Preučevanje hidrosfere

Alenka Lenarčič
Srednja šola Domžale

THE GLOBE PROGRAM

A Worldwide Science and Education Program

English

About | Get Started | Get Trained | Do GLOBE | GLOBE Data | Community | News & Events | Support

Protocol eTraining

- Atmosphere
- Biosphere
- Hydrosphere

Hydrosphere

INTRODUCTION TO HYDROSPHERE

This introductory module introduces GLOBE's hydrosphere investigation area. You will learn why it is important to document and monitor the hydrosphere. You will be introduced to the different GLOBE protocols used to collect hydrosphere data. Step by step instructions for documenting a hydrosphere study site are outlined, as well as the steps you need to follow to report a new hydrosphere study site to the GLOBE database using GLOBE's mobile data app.

Download Module | Assessment Test | **Test completed 10/24/2021**

ELECTRICAL CONDUCTIVITY

Learn how to take electrical conductivity measurements at your GLOBE hydrosphere study site. This module provides a step by step introduction of the Electrical Conductivity Protocol. After completing this module, you will be able to define electrical conductivity and explain how changing environmental conditions will result in different measurements. You will learn the procedure for collecting electrical conductivity measurements using a meter or a probe. You will know how to upload your data to GLOBE and be able to visualize electrical conductivity data submitted from around the world using GLOBE's Visualization System.

Download Module | Assessment Test | **Test completed 05/02/2022**

Supporting Material:

Electrical Conductivity Tutorial

In this tutorial, explore the electrical conductivity of liquids and follow the GLOBE protocol used to measure the electrical conductivity of water using an electrical conductivity meter.

WATER pH

Learn how to take water pH measurements at your GLOBE hydrosphere study site. This module provides a step by step introduction of the water pH Protocol, using pH paper. After completing this module, you will be able to define water pH and explain how changing environmental conditions will result in different measurements. You will learn the procedure for collecting pH data using pH paper. You will know how to upload your data to GLOBE and be able to visualize pH data submitted from around the world using GLOBE's Visualization System.

Download Module | Assessment Test | **Test completed 10/25/2021**

Supporting Material:

pH Paper Interactive

Learn about pH in this virtual lab experience, conducting the GLOBE protocol for pH measurement of water using pH paper.

WATER TEMPERATURE

Learn how to take water temperature measurements at your GLOBE hydrosphere study site. This module provides a step by step introduction of the Water Temperature Protocol, using an alcohol-filled thermometer. After completing this module, you will be able to define water temperature and explain how changing environmental conditions will result in different measurements. You will learn the procedure for measuring water temperature using an alcohol-filled thermometer. You will know how to upload your data to GLOBE and be able to visualize water temperature data submitted from around the world using GLOBE's Visualization System.

Download Module | Assessment Test | **Test completed 05/02/2022**

Supporting Material:

Water Temperature Interactive

Practice taking water temperature measurements with an alcohol-filled thermometer or a digital water temperature probe.

WATER TRANSPARENCY

Learn how to take water transparency measurements at your GLOBE hydrosphere study site. This module provides a step by step introduction of the Water Transparency Protocol, using a piece of scientific equipment known as a transparency tube. After completing this module, you will be able to define water transparency and explain how changing environmental conditions will result in different measurements. You will learn the procedure for measuring water transparency using a transparency tube. You will know how to upload your data to GLOBE and be able to visualize water transparency data submitted from around the world using GLOBE's Visualization System.

Download Module | Assessment Test | **Test completed 05/02/2022**

Supporting Material:

Water Transparency Interactive

Learn how to build a water transparency tube and use it to measure the transparency of natural waters following the GLOBE protocol for measuring water transparency with a transparency tube.


THE GLOBE PROGRAM
Water Bodies Challenge
March 22 – May 20
Photo by Iswanto Arif on Unsplash

THE GLOBE PROGRAM

Water Bodies Checklist

Select as many activities as you want from the checklist! Do at least 4 activities from the checklist to receive a GLOBE badge and certificate for your school.

