

# Croatia

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## **Organization and Number of Staff:**

Ministry of Science& Education – number of staff in charge for GLOBE: 1

## **Funding by:**

Government

## **Cooperating Organizations/Individuals:**

Diana Garašić - volunteer

NGO ZNAM – volunteer, non-profit organization

## **GLOBE Schools (what types, how many):**

Elementary, Secondary – grammar and vocational, kindergartens

## **GLOBE Areas you and schools focus on:**

All areas, but mostly Atmosphere and Phenology

## **Number of Schools Reporting Data over Past Year:**

100

## **Program Implementation, International Cooperation in GLOBE Network, and Activities over Past Year (categorized by GLOBE Strategic Plan 2018-2023 Goals):**

### **1. Education**

GLOBE is included in elementary schools' curriculum, especially in the subjects Nature and Geography. Curriculum doesn't demand official GLOBE membership of the school and it doesn't

mention GLOBE as the program or GLOBE protocols, but GLOBE protocols are recognized in the formulation of student's outcomes, in recommended contents and methodology. For example, it says: students measure the changes in the properties and characteristics of the atmosphere, water, soil and living things over the year. That is the reason why there were **more than 100 requests for new GLOBE account in past year**. But, in the same time, many schools drop out, because regular measurements and reporting the data are too demanding, or there is not enough support in the school for GLOBE teacher – if there is only one teacher, or GLOBE teacher just left the school. There are even **179 schools which registered and asked for the account**, but haven't been reporting yet at all. That is one of the biggest problems in our perception. On the other hand, we believe that education for GLOBE (in person or online) significantly contributes to the quality of teaching and we see it as very important too.

Education and Teacher Training Agency (ETTA) organizes **regular training workshops** for teachers (one initial, and another follow up workshop) twice a year. Additionally, there are **7 regional GLOBE centers established by ETTA**, which organize **local meetings for GLOBE members 3 times a year**. We have 11 GLOBE trainers certified this year with the idea that each regional center is fully equipped to organize GLOBE trainings, when needed and in protocols or areas that are suggested by members. This year there is additional GLOBE workshop organized by ETTA, with target audience from preschool kindergarten teachers.

This year we had our regular **GLOBE Competition and Science Fair** – the event organized and funded by ETTA for 40 most active GLOBE schools. Schools are selected on regional level conference, based on their scores achieved according to their activities in past year.

## **2. Science**

Big influence on the maintaining of GLOBE participants and the popularity of GLOBE among teachers and students has our **Annual Competition and Science Fair**. We established that event in 1998. And from then until today, Science Fair raises the quality of student's projects. We had many workshops for teachers (follow up) when we addressed the methodology of science research and the methodology of writing the scientific report, since it appears to be a problem for many teachers.

We believe that our GLOBE activities contributed significantly to the **scientific literacy** of involved students and teachers. Each year we engage several scientists to mentor students' projects and be the reviewers as well as the judges at the Fair. Each year there are more than 50 projects prepared for the Fair, but all of them are not judged as good enough to be presented at the Fair. The **reports presented at the Fair are also published on Croatian web page <http://GLOBE.hr>** as an inspiration for students and teachers with less experience.

This year **6 Croatian schools submitted the reports for IVSS**, and one was awarded in the group of Europe and Eurasia

## **3. Community**

Many Croatian schools cooperate within Croatian GLOBE network, especially schools gathered in local GLOBE communities guided by regional centers. They organize **school visits or joined GLOBE projects**. Many schools are **involved in international campaigns or challenges**, especially in European Phenology Campaign, Microplastics experimental campaign, Trees around the GLOBE, European Water Bodies Challenge and so on. There are several schools involved in **Erasmus+ projects based on GLOBE joined research projects**.

One Croatian school participated in **GLE in Estonia**, as well as 2 Croatian GLOBE mentors. This year we have **2 workshops in cooperation with Slovenia** – Croatian trainers went twice to Slovenia to train new teachers face to face.

Croatia was the **host for the Regional GLOBE Meeting and Training which was successfully organized in Omiš**, with great help of GLOBE school in that city and Regional GLOBE Office. That was the first event organized in person after 2 years of COVID conditions and as it was situated in attractive part of Croatian coast. It was attended by high number of participants and countries represented.

#### 4. **Technology**

GLOBE is very much **connected to technology and it contributes to ICT literacy, and especially to Data literacy**. Data literacy is specially encouraged by our scientists reviewing students GLOBE research reports and by reviews in the process of IVSS. We notice that more schools each year use automated weather stations, but open question is if it contributes to the student's competences at all.

More students and members of wider community use **GLOBE Observer**. It is very helpful for data reporting, for instructions in the field and also more attractive for students. **GrowApp** application is also popular and used. We do not have the information on how much teachers or students use abundant GLOBE web pages and linked pages, which would be very valuable teaching resource indeed. Yet to be investigated.

#### 5. **Communications**

GLOBE is providing regular and updated information and it is enhanced by information sent by Regional GLOBE Office. They often use reminders which is very useful. But the fact is that we all are overloaded with information. One can't have it in mind all the time, but in GLOBE it is possible to find the info you search for. **In Croatia we have GLOBE web site on <http://GLOBE.hr> for the specific information**. We use GLOBE Facebook for quick informing and reminding our GLOBE members (but unfortunately all of them do not use FB. So, we combine informing our community by sending the information to regional GLOBE leaders, who proceed the info on local level.

The project **GLOBE Elementary K4** is posted on internet and FB and it includes Croatian schools and kindergartens, as well as members from several other countries.

Education and Teacher Training Agency has its own web page where are the information about workshops organized and about Annual competitions and Science Fairs.

#### **Plans and Ideas for Next Year:**

We shall continue with our model of trainings, but should also find the way to research among the schools who are not active any more, or haven't been active at all. We are not sure if we should just mark such schools as not active.

We shall continue with organizing of the Annual GLOBE Competition and Science Fair.

The research in plan is about the use of GLOBE resources for teaching and is there the need to translate materials in Croatian language.

Also, **GLOBE Observer is translated in Croatian language**, but some improvements are needed, as well as translation of the new sections added this year.

Translation of GLOBE Elementary page and teaching materials is also planned. The project GLOBE Elementary K4 is being promoted and is planned to expand their activities.

ETTA is planning to organize more teacher training related to GLOBE for kindergarten teachers.