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Initiatives of Citizen Science



Solutions Mapping

Third edition 2023



Definition and glossary

Citizen Science Project

A collective and open scientific research approach, characterized by the participation of individuals who may not necessarily have affiliations with academic or research institutions, but who are interested in a specific research topic that helps build scientific knowledge, often in collaboration with science professionals.

<p>Description of citizen participation</p> <p>Type of citizen science project</p>	<p>Stakeholders involved</p> <p>Status</p> <p>Time frame</p> <p>Scope of the initiative</p> <p>Frequency of project execution</p> <p>Participation period</p>	<p>It includes the different activities of the research process that are carried out by the citizens who take part in the initiative.</p> <p>It refers to the type of project based on the degree of citizen participation. The variants identified are exclusively the following: _ Contributory project: It is designed by members of the scientific community, and citizens participate in data collection. _ Collaborative project: Citizens participate in data collection and analysis. _ Co-created project: Citizens participate in all stages of the scientific process.</p> <p>Academic, scientific, and/or civil society organizations that promoted or are currently promoting the project and are part of the initiative.</p> <p>It indicates the initiative's execution status. The variants identified are exclusively the following: _ Under design _ In progress _ Finished</p> <p>It indicates both the start date of the initiative and its end date (if applicable), in the following format: mm/dd/yyyy.</p> <p>It refers to the territory where the initiative is implemented. The variants identified are exclusively the following: _ Local (city, province) _ National (two or more provinces) _ International (two or more countries)</p> <p>It specifies the frequency with which the initiative is carried out. The variants identified are exclusively the following: _ One-time only _ Seasonal (by time of year) _ According to the demands or approaches to the community/communities. _ Uninterruptedly _ Other/s</p> <p>It indicates the period required for citizen participation, which can be days, weeks, or months.</p>	<p>Geographic scope</p> <p>Project development members</p> <p>Number of participants</p> <p>Action/s involving citizen participation</p> <p>Technological device/tool required</p> <p>Recruitment methods</p>	<p>It refers to towns/provinces/countries where the initiative was implemented.</p> <p>It refers to the people who developed the initiative. The variants identified are exclusively the following: _ The initiative was developed with the collaboration of both members of the scientific community and participants without formal training. _ The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training. _ Entirely developed by participants with formal scientific training. _ Entirely developed by participants without formal scientific training _ Other/s</p> <p>Total number of people who have already been part of the citizens involved in the initiative. The variants identified and expressed in ranges are exclusively the following: _ 1-50 persons _ 51-100 persons _ 101-500 persons _ 501-1000 persons _ +1000 persons</p> <p>It refers to the list of action/s involving citizen participation. The variants identified are non-exclusively the following: _ Problem definition _ Data collection _ Data analysis _ Phenomenon monitoring _ Solution planning _ Solution deployment _ Across the project _ Other/s</p> <p>It refers to the instruments and/or specific technological tools that citizens use to deploy the initiative. For example: mobile phones, online or offline applications, cameras, scales, and rain gauges, among others.</p> <p>It refers to the means used and the types of calls organized. For example: social media, meetings, and workshops, among other invitation and promotion means.</p>	<p>Replicability</p> <p>Scalability</p> <p>Open data</p> <p>Feedback</p> <p>Linkage with government</p> <p>Institutional funds</p> <p>Awards/distinctions</p> <p>Other relevant clarifications</p>	<p>It refers to the replication of the initiative in another context and/or geographic scope.</p> <p>It refers to the shown ability of the initiative to increase its capacity, either by expanding the number of participants and/or the tools required, among other variables.</p> <p>It refers to the availability and open, free, and free-of-charge access to the primary research data generated in the initiative for its use, distribution, and reuse by any person.</p> <p>It refers to updates on the project's progress and results shared with the participating citizens. It can be through email, direct contact, newsletters, social media, or other means.</p> <p>It refers to cooperation and/or a joint action between the initiative and public sector entities, at any level. It excludes the scientific or academic institutions involved in the research activities.</p> <p>It refers to the initiative's type of financing. For example: the project's funds, internal cooperation, funds of national institutions, etc.</p> <p>It includes awards and distinctions in local or international competitions or contests.</p> <p>N/A (Not Applicable) is used in each form as an answer and express indication in the fields that require information that is not relevant, not applicable, or not valid for that initiative. A dash (-) is used in each form as an answer and express indication in the fields where no information has been obtained.</p> <p>Each form includes the disciplines involved in each initiative, based on the table proposed by the Organisation for Economic Co-operation and Development (OECD), as well as the Sustainable Development Goals (SDGs) addressed.</p>
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4 Estaciones de la selva [4 seasons of the jungle]

Biodiversity monitoring



Objectives

Overall goal

Determine the existence and degree of anthropic impact in a remaining area of the Atlantic Forest through a collaborative biodiversity record in two differently managed areas.

Specific goals

- Create a baseline of biodiversity data for selected taxa of flora, fauna, fungi, and soil microbiology from the study areas.
- Describe and compare the observed diversity patterns.
- Develop a monitoring plan together with the Mbya Guaraní community that lives in the area.

Description of citizen participation

This project works with members of the Mbya Guaraní community, traditional inhabitants of the Atlantic Forest with extensive knowledge and relationship with the environment. In participatory workshops between the local and scientific communities, worldviews and methodologies are exchanged between both cultures. In addition, biodiversity sampling is designed and implemented in two environments with varying degrees of human intervention. The sampling will be repeated four times a year by teams with professional and non-professional members. Observations will also be discussed from academic and traditional perspectives and will contribute to the creation of an integrated biological and cultural database. The results and discussions will help participants jointly devise a monitoring plan that the community can continue after the project is finished.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- Instituto Misionero de Biodiversidad (IMiBio, by its Spanish acronym) [Institute of Biodiversity of Misiones]
- Yryapú village of the Mbya Guaraní community

Status. In progress.

Time frame. 11/1/2023-N/A.

Frequency of project execution. Seasonal.

Participation period. Two weeks per quarter.

Scope of the initiative. Local (city, province).

Geographic scope. Puerto Iguazú, province of Misiones, Argentina.

Project development members. Entirely developed by participants with formal scientific training.

Number of participants. From 1 to 50.

Action/s involving citizen participation

- In-person meetings in the village

Technological device/tool required.

- Binoculars
- Handheld GPS
- Desktop computer
- Outdoor flashlight
- UV flashlight
- Macro lens for Nikon camera
- Mobile phone
- Camera trap

Recruitment methods. In-person meetings in the village.

Replicability. -

Scalability. -

Open access to data. Biodiversity data will be available on the IMiBio page.

Feedback. -

Linkage with state agency/government. The Instituto Misionero de Biodiversidad (IMiBio) is an autonomous and decentralized public legal entity in the province of Misiones.

Institutional funds.

- IMiBio
- Subsidio de Promoción a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Promote Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions.

Comments. The initiative's most valuable characteristic is the chance for cultural exchange with the original inhabitants of the Misiones jungle.

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences
NATURAL AND EXACT SCIENCES / Biology
HUMANITIES / Other Humanities

Leaders.

- Emanuel M. Grassi, Instituto Misionero de Biodiversidad (IMiBio), (emanuelgrassi@imibio.misiones.gob.ar);
- Alejandro Saint Esteven, IMiBio, asaintesteven@gmail.com

Contact information.

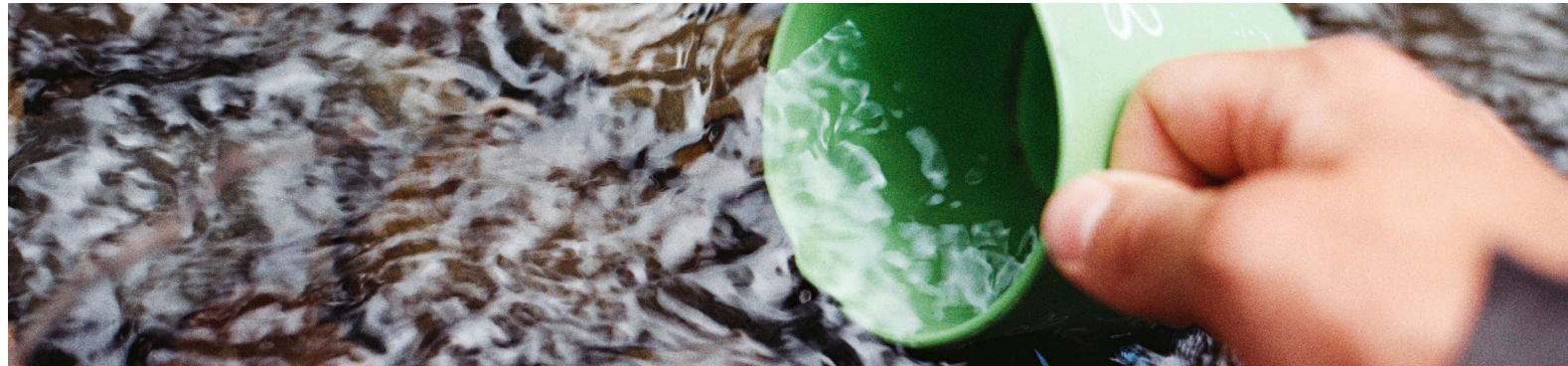
E-mail: emagrassi@outlook.com, asaintesteven@gmail.com





Adopto un Cuerpo de Agua como mi Mascota [Adopting a Waterbody as my Pet]

Educational linkage, interinstitutional integration, environmental monitoring, and establishing ties with the community



Objectives

Overall goal: Enhance the appearance and quality of the waterbodies which are significant for each educational community on the basis of responsible stewardship. For this purpose, the project aims to improve the appearance and quality of waterbodies by adopting them responsibly, taking care of its watershed, monitoring the quantity and quality of runoff, cleaning its margins, re-educating neighbors and the educational community and raising their awareness of this issue.

Specific goals:

- Establish ties at every educational level (from the earliest level to postgraduate courses) between public and private educational establishments.
- Draw analogies between responsible pet care and surface waterbody stewardship.
- Identify waterbodies with a high impact on different educational communities.
- Propose that the watershed of these surface waterbodies be considered a territorial unit to perform responsible water resource stewardship and management.
- Perform surveys, among other field activities, in the waterbody adopted by applying simple and advanced experimental techniques developed by the research team.
- Together with the community, co-create knowledge to be shared with the rest of society and the agencies responsible for water resource management.

Description of citizen participation

The following activities are carried out by the students, the teaching staff, and the project work team:

- Definition of comparisons between properly caring for pets and properly caring for surface bodies of water.
- Determining the bodies of water that are significant to the community and the boundaries of their contribution.
- Analysis of the temporal evolution of bodies of water using cutting-edge technology and historical descriptions of the community that interacts with this body of water.
- Participating in fieldwork (surveys, monitoring, and others).
- Transfer of findings to organizations in charge of managing water resources.

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process.

Participating parties.

- Faculty of Exact, Physical and Natural Sciences (FCEFN, in Spanish)/ National University of Córdoba (UNC, in Spanish).
- National Scientific and Technical Research Council (CONICET, in Spanish) of Argentina.

Status. In progress.

Time frame. 01/03/2013 – N/A

Frequency of project execution. Based on demand or community outreach.

Participation period. On a sustained basis.

Scope of the initiative. Local (city, province).

Geographic scope. The project originated in Villa Carlos Paz, province of Córdoba. It is being implemented in different regions of the province.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 101 to 500.

Action/s involving citizen participation Problem identification. Data collection. Data analysis. Phenomenon monitoring. Solution design. Solution implementation. Citizens are involved in the entire process.

Technological device/tool required.

- Low-cost automatic weather stations for commercial application
- Rain gauges and eco-friendly rain gauges (made of recyclable material)
- Photographic cameras
- Ruler
- Chronometer
- Tracer (pieces of wood)
- Multi-parameter water quality meter (provided by the university and APRHi)
- Basin model

Recruitment methods. Educational establishments joined the initiative as a result of the interest of both students and the teaching staff. Agreements have been signed with the Directorate of Technical Schools of the Province of Córdoba for this project to become part of the curricula recommended by said directorate.

Replicability. Action is being taken towards extending the activities performed with Instituto Dante Alighieri to other schools, both public and private., including all educational levels, from the earliest level to the third year of high school orientation cycle.

Scalability. New educational communities join the initiative by adopting other waterbodies, such as streams, rivers, lakes and wetlands.

Open access to data. The knowledge gained through crowdsourcing is transferred to the agencies responsible for water resource management. Students also spread knowledge among their families, friends and acquaintances, and consequently ensure that this is an extensionist project.

Feedback. Students, educators and the residents of educational communities create a set of guidelines which are incorporated into the new stages of the project.

Linkage with state agency/government.

- Ministry of Public Services of the Province of Córdoba.
- Ministry of Education of the Province of Córdoba.
- Provincial Administration of Water Resources of Córdoba.
- Instituto Nacional del Agua, subgerencia de la Región Semiárida (CIRSA).
- Municipality of Villa Carlos Paz, Córdoba province.
- Municipality of Río Ceballos, Córdoba province.
- Municipality of Laborde, Córdoba province.

The data generated are transferred directly to the government agencies in charge of monitoring the water resources of the province of Córdoba. A Bill proposing that one of the adopted waterbodies be named "Huahuas Mayún" (Children's Stream) was passed by the Legislature of the province of Córdoba (law No. 10350). The name was proposed by educational communities that develop their activities in regions drained by this stream.

Institutional funds.

- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation
- Extension secretariats of the universities responsible for this initiative. Ministry of Public Services of the Province of Córdoba. Provincial Administration of Water Resources of Córdoba. Municipality of Villa Carlos Paz. CONICET.

Awards/distinctions. –

Classification of knowledge areas (OECD).

NATURAL SCIENCES / Computer and information sciences
NATURAL SCIENCES / Earth and related Environmental sciences
SOCIAL SCIENCES / Educational sciences

Project leaders.

- Carlos Marcelo García Rodríguez, Physical and Natural Sciences (FCEFN, in Spanish) / National University of Córdoba (UNC, in Spanish) and National Scientific and Technical Research Council (CONICET, in Spanish).
- José Manuel Díaz Lozada, FCEFN/UNC and CONICET.

Contact information.

Email: carlos.marcelo.garcia@unc.edu.ar ; jmdiazlozada@unc.edu.ar
Website: sites.google.com/mi.unc.edu.ar/proyecto-adoptouncuerpo-deagua





Águilas de Misiones [Eagles of Misiones]

Environmental monitoring and conservation of biodiversity



Objectives

- Ascertain the population status of five species of large forest eagles present in the province of Misiones (harpy eagle, ornate hawk-eagle, black hawk-eagle, Philippine eagle, and black-and-white hawk-eagle) and contribute to their long-term conservation through participatory and active monitoring.

Description of citizen participation

Citizens actively participate in the collection of data aimed at creating an “information network” that centralizes observations of the species of interest and, especially, their nests. Participating citizens are trained through in-person workshops in areas identified as key to the project. The purpose of these workshops is to inform the people involved about the project and determine new strategies for action or potential conflicts, so these can be addressed. The project encourages citizens to collaborate on monitoring marked specimens and participate in potential ecotourism initiatives associated with these species.

Type of citizen science project

Contributory project: It is designed by members of the scientific community, and citizens participate in data collection.

Participating parties.

- Instituto Misionero de Biodiversidad (IMiBio, by its Spanish acronym) [Institute of Biodiversity of Misiones]
- “Félix de Azara” Natural History Foundation
- Centro de Rescate de Fauna Silvestre GüiráOga [GüiráOga Wildlife Rescue Center]

Status. In progress.

Time frame. 3/1/2022 - N/A.

Frequency of project execution. Uninterruptedly.

Participation period. Sustained over time.

Scope of the initiative. Local (city, province).

Geographic scope. Misiones (Argentina).

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 1001 onwards.

Action/s involving citizen participation

- Data collection
- Phenomenon monitoring

Technological device/tool required.

- Mobile phones
- Camera
- GPS
- Binoculars
- Drone

Recruitment methods. Through social media, mass media (radio and television), and in-person workshops.

Replicability. Mexico has a similar initiative based on this one.

Scalability. -

Open access to data. -

Feedback. Through social media or direct communication (WhatsApp) and workshops.

Linkage with state agency/government. Government of the province of Misiones.

Institutional funds.

- They have been obtained from the project’s own funding sources
- Funds from the Federal Investment Council (CFI, by its Spanish acronym)

Awards/distinctions. -



Comments. -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences
NATURAL AND EXACT SCIENCES / Biology

Leaders.

- Emanuel Grassi, Instituto Misionero de Biodiversidad (IMiBio).
- Julián Baigorria, associate researcher - IMiBio.

Contact information.

E-mail: aguilasmisiones@gmail.com

Website: imibio.misiones.gob.ar/es/ampliar/noticias/el-instituto-misionero-de-biodiversidad-lanza-el-proyecto-aguilas-de-misiones





Alertamos [We Alert]

Environmental monitoring. Meteorology



Objectives

Overall goal:

- Advance in the understanding of high-impact weather phenomena associated with deep moist convection and their spatial and temporal distribution in Argentina in order to improve the operational monitoring and forecasting tools available to the National Meteorological Service.

Specific goals:

- Implement products derived from remote sensors and numerical models for high-impact weather situations.
- Develop tools for the diagnosis, analysis, and monitoring of severe phenomena associated with convection.
- Develop tools for the immediate forecast of severe phenomena associated with convection.

Description of citizen participation

Through the Alertamos mobile app, citizens report, in real time, where they are and what phenomena they observe, such as the sky condition (clear, partly cloudy, cloudy, etc.); the prevailing weather phenomena (drizzle, rain, snow, hail, tornadoes, whirlwinds, electrical activity, etc.); and, if applicable, the impacts of such phenomena on the place where the person is located (flooding, wind damage, reduced visibility, etc.). These reports are very useful for the validation of monitoring and forecasting tools, as well as for the advancement of knowledge of the spatial and temporal distribution of these high-impact weather phenomena in Argentina.

Type of citizen science project

Contributory project: It is designed by members of the scientific community, and citizens participate in data collection.

Participating parties.

- National Scientific and Technical Research Council (CONICET, by its Spanish acronym)
- National Meteorological Service (SMN, by its Spanish acronym).

Status. Finished.

Time frame. 03/01/2015 - 08/31/2018.

Frequency of project execution. Uninterruptedly.

Participation period. Sustained over time.

Scope of the initiative. National (two or more provinces).

Geographic scope. Argentina.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 1001 onwards.

Action/s involving citizen participation.

- Data collection
- Phenomenon monitoring

Technological device/tool required.

- Mobile phone to install the app and report the observed phenomenon in real time.

Recruitment methods. Social media, workshops, and digital press.

Replicability. -

Scalability. By increasing the number of people who install the app and use it to generate reports.

Open access to data. No data has been published in open formats.

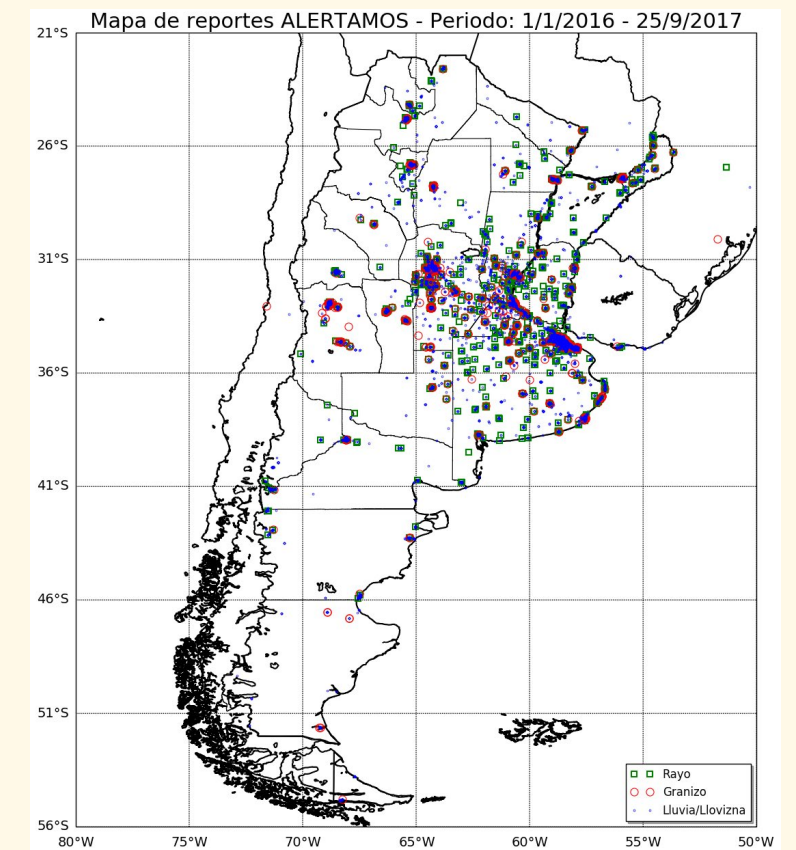
Feedback. A technical report was prepared with the characteristics, architecture, and technologies used for the development and running of the app. Moreover, there is an analysis of the usage statistics of the app and the reporting database, available at <http://hdl.handle.net/20.500.12160/630>.

Linkage with state agency/government. National Meteorological Service (SMN) of Argentina.

Institutional funds. National Meteorological Service (SMN).

Awards/distinctions. -

Comments. Alertamos was the first official Argentinian app to report surface weather phenomena and the one chosen as a citizen tool for the Alert.Ar project. The collected reports are available upon request by



e-mail communication.

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Information and Computer Sciences

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences

Leaders.

- Yanina García Skabar, National Meteorological Service (SMN) and National Scientific and Technical Research Council (CONICET)
- Paola Salio, Centro de Investigaciones del Mar y la Atmósfera (CIMA)/CONICET
- Maximiliano Sacco, SMN
- Luciano Vidal, SMN

Contact information.

E-mail: yanina@smn.gob.ar; salio@cima.fcen.uba.ar; msacco@smn.gob.ar; lvidal@smn.gob.ar.





Anticipando la crecida [Anticipating floods]

Community-based strategies for disaster reduction and urban flooding



Objectives

Overall goal

Contribute to disaster risk reduction associated with hydro-meteorological events, through dialogue with territorial stakeholders in order to improve the community early warning system focused on the population.

