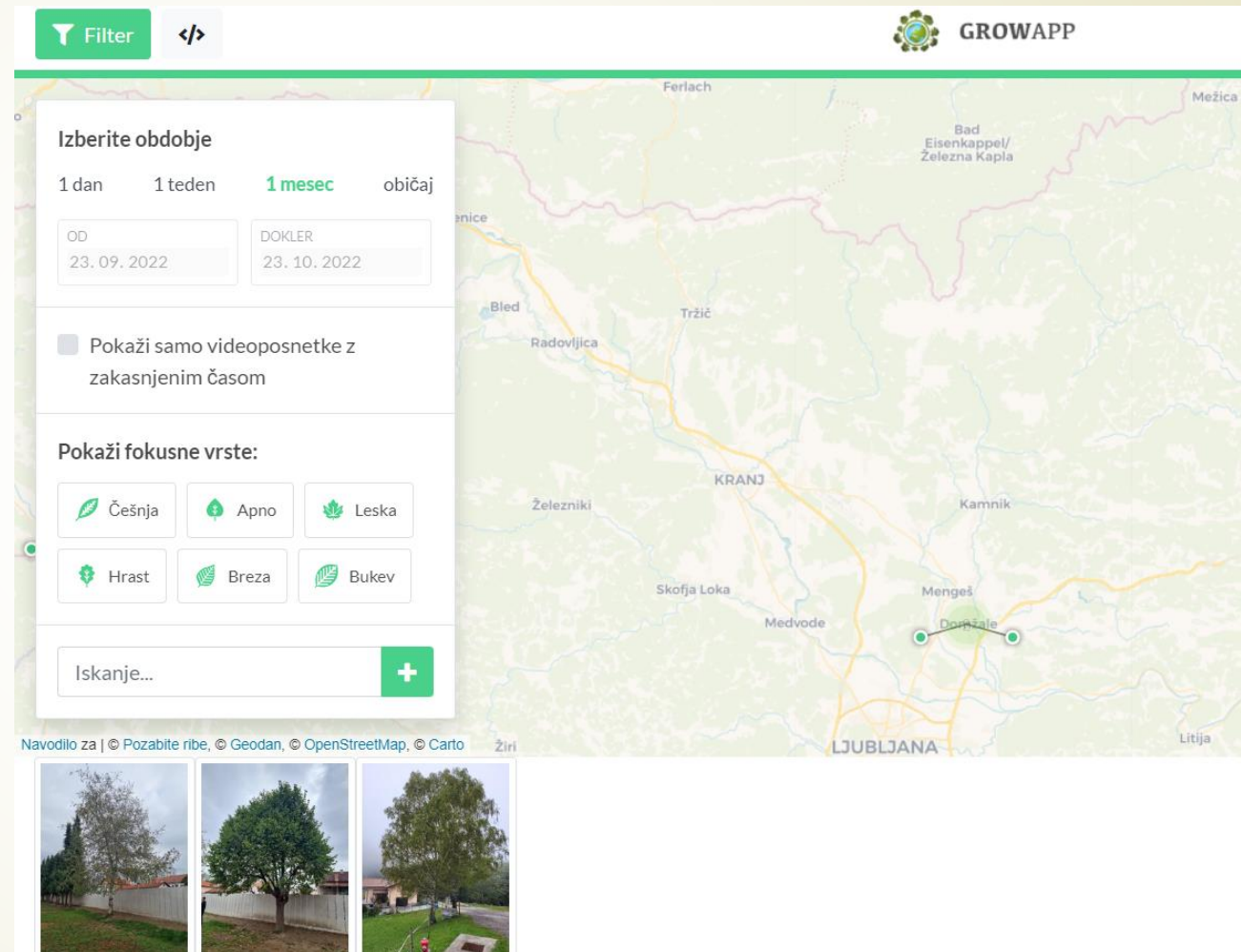


Green-up
Tree and Shrub Green-Up Data Sheet

School Name: _____ Study Site: _____
Observer Name: _____
Plant Scientific Name: _____
Plant Common Name: _____
Green-Up Cycle: _____

