

2022-2023 ANNUAL REPORT



Dominican Republic

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- Organization and Number of Staff: GLOBE DR / 6
- Funding by: Fundación Notre Dame, ONG (Non profit organization)
- Cooperating Organizations/Individuals: GLOBE Italy
- GLOBE Schools: 49 schools – 2 Universities
- GLOBE Protocol Areas: Atmosphere, Biosphere, Hydrosphere, Pedosphere, Earth as a System
- Number of Schools Reporting Data over Past Year: 473 observations using GLOBE Observer, users did not link the data with the school.

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

- Education

Protocols from the last GLOBE LAC meeting were presented to teachers which included Soil Characterization, Soil Fertility, Soil Moisture, the use of Biometry Instruments, and Tree Height. Teachers were also required to complete the online courses for Biometry at the GLOBE Program website in order to present the protocol to students. Teachers were also trained in the new Microplastics protocol. Students using Biosphere and Pedosphere Protocols, as well as the new Microplastics Protocol were required to develop Projects for their Science Fair based on these specific GLOBE procedures. Instruments for the Microplastics Protocol were made available for all students to use (for testing samples) under the guidance of a supervisor. The Science Fair raised awareness for “Microplastics and Trees” in the Dominican Republic. The Vice-Minister of Soil and Water: René Mateo, attended the Science Fair to see the innovative projects of the students which was further publicized in national media. This year students will also be involved with a reforestation program and will be able to have more hands-on application of Biosphere protocols in the field. We continue our agreement with the Ministry of Environment to participate in national campaigns to educate and train teachers, students, and citizens in environmental topics using the GLOBE Program Protocols and Projects, and to promote private collaborations to reach the “Sustainable Development Goals” that are the blueprint to achieve a better and more sustainable future for all.

- Science

GLOBE Students Voices Reached the Senate
Aiming for more significant audiences outside of the classroom and with the courage from knowing they are walking the right path, GLOBE students from Santo Domingo started a campaign of Zero Plastics to reduce the carbon print and global warming that inspired the Dominican Senate to allow only biodegradable plastics in the country.

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It all started using GLOBE protocols as evidence of the changes in the city through the years in temperature, urban heat, aerosols, high surface temperature, soil and river pollution, among other parameters.

A group of students visited the Dominican Senate, where they learned how it works, exposed their concerns about the environment seating in the Senate chamber desks, met senators Honorable Mrs. Faride Raful, Mr. Ivan Lorenzo (Which is a GLOBE parent) and the president of the High Chamber, honorable Mr. Eduardo Estrella.

Nevertheless, the campaign needed more data that impact those citizens that believe they can go on with the status quo and not be affected; this is when the Microplastics Protocol, developed by GLOBE Italy and presented at the 2022 GLOBE Annual Conference, took the torch relay.

Teachers were trained on the protocol by scientists Alessandra Sutti and Stuart Robottom (Deakin University, Australia) before all High School students at Notre Dame knew how to use the new equipment. Students started to find topics for their Science Projects with Microplastics as the central theme to create awareness in their community or to give possible solutions for local problems.

Among the projects presented were: Microplastics in your coffee, Which toothpaste brand has fewer microplastics? Microplastics in Delivery Food, Which Kitchen plastic tools release fewer microplastics?, Microplastics in Güibia, Salinas, Punta Cana and Cabarete Beaches, Can Sargassum filter microplastics?, Microplastics in the Ozama and Isabella rivers; among other projects.

The Science Fair attracted the media and the local authorities, knowing it was the first-time plastics were measured with an international scientific protocol in the country. The event was honored by Mr. Rene Mateo, Vice Minister in Soils and Water from the Ministry of Environment, local scientists, educators, and famous journalists from newspapers and magazines.

Finally, the two best projects were presented to Latin American Countries at the GLOBE LAC Virtual Science Fair (May 31, 2023), creating additional momentum for the topic, especially for the local authorities.

And then the fantastic news arrived: The Senate of the Dominican Republic approved on the sixth day of June 2023, in the second reading, a law (Law 2025-20) that will require, among other measures, that importing companies or manufacturers of plastics use a biodegradability certificate, which must be issued by a laboratory accredited in the corresponding standard.

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Our enthusiastic student voices positively impacted the lives of Dominican citizens and cooperated with the global community to build a better planet. “This is just the beginning; we will aim for higher goals next year. I want to become a senator and be the change in society.” Said Ivanna Lorenzo, a 10th-grade student and a GLOBE Program enthusiast.

Nevertheless, we continue working with our popular GLOBE DR project-> “Bee Alive” that promotes phenological gardens with pollinators favorite flowers, water and shelter to study and protect bees, hummingbirds and butterflies. “Bee Alive” is now part of the Santo Domingo City projects with neighborhoods; our Saharan Dust report to the Dominican population (how they influence the hurricanes path, the allergic cases, respiratory system diseases, temperature, mosquitos’ population, and precipitation in the island) and our annual Science Fair to celebrate Earth and GLOBE birthday on April 22nd.