Specific goals

- Identify hydro-meteorological monitoring and forecasting needs for the sectors involved.
- Improve communication, dissemination and interpretation mechanisms for forecasts and alerts.
- Create a space for permanent joint knowledge building between the academic-scientific sector and the community, as a strategy for social ownership of information about hydro-meteorological events in a given territory.

Description of citizen participation

The activities include dialogue and community development of vulnerability and exposure maps describing how water moves in the territory, either due to the overflowing of rivers and streams, and/or rainfall affecting the neighborhoods located along the riverbanks.

Prior to the workshop, the scientific-technical sector investigates the issues in each neighborhood to identify characteristics that help explain the water risks.

During the workshop, the community is asked to transfer all their knowledge about water risks on a map or a high-resolution photo of their neighborhood. In addition, a tour of the neighborhood is organized in order to identify possible sites where the rain gauge and the level ruler will be installed in a nearby river or stream easily accessible so that observations can be recorded at all times. Community leaders send photos of each device at relevant moments, which are then used to analyze the information during possible flood events.

Subsequently, in a final stage, the knowledge is consolidated in a single geo-referenced map that is used by the scientific-technical sector and the community. Thus, parties are involved in the construction of an early warning system.

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process.

Participating parties.

- Department of Science, Technology and Education Policies, La Matanza.
- Department of Social Development, La Matanza.
- Under Secretariat of Emergency Management, Ministry of Security, Province of Buenos Aires.
- Civil Defense, La Matanza.
- National Water Institute.
- National Geographic Institute.
- Department of Emergency Management, San Antonio de Areco, Province of Buenos Aires.
- Sea and Atmosphere Research Center (National Scientific and Technical Research Council (CONICET, by its initials in Spanish)-University of Buenos Aires (UBA, in Spanish).
- Department of Atmospheric and Oceanic Sciences (FCEN-UBA)

Status. In progress.

Time frame. 5/6/2013 - N/A.

Frequency of project execution. According to the demands or approaches to the community/communities.

Participation period. Sustained over time; new conversations are being initiated with stakeholders from multiple neighborhoods affected by floods.

Scope of the initiative. National (two or more provinces).

Geographic scope. Province of Buenos Aires (Quilmes, Lomas de Zamora, La Matanza, Luján, La Plata, Avellaneda and San Antonio de Areco), Corrientes (Santa Lucía) and Autonomous City of Buenos Aires, Argentina.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 1001 onwards.

Action/s involving citizen participation.

- Problem definition.
- Data collection.
- Phenomenon monitoring.
- Solution planning.
- Solution deployment.

Technological device/tool required.

- Device with camera and recorder to take logs.
- Rain gauges and level rulers (manual/automatic).

Recruitment methods. The community is recruited through educational institutions of the affected neighborhoods and different departments of local governments (municipalities), as well as through social media. Depending on the town, the recruitment process is disseminated through formal communication means within a Department and in the Civil Defense delegations, or through direct contact with a leader.

Replicability. The project and the methodology are replicated in other neighborhoods, in other educational institutions of each community, in other towns such as Quilmes, Lomas de Zamora, La Matanza, Luján, La Plata, Avellaneda, San Antonio de Areco, Saavedra, CABA and Santa Lucía (Province of Corrientes). This methodology was also used with communities in Mendoza to address the risk of landslides.

Scalability. The project started locally in La Ribera, Quilmes, to address the issue of urban flooding due to rain and southeastern winds, but it has been scaling up in terms of spatial scope. It also scaled temporally since work continued with affected neighborhoods, which made it possible to provide more information and improve and expand the com-

munity monitoring network. Human resources and institutions also joined the program. In the future, as part of an ImpaCT.AR project, a mobile application will be developed where each user will be able to receive alerts, news and situation reports, and will be able to inform about the condition of the streets, and upload photos of rulers or rain gauges.

Open access to data. Data is shared with the entire community through WhatsApp groups, social media and web developments.

Feedback. Through pre-event warnings and reports of rainfall and level height recorded by the community in each neighborhood.

Linkage with state agency/government.

- Municipalities and provincial state (Buenos Aires).
- Municipality of Santa Lucía (Corrientes).
- Government of Posadas (Misiones).
- Civil Defense (Metropolitan Area of Buenos Aires, Córdoba and Misiones).
- Federation of Associations of Volunteer Firefighters of the Province of Buenos Aires (FABVB, by its initials in Spanish).
- National Water Institute.
- National Geographic Institute.
- National Weather Service.
- Naval Hydrography Service.

Institutional funds.

- Exactas con la Sociedad (School of Natural and Exact Sciences) (FCEN), UBA), UBANEX (UBA), ImpaCT.AR (Ministry of Science, Technology, and Innovation (MinCyT, by its initials in Spanish).
- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions. "Centenary of the University Reform" award, granted by "Exactas con la Sociedad 7" on March 11, 2019. Honorable mention during the Seminar of the Interdisciplinary Programs of the University of Buenos Aires (PIUBACC - PIUBAMAS), November 8, 2013, awarded to the paper "Anticipating floods".

Comments. The initiative seeks to combine the capacities of various scientific institutions and link them to the territorial knowledge on flooding issues. Therefore, a common perspective is formed to address the challenges posed by the issue. For further information click: <https://youtu.be/9KM1-grhqzg>, <https://youtu.be/080EkD5pbEw>, https://youtu.be/F_5sGoXlmzs.

Knowledge areas/disciplines (OECD)

Natural and Exact Sciences / Earth and Environmental Sciences
Engineering and Technology / Civil Engineering
Social Sciences / Economic and Social Geography

Leaders.

- Federico Robledo, Sea and Atmosphere Research Center (CIMA)/National Scientific and Technical Research Council (CONICET), University of Buenos Aires (UBA) and the Department of Atmospheric and Oceanic Sciences (FCEN)/UBA.
- Diego Moreira, CIMA/CONICET-UBA and the Department of Atmospheric and Oceanic Sciences/FCEN/UBA

Contact information.





Apiarios Centinela [Sentinel Apiaries]

Prevalent diseases in honey-producing hives. Epidemiological monitoring and surveillance.



Objectives

Overall goal:

- Learn about the incidence and prevalence of the main diseases of interest within the beekeeping community in the province of Santa Fe, in order to contribute to decision-making related to their prevention, control, or eradication.

Specific goals:

- Identify sources and routes involved in the transmission of disease etiologic agents.
- Identify at-risk populations that should be monitored or prioritized for disease prevention, control, or eradication actions.
- Identify management and handling practices increasing the likelihood of the transmission of disease etiologic agents related to beekeeping.
- Research the potential emergence of new health issues and predict changes in disease occurrence at the regional level.

Description of citizen participation

Honey producers and students from agrotechnical secondary schools take field samples at three different times of the year for the detection of diseases of interest within the beekeeping community (varroosis and noseema). Participants collect samples from bees inside 6 hives using 12 containers (one container for each disease) with alcohol and properly labeled with the name of the apiary and the date of collection. They also complete a form including a brief visual description of the state of the hive (number of frames with bees, larvae, honey, and pollen). In some cases, samples are taken with the assistance of professional researchers. In addition, participants complete two surveys per year to provide information on the acaricides used and time of application, hive mortality, agrochemical application in the fields surrounding the apiary, distribution of nearby apiaries, and annual honey production. Data obtained from both sample analysis and survey responses are entered into Excel spreadsheets for their later evaluation with statistical software by professional researchers. Once a year, after analyzing all the information obtained, the participants collaborate in drafting the final report and elaborating hypotheses on possible answers to the surveyed issues. If possible, apiary management and handling changes are implemented and follow-up is carried out.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- National Scientific and Technical Research Council (CONICET, by its Spanish acronym)
- National Institute of Agricultural Technology (INTA, by its Spanish acronym)
- Escuela de Educación Secundaria Modalidad Técnico Profesional n.º 486 "Francisco Netri" (secondary school), Carcarañá, province of Santa Fe
- Escuela Agrotécnica "Libertador General San Martín" (secondary school), National University of Rosario, Casilda, province of Santa Fe
- Escuela de Agricultura, Ganadería y Granja (secondary school specialized in agriculture and livestock farming) of the National University of the Littoral
- COSAR Ltda. (beekeeping supply cooperative)

Status. In progress.

Time frame. 2/01/2017 - N/A.

Frequency of project execution. Uninterruptedly.

Participation period. The project includes three one-day monitoring visits per year and virtual or in-person meetings (2 to 3 per year).

Scope of the initiative. Local (city, province).

Geographic scope. Province of Santa Fe.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 1 to 50.

Action/s involving citizen participation.

- Data collection
- Phenomenon monitoring
- Solution planning
- Solution deployment

Technological device/tool required.

- Properly labeled plastic containers with alcohol; for varroosis, a drop of detergent is added.
- Field forms
- Double strainer or sieve with mosquito netting to strain bees (one retains bees and the other one retains varroa mites).

Recruitment methods. Direct contact with the target population.

Replicability. -

Scalability. The project started with less than 10 apiaries and, as of early 2023, has 22 per year.

Open access to data. -

Feedback. The results of each monitoring and the annual report are shared with project participants through email or WhatsApp and then made public on INTA's website.

Linkage with state agency/government. -

Institutional funds.

- Fondo para la Investigación Científica y Tecnológica (FONCYT, by its Spanish acronym) [Fund for Scientific and Technological Research]/ National Agency for the Promotion of Research, Technological Development and Innovation (Agencia I+D+i in Spanish)
- National Institute of Agricultural Technology (INTA)
- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions. -

Comments. -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Other Natural and Exact Sciences
AGRICULTURAL SCIENCES / Dairy and animal production
AGRICULTURAL SCIENCES / Veterinary Sciences

Leaders.

- Agostina Giacobino, National Scientific and Technical Research Council (CONICET)
- Adriana Pacini, CONICET
- Emanuel Orellano, National Institute of Agricultural Technology (INTA)

Contact information.

Email: gJacobino.agostina@inta.gob.ar; pacini.adriana@inta.gob.ar; orellano.emmanuel@inta.gob.ar

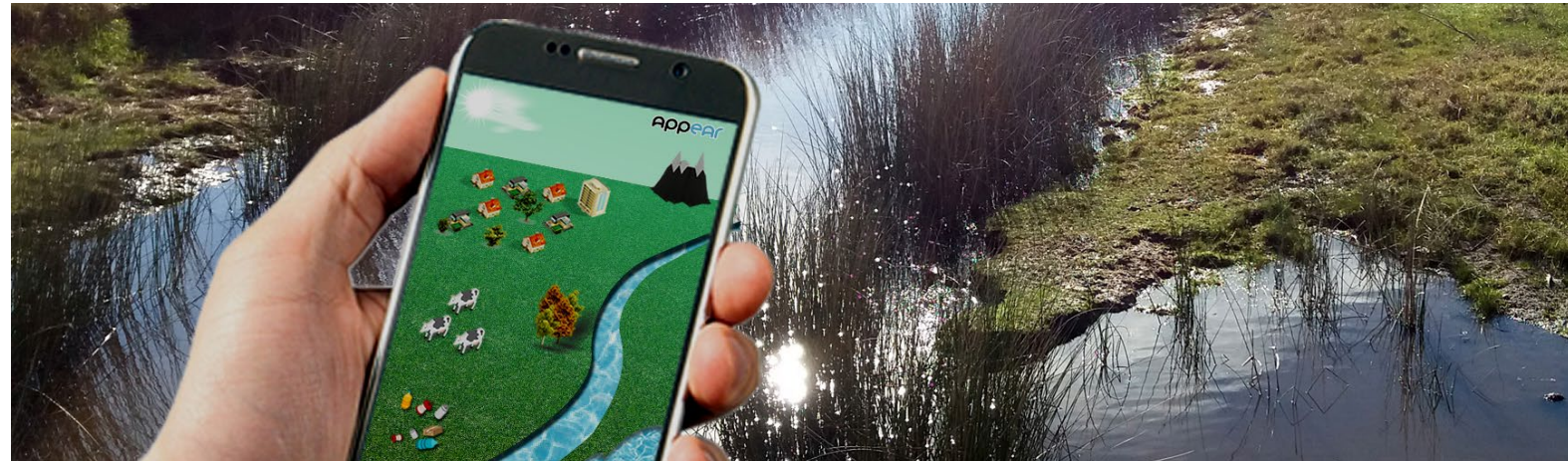
Web: inta.gob.ar/documentos/proyecto-apiarios-centinela-aplicacion-de-un-sistema-de-vigilancia-epidemiologica-en-colmenas-de-la-provincia-de-santa-fe





AppEAR

Environmental monitoring of freshwater ecosystems.



Objectives

Overall goal: Study freshwater environments (rivers, lakes, lagoons and estuaries) both for scientific and educational purposes.

Specific goals: The scientific purpose is to analyze the condition of inland water ecosystems using citizen participation strategies. Particularly, the project aims to: identify the environmental factors that positively and negatively impact freshwater ecosystems; generate new tools for monitoring such ecosystems; and calibrate existing tools for assessment.

Besides, the educational purpose is to create materials related to the preservation of freshwater ecosystems. To achieve such purpose, the project aims at: drawing up simple manuals for monitoring said ecosystems to be used in educational activities; making available to educational institutions maps showing the condition of courses of freshwater; and educating on scientific reasoning, by directly involving citizen scientists in some or all stages of the scientific method.

Description of citizen participation

Citizen scientists assess habitat condition in aquatic environments by using an app for Android or a website. The information sent is concentrated in the AppEAR database and used to create a real-time map showing aquatic habitat conditions, both of which may be freely accessed.

Also, citizen scientists are able to learn about the aquatic environments present in their communities and educate others using the educational resources generated by themselves. People interaction and active involvement in discussion forums are useful to measure habitat quality in aquatic environments, to learn how to generate educational resources for these ecosystems, and even to improve AppEAR.

Type of citizen science project

Contributory project. It is designed by scientists, and citizens participate in data collection.

Participating parties.

- Researchers of the National Scientific and Technical Research Council (CONICET, in Spanish)
- National University of La Plata (UNLP, in Spanish)

Status. In progress.

Time frame. 06/01/2016 – N/A

Frequency of project execution. Uninterruptedly.

Participation period. On a sustained basis.

Scope of the initiative. Argentina (two or more provinces).

Geographic scope. Argentina.

Project development members. It has been entirely developed by people with formal scientific training.

Number of participants. Over 1001.

Action/s involving citizen participation

- Data collection.
- Phenomenon monitoring.

Technological device/tool required.

- Mobile device or PC
- Digital camera
- App for Android
- Internet access

Recruitment methods. Through social media, the project website and by making direct contact with schools and organizations.

Replicability. “PreserVamos” project, with UNDP Accelerator Lab’s support.

Scalability. “PreserVamos” project, with UNDP Accelerator Lab’s support.

Open access to data. Both the code and the validated reports may be freely accessed.

Feedback. Feedback on reports is provided via e-mail and/or push notification through social media.

Linkage with state agency/government. Meetings have been held with the state agencies and local governments interested in the project.

Institutional funds. Project’s own funding sources.

Awards/distinctions. “Ciencia, Tecnología e Innovación 2017” (“Science, Technology and Innovation 2017”) award granted by the Scientific Research Commission of the province of Buenos Aires.



Knowledge areas/disciplines (OECD)

NATURAL SCIENCES / Earth and related Environmental sciences

NATURAL SCIENCES / Biological sciences

Project leaders.

Joaquín Cochero. National Council for Scientific and Technical Research (CONICET in Spanish).

Contact information.

Email: jcochero@ilpla.edu.ar

Web: app-ear.com.ar/que-es-appear

Facebook: facebook.com/AppEARarg

Instagram: instagram.com/appear.h2o

Twitter: twitter.com/AppEARarg





ArgentiNat.org

Biodiversity.



Objectives

Overall goal: Learn more about the life cycles, distribution and population dynamics of all species existing in Argentina.

Specific goals:

- Promote the culture of biodiversity observation, recording and dissemination.
- Boost the National Biodiversity Database (BNDB, in Spanish).

Description of citizen participation

Anyone who is interested in the project may participate using the platform or mobile app to:

- Share observations and contribute to the creation of species lists.
- Take part in the identification of their own observations, as well as of other users', together with natural science specialists and enthusiasts.
- Find an interesting project or start their own.
- Plan a massive event where participants try to find as many species as possible.

This platform makes it possible to share recorded observations with other naturalists, and to engage in dialogue with specialists (researchers or enthusiasts).

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- Fundación Vida Silvestre Argentina (Argentine Wildlife Foundation) and
- iNaturalist.

Status. In progress.

Time frame. 11/13/2019 – N/A

Frequency of project execution. Uninterruptedly.

Participation period. N/A

Scope of the initiative. International (two or more countries).

Geographic scope. Global, focused on Argentina.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. Over 1001.

Action/s involving citizen participation

- Data collection.
- Data analysis.
- Phenomenon monitoring.

Technological device/tool required.

- Cell phone.
- Photographic camera.
- Sound recorders.
- Lenses, etc.

Recruitment methods. Through social media, social events, and buy-in from users and other institutional stakeholders

Replicability. ArgentiNat is the national node of iNaturalist. Projects may be replicated under different conditions within the platform (for instance, a birding project implemented in the province of San Luis can be replicated to create another one for La Pampa). The national web portal helps and boosts other projects at an international level, e.g., those in Chile or Uruguay.

Scalability. By the end of 2020, as compared with the previous year, the community had grown by 75%; the quantity of shared observations had risen by 64%; the new species recorded had gone up by 15%, and the number of participants performing identification tasks had increased by 13%.

Open access to data. Most observations create open data, which are shared with the Global Biodiversity Information Facility (GBIF). The coordinates of certain taxa are hidden to prevent risks. Researchers may request to be entrusted with such data. Openly-licensed images are generated, which may be used by them and other persons.

Feedback. Two annual events are held at which final results are shared. Recently, recognition was granted to users selected by the community and to those who made the greatest contributions.

Linkage with state agency/government. Argentine Museum of Natural Sciences (MACN, in Spanish) – National Scientific and Technical Research Council (CONICET, in Spanish)

Institutional funds.

- National Geographic, with human resources provided by Fundación Vida Silvestre Argentina.
- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions.-

Comments. ArgentiNat is the iNaturalist node for Argentina, the largest citizen science global network with over one million active users worldwide. Although they are not different projects, ArgentiNat is aimed at the local public and customized for local institutions and participants. iNaturalist was developed by the California Academy of Sciences and is supported by National Geographic.

Knowledge areas/disciplines (OECD)

NATURAL SCIENCES / Biological sciences

Project leaders.

Leonel Roget, Fundación Vida Silvestre Argentina.

Contact information.

Email: leonel.roget@vidasilvestre.org.ar

Web: www.argentinat.org





Aves rapaces urbanas [Urban birds of prey]

Monitoring populations of birds of prey in cities.



Objectives

- Monitor the identity, species richness, and abundance of individuals of predatory birds present in cities and urban spaces with different characteristics over time.
- Assess the characteristics of cities and urban spaces that could impact the richness and abundance of predatory birds in these environments.

Description of citizen participation

Six specific annual surveys are carried out at simultaneously fixed locations (between 20 and 50) throughout Argentina. Groups of bird watchers (made up of residents near the place with some type of interest in birds) use binoculars, cameras, and telescopes to detect birds. They record observations on-site and then upload them to databases and photo repositories. A continuous survey of occasional sightings is also carried out. These sightings can be uploaded by anyone through a mobile phone application and they also enrich the primary information.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- Aves Argentinas (NGO)
- Fundación Cabureí (foundation)

Status. In progress.

Time frame. 1/17/2021 - N/A.

Frequency of project execution. Seasonal (time of year). General surveys are carried out every two months on Sundays. Additional surveys of occasional sightings are carried out throughout the year and their data enrich the 6 general surveys (these additional surveys are uploaded directly with mobile phones).

Participation period. 2 hours every two months.

Scope of the initiative. National (two or more provinces).

Geographic scope. Argentina.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 51 to 100.

Action/s involving citizen participation

- Data collection.
- Data analysis.

Technological device/tool required.

- Binoculars and telescopes
- Cameras
- Devices with Internet access

Recruitment methods. Participants are invited through the social media of each Club de Observadores (COA, by its Spanish acronym) [Bird Watchers Club] involved.

Replicability. -

Scalability. The initiative originated in the Autonomous City of Buenos Aires, and then more and more cities of the provinces of Argentina began to participate.

Open access to data. Information is freely accessible at: www.coarecs.com.ar/relevamientoderapaces.

Feedback. The complete information collected and the data analyzes are made available to all participants and the general public through the website (every two months, as soon as the surveys are finished). Specific comments are discussed continuously (throughout the year) with the participants of the WhatsApp group (the group was created from the first survey and new participants are added). Exceptional sightings with photos are received by email and also uploaded to photo repositories.



Linkage with state agency/government. -

Institutional funds. They have been obtained from the project's own funding sources.

Awards/distinctions. -

Comments. The initiative addresses working on environmental education and demystifying this group of birds.

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences

NATURAL AND EXACT SCIENCES / Biology

NATURAL AND EXACT SCIENCES / Other Natural and Exact Sciences

Project leaders.

- Guillermo Ivan Spajic, Aves Argentinas

Contact information.

Email: guilleivanramone@gmail.com

Website: www.coarecs.com.ar/relevamientoderapaces





Bajemos los decibeles [Let's lower the noise]

Detection of noisy environments.



Objectives

Overall goal:

- Articulate an extension practice that strengthens open collaboration in the study of everyday phenomena and research, among researchers and citizens, especially youth.
- Measure environmental noise in different areas of the province of Tucumán that help determine the degree of noise pollution of the environment in which people develop their activities.
- Identify the level of noise in school and health environments to raise awareness of how much it can impact the health of people and animals, among other others.

Specific goals:

- Promote a scientific and collaborative analysis of the environment of activities such as teaching and health to identify noise pollution and then expand the scope of study.
- Develop the ability to make the results obtained through research available to the community.
- Encourage the interpretation of the data collected and generate the appropriate space for discussion and exchange of ideas among different actors.
- Train for the presentation of reports to public agencies in charge of environmental decision-making and impact on society, such as municipal and provincial governments.
- Promote collaboration with other organizations, networks, and associations to monitor and care for the Tucumán environment.
- Make an approach to the cultural identity of the region from a sound perspective, that is, to identify those sounds that are typical of the region (from birdsong to business noises), in order to integrate sound to the urbanistic view of an area.

Description of citizen participation

This is a proposal and part of it is in process, so some steps may change depending on previous studies.

