



# **2021 GLOBE Virtual Regional Meeting for Europe and Eurasia**

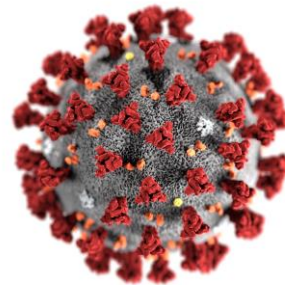
**October 4-8.2021.**

# Collaboration of students on project development at the time of pandemic

Zrinka Klarin and Anita Mustać

Elementary school Šime Budinić Zadar – CROATIA

GLOBE Develops Competencies and Skills





- 12 years in the GLOBE community
- Students from 7 to 14 years
- About 50 students are involved in the Globe project

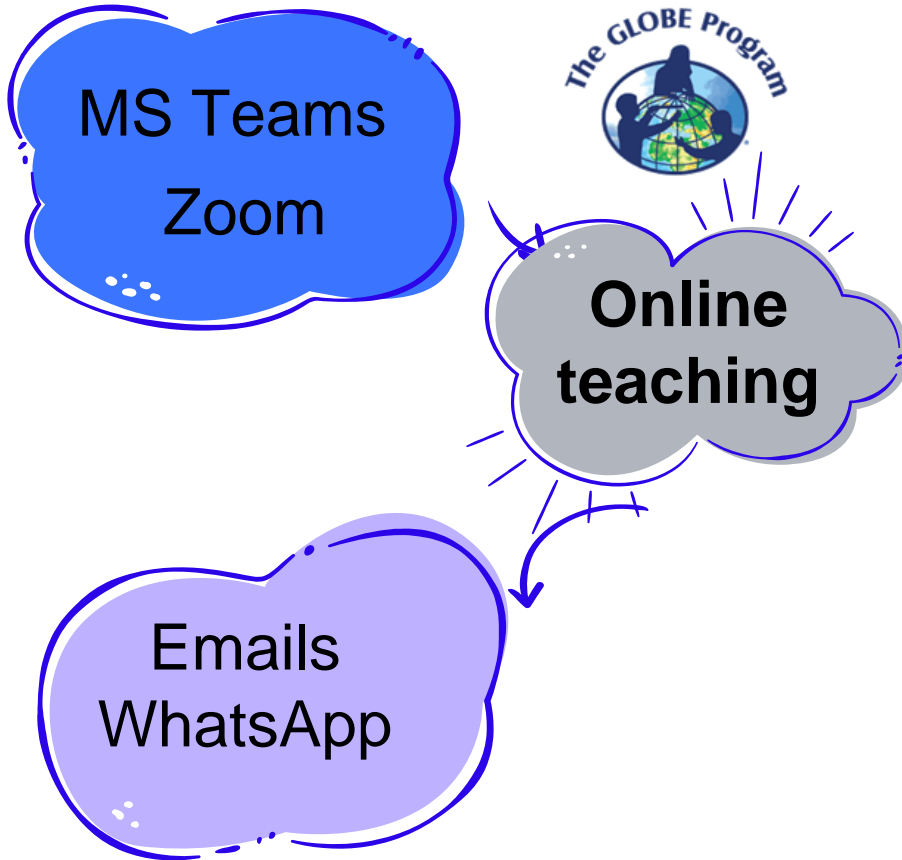


- GLOBE protocols – Atmosphere, Biosphere, Hydrosphere, Pedosphere
- Globe campaigns



- School projects

2019./2020. - 2020./2021.



### Positive sides:

- Educational materials are more easily accessible.
- Students can study from any location where there is an internet access.
- Interpersonal communication between student and teacher is more common.
- Developing Internet and computer skills.