- Community

In continuing with our agreement with the Ministry of Environment, we were part of an International Campaign to educate teachers, students, and citizens in environmental topics using GLOBE Program Protocols and projects

and promote private collaborations to reach a more sustainable future for all.

In 2023 GLOBE Dominican Republic participated in the first International Webinar “MEDIO AMBIENTE Y RECURSOS NATURALES: PRESENTE Y FUTURO DE LAS GERACIONES. EXPERIENCIA REÚBLICA DOMINICANA – BRASIL”

In this Webinar we had:

35 GLOBE Program Teachers

108 GLOBE Students

2 GLOBE Dominican Republic Representatives

We attend the online conference that was coordinated in conjunction with the Ambassador of Brasil in the the Dominican Republic and the Ministry of Environment (Department of Environmental Education and Disclosures).

Topics promoted included the Mangroves, Aerosol Project, Climate Change, Tree Protection Around the World, Deforestation and Carbon Footprint Reduction.

From this conference a new resolution was made for schools to undertake reforestation projects in the Dominican Republic.

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This Webinar also given in memoriam of the late Orlando Jorge Mera (who was assassinated by criminal hands in his office due to his strong fight to protect the environment of the Dominican Republic).

Attached in the Appendix are samples (from a student and both GLOBE Dominican Republic representatives) of certificates given by the “República Federativa del Brasil”.

- Technology

Online training, webinars, live stream national conferences, online professional development with experts from Brazil and United States were part of the activities of this year. The use of GLOBE Observer is very popular, we need to work on the detail to connect the observer with a GLOBE School.

- Communications

The GLOBE Program continue to be part of the national environmental program of the Ministry of Environment, virtual conferences, virtual visits to schools, live virtual interviews, social media. On May 16th , 2023 GLOBE teachers, students and Country Coordinators participated on the first international environmental webinar organized the Ministries of Education from Brazil and Dominican Republic.

Our main focus is on Citizen Science and from these enthusiastic followers we are now more active in schools and universities. We continue our commitment with the Ministry of Environment participating in national campaigns to educate and train teachers, students, and citizens in environmental topics using the GLOBE Program Protocols and Projects, and to promote private collaborations to reach the “Sustainable Development Goals” that are the blueprint to achieve a better and more sustainable future for all.

We continue working with our popular GLOBE DR project-> “Bee Alive” that promotes phenological gardens with pollinators favorite flowers, water, and shelter to study and protect bees, hummingbirds, and butterflies. “Bee Alive” is now part of the Santo Domingo City projects with neighborhoods.

Our Microplastics Project, that we started on August 2022 with the help of the Italian Embassy in Santo Domingo, taking for the first time scientific standardized measurements of the microplastics contained in the oceans, rivers, and lakes using GLOBE Hydrology bundle in it, reached its first goal on 2023: inspiring the Dominican Senate to make a new law that allows only biodegradable plastics in the country. We shared more information in the Science section and pictures in the Appendix.



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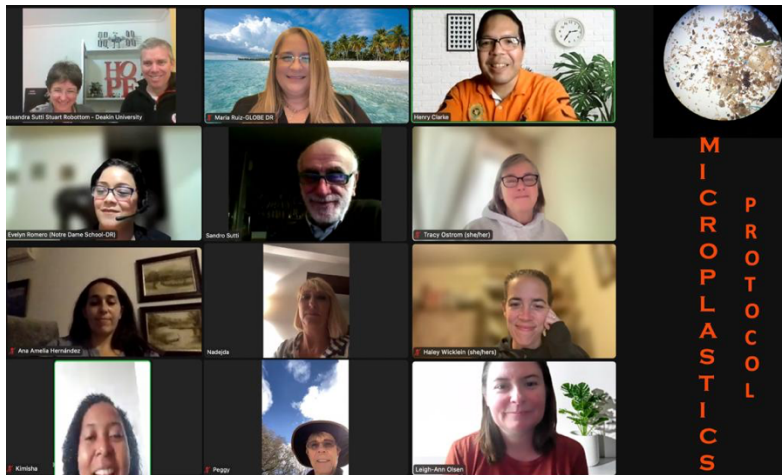
We are also proud of our Distinguish Alumni of the year 2023: Bachelor of Science in Marine Resource Management at the College of the Florida Keys, Miguel Angel Ramirez, who is working on a special project to protect, regrow and grow new coral reefs of Key West, Florida.

Plans and Ideas for Next Year: Continue with the Tree observations and create a manual with the Dominican Species. Continue with the Microplastics trial protocol. Continue promoting GLOBE at a national level and reach more universities. Connect GLOBE observers with their schools.

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APPENDIX

Microplastics webinars, training the trainers on August 2022.



Microplastics protocol equipment.