Measurements:

- First, students from primary and secondary schools discuss, analyze, and conduct a noise pollution measurement protocol organized by researchers from the National University of Tucumán. The measurements will be conducted with cell phone applications suitable for this purpose that allow measuring sound levels and geolocation. Once the measurement is generated, the data is uploaded to a map that displays the data on a web page.
- The information is completed with a survey of the population of the study area (problematic areas from the point of view of noise in the microcenter of Tucumán, which will allow a first approach to the design) invited to participate through a web page. With the data obtained, students from secondary schools in the province participate in a first analysis.
- The proposal begins with the participation of students from high schools in the province of Tucumán and then will be offered to the community in general.
- After the entire process, a report will be prepared and presented to university and municipal authorities. If the participating citizens assess that the problem is serious (based on available legislation, for example), the process of proposing solutions at the municipal level begins.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- Research teachers at the National University of Tucumán (UNT in Spanish), who participate in different research projects.
- University students from Exact Sciences, Arts, and Cinema disciplines and high school students from pre-university schools of the UNT.
- Board of Experimental Schools from the University.
- Fundación Cultura para Todos (Culture for All Foundation).

Status. Under design.

Time frame. 01/03/2022 - N/A.

Frequency of project execution. Don't know/No answer.

Participation period. Sustained over time.

Scope of the initiative. Local (city, province).

Geographic scope. Tucumán.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 1 to 50.

Action/s involving citizen participation.

- Problem definition.
- Data collection.
- Phenomenon monitoring.
- Solution planning.
- Solution deployment.

Technological device/tool required.

- Cell phones to detect noise levels and locate them geo-referentially.

Recruitment methods. For the purposes of design participation, UNT institutional communication channels and facilities will be used for meetings. When the project is ongoing, colleges and schools will be used as convening venues.

Replicability. -

Scalability. -

Open access to data. The maps generated with the data inputs will be open and interactive, allowing access to audio files and geo-referencing data. Each of the maps will contain different information for each analysis zone.

Feedback. Several feedback meetings will be held where participants will be able to express their doubts, suggestions, and practical solutions.

Linkage with state agency/government. -

Institutional funds. The project was approved by the UNT Extension Secretariat, without budget. It is currently seeking subsidies from various sources.

Awards/distinctions. -

Comments. -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Physics.

NATURAL AND EXACT SCIENCES / Earth and environmental sciences.

Leaders.

Walter Diaz, research professor at UNT and director of a research project.

Contact information.

Email: walter.diaz@fbqf.unt.edu.ar





Ballena Franca Austral [Southern Right Whale]

Photo-identification of individual whales



Photo: Bonafide whale with its calf on El Doradillo beach (Golfo Nuevo, Puerto Madryn) Image obtained in September 2018 through a drone. Credit: Frederik Christiansen

Objectives

Evidence the potential of whale watching boats for whale research, and of citizen science as a form of crowdsourcing for studies on whale habitat and conservation.

Description of citizen participation

Photographs taken by professional photographers from whale watching boats are added to a catalog of identified southern right whale. The photographs allow for the identification of the specimens present in the waters surrounding Puerto Pirámides between June and December, and for recording more information on the same whale while in the Nuevo Golfo area. This photographic evidence supplements that obtained during the annual aerial survey conducted by ICB and Ocean Alliance along the coast of Península Valdés in September, during the peak season of whale population density. The photographs provided by AGB document with sufficient detail the calves' pattern of callosities, hardly visible from a certain height. This allows for their identification in the year of their birth and makes it possible to know their age and the family they belong to.

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

Asociación de Guías Balleneros de Puerto Pirámides (Association of Whale Watching Tour Guides of Puerto Pirámides) (AGB, in Spanish) in agreement with *Instituto de Conservación de Ballenas* (Whale Conservation Institute) (ICB, in Spanish).

Status. In progress.

Status. 10/01/2016 – N/A

Frequency of project execution. Uninterruptedly.

Participation period. On a sustained basis, during the whale watching season, from June to December.

Scope of the initiative. Local (city, province).

Geographic scope. Península Valdés, province of Chubut

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 1 to 50.

Action/s involving citizen participation

- Data collection.
- Dissemination of findings by interacting with whale watching tourists.

Technological device/tool required.

- Professional cameras: to take photographs of whales.
- Computers used by ICB: to analyze the photographs submitted and to identify individual whales.
- Three special computer programs: two of them to photo-identify right whales. And an artificial intelligence algorithm developed with Vates' company to speed up the process by sorting the photographs received and identifying those that include whales.

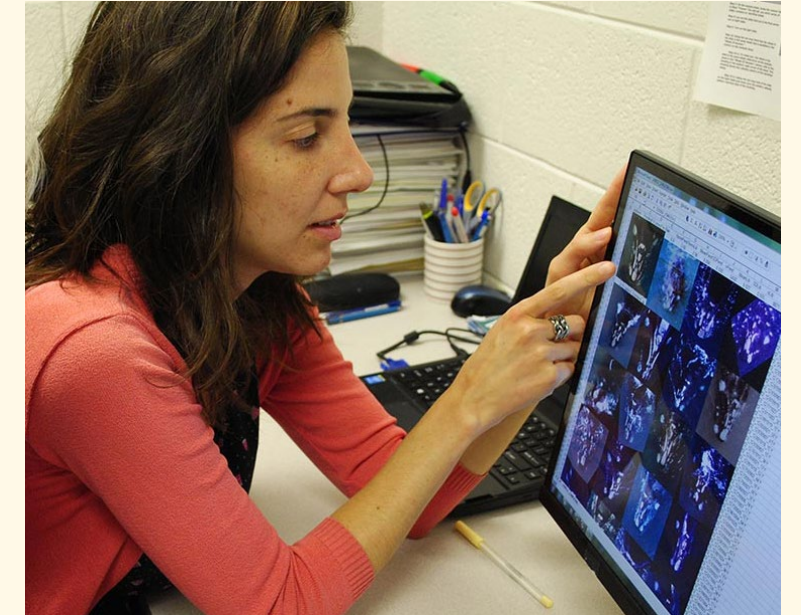
Recruitment methods. At an annual exchange and updating meeting held at AGB headquarters.

Replicability. It is unknown whether an identical initiative has been implemented in another setting, but there are very similar ones.

Scalability. The number of researchers actively working on this project has upscaled from one to six researchers at the time. Two volunteers have recently been trained and incorporated.

Open access to data. Project findings are made available in scientific publications and pieces of popular science.

Feedback. Findings are reported and guidelines for image capture and photo curatorship are proposed at the annual exchange and updating meeting held at AGB headquarters.



Linkage with state agency/government. –

Institutional funds.

- Project's own funding sources. Marine Conservation Action Fund.
- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions. N/A

Classification of knowledge areas (OECD).

NATURAL SCIENCES / Computer and information sciences
NATURAL SCIENCES / Biological sciences

Project leaders.

Florencia Vilches, Institute of Whale Conservation (ICB, in Spanish).

Contact information.

Email: info@icb.org.ar ; florencia.vilches@icb.org.ar
Web: www.ballenas.org.ar
Facebook: facebook.com/icb.argentina
Instagram: instagram.com/icb.argentina
Relevant links: ballenas.org.ar/conservacion/la-ciencia-ciudadana-contribuye-al-catalogo-de-ballenas-francas-identificadas-en-peninsula-valdes-durante-casi-cinco-decadas





BatiMate, biblioteca bioacústica de murciélagos argentinos [BatiMate, bioacoustic library of Argentine bats]

Sampling and management of bioacoustic signals and promotion of technological and scientific professions.



Objectives

Overall goal

• Co-create a digital repository of ultrasonic bioacoustic records of local bats to contribute to the conservation and study of these mammals and, at the same time, promote technological and scientific professions among secondary school students.

Specific goals

• Acquire, co-design, and implement the hardware and software necessary to store, manage, and share bioacoustic records.

Obtain bioacoustic records in field sampling distributed throughout the country.

Co-design tools for mathematical analysis of ultrasonic signals.

Assess how the experience affects the academic journey of secondary school participants.

Description of citizen participation

The project's citizen scientists are secondary school students who participate in science clubs. Depending on the interests of the participating clubs (environment, electronics, computing, or mathematics), the citizen scientists, together with the coordination team, university students, and specialists, form different commissions in charge of specific co-creative tasks aligned with the specific objectives.

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process.

Participating parties.

- School of Engineering/National University of Entre Ríos (UNER, by its Spanish acronym)
- Secondary school science clubs

Status. Under design.

Time frame. 1/10/2023 - N/A.

Frequency of project execution. Uninterruptedly.

Participation period. Regularly.

Scope of the initiative. National (two or more provinces).

Geographic scope. First stage: Entre Ríos, Corrientes, Santa Fe, and Chaco. Second stage: Buenos Aires, Salta, Córdoba, and Misiones.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 1 to 50.

Action/s involving citizen participation

- Data collection
- Data analysis
- Phenomenon monitoring
- Solution planning
- Solution deployment

Technological device/tool required.

• The first rounds of meetings are held with science clubs and external specialists who are not part of the coordination team through the Meet platform.

Recruitment methods. Invitation to science clubs through an email list provided by Red de Clubes de Ciencia [Science Clubs Network] (Argentine Ministry of Science, Technology, and Innovation).

Replicability. -

Scalability. -

Open access to data. All data generated in field sampling will be freely accessible online.

Feedback. -

Linkage with state agency/government.

- Municipalities of Oro Verde and Paraná
- Red de Clubes de Ciencia/Argentine Ministry of Science, Technology, and Innovation (MINCYT, by its Spanish acronym)

Institutional funds.

- Subsidio de Promoción a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Promote Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation
- National University of Entre Ríos

Awards/distinctions. -

Comments. Work with science clubs began in 2023 through a nested project (BatiRancho) structured as a sustainable design competition.

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Information and Computer Sciences

NATURAL AND EXACT SCIENCES / Biology

SOCIAL SCIENCES / Education sciences

Leaders.

- Pablo Schierloh, Institute for Research and Development in Bioengineering and Bioinformatics (IBB, by its Spanish acronym)/National University of Entre Ríos (UNER)/ National Scientific and Technical Research Council (CONICET, by its Spanish acronym) (pablo.schierloh@uner.edu.ar).
- Coordination team, Laboratorio de Salud y Bienestar Integral [Comprehensive Health and Well-being Laboratory]

Contact information.

Email: lasbi@ingenieria.uner.edu.ar Laboratorio de Salud y Bienestar Integral (LaSBI, by its Spanish acronym)/School of Engineering of the National University of Entre Ríos (FIUNER, by its Spanish acronym).
Facebook: Laboratorio de Salud y Bienestar Integral (LaSBI, FIUNER).





Biocorredores [wildlife corridors]

Environmental restoration of Escobar district in Buenos Aires



Objectives

Overall goal:

- Restore and reconnect wildlife corridors in Escobar district to give food and shelter to pollinators.

Specific goals:

- Create wildlife corridors in all the towns of the Escobar district and add the community's gardens with native plants in an online collaborative map with georeferencing, photos, and descriptions.
- Improve large spaces of biodiversity and pollinators' capacity to pollinate the big municipal agroecological vegetable gardens of the district.

Description of citizen participation

Citizen participation consists of many tasks. Citizens receive training every month on topics related to wildlife corridors, native species, and environmental restoration. Citizen participation also consists of seed collection and exchange among neighbors for the creation of seedlings in different garden centers of native species around Escobar. In the same way, butterfly gardens and tiny native forests are created in the public squares of the district, the port of Escobar on the Paraná Delta, and every sidewalk where there are urban trees. By taking part in these activities organized by the municipality, citizens can take the following things to their homes: seedlings they made from native plants, butterfly shelters with native plants, native trees, seeds for agroecological gardening, aromatic plants for insects, compost made with pruning waste done at the municipality, pots made with processed ecobricks, or plantable pencils, that is, everything allowing citizens to grow and take care of species at their gardens at home. Thus, another instance of citizen participation involves identifying and georeferencing native species at private home gardens, contributing to the creation of a collaborative map on which urban wildlife corridors are rebuilt.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- University professors
- Researchers
- Activists
- Argentine Ministry of Social Development
- Argentine Ministry of Environment and Sustainable Development
- University of Buenos Aires (UBA)
- National Institute of Agricultural Technology (INTA in Spanish)
- Ciervo de los Pantanos National Park
- Fundación Temaikèn [Temaikèn Foundation]

Status. In progress.

Time frame. 08/13/2021 - N/A.

Frequency of project execution. Uninterruptedly.

Participation period. Sustained over time.

Scope of the initiative. Local (city, province).

Geographic scope. Escobar district (Buenos Aires).

Project development members. It has been developed with the collaboration of both scientist and participants without formal training.

Number of participants. From 1001 onwards.

Action/s involving citizen participation.

- Data collection
- Phenomenon monitoring
- Solution planning
- Solution deployment

Technological device/tool required.

- Mobile phone for georeferencing of native plants.

Recruitment methods. Through social media, mass media, and mailing.

Replicability. The model was developed in the municipality of Escobar and Ciervo de los Pantanos National Park in Campana, Buenos Aires. The project was launched at the Argentine Ministry of Environment and Sustainable Development as a model to be replicated under forest fire emergencies in the provinces of Misiones and Corrientes, together with Parque Nacional and Fundación Temaikèn.

Scalability. Continuous; more and more neighbors participate by helping with native plant cultivation and tree sponsorship; schools are helping by having their wildlife corridors at their institutions; environmental activists take part by exchanging seeds, among other things. As of August 2022, more than 140 schools enrolled in the program have had butterfly gardens at their establishments. Other citizen science activities are also being carried out at Reserva Natural Educativa [Educational Nature Reserve] in Ingeniero Mashwitz, Buenos Aires.

Open access to data. On the Escobar district website: www.escobar.gob.ar/biocorredores.

Feedback. The creation of wildlife corridors can be followed in real time as they appear on the collaborative map.

Linkage with state agency/government.

- National Scientific and Technical Research Council (CONICET in Spanish)
- School of Agriculture / University of Buenos Aires (UBA)
- National Institute of Agricultural Technology (INTA in Spanish)
- Ciervo de los Pantanos National Park

Institutional funds. Project's own funding sources. INTA. Parque Nacional de los Pantanos. Fundación Temaikèn [Temaikèn Foundation].

Awards/distinctions. -

Comments. -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Biology
AGRICULTURAL SCIENCES / Agricultural biotechnology
SOCIAL SCIENCES / Communication and media

Leaders.

María Victoria Bandin, municipality of Escobar.

Contact information.

Email: vickybandin88@gmail.com

Web: www.escobar.gob.ar/biocorredores



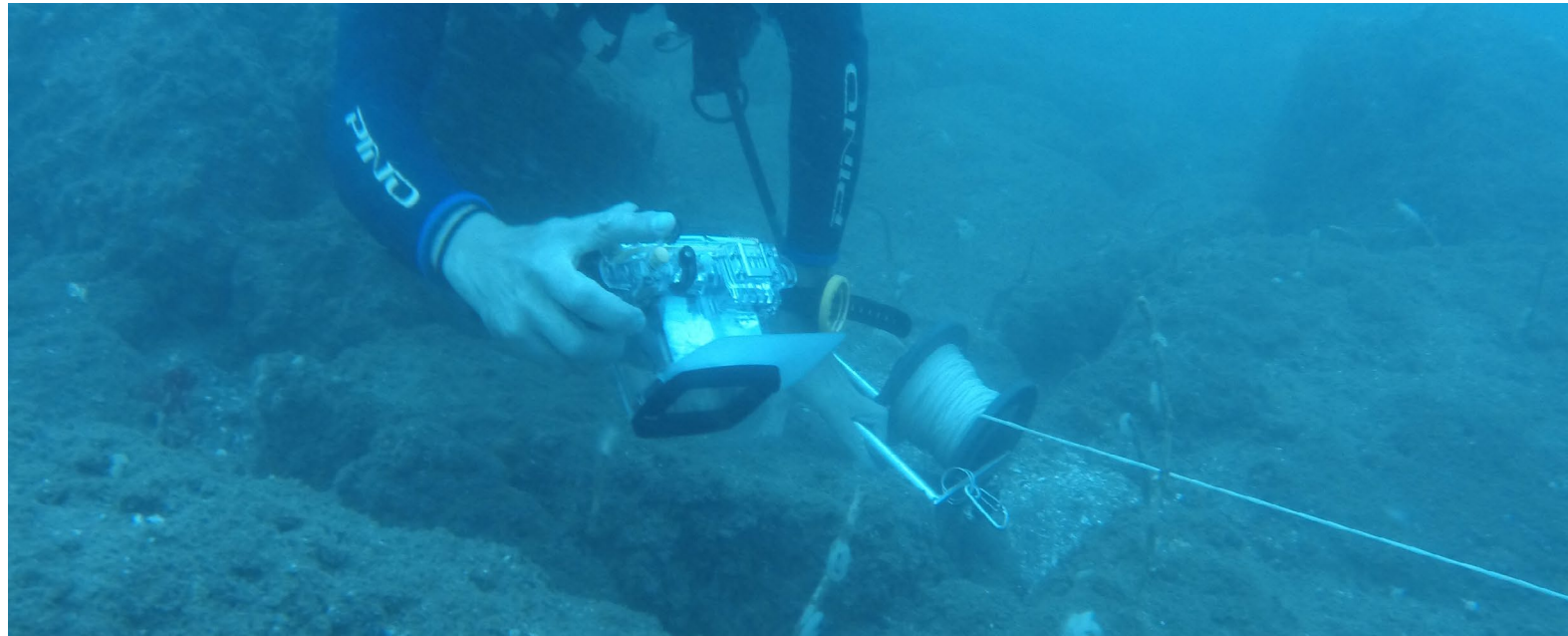


Biodiversidad de arrecifes [Biodiversity of Reefs]

Monitoring and mapping of the communities living in natural reefs and shipwrecks in Mar del Plata



I I M Y C



Objectives

Overall goal

Promote the conservation of the marine ecosystem, in general, and the communities and underwater cultural heritage of natural and artificial reefs in Mar del Plata, specifically.

Specific goals

- Monitor the communities living in natural and artificial reefs in Mar del Plata.
- Establish the similarities between the communities living in artificial reefs and those in natural reefs.
- Analyze the development of the different populations inhabiting artificial structures since the moment they sunk.
- Broaden knowledge about the biological communities living in the reefs and shipwrecks in order to offer guidelines about their conservation and handling.

Description of citizen participation

Divers from the city make videos of the dives and take pictures of different natural and artificial reefs. The digital information about the presence, absence, or abundance of different living organisms of the sampled communities is sent for analysis through platforms such as WeTransfer and WhatsApp. It is also made available at in-person meetings using the diver's computer to transfer the data to a project's external hard drive.

In addition to photos and videos, the project also requires the time and place where shots were taken and any other information or input that divers may have about their experience, such as visibility, current, a certain type of living organism, etc.

Citizens also participate in different meetings and talks held by the project leaders in which certain facts about an animal are presented, either due to their behavior or number (large or small). In most cases, some of the questions addressed in these meetings are answered on the spot while sometimes others work as triggers for future workshops or research.

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

- Gabriel Genzano, Researcher at the National Scientific and Technical Research Council (CONICET in Spanish) and Professor at the School of Exact, Physical and Natural Sciences (FCEyN in Spanish)/University of Mar del Plata (UNMdP in Spanish), the Institute of Marine and Coastal Research (IIMYC in Spanish).
- Pablo Meretta, Research Professor at FCEyN-UNMdP, IIMyC.
- Asociación Civil Thalassa (Dive training center), participating non-profit organization.

Status. In progress.

Time frame. 1/1/2008 - N/A.

Frequency of project execution. Uninterruptedly.

Participation period. Sustained over time.

Scope of the initiative. Local (city, province).

Geographic scope. Mar del Plata, Buenos Aires, Argentina.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 1 to 50.

Action/s involving citizen participation.

- Problem definition
- Data collection
- Phenomenon monitoring

Technological device/tool required.

- Diving equipment
- Dive computer
- Boat
- GPS
- Echo sounder
- Underwater camera

Recruitment methods. -

Replicability. -

Scalability. In recent years, the number of participating divers has increased, expanding the spatial and temporal range of monitoring.

Open access to data. -

Feedback. Workshops and meetings are held and the results of the collaborative work are posted on social media.

Linkage with state agency/government. -.

Institutional funds.

Extension projects by the Secretariat of University Policies (SPU in Spanish) and the National University of Mar del Plata, and also research projects by the UNMdP.

Awards/distinctions. -

Comments.

- Based on the collaborative work done with the divers from the city, both in monitoring data collection and discussions about the benthic community, the project has achieved many milestones: an undergraduate thesis, student scholarships for undergraduate theses, marine biology courses for divers, scientific diving courses, conferences with specialists, talks at the museum Museo Municipal de Ciencias Naturales L. Scaglia, talks for divers at the Argentinean Federation of Underwater Activities (FAAS in Spanish), and the creation of the book Arrecifes, restingas y bancos rocosos de Mar del Plata [The Reefs, Rocky Seabed and Shoals of Mar del Plata] (selected to be published by UNMdP's publishing house (EUDEM in Spanish) and launched at the Book Fair of Mar del Plata).
- Moreover, counseling about the expansion of the underwater park of Mar del Plata was given to municipal and provincial bodies, the Argentine Naval Prefecture (PNA in Spanish) and Consorcio Portuario Regional [the Regional Port Committee] of Mar del Plata.
- In November 2022, thorough monitoring of the shipwreck Simbad, sunk on 8/2/2022, is being carried out.
- As of November 2022, the project has 4,000 photos and 2,000 videos (from the 2000s up to now) being classified.

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Biology

Leaders.

- Gabriel Genzano, the Institute of Marine and Coastal Research (IIMYC) / National Scientific and Technical Research Council (CONICET) / University of Mar del Plata (UNMdP).
- Pablo Meretta, UNMdP-IIMyC.

Contact information.

Email: genzanogabriel@gmail.com; pabloemeretta@gmail.com

Web: biodiversidaddearrecifes.ar

Instagram: [instagram.com/biodiversidaddearrecifes](https://www.instagram.com/biodiversidaddearrecifes)





Bio+Mendoza. Biodiversidad de Mendoza [Mendoza Biodiversity]

Dryland biodiversity



I A D I Z A



Objectives

Produce knowledge on the biodiversity of Mendoza drylands through a participatory approach with the citizens of urban and rural habitats to contribute to decision-making in matters related to conservation, education, management, and restoration.

