




Argentina



<p>Name: <i>Marta Irene Kingsland</i></p> <p>Function: <i>Coordinadora Nacional</i></p> <p>Organization: <i>Programa GLOBE Argentina</i></p> <p>E-mail: programaglobe.mk@gmail.com</p> <p>Tel: +54 11 4814 9200 ext. 1533</p>	
<p>Name: <i>María Marta G. de Daneri</i></p> <p>Function: <i>Coordinadora Nacional Alterna</i></p> <p>Organization: <i>Programa GLOBE Argentina</i></p> <p>E-mail: mmdprogramaglobe@gmail.com</p> <p>Tel: +5411 4814 9200 ext. 1533</p>	

Organization and Staff Number:

GLOBE Program Argentina

Members:

- 1 National Coordinator: Marta Kingsland
- 2 Alternate National Coordinator: María Marta G. de Daneri
- 3 Zone Coordinator: Claudia Romagnoli (Santa Fe)
- 4 Zone Coordinator: Ana Prieto (Junín de los Andes)
- 5 Operational Secretary: Graciela Martínez

Funding:

No external funding

Collaborating Organizations/Individuals:

- University of Business and Social Sciences (Headquarters of the GLOBE Program Argentina)
- U.S. Embassy in Buenos Aires

GLOBE Schools: 250

GLOBE Protocol Areas:

- Atmosphere
- Biosphere
- Hydrosphere
- Pedosphere (Soil)
- Earth System

Number of Schools Reporting Data Last Year:

- 9 (2023)
- 15 (2024 to date)

Program Implementation, International Cooperation within the GLOBE Network, and Activities from the Past Year (Categorized by the Goals of the GLOBE Strategic Plan 2018-2023):1. Education

- At the request of the **Ministry of Education of the Province of Jujuy**, a Virtual Workshop on "**Atmosphere**" and "**Hydrosphere**" (Mosquito Larva Protocol) was conducted from July to October 2023.



- A semi-presential workshop on "Atmosphere," titled "**With Eyes on the Sky**" was held in Rosario, Santa Fe Province, organized by the Zonal Coordinator and Mentor Trainer Claudia Romagnoli, from April 6 to 27, 2024.
- A face-to-face workshop on "Atmosphere," titled "**A Glimpse at the Sky**" was held in Santa Elena, Entre Ríos Province, conducted by the Zonal Coordinator and Mentor Trainer Claudia Romagnoli, from June 28 to 29, 2024.
- Officials from the **Ministry of Education of the Province of Chaco** have contacted this Coordination expressing their interest in the **GLOBE Program** and the possibility of conducting a Virtual Workshop. Probable date: September/October 2024.
- In collaboration with the **GLOBE Regional Office – LAC** and the **Country Coordinator of Chile**, we are organizing a series of virtual meetings in anticipation of the upcoming Annular Solar Eclipse on October 2, which will be visible in Argentine/Chilean Patagonia. Additionally, we are coordinating with GLOBE Educators in the area affected by the astronomical phenomenon to ensure the active participation of students through their observations and measurements.

2. Science

Club de Ciencias Huechulafquen

- GLOBE 2024 International Virtual Science Symposium. IVSS 2024. "Influence of trees on summer temperatures in Junín de los Andes, Patagonia, Argentina". Marzo [2024](#). Profesora: Ana B. Prieto.
- Presentation at [ActNow 2024!](#) organized by the ENO Program India, Environment On-line (ENO). June 4-5, 2024. Urban trees in Junín de los Andes. Professor: Ana B. Prieto
- Presentation at the [Virtual Science Fair 2024](#) organized by the GLOBE Program Regional Office for Latin America and the Caribbean. June 25-26, 2024. Influence of trees on summer temperatures in Junín de los Andes, Patagonia, Argentina. Professor: Ana B. Prieto
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- Presentation of the [poster](#) “Influence of trees on summer temperatures in Junín de los Andes, Patagonia, Argentina” at the 2024 GLOBE Annual Meeting in Fredonia, USA.

