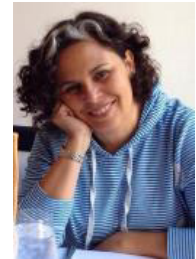


Israel

Name: Refaela Babish
Country Coordinator (CC)
Organisation: Ministry of Education
E-mail: refaelab@gmail.com
Tel: 972(52)2673218, 97297656000



Organization and Number of Staff:

Ministry of Education, 5 members

Funding by:

Ministry of Education, Ministry of Environmental protection

Cooperating Organizations/Individuals:

GLOBE Schools (what types, how many):

360

GLOBE Areas you and schools focus on:

Atmosphere, phenology, biosphere

Number of Schools Reporting Data over Past Year:

290

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

1. Education

Developing and supporting activities for teachers and trainers, inquiry-focused and based on Earth system science and Science Technology, Engineering and Mathematics (STEM) educational need, especially activities that GLOBE students.

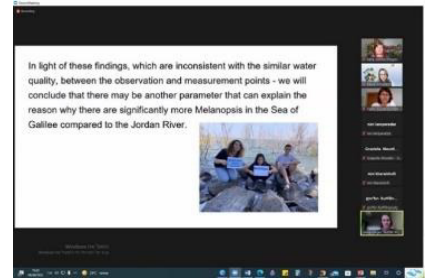
We held educational activities in three main areas related to climate change, and to the various campaigns in the GLOBE program:

- 1) **"Urban Heat Island" campaign** - 54 schools participated in the campaign throughout the year. The learning took place in collaboration between two schools - Jewish and Arab. The students held cultural meetings, learned about the urban heat island phenomenon and mapped the various areas in the schools. Monitored at the same time and wrote research papers.
- 2) **Trees around Israel campaign** - 50 schools learned about the importance of trees, and went out to map and monitor the trees around the school. They studied the relationship between the types of trees and the amount of carbon, and their effect on the ambient temperature. At the beginning of the campaign, the teachers met Brian Campbell from NASA for an opening lecture.
- 3) **"I am for the sea"** - high school sea monitoring campaign. In collaboration with the Israeli Society for Ecology, and the National Geographic Explorer, Ziggy Livnat. 9 schools from around Israel learned about the importance of the oceans in dealing with the climate crisis, learned to prepare campaigns to raise awareness and studied the marine environment.



During the year we conducted and participated in many conferences:

- 1) **Students from 40 schools** presented 22 works written in collaboration, at the Ministry of Education's research initiatives conference.
- 2) GLOBE Europe and Eurasia Water Bodies Challenge conference where students presented 2 research papers.
- 3) **Europe and Eurasia research conference** where 7 research works from Israel were presented
- 4) **Academic conference for 80 directors** of scientific education centers in Israel on the subject of civil science, monitoring and clouds.



- 5) **Urban sustainability quiz** - in collaboration with the GLOBE program
In the city of Kfar Saba, an urban sustainability quiz is held every year with the participation of hundreds of students. The GLOBE program takes part in the quiz. This year students were asked about monitoring trees around the city.



- 6) **Environmental education conference** at Beit Barel Academic College
We participated in the leading conference in Israel for environmental education, in the capacity of the Minister of Environmental Protection - we presented the GLOBE program - a lecture on student participation in the civic science program, cooperation with civil society organizations "I am for the sea" and a cloud monitoring workshop.



- 7) **Biennale for Innovation in Education**
The contents of GLOBE were presented at the Education Biennale, in front of thousands of participants from Israel and the whole world.



2. Science

We are collaborating with the Israeli center for citizen science (TCSS- Taking Citizen Science to School, Technion, A science and technology research university). Researchers from TCSS are involved with the GLOBE teachers training, sharing best practices in science and providing information to teacher and students.

We held a **series of lectures for teachers to deepen scientific knowledge** regarding the various campaign topics:

- 1) Chief Scientist of the Ministry of Environmental Protection, Prof. Noga Kornfeld Shore - Climate Change in Israel
- 2) The chief scientist of KKL, Dr. Doron Markel - the role of the trees



- 3) Researcher of trees and desert phenomenon, Weizmann Institute of Science, Dr. Tamir Klein
- 4) Director of the Israeli Meteorological Service, Nir Seteo - Urban heat island.
- 5) NASA, the cloud monitoring program, Peter Falcon and cloud monitoring



We published a study in a journal of the Tel Aviv University's Science Teacher Center, about citizen science and the GLOBE program.
https://www.matar.tau.ac.il/?page_id=23053



3. Community

During the year there were **2 long processes of training new teachers and professional development of GLOBE teachers**. The teachers learned and developed pedagogical tools for scientific inquiry, The teachers learned about atmosphere and biosphere. In total, 60 teachers participated in both processes (30 hours per workshop). The activity took place online, through Zoom, due to Covid-19. In addition to this, we held about 10 deepening and support sessions for the various campaigns.

During the year, **cultural familiarization meetings** were held on the topics of the various campaigns:

- 90 students from the school in Deir Hana, hosted students from Ein Nakoba, and Dimona. The students conducted a study tour, monitored various phenomena together and planted trees
- 90 students from Yuvli Hanegev School, Aksel and Elrazy met for a joint activity day.



Technology

We have trained teachers to use of the GLOBE app, have increased the use of platforms and technological tools to continue the research and monitoring of data.

Communications

We have a new GLOBE Israel page at the social network Facebook. We have a **"Whats app" group of 100 GLOBE teachers** all over Israel. We share ideas, practices and knowledge. Once a week the GLOBE team give a short, but inspiring new ideas to the teacher's community. In addition, **the GLOBE team (4 regional coordinators), visit the GLOBE school, once a month**, and provide the teachers Pedagogical training.



The journal of the National Teachers' Center for Environmental Sciences and Climate Change, at the Technion, reviewed the contents of The GLOBE in an issue that dealt with citizen science at school.

Plans and Ideas for Next Year:

In the upcoming year, we will deepen the knowledge of the teachers in the scientific inquiry, Climate change

We plan to deepen and expand the collaborative learning between schools from different sectors of Israel, and between students from Israel and students around the world.

We will increase the data collecting and measurements that schools make by increasing the use of the GLOBE app.