

Kako smo osvojili i Ameriku i kako je ona osvojila nas!!



Tree Ring Fellowship





Tree rings- do they talk about people?

Students: Filip Matijašec, Mislav Buva, Renato Vraneković
Mentors: Ira Beck, Marinela Labaš

School for nurses Vrapče, Zagreb - Croatia



LOCATION
Croatia - east coast of the Adriatic sea, combines mediteranian with continental climate characteristics.
Capital Zagreb - northwestern central part, divided in two parts by river Sava. 16th meridian goes through it as well.



INVESTIGATION'S AREA
GLOBE's "Tree Ring Project" as part of SCRC includes 24 schools from Norway, Czech Republic and Croatia divided in pairs, so called Twin schools. Our twin school is from Krokstad, Norway. Our task is to analyse rings of Pinus nigra, meet each other, get to know each other and to discuss our observations. This project came out from this cooperation.



GLOBE ACTIVITIES

Biometry activities, especially measuring DBH and damage degree of a 20 pinus nigra trees



Soil and water analysis



pH	8	Slightly alkaline, in limits of tolerance (lime-stone based)
Ca	14,28 mg/dl	Not raised, same 10°C, oxygen amount is standard, doesn't show pollution
CO ₂	14,28 mg/dl	Not raised (low precipitation)
NO ₃	3,00 mg/dl	To much, probably from fertilizer
NO ₂	0,00 mg/dl	Slightly raised
NH ₄	0,05 mg/dl	Slightly raised
PO ₄	0,5 mg/dl	Slightly raised

Soil species	clay (65,7 %)
texture	sticly (less than 0, 000 ml)
pH	8 (slightly acidic)
consistants	fragle
Horizont	blocky
structure	blocky
carbonats in soil	slight

SAMPLES AND SKELETON PLOTTING

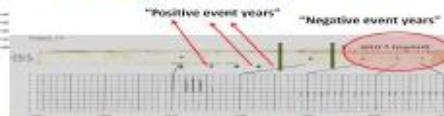
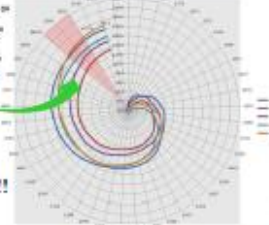


We transported our samples and prepared them carefully.



RESEARCH QUESTIONS

1. Was the growth of our trees interrupted in his: expected rhythm?
2. In that period of irregularities were there any significant climate changes; indicators; or some other kind of influence evidences?



We marked some pointer years, to find out if there were any interruptions from a natural expected growth of the tree, or some "fat" years perhaps.

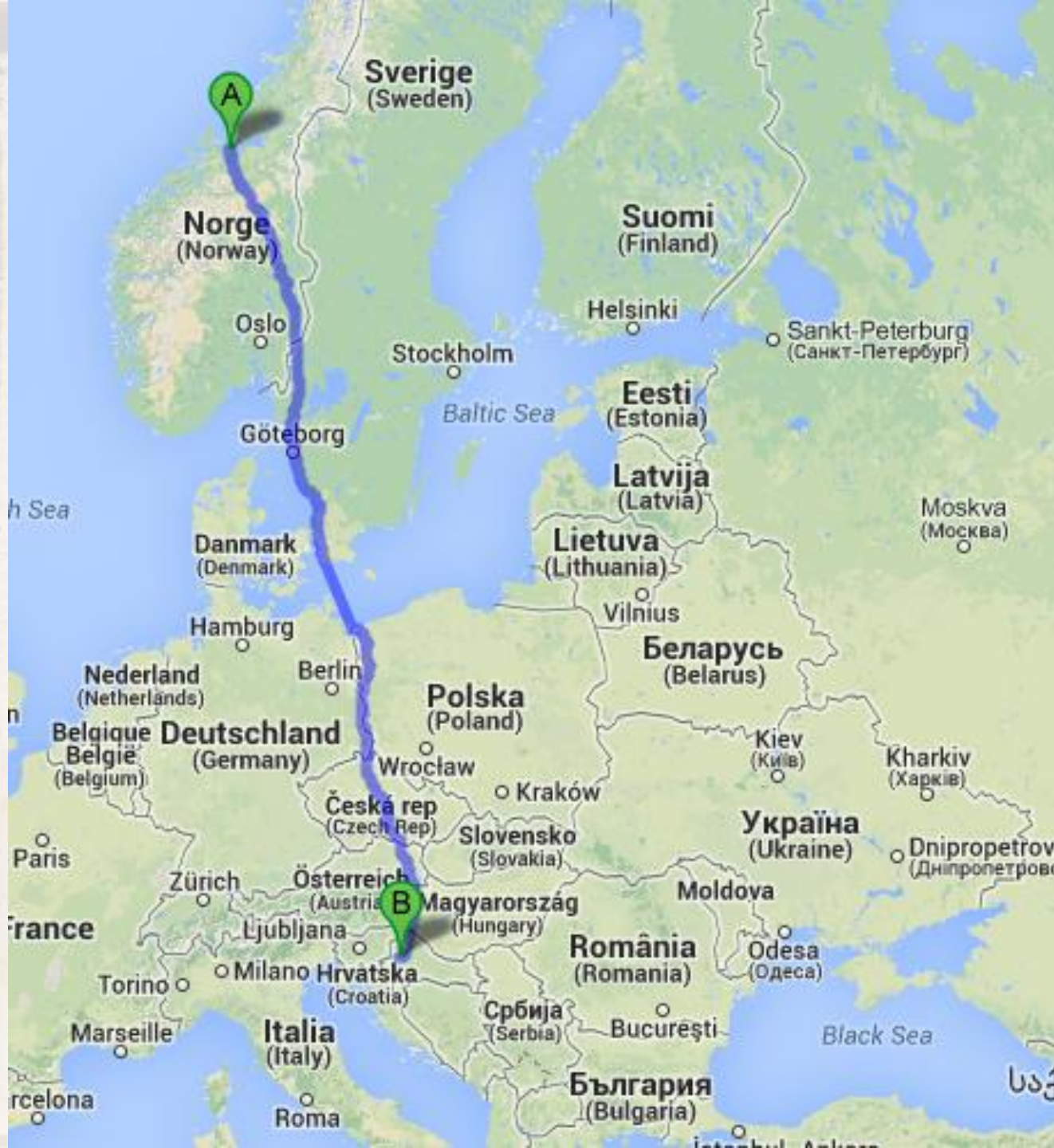
CONCLUSION

The growth of our trees was interrupted in his expected rhythm. Irregularities are not caused by climate changes factors, the most negative influence made at trees comes from people and, according to Pinus nigra's resistance, humans worked very hard to achieve that result.

