

## 2022-2023 ANNUAL REPORT

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# Uruguay

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- Organization and Number of Staff: Ministerio de Ambiente, División Educación Ambiental y Participación Pública. 1
- Funding by: Ministerio de Ambiente and grants of the United States Embassy
- Cooperating Organizations/Individuals: United States Embassy, NGO Cultura Ambiental (grants administrator)
- GLOBE Schools: 144
- GLOBE Protocol Areas: Atmosphere, Hydrosphere, Biosphere, Pedosphere
- Number of Schools Reporting Data over Past Year: 13
- Data uploaded this last year: 1.506

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

### EDUCATION

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- ❖ Participation in a regional Committee for the organization of the first campaign in the LAC region organized by the Regional Office: Trees within LAC. The members of the committee were chosen by the Regional Officer, Mariana Savino, with the purpose of planning, organizing and implementing the different activities this campaign would involve:
  - webinars,
  - elaboration of tutorials and videos for teachers to handle data on the website and use of the GLOBE Observer app
  - resources for different topics treated in the webinars that helped teachers to elaborate their own research projects,
  - a contest to choose the logo for the Trees within LAC campaign for the whole region,
  - measurements supervision and count for the monthly reports.
- ❖ **Visits to schools** to give mini workshops on different topics related to GLOBE Protocols and activities focusing on the Trees within LAC Campaign.

***Instituto Adventista, Progreso, Canelones.*** (April 23rd, morning). Visit to GLOBE teacher Shirley Harreguy, also registered to the Trees within LAC campaign. A geography teacher also accompanied the mini workshop and students of 7<sup>th</sup>. grade (Secondary school) learnt to build their own clinometer, the importance and uses of native trees, the impacts of exotic species, and how to measure tree height and circumference manually and with the app. They practiced tree measurements in the school courtyard which is huge and has a big variety of exotic and native species.

***Instituto Uruguayo Argentino. Punta del Este, Maldonado.*** (April 23<sup>rd</sup>, afternoon). Visit to the college campus to give a workshop for Secondary school teachers (5). The school principal, Mónica Suárez, received us and was present during the first part of the workshop. We introduced the GLOBE Program, the different spheres, the use of the protocols and the methodology as a tool to teach science. The protocols of tree height and circumference and green down were taught and they built their own clinometers, the importance and uses of native trees, the impacts of exotic species. They practiced tree measurements in the campus where they plant fruit trees and have a butterfly farm where they study the life cycle of the southern monarch butterfly.

***Escuela rural No. 88 Alfred Nobel, Las Violetas, Canelones*** (March 30th). Visit to the group of 6<sup>th</sup>. grade to teach how to measure a pixel and define a land cover study site and the protocols of Canopy and ground cover. The field practice was used also to take photos and videos to elaborate a tutorial video in support of the campaign for teachers to use with their students.

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***Colegio Sagrado Corazón, Montevideo.*** (April 24th). Visit to GLOBE teacher Sandra Zapata, who also registered to the Trees within LAC campaign. We worked with a science club composed by students of 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup>. grades of Secondary school. They made their own clinometers, learnt about the importance and uses of native trees, the impacts of exotic species, and how to measure tree height and circumference with clinometer and the GLOBE Observer app. We made some measurements in the school courtyard with the only tree they have there: the Timbó.

***Escuela rural No. 15, Villa Nueva. Canelones*** (May 17th). Visit to the school that joined the program in 2021. The students of 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> grades worked on the elaboration of a clinometer to measure trees and learnt about the different vegetation heights and identification, native vs. exotic species and the uses and importance of native trees. After explaining the protocol, we went to the courtyard of the school with the teachers Alejandra Monfort (registered to the trees campaign) and Eliana Rodríguez, to measure tree height and circumference using the manual method with clinometer and the GLOBE Observer app.

***Escuela No. 9 de Cardona, Soriano*** (April 26th). Visit to a new school that joined GLOBE Uruguay and the Trees within LAC campaign this year. After explaining the protocols of the campaign, students (26 of 4<sup>th</sup> grade) manufactured their own clinometers and the teacher, Ana Clara Hernández, helped them to measure tree height and circumference using the manual method with clinometer and the GLOBE Observer app. They also learnt how to observe and register the green down protocol in one native tree of the school, the Ibirapitá. A local newspaper went to the school to see the activities, took some photographs and interviewed me as the Country Coordinator of this science and education program.

***Colegio Ciudad Vieja, Montevideo.*** (May 23rd). Visit to the college that joined the program in 2019. After explaining the protocols, we went to the square Plaza Zabala next to the college with the students of 7<sup>th</sup>. grade (21) and the teacher, Prof. Natalia Peraza, of Secondary school to measure tree height and circumference using the manual method with clinometer and the GLOBE Observer app.

- ❖ Interinstitutional project between ANEP (National Association of Public Education) of the Education Ministry, the Biodiversity and Ecosystem Services National Division, and the Environmental Education and Public Participation Division (Ministry of Environment). This is a pilot experience to work on

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environmental education, protected areas and natural and cultural heritage in the area of influence of the Natural Monument Grutas del Palacio (world UNESCO Geopark).