Date (day & month)	Leaf 1 (emergence, unfolding, leaf length (cm))	Leaf 2 (emergence, unfolding, leaf length (cm))	Leaf 3 (emergence, unfolding, leaf length (cm))	Leaf 4 (emergence, unfolding, leaf length (cm))	Data entry
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- Določitev GPS pozicije
- z GrowApp fotografiranje olistanosti drevesa
- na koncu: vpis v GLOBE bazo podatkov



[GrowApp - European Phenology Campaign - GLOBE.gov](https://growapp.org/)



Global Learning and Observations to Benefit the Environment

Certificate of Appreciation

Osnovna šola Vencija Perka, Domžale

School actively participating in the 2022 Spring Phenology Campaign

Dr. Tony P. Murphy, Director
GLOBE Implementation Office

Lenka Kleger
GLOBE Europe and Eurasia Region
Coordination Office

June 20, 2022

Date

Sponsored by:



Supported by:



Implemented by:



2022 Autumn - European Phenology Campaign - GLOBE.gov



EUROPEAN PHENOLOGY CAMPAIGN WEBINAR

Welcome to the Autumn Campaign

Learn all you need to know about the 2022 Autumn Tree Campaign plans. Discover green-down and carbon activities and tree height measurements.

22 September 2022, 3pm CEST on ZOOM



How to start the Autumn campaign

Download Activity 1 and 2 (below). These activities will guide you through the selection of a tree and tree color change observation.

Get GLOBE Plant Color Guide. You will need the guide to observe and record tree color changes. If you don't have one, contact your country coordinator.

1) Select a tree:

- Close to your school or home, so that you can observe it often
- One of the [7 species of the campaign](#)



- If possible, choose a tree that is not shaded by a building (Ideally the tree-building distance is more than the height of the building), watered or fertilized. If any of these conditions cannot be met, make a note of this when creating your site.
- With at least one branch is positioned low so that you can observe the leaves closely.

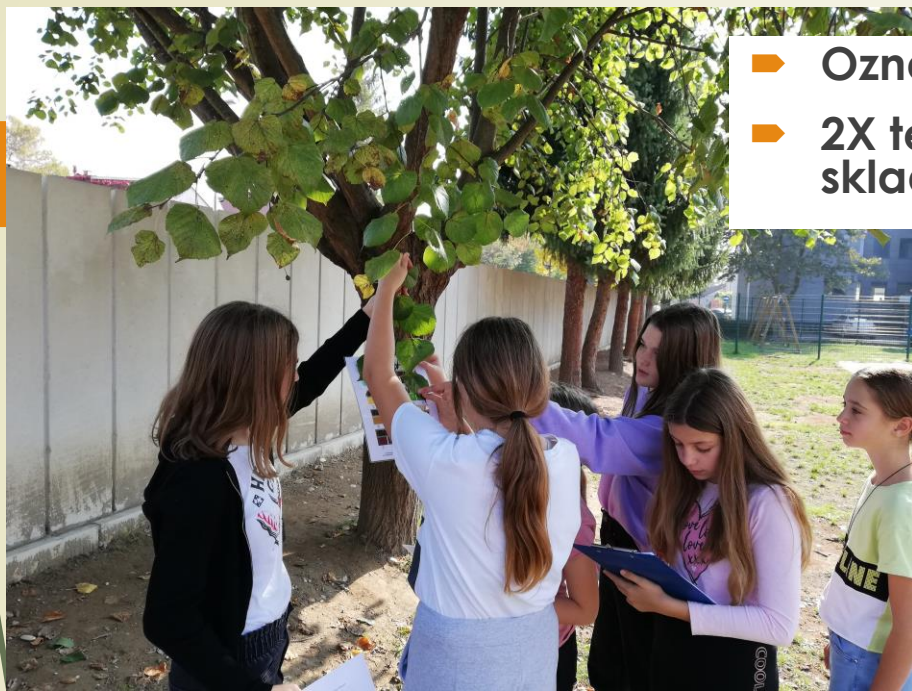
2) Describe the tree and the site where it grows:

- Take GPS coordinates and write down altitude as well
- Find out the Latin name of the tree species (e.g. *Corylus avellana* for hazel)
- Name the tree (e.g. Hazel 1)
- If your tree has some specific conditions (watering etc.), note it down