Year:	Pollution's category at station Štaredgrad:	Pollutants:
2002.	No data	
2003.	No data	
2004.	II. category	flying particles
2005.	III. category	flying particles
2006.	III. category	PM ₁₀ flying particles
2007.	III. category	PM ₁₀ overstepped (V [500µg/m ³ +35, measured 971] (RV70µg/m ³ +35, measured 391) mostly in March and April, again in October and november)
2008.	III. category	PM ₁₀ overstepped (V [500µg/m ³ +35, measured 1161] (RV50µg/m ³ +35, measured 491) mostly in January and February raised level of Tl - 125P of Tallum
2009.	II. category	PM ₁₀ overstepped (IV [500µg/m ³ +35, measured 501] [500µg/m ³ +35, measured 241] raised level of Tl - 125P of Tallum
2010.	II. category	PM ₁₀ flying particles
2011.	II. category	PM ₁₀ flying particles, Measuring limit for air pollutants regards to human health: highest limit (30µg/m ³) overstepped 145 times! Lowest limit (20µg/m ³) overstepped 1222 times!

WHAT COULD WE DO NEXT?

Trees are growing well when May temperatures are low. Also the influence of precipitation (rain) is strongest in May. Much rain is slightly correlated with good growth. Is May really the most important month in the pointer years?



Distance:
2340km

It would take
450 hours to
walk this
distance if you
walk with a
speed of 5,2
km an hour.

We will try this
on our next
visit to Croatia.



GLOBE smotra, 2013., Zadar



Vrapče u Trondheimu



Snillfjord, Kroekstadora



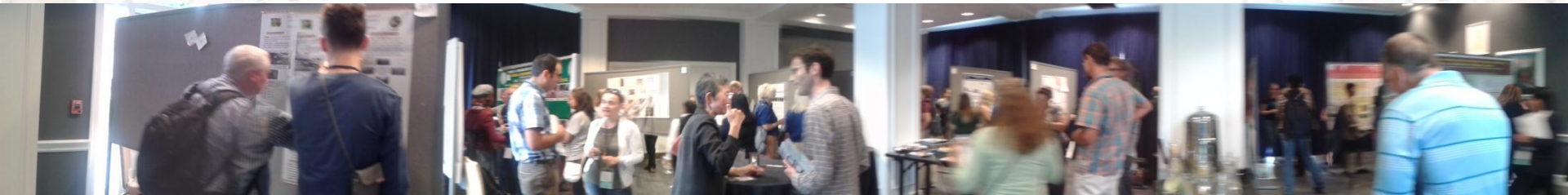




17TH GLOBE MEETING

17TH GLOBE MEETING





PORED ASTRONAUTA, I MI SMO U SVEMIRU



← FIND MORE BROADCASTS



NASA GLOBE

August 14 at 2:39pm on NASA GLOBE

Follow

8 followers



Dr. Piers Sellers

NASA/GSFC DEP DIR For Science and Exploration

04:37 / 44:10

RECORD

<http://www.ustream.tv/recorded/37292223>



Croatia

- Overview
- Contact Info
- News
- Events
- Resources



Year Joined: 1995
[Contact Us](#)

Members

This organization has 1 members.



Diana Garasic
GLOBE Country
Coordinator

Showing 1 - 1.
[Show All](#)

Parent Organizations

News

Opt-in to Remain on the GLOBE Program Mailing List
07/03/2013
"Opt-In" today to ensure that you are on our e-Communication list. To stay on the mailing lists and remain connected to GLOBE, find instructions here. >>

GLOBE Program Office Closed on 4 July
07/03/2013
The GLOBE Program Office (GPO) will close on 4 July in observance of the United States national holiday, Independence Day. The Community Support Team will be available to help you on 5 July. >>

Artists Wanted- Enter the 2014 GLOBE Calendar Art Competition
07/02/2013
Encourage your students to put their talent to work by creating a work of art for the 2014 GLOBE wall calendar. Deadline for submissions is 30 September. >>

Organization Measurements and Accomplishments

Participation

172 Teachers	162 Schools
10 Pre-Service Teachers	3,105 Students
4,171,733 Data Entries	

- Recognition
- Most Used
- Training

GLOBE Stars



Teachers Gear Up for Tree Ring Project in Europe and Eurasia Region
2011-11-28
[See all 7 stars](#)

Skola Za Medicinske Sestre Vrapce

Overview Contact Info Highlights Image Gallery Resources



Year Joined: 1997.
Number of Students: 30
Grade Levels: Higher Ed: 13+
Principal: v.d.L.Kriznik
School Type: Public
Contact Us



Members

This organization has 3 members.



