

Colombia



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- Organization and Number of Personnel: Ministry of Science, Technology and Innovation.
- Funding by: General Budget of the Nation, Investment Project (Scientific Vocations) \$18,700 USD approximately.
- Cooperating Organizations/Individuals: Embassy of the United States of America in Colombia, Institutions of Higher Education, Regional Autonomous Corporations.
- GLOBE Schools: 261 schools.
- GLOBE Protocol Areas: Atmosphere, Hydrosphere, Land Cover.
- Number of schools reporting data during the past year: For the reporting period, 18 schools and 57 teachers, there were 6,630 total observations.

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Program implementation, international cooperation in the GLOBE network and activities during the past year (categorized by objectives of the GLOBE Strategic Plan 2018-2023).

- Education

A training workshop was held for teachers on skills in the formulation of school research projects, incorporating tools from NASA's GLOBE program and Minciencias' ONDAS program.

The workshop benefited 65 educational establishments in the municipality of San Andres de Tumaco.

The workshop was attended by 65 teachers (1 per school) leaders of the School Environmental Projects (PRAE) convened through the Municipal Secretary of Education.



Each teacher will form a school research group with 10 children and adolescents (650 children and adolescents in total). They will carry out environmental research that integrates the GLOBE protocols for the solution of a local environmental problem (following the methodology of Ondas and the GLOBE protocols in atmosphere, hydrosphere, biosphere and soil).

The workshop was divided into 3 modules (3 face-to-face weeks, with 3-day sessions each):

- Introduction to GLOBE: The X-ray of the problem and the question formula
- Data Science: Searching and collecting data. Some tools for satellite image processing: Google Earth, Planet.com, ArcGIS.
- Analysis and interpretation of online data through the GLOBE visualization system.



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Through the computers provided by MinTIC - Computadores Para Educar, children, adolescents and their teachers will be able to connect online with the system for uploading, searching and visualizing GLOBE program data, as well as connect with the GLOBE school network in the 137 countries that are part of the program.

- Science

Through the articulation of regional actors, collaborative work was carried out in the framework of the project of social appropriation of knowledge with beekeepers of the Montes de María. This project was led by the University of Cartagena together with the IDAB group and Biontessori. The project included a dialogue of knowledge about good citizen science practices with the communities of these localities, especially children and young people. In addition, training was provided in protocol for the determination of dissolved oxygen, water temperature and salinity (hydrosphere), and land cover, height of trees and shrubs.

International Virtual Science Symposium - IVSS

The International Virtual Science Symposium (IVSS) is a way for elementary and high school students from all GLOBE countries to showcase their research and work. With GLOBE, students learn the practices of science through hands-on investigations in their own communities, sparking their curiosity and interest in science. This often leads to research that helps solve real-world problems and a greater understanding of our global environment.

In 2023 Colombia participated with 4 projects, which we mention below:

Land cover and bird communities in mangrove forests, Cartagena, Co.

Montessori School of Cartagena Cartagena, Bolivar.

The laying of herons, indicator of the state of health of a mangrove ecosystem.

Montessori School of Cartagena Cartagena, Bolivar.

Descriptive study of potential mosquito habitats in the community of Colegio Cooperativo C. A. R. B de Apartadó, Antioquia and surrounding areas and their impact on community health. PHASE II

Spatial Sciences Research Seminar, S.I.C.E Barranquilla, Colombia

Environmental study of surface temperature and NDVI index in the metropolitan area of Barranquilla, Colombia.

Semillero de investigación en Ciencias Espaciales, S.I.C.E Barranquilla, Colombia.

- Communication

The national government's communications force has been disseminating information on actions within the framework of the GLOBE Colombia program:

¡Ciencia y tecnología! La apuesta del Gobierno Nacional para impulsar el desarrollo de la comunidad educativa en Tumaco:

https://minciencias.gov.co/sala_de_prensa/ciencia-y-tecnologia-la-apuesta-del-gobierno-nacional-para-impulsar-el-desarrollo-la

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Minciencias lidera el fortalecimiento de las relaciones entre Colombia y la NASA:
https://minciencias.gov.co/sala_de_prensa/minciencias-lidera-el-fortalecimiento-las-relaciones-entre-colombia-y-la-nasa

- Community

The **Semillero de Investigación en Ciencias Espaciales S.I.C.E**, represented Colombia in the last Annual Meeting, held in Denver, Colorado. Students Fabio Elías Ruiz and Juan Manuel Murcia presented the project "Mosquitoes and trees relationships of scientific studies in Colombia using the GLOBE methodology".



Plans and ideas for the following year:

The GLOBE Colombia Program is part of the agenda of the High Level Dialogue between Colombia and the United States (HLD), which is the most important mechanism for political relations between the two countries and the highest instance at the political level for the diversification of the bilateral agenda and allows addressing issues of mutual interest through dialogue and cooperation; as well as strengthening the relationship in the face of challenges and new national, regional and global realities.

In coordination with the Embassy of the United States of America, within the framework of the HLD, we intend to promote scientific collaboration and foster STEAM education through the implementation of the GLOBE Colombia program in alliance with the ONDAS Minciencias program as the coordinating entity, as follows:

- Training workshops for children, adolescents and teachers in scientific protocols of the GLOBE program.

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- In alliance with the Ondas de Minciencias program, and within the framework of the solar eclipse that will occur on October 14, 2023, the national meeting of school research and astronomy camp will be held in the Tatacoa desert, Villavieja, Huila. 100 students and 50 teachers from different parts of the country will participate in this camp, where they will be able to apply the GLOBE protocols associated with the eclipse phenomenon.
- Virtual exchanges between GLOBE schools/groups in the United States and GLOBE schools/groups in Colombia (To carry out a pilot project of virtual exchange with 5 GLOBE schools in Colombia and 5 GLOBE schools in the USA. Through a call for proposals from MinCiencias).