Universidad Nacional del Comahue

- We won the [100K Strong in the Americas](#) grant to develop a climate action plan that incorporates the Biosphere and Atmosphere protocols for collaborative research between both countries.
- **March and April 2024.** GLOBE Program Workshop. Biosphere and Atmosphere Protocols at the Universidad Nacional del Comahue.
- **Presentation of the [poster](#) “Strengthening Climate Education through North-South Collaboration: The University of Texas at Tyler and the Universidad Nacional del Comahue Partnership”** at the 2024 GLOBE Annual Meeting in Fredonia, USA.
- **August 2024.** We hosted the group from the University of Texas at Tyler, conducted a workshop, and took tree height measurements among other activities. [Report](#).
- **Collaborative Activity: “Be Like the Jacaranda! A Blooming Project Together.”**
The project was carried out by Marcela Fernández, GLOBE Educator and Director of Kindergarten 183, and Emiliano Vinocur, GLOBE Educator and Trainer, Professor at Technical Professional School 449.
 - o The activity highlights seasonal changes observed by preschool children with the support of students, future chemical technicians, who worked together, expressing through observations, stories, and artistic activities, the seasonal changes seen in tree leaves.
- **“The study of trees at school 1345 in Pujato-Argentina- as a benefit of the environment”** Coordinated by Mentor Trainer Claudia Romagnoli with the collaboration of GLOBE educators Rosalia Poggiani and Virginia Romagnoli.
 - o The activity corresponds to the interdisciplinary collaborative presentation on different tree species, where students aged 12 to 13 years observed



the characteristics of different species. It also related to Earth as a System, climate change, and carbon storage.

Work presented at IVSS:

- pH Analysis in different water sources: mill, well, potable, and reverse osmosis treated.
- Influence of trees on summer temperatures in Junín de los Andes, Patagonia, Argentina
- “Restoration project: How the creation of biological corridors could affect the presence of butterflies and environmental variables”
- Trees in Haras Santa María Urbanization, Loma verde, Escobar, Buenos Aires, Argentina.
- "Analysis of the Tree Coverage Change in Loma Verde, Buenos Aires, Argentina over the Last 13 Years"
- Quantitative Study of Trees at the Technical School of Acebal (Santa Fe, Argentina)
- Characteristics of some trees in the “De las Colectividades” and “Sunchales” Parks of Rosario, Argentina
- A shade for Victoria city
- “El latido del CEIBO. Descubriendo su esencia”

3. Community

- Teachers were asked to complete a consultation form about their GLOBE activities in the classroom, their achievements, and difficulties, to get an overview of the reach of the GLOBE Program in the country. June 2024. Most did not have problems implementing GLOBE in the classroom, but some reported difficulties in uploading information.
- Working groups, including representatives from Argentina:
 - o Ana Prieto, member of the Technology Working Group
 - o Paula Paez, member of the Science Working Group
 - o Marta Kingsland, member of the Evaluation Working Group
- Participation in the Annual Meeting - July 2024
 - o Marta Kingsland presented the poster “From Classrooms to Citizen Science: How Argentine Schools Foster Climate Awareness Through the GLOBE

Program,” detailing the various activities and measurements submitted by the GLOBE Argentina Community.

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Marta Kingsland presented the [poster](#) “**From Classrooms to Citizen Science: How Argentine Schools Foster Climate Awareness Through the GLOBE Program**” which details the various activities and measurements submitted by the GLOBE Argentina Community.



From Classrooms to Citizen Science: How Argentine Schools Foster Climate Awareness Through the GLOBE Program

Marta Kingsland, María Marta Daneri, Graciela Martínez, Ana Prieto and Claudia Romagnoli
The GLOBE Program - Argentina

Abstract

This poster examines the integration of climate change science education into the school curriculum and its impact on student participation in the IVSS and the GLOBE Programme in Argentina. It shows examples of how schools promote climate awareness and encourage active student participation in science projects using GLOBE protocols. In recent times, students, teachers and citizen scientists in Argentina have increased their participation, e.g. by increasing the number of measurements, new GLOBE teachers, research reports, creating tutorials by students, implementing joint competitions with the US Embassy, international collaborative projects between schools in Argentina and other countries, etc. Recently, a collaborative project between universities in Argentina and the United States has begun with the support of the 100K Strong in the Americas programme.

Metrics

Atmosphere measurements in Argentina

April 2023 - May 2024
All Observations: 2062
Clouds: 10
Relative Humidity: 100
Temperature: 100
Wind Speed: 100

Biosphere Measurements in Argentina

April 2023 - May 2024
All Observations: 100
Soil Temperature: 100
Water Temperature: 100
Wind Speed: 100
Wind Direction: 100
Clouds: 100
Relative Humidity: 100
Temperature: 100
Wind Speed: 100

Hydrosphere Measurements in Argentina

April 2023 - May 2024
All Observations: 100
Water Temperature: 100
Wind Speed: 100
Wind Direction: 100
Clouds: 100
Relative Humidity: 100
Temperature: 100
Wind Speed: 100

Contribution of Schools, Citizen Scientists, and GLOBE V-School with Measurements