Ira Beck
Teacher



Marinela Labas
Trainer



Filip Matijasec

Showing 1 - 3.
Show All

Parent Organizations



Highlights

PUBLICATION - GLOBE IN COURSE OF TIME

08/15/2013
<http://www.ss-medicinske-vrapce-zg.skole.hr/globe/globe-vremeplov.pdf>

17th GLOBE Annual Partner Meeting and 2nd SCRC Exhibition

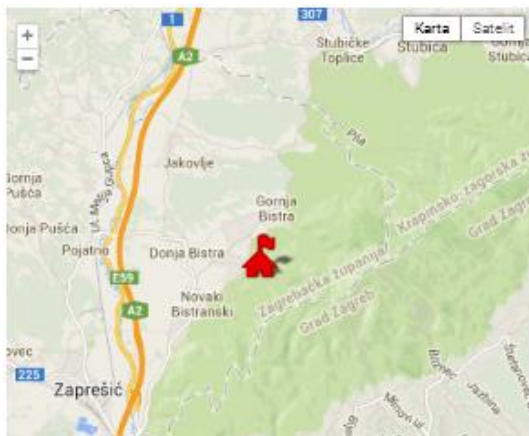
08/15/2013
<http://www.ss-medicinske-vrapce-zg.skole.hr/globe/>

Tree ring project

08/15/2013
<http://www.ss-medicinske-vrapce-zg.skole.hr/globe/>

School Location

Data Site List



Organization Measurements and Accomplishments

Participation

2 Teachers 1 Schools
0 Pre-Service Teacher 30 Students
95,399 Data Entries

Recognition Most Used

Student Projects

1 Project Tree Rings - Do they talk about people
2013-08-12
See all 1 projects



THE GLOBE PROGRAM
CONNECTING THE NEXT GENERATION OF SCIENTISTS

GLOBE VREMEPLOV
GLOBE IN COURSE OF TIME

15

GLOBE GODINA
GLOBE YEARS

13

DRŽAVNIH SMOTRI
NATIONAL REVIEWS

10

GLOBE PROJEKATA
GLOBE PROJECTS

30 273

GLOBE PODATAKA
GLOBE DATA



Prizori iz prvog, nagrađenog filma, Daruvar, 2004.

Scenes from our first, rewarded, GLOBE movie.

Glumci/Actors :
 G.Plavšić, M.Komes,
 M.Ročić, I.Zubak,
 J.Špehar, M.Peša
 Režija:M.Labaš,prof.





**Metoda rada GLOBE ekipe
i prije dr.Housa!!!**

**GLOBE team approach -
before Dr.House used it!!!**



Brzo, šalji podatke u

Boulder, Colorado, traži savjet!

Boulder, we have a problem!



Svijetlo sve govori! Spašena je!

Misija završena!

Mission accomplished. It is saved!

GLOBE RAP

Jelena:

*Na kraju Zagreb grada žuta je zgrada,
nije ludara nego škola,
ustanova za edukaciju
ili bolje rečeno transformaciju
iz djece u ljude, pa kako bude, bude...*

Goran: ("one man ritam sekcija")

Martin:

*Mi smo GLOBE-ovci iz Vrapče Škole,
sve nas GLOBE-ekipe vole, jo, jo
poručit ćemo Vam samo jednu stvar:*

Jelena, Martin i Goran:

*Ekologija nam je na pameti,
da nam bude bolje na Planeti!!!!
GLOBE ekipa za zdravlje se brine
i proučava kakve veze vrijeme ima s time...
Aerosoli, oblaci, temperatura zraka,
da li Vas zanimaju vrijednosti tlaka????!!!!*



GLOBE RAP

Jelena:

*Although word "Vrapče" *
is associated with madness
In fact we are infatuated
with ecological awareness*

(*Vrapče—is a famous psychiatric hospital in Zagreb
and our school is located in this hospital)





School for nurses Vrapče, Zagreb-Croatia

PERSONAL ANAMNESIS

POSITIO - western part of town (45.8164 N 15.8967 E, 128m),
located in a famous psychiatric clinic surrounded with a park

GLOBE STATUS - active from 1997.

SPECIAL INTEREST - cooperation with a local community

MAIN PROJECTS -

“Influence of climatic elements on health I and II”

“Influence of sudden meteorological changes on psychiatric patients”,

“Influence of sunlight on change of mood”,

“Phyis.-chem.-biol. marks of urban streams I and II”,

“What sort of an air are we inhaling in different parts of capital” ...

DIAGNOSIS: Ecological consciousness acuta

PROGNOSIS: LABOR DURUS, FORTASSE PROSPERUS

Implementacija GLOBE programa u školske kurikule



MI TO RADIMO OVAKO

Science Strands:

Global Precipitation Mission (GPM)

SERVIR Global by USAID and NASA

Discover Air Quality

Landsat, Terra and Aqua Ecosystem Research

Soil Moisture Active and Passive (SMAP) SMAP on Youtube

Discussion Sessions:

Customizing Your GLOBE Account

Administering GLOBE Workshops on your Partnership Pages

Elementary GLOBE

How to evaluate inquiry-based learning

GLOBE and Curriculum Integration

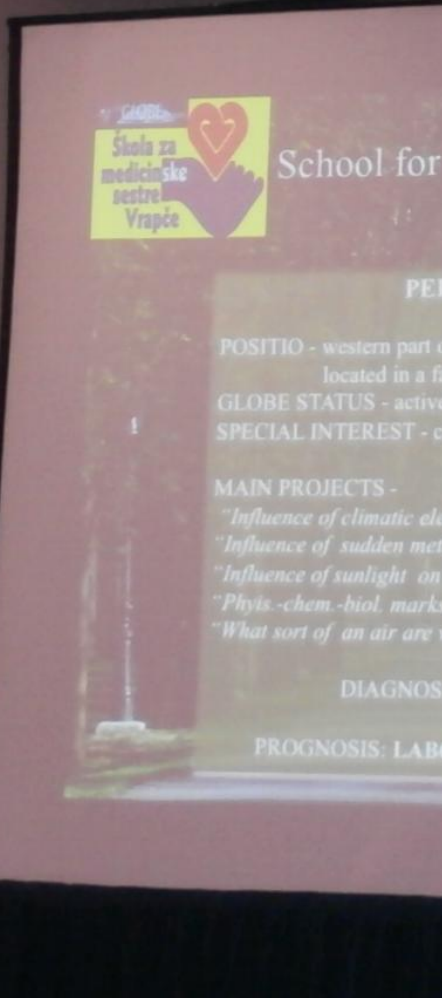
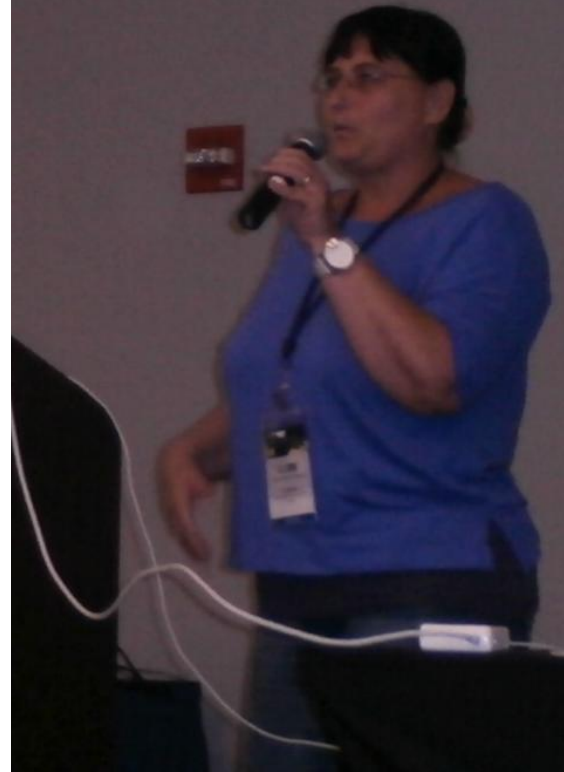
Croatia Germany Thailand USA (Michigan)

Running GLOBE International Partnerships

Day Four - Thursday 15 August

D4: Website Use in Data Access and Visualization

D6: Data Entry



TREE RING OSVAJA USA





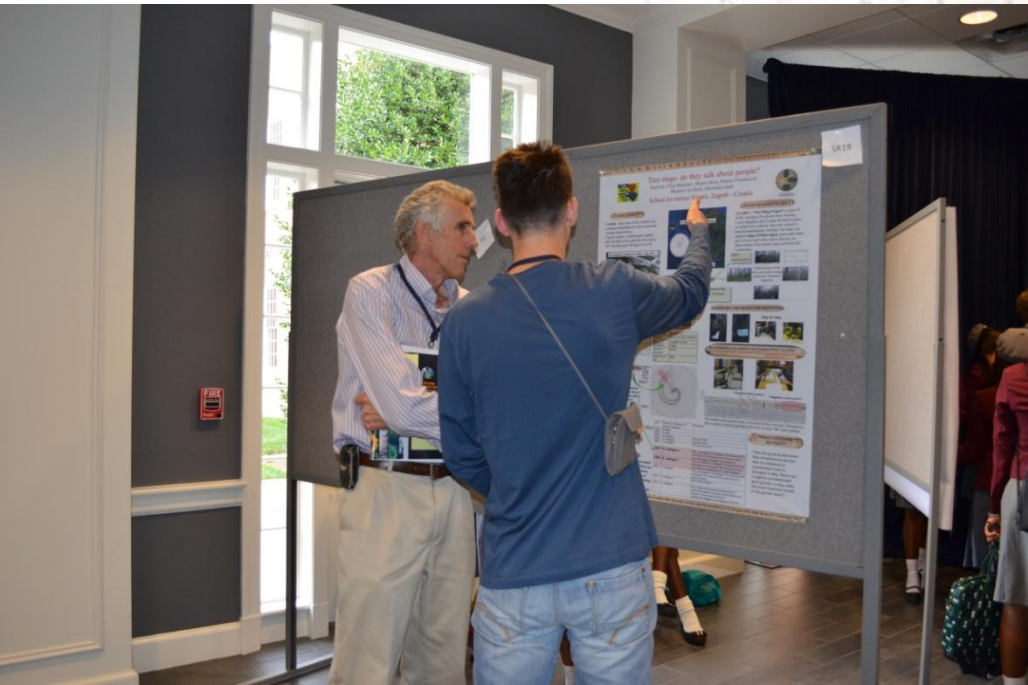
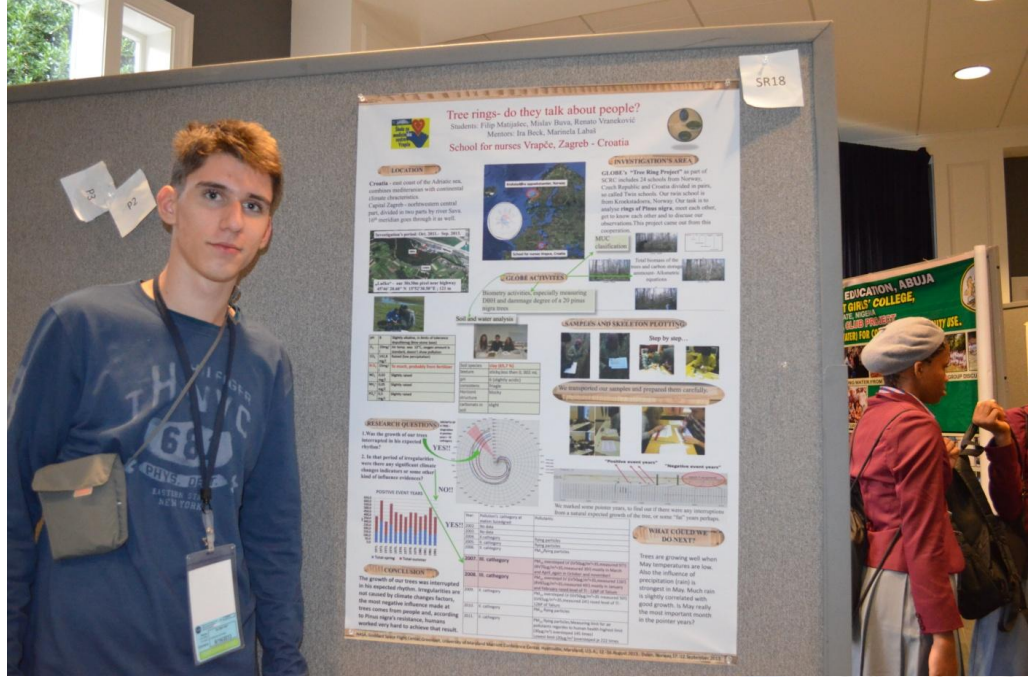
2ND STUDENT'S RESEARCH EXHIBITION