Description of citizen participation

Citizens participate in the recording and monitoring of species and environmental events through mobile applications and free and easily accessible online platforms, such as eBird, iNaturalist (ArgentiNat), and EcoRegistros. Participants share observations of animals, plants, and fungi, including macro and microorganisms. For each organism observed, at least three important pieces of information are recorded: species identification, date, and geographic location. For each record, photographs, sound recordings, and lists of species and drylands are submitted. By means of artificial intelligence, possible identifications are suggested by comparing submissions to the entries of the database. The scientific community, together with the naturalist community, identifies each record and monitor and corroborate the data. In addition, citizens propose problematic sites or sites lacking biological information and participate in the sampling and workshops with local authorities.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- Instituto Argentino de Investigaciones de Zonas Áridas (IADIZA, by its Spanish acronym) [Argentine Research Institute of Arid Zones]/National Scientific and Technical Research Council (CONICET, by its Spanish acronym) - National University of Cuyo (UNCUYO, by its Spanish acronym)
- Secretaría de Ambiente y Ordenamiento Territorial [Secretariat of Environment and Land Management] and Consejo de Coordinación de Políticas Públicas para el Área Metropolitana (UNICIPIO, by its Spanish acronym) [Public Policies Coordination Council for the Metropolitan Area]/Government of the Province of Mendoza
- Subsecretaría de Ambiente y Desarrollo Sostenible [Undersecretariat of Environment and Sustainable Development]/Municipality of Mendoza
- Municipality of Lavelle (Mendoza)
- Fundación Vida Silvestre (wildlife protection association)
- Asociación para la Conservación de la Diversidad Biológica Argentina (BI-OTA in Spanish) [Association for the Conservation of Argentine Biological Diversity]
- Asociación Argentina de Fotógrafos de Naturaleza (AFONA, by its Spanish acronym) [Argentine Nature Photographers Association]
- Club de Observadores de Aves (COA, by its Spanish acronym) [Bird Watchers Club] Potrerillos
- Grupo Águila Coronada Naturalistas de Mendoza (wildlife protection association)
- Cosmos and Naoki estates/Casarena winery

Status. In progress.

Time frame. 01/01/2019 - N/A.

Frequency of project execution. Uninterruptedly.

Participation period. Uninterruptedly. It is intensified by bioblitz events, that is, biodiversity data collection events.

Scope of the initiative. Local (city, province).

Geographic scope. Province of Mendoza, Argentina.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 1001 onwards.

Action/s involving citizen participation

- Data collection
- Data analysis

Technological device/tool required.

- Mobile phones
- Tablets
- Cameras
- Sound recorders
- Laptop
- PC
- Internet access
- Biodiversity recording applications such as eBird, iNaturalist, or EcoReg-istro

Recruitment methods. Social media, workshops, written press, and web

pages of the participating entities.

Replicability. -

Scalability. Ever since its inception in 2019, the initiative has experienced sustained growth in data contributed by citizens: the community grew by 91%; the number of observations shared increased by 93%, and species identification increased by 26%. As of March 2023, nearly 37,000 observations were recorded throughout the province. There was an increased visibility of the vulnerable ecosystems in the province of Mendoza, from the point of view of biodiversity and the communities that inhabit them.

Open access to data. -

Feedback. Data is published on websites and social media accounts and shared through workshops.

Linkage with state agency/government.

- Secretaría de Ambiente y Ordenamiento Territorial/Government of the Province of Mendoza
- Subsecretaría de Ambiente y Desarrollo Sostenible/City of Mendoza
- Dirección de Ambiente [Department of Environment]/Municipality of Lavelle

Institutional funds.

- IADIZA/CONICET

Awards/distinctions. -

Comments. In the northern oasis of the Mendoza province, where the wetlands of the Leyes-Tulumaya stream system are at risk of disappearing, the initiative prompted the municipality to adopt citizen science tools for work related to the management of the recently created Laguna de Soria municipal reserve. Private companies in the area with organic certification of their products are actively collecting biodiversity data to produce information that will help them create sustainable management guidelines.

Knowledge areas/disciplines (OECD) NATURAL AND EXACT SCIENCES / Biology

Leaders.

- Benjamín Bender, Instituto Argentino de Investigaciones de Zonas Áridas/ National Scientific and Technical Research Council (CONICET)
- Solana Tabeni, Instituto Argentino de Investigaciones de Zonas Áridas/National Scientific and Technical Research Council (CONICET)
- Claudia Campos, Instituto Argentino de Investigaciones de Zonas Áridas/National Scientific and Technical Research Council (CONICET)

Contact information.

Emails: jbender@mendoza-conicet.gob.ar; stabeni@mendoza-conicet.gob.ar; ccampos@mendoza-conicet.gob.ar

Website: www.mendoza.conicet.gov.ar/iadiza/ciencia-ciudadana/

Youtube: <https://www.youtube.com/@coleccionvertebradosiadiza>





Bioleft

Participatory seed innovation



Photo: Manuel Correa for Bioleft

Objectives

Overall goal

Build an open seed network for its conservation, exchange and breeding to offer alternative solutions to current and future agricultural challenges, based on collective intelligence, open knowledge, local know-how and scientific knowledge.

Specific goals

- Create technological and legal tools to guarantee the ongoing exchange of germplasm for personal use, research, and development purposes, with the aim of strengthening farmers' roles in seed conservation and breeding.
- Increase the availability of resilient and biodiverse seeds as a commons; this will promote food and technological sovereignty, as well as biological, cultural, and economic diversity.
- Enhance collaborative and/or participatory breeding, where seed exchanges are tracked and mapped, combining technology with collective knowledge through an ongoing co-designed digital platform.

Description of citizen participation

Bioleft is a community for the conservation, exchange, and breeding of open seeds that offers alternative solutions to the challenges of agriculture, through the co-design of tools for conservation, dissemination and open and collaborative seed breeding. The licenses and the digital platform are co-designed with multiple stakeholders, and they are constantly reviewed and improved based on their contributions.

The project involves agricultural producers using different farming practices (from organic production to family farming), who innovate in the seeds they produce, specialists in plant breeding, research teams from public institutions (such as the School of Agricultural Studies at the University of Buenos Aires and the National Institute of Agricultural Technology) and activists of Citizen Science and free software.

Based on the needs shared by these stakeholders, a digital platform is designed for the following purposes:

- Identify and connect sustainable agriculture actors through the "community" section.
- Record, map and transfer seeds.
- Monitor seed circulation through different stakeholders of the agricultural sector.
- Collect valuable information through a "field notebook".
- Promote knowledge sharing and participatory and/or collaborative improvement.

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process.

Participating parties.

The project was created by the Research Center for Transformation (CENIT, in Spanish)/ National University of San Martín (UNSAM, in Spanish) together with the STEPS Centre (UK).

The project is conducted in collaboration with the following organizations:

- School of Agricultural Studies, University of Buenos Aires (FAUBA).
- Argentinean Organic Agriculture Movement (MAPO).
- Argentine Association for Biodynamic Agriculture (AABDA).
- National Network of Municipalities and Communities that Promote Agroecology of Argentina (RENAMA).
- National Laboratory of Sustainability Sciences of the National Autonomous University of Mexico (LANCIS - UNAM).
- National Institute of Agricultural Technology in Pergamino.
- National University of the South.
- National University of La Plata.
- National University of Río Cuarto.
- SemillAR program.

It is a member of Global Open Source Seed Initiatives (GOSSI).

Status. In progress.

Time frame. 2016 – N/A

Frequency of project execution. Permanently.

Participation period. On a sustained basis.

Scope of the initiative. Argentina (two or more provinces).

Geographic scope. At a territorial level (in terms of seed circulation and experimentation), the project stretches across Argentina, while at a conceptual level it has global reach, through networks of open seed initiatives and projects that drive transitions to sustainability. Besides, the platform and licenses are not geographically bound.

Project development members. It has been developed with the collaboration of members of the transdisciplinary scientific community (namely, professionals specialized in innovation, economics, agronomy and psychology), practitioners, software developers, extension agents, and participants with expertise in agriculture.

Number of participants. Over 1001.

Action/s involving citizen participation Problem identification. Data collection. Data analysis. Phenomenon monitoring. Solution design. Solution implementation. Citizens are involved in the entire process.

Technological device/tool required. Cell phones (with internet access). Computer (with internet access).

Recruitment methods. Through existing participants, by holding face-to-face and online workshops, etc. Dissemination through communication pieces (audiovisual and written).

Replicability. By means of a knowledge transfer process funded by The Conservation, Food and Health Foundation and The Global Consortium for Sustainable Outcomes, the project contributed to the setup of Bioleft Mexico, led by LANCIS - UNAM. The project leader of this initiative is Ana Escalante. Period: 2019 -2020.

Scalability. The scalability strategy is designed in three stages:

- First, the project is protected from the demands of agriculture and commercial seeds. We identified two protection strategies: the provision of non-reimbursable funds and market protection, through the creation of a critical mass of users.
- In the second stage, networks are being consolidated and diversified to include new networks of farmers and new crops, groups of female farmers and breeders (who are underrepresented in current organizations), developers of new technology, legal activists, and artists.
- The third stage entails interaction and communication with participants in the traditional agricultural system and efforts related to it that are carried out outside the agrifood system and/or the area in which they are currently being implemented (replicability).

Open access to data. There are three types of data:

- Seed-related agronomic data: Access to these data is granted to those interested in

implementing and promoting an open source seed logic. Requests for data are being documented and access is only granted to users who have requested it.

- Informative data related to the records displayed on the platform: It is feared that they might be "viewed" by companies intending to profit from this information, and consequently, exclude communities. For this reason, only users who have signed up and share their own data may access the data displayed on the platform.
- Data on platform design and process: They are available at gitlab <https://gitlab.com/bioleft/bioleft> and <https://gitlab.com/bioleft/organizacion/bioleft>, respectively.

Feedback. The communities we worked with are part of the team, so we receive constant feedback. The process is shared during the different meetings that take place during the Bioleft project. As regards the workshops related to the networks of experiments on corn and tomato, informal meetings are held after their development to receive feedback on the design and progress of these workshops.

Linkage with state agency/government.

- SemillAR program - Ministry of Agriculture, Livestock and Fishery (MAGyP)
- National Institute of Agricultural Technology (INTA) in Argentina
- Argentine Ministry of Science, Technology, and Innovation (MINCYT)
- National Institute of Seeds (INASE) in Argentina.

Institutional funds.

- **National public institutions:** the project is executed within the framework of CENIT-UNSAM, which provide infrastructure and research assistants; the National Scientific and Technical Research Council (CONICET, in Spanish), some members of the research team are CONICET's researchers; and FAUBA, part of the research and extension team is based in its facilities, where trials are conducted, seeds are multiplied, etc. Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation
- **International organizations:** the third cycle of grants awarded by The Conservation Food and Health Foundation is starting.

Classification of knowledge areas (OECD).

NATURAL SCIENCES / Biological Sciences
AGRICULTURAL SCIENCES / Agriculture, Forestry, and Fisheries
SOCIAL SCIENCES / Economics and Business

Project leaders.

- Antoine Patalano, School of Exact, Physical and Natural Sciences (FCEfYN), National University of Córdoba (UNC) and the National Scientific and Technical Research Council (CONICET) in Argentina
- Leandro Masso, FCEfYN/UNC and CONICET
- Carlos Marcelo García Rodríguez, FCEfYN/UNC and CONICET

Contact information.

Emails: A.Marin@ids.ac.uk; acremaschi@unsam.edu.ar

Web: bioleft.org

Instagram: [instagram.com/bioleft](https://www.instagram.com/bioleft)

LinkedIn: [linkedin.com/company/bioleft](https://www.linkedin.com/company/bioleft)





BIOMCI - Biomonitoring Ciudadano [BIOMCI - Citizen Biomonitoring]

Biomonitoring of the ecological quality of water from rivers and streams in Patagonia



BIOMCI
BIOMONITOREO CIUDADANO



Objectives

Overall goal:

- Jointly monitor the ecological quality of water from rivers and streams within Patagonian watersheds to promote the use of bioindicators based on aquatic macroinvertebrates and encourage the integrated management of water resources.

Specific goals:

- Develop tools for the implementation of citizen biomonitoring that include macroinvertebrate identification booklets, an application for mobile devices, sampling kits, a website, and other communicative devices.
- Design a guide for biomonitoring training that integrates environmental aspects and, through data analysis, allows the work team to build valuable and contextualized knowledge.

Description of citizen participation

Citizen scientists use nets to remove rocks and aquatic plants from the river bed to observe and collect aquatic macroinvertebrates (snails, crustaceans, insects, among others) in plastic buckets. Then, using booklets or through the application, participants identify the macroinvertebrate families observed and calculate the biotic index of ecological quality of water, based on the level of sensitivity or tolerance of the macroinvertebrate families to pollution. Macroinvertebrates are used as bioindicators of ecological status, as they are considered the best methodological alternative for detecting alterations in aquatic ecosystems. Community workshops are held for the scientific community and citizens (students and teachers at the primary, secondary, and undergraduate levels, members of fishermen's associations, communities of indigenous peoples, technicians from water management agencies and amateurs, etc.) to communicate and foster biomonitoring, promote environmental awareness and add more participants for data collection. Data collection can also be performed individually through the mobile application. Changes have been incorporated into the data collection protocols based on the field experience of the fishermen or state technicians.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- National University of Río Negro (UNRN, by its Spanish acronym)
- National University of the Patagonia San Juan Bosco (UNPSJB, by its Spanish acronym)
- National University of the Patagonia Austral (UNPA, by its Spanish acronym)
- National Scientific and Technical Research Council (CONICET, by its Spanish acronym)
- General Directorate of Aquatic Biology, Undersecretariat of Environment of the province of Neuquén
- Secretariat of Environment and Climate Change of the Provincial Government of Río Negro
- Municipal Control Agency of the Municipality of San Martín de los Andes (Neuquén)
- Lof Mapuche Vera (Mapuche community)
- Elementary and High schools
- Fishermen's associations and clubs

Status. In progress.

Time frame. 2/1/2017 - N/A.

Frequency of project execution. Uninterruptedly.

Participation period. Sustained over time.

Scope of the initiative. National (two or more provinces).

Geographic scope. Valcheta, El Bolsón, Allen, Mainqué, General Roca, and Villa Regina in Río Negro province; Neuquén, San Martín de los Andes and Villa Pehuenia in Neuquén province; Esquel in Chubut province; Perito Moreno and Los Antiguos in Santa Cruz province.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 1001 onwards.

Action/s involving citizen participation.

- Problem definition
- Data collection
- Data analysis
- Phenomenon monitoring
- Other/s: Analysis of causes and possible solutions

Technological device/tool required.

- Sampling kit (nets, handheld magnifying glass, plastic trays, and entomological tweezers)
- Macroinvertebrate identification booklet, designed by the project, which includes the calculation of the biotic index
- Offline mobile application (BIOMCI)

Recruitment methods. Promotion through provincial and municipal media and media from the National University of Río Negro (UNRN), workshops and meetings in the cities, and social media (Facebook).

Replicability. The initiative began in the city of Valcheta, and was later replicated in other cities within Río Negro, Neuquén, Chubut and Santa Cruz.

Scalability. The initiative has had the participation of more than 1,000 citizens, boosted by the use of the mobile application.

Open access to data. -

Feedback. The data is public and shared with the different social actors in an environmental map of the ecological quality of water, available on the website, or through workshops with the community and state agencies, and conferences.

Linkage with state agency/government.

- General Directorate of Aquatic Biology, Undersecretariat of Environment of the province of Neuquén
- Secretariat of Environment and Climate Change of the Provincial Government of Río Negro
- Control Agency of the Municipality of San Martín de los Andes (Neuquén)

Institutional funds.

- University Volunteering Program "Universidad, Cultura y Territorio" [University, Culture, and Territory]/National Secretariat of University Policies.
- University Outreach Office/National University of Río Negro (UNRN)
- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions. -

Comments. The initiative was conceived under the name BiomonitoringRN and is now called BIOMCI (Biomonitoring Ciudadano [Citizen Biomonitoring]). This modification is due to the extension of its geographical scope since it has now expanded beyond the limits of the province of Río Negro. On the other hand, the samples shared by citizens are available on the map on the project's website.

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences
NATURAL AND EXACT SCIENCES / Biology
SOCIAL SCIENCES / Education sciences

Leaders.

- Pablo Antonio Macchi, Institute for Research in Paleobiology and Geology (IIPG)/ National University of Río Negro (UNRN)-National Scientific and Technical Research Council (CONICET)
- Lorena Laffitte, General Directorate of Aquatic Biology, Undersecretariat of Environment of the province of Neuquén (DGBA)
- Cecilia Brand, Esquel Mountain and Patagonian Steppe Research Center (CIEMEP)/ National University of the Patagonia San Juan Bosco (UNPSJB)- CONICET
- Santiago Torres, Santa Cruz Research and Transfer Center/ National University of the Patagonia Austral- CONICET
- Yeny Labaut, IIPG/ UNRN- CONICET

Contact information.

Email: pmacchi@unrn.edu.ar

Web: www.biomci.ar

Facebook: <https://www.facebook.com/profile.php?id=100093410513313>

Instagram: <https://www.instagram.com/biomci/>

Twitter: @biomci

BIOMCI application: <https://biomci.ar/descargar-app>





Breathe 2 change

Air quality monitoring



Objectives

Overall:

- Collect data that reveal the causes of air pollution and explore solutions to reverse its consequences.

Specific:

- Monitor the air, analyze the data collected, and drive the ideation and implementation of policies for change.

Description of citizen participation

The activities carried out are directly related to the environmental issues of each particular area. The B2C Social Lab plans the geographic distribution of the sensor modules by first considering the communities most affected by biomass burning. Once the area has been identified, the citizens of the affected community adopt a sensor module that is installed in their neighborhoods for a period of 2 years.

The stored data are integrated into an open-access, user-friendly dashboard intended to be accessible to any citizen wishing to check the air quality in a given area. For this purpose, real-time data from the modules are displayed on a map with a color-coded air quality index that is easy to read.

Periodic workshops are also held collaboratively with citizens, students, and technical personnel from SEMA Tucumán (Secretary of State for the Environment, Tucumán) and researchers from INQUINOVA-UNT (Institute of Chemistry of Northwest Argentina/National University of Tucumán) for the interpretation of the data.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

National:

- Laboratory of Atmospheric Research (LEA, by its Spanish acronym)
- Institute of Chemistry of Northwest Argentina (INQUINOVA, by its Spanish acronym); National Scientific and Technical Research Council (CONICET, by its Spanish acronym); National University of Tucumán (UNT, by its Spanish acronym)
- Argentine Ministry of Science, Technology, and Innovation
- Ministry of Productive Development, government of Tucumán
- State Secretariat of Technological Innovation and Development, government of Tucumán
- United Nations Development Program (UNDP)
- National University of Tucumán (UNT)
- National University of Córdoba (UNC, by its Spanish acronym)
- Italian Embassy in Buenos Aires

International:

- Alexander von Humboldt Foundation
- University of Genova, Italy
- Neuer Weg Sensores, a German-Argentine start-up company
- University of Wuppertal, Germany
- ICARE Research Center, France

Status. In progress.

Time frame. 10/01/2020 - N/A

Frequency of project execution. Uninterruptedly.

Participation period. Sustained over time.

Scope of the initiative. National (two or more provinces).

Geographic scope. Provinces of Tucumán, Córdoba, and Buenos Aires.

Specific subject: Indoor ventilation monitoring by measuring carbon dioxide (CO₂).

Project development members. It has been developed with the collaboration of both scientists and participants with formal training and without it.

Number of participants. 1 to 50.

Action/s involving citizen participation.

- Solution planning
- Solution deployment

Technological device/tool required.

- Air sensor modules supplied by Neuer Weg Sensores, produced in Argentina.

Recruitment methods. Through the website and Instagram.

Replicability. Installation of sensor modules in different parts of Argentina.

Scalability. Collaborators are joining the initiative on a daily basis.

Open access to data. The data obtained by the sensors are freely accessible and can be found on the online platform.

Feedback. The data are shared publicly and in real time on the viewing platform hosted on the breathe2change.org website.

Linkage with state agency/government.

- Argentine Ministry of Science, Technology, and Innovation.
- Ministry of Productive Development, government of Tucumán.
- State Secretariat of Technological Innovation and Development, government of Tucumán.

Institutional funds.

- Alexander von Humboldt Foundation. University of Wuppertal (Germany). ICARE Re-



search Center (France). Neuer Weg Sensores. **They cooperated with funds and human and technological resources.**

- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions. Awarded initiative by the Alexander von Humboldt Foundation from Germany.

Classification of knowledge areas (OECD).

ENGINEERING AND TECHNOLOGY / Electrical engineering, electronic engineering, and information engineering.

ENGINEERING AND TECHNOLOGY / Chemical engineering.

ENGINEERING AND TECHNOLOGY / Environmental engineering.

Project leaders.

- Rodrigo Gibilisco, Laboratory of Atmospheric Research of the Institute of Chemistry of Northwest Argentina, National Scientific and Technical Research Council (CONICET)
- Adrián Morrone, Neuer Weg Sensores (Argentina).

Contact information.

Email: rodrigo.gibilisco@breathe2change.org; adrian.morrone@breathe2change.org

Web: www.breathe2change.org

Instagram: [instagram.com/breathe_2_change](https://www.instagram.com/breathe_2_change)





Cardenal Amarillo [Yellow Cardinal]

Monitoring of yellow cardinals (*Gubernatrix cristata*)



Objectives

Overall goal:

- Record and geolocate sites where the yellow cardinal (*Gubernatrix cristata*) appears to identify populations and determine its viability (according to the abundance of individuals in each population) and isolation/connectivity (according to the continuity/discontinuity of records).
- Update the information of sites where remaining populations of yellow cardinals appear (search at historical sites and with current presence of the species).
- Raise public awareness of the conservation issues affecting the species.

Specific goals:

- Assess the viability and connectivity among the populations of the species.
- Recommend release sites for yellow cardinals rescued from illegal wildlife trafficking based on updated information on populations.
- Identify priority areas for the yellow cardinal's conservation.
- Raise public awareness of conservation issues affecting the species through community participatory activities.
- Promote local groups working on the conservation of the species.