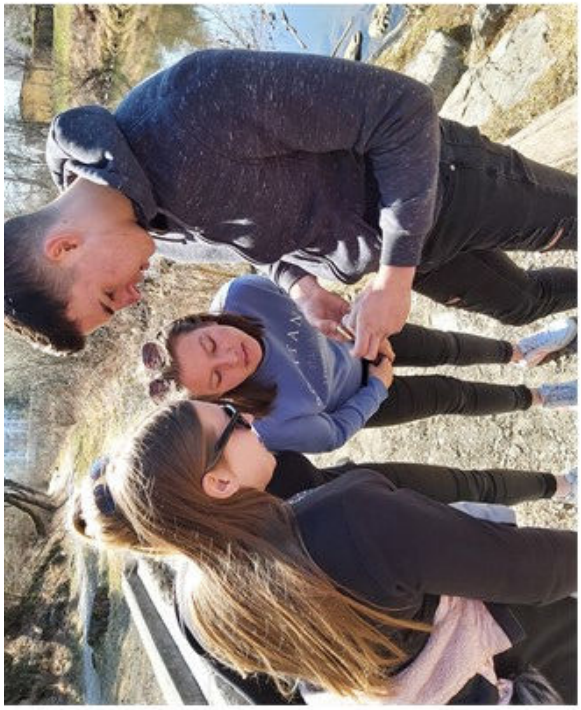
Map land cover around WB and send data with GLOBE Observer App ✓	Take a selfie with WB or a photo of WB ✓	Make an awareness campaign on water for your community
Make a poster - write or draw a story of WB ✓	Water analysis with MACHEREY NAGEL VISOCOLOR SCHOOL KIT ○ (Ran out of time; we did it before and we'll definitely do it later.)	Dip yourself or swim in nearby WB ✓
Organize a Clean Up Day to clean the surroundings of WB	Make a short (1 min) video on any topics from this checklist. ✓	Collect data on water quality and upload them to GLOBE database ✓

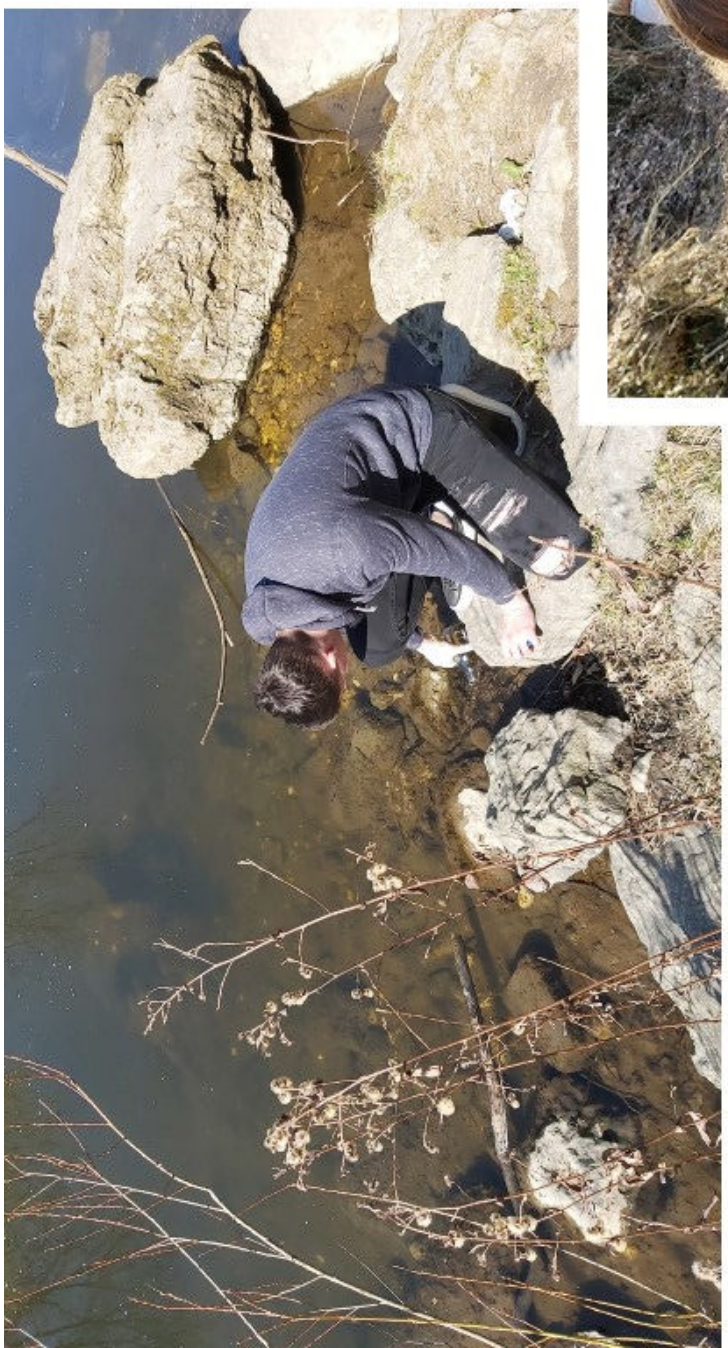
KROŽENJE VODE V NARAVI – izdeleva plakata