Organization	Measurements	Projects	Students
All Observations	100	100	100
Biosphere Measurements	100	100	100
Hydrosphere Measurements	100	100	100
Atmosphere Measurements	100	100	100
Clouds	100	100	100
Relative Humidity	100	100	100
Temperature	100	100	100
Wind Speed	100	100	100

Highlights

- Tutorials created by students about clouds
- Vloggers representing Argentina from the Latin America and Caribbean region
- Collaborative projects
- Argentine & Spain (Eneas)
- Next steps
- Workshop for students

THE GLOBE PROGRAM
A Worldwide Science and Education Program

Meeting sponsored by:

Supported by:

Strengthening Climate Education through North-South Collaboration: The University of Texas at Tyler and the Universidad Nacional del Comahue Partnership

Teresa J. Kennedy*, Michael Odell*, Susana B. Ramos** and Ana B. Prieto**
**University of Texas at Tyler - **Universidad Nacional del Comahue*

Year 2
#LACTREES

Abstract

The University of Texas at Tyler in the United States and the Universidad Nacional del Comahue in Argentina are implementing a collaboration to develop climate education through an exchange program with the goal of providing professional learning to current and future teachers to communicate climate science effectively. The present Climate Action Plan is the 2024 winner of the 100K Strong in the Americas grant. It includes:

- Expand access and strengthen capabilities for open, climate-focused science education, promoting equity and inclusion, for STEM teachers in training, in-service, and university professors.
- Expand the partnership between the northern and southern hemispheres to develop and deliver climate education solutions aligned with UNESCO and IPCC climate goals.
- Prepare current and future educators, teaching them science communication skills so they can bring climate science closer and make it easier for students at all educational levels to design their own climate projects using the GLOBE program protocols.

Exchange Bi-directional: United States of America and Argentina

Table 1. Universities collaborating in the project.

	Universidad Nacional del Comahue	University of Texas at Tyler
Exchange type	Bi-directional: Universidad Nacional del Comahue and University of Texas at Tyler	
Undergraduate and Postgraduate Students	4 Students	4 Students
Professors	2 Professors	2 Professors
Travel time	Trip to Texas, United States: 10 days total including travel days.	Trip to Neuquén, Argentina: 10 days total including travel days.
During the year:		
Total	6 people from Universidad Nacional del Comahue	6 people from University of Texas at Tyler

Table 2. International exchange details.

	Universidad Nacional del Comahue	University of Texas at Tyler
Exchange type	Bi-directional: Universidad Nacional del Comahue and University of Texas at Tyler	
Undergraduate and Postgraduate Students	4 Students	4 Students
Professors	2 Professors	2 Professors
Travel time	Trip to Texas, United States: 10 days total including travel days.	Trip to Neuquén, Argentina: 10 days total including travel days.
During the year:		
Total	6 people from Universidad Nacional del Comahue	6 people from University of Texas at Tyler

Project Timeline

- 2023: Project Preparation: The Project: The Collaborative Bi-directional Climate Education Capacity was conceived and presented in July 2023.
- 2023: Announcements: Partners of the Americas (POA), 20th United States President Joe Biden, the Fulbright program for 2024 are announced: 1 from Argentina, 1 from Chile, 1 from Paraguay and 1 from Uruguay.
- 2024: Selection of applicants to both universities and M&A processing: 4 students and 2 teachers from each university (10 people in total).
- 2024: Training at Climate Education (Phishing - Government) National Center for Climate Education (NCCES) - University of Texas at Tyler. Virtual meetings (Zoom) discuss preparations from Argentina and the United States begin.
- 2024: Students and teachers begin to carry out environmental measurements, data collection, and data management (protocols, data, materials, and safety).
- 2024: Bidirectional exchange in Texas (the Texas group will be in Argentina in the summer of 2024).
- 2025: Collaborative research week: The research will be carried out between students and professors from both universities in-person and virtual. The report and poster will be prepared for present at GLOBE - International Virtual Science Symposium.
- 2025: Research on the exchange: A paper will be prepared on the experience and results of the exchange and collaborative work between students and professors from the United States and Argentina.

Fig. 2. Timeline and main actions of the project.

International collaborative project

The collaboration to develop Climate Education Capacity project received a conditional funding letter from 100K Strong in the Americas Grant Organization for \$250,000.

The project links the Universidad Nacional del Comahue in Argentina and the University of Texas at Tyler in the United States. (Fig. 1) The exchange includes science teachers, undergraduate and graduate students from both universities. (Table 1)

Project Objectives

- Develop a network of STEM educators in Argentina and the USA to collaboratively conduct and communicate climate research locally.
- Prepare participants in the development of Problem-based Learning (PBL) climate projects leveraging the GLOBE Program and resources from local sources such as UNESCO and agencies such as the WMO, NASA, NOAA, etc.
- Focus on the topic of Climate and Carbon (CCC) This working campaign will build student climate and data literacy skills followed by the design of student-driven CAPs utilizing GLOBE protocols, CAPs, and visualization tools.