Description of citizen participation

After the recruitment of census takers posted on the Aves Argentinas's social media, sites of interest are shared to survey the presence of cardinals. Additionally, citizens suggest sites in their residential regions. Before carrying out a census, census takers receive training in search methodology and useful information. The census compiles information about geolocations, the number of individuals, and, if possible, the sex and maturity stage (adult/juvenile) of recorded cardinals. As an optional activity, citizens are asked to send photos of or data about the environment at observation sites. Data is recorded in spreadsheets that are sent in digital format or through a mobile application that was specifically designed at UBA for yellow cardinal censuses.

Type of citizen science project

Contributory Project: It is designed by members of the scientific community, and citizens participate in data

Participating parties.

- Aves Argentinas (NGO)
- School of Exact and Natural Sciences (FCEN, by its Spanish acronym)/University of Buenos Aires (UBA)
- National Scientific and Technical Research Council (CONICET, by its Spanish acronym)
- Laboratorio de Biodiversidad, Ecología y Conservación [Colaboratory of Biodiversity, Ecology, and Conservation](ColBEC, by its Spanish acronym)/School of Exact and Natural Sciences (FCEN)/National University of La Pampa (UNLPam, by its Spanish acronym)

Status. In progress.

Time frame. 4/1/2014 - N/A.

Frequency of project execution. Seasonal (from September to October).

Participation period. One month a year.

Scope of the initiative. National (two or more provinces).

Geographic scope. Corrientes, Entre Ríos, Santa Fe, La Rioja, San Luis, Córdoba, Mendoza, La Pampa, Río Negro, Neuquén, Buenos Aires (only a few provinces participate in the censuses every year).

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants without formal training.

Number of participants. From 101 to 500.

Action/s involving citizen participation.

- Data collection

Technological device/tool required.

- Mobile phone or speaker to play a calling sound and record data
- Camera (optional)

Recruitment methods. Aves Argentinas's social media.

Replicability. -

Scalability. -

Open access to data. Open access to data through the publication of results in a specialized scientific journal.

Moreover, the data obtained and the census reports are shared with the wildlife offices of national and provincial public administrations, who can use them to update information on sites where yellow cardinals appear, and thus manage the populations through greater monitoring, handling measures at observation sites to reduce threats, etc.

Feedback. The results were posted on social media. Moreover, an

English copy of the published article and its translation were sent to the citizens who participated.

Linkage with state agency/government.

- Wildlife offices of national and provincial public administrations who are part of Alianza Cardenal Amarillo [Yellow Cardinal Alliance]
- National parks: Parque Nacional Iberá, Parque Nacional El Palmar, Parque Nacional Sierra de las Quijadas, Parque Nacional Lihué Calel, and Reserva Natural de la Defensa Campo Garabato

Institutional funds.

- They have been obtained from the project's own funding sources
- Aves Argentinas
- Banco Galicia (bank)

Awards/distinctions. -

Comments. -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences
NATURAL AND EXACT SCIENCES / Biology

Leaders.

- Marisol Domínguez, University of Potsdam
- Bettina Mahler, School of Exact and Natural Sciences (FCEN)/Universidad de Buenos Aires (UBA)
- Rocío Lapido, Office of Conservation, Aves Argentinas

Contact information.

Email: dominguez@uni-potsdam.de; bemahler@ege.fcen.uba.ar, lapido@avesargentinas.org.ar

Web: www.avesargentinas.org.ar

Facebook: facebook.com/avesargentinasAOP

Twitter: twitter.com/AvesArgentinas

Twitter: twitter.com/CienciaAves (Departamento Científico [Scientific Department])

Instagram: instagram.com/avesargentinas

YouTube: youtube.com/user/AvesArgentinasAOP





Caza Mosquitos [Mosquito Catchers]

Study of vector-borne diseases (transmitted by animals)



Objectives

- Study the distribution of mosquito vectors, including *Aedes aegypti*, a species transmitting dengue, Zika, chikungunya and yellow fever viruses
- Involve citizens in analyzing and questioning their environment, and lead them to take individual actions to contribute to the prevention of the spread of the insect vector

Description of citizen participation

Through the project's social media or by a digital, educational and free app, citizens are encouraged to collect data for the creation of a database to study the distribution of mosquito vectors, such as *Aedes aegypti*, among other significant species present in Argentina. It is also an opportunity for citizen scientists to receive information on actions to prevent mosquito-borne diseases and on other relevant aspects in connection with this issue.

Using this app, citizen scientists can report the presence of mosquitoes and potential breeding sites by submitting photographs and sharing the location detected by their mobile devices. A panel of expert reviewers helps users to identify mosquitoes and determine whether they are potential disease vectors. Then, citizen scientists are informed of such determination.

All information is included in the database created to determine mosquito distribution at a national level.

Type of citizen science project

Contributory project. It is designed by scientists, and citizens participate in data collection.

Participating parties.

- Institute of Limnology of La Plata (ILPLA).
- National Scientific and Technical Research Council (CONICET, in Spanish).
- National University of La Plata (UNLP, in Spanish).

Status. In progress.

Time frame. 03/01/2017 - N/A

Scope of the initiative. Argentina (two or more provinces).

Geographic scope. Argentina.

Frequency of project execution. Uninterruptedly.

Project development members. It has been entirely developed by people with formal scientific training.

Action/s involving citizen participation Data collection.

Participation period. On a sustained basis.

Technological device/tool required.

- Cell phone
- App

Number of participants. Over 1001.

Recruitment methods. Through social media, news websites and science fairs

Replicability. -

Scalability. -

Open access to data. All the information collected may be freely accessed on the project website.

Feedback. Participants receive their feedback through social media, by the app, or via e-mail, depending on the communication channel selected.

Linkage with state agency/government. The Ministry of Health of the Province of Buenos Aires showed interest in implementing it as a tool for the management of the dengue virus.

Institutional funds. Project's own funding sources.

Awards/distinctions.

- "Science, Technology and Innovation 2017" award granted by the Scientific Research Commission of the province of Buenos Aires
- Honey Bee Network Creativity & Inclusive Innovation Awards (HB-NCRIIA) 2020

Área/s (OCDE).

NATURAL SCIENCES / Biological Sciences
MEDICAL AND HEALTH SCIENCES / Basic Medicine



Project leaders.

- Cristian Di Battista, Institute of Limnology "Raúl A. Ringuelet" (ILPLA) / National Scientific and Technical Research Council (CONICET)-National University of La Plata (UNLP).
- Fernando Garelli, Physics of Liquids and Biological Systems Institute (IFLYSIB) / CONICET-UNLP
- Joaquín Cochero, Institute of Limnology "Raúl A. Ringuelet" (ILPLA) / CONICET-UNLP
- Ana Dumrauf, IFLYSIB / CONICET-UNLP
- Mariana Sanmartino, IFLYSIB / CONICET-UNLP

Contact information.

Email. cazamosquito@gmail.com

Web. cazamosquitos.com.ar

Instagram. [instagram.com/caza_mosquitos](https://www.instagram.com/caza_mosquitos)





Cazadores de Crecidas [Flood Chasers]

Monitoring floods in urban rivers and basins



Objectives

Overall goal

Expand the availability of existing hydrological data, especially data about water flows running in river courses or urban areas in different regions of the country.

Specific goals

- Include citizens in the project to record hydrological data in watercourses and urban areas.
- Increase the amount of water flow data available as it is essential for sustainable management of water resources and water risk.
- Train firefighters, civil defense, and police personnel to properly record videos necessary to estimate flows, given that these organizations work during extreme flash flood events.
- Raise awareness about the importance of monitoring and preserving water resources by encouraging citizens to participate in activities such as video recording and results sharing.

Description of citizen participation

Citizens, firefighters, civil defense staff, and law enforcement personnel record videos of flash floods in urban rivers and basins. Then, the videos are sent to a team of scientists who will process the relevant data. The material can be sent through the project's website and social networks, or by contacting members of the GDT and sharing it by e-mail.

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

The project is led by the Faculty of Exact, Physical and Natural Sciences (FCEFYN, in Spanish) of the National University of Córdoba (UNC, in Spanish). It is supported by the following institutions:

- National Scientific and Technical Research Council (CONICET, in Spanish) of Argentina
- Ministry of Public Services of the Province of Córdoba
- Provincial Administration of Water Resources of Córdoba

Status. In progress.

Time frame. 10/01/2014 – N/A

Frequency of project execution. Seasonal (on a particular season of the year)

Participation period. On a sustained basis.

Scope of the initiative. International (two or more countries).

Geographic scope. Córdoba, Tucumán, Salta and Paraguay.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 1 to 50.

Action/s involving citizen participation

- Problem identification.
- Data collection.
- Phenomenon monitoring.

Technological device/tool required.

- Mobile phone
- Camera
- Unmanned aerial vehicles (UAV)

Recruitment methods. Through news programs, social media (Twitter) and workshops carried out in different towns.

Replicability. In the provinces of Tucumán and Salta.

Scalability. Every year, the number of participants increases significantly.

Open access to data. The main findings and knowledge are transferred to society through social media and by means of the reports prepared by project members.

Feedback. Participants create a set of guidelines which are incorporated into the new stages of the project.

Linkage with state agency/government.

It has the institutional support of the following entities:

- Ministry of Public Services of the Province of Córdoba
- Provincial Administration of Water Resources of Córdoba
- Ministry of Education of the Province of Córdoba

Institutional funds.

- Extension secretariats of the universities leading this initiative. Ministry of Public Services of the Province of Córdoba. Provincial Administration of Water Resources of Córdoba. CONICET.
- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions. –

Classification of knowledge areas (OECD).

ENGINEERING AND TECHNOLOGY/ Environmental engineering
ENGINEERING AND TECHNOLOGY/ Civil Engineering

Project leaders.

- Antoine Patalano, Facultad de Ciencias Exactas, Físicas y Naturales (FCEFYN)/Universidad Nacional de Córdoba (UNC) y Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET).
- Leandro Masso, FCEFYN/UNC y CONICET.
- Carlos Marcelo García Rodríguez, FCEFYN/UNC y CONICET.

Contact information.

Email: antoine.patalano@unc.edu.ar ; leandro.masso@unc.edu.ar ;

carlos.marcelo.garcia@unc.edu.ar

Web: www.cazadoresdecrecidas.unc.edu.ar

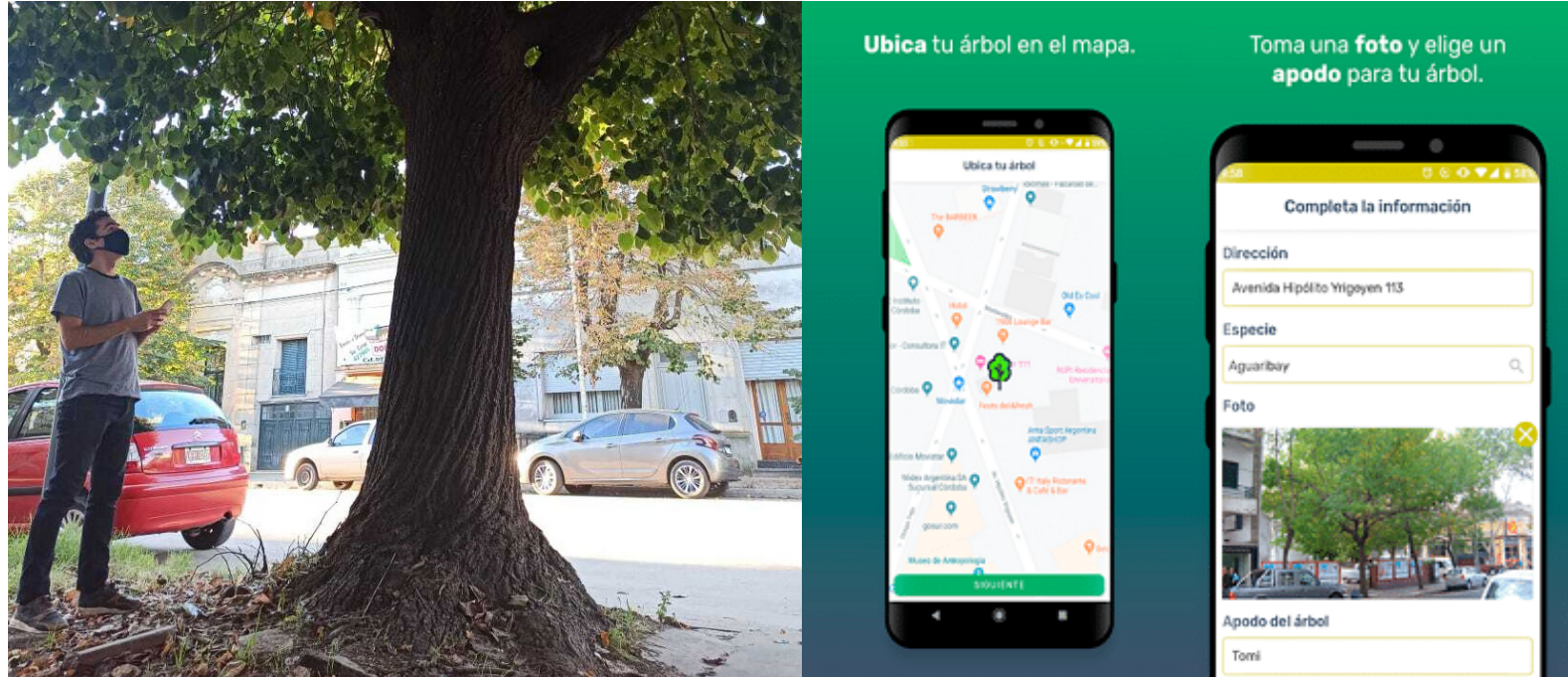
Twitter: twitter.com/CdC_Cordoba





Censo Forestal Urbano de la ciudad de Bragado [Urban Tree Census in the city of Bragado]

Developing and planning activities for the care and conservation of urban forests



Objectives

Overall goal: Conduct a census of the entire tree population in the chief town of the district (Bragado) for future public policy-making

Specific goals:

- Expand the urban tree census to the remaining towns located in the District of Bragado.
- Create technical and scientific material based on the surveys conducted.
- Identify and solve issues related to urban forests in the medium and long term.
- Plan public strategies for proper tree care and pruning.
- Set solid foundations for future landscape designs to be used for city planning, based on such previously assessed needs.

Description of citizen participation

Citizens collect tree census data using a mobile app, after having been trained (both on the operation of the app and on the botanical knowledge required for tree identification).

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

- Members of Foro Ambiental de Bragado (Bragado Environmental Forum).
- Residents with different occupations (e.g., nursery owners, university students in similar fields, high school students, etc.).
- Municipal staff, including both administrative and technical personnel employed in this specific area (holding degrees in Engineering and Biology).
- Members of the local legislature.

The following people participated as consultants:

- Argentinian Network of Municipalities Facing Climate Change (RAMCC, in Spanish).
- Developers of MuniArbol app.

Specific subject:

- Developing and planning activities for the care and conservation of urban forests.
- Assessing the status of tree populations in the city.
- Identifying species belonging to the urban forest structure.
- Planning and designing landscapes.
- Implementing new technologies to determine the geographical location of every tree in the city.

Status. In progress.

Time frame. 03/21/2021 – N/A

Frequency of project execution. Seasonal (on a particular season of the year)

Participation period. The activity lasted 4 weeks, including training sessions and the subsequent data collection process. In the future, it will continue so as to expand its geographical scope and increase data collection in the city.

Scope of the initiative. Local (city, province).

Geographic scope. Bragado, province of Buenos Aires

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 1 to 50.

Action/s involving citizen participation Data collection.

Technological device/tool required.

- Cell phone with photographic camera
- App: to collect the necessary data

Recruitment methods. Through Foro Ambiental de Bragado and social media, where this activity was disseminated.

Replicability. It has been replicated in other cities. In the city of Córdoba, an urban tree census has also been conducted using MuniArbol app. However, in this case, data collection was carried out by technical personnel.

Scalability. -

Open access to data. The data collected are available for consultation by the public at large using MuniArbol web app. Then, they may be accessed on the official website of the Municipality of Bragado, in the form of a didactic map generated from the data collected and georeferenced. Said data are displayed on the map together with a photograph of the relevant species.

Feedback. Certificates of participation and appreciation were handed out and information on project progress was exchanged.

Linkage with state agency/government. The Municipality took part in the initiative from its inception, providing support, collaboration, and guidance in every stage of the process.

Institutional funds. Municipality of Bragado, specifically from the budget allocated to the Secretariat of Urban and Environmental Development.

Awards/distinctions. -

Classification of knowledge areas (OECD).

NATURAL SCIENCES / Earth and related Environmental sciences
NATURAL SCIENCES / Biological Sciences
ENGINEERING AND TECHNOLOGY/ Environmental engineering

Project leaders.

- Maximiliano Dorado
- Silvina Guayta
- Luciano Burghetti
- Marcelo Bondoni

Contact information.

Email: maximiliano_dorado@yahoo.com.ar

Email: sguayta@hotmail.com

Email: luchoburghetti@gmail.com

Email: bondonimarcelo@gmail.com

The initiative has been posted on the official website of the Municipality of Bragado, on the Citizen Science tab, as well as on the social media accounts of the local government and Foro Ambiental de Bragado.

Web: www.bragado.gov.ar/participacion-ciudadana





Ciencia, educación y desarrollo sostenible local [Science, education, and local sustainable development]

Education for Sustainable Development (ESD) and localization of the Sustainable Development Goals (SDG)



Objectives

Overall goal

Contribute to the transition to sustainable development through the co-production of knowledge aimed at localizing the SDGs.

Specific goals

- Diagnose the existing socioeconomic and institutional situation to localize the SDGs.
- Develop a localization plan for the SDGs.
- Incorporate Education for Sustainable Development in the curriculum of Colegio Superior 42 (CS42).
- Build a communications strategy to engage society around the SDGs.

Description of citizen participation

Teaching staff, civil servants and social organizations participate in workshops where records are produced. The workshops will basically comprise two types depending on their participants. Type I workshops consist of researchers and municipal professionals. Type II workshops consist of civil society participants, professionals, stakeholders, specialists, and other participants deemed appropriate for better process development and promotion. In both workshops, people in charge of coordinating the project prepare a work agenda with the topics to be discussed, considering the problems that will be addressed, the hypothesis and the knowledge that they intend to process and discuss from a local perspective. The workshops are interactive and written and visual records are obtained for later use in reports and publications. In addition, in both cases, surveys are conducted to establish the starting points (baselines) of the project, involving high school and college teachers, municipal officials, and representatives of local organizations and institutions.

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process.

Participating parties.

The co-production of knowledge is performed by scientists and non-scientists (teachers, local government officials, and members of social organizations).

- Social actors of the Commercial and Industrial Center, neighborhood associations, and other high school and technical colleges in Vera.
- Officials of the executive and legislative power of the city of Vera.
- Teachers of Colegio Superior N.º 42 (CS42).

Status. In progress.

Time frame. 01/03/2021 - N/A

Frequency of project execution. According to the demands or approaches to the community/communities.

Participation period. As requested by teachers and authorities of Colegio Superior N.º 42 "Dr. Agustín Rossi", the project has an initial duration of 4 years.

Scope of the initiative. Local (city, province).

Geographic scope. Vera, province of Santa Fe, Argentina.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 51 to 100.

Action/s involving citizen participation.

- Problem definition.
- Data collection.
- Data analysis.
- Phenomenon monitoring.

Technological device/tool required.

- Cameras and cellphones.

Recruitment methods. By means of educational institutions and the Municipality of Vera, which publish the activities and results of the project through the Communications Office, which reports to the Secretariat of Institutional Relations of Santa Fe, together with the Project's Communications Module.

Replicability. It has not been replicated yet.

Scalability. It began in Colegio Superior 42; currently, representatives from other colleges are participating. In addition, a Focal Point was created (area designated by the highest authority of the Municipality Vera, responsible for the process of incorporating the SDG 2030 Agenda into local management.)

The Focal Point is essential for scalability; some of its functions are (i) to promote the SDG initiative among local executive and legislative offices, and the community; (ii) to contribute to local diagnosis and the localization plan of the ODS; and (iii) to coordinate the localization plan monitoring.



Open access to data. The initiative is open. Records are created and made available for all citizens and publications will be made.

Feedback. In the workshops, the results of the analysis of the data collected (surveys) and the bibliography of the project are shared.

Linkage with state agency/government. The Municipality of Vera and the City Council.

Institutional funds. Currently, there is no financing; the participants of the initiative work ad honorem.

Awards/distinctions. -

Comments. There is great potential for the initiative to be replicated in other cities. Initial results can be observed and measured in the first year, based on the data recorded in the baselines.

Knowledge areas/disciplines (OECD)

SOCIAL SCIENCES / Education Sciences
SOCIAL SCIENCES / Political Science

Leaders.

Alberto Cimadamore, National Scientific and Technical Research Council (CONICET, in Spanish).

Contact information.

Email: alberto.cimadamore@conicet.gov.ar
Web: cs42-sfe.infed.edu.ar/sitio/investigacion-proyecto/





Citizen Collaboration in the Design and Evaluation of Sustainable Urban Drainage (COINCIDE: DPLUS)

Technical and diagnostic assessment on urban floods



Objectives

Overall goal: Conduct assessments on urban floods, by directly engaging the affected community in data collection and in the proposal of joint solutions incorporating their experience and needs.

Specific goals:

- Perform a diagnostic assessment of the environmental issues of urban areas, identifying the different hazards to which the community is exposed depending on its place of residence.
- Work with students at all educational levels and the community in recording and characterizing the rainfall events affecting the community (determine the rainfall level that causes flooding).
- Calculate the amount of stormwater runoff on streets using photographs and videos recorded by the residents previously trained.
- Study the effects of urban floods on the community through systematic questionnaires. In particular, the project is focused on the impacts on health and social well-being.

Description of citizen participation

The community offers valuable insight into the wide basin behavior, which is combined with the technical expertise of the research team to produce a conceptual model of the system operation. Both hydrometeorological (rainfall) and hydrological data (flows draining through the streets) must be recorded for this. In that context, citizens collaborate to define pertinent locations for collecting hydrological data. Different solutions are also proposed in collaboration, working on their sustainability and feasibility, both to be presented to the corresponding governmental institution and to be applied by the community. The research team in charge of the project receives the records created by the community. Reports are created, published, and sent to the community following the record validation. Finally, questionnaires are carried out to evaluate the impact that urban flooding has on the daily life of the community, especially on health and social well-being.

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process.

Participating parties.

