

Malta

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Organization and Number of Staff:

Neither of the individuals overseeing GLOBE Malta do this on a full-time basis. The Country Coordinator (CC) is a full-time university professor who manages GLOBE-related tasks outside his regular academic duties. The Deputy Country Coordinator (Deputy CC) is a classroom teacher who is officially allocated three weekdays to actively promote GLOBE in schools and support teachers.

Funding by:

GLOBE Malta operates without dedicated funding. Instead, it receives support from the Directorate for Learning and Assessment Programmes (Ministry for Education, Sport, Youth, Research, and Innovation) and the Centre for Environmental Education & Research (University of Malta). Additional backing comes from the US Embassy, HSBC Bank Malta, and Europe Direct Gozo, which provide scientific equipment and sponsor events for GLOBE Malta.

Cooperating Organizations/Individuals:

A researcher from the Institute of Earth Systems (University of Malta) is actively assisting 10 schools in a project focused on monitoring and recording rainfall data. Europe Direct Gozo supported a year-long soil investigation campaign involving 7 schools by sponsoring Soil Kits and facilitating teacher training on soil investigations. Additionally, the non-governmental organization (NGO) Nature Trust – FEE Malta promotes GLOBE investigations in collaboration with the Eco-Schools and LEAF programmes.

GLOBE Schools (what types, how many):

Total number of schools: 52. The schools are from the State, Church and Independent Sectors and are distributed as follows: Primary schools (5 -11yrs): 30; Middle Schools (11-13yrs): 3; Secondary Schools (13-16yrs): 14; Post-Secondary Schools (16 – 18yrs): 2; University: 1; and Field Study Centres: 2.

GLOBE Areas you and schools focus on:

- **Atmosphere** (Air Temperatures, Barometric Pressures, Cloud Observations, Precipitations, Relative Humidities, Surface Temperatures);
- **Biosphere** (Green Up/Green Down, Biometry Trees, Vegetation Covers);
- **Hydrosphere** (Water Temperature, Water pH, Alkalinity, Conductivity, Transparency, Dissolved Oxygen);
- **Pedosphere** (Soil Temperatures, SMAP Soil Moisture)

Number of Schools Reporting Data over Past Year:

21

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

1. Education

GLOBE activities and campaigns are incorporated into various Maltese schools, with students engaging in environmental observations that are aligned with the school curriculum, promoting student engagement in environmental science.

GLOBE Malta students participated in international projects, including collaborations with schools in Ireland and Latvia. This included cloud and rainfall studies, with data being uploaded to the GLOBE database and shared across the GLOBE community.

The GLOBE Malta Deputy CC provided training and support visits to new GLOBE schools across Malta and Gozo. She worked with both students and teachers to help them effectively use the GLOBE Observer app and contribute to data collection.

GLOBE Malta's integration in schools includes campaigns such as the Urban Heat Island Effect, where students collect and analyse surface temperature data. These activities fit into normal classroom schedules, demonstrating practical applications of environmental science in real-world contexts. Fieldwork was a key component of GLOBE activities. Through hands-on experiences students from multiple schools developed skills that are integral to understanding environmental changes and contributing data to GLOBE's global database.

Lectures were conducted to introduce the GLOBE program and its investigative activities to University of Malta undergraduate students enrolled in the BSc Science for Education & Communication and the Masters in Teaching & Learning programs.

