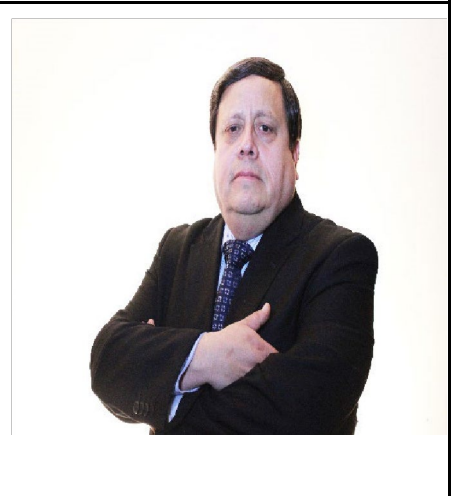




## CHILE

**Name:** RAÚL PÉREZ ORELLANA  
**Function:** Country Coordinator (CC)  
**Organization:** **PROGRAMA GLOBE CHILE**  
**UNIVERSIDAD DE LAS AMERICAS**  
**E-mail:** [raul.perezorellana@gmail.com](mailto:raul.perezorellana@gmail.com)  
[programaglobechile@gmail.com](mailto:programaglobechile@gmail.com) **Tel:**  
+56 991501929  
**X (ex Twiter):** @pe\_rez\_raul  
**Website:** - <https://programaglobechile.cl>  
(en reparación)  
- Programa Globe Chile / Facebook



- **Organization and Staff Number:**

Under the supervision of the CC, there is a teaching team consisting of one Mentor Trainer, three Trainers, and two Teacher Assistants for educational topics; a communications committee of two trained individuals; and a group of seven scientific collaborators. In total, there are 15 people.

- **Funding by:**

Basically, contributions come from volunteer work, project funding, self-financing by units, and logistical support from affiliated organizations.

- **Cooperating Organizations/Individuals:**

In logistical/scientific/academic support:

- U.S. Embassy in Chile
- AIEP Professional Institute
- University of Chile (CR2)
- Metropolitan University of Educational Sciences (UMCE)
- University of the Americas (Graduate School and School of Translation)
- Ludens Chile Communications
- Affiliated schools and institutions

- **GLOBE Schools:**

We have an average of 8 active educational institutions, having integrated some and deactivated others. There are 25 in the process of activation, and we keep the communication channel open to reactivate other schools that have participated in GLOBE at some point.

- **GLOBE Protocol Areas:**

In the training area, we worked on the basic protocols for the four research spheres (Atmosphere, Pedosphere, Hydrology, Land Cover). There are also projects involving advanced protocols in aerosols, atmospheric waters, and Hydrology (water desalination), as well as the implementation of wetland bundles.

- **Número de escuelas que informaron datos durante el año pasado:**

Four institutions are reporting data as such, leading an automation process for stations that provides over 150,000 individual high-quality metrological data points annually. Additionally, there is a significant amount of contributions uploaded to the GLOBE OBSERVER app, subscribed to by 700 Chilean followers. We will undertake a process to link measurements with educational centers as appropriate.

**Implementation of the Program, International Cooperation in the GLOBE Network, and Activities Over the Past Year (Categorized by Objectives of the GLOBE Strategic Plan 2018-2023)**

- **Education**

- ✓ Conducted a workshop on basic protocols (Atmosphere, Pedosphere, Hydrosphere) for pre-service teachers. Training on the GLOBE OBSERVER app for a group in Concepción.
- ✓ Contributed to the redesign of the curriculum framework for Science Education with the use of GLOBE protocols, within the context of curricular environmentalization.
- ✓ Renewal of the interactive platform at UMCE (second phase), aligning with the technological updates the University has made to this computing resource. Our working group has started the redesign of the GLOBE chapter in a collaborative binational scheme between Paraguay and Chile.