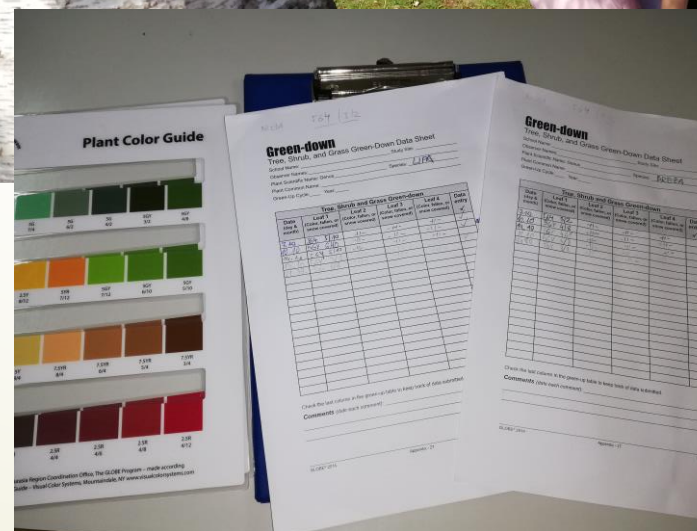
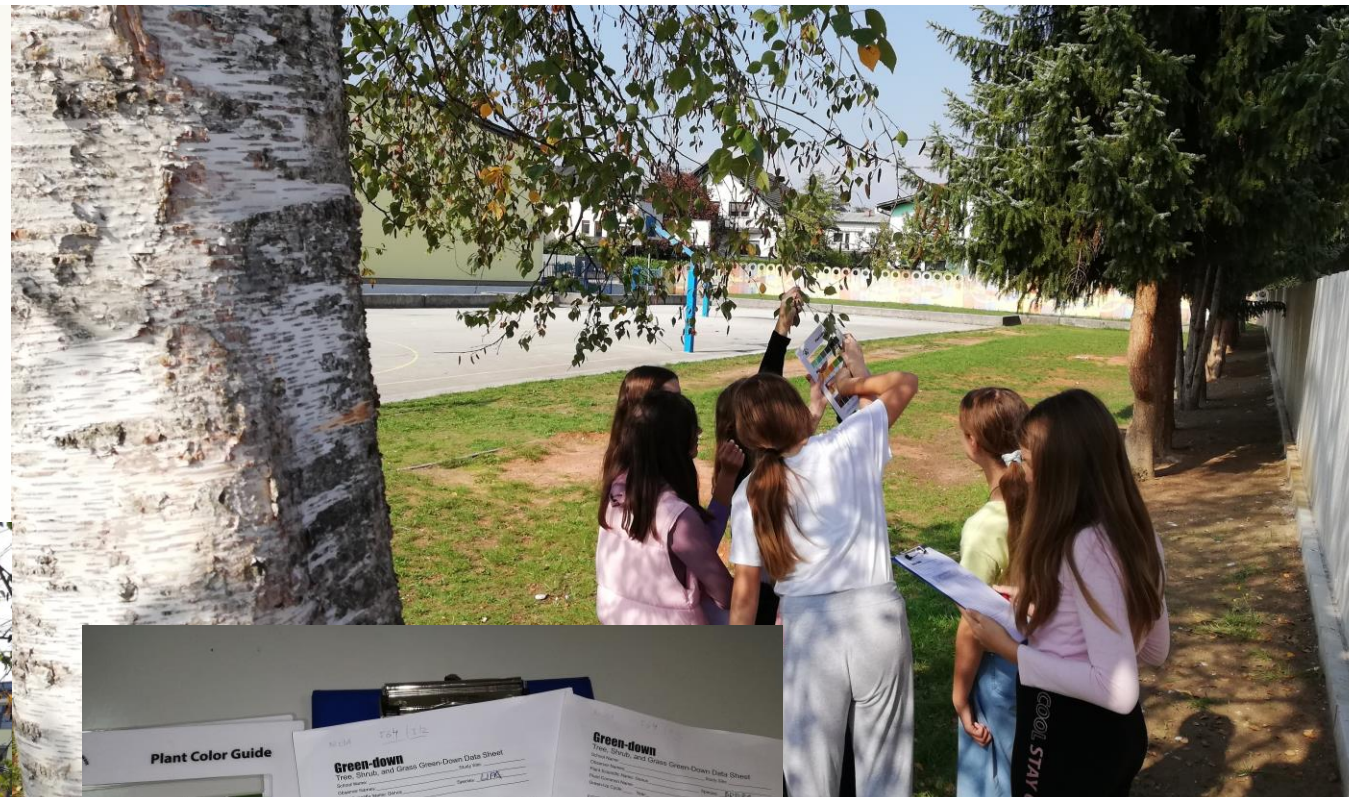
3) Take pictures of the tree using GrowApp.