- School of Exact, Physical and Natural Sciences (FCEyN), National University of Córdoba (UNC)/National Scientific and Technical Research Council (CONICET) in Argentina, with the support from affiliated institutions.
- Research teams and people who receive scholarships.
- Members of community organizations (neighborhood centers).
- Overall residents.

Status. In progress.

Time frame. 01/08/2019 – N/A

Frequency of project execution. Uninterruptedly.

Participation period. On a sustained basis.

Scope of the initiative. Local (city, province).

Geographic scope. Neighborhoods surrounding the Suquía River in the City of Córdoba, province of Córdoba.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 51 to 100.

Action/s involving citizen participation

- Problem definition
 - Data collection
 - Data analysis
 - Phenomenon monitoring
 - Solution planning
 - Solution deployment
 - Identification of impacts through questionnaires
- Citizens are involved in the entire process.

Technological device/tool required.

- Rain gauge: to measure rainfall occurring in the catchment area
- Mobile phone/camera: to record surface water levels in the streets, as well as to record videos that will later be processed to calculate the stormwater runoff quantity in the streets using the large-scale particle image velocimetry (LSPIV) technique
- Materialized scales in the basin for recording levels
- Questionnaires: printed form with questions

Recruitment methods. Through an approach made by the community (neighborhood association) to the research team. Then, it is consolidated with periodical visits to the area.

Replicability. It is being implemented in other urban areas in the province of Córdoba.

Scalability. A great interaction with residents was accomplished and the ties with the community were strengthened day by day. New proposals have been made by the community to conduct research on sewage effluents or urban waste issues.

Open access to data. Reports are shared with the community after each recorded event. Rainfall data is openly shared by the project. Regarding the video and photographic records, a georeferenced database is being developed with the intention of making it freely accessible through the Internet. Currently, the project's videos and photographs recorded are available on the project's YouTube channel (<https://www.youtube.com/@ProyectoCOINCIDE>). Rainfall data is available to the community at this link (<https://matteo.aprhi.gob.ar/#/arcgis>) along with other rainfall data recorded in the region as part of another citizen science project led by the working group.

Feedback. Following each rainfall event, crowdsourced data are received, and technical reports are made describing the relevant catchment behavior. Periodical meetings are also held (online due to the pandemic) to discuss future advances and ideas.

Linkage with state agency/government.

- National Water Institute
- National Weather Service
- Provincial Administration of Water Resources of the Province of Córdoba

Institutional funds.

- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation
- Funds come from research and outreach projects of the National University of Córdoba (UNC).

Awards/distinctions. Do not know/do not answer

Classification of knowledge areas (OECD).

INGENIERÍAS Y TECNOLOGÍAS / Ingeniería Civil.
INGENIERÍAS Y TECNOLOGÍAS / Ingeniería del Medio Ambiente.

Project leaders.

- Carlos Marcelo García Rodríguez, School of Exact, Physical and Natural Sciences (FCEyN) - UNC, National Scientific and Technical Research Council (CONICET)
- Sebastián López, FCEyN - UNC, CONICET
- José Manuel Díaz Lozada, FCEyN - UNC, CONICET
- Andrés Portigliatti, FCEyN-UNC, CONICET

Contact information.

Emails: slopez@mi.unc.edu.ar; carlos.marcelo.garcia@unc.edu.ar; jmdiazlozada@unc.edu.ar, andres.portigliatti.505@mi.unc.edu.ar





Ciudadanos por el Ambiente Costero (CiuPAC) [Citizens for the Coastal Environment]

Coastal environmental monitoring



Objectives

Overall goal:

- Analyze the environmental dynamics of coasts in the province of Buenos Aires.
- Create a solid database that is sustained over time in which local stakeholders participate and play a major role in different complex issues, such as erosion, sedimentation, storm effects, and landscape changes.

Specific goals:

- Implement an environmental data monitoring system that is continuous and sustained over time throughout the coast of the province of Buenos Aires.
- Analyze the impact of extreme weather events, its year-over-year and seasonal variation and tendency on beaches of the province of Buenos Aires.
- Based on citizen participation, create a database of socio-environmental dynamics in each study town.
- Establish coastal erosion risk levels due to natural and anthropic actions.
- Strengthen the links among research institutions, civil society organizations, and decision-makers.

Description of citizen participation

Citizen participation starts by defining the coastal area to be measured based on the social or environmental issues citizens note or perceive on their own. After the area is defined, participants collect data every month (type of breaker, wave height and period, longshore drift speed and direction, sediment size, and beach profile) using measurement techniques learned in previous training sessions. Finally, the collected data is uploaded to the website, where its interface analyzes it in real time. This data is also sent after a storm and/or extreme temperature event along with photos and/or videos and pre-designed forms regarding the citizens' perceptions of the storm or event's effect on their town.

Participants also have at their disposal and for recording purposes 15 weather stations and 80 rain gauges for the study of urban microclimates. In addition, they can access all these records on the project's website.

The project plans to add CoastSnap record locations and, through participatory workshops, start asking participants about possible solutions for the perceived issues and whether it is attainable to carry out some of them, for example, the decision and implementation of garbage bins.

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process.

Participating parties.

- Department of Geography and Tourism at National University of the South (UNS in Spanish) (Bahía Blanca, Buenos Aires).
- Argentine Institute of Oceanography (IADO in Spanish)/National University of the South (UNS)/National Scientific and Technical Research Council (CONICET in Spanish).
- Asamblea Regional en Defensa del Ambiente Costero (Regional Assembly in Defense of the Coastal Environment) (AREDAC in Spanish).

Status. In progress.

Time frame. 4/11/2021 - 4/11/2025

Frequency of project execution. Uninterruptedly.

Participation period. Sustained over time.

Scope of the initiative. Local (city, province).

Geographic scope. 23 coastal towns of the province of Buenos Aires where AREDAC meetings are held.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 101 to 500.

Action/s involving citizen participation.

- Problem definition
- Data collection
- Phenomenon monitoring
- Solution planning
- Solution deployment

Technological device/tool required.

- Monitoring cameras
- Weather stations
- Rain gauges
- RTK GPS
- Mobile phone (camera and stopwatch)

Recruitment methods. The project has held training sessions and in-person meetings and carried out virtual surveys. In a few months, it plans to begin with the organization of participatory workshops and conferences where citizens can share their experiences.

Replicability. A complementary project was launched to replicate the experience in Australia and Mexico together with the University of Colima.

Scalability. Originally, the project was carried out in 15 towns. As of September 2023, it is present in 23 towns. The addition of more coastal towns to the project is expected.

Open access to data. Data is uploaded to the website <http://ciupac.iado-conicet.gob.ar>

Feedback. Results are posted on the website and the activities are also shared on social media.

Linkage with state agency/government. -

Institutional funds. Investigación, Desarrollo e Innovación en Ciencias del Mar program [Research, Development and Innovation in Ocean Sciences program] from Pampa Azul Initiative.

Awards/distinctions. -

Comments. The creation of this project began in 2021, but the actual launch was on April 11, 2022.

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences
SOCIAL SCIENCES / Economic and Social Geography
SOCIAL SCIENCES / Other Social Sciences

Leaders.

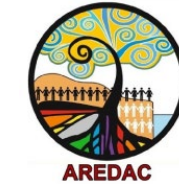
Maria Luján Bustos, Instituto Argentino de Oceanografía (IADO)/Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET)-Universidad Nacional del Sur (UNS).

Contact information.

Email: mlujanbustos@gmail.com

Facebook: [facebook.com/profile.php?id=100081942772176](https://www.facebook.com/profile.php?id=100081942772176)

Instagram: [instagram.com/p.ciupac/](https://www.instagram.com/p.ciupac/)





CoAct. Ciencia Ciudadana para la Justicia Ambiental en la Cuenca Matanza Riachuelo [Science for Environmental Justice in the Matanza Riachuelo Basin]

Environmental justice; sanitation



Objectives

Overall goal

Organize, systematize, and share the knowledge acquired over the years about the basin.

Specific goals

Contribute towards environmental justice, which is defined as the equitable distribution of environmental burdens and benefits by promoting citizen participation in decision-making on environmental issues.

Description of citizen participation

An online platform is developed on the basis of new insights and ideas contributed by the communities living in the Matanza Riachuelo basin and by other stakeholders from the scientific and public policy fields.

Through the development of key definitions, data collection and subsequent analysis by the communities this platform will enable the following:

- Build knowledge to find solutions to these issues.
- Give visibility to their significance for different community groups.
- Facilitate specific actions for transformation.

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process

Participating parties.

- Research Center for Transformation (CENIT, in Spanish) of the National University of San Martín (UNSAM, in Spanish).
- Environment and Natural Resources Foundation (FARN, in Spanish).

Status. In progress.

Time frame. 01/04/2020 - 01/01/2023

Frequency of project execution. Over the 3 years of the project, a digital platform will be co-designed together with the communities to generate citizen data that will function permanently to record the experiences and knowledge of the people on three environmental justice issues. See map.

Participation period. Sustained over time.

Scope of the initiative. Local (city, province).

Geographic scope. Matanza Riachuelo basin Buenos Aires Metropolitan Area (for its national and environmental chapter).

Project development members. Collaboration between members of the academic community, civil society organizations, and communities of the

Number of participants. From 51 to 100.

Action/s involving citizen participation.

- Data collection.
- Data analysis.
- Phenomenon monitoring.
- Design of the citizen science tool.

Technological device/tool required. Electronic devices with Internet connection (mobile or not).

Recruitment methods. Convening through personal contact and through the networks of participating social organizations.

Replicability. The co-designed tool is open source and can be reused for other initiatives.

Scalability. As of July 2022, the use of the tool depends on the social media of those who participated in co-designing. It is expected to be scaled up to other areas of the basin.

Open access to data. The data generated in the platform are open access and available in Zenodo. They can be downloaded in formats that allow their use, modification, and redistribution.

Feedback. At the current stage of development, feedback is provided at each stage of co-design and implementation with its participants.

Linkage with state agency/government.

- Matanza Riachuelo Basin Authority [ACUMAR, in Spanish].
- Provincial and municipal officials.
- Towards the end of the project, a workshop for public policy actors will be organized.



Institutional funds.

- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation
- They have been obtained from Horizon 2020, the European Union's programme that provides monetary support for the development of science, innovation, and technology.

Awards/distinctions. The project has won an international competition within the framework of the European Commission's Horizon 2020 Programme.

Comments. The platform that is co-designed under this project (CoAct) is a re-launch of the platform ¿Qué Pasa, Riachuelo? [What's up, Riachuelo?] (QPR, in Spanish); this project is also part of the mapping and co-designed with a social citizen science approach.

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences
SOCIAL SCIENCES / Sociology
SOCIAL SCIENCES / Law
SOCIAL SCIENCES / Political Science

Leaders.

- Valeria Arza, Research Center for Transformation (CENIT)/National University of San Martín (UNSAM)
- Guillermina Actis, CENIT/UNSAM
- Leticia Castro, CENIT/UNSAM
- Santiago Cane, Environment and Natural Resources Foundation (FARN)
- Pía Marchegiani, FARN
- Andrés Nápoli, FARN

Contact information.

Email: varza@unsam.edu.ar; gactis@unsam.edu.ar; lcastromartinez@unsam.edu.ar; scane@farn.org.ar; pmarchegiani@farn.org.ar; anapoli@farn.org.ar
Web: farn.org.ar/coact-justicia-ambiental/





Colisiones viales en Chacabuco [Road Collisions in Chacabuco]

Road accidents

[EiCh]
Equipo de Investigación Chacabuco



Objectives

Overall goal

Survey the number and type of road accidents that occurred in the city of Chacabuco, Buenos Aires, Argentina, between 2006 and 2011.

Specific goals

Evaluate the effects of Chacabuco's traffic layout design on the road accidents surveyed and develop proposals for improvement.

Description of citizen participation

Participants -professionals from different disciplines and areas- collected local documentary sources, specifically from the ViveChacabuco website, where detailed information on the different road accidents was provided daily. In addition, the project's leader developed and conducted interviews to local stakeholders to better understand the problem.

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process.

Participating parties.

Chacabuco Research Team, Vivechacabuco.

Status. Finished.

Time frame. 04/14/2007- 12/31/2016.

Frequency of project execution. Uninterruptedly while the project was in progress.

Participation period. Sustained over time during the specified period but with participation at specific times on a case-by-case basis.

Scope of the initiative. Local (city, province).

Geographic scope. Chacabuco, Buenos Aires, Argentina.

Project development members. Entirely developed by participants without formal scientific training.

Number of participants. From 101 to 500.

Action/s involving citizen participation.

- Problem definition.
- Data collection.
- Data analysis.
- Solution planning.

Technological device/tool required.

- Computers.

Recruitment methods. The initial recruitment of students and regular recruitment concerning a variety of topics (traffic, suicides, parks, etc.) were made through local print newspapers (Chacabuco and De Hoy) and the city's emerging electronic media (Vivechacabuco, El Chacabuquero, Chacabuco website, among others).

Replicability. Collection experiences were replicated in the same town.

Scalability. -

Open access to data. The findings and proposals are available to the public on the project's blog and were published in the following magazines and digital media: CAPBA 22 Magazine (Association of Architects of the Province of Buenos Aires), Vial Magazine and Plataforma Urbana website.

Feedback. Findings were published on the project's blog and in journals and digital media as the research progressed.

Linkage with state agency/government. Findings and proposals were submitted to the National Road Safety Agency in 2015 and 2016 (File: 85.992/16).

Institutional funds. Project's own funding sources.

Awards/distinctions. -

Comments. -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Mathematics
NATURAL AND EXACT SCIENCES / Other Natural and Exact Sciences

Leaders.

Sebastián Inacio, Chacabuco Research Team.

Contact information.

Email: sebastian_inacio@yahoo.com

Web: equipodeinvestigacion.blogspot.com/





Composting: Organics

Home and community composting in the City of Buenos Aires



Credit: Eduardo Paoloni.

Objectives

Overall goal:

- Collaboratively develop tools to make the process of composting easier for citizens.

Specific goals:

- Characterize the profile of the participants who decide to compost their organic waste, and how they carry out this process, and the profile of those who choose not to compost or have impediments to compost.
- Learn about the quality of the product composters consider their final product (compost) and, based on this, verify what the uses of this product are.

Description of citizen participation

Citizens answer a survey regarding the compost they produce, and then they are asked to bring samples of their finished compost for laboratory analysis. When the analyses are finished, they are invited to explain the findings, discuss them, and come up with solutions if there are any issues with the final product quality. This provides a foundation for sharing answers to common issues experienced by various urban composters.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- School of Agricultural Studies at the University of Buenos Aires (FAUBA in Spanish), through members of the Citizen lab (teachers and students who have already graduated from FAUBA, and current students from that University).
- Neighbors from the Autonomous City of Buenos Aires.

Status. In progress.

Time frame. 08/01/2021 - N/A.

Frequency of project execution. According to the demands or approaches to the community/communities.

Participation period. Composting is a process that takes about 6 months. Proposals and data analysis are performed in 1-2 days (2 hours).

Scope of the initiative. Local (city, province).

Geographic scope. The Autonomous City of Buenos Aires.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training

Number of participants. From 1 to 50.

Action/s involving citizen participation.

- Data collection
- Data analysis
- Phenomenon monitoring
- Solution planning
- Solution deployment

Technological device/tool required.

- Composter bin or a place suitable for composting.

Recruitment methods. Promotion is done through social media. Recruitment is done first through surveys. A request is then issued to a smaller group of volunteers who exhibit specific traits (for instance, in accordance with the composting process issue they identified as the main problem) to provide a sample of their compost. Due to budget-related constraints, not all of the survey participants—there are currently more than 160—can analyze the compost they create. Those who send their sample will be contacted by email. If they do not reply or do not wish to participate, another volunteer will be contacted.

Replicability. -

Scalability. -

Open access to data. The survey's most interesting data is posted on labciudadano.net.

Feedback. -

Linkage with state agency/government. -

Institutional funds.

- School of Agricultural Studies at the University of Buenos Aires (UBA).
- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions. -

Comments.

- The project began in August 2021 with the promotion of surveys. In July 2022, contacts to donate a sample of the compost started.
- Participants have not yet received feedback because they are responding to two ongoing theses, but data will be available afterwards.

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences
AGRICULTURAL SCIENCES / Agriculture, Forestry and Fisheries

Leaders.

- Verónica Pierini, School of Agricultural Studies/University of Buenos Aires (UBA)
- María Semmartin, School of Agricultural Studies/UBA

Contact information.

Email: pierini@agro.uba.ar ; semmarti@agro.uba.ar
Web: www.labciudadano.net/composta-organicos/





Conservar Tiburones en Argentina [Shark Conservation in Argentina]

Management and conservation of coastal shark populations



Objectives

Promote recreational fishing with catch and release of coastal sharks, including conventional tagging.

Description of citizen participation

This Program involves anglers and local fishing communities that take part in scientific research by tagging sharks with the aim to collect key information for their conservation. Tagging consists in placing a yellow dart tag containing the data required for identification below the shark's dorsal fin. This information allows researchers to determine the migration patterns, days of release, body size growth, post-release survival, and tagging site fidelity of recaptured sharks, among other data. It also enables the identification of significant areas, the number of female sharks and of specimens close to parturition, and their conservation category according to the International Union for Conservation of Nature (IUCN), among other aspects.

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

- National University of La Plata (UNLP, in Spanish)
- Wildlife Conservation Society Argentina (WCS)
- Anglers
- Shore/boat fishing guides
- Angling clubs

Status. In progress.

Time frame. 1/10/2010 - N/A

Frequency of project execution. Uninterruptedly.

Participation period. On a sustained basis.

Scope of the initiative. Argentina (two or more provinces).

Geographic scope. Argentina.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 101 to 500.

Action/s involving citizen participation

- Data collection.
- Solution design.
- Solution implementation.
- Other/s: Dissemination, awareness raising, incentivization, and motivation of anglers so they become involved and take part in the initiative.

Technological device/tool required.

- Tags: to identify each shark
- Applicator: to place tags
- Photographic camera or cell phone: to take a photograph of the tagged individual
- Centimeter: to measure the tagged individual
- Circle hooks: to facilitate release without injuring the specimens caught

Recruitment methods. Through social media and communications within the fishing community.

Replicability. An initiative was carried out by some colleagues from the province of Chubut involving an angler in San Antonio Este, province of Río Negro, in the summer of 2021. The angler was spotted tagging and releasing the sharks captured.

Scalability. More participants are joining the initiative every year, on average 8 persons per year. It has been proven that the number of sharks tagged increases as the number of citizens involved rises.

Open access to data. Only partial and brief data are available.

Feedback. The information on tagged individuals, recaptured specimens, and project findings is shared through social media.

Linkage with state agency/government.

- Argentine Museum of Natural Sciences (MACN, in Spanish) – National Scientific and Technical Research Council (CONICET, in Spanish).
- Natural Protected Areas System of the province of Santa Cruz.
- Office of the Superintendent of Marino Makenke Interjurisdictional Park (National Parks Administration).
- Secretariat of Fisheries and Aquaculture of the province of Santa Cruz, Argentine Ministry of Environment.
- National Ministry of the Environment.

Institutional funds. Project's own funding sources. Financing granted as a result of international cooperation.

Awards/distinctions. –

Comments.

- During project execution, 150 anglers from four provinces (Buenos Aires, Río Negro, Chubut, and Santa Cruz) were trained and equipped with tagging instruments (dart tags, applicators and circle hooks). Until today, anglers have tagged 868 sharks of different species, mainly: bronze whalers, tope sharks, broadnose sevengill sharks, sand tiger sharks, angular angel sharks, spiny dogfish, and hammerheads.
- This program is a relaunch of Dr. Gustavo E. Chiaramonte 2008 and 2013 project, "Assessment and Conservation of a Nursery Ground for Threatened Sharks in Argentina."

Classification of knowledge areas (OECD).

NATURAL SCIENCES / Earth and related Environmental sciences

NATURAL SCIENCES / Biological sciences

SOCIAL SCIENCES / Educational sciences

Project leaders.

Juan Martín Cuevas, Conservation Society Argentina (WCS) and National University of La Plata (UNLP, in Spanish).

Contact information.

Email: cuevasjuanmartin@gmail.com; conservartiburonesargentina@gmail.com

Facebook: facebook.com/conservartiburonesarg

Instagram: instagram.com/conservar_tiburones_arg





Cosecheros de granizo Córdoba [Hailstone Collectors from Córdoba, Argentina]

Hailstorm record and collection of hailstones; environmental monitoring



Universidad Nacional de Córdoba



Facultad de Matemática, Astronomía, Física y Computación

Ministerio de CIENCIA Y TECNOLOGÍA



Objectives

Overall goal

Record hailstorms, collect hailstones and produce severe hailstorm data for forecasting programs.

Specific goals

- To disseminate scientific information about severe storms in the region and the importance of scientific collaboration of citizens in the study of the phenomenon.
- In the app 'Cosecheros de Granizos Córdoba' (Hailstone Collectors from Córdoba, Argentina) citizens register the geolocation and time of hailstorms as accurately as possible. They can attach photographs and/or save hailstone samples at home, which will later be collected in an annual hailstone collection campaign. Hailstones should be stored in the freezer inside closed plastic bags with as little air as possible, at a temperature of -13 °C or lower.
- Open data: For the general public. (Please, request data from granizoscba@gmail.com).

Description of citizen participation

In the app "Cosecheros de Granizos Córdoba" (Hailstone Collectors from Córdoba, Argentina) citizens register the geolocation and time of hailstorms as accurately as possible. They may attach photographs and/or save hailstone samples at home, which will later be collected in an annual hail collection campaign.

Hailstones should be stored in the freezer in closed plastic bags with as little air as possible, at a temperature of -13°C or lower.

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

- Researchers from the Atmospheric Physics Group, School of Mathematics, Astronomy, Physics and Computer Studies, National University of Córdoba (FAMAF-UNC, by its initials in Spanish).
- Ministry of Science and Technology (MINCYT, by its initials in Spanish), Province of Córdoba.
- Volunteers and students of all educational levels.

Status. Finished.

Time frame. 10/1/2018-31/ 3/ 2021

Frequency of project execution. Uninterruptedly.

Participation period. Only a few minutes of dedication after each hailstorm.

Scope of the initiative. Local (city, province).

Geographic scope. Córdoba.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 101 to 500.

Action/s involving citizen participation.