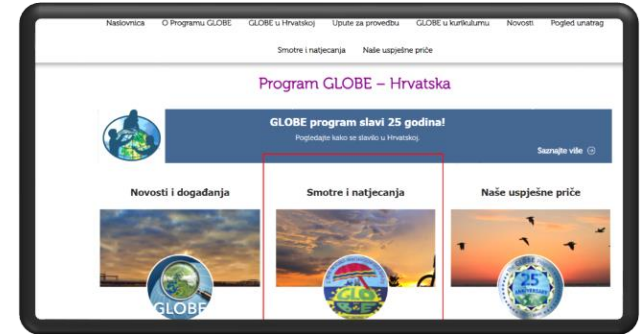
### Negative sides:

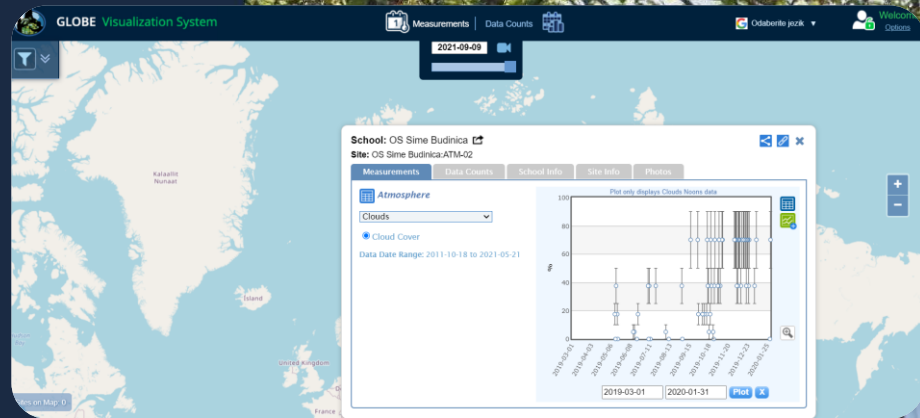
- ❖ Students feel isolated from teacher and colleagues.
- ❖ Fieldwork is not possible.
- ❖ Learning can be easily abandoned.
- ❖ Managing computer programs can be very complicated for students.



# State Competition

IZNIMNO USPJEŠNI PROJEKTI DRŽAVNE RAZINE SIN GLOBE 2021.		
Naziv škole	Naziv projekta	Sekcija
OŠ Veli Vrh, Pula	Posljedice pošumljavanja Velog Vrh	pokrov
OŠ Dubovac, Karlovac	Tko je vidio krijesnice?	pokrov
OŠ prof. Franje Viktora Šignjara, Virje	Temperatura tla u Virju	tlo
OŠ Ivane Brlić-Mažuranić, Virovitica	Što nam govore oblaci	atmosfera
OŠ Šime Budinića, Zadar	Oblaci nad mojim gradom	atmosfera
Gimnazija "Matija Mesić", Slavonski Brod	Pitka voda u Slavonskom Brodu	voda
OŠ Banija, Karlovac	Posoli za pH	voda



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## GLOBE in the Time of the Coronavirus (COVID-19) Pandemic

Get updates from the Program and resources for teachers, parents, students, and citizen scientists for online learning that can be done indoors.

[More >](#)

Featured

GLOBE  
Around  
the World

See GLOBE in your Country or Region:

Croatia



Go

# RESEARCH QUESTIONS/HYPOTHESES



What types of clouds most often formed in the sky above our school in 2019?



What types of clouds did we least notice in the sky above our school in 2019?



How often we had contrails in the sky?