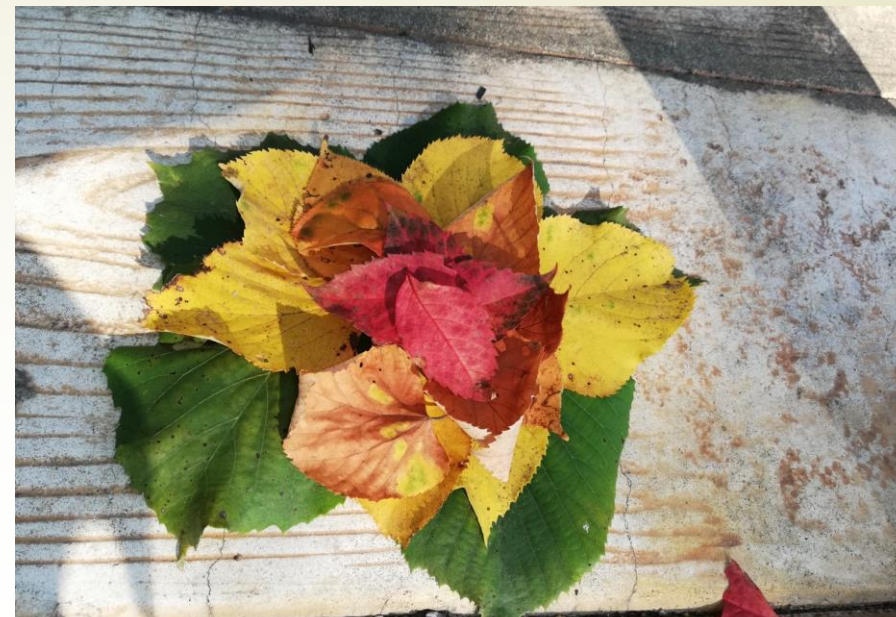
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- Share your picture at the [Discussion forum](#).

- Izbor primernih dreves v okolici šole: BREZA in LIPA
- 2X tedensko beleženje rezultatov s pomočjo barvne lestvice



- Označitev 4 listov na izbrani vejici.
- 2X tedensko beleženje rezultatov: opazovanje barve izbranih listov v skladu z barvno lestvico.





➤ **NADGRADNJA:**

Land art iz obarvanih listov v sončnem jesenskem vremenu





- Osnovna šola Vencija Perka, Domžale
- mag. Tjaša Kampos, izbirni predmet: KEMIJA V ŽIVLJENJU
predmet: KEMIJA, BIOLOGIJA

ATMOSFERA

Precipitation – padavine, pH

od aprila 2022 dalje



ZAČETEK

- seznanitev z dežemerjem
- postavitev dežemerja
- optimizacija nastavitve dežemerja
- seznanitev s protokolom



Precipitation Protocols



Purpose

To determine the amount of moisture input to the local environment by measuring rain and snowfall and to measure the pH of precipitation.

Overview

Students use a rain gauge and a snowboard to measure the daily amount of precipitation that has occurred. Students measure the depth and rain equivalent of each day's snow and of the total snowpack. Special pH measuring techniques for precipitation are used to determine the pH of rain and melted snow.

Student Outcomes

Students will understand that precipitation is measured in depth and this depth is assumed to apply to a large area, that precipitation has a pH that can vary, and that snow is an input of water to the surface just like rain and each snowfall is equivalent to some amount of rainfall.