Summary of participation

Region	Country	State (if applicable)	No. of Submittals
Africa	Madagascar		2
	Nigeria		1
Asia and Pacific	Thailand		6
Europe and Eurasia	Croatia		2
	Norway		1
Latin America and Caribbean	Argentina		1*
	Peru		1*
	Uruguay		1*
Near East and North Africa	Saudi Arabia		3
North America	United States	Alaska	1
		Georgia	1
		Ohio	4
		Michigan	2
		Pennsylvania	1
		Texas	3
		West Virginia	4
TOTAL			32

*The three countries from Latin America and Caribbean Region worked on a collaborative project, and therefore their project counted only once in the total project count.





Question

I noticed that farm animals drink the river water and use the bathroom while standing in the water. I have seen my grandmother take her science classes to check water around the country. They are always collecting samples of something. It got me curious and I wondered if there was a difference between the rivers that travel through cities and the river water that runs in rural areas.

Hypothesis

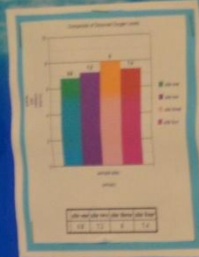
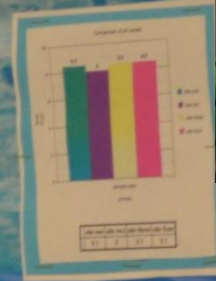
I think that the water from the country rivers will be healthier because there is less pollution entering the waters as it travels through the area.

Materials

Materials Needed

- Water samples: two city and two country
- Some containers for all samples, with tight fitting lids, labeled
- 500 Plastic #3 for collecting water and air temperatures
- Cap with the location
- Measuring tape, watch or cell phone for time
- Permanent marker
- Scoopers, container for water after chemicals are used with lid
- Scooper with rope attached, gloves, goggles, paper towels
- Long handled water collector
- Journal for data, pen and pencil
- Laminated card with the:
 - Observed Oxygen
 - pH
 - Alkalinity
 - Turbidity
 - Temp

Charts and Graphs



Site One - Lower Swan Creek

Test	Date
Observed Oxygen	10 ppm
pH	7.5
Alkalinity	100
Turbidity	1.5
Temp	15
Location	10/10/10
Time	10:00
Observer	John

Site Three - River Raisin

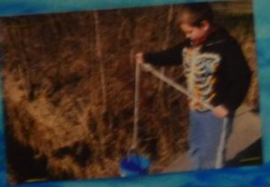
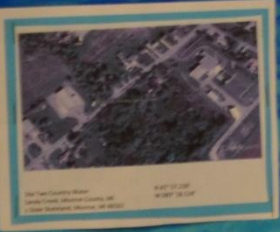
Test	Date
Observed Oxygen	10 ppm
pH	7.5
Alkalinity	100
Turbidity	1.5
Temp	15
Location	10/10/10
Time	10:00
Observer	John

Site Two - Sandy Creek

Test	Date
Observed Oxygen	10 ppm
pH	7.5
Alkalinity	100
Turbidity	1.5
Temp	15
Location	10/10/10
Time	10:00
Observer	John

Site Four - Huron River

Test	Date
Observed Oxygen	10 ppm
pH	7.5
Alkalinity	100
Turbidity	1.5
Temp	15
Location	10/10/10
Time	10:00
Observer	John



PROTOTIP NOVOG FOTOMETRA



OVAKO JE ZAMIŠLJEN

The iPhotometer

Mark Schoel
J. Vanderle
BC
Patent Pending



Europe Aerosols Campaign

Overview Members Discussions Documents

Aerosols investigations

Observe and Measure

Upload the data

Analyze the data

Connect to an aerosol scientist

Learning activities

Instruments



GLOBE Aerosols Scientist

Hi, I am Elise Hendriks GLOBE aerosol scientist for the KNMI (Royal Netherlands Meteorological Institute) in the Netherlands.

I am very interested in the behavior of aerosols, tiny particles in our atmosphere with an important impact on environment. My research involves using your GLOBE Aerosols data on a quest to improve our understanding of their influence on climate change and air quality. Join me doing my research?!