- Data collection.
- Phenomenon monitoring.
- Others: analysis of the app's design and operation; dissemination of the hailstorm issue.

Technological device/tool required.

- Mobile phone to take pictures.
- Hail ruler to take pictures of hailstones or a yardstick (ruler, credit card, etc.) for measuring reference. Behind the hail ruler, there are explanations on how to store hailstones at home.

Recruitment methods. Through talks in schools and non-governmental entities in 2018-2019.

Replicability. Don't know/No answer.

Scalability. Cosecheros de Eventos Meteorológicos Extremos (Extreme Weather Event Collectors) app (hail, frost, agrochemical drift, crop status, etc.). Cosecheros de Eventos Meteorológicos is a new program soon to be shared which includes Cosecheros de Granizo Córdoba. The video <https://youtu.be/ywI0IZfRUvc> can help understand the scope of this new program which, in addition to including new events, has immediate user feedback tools such as an event map and forecast information.

Open access to data. For the general public. (Please request data from granizoscba@gmail.com).



Feedback. Non-research scientific users have not explicitly requested information; however, all data are available.

Linkage with state agency/government. Joint work was carried out between FAMAF -UNC and MINCYT in 2018-2019 and between FAMAF-UNC and the Hydro-Meteorological Observatory of Córdoba (OHMC, by its initials in Spanish) in 2020-2021.

Institutional funds. Ministry of Science and Technology of the province of Córdoba to disseminate the program, promote it in schools in the province of Córdoba and prepare the hail rulers.

Awards/distinctions. -

Comments. -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences
ENGINEERING AND TECHNOLOGY / Environment Engineering
AGRICULTURAL SCIENCES / Other Agricultural Sciences

Leaders.

Lucía Elizabeth Arena, Atmospheric Physics Group, School of Mathematics, Astronomy, Physics and Computer Studies (FAMAF) / National University of Córdoba (UNC) and the Hydro-Meteorological Observatory of Córdoba (OHMC).

Contact information.

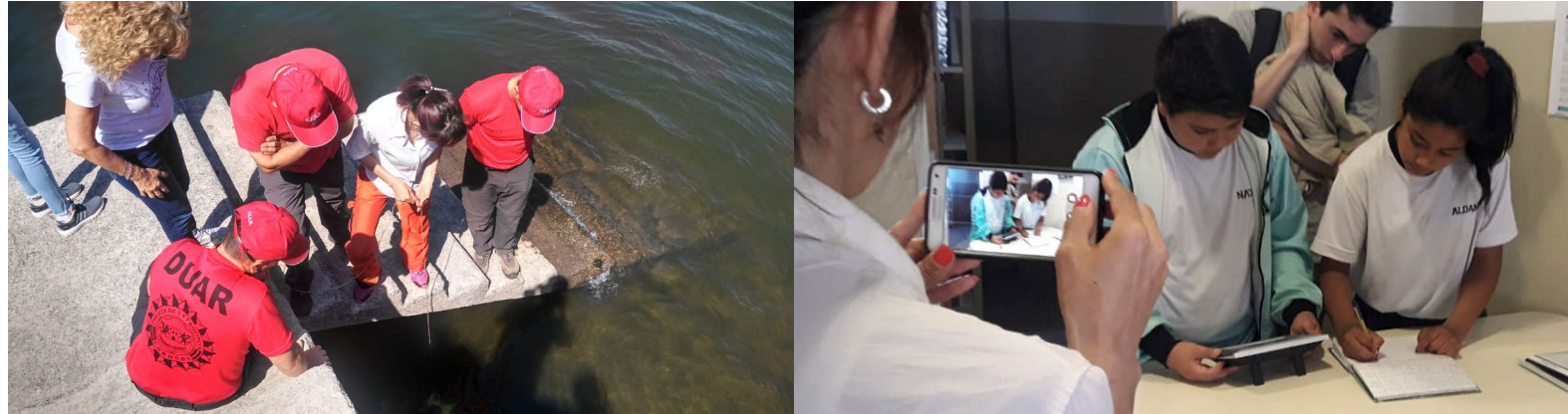
Email: lucia.arena@unc.edu.ar





Cyano

Cyanobacteria and water bodies eutrophication



Objectives

Overall goal: Address surface waterbodies eutrophication in relation to their catchment, different water uses and the Cianosemáforo (Cyanosignal), as a tool for preventing risks in recreational waters

Specific goals:

- Systematize and share the knowledge gathered from applied research during the monitoring of water quality.
- Raise awareness in society on the impact of the issue of eutrophication, cyanobacteria and their consequences on health.
- Promote visual monitoring of waterbodies through citizen participation.
- Establish partnerships and create contact networks among stakeholders.

Description of citizen participation

The Cianosemáforo is the sharpest instrument for risk prevention at the reservoirs of the province. It was created by the Ministry of Health of Argentina and adapted for the visual identification of four water status levels, depending on the amount of cyanobacteria present.

Citizen participation includes workshops, visual monitoring, data interpretation and communication. The Spanish acronym stands for the following:

- **Control:** Monitoring of cyanobacteria and other ELM water quality aspects, with systematized measures and adequate space-time resolution.
- **Y (and):** The nexus involving citizens, research teaching staff, and students of FCEfYn-UNC.
- **Alerta (alert):** After processing field data, supplemented with lab data, the risk levels associated to cyanobacteria exposure are informed to schools, decision-makers, and society.
- **Niveles (levels):** A risk level is assigned, and recommendations are made for different water uses.
- **Observados (observed):** Personnel from the Search and Rescue Group of Calamuchita and citizens perform visual monitoring at ELM.

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process.

Participating parties.

- Members from the School of Exact, Physical and Natural Sciences (FCEfYn).
- National University of Córdoba (UNC).
- Alfonsina Storni Rural School in Potrero de Garay.
- Juan Ingeniero Maggi Rural School in Villa Ciudad Parque.
- Dr. Ricardo Lutti Elementary School in Villa Ciudad Parque.
- Gustavo Riemann Provincial Institute of Technical Education No. 76 in Villa Rumipal.
- Special Rescue Group (GERS) of Calamuchita.
- Municipality of Villa Ciudad Parque.
- Technical staff from the Provincial Administration of Water Resources (APRHI).

Status. In progress.

Time frame. 12/05/2018 – N/A

Frequency of project execution. Uninterruptedly.

Participation period. On a sustained basis.

Scope of the initiative. Local (city, province).

Geographic scope. Reservoirs in the province of Córdoba.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 101 to 500.

Action/s involving citizen participation

- Problem identification.
 - Data collection.
 - Data analysis.
 - Phenomenon monitoring.
 - Solution design.
 - Solution implementation.
- La ciudadanía participa en todo el proceso.

Technological device/tool required.

- Cell phone: to take photographs.
- Survey form for visual monitoring and citizen participation.

Recruitment methods. Through social media and visits to communities.

Replicability. The project is being replicated in Ingeniero Maggi and Dr. Ricardo Lutti elementary schools. During 2022, it is intended to replicate the project in secondary schools IPEM 385 Los Reartes and IPEM 385 Valle de Los Reartes, Anexo Villa Ciudad Parque.

Scalability. During 2022, the project is expected to upscale at a regional level, incorporating other waterbodies in the province of Buenos Aires and El Chocón.

Open access to data. Processed data, photographs and relevant information are shared through social media. Also, publications have been made on specialized magazines and events have been held for scientific information dissemination and diffusion.

Feedback. Citizens receive their feedback by phone or via messages in connection with data collection and sampling (if necessary). They are also informed of the status of the Cianosemáforo and given appropriate recommendations.



Linkage with state agency/government. Actions are coordinated with the following provincial institutions: Maritime Security Force, Fire Department, APRHI

Institutional funds.

- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation
- In 2019, funds have been obtained from funding granted by FCEfYn-UNC to Social Student Involvement projects. In addition, there is support from the Provincial Administration of Water Resources (APRHI in Spanish).

Awards/distinctions. The CYANO project was chosen at the Conference on Comprehensive Management of Eutrophication and Cyanobacteria in Reservoirs (Jornada de gestión integral de Eutrofización y Cianobacterias en Embalse, JECE 2019) to publish the research presented in the INNOTEC Magazine of LATU (Technological Laboratory of Uruguay).

In 2021 it was chosen, together with two other projects, as the winner of the 15th edition of the La Nación Foundation Award for Education, which acknowledges innovative projects that aim at pedagogical continuity and educational quality in the context of a pandemic.

Knowledge areas/disciplines (OECD)

NATURAL SCIENCES / Earth and related Environmental sciences
ENGINEERING AND TECHNOLOGY / Environmental engineering
SOCIAL SCIENCES / Educational sciences

Project leaders.

Raquel Bazán, School of Exact, Physical and Natural Sciences (FCEfYn)/National University of Córdoba (UNC).

Contact information.

Email: raquel.bazan@unc.edu.ar; proyecto.cyano.cba@gmail.com
 Web: proyectocyanocba.wixsite.com/sitio
 Facebook: facebook.com/Proyecto-CYANO-319140755425912
 Instagram: instagram.com/proyecto_cyano

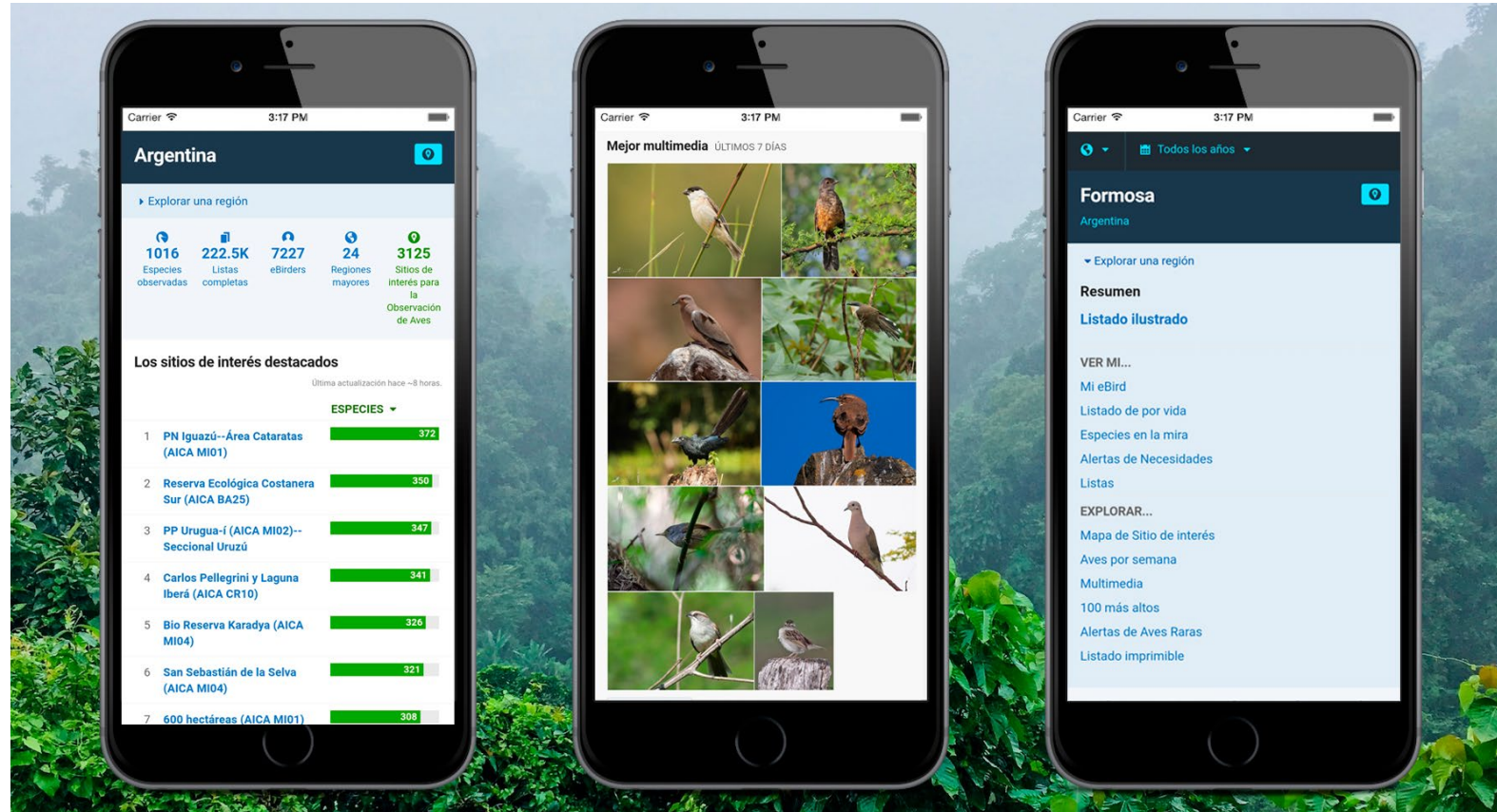




eBird Argentina

Monitoring bird biodiversity and population trends

eBird
Argentina



Objectives

- Collect real-time bird sightings, photographs and sounds to be used in scientific studies.
- Contribute towards knowledge of distribution and abundance of different species and facilitate their care and conservation.

Description of citizen participation

It works as a reference database to quickly view how birds are distributed and in which seasons they may be found in Argentina, learn about their abundance, see photographs and listen to their sounds. It is the most complete database on bird distribution records of Argentina.

Bird sightings may be entered by any person on the website and/or app. The database harnesses the power of citizen sighting and photography, and each potential birdwatcher is encouraged to collect information on the presence or absence of species and their abundances (number of individuals identified in each sighting).

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

Locally managed by *Aves Argentinas* (Argentine Birding Association), in association with The Cornell Lab of Ornithology. The following institutions collaborated with and supported this project:

- Ministry of Science, Technology and Innovation (MINCYT, in Spanish)
- National System of Biological Data (SNDB, in Spanish)
- A network of 80 Birding Clubs (COA, in Spanish)

Status. In progress.

Time frame. 2013 – N/A

Frequency of project execution. Uninterruptedly.

Participation period. On a sustained basis. To date (2021), the database contains at least 133,000 hours of citizen sampling, and covers a minimum distance of 200,000 kilometers.

Scope of the initiative. Argentina (two or more provinces).

Geographic scope. Argentina.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. Over 1001.

Action/s involving citizen participation Data collection.

Technological device/tool required.

- Binoculars.
- Photographic camera, cell phone or voice recorder.

Recruitment methods. Through social media, the website, courses and congresses.

Replicability. -

Scalability. It has experienced sustained growth since its inception.

Open access to data. Data may be freely accessed and are shared with the Global Biodiversity Information Facility (GBIF). There are no download restrictions, except for sensitive or critically endangered species, in which case information on data use and the requesting project must be provided (to guarantee proper and safe use of data on these species).

Feedback. The platform works as a repository for users' bird sightings, photographs and sound recordings. The information collected by participants may also be browsed using the web interface and the eBird Mobile app. This encompasses different data visualization tools, such as: a multimedia browser, a record browser, species range maps, checklists containing target species or species of interest for a certain region, checklists of regional species, birder rankings, etc. It also features a personal profile summarizing all data entered by the user, with an interactive visualization of their map of participation.

Linkage with state agency/government. It has been launched in collaboration with MINCYT.

Institutional funds. Funding requested by Aves Argentinas to MINCYT for the localization and launch of the web portal.

Awards/distinctions. -

Comments. This is an online platform that was developed in the United States in 2002 by The Cornell Lab of Ornithology, which then expanded its scope to include local partners in different countries. In Argentina, eBird was launched in 2013 by *Aves Argentinas* at the XV *Reunión Argentina de Ornitología* (Ornithology Meeting in Argentina, 15th edition) (RAO, in Spanish).

Knowledge areas/disciplines (OECD)
NATURAL SCIENCES / Biological sciences

Project leaders.

Fabrizio Gorleri, eBird Argentina.

Contact information.

Email: ebird@avesargentinas.org.ar

Email: fabriziogorleri@gmail.com

Web: www.ebird.org/argentina

Facebook: facebook.com/ebirdargentina

Instagram: instagram.com/ebird.org

Twitter: twitter.com/ebirdarg

YouTube: youtube.com/c/eBirdArgentina





ECOFAM - Equipo Costero de Observadores de Fauna y Ambiente [Coastal Team of Marine Fauna and Environment Observers]

Marine fauna monitoring



Objectives

Overall goal

Build quality scientific knowledge on Argentina's coastal zone environmental health by collecting data using marine species as indicators.

Specific goals

- Train volunteers to identify turtles, birds, and marine mammals.
- Count, identify and record dead individuals on the beach, belonging to the aforementioned groups of marine fauna.
- Provide information to the local population on the characteristics, life history and conservation status of the species recorded.
- Use technology as an educational, communicational, and analytical tool.
- Evaluate the abundance and diversity of carcasses.
- Gather baseline information to detect space-time patterns over time and identify unusual mortality events.
- Produce scientific information available to the community.

Description of citizen participation

Citizens voluntarily participate in the project by periodically visiting the beach. During field trips, they count and identify turtle, bird, and marine mammal carcasses they find on the beach. In addition, they take photographs of the carcass and place a biodegradable mark to avoid double counting. Finally, they record their observations on the ArgentiNat platform (iNaturalist Argentina).

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

- Aves Argentinas
- Hydrobiological Station, Quequén Port
- "Bernardino Rivadavia" Argentine Museum of Natural Sciences.

Status. In progress.

Time frame. 02/03/2020 - N/A

Frequency of project execution. Uninterruptedly.

Participation period. Volunteers spend a minimum of 4 hours per month, and ideally, they should be available for about 8 hours per month.

Scope of the initiative. Local (city, province).

Geographic scope. Province of Buenos Aires. Volunteer nodes in Mar del Plata/Miramar, Necochea/Quequén, Claromec, Nueva Atlantis and Punta Lara.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training

Number of participants. From 51 to 100.

Action/s involving citizen participation.

- Data collection.
- Phenomenon monitoring.

Technological device/tool required.

- Mobile phone to record observations on the ArgentiNat platform. During fieldwork, no Internet connection is required as the records are automatically uploaded when connected.

Recruitment methods. Through social media, press campaigns, during open talks held with the target audience, etcetera.

Replicability. A project that took place a few years ago in the area of Villa Gesell including several elements that resemble ECOFAM. This was after the first stage of the program (2007-2009).

Scalability. In these two years of work, the number of active volunteers has increased and new towns where the project is being carried out have joined.

Open access to data. Records are available at ArgentiNat. Main findings through social media and publications.

Feedback. Periodically, feedback is provided to citizens on the progress of the program, results, and new developments.

Linkage with state agency/government. Municipality of Necochea, Municipality of Tres Arroyos, Municipal Delegation of Claromec.

Institutional funds. National Geographic Society for conservation projects



Awards/distinctions.

Comments. The first stage of ECOFAM took place between 2007 and 2009 as a result of the concern of local residents from Necochea and Quequén, who were worried about a large number of dead Magellanic penguins on the beach. The area covered by the volunteers included the coastal area between Miramar and Reta beach resort. During that period, 30 volunteers obtained almost 700 records corresponding to 28 species of turtles, birds, and marine mammals.

https://www.conservationleadershipprogramme.org/media/2014/11/020407F_Argentina_FinalReport_Project-Seabirds.pdf

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences
NATURAL AND EXACT SCIENCES / Biology

Leaders.

- Leandro L. Tamini, Aves Argentinas.
- Gustavo E. Chiaramonte, Hydrobiological Station, Quequén Port and "Bernardino Rivadavia" Argentine Museum of Natural Sciences.
- Leandro L. Tamini, Aves Argentinas.

Contact information.

Email: ecofam@avesargentinas.org.ar; tamini@avesargentinas.org.ar; gchiaram@retina.ar; dellacasa@avesargentinas.org.ar
Web: www.avesargentinas.org.ar/ecofam
Facebook: [facebook.com/avesargentinasAOP/](https://www.facebook.com/avesargentinasAOP/)
Twitter: twitter.com/AvesArgentinas
Instagram: [instagram.com/avesargentinas/](https://www.instagram.com/avesargentinas/)
YouTube: [youtube.com/user/AvesArgentinasAOP](https://www.youtube.com/user/AvesArgentinasAOP)
Facebook Estación Hidrobiológica de Puerto Quequén: [facebook.com/Estacion-Hidrobiologica-de-Puerto-Quequen-1678927482344758/](https://www.facebook.com/Estacion-Hidrobiologica-de-Puerto-Quequen-1678927482344758/)





EcoRegistros

Geographic record of living organisms



Objectives

Overall goals:

- Identify species.
- Create species datasheets.
- Disseminate the findings of scientific research.
- Perform a leisure activity.

Specific goals:

- Mapping and determining the geographic distribution of different species on the basis of the data recorded by the community, considering three options:
 - All records, including those which are not supported by evidence. This implies that more data will be displayed on datasheets and maps. This is very useful for easily identified species.
 - Only records supported by evidence. This means that datasheets and maps will contain more reliable data, which may be easily validated. This is very useful for species which are harder to identify.
 - Only such records containing reproduction information. This requires knowledge on species reproduction, and all geographic data which are not relevant to this topic will be discarded.
- Generate lists of species for each country, province and district.
- Record nature-related events.
- Generate personal statistics for each user regarding the species recorded, the number of records entered, and the areas visited.

Description of citizen participation

Citizens take part in recording species by providing accurate coordinates and dates, photographs, video or audio recordings.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- Naturalists
- Biologists
- Nature photographers
- Persons interested in recording data on living organisms

Status. In progress.

Time frame 07/02/2011 – N/A

Frequency of project execution. Uninterruptedly.

Participation period. On a sustained basis.

Scope of the initiative. International (two or more countries).

Geographic scope. Argentina and other countries.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. Over 1001.

Action/s involving citizen participation

- Data collection.
- Data analysis.

Technological device/tool required.

- Cell phone
- Photographic camera
- Binoculars
- Telescope
- Audio recorder
- Video camera
- Laptop

Recruitment methods. Through social media dissemination campaigns.

Replicability. -

Scalability. The project originated in Argentina but has a global reach.

Open access to data. Professionals usually request species datasets for their research. The articles published on *EcoRegistros Revista* are shared, and they are cited in other publications. All records, maps and lists posted on the website are available for use under the relevant terms and conditions.

Feedback. Project findings are published on the magazine, the monthly newsletter, and social media. Alerts are also sent with news on the geographic location of relevant species.

Linkage with state agency/government. -

Institutional funds. Project's own funding sources.