Science Concepts

Earth and Space Science
Weather can be described by quantitative measurements.
Weather changes from day to day and over the seasons.
Weather varies on local, regional, and global spatial scales.
Precipitation forms by condensation of water vapor in the atmosphere.

Physical Science

Materials exist in different states.
Geography
The nature and extent of precipitation affects the characteristics of the physical geographic system.

Scientific Inquiry Abilities

Use a rain gauge to measure rainfall and rain equivalent of snow.
Use pH paper, pen, or meter to measure pH.

Use meter sticks to measure snow depth.
Identify answerable questions.
Design and conduct scientific investigations.

Use appropriate mathematics to analyze data.
Develop descriptions and explanations using evidence.
Recognize and analyze alternative explanations.
Communicate procedures and explanations.

Time

In the field: 5 minutes for rain,
10-15 minutes for snow
In the lab: 5 minutes for snow rain equivalent
5 minutes for pH
Maintenance: 10 minutes weekly for cleaning the rain gauge

Level

All

Frequency

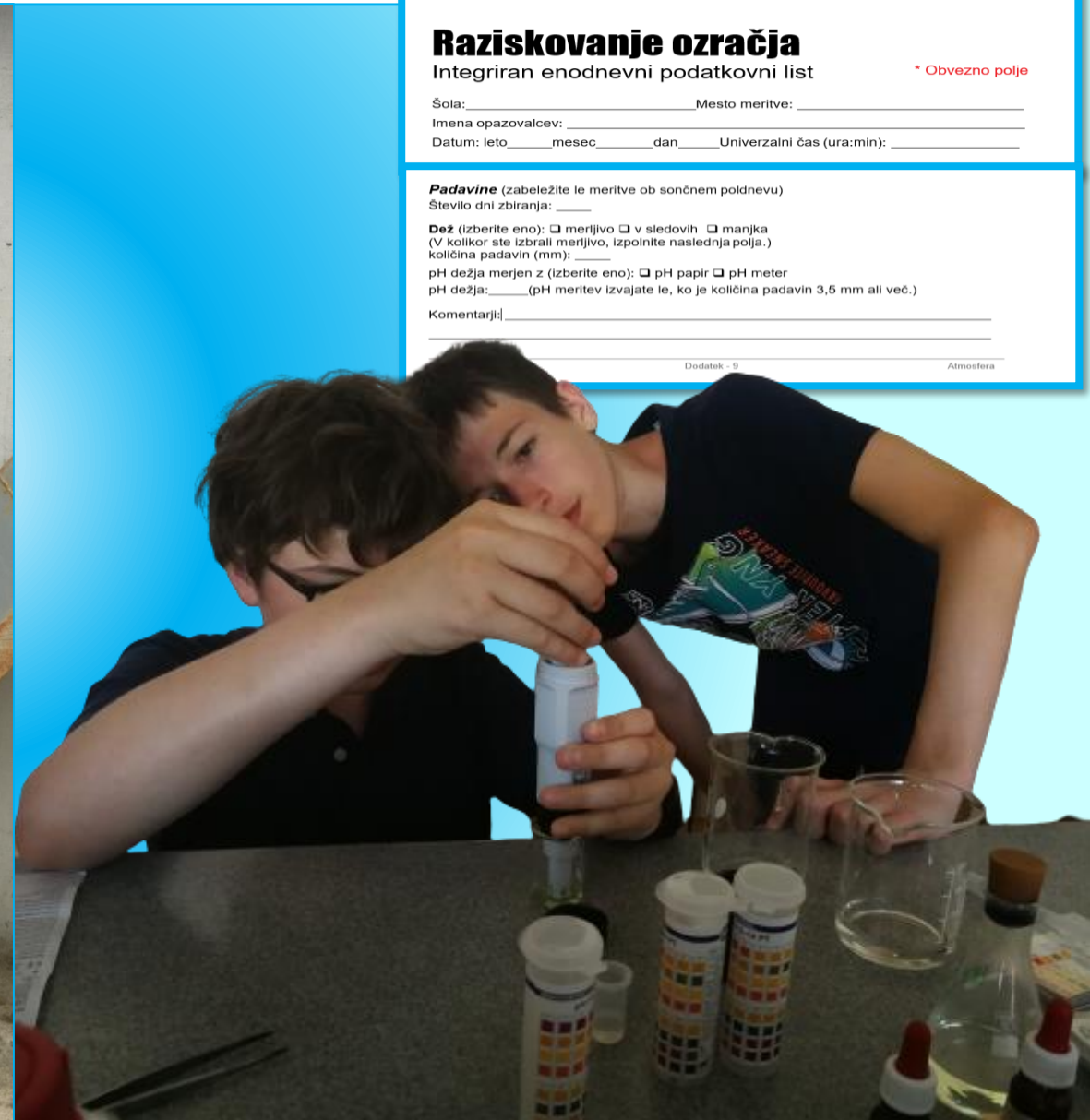
Daily- measurements can be taken any time

Materials and Tools

Installed rain gauge
Snowboard
Clean containers for pH samples 100 mL or larger
Two or three containers for snow samples
Carpenter's level
Meter stick
pH paper OR meter and pH buffers
Salt and salt card or pH buffers
Sampling jar with lid
300 mL beakers or cups
Tweezers
Stirring rods or spoon
Latex gloves
[Integrated 1-Day Data Sheet](#)
Distilled water for cleaning rain gauge



- ▶ priprava merilnih pripomočkov
- ▶ izvajanje meritev in beleženje rezultatov meritev



Raziskovanje ozračja

Integriran enodnevni podatkovni list

* Obvezno polje

Šola: _____ Mesto meritev: _____

Imena opazovalcev: _____

Datum: leto _____ mesec _____ dan _____ Univerzalni čas (ura:min): _____

Padavine (zabeležite le meritve ob sončnem poldnevu)

Število dni zbiranja: _____

Dež (izberite eno): ☐ merljivo ☐ v sledovih ☐ manjka
(V kolikor ste izbrali merljivo, izpolnite naslednja polja.)
količina padavin (mm): _____

pH dežja merjen z (izberite eno): ☐ pH papir ☐ pH meter

pH dežja: _____ (pH meritev izvajate le, ko je količina padavin 3,5 mm ali več.)

Komentarji: _____

Dodatek - 9

Atmosfera

dnevni vpis v GLOBE bazo podatkov

Atmosphere

Data Entry

New Observation(s)

Edit/Delete Measurements

Create/Edit My Sites

Select Protocols

▼ Atmosphere

☐ Aerosols

☐ Air Temperature

☐ Barometric Pressure

☐ Clouds

☒ Precipitation

☐ Relative Humidity

☐ Surface Temperature

☐ Water Vapor

☐ Wind

★ Required for one or more selected protocols

THE GLOBE PROGRAM

SCIENCE Data Entry

English

Welcome Tjaša Kampos

Short tutorial (pdf). More information is available->

My Bookmarks

You have not bookmarked any investigations yet. Expand the organizations and click the stars next to the investigations to create a bookmark.

My Organizations and Sites

Osnovna šola Vencija Perka

ORG_ID: 80547215

Add site

Osnovna šola Vencija Perka Domžale

Latitude 46.137552, Longitude 14.587999, Elevation 298.7m, SITE_ID: 278847

Edit siteDelete site

Atmosphere

Aerosols★

New observationPast observations

Clouds★

New observationPast observations

Multi-Day Soil And Air Temperatures★

New observationPast observations

Precipitation★

New observationPast observations

Air Temperature 1-Day★

New observationPast observations

Integrated Atmosphere (1-Day)★

New observationPast observations

Multi-Day Soil And Soil Temperatures★

New observationPast observations

Water Vapor★

New observationPast observations

THE GLOBE PROGRAM

SCIENCE Data Entry

Welcome Tjaša Kampos

Data Entry Home / Osnovna šola Vencija Perka / Osnovna šola Vencija Perka Domžale / Precipitation

Precipitation Editing

Enter The Date And Time Of The Observation (24hr)