Watch the introduction movie

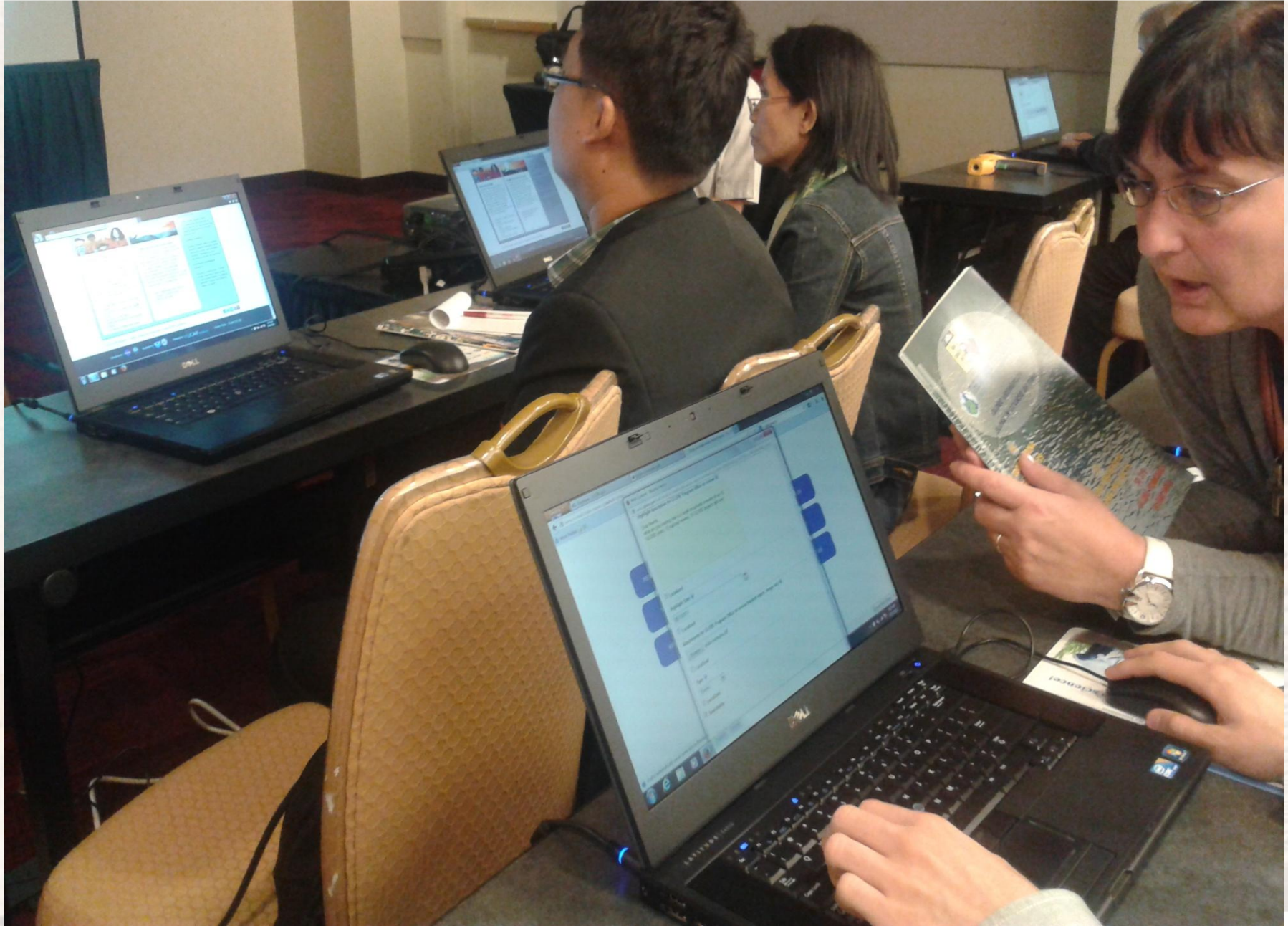


Why

aerosols?

Aerosols are small particles, smaller than 10 micrometers, which are suspended in the atmosphere. Interacting with solar radiation (sun light), they play an important but not so well understand role in climate change and in air quality.

USING GLOBE DATA BASE - workshop



INQUIRY BASED LEARNING - workshop



Teachers Breakout Session Notes

Below are some of the examples and discussions that took place during the Teacher Breakout

Making cross-curricular connections

A GLOBE teacher in Croatia who teaches Latin and Greek language has utilized GLOBE protocols in her classroom by showing students that the symbols in data collection and measurements are similar to the symbols seen in Greek, and that many of the scientific words used in GLOBE (especially animals and plants) are Latin-based words.

<http://www.globe.gov/documents/10157/7054880/TeachersBreakoutSessionNotes.pdf>

Noćni posjet Goddard Space centru



James Webb Space Telescope



Follow the Action of the Webb Telescope on our Web-Cam.
<http://www.jwst.nasa.gov/webcam.html>



Follow us on Twitter: @NASAJWebbTelescope
Tweeting about us? Use the #JWST hashtag!
Follow us on Facebook: facebook.com/webbtelescope



STRUČNI KONZULTANTINA SASTANKU



UNDERCOVER JOB



TRANSKONTINENTALNA I TRANSCENDENTALNA RAZMJENA ISKUSTAVA



JALTA, JALTA ...ILI...?



SVEČANO FINALE – DRESS CODE!



SECURITY COUNCIL, UN



OBNOVLJENO I PREUREĐENO
TE SPREMNO DA VIJEĆE “PETORICE”
POSTANE VIJEĆE “SEDMORICE”...



PRAVA RIJEČ SVA VRATA OTVARA



SKROZ NA 17. KATU 3. AVENIJE, NY



GENERALNI KONZULAT RH, NY



STALNA MISIJA RH PRI UN-u, NY



STALNA MISIJA RH PRI UN-U, NY





Velesposlanstvo RH, Washington





A počelo je promatranjem
oblaka!

GLOBE Stars

Year

All ▼

Organization

-- Croatia ▼

Category

All ▼



Teachers Gear Up for Tree Ring Project in Europe and Eurasia Region

11/28/2011

The Tree Ring Project is a two-year study that uses tree rings in order to determine an environment's climate in any given year.



Students put GLOBE Data Collection into Practice at Croatia Annual Competition

09/15/2011

Every year Croatia brings together GLOBE Students and Teachers for a countrywide festival and competition.



Croatian Students Analyze Effects of City Lights with Five Years of GLOBE at Night Data

11/02/2010

Secondary school Mate Blažine in Labin, Croatia, has been a faithful participant in the GLOBE at Night campaign.



Former GLOBE Student Now a GLOBE Teacher in Croatia

02/28/2008

For one new GLOBE teacher attending the recent European Regional Train the Trainer Workshop, Martina Pulic, this was not her first experience with GLOBE



Croatian Students Celebrate International Water Day with Hard Work

05/07/2003

Croatian GLOBE schools celebrated International Water Day March 22 by raising public awareness of the importance of water protection through hydrology measurements.