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GLOBE Students analyzing microplastics in the Caribbea Sea in Güibía, Salinas, Punta Cana and Cabarete Beaches. Water samples from Ozama, Isabella, Yaque del Norte, and Chavón rivers; were also analyzed.

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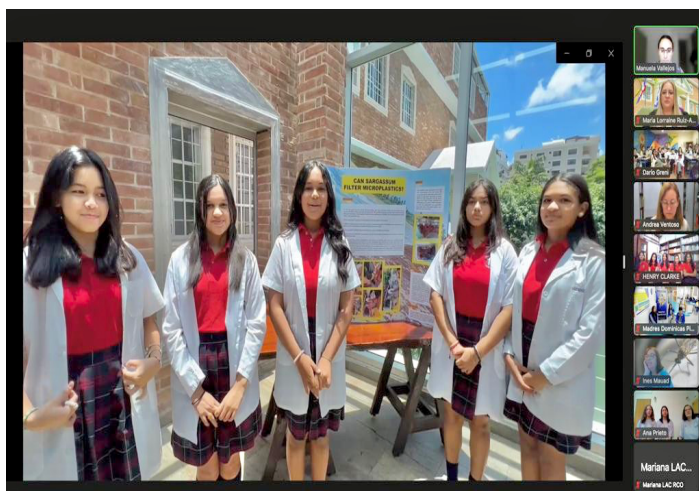


Globe students and teachers at the high chamber of the Dominican Senate, presided by Honorable Senator Iván Lorenzo

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Projects presented at GLOBE LAC International Virtual Science Fair 2023: Can Sargassum Filter Microplastics? & Removing Microplastics from Water using Moringa Tree Powder.



CIENCIA & ESTILO

Microplásticos inspiran trabajos feria científica

—Proyectos. Niños y jóvenes de Notre Dame School utilizaron nuevas investigaciones científicas. —Estudios. De árboles son dirigidos por Brian Campbell, NASA Senior Earth Science.

EL DÍA SANTO DOMINGO

El consumo de plásticos se ha incrementado, a nivel mundial, en los últimos años, especialmente los de uso diario, como el caso de los sueros, ya su difícil reciclaje y la baja capacidad de degradación tienen como consecuencia una acumulación de estos en el medio ambiente.

Pese a su gran disponibilidad, se ven sometidos a erosión física y química, dando lugar a fragmentos más pequeños. Aunque no hay una definición estandarizada del concepto de microplástico, se ha aceptado el límite máximo de 5 mm como criterio.

Los plásticos, además de las consecuencias sobre el medio ambiente, tienen un efecto directo sobre los seres vivos, ya sea por ingestión o por toxicidad. También, pueden actuar como vehículos de especies invasoras y adherirse en su superficie otros contaminantes como los BPCs, los HAPs y DDT.

Con toda esta información, Notre Dame School presentó en su XXXVIII Science Fair, en honor al Día de la Tierra y el aniversario del Programa Globo de la NASA, nuevas investigaciones científicas sobre efectos biotómicos y microplásticos.

Maria Lorraine de Ruiz-Alma informó que los estudios de árboles son dirigidos por el doctor Brian Campbell, NASA Senior Earth Science Outreach Lead, los cuales contienen protocolos de biometría y fotos

Microplásticos

—Los resultados. Existe disparidad en los resultados publicados en cuanto a la presencia de microplásticos tanto en abundancias como en aguas de consumo y embotellada. Los datos serán publicados en la página del Programa GLOBE de la NASA (www.globe.gov).

georeferenciadas por satélites donde las especies analizadas son resúmenes para crear un mapa mundial con fines de preservar el agua. El Proyecto de los Microplásticos es patrocinado por el Ministerio de Educación de Italia y el Programa GLOBE, Italia, en el que se medirá por primera vez en el mundo los microplásticos contenidos en el agua de los lagos y mares. Científicos, investigadores y estudiantes hacen historia con sus rigurosas investigaciones y descubrimientos a favor de la humanidad. —

El árbol

El Archivo General de la Nación (AGN) llevó a cabo un amplio programa de

CARABETE
Ganadores de Premio Dream Montessori

El +

La entidad empodera a los niños y jóvenes.

Las organizaciones sin fines de lucro Yspirado y la Fundación Solidaridad Calasancia (Solca), ganaron el primer y segundo lugar del Premio DREAM Montessori, que otorgan las entidades Dream Project y Cigar Country, a organizaciones que realizan trabajo social en zonas rurales y marginadas en la República Dominicana. El jurado escogió a las entidades ganadoras. —

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Los nominados del premio

Carlos Azar, 2015 José Marmol, 2016 Archie López, 2017

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Certificate samples from the International Environment Webinar (from a student and both GLOBE Dominican Republic representatives) given by the "República Federativa del Brasil".



Distinguish GLOBE Alumni 2023: Bachelor of Science in Marine Resource Management at the College of the Florida Keys, Miguel Ángel Ramírez, who is working on a special project to protect, regrow and grow new coral reefs of Key West, Florida.