Key Activities

- Participants will enroll in a virtual multi-instructor-led course focused on climate issues facing both Argentina and the USA. The course will facilitate the development of the Climate Action Plan (CAP) projects and prepare exchange members.
 - Exchange 1: Argentine students to Texas
 - Exchange 2: Texas students to Argentina
- Participants will design and implement climate education activities using the GLOBE Program.

Online Course Outline

- Module 1: Climate Science and Data Literacy (Year of Climate and Carbon)
- Module 2: Understanding Climate Data (Carbon, Biomass, and Trees)
- Module 3: Accessing and Collecting Climate Data (GLOBE Protocols, Online Data)
- Module 4: Visualizing Climate Data (GLOBE Data Visualization Tool)
- Module 5: Interpreting Climate Data (Visual Approximations)
- Module 6: Communicating Climate Data
- Module 7: Developing a Climate Action Project
- Module 8: Implementing a Climate Action Project
- Module 9: Disseminating a Climate Action Project
- Module 10: Developing a Climate Education Plan

Additional Activity Information

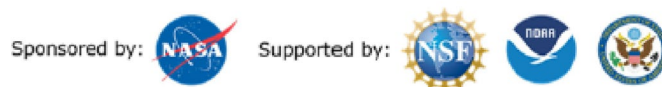
- Build access and capacity for climate-focused open science education for preservice (undergraduate) STEM teachers, in-service teachers (graduate degree-seeking), and university faculty with a focus on equity and access.
- Expand a northern/southern hemisphere partnership to develop and deliver climate education solutions that are aligned with UNESCO Climate goals and the International Panel on Climate Change (IPCC).
- Prepare current and future educators by teaching science communication skills so that educators can translate climate science and facilitate students at the elementary, secondary, and tertiary levels to design their own climate projects focused on a citizen science approach using the GLOBE Program that is free and readily available online.

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- Marta Kingsland also presented, in a panel discussion, the interdisciplinary collaborative work “The Study of Trees at School 1345 in Pujato, Argentina, as a Benefit for the Environment”





- Southernmost School on the Continent: Contact has been reestablished with the teachers from **School No. 38 “Presidente Raúl Ricardo Alfonsín”** located at Base Esperanza, Argentine Antarctica. Due to the fact that families at the base stay for one year, performing their various functions, the assigned teachers are continually being replaced, which has led to interruptions in their GLOBE activities. Our goal is to restart these activities; therefore, we are organizing virtual meetings to advance the management of these activities.
- Argentina, participating in various regional campaigns: **“Trees within LAC”** organized by the Regional Office, highlighted the active participation of GLOBE students and educators representing different schools in our community.
- **“Butterfly Monitoring”**: A collaborative project between Peru, Uruguay, and Argentina, continuing throughout the present year.

Technology

- We highlight the creation of a new Video Tutorial for using the GLOBE Observer App for Cloud Observation, created by a GLOBE student who participated in the competition organized by the National Coordination, in collaboration with the U.S. Embassy.
- We are setting up the foundations for a new competition, in conjunction with the U.S. Embassy, which will invite all GLOBE students. The theme will be “Tree Height,” using the GLOBE Observer App.

Communications

- Ongoing contact with GLOBE teachers via email and social media.
- Initial outreach to teachers who create their accounts on the official Program website, offering the support they may need.

Plans and Ideas for the Next Year

- **“Train the Trainers” Workshops**: We plan to hold semi-presential workshops, understanding that while virtual learning allows participants to organize their



schedules, applying what is learned in field practice enhances comprehension. A virtual workshop will be organized for the upcoming teachers who will be in charge of the classroom at Base Esperanza, Argentine Antarctica. The GLOBE Program has sparked significant interest among education ministry officials in various provinces of the country, so virtual workshops for new interested parties are not ruled out, as has been done in recent years. Argentina will offer spots in future virtual workshops to colleagues from the region, which can be utilized by teachers from that community.

- With the support of the U.S. Embassy, we have the opportunity to organize new competitions for both teachers and students.
- We will continue to promote GLOBE through social media (FB, IG) with stories, reels, etc.
- We plan to visit schools in our community with the goal of organizing GLOBE activities in the classroom with students.
- We will remain attentive to organizing GLOBE activities aligned with topics of interest to teachers and/or students.