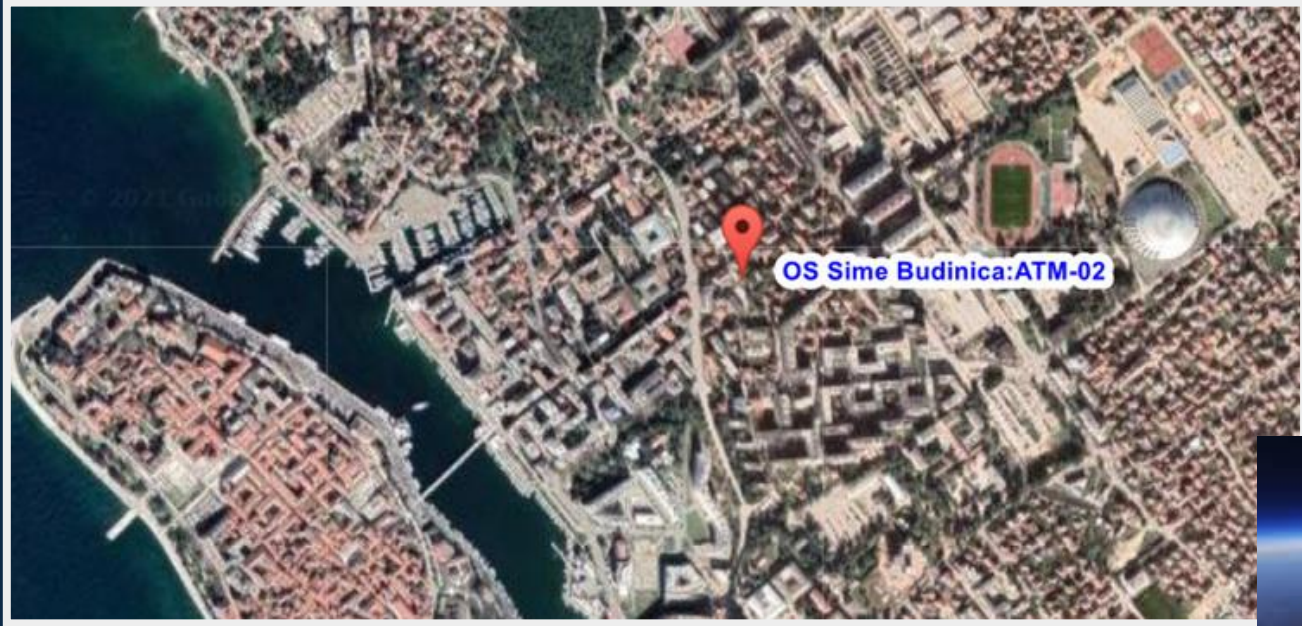
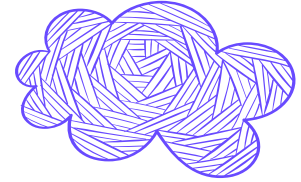
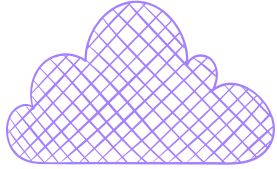


Figure 1. OS Sime Budinica station: ATM-02

N 44.1173 E 15.2365



# TIME of observing cloud types



January 1, 2019.

January 1, 2020.

**365**  
measurements



Atmosphere Investigation: Cloud Protocol Data Sheet SEE GLOBE CLOUD CHART FOR VISUAL REFERENCE 1

School/Observer Name: \_\_\_\_\_ Study Site: \_\_\_\_\_

Date (ex. 2017 01 13): Year: \_\_\_\_ Month: \_\_\_\_ Day: \_\_\_\_

Time (ex. 24 Hour Clock: 14 20): Local: Hour: \_\_\_\_ Minute: \_\_\_\_ Universal: Hour: \_\_\_\_ Minute: \_\_\_\_

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**1. What is in your Sky?**

Total Cloud/Contrail Cover:  Fog  Sand  Heavy Rain  Spray  Haze  Volcanic Ash

Sky is Obscured  None (Go to box 2)  Scattered (25-50%)  Broken (50-90%)  Overcast (90-100%)  Isolated (10-25%)  Overcast (90-100%)  Blowing Snow  Dust  Go to box 6

\*If you can observe sky color or visibility, complete box 2

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**2. Sky Color and Visibility**

COLOR (Look Up):  Cannot Observe  Deep Blue  Blue  Light Blue  Pale Blue  Milky

VISIBILITY (Look Ahead):  Cannot Observe  Unusually Clear  Clear  Somewhat Hazy  Very Hazy  Extremely Hazy

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**3. High Level Clouds**

No High Level Clouds Observed (Go to box 4)

Cloud Type:  Cirrus  Cirrostratus  Altostratus  Cirrocumulus

Cloud Cover:  Few (<10%)  Isolated (10%-25%)  Scattered (25%-50%)  Broken (50%-90%)  Overcast (>90%)