Awards/distinctions. -

Classification of knowledge areas (OECD).
NATURAL SCIENCES / Earth and related Environmental sciences
NATURAL SCIENCES / Biological sciences

Project leaders.

Jorge La Grotteria.

Contact information.

Email: jorgelg21@hotmail.com

Web: www.ecoregistros.org

Facebook: facebook.com/EcoRegistros

Instagram: instagram.com/ecoregistros





El desafío del agua [The Challenge of Water]

Water quality monitoring



Objectives

Overall goal:

- Promote the knowledge of variables for water quality monitoring.
- Raise awareness on the importance of protecting this resource.

Specific goals:

- Learn about the water quality of bodies of water (sea and lakes) in the area of San Jorge Gulf in the province of Chubut.

Description of citizen participation

Young people from 12 to 21 years old participated in the project for 3 days.

- On the first day, they participated in online training sessions on the use of equipment and supplies provided by the project.
- On the second day, an in-person meeting was held, where material for measuring physicochemical water variables was given.
- On the last day, participants reflected in person about the collected results, the environmental issues impacting bodies of water, and the possibility to generate alternatives for improvement in water management.

Afterward, in a self-managed manner and together with a youth leader of the foundation, each participant uploaded the data to a section of the EarthEcho International's website, where there are more than 1.5 million records from all over the world, to share with the whole community.

Moreover, participants collaborated later with data analysis, phenomenon monitoring, and solution planning in meetings with activity coordinators of the organization EarthEcho International and the Coastal Development Institute Dr. Héctor Zaixso (National University of Patagonia San Juan Bosco [UNPSJB]).

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.



Participating parties.

- Organization EarthEcho International
- Coastal Development Institute Dr. Héctor Zaixso /National University of Patagonia San Juan Bosco (UNPSJB)
- Sean Russel, Project Director, EarthEcho International
- Javier Tolosano, Local Coordinator, Coastal Development Institute Dr. Héctor Zaixso/UNPSJB
- Damian Gaspar Gil, Local Co-coordinator Participant, Coastal Development Institute Dr. Héctor Zaixso/UNPSJB
- Romina Verga, Local Participant, Coastal Development Institute Héctor Zaixso/UNPSJB
- Paula Stoyanoff, Local Participant, Coastal Development Institute Héctor Zaixso/UNPSJB

Status. Finished.

Time frame. 10/01/2020 - 09/04/2021.

Frequency of project execution. According to the demands or approaches to the community/communities.

Participation period. 3 days per group.

Scope of the initiative. Local (city, province).

Geographic scope. Comodoro Rivadavia, Sarmiento, Rada Tilly, and Caleta Olivia.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 51 to 100.

Action/s involving citizen participation.

- Data collection
- Data analysis
- Phenomenon monitoring
- Solution planning

Technological device/tool required.

- Tablet reagents to determine physicochemical parameters of water such as dissolved oxygen and turbidity, pH test strips, a test tube, and a Secchi disk to measure water transparency.

Recruitment methods. Through social media and local media.

Replicability. In two groups of around 40 young people.

Scalability. In other projects of scientific dissemination such as La Playa de tu barrio [Your neighborhood's beach], which is currently being developed in the city of Comodoro Rivadavia and has been thoroughly approved by the public.

Open access to data. Data is uploaded to the platform and is shared with the whole community. The administrators of the EarthEcho International's website check this information.

Feedback. Through social media and the organization's website.

Linkage with state agency/government. Municipality of Comodoro Rivadavia.

Institutional funds. EarthEcho International. National University of Patagonia San Juan Bosco.

Awards/distinctions. -

Comments. This initiative is a focal point for the international organization EarthEcho International, in which the Coastal Development Institute provides its professionals, logistics, and dissemination to carry it out.

Knowledge areas/disciplines (OECD)

Natural and Exact Sciences / Earth and Environmental Sciences

Leaders.

Javier Tolosano, Coastal Development Institute Dr. Héctor Zaixso /National University of Patagonia San Juan Bosco.

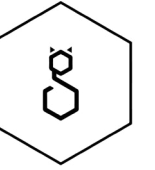
Contact information.

Email: javiertolosano@gmail.com ; srussell@earthecho.org
 Web: www.earthecho.org ; www.unp.edu.ar/idc/
 Instagram: [instagram.com/earthecho](https://www.instagram.com/earthecho) ; [instagram.com/institutodedesarrollocostero/](https://www.instagram.com/institutodedesarrollocostero/)
 Facebook: [facebook.com/earthecho](https://www.facebook.com/earthecho) ; [facebook.com/institutodesarrollocostero/](https://www.facebook.com/institutodesarrollocostero/)
 Twitter: twitter.com/earthecho
 YouTube: youtube.com/c/EarthEcho





El Gato y la Caja [The Cat and the Box]



Objectives

Overall goal

- Build collective knowledge about consciousness based on the digital dynamics of users who participate in various interactive experiences and experiments.

Specific goals

- Study the possibilities offered by digital experimental dynamics when combined with online communities.

Description of citizen participation

Users participate in various interactive experiences and experiments from which large volumes of data are collected. This data is analyzed, and its results are published in both academic articles and research journals, specially designed to reach non-specialist audiences, thus those who participated can connect with the knowledge generated from that participation. People can also share some of the results among their contacts to promote the experiments and stimulate participation.

Type of citizen science project

Contributory project: It is designed by members of the scientific community, and citizens participate in data collection.

Participating parties.

- El Gato y la Caja (scientific dissemination project)
- Consciousness, Culture and Complexity Lab/School of Exact and Natural Sciences/University of Buenos Aires (UBA)

Status. In progress.

Time frame. September 2015 - N/A.

Frequency of project execution. According to the demands or approaches to the community/communities.

Participation period. Sustained over time, with set periods of data collection.

Scope of the initiative. International (two or more countries).

Geographic scope. The experiments are designed on the Internet; they can be accessed from anywhere in the world. Argentina accounts for about 80% of the participation.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 1001 onwards.

Action/s involving citizen participation

- Data collection

Technological device/tool required.

- Mobile phone with Internet connection

Recruitment methods. Through the set of communication tools (social media, newsletters, and a website) to connect with the Gato Community, the main participant of these initiatives.

Replicability. Many of the experiments have been replicated in various territories. The code is published to help other teams replicate the experiments.

Scalability. The resources available in digital environments contribute to generating easily scalable designs, such as experiments of more than 160,000 unique participants.

Open access to data. The complete databases are published together with scientific publications in journals of international visibility.

Feedback. Public communication materials about science.

Linkage with state agency/government. -

Institutional funds.

- They have been obtained from the project's own funding sources Freie Universität Berlin
- National Agency for the Promotion of Scientific Research, Technological Development and Innovation (Agencia I+D+i, in Spanish)

Awards/distinctions. -

Comments. -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Information and Computer Sciences

NATURAL AND EXACT SCIENCES / Other Natural and Exact Sciences
HEALTH AND MEDICAL SCIENCES / Health Sciences

Leaders.

- Pablo González, El Gato y La Caja
- Laura González, El Gato y La Caja

Contact information.

Email: pablo@elgatoylajaja.com; laura@elgatoylajaja.com
Website: <https://elgatoylajaja.com/investigacion>





El Veril del Banco de Afuera [Outer Bank Reef]

Integrated monitoring for the evaluation of any potential changes related to ocean acidification in the coastal area of Mar del Plata



Objectives

Assess ocean acidification in the coastal area of Mar del Plata.

Description of citizen participation

The idea behind “El Veril” lies in the collaboration between INIDEP and CASE diving club in collecting information on the marine environment in order to coordinate an integrated monitoring effort towards the evaluation of possible changes linked to ocean acidification in the coastal site of Mar del Plata.

CASE scuba divers collect seawater samples (for the analysis of pH levels and total alkalinity, salinity, dissolved oxygen, chlorophyll-a, phytoplankton and bacterioplankton abundance) during their recreational outings to “El Veril” (a coastal site visited by divers due to its good visibility and variety of marine species) on a monthly basis. They also record the metadata required at the sampling site (GPS coordinates, date and time, sampling depth, the dive computer temperature profiles, and sea conditions).

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

- National Institute for Fisheries Research and Development (INIDEP, in Spanish) (research team).
- *Centro de Actividades Submarinas Escualo* (“Escualo” Underwater Activities Center, CASE in Spanish) (citizen scientists).
- NF-POGO Alumni Network for the Ocean (NANO) (international organization), as part of the international NANO-DOAP project (“A global study of coastal Deoxygenation, Ocean Acidification and Productivity at selected sites”), which provides a framework for the project within an international setting comprising 16 countries and financial support for the purchase of supplies and small equipment.
- *Red Latinoamericana de Acidificación de los Océanos* (Latin America Ocean Acidification Network) (LAOCA, in Spanish).

Status. In progress.

Time frame. 12/18/2018 – N/A

Frequency of project execution. Ideally, it is executed on a semi-monthly to monthly basis.

Participation period. Sampling takes about an hour and is ideally performed on a semi-monthly basis.

Scope of the initiative. Local (city, province).

Geographic scope. Mar del Plata, Buenos Aires.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 1 to 50.

Action/s involving citizen participation

- Data collection.
- Solution design.
- Solution implementation.

Technological device/tool required.

The following elements are used for sampling:

- Boats
- Scuba diving equipment
- Cell phones
- Sampling bottles
- Dive computers
- GPS
- Sampling entails no risk for scuba divers but demands training for a proper sample collection and transportation, in order to meet the quality required to obtain accurate results.

Scientists use varied equipment for sample analysis:

- Spectrophotometer: to analyze pH samples
- Automatic titrator: to perform total alkalinity and dissolved oxygen measurements
- Salinometer: to measure salinity
- Spectrofluorometer: to analyze chlorophyll-a samples
- Fluorescence microscope: to determine the abundance and diversity of phytoplankton and bacterioplankton
- FlowCam: to study the abundance and diversity of phytoplankton
- Autoanalyzer: for nutrient analysis.

Recruitment methods. In 2018, several meetings were held, and an agreement was signed by INIDEP and CASE to perform the relevant activities. Then, scientists held several meetings with the citizen divers involved in the project to train them on sampling. Also, subsequent meetings are held every six months to assess improvements and present the scientific findings obtained.

Replicability. It may be replicated in other sites with other scuba diving clubs.

Scalability. -

Open access to data. Data are shared with the NANO-DOAP project and every 6 months dissemination activities are conducted (popular science articles and/or webinars).

Feedback. In 2019, through a series of webinars sponsored by the Argentinean Federation of Underwater Activities (FAAS), the ongoing activities were openly presented to the community of Argentina and Latin America. Additionally, seminars are offered with members of the CASE club to assess the progress of the activities and the results of the project through discussion and an engaging visual design resource. In January 2020, scientists from INIDEP and citizen divers from the CASE club joined the international virtual event “Ocean Acidification Day of Action”, which was sponsored by the international organization “The Ocean Foundation”, through a brief documentary in which citizen divers from CASE, who collect ocean acidification samples in “El Veril”, provided details of their experience (<https://www.youtube.com/watch?v=J-TYBaHGNY>). The scientific team and CASE divers presented the project initial academic and citizen science findings at the National Marine Science Conference (Jornadas Nacionales de Ciencias del Mar) held in Comodoro Rivadavia in March 2022 (<http://www.edupa.unp.edu.ar/wp-content/uploads/2022/07/Libro-XI-JNCM-con-ISBN-correctado.pdf>).

Linkage with state agency/government. Do not know / do not answer.

Institutional funds.

- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/ Argentine Ministry of Science, Technology, and Innovation
- INIDEP (at a national level). NANO-NF-POGO (at an international level).

Awards/distinctions. -

Classification of knowledge areas (OECD).

NATURAL SCIENCES / Earth and related Environmental sciences

Project leaders.

- Carla F. Berghoff, National Institute for Fisheries Research and Development (INIDEP, in Spanish).
- Lucía Epherra, INIDEP / National Scientific and Technical Research Council (CONICET, in Spanish).

Contact information.

Email: cberghoff@inidep.edu.ar ; lepeherra@inidep.edu.ar





¿Es Araña o Escorpión? [Spider or Scorpion?]

Identification of spiders and scorpions found by the community



Acciones	
	Ver fotografía
	Ver en el mapa
	Exportar
	Eliminar
	Cambiar visibilidad
Volver	

Detalle de la captura	
Identificador interno:	9677-60cc1f58ce8735-02405190
Recolector:	daniel. XXXX@hotmail.com
Estado:	RESPONDIDA
Visibilidad:	--Ningún grupo--
Fecha de registro:	18/06/2021 1:21
Fecha de envío:	18/06/2021 1:21
Ubicación:	""Galpon""
Latitud:	-45.8428112
Longitud:	-67.5147572
Lugar:	En el exterior de la vivienda.
Notas:	""
Fecha de la respuesta:	18/06/2021 9:09
Respondida por:	giambelluca@cepave.edu.ar
Grupo:	Escorpión
Especie:	Bothriurus sp.



Objectives

Overall goal:

- Contribute to the conservation of spiders and scorpions and provide information about health consequences for human beings through collaborative gathering of information and distribution of these species.

Specific goals:

- Promote citizen participation through the contribution of photographic records and complementary data regarding the findings of scorpions or spiders using a digital application.
- Propose prevention and control measures in the presence of species of health importance.
- Hold discussions, workshops, and training sessions for the community by providing information about the biology, habitats, and danger of arachnids to transform citizens into knowledge multipliers.

Description of citizen participation

The initiative requires information in the form of photographic records and complementary data related to the findings of scorpions and spiders carried out by participants. Citizens provide said photographic records and complementary data through an Android digital application that they download to their mobile phones.

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

- Centre for Parasitological and Vector Studies (CEPAVE, by its Spanish acronym)/National Scientific and Technical Research Council (CONICET, by its Spanish acronym)-National University of La Plata (UNLP, by its Spanish acronym)
- Ministry of Infrastructure of the province of Buenos Aires
- Reserva Natural de Punta Lara (nature reserve)
- Parque Provincial Ernesto Tornquist (nature reserve)

Status. In progress.

Time frame. 12/21/2017 - N/A.

Frequency of project execution. Uninterruptedly.

Participation period. Sustained over time.

Scope of the initiative. National and international.

Geographic scope. Argentina and Spanish-speaking countries.

Project development members. Entirely developed by participants with formal scientific training.

Number of participants. From 1001 onwards.

Action/s involving citizen participation

- Data collection
- Other/s: photographic records

Technological device/tool required.

- Mobile phone with Android 4 or higher
- Digital application

Recruitment methods. By sharing information about the application ¿Es araña o Escorpión? [Is it a spider or a scorpion?] in mass media (radio, television, the institution's social media, etc.) and events such as scientific fairs, visits to schools and public institutions, discussions, workshops, training sessions, etc.

Replicability. -

Scalability. Citizen participation is continually increasing.

Open access to data. -

Feedback. Citizens receive feedback through the application and emails to the address with which they registered.

Linkage with state agency/government. Ministry of Infrastructure of the province of Buenos Aires.

Institutional funds. Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation



Awards/distinctions. Distinction given by the Argentine Ministry of Science, Technology, and Innovation (MINCYT, by its Spanish acronym) through the National Citizen Science Program.

Classification of knowledge areas (OECD). NATURAL SCIENCES / Biology.

Project leaders.

Alda González, Centre for Parasitological and Vector Studies (CEPAVE)/National Scientific and Technical Research Council (CONICET)-National University of La Plata (UNLP)

Contact information.

Email: asgonzalez@cepave.edu.ar





Especies crípticas: el Pichiciego [Cryptic species: the Pink Fairy Armadillo]

Monitoring of biodiversity and the distribution of the mammal pink fairy armadillo (*Chlamyphorus truncatus*)



Objectives

Overall goal:

Jointly characterize the geographical distribution of the mammal pink fairy armadillo (*Chlamyphorus truncatus*), endemic to Argentina, to contribute to its proper conservation.

Specific goals:

- Contribute to defining the conservation status of the pink fairy armadillo (*Chlamyphorus truncatus*).
- Create a potential distribution map by combining different participatory data collection methodologies.
- Develop dissemination and outreach materials about the species.

Description of citizen participation

Citizens send information through different social media platforms: photos, videos, date and place of the sighting, anatomical and behavioral characteristics, environmental data of the sighting place, etc. If the animals are found dead, citizens preserve the bodies using alcohol or store them in a freezer until the project team can collect them. The specimens are part of the mammalogy collections in the museums of La Pampa and La Plata, and their tissue samples are extracted to carry out genetic studies.

Type of citizen science project

Contributory project: It is designed by members of the scientific community, and citizens participate in data collection.

Participating parties.

- National Scientific and Technical Research Council (CONICET, by its Spanish acronym)
- Museum of La Plata/National University of La Plata (UNLP, by its Spanish acronym)
- Natural History Museum of La Pampa
- National University of Patagonia San Juan Bosco (UNPSJB, by its Spanish acronym)
- National Agency for the Promotion of Research, Technological Development and Innovation (Agencia I+D+i in Spanish)
- Teachers and students from Albergue de Jagüel del Monte and Arbol Solo schools in La Pampa
- Park rangers of La Pampa and Mendoza's provincial reserves
- Biblioteca Popular de Victorica (community library) in La Pampa
- Livestock producers of the western region of La Pampa
- Directorate of Natural Resources of the Government of the province of La Pampa

Status. In progress.

Time frame. 8/1/2011 - N/A.

Frequency of project execution. Uninterruptedly.

Participation period. Sustained over time.

Scope of the initiative. National (two or more provinces).

Geographic scope. La Pampa (center region and west region in its entirety), Mendoza (southern sector), Buenos Aires (southwest), San Luis (Chosmes), Córdoba, Catamarca, San Juan, Rio negro (northern sector) y Neuquén.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 101 to 500.

Action/s involving citizen participation

- Problem definition
- Data collection
- Phenomenon monitoring

Technological device/tool required.

- Mobile phone for recording sightings and sending information through social media
- Dissection tools for taking biological samples

Recruitment methods. Through social media and field work visits where different locations are visited and publications and other outreach materials of the project are distributed.

Replicability. In the schools where the workshops are held, the work methodology has been replicated and other species have been investigated.



Scalability. -

Open access to data. -

Feedback. Information is shared by personally delivering scientific outreach materials to residents. Copies are left in schools, provincial directorates (fauna, natural resources, and cadastres), municipal offices, etc.

Linkage with state agency/government. Directorate of Natural Resources and Cadastre of the Government of the province of La Pampa.

Institutional funds. National University of La Plata (UNLP). National Agency for the Promotion of Research, Technological Development and Innovation (Agencia I+D+i in Spanish).

Awards/distinctions. -

Comments. -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences
NATURAL AND EXACT SCIENCES / Biology

Project leaders.

- Esteban Soibelzon, Museum of La Plata/UNLP

Contact information.

Email: esoibelzon@fcnym.unlp.edu.ar;

project.pichiciego@gmail.com

Instagram: [instagram.com/obsermar](https://www.instagram.com/obsermar)





Experimento participativo de Monitoreo de Calidad del Aire

[Participatory Air Quality Monitoring Experiment]



Objectives

Overall goal: Assess air quality, humidity and temperature in different cities of Argentina.

Specific goals:

- Map the air pollution affecting the population and learn about the changes in pollution levels.
- Design corridors for climate change mitigation across urban areas, defining a strategy to understand the scope and limitations of measurements.
- Provide technical and educational evidence for citizens to access information that will allow them to know the quality of the air they breathe, and the relation between pollution, climate change and urban dynamics.

Description of citizen participation

It involves the development of low-cost sensors by students from public universities at workshops organized by MAYDS and UNDP. Each sensor weighs 500 grams and measures different variables, such as the levels of particles suspended in the air, humidity, and temperature.

Once assembled, the sensors are delivered and fixed to the bikes and backpacks of the volunteers selected. Volunteer selection is based on frequency of circulation and daily commutes across urban and adjoining areas.

After a certain number of weeks, sensor data are collected to create air pollution maps. Volunteers can see the level of pollution they are exposed to along their daily commutes, and they may provide solutions to reduce their own emissions.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- The United Nations Development Programme (UNDP), within the framework of the Memorandum of Understanding in place with the Argentine Ministry of Environment and Sustainable Development (MAYDS, in Spanish).
- Open-Seneca initiative of the University of Cambridge.
- Governments of different jurisdictions within Argentina.

Status. In progress.

Time frame. 04/29/2019 – N/A

Frequency of project execution.

Based on demand or community outreach. Uninterruptedly.

Participation period. 1-2 months.

Scope of the initiative. Argentina (two or more provinces).

Geographic scope. Autonomous City of Buenos Aires (CABA, in Spanish), Tucumán and Córdoba.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 51 to 100.

Action/s involving citizen participation

- Data collection.
- Phenomenon monitoring.
- Solution design.

Technological device/tool required.

- Particulate matter sensor: PM2.5
- Temperature and humidity sensor
- Computer: to transfer data from the sensor to the data platform

Recruitment methods. Through social media, universities, and by direct contact among participants.

Replicability. Air quality sensing has been replicated at a national level in CABA (May 2019, June 2020), Mendoza (September 2019), and Córdoba (November 2020). Tucumán and Rosario will join soon. The open-seneca initiative from the University of Cambridge, whose purpose is to measure air quality powered by citizen science, operates worldwide and has replicated this approach in Nairobi, Kenya (May 2020), Lisbon, Portugal (May 2021), Stockholm, Sweden (May 2021) and Phnom Penh, Cambodia (May 2021).

Scalability. The number of cities using these sensors to monitor air quality has increased in Argentina.

Open access to data. Participating citizens have access to the data they collect along their daily commutes. Individual routes are not published so as to protect the privacy of participants. Data are anonymously entered at city level and publicly released. The purpose is to inform environmental policies, raise citizens' awareness, and drive behavioral changes to reduce individual emissions.

Feedback. Citizens may view the air quality data gathered during data collection, and, once this process has been completed, they can access the data relevant to their city.

Linkage with state agency/government. It has been implemented in collaboration with MAYDS and local governments including CABA, Mendoza, Córdoba, and Tucumán.

Institutional funds. University of Cambridge through UK-Canada Post-doctoral funding. UK Research and Innovation (UKRI). Accelerator Lab, UNDP.

Awards/distinctions. In the United Kingdom, the open-seneca initiative won the Vice-Chancellor's Award for the projects conducted in Argentina and Nairobi.

Comments. Air quality monitoring is one of the