From the previous regional meeting (Panama\_2023), vision exchange meetings and specific applications of GLOBE strategic objectives have been established, leading to the following foundational initiative proposals:

- a) Mentoring for the Trainer process of CC. Elida Moreno (Py).
  - b) Joint development of a virtual classroom with technological learning resources and structured follow-up in action research methodology.
  - c) Planning and execution of GLOBE training activities, according to the technological, educational, and human resources available in the new period.
- 
- ✓ We continue working in the Biobío region, establishing links with the University of Concepción through its Environmental Education units. This is being operationalized through connections with the municipality of San Pedro de la Paz, which hosts a Ramsar wetland (Los Batros) and the San Pedro lagoon (Nature Sanctuary), as potential sampling sites in bundle mode.
  - ✓ Launch and development of 7 school research projects (two of which are being developed binationally with Southern Argentina) with the aim of participating in an IVSS-like event. We have decided not to participate in IVSS 2024 after receiving feedback on the processes from the 2023 and previous events that need to be addressed.
  - ✓ Continued development and implementation of the GLOBE Center in the Fifth Region (Papudo la Ligua). There are contributions to GLOBE environmental education for local schools, and we anticipate the beginning of data collection by the end of 2024.

- **Science**

- ✓ Launch of a professional meteorological station, soon to start operations under the oversight of the scientific group “La Guñelve” from the national coordination. This station will report data to GLOBE and provide research inputs for interdisciplinary team collaborations between associated universities.
- ✓ Continuation of research project on aerosols and atmospheric variables using data from air quality measurement devices (PM2.5).
- ✓ We continue to strive to improve the management of our scientific collaborators' contributions efficiently. We are also calling on specialists in Education and Environmental Education, which is perceived (curiously) as an area with limited participation and/or nascent development in GLOBE.

- **Community**

- ✓ Conducting virtual and/or in-person presentations for new schools about the GLOBE Program.
- ✓ Hosting informational talks on eclipses, including scientific explanations of the phenomenon, local experiences from 2019 and 2020, and background on the 2023 eclipse. Contributions to preparatory webinars for the 2024 eclipse.

- ✓ Delivering virtual presentations on GLOBE experiences. This includes engaging with inactive partner schools to reintegrate them into the GLOBE program.
  
- ✓ Participating in outreach activities with associated universities and implementing early warning initiatives on air, water, and soil issues.

- **Technology**

- ✓ Under the leadership of Professor M. Paillali, work continues on developing methods to build accessories and instruments using Arduino hardware, 3D printers, and leading school research projects on seawater desalination.
  
- ✓ We continue to involve postgraduate students from Professor Rondanelli (University of Chile). Support is maintained for initiatives in instrumental development, aerosols (particulates), and the fabrication of photometers.

- **Comunicación**

- ✓ Conducting environmental education and GLOBE program talks as part of the Summer School at the University of the Americas, open to both local and international audiences (01/2024).
  
- ✓ Publication of Star 2024 featuring the activities of members from the southern region of the country in GLOBE CHILE.

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

Our goals are focused on maintaining the progress of ongoing initiatives and:

1. Reactivating GLOBE activities in schools currently on hold and integrating new schools.
2. Consolidating the GLOBE center in the Fifth Region (La Ligua, Zapallar, Papudo, and surrounding areas) led by Prof. H. Costabal (GLOBE Trainer).
3. Fully activating the virtual training center at UMCE, with collaborative development between Paraguay and Chile.
4. Integrating a third Davis meteorological station in the northern part of the country into the system of schools associated with GLOBE CHILE, reinforcing the plan for automating meteorological stations to provide high-quality data for initiating work in model management.
5. Feasibility study for a binational meeting (Argentina-Chile) in the southern region (an endemic area of the continent). Currently, an inter-school project is in development.
6. Advancing work on curricular integration with the inclusion of GLOBE protocols and STEAM project proposals for pre-service teachers. Additionally, with two scientists, we are continuing to develop a study to assess environmental education and the GLOBE protocols associated with formal content in basic and secondary education in Chile.

7. Strengthening GLOBE CHILE's participation and presence in specific outreach activities of the universities of Chile, Concepción, Las Américas, and UMCE, and managing inter-university actions.