Water circulation in nature - making a poster

ANALIZA VODE - pH

Water analysis - pH





Sebek s Kamniško Bistrico

Selfie with Kamniška Bistrica

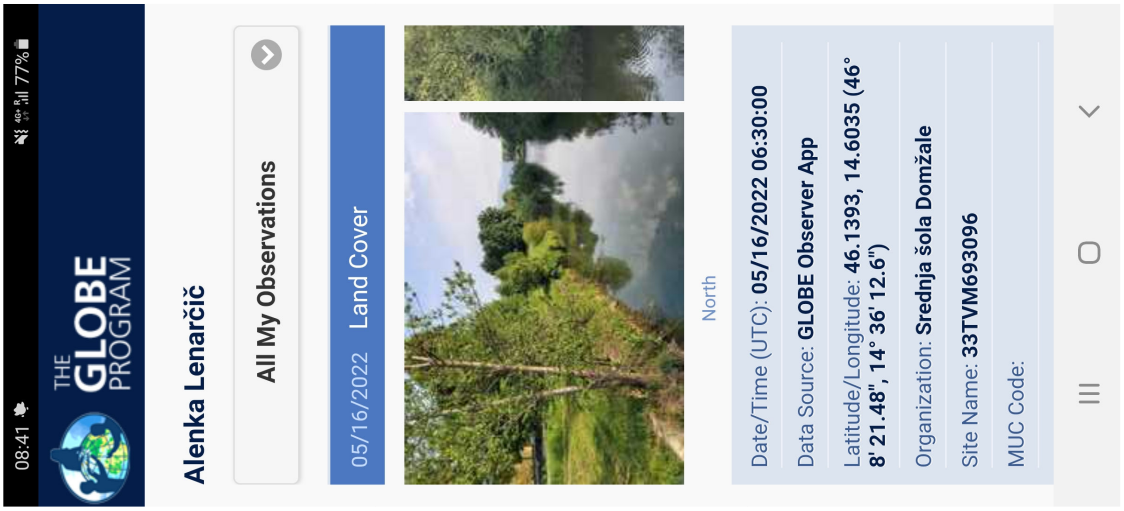
Razstava plakata

Poster exhibition


PADAVINE
PODTALNICA
KROŽENJE VODE V NARAVI
OBLAKI in
PADAVINE

OPAZOVANJE OKOLICE VODNEGA TELESA Z APLIKACIJO GLOBE OBSERVER

Observing the Water Body surroundings with GLOBE Observer App



DOKUMENTIRANJE MESTA ZA PREUČEVANJE HIDROSFERE

Documenting the place

for studying the hydrosphere

9. 5. 2022

DOKUMENTIRANJE MESTA ZA PREUČEVANJE HIDROSFERE

Documenting the place

for studying the hydrosphere

9. 5. 2022

PRVO VZORČENJE

First sampling

9. 5. 2022

MERJENJE PREVODNOSTI

Conductivity Measurement

12. 5. 2022

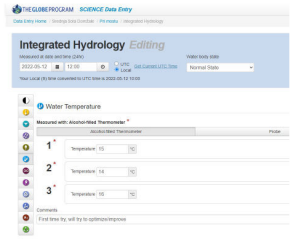
UMERJANJE TERMOMETRA

Thermometer Calibration

12. 5. 2022

MERITVE TEMPERATURE NA TERENU

Collecting Data in the Field with Alcohol Filled Thermometer



12. 5. 2022

MERJENJE TEMPERATURE

Temperature measurement

20. 5. 2022

MERJENJE
pH

pH measurement

20. 5. 2022

Raziskovanje hidrosfere

Podatkovni list

Šola: SREDNJA ŠOLA DOMŽALE Dijaki: Maruša Dajčar, Živa Kobal

Čas meritve: *

Leto: _____ Mesec: _____ Dan: _____ Ura: _____ (lokalno)

Ime mesta meritve: Pri mostu (Šumberška cesta)

Stanje vode: (izberite eno) *

❒ normalno ❒ poplavljeno ❒ suho ❒ zamrznjeno ❒ nedostopno

Opomba: *Če ste izbrali normalno stanje, nadaljujte; pri ostalih stanjih meritev ne morete izvajati.*

Temperatura vode

Merjeno z : ❒ alkoholnim termometrom ❒ sondo

1. meritev: _____ °C

2. meritev: _____ °C

3. meritev: _____ °C

Povprečna temperatura: _____ °C

Opombe:

---

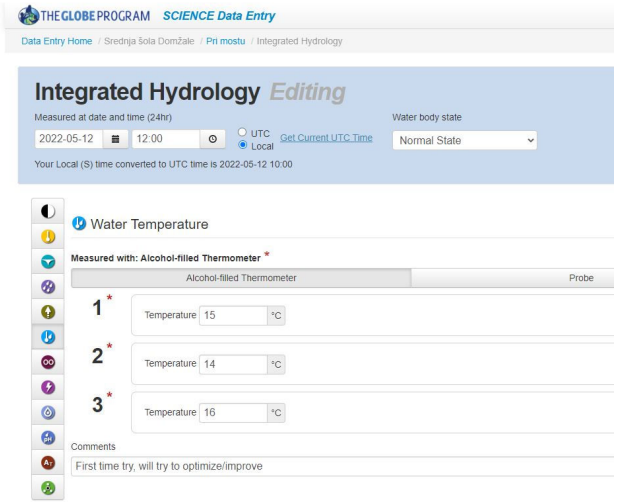
pH vode

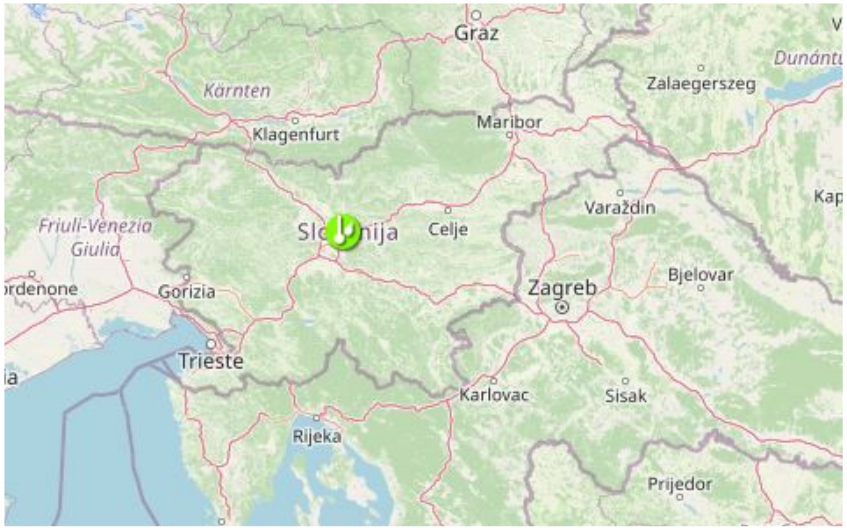
merjeno s: ❒ pH lističi ❒ pH metrom