Visual Opacity:  Opaque  Translucent  Transparent

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**4. Mid Level Clouds**

No Mid Level Clouds Observed (Go to box 5)

Cloud Type:  Altostratus  Alto cumulus

Cloud Cover:  Few (<10%)  Isolated (10%-25%)  Scattered (25%-50%)  Broken (50%-90%)  Overcast (>90%)

Visual Opacity:  Opaque  Translucent  Transparent

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**5. Low Level Clouds**

No Low Level Clouds Observed (Go to box 6)

Cloud Type:  Fog  Stratus  Nimbostratus  Cumulus  Stratocumulus

Cloud Cover:  Few (<10%)  Isolated (10%-25%)  Scattered (25%-50%)  Broken (50%-90%)  Overcast (>90%)

Visual Opacity:  Opaque  Translucent  Transparent

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**6. Surface Conditions**

Mandatory:  Snow/ice Yes  No  Dry Ground Yes  No  Standing Water Yes  No  Leaves on Trees Yes  No  Muddy Yes  No  Raining/Snowing Yes  No

Optional: You may submit any or all

Temperature: \_\_\_\_ °C  
 Barometric Pressure: \_\_\_\_ mb  
 Relative Humidity: \_\_\_\_ %

Comments: \_\_\_\_\_

GLOBE 2017 ATMOSPHERE

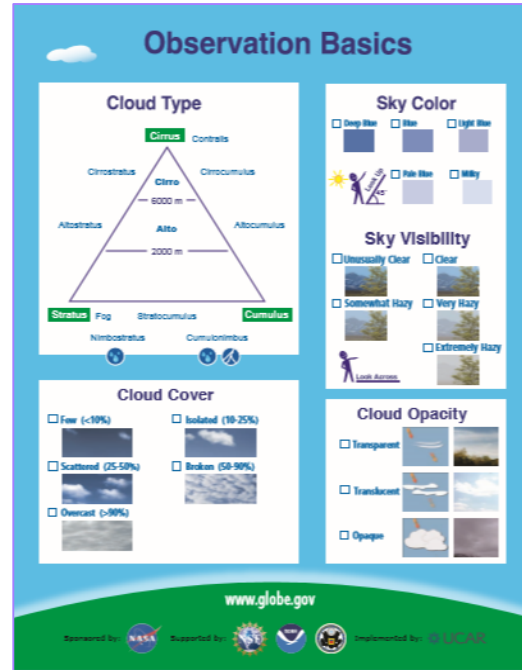


Figure 2. Cloud data entry list

Figure 3. List of cloud types

Figure 4. GLOBE application



# NASA GLOBE Observer Cloud Satellite Match

[Otvori detaljan prikaz](#)

NASA Cloud Observation and Satellite Match			
<b>Satellite</b>		<b>GEO</b>	<b>Your Observation</b>
Universal Date/Time 2019-11-14		14:10	14:20
Latitude Range		43.8 to 44.44	Latitude 44.117600
Longitude Range		14.92 to 15.56	Longitude 15.236600
Total Cloud Cover		Overcast 98.66%	Broken (50-90%)
<b>H I G H</b>	Cloud Cover	Few (1.33%)	Cirrus
	Cloud Altitude	6.22 (km)	Cirrocumulus
	Cloud Phase	Ice 256.35 (K)	Broken (50-90%)
	Cloud Opacity	Transparent	Translucent
<b>M I D</b>	Cloud Cover	Overcast 97.33%	Altostratus
	Cloud Altitude	3.43 (km)	Broken (50-90%)
	Cloud Phase	Mixed 267.73 (K)	Translucent
	Cloud Opacity	Translucent	
<b>L O W</b>	Cloud Cover	No Clouds	Cumulonimbus
	Cloud Altitude		Cumulus
	Cloud Phase		Stratocumulus
	Cloud Opacity		Broken (50-90%)
Corresponding NASA Satellite Images. Click to view image --->			Opaque Sky Visibility no report Sky Color no report
Are there any comments you would like to add? Be sure to add the name of the satellite for our record.			<b>Surface Conditions</b> Snow/Ice No Standing Water Yes Muddy Yes Dry Ground No Leaves on Trees Yes Raining or Snowing No

