



Country: CHILE

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• Organization and Number of Personnel::

Under the supervision of the CC, operates a teaching group of three trainers and two Teacher assistants for teaching subjects; a communications committee of two trained persons; A scientific collaborator pool of 5 persons. In total 10 people.

• Funding by::

Basically, contributions from volunteers, project funds, self-financing of the units and logistical support from related organizations.

• Cooperating organizations/individuals:

In logistical support:

- Instituto profesional AIEP.
- Universidad Metropolitana de Ciencias de la Educación (UMCE).
- Universidad de las Américas (Esc. Ped. básica).

- Ludens Chile Comunicaciones.
- Colegios afiliados.
- **GLOBE schools:**

We have 5 active educational establishments, and 25 in the process of activation (affected by the collateral of the still developing pandemic).
- **GLOBE Protocol Areas:**

In the training area, the basic protocols of 3 research areas (Atmosphere, pedosphere, Hydrology) were worked on, and there are works with advanced protocols in aerosols, atmospheric waters and Hydrology (water desalination).
- **Number of schools that reported data during the past year:**

Only 2 facilities have formally reported. We have maintained the collaborative pandemic strategy of uploading data into the GLOBE OBSERVER application where we have a significant number of measures attached.

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**
 - ✓ We have continued with the campaign to disseminate measurements and ventilation practices, based on an interdisciplinary study in which our scientist Roberto Rondanelli participated, entitled: "Safe schools in times of Covid-19", Recommendations to prevent contagion in classrooms.
(<https://www.cedeus.cl/escuelas-seguras-covid19-recomendaciones-prevenir-aulas/>)
- **Science**
 - ✓ We continue with advances in the work on curricular environment with the inclusion of GLOBE protocols, and STEAM project proposals for teachers in initial training, and with two scientists we are preparing a work to highlight environmental education and GLOBE protocols associated to formal contents of primary and secondary education in Chile.
 - ✓ After participating in the First Congress of Citizen Science at the University of La Rioja (Argentina, June 2021), at the invitation of Prof. Ana Prieto, Director of Graduate Studies at ULaR, we are committed to manage the realization of a second version of the event integrating this time UMCE and another Latin American University that we

hope to realize the proposal in 2023.

- ✓ We are participating in the LAC Scientific Pedagogical Committee, in the design of activities and revisions.
- ✓ We are also calling for specialists in Education, which is perceived (curiously) as one of the aspects of little participation and/or incipient development in GLOBE.

- **Community**

The actions have been:

- ✓ Conducting 20 virtual and/or face-to-face presentations for new schools about the GLOBE Program.
- ✓ Dissemination talks by the participating teams of the eclipse campaign 2019 / 2020 and basic astronomical aspects, in their surrounding communities and social institutions.
- ✓ Virtual expository talks on GLOBE experiences. In inactive partner schools in order to bring them back into the GLOBE dynamic.

- **Technology**

- ✓ Under the leadership of Professor M. Paillali, we continue to develop ways to build accessories and instruments based on Arduino hardware and the use of 3D printers; we participated in a STEM artifact competition at the beginning of 2021. We developed a low cost device based on Arduino for CO₂ measurements; design of a special App for pluviometry and a prototype development of a water desalinator, on the basis of which we plan to present a research project in the next IVSS.
- ✓ With the participation of Professor Rondanelli's graduate students. We continue to support with instruments, school scientific research initiatives in fogs (fog catcher stage), aerosols and photometer manufacturing.

- **Communication**

- ✓ Publication Star 2022. (in process) on eclipse activity in 2019 and 2020 that we have nuanced with ethological contributions on animal behavior in the face of light suppression, with the help of UMCE academic, Prof. Marcial Beltrami, Ph.D..

Plans and ideas for next year:

Against all our expectations of recovery, we have verified in the reality of our work that the second pandemic stage (of opening and relaxation of sanitary measures) has not facilitated our actions for the full reactivation of our activities and new initiatives. The collateral nature of the pandemic has brought emerging events and contingencies, establishing itself as a major obstacle to the flow of actions, which although it is true that it has not paralyzed us, it has slowed down many of the activities that have continued to develop. The return to presence in the organizations with which we are linked has been cautious and they have subscribed to rigorously comply with the minimum requirements in their own activities, minimizing and/or postponing the rest.

In the hope that the scenario described above will improve in pursuit of our goals. Our intentions are focused on maintaining the progress of ongoing initiatives and the :

1. Reactivation of GLOBE activities in educational establishments in recess and the integration of new schools.
2. Consolidation of the GLOBE center in the fifth region (La Ligua, Zapallar, Papudo and surroundings) led by Prof. H. Costabal (GLOBE Trainer).
3. Reactivation of the virtual training center at UMCE.
4. Integrate at least two Davis automatic weather stations into the system of establishments associated with GLOBE CHILE.
5. Consolidate the proposal for the second Citizen Science Congress.