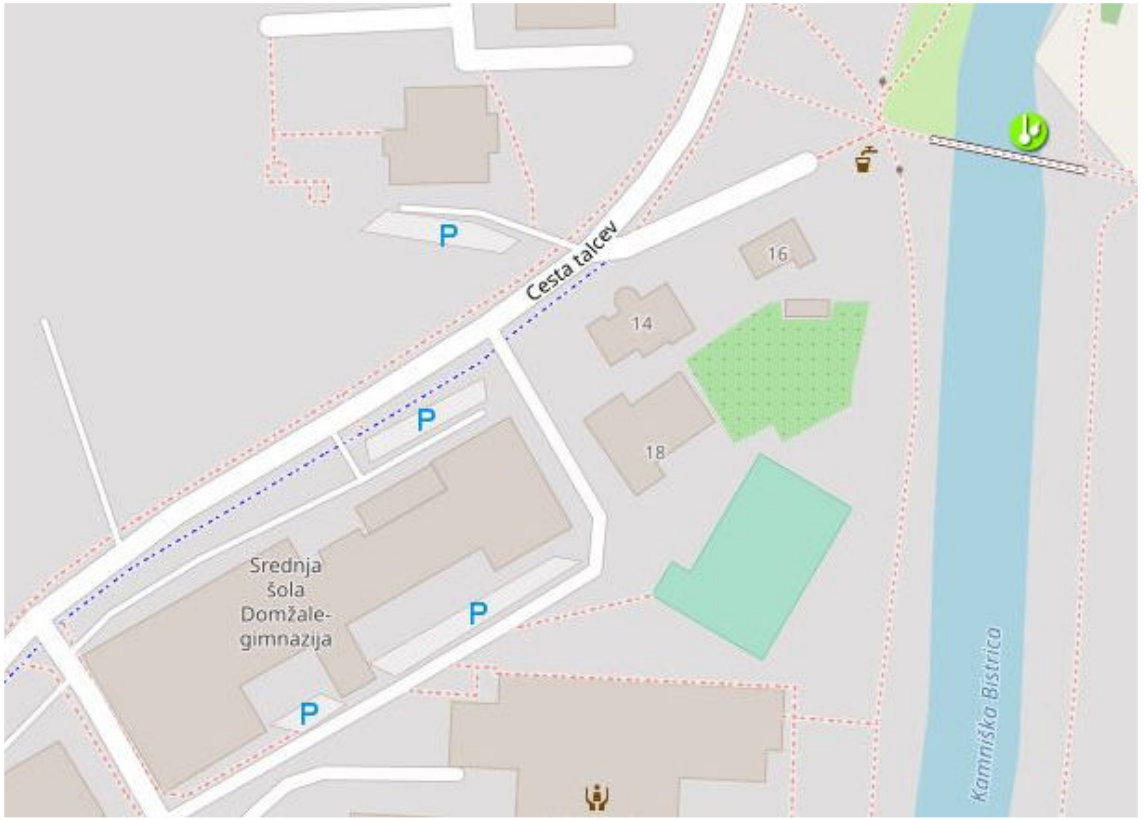
Če je dodana sol, prevodnost (µS/cm)	pH

Vrednosti puferskih raztopin: ❒ pH 4 ❒ pH 7 ❒ pH 10 *(izberite vse, ki ste jih uporabili)*