Figure 5. Matching data NASA GLOBE Observer Cloud Satellite Match and OS Sime Budinica: ATM-2

# GLOBE education

5.11.2019.  
NASA GLOBE  
Clouds Purple  
Sunsets in OurSky

22.10.2019.  
Participating in the Fall  
Cloud Challenge -  
Facebook Live Event at  
GLOBE School

21.8.2019.  
Have You  
Checked Out the  
"Cloud"

WEBINARS

11.6.2019.  
How Does GLOBE  
Data Help Scientists -  
NASA GLOBE Clouds



# VISIT to the institution

**State Hydrometeorological Station  
Zadar - Puntamika**

**March 5, 2020.**

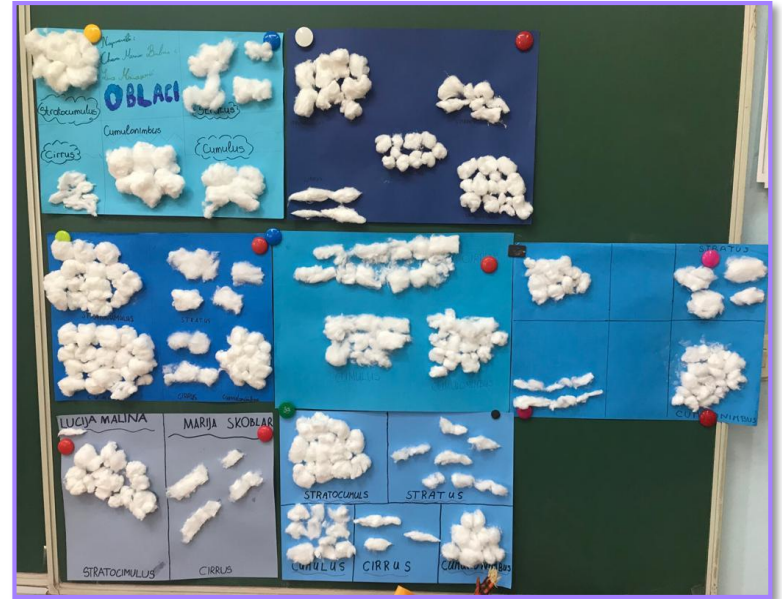
Collaboration of several Zadar  
GLOBE schools that participated in  
the training with meteorologist  
Anđelko Vidović.

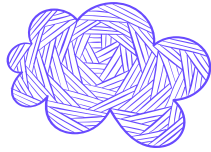


# WORKSHOP "Small GLOBE students"

**April 10, 2020.**

Globe students held a workshop  
"Small GLOBE students" in our school  
and taught our pupils how to recognize  
the basic cloud types.

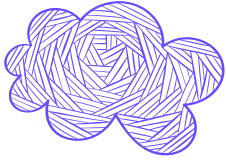




# Competencies and Skills



- the ability to perceive nature around us
  - data collection
  - measurement accuracy
  - study conducted systematically
- ability to analyze and compare data
  - drawing conclusions
  - use of ICT

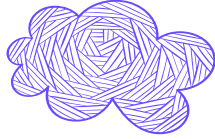


# Competencies and Skills in virtual reality



- recognizing dangers on the Internet
- visiting secure sites on the Internet
- appropriate behavior on the Internet
- appropriate communication between students
- developing the ability to graphically display data
- developing the ability to use different applications





# Competencies and Skills



- communication in mother tongue and foreign languages
  - developing mathematical and basic skills  
in science and technology
    - learn how to learn

PLEŠEM SUNCE ME GRIJE  
OBLAK S NEBA SE SMIJE



**Thank you for your attention!**

**Zrinka Klarin and Anita Mustać,**

**Elementary School Šime Budinića Zadar**

**CROATIA**