Four specialists worked in this project with two rural schools (No. 21 and No. 7) through in person workshops (4), online follow up (3 meetings) and final closure where they will show what have learnt in a demonstration in the protected area for families, visitors and the Municipal authorities of the department (Flores) during the Heritage Day (October 6<sup>th</sup>).

This experience will be presented by the project team at the VII National Congress: Natural Protected Areas (August 14-18, 2023) and the Heritage Education Conferences (August 17-18, 2023), both in Montevideo, Uruguay.

- As part of the Mentor Trainer processes, I was assigned to mentor a candidate from the LAC region in order to be certified as Mentor Trainer. He got his certification in June this year in Hydrosphere.

### **SCIENCE**

- Support to three teachers who prepared five research projects to present to the IVSS 2023. Follow-up, rubrics, revision and suggestions for a correct presentation of the projects.

They were:

- Observación de árboles autóctonos para descubrir el porqué de la caída de sus hojas (3rd. Grade School – Teacher: Jessica Britos, School No. 88 Alfred Nobel, Canelones)
- Volando en el patio (2nd grade Secondary school – Teacher Martín Lucas, Liceo No. 1, Bella Unión, Artigas)
- Cianobacterias en nuestro río (3rd. Grade Secondary School – Teacher Martín Lucas, Liceo No. 1, Bella Unión, Artigas)
- Caracterización y análisis del suelo del predio escolar (y así crear un hábitat para mariposas) (6th. Grade School – Teacher Darío Greni, School No. 88)
- Relación entre el avistamiento de mariposas, las variables ambientales y la vegetación del patio escolar (6th. Grade School – Teacher Darío Greni, School No. 88)

In this last case, it was the research project selected to represent the region in the showcase of the GLOBE Annual Meeting in July. The students Carmela Bazzino and Paloma Galaviz presented the project and participated in the field trips and measurements organized at the event.

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- ☐ Participation as judge of the IVSS 2023 for the fourth term, evaluating 3 projects from North America and LAC regions.
- ☐ Attendance of the GLOBE LAC virtual Science Fair on 31<sup>th</sup> and 1<sup>st</sup> June. Three teams from Uruguay exposed their researches at this meeting: Darío Greni from School no. 88 (Canelones) with the group of 6<sup>th</sup> grade and the one of Jessica Britos of 4<sup>th</sup> grade. Also the teacher Martín Lucas, from Liceo No. 1 in Bella Unión, Artigas, participated with one of his researches, the one with the project about butterflies, with students of 2nd grade of Secondary School.
- ☐ Attendance of the GLOBE Annual Meeting 2023 in Denver, Colorado, USA, from 17 to 20<sup>th</sup> July. This year the invitation was as former member of the working groups and there were two extra days destined to these groups meeting where we contributed from the work done the previous years in the groups. A follow-up meeting is foreseen for August to give follow up to the work done during the annual meeting.
- ☐ Preparing two virtual workshops for teachers in Guatemala, who will be attending an in-person workshop of three days in September to do the field practice and the data processing. Activity coordinated by the Regional Office and GLOBE Guatemala (Miguel Angel Guzmán).

### **COMMUNITY**

- ☐ A poster showing the winner logo of the drawings presented to the Trees within LAC contest was exhibited during the poster session at the GLOBE Annual Meeting in Denver. It received many good comments and compliments as well as the various other drawings that took part of the contest. The poster was designed by me and Ana Prieto.

### **TECHNOLOGY**

- ☐ The GLOBE Observer app was introduced in all the visits and workshops we did along the year in order to be aligned with the Trees within LAC campaign and updated with the changes incorporated to the app.

### **COMMUNICATIONS**

- ☐ A star for Uruguay was written about the Pedosphere Workshop with the participation of Henry Ortiz in April 2022 in School no. 88 Alfred Nobel but has been recently published (July 2023).

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

- ☐ Organize new courses for Uruguayan teachers and another workshop to learn and review advanced protocols in the four spheres to refresh knowledge and be updated. Try to invite some international Mentor trainers to do it more attractive.
- ☐ Work with teachers on data entry, as they do research but most of the time do not upload the data. We will implement some webinars or work online in individual sessions with each teacher who is active and requires support.
- ☐ Continue with the visits to schools as this activity encourages teachers to work in GLOBE and students like to have hands-on science activities.
- ☐ Develop the second phase of the Trees within LAC Campaign with a new focus on climate change since it is the topic proposed by GLOBE for next year.
- ☐ Encourage, guide and assess teachers and students to present their science projects to the IVSS 2023 (mainly those regarding the Trees within LAC campaign).
- ☐ Provide teachers with the instruments/materials they require for specific periods in time in order to accomplish their research. I send also some publications elaborated by the ministry experts, related to native species, pollinators, protected areas and related issues.

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### VISITS TO SCHOOLS



School No. 9 Martín José Artigas. 4th. Grade. Cardona, Soriano



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Secondary school Instituto Adventista. 7th. grade. Progreso, Canelones



Colegio Sagrado Corazón Secondary school. Science club. Montevideo



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**GLOBE LAC Mini workshop  
on the Learning activities  
developed by the Academic  
Committee for the region.  
GLOBE Annual Meeting.  
Denver. 17<sup>th</sup> July 2023**



**Poster session at the GLOBE Annual Meeting. Denver. 14th July 2023**