2. Science

- **European Spring Phenology Campaign 2023:** Between February and June, students from 10 schools observed tree growth from buds to leaves and uploaded their measurements to the GLOBE database.
- **Urban Heat Island Effect Campaign:** During October, December, and March, students from 10 schools investigated the impact of urbanization on Earth's surface temperature by collecting data using infrared thermometers.
- **The GLOBE Soil Project - Exploring the Hidden World:** Students from 7 schools participated in a year-long campaign about soil organised by GLOBE Malta and supported by Europe Direct Gozo. The campaign highlighted the vital role soil plays in sustaining life, offered teacher training opportunities, and consisted of investigations about soil moisture, temperature, and weather parameters.
- **International Soil Day Webinar:** This webinar, organised by GLOBE Malta and supported by Europe Direct Gozo, featured presentations on the importance of soil and the impact of climate change, with insights from experts.
- **Rainfall - International Collaboration:** Students from 8 Maltese schools collaborated with students from Ireland and conducted intensive rainfall observations over four weeks. As a follow-up, a Maltese school organized an online interview with a local meteorologist, covering topics from meteorological phenomena to the daily life of a meteorologist.
- **GLOBE Cloud Project:** Students from two schools, one from Malta and another in Latvia, studied cloud formations using the GLOBE Observer app. They integrated science, arts, mathematics, cooking, and drama into their year-long study. They also organised an online webinar where students from both schools shared their findings and experiences.
- **GLOBE IVSS 2024:** Six research reports from GLOBE Malta were submitted and earned student research badges: (i) *Hot Air, Warm Soil – A Temperature Link* (awarded a 4-star badge); (ii) *Do seasonal differences really affect our soil temperature and soil moisture content?* (awarded a 4-star badge); (iii) *Investigating climate's effect on soil temperature and moisture* (awarded a 4-star badge); (iv) *Investigating Rainfall in Sunny Malta* (awarded a 4-star badge); (v) *Can Changes in Soil*

Temperature Indicate Variations in Soil Weight? (awarded a 3-star badge); and (vi) *Air pollution on a small island: A Study on Air Quality* (awarded a 3-star badge).

3. Community

A GLOBE Malta student, Isaac Micallef, from St Michael School St Venera has been selected as one of the new vloggers for 2024-2025.

The GLOBE Malta Deputy CC: (i) attended and presented at various conferences and events, led workshops, and provided training and support to new GLOBE schools; (ii) participated in monthly meetings with GLOBE CCs and Deputy CCs; and (iii) represented Europe and Eurasia at the United Nations General Assembly, sharing how GLOBE Malta was implemented and how it contributes to the country's efforts for sustainability.

The GLOBE Malta Deputy CC was: (i) re-elected to the GLOBE Europe and Eurasia Regional Board; (ii) nominated to the GLOBE Annual Meeting coordination board; and (iii) served as a judge for the International Virtual Science Symposium (IVSS) 2024.

The US Embassy commended GLOBE Malta students' dedication and hard work in engaging with the outdoors and collecting valuable data to enhance our understanding of the environment.

The GLOBE Malta - Europe Direct Gozo Air Quality Campaign was awarded the STEM Community Project Award.

4. Technology

The GLOBE Malta Deputy CC provides personalized support for teachers during their e-Training, familiarizing them with the GLOBE Observer App, and assisting them in inputting and visualizing of data on the GLOBE website.

5. Communications

Communication with GLOBE schools and teachers was maintained through e-mail and one-to-one school-based meetings by the GLOBE Malta Deputy CC.

The work of the GLOBE schools was showcased and promoted through regular updates of the GLOBE Malta Facebook page (with 1.3K followers to date) and the Malta-page on the GLOBE website.

The GLOBE Program and the students' investigations were disseminated through published articles in local newspapers and news portals.

Publication of the storybook *Exploring the Wonders of Soil* written by Yashraj Patil (GLOBE Scientist) as a follow-up to the GLOBE Soil Project - Exploring the Hidden World.

The GLOBE Europe and Eurasia Coordination Office featured GLOBE Malta students in their video commemorating GLOBE 29th Birthday and Earth Day (<https://youtu.be/SXGFG9dexEY>).

The GLOBE Malta Deputy CC engaged with students and visitors at the GLOBE Malta stand, promoting environmental science and data collection during the Foundation for Environmental Education (FEE) Fest 2023.

Plans and Ideas for Next Year:

- To continue engaging in discussions with the Ministry of Education to elevate the current position of the Deputy CC to a full-time role.
- To continue actively exploring opportunities for further collaborative investigations, involving schools from other GLOBE countries