GLOBE Stars in Croatia

03/04/1999

On November 12-13, 1998, principals from forty-one Croatian GLOBE schools participated in a special conference hosted by GLOBE schools.



GLOBE Star of Croatia

11/11/1998

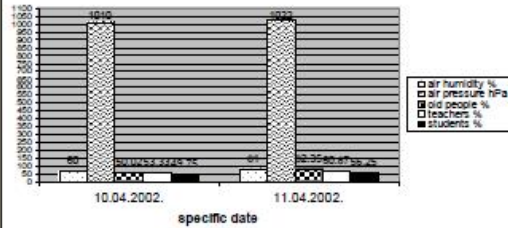
In April 1998, GLOBE students in Croatia gathered in Zagreb to share their research with one another and to report on their GLOBE activities.

DATE	CLIMATIC ELEMENTS				HEALTHFACTORS					
	AIR TEMPERATURE	AIR PRESSURE (hPa)	AIR HUMIDITY	RR		DIZZINESS	HEADACHE	Concentration	FATIGUE	MOOD
	C°		%	systolic	diastolic	YES/NO	YES/NO	GOOD/BAD	YES/NO	GOOD/BAD
1.03.2001.	3,8	985,8	77	120	70	NO	NO	GOOD	NO	GOOD
2.03.2001.	6,2	989,3	79	122	79	NO	NO	GOOD	YES	GOOD
5.03.2001.	9,8	997,6	85	115	77	NO	YES	BAD	YES	GOOD
6.03.2001.	5,2	1010,9	66	115	70	NO	YES	GOOD	NO	GOOD
7.03.2001.	5,5	1006,9	70	119	80	NO	NO	GOOD	NO	GOOD

Anketni listić /
Questionnaire



Fig. 5 AIR HUMIDITY AND AIR PRESSURE - SYSTOLIC BLOOD PRESSURE



Slika 5 (II. istraživanje) je grafički prikaz povišenih vrijednosti sistoličkog tlaka kod sve tri skupine ispitanika.

Figure 5 (2nd research) represents a graph showing higher than average values of higher systolic blood pressure in all three age groups.



GLOBE znanstvenik kojeg smo oduševili komentirao je naš rad: "Great job!"
GLOBE scientists recognized our work as: "Great job!"



Pri analizi i obradi podataka pomagali su:
 dr.med. Biserka Marn, dr.med. D. Bačić,
 spec.psih., prof. Latinka Križnik,
 bacc.med.tech. A.Vukelić
 Recenzentica je opet bila mr.sci. Janja Milković,
 uvijek vjerna!

Ekipi se pridružila prof. Ira Beck s učenicima
 drugih razreda.

By the analyses and data processing most
 helpfull were dr. med. Biserka Marn,
 dr.med.D.Bačić, prof. Latinka Križnik,
 bacc.med.tech. Anika Vukelić and students of
 third grade.

Again our reviewer was mr.sci. Janja Milković,
 semper fi!

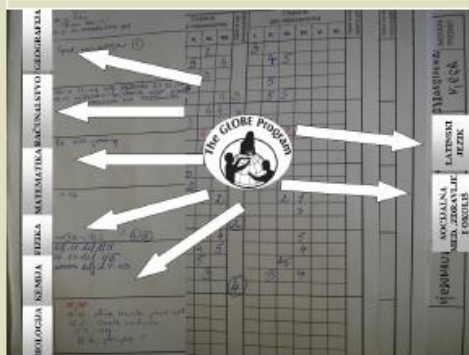
Prof.Ira Beck joined the team with second
 grade students.



Biološka postaja: Vrapče
 Landscape site: Vrapče

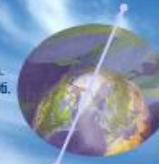


GLOBE program involved in even more subjects



LATINSKI JEZIK

Locus purus. – Čisto mjesto, neokupirano mjesto.
 Locus desperatus. – Mjesto očajavanja, očajno mjesto.
 Terra usus mortaliū semper ancilla.
 Zemlja je uvijek služavka potrebama ljudi.
 Tibi aras, tibi occas, tibi seris, tibi item metes.
 Sebi oraš, sebi drijaš, sebi siješ, sebi češ i žeti.



Radeći u GLOBE-u
 otkrili smo da i latin-
 ski jezik nečemu služi!

Working on a GLOBE
 project we discovered
 the Latin language,
 has a purpose too!



Teoretske pripreme i prezentacija projekta na Smotri
Theoretical preparation and project presentation at the Review





Radionice : Atmosfera, Hidrologija
Družili se i učili mali i veliki!

Workshops : Atmosphere, Hydrology
Workshops and mutual fun for all ages!



I. Regionalna smotra
I. Regional review



Poznati meteorolog dipl.ing. Lovro Kalin na Regionalnoj smotri
Popular meteorologist dipl.ing Lovro Kalin at the Regional review



• povećanje stope atmosferskih emisija
kao i dalje mobiliziraju (izgradnja 30 godina)

• Kalinović rekao da je dostignut
maksimalni stepen utjecaja čovjeka na
prirodu i u vrijeme od nekoliko
godina, pri to rekultivirane polje.



**INTEGRIRANI GLOBE DAN - II.RAZREDI
INTEGRATED GLOBE DAY - SECOND GRADE**



IZRADA INSTRUMENATA / MAKING INSTRUMENTS



**ATMOSFERSKA MJERENJA /
ATMOSPHERIC MEASSURING**



UNOS PODATAKA / DATA ENTRY



GLOBE-BLOG



WHAT HAVE WE LEARNED TODAY?



I ovaj naš projekt iskorišten je u svrhu prezentiranja rada naše Škole na susretu hrvatskih medicinskih škola u sklopu projekta E-medica 2010. na Bjelolasici.

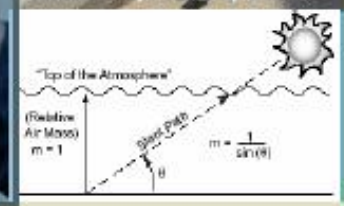
This project was also used to present our School's achievements at croatian medical schools meeting E-medica 2010. at Bjelolasica, olympic centre.