2022-09-16

10:02

UTC

Local

Get Current UTC Time

Your UTC time converted to Local (S) time is 2022-09-16 12:02

Solar Noon: 10:56 UTC

Precipitation

Days of accumulation★

1

Types of precipitation measured

RainfallNew SnowfallTotal Snowpack

Rainfall

Accumulation mm

Measurable

Rain pH Measured With

pH Meter

80

mm

pH of Rain

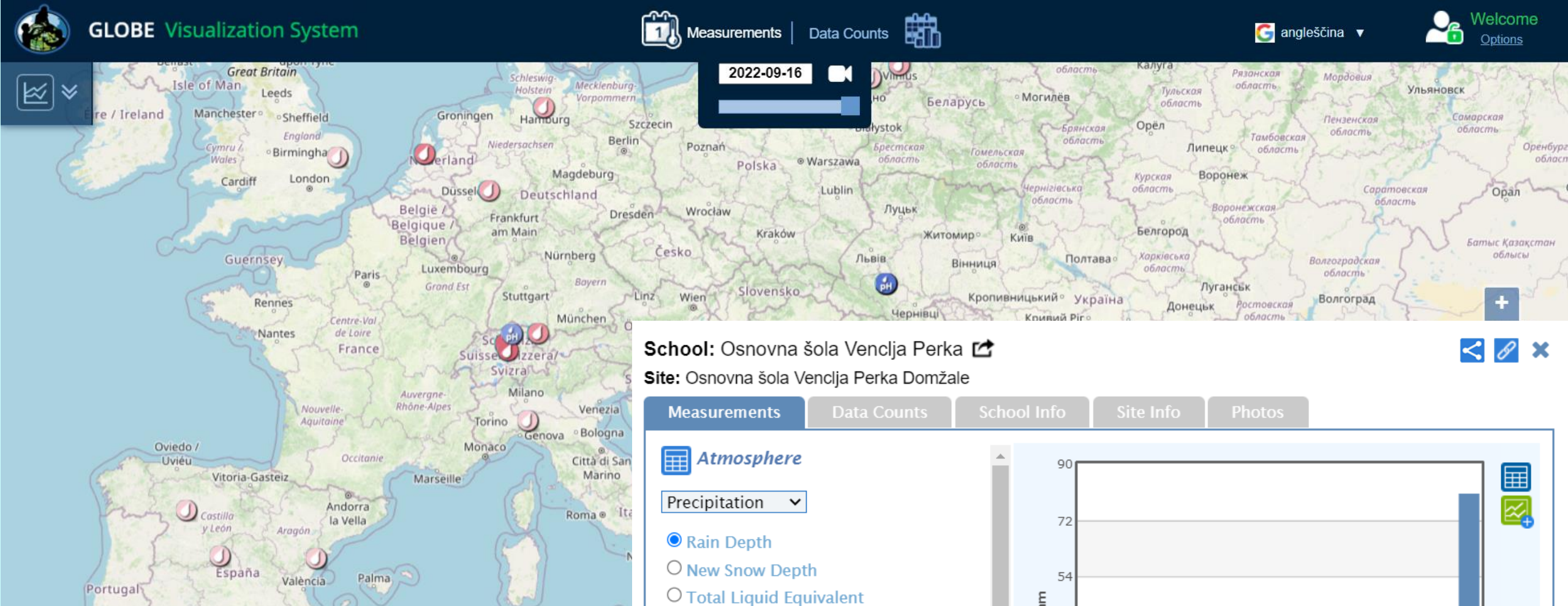
5.9

Note: pH measurements are only allowed when you have 3.5 mm or more of liquid

UPORABA PODATKOV PRI POUKU

- vpogled v podatke po celem svetu
- primerjava podatkov omogoča učenje z raziskovanjem pri pouku kemije, biologije
npr. vplivi na pH deževnice; zakaj so razlike v različnih delih sveta,...





predstavitev podatkov ostalim učencem v razredu kot uvod v eksperimentalno delo, s poudarkom na učenju z raziskovanjem...

- Učenje z raziskovanjem pri izbirnem predmetu KEŽ, pri pouku kemije, biologije
npr. 🌸 Vpliv pH deževnice na prst v šolskem vrtničku
🌸 Katere rastline so primerne za šolski eko vrtniček