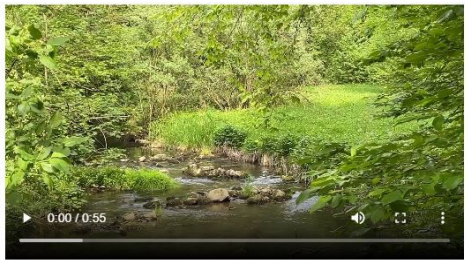
Opombe:


THE GLOBE PROGRAM SCIENCE Data Entry
Data Entry Home / Srednja šola Domžale / Pri mostu / Integrated Hydrology
Integrated Hydrology Editing
Measured at date and time (24hr)
2022-05-12
12:00
UTC
Local
Get Current UTC Time
Water body state
Normal State
Your Local (S) time converted to UTC time is 2022-05-12 10:00
Water Temperature
Measured with: Alcohol-filled Thermometer *
Alcohol-filled Thermometer
Probe
1 *
Temperature 15 °C
2 *
Temperature 14 °C
3 *
Temperature 16 °C
Comments
First time try, will try to optimize/improve


Graz
Kärnten
Klagenfurt
Maribor
Zalaegerszeg
Varaždin
Celje
Friuli-Venezia Giulia
Gorizia
Trieste
Zagreb
Bjelovar
Karlovac
Sisak
Rijeka
Prijedor


Cesta talcev
16
14
18
Srednja šola Domžale-gimnazija
Kamniška Bistrica

GRADIŠKO JEZERO (1)



REKA RAČA

MENGEŠKI BAJER

GRADIŠKO JEZERO (2)

KAMNIŠKA BISTRICA

:Padlet

Alenka Lenarčič • 5mo

GLOBE Water Bodies Challenge 2022

22. marec - 20. maj 2022, Srednja šola Domžale

Take a selfie with WB or a photo of WB = Naredi sebek z VT ali slikaj VT

Sebek s Kamniško Bistrico

Kamniška Bistrica, 25. 3. 2022

Selfie with the river Kamniška Bistrica

♡ 5

Sebek s Kamniško Bistrico

Kamniška Bistrica, 25. 3. 2022

Selfie with the river Kamniška Bistrica

Make a poster - write or draw a story of WB = Naredi plakat ali napiši zgodbo o VT

Kroženje vode v naravi - izdelava plakata

Water circulation in nature - making a poster

♡ 5

Razstava plakata

Poster exhibition

♡ 5

Make a short (1 min) video on any topics from the checklist = Naredi kratek film o kateri koli dejavnosti s seznama

O potoku Oševek in skok v vodo!

MP4

*Stream Oševek and **jump into the water!***

♥ 1

Gradiško jezero (1)

MP4

Gradiško Lake

Map land cover around WB and send data with GLOBE Observer App

Dokumentiranje mesta za preučevanje hidrosfere

Documenting the place for studying the hydrosphere

♥ 2

Dokumentiranje mesta za preučevanje hidrosfere

Documenting the place for studying the hydrosphere

♥ 3

Collect data on water quality and upload them to GLOBE database

Prvo vzorčenje (9. 5. 2022)

First sampling

♥ 2

Protokol Temperatura vode (12. 5. 2022)

Water Temperature with Alcohol Filled Thermometer Protocol - Thermometer Calibration

♥ 2

Other = Drugo

Analiza vode - pH

Water analysis - pH

♡ 5

The GLOBE Program

Global Learning and Observations to Benefit the Environment

Certificate of Appreciation

Alenka Lenarčič
Srednja šola Domžale,Slovenia

Participation in 2022 Water Bodies Challenge

Dr. Tony P. Murphy
Director
GLOBE Implementation Office

Bára Semeráková, Dana Votápková
GLOBE Europe and Eurasia Region Coordination Office

June 24, 2022

Sponsored by: NASA Supported by: NSF NOAA Implemented by: UCAR

Izdelki: https://ekemija.splet.arnes.si/water-bodies-challenge-2022/