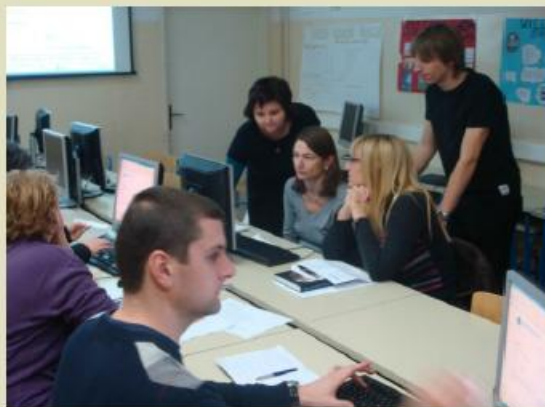


MJERENJE AEROSOLA



Fotometar – napred – AOT – prezimost





V. Videoconferences / Videokonferencije

October 26th, 2011. first videoconference between students (introduction) /

Prva videokonferencija - upoznavanje učenika

December 8th, 2011. second videoconference between students (about schools, sports, Zagreb, etc.) based on preforwarded presentations.



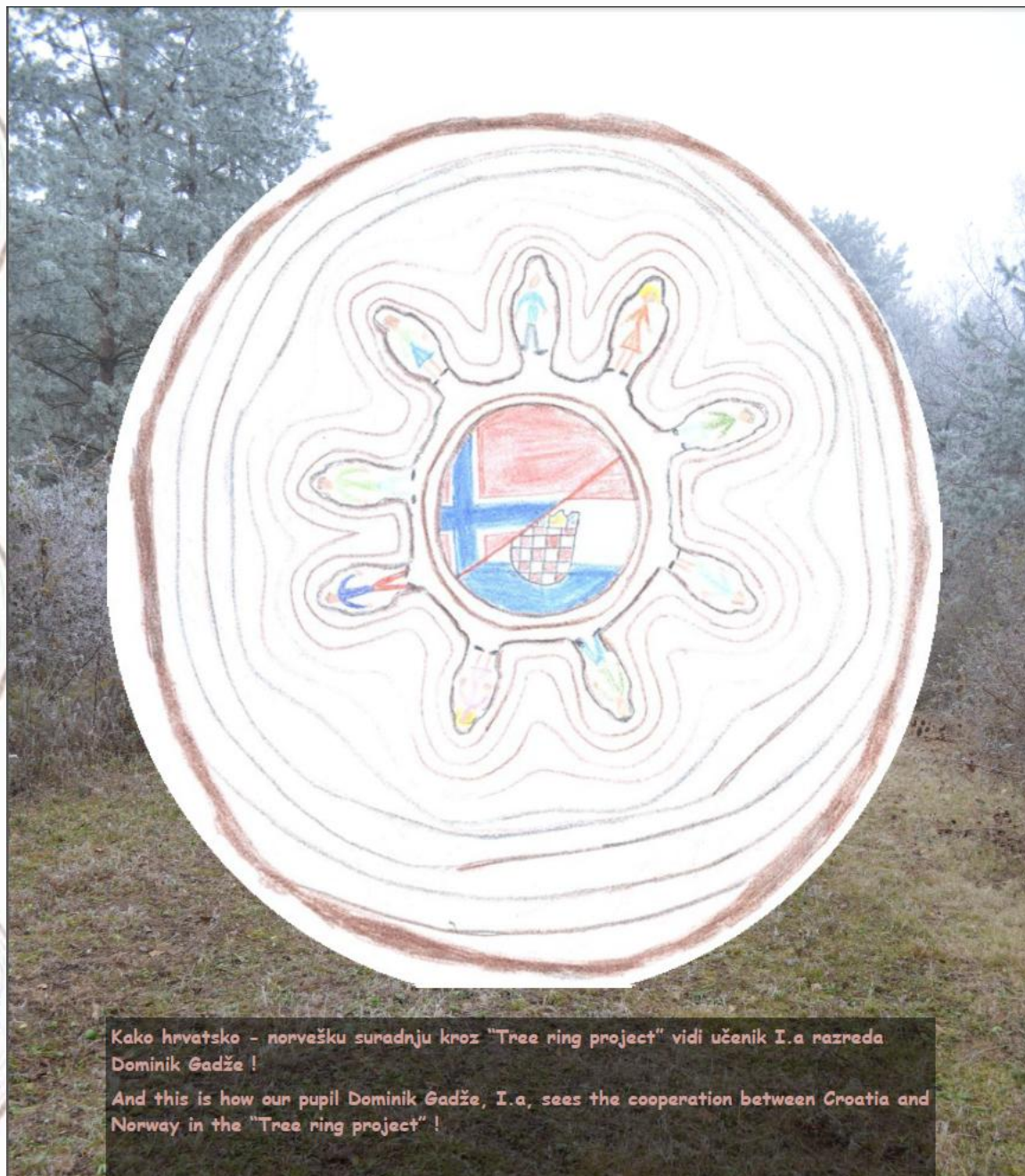
VI. Project's presentation at December 2nd, 2011. at Regional GLOBE co-uncil meeting

VI. Prezentacija projekta na međuzupanijskom aktivu

VII. Involving Tree ring project in school's curriculum- compatible themes in some subjects: Geography, History, Latin, Gymnastics, Ethics, English, Croatian

VII. Uključivanje projekta u školski kurikulum - predmete geografija, povijest, latinski jezik, tjelesna i zdravstvena kultura, etika, engleski jezik i hrvatski jezik





Kako hrvatsko - norvešku suradnju kroz "Tree ring project" vidi učenik I.a razreda Dominik Gadže !
And this is how our pupil Dominik Gadže, I.a, sees the cooperation between Croatia and Norway in the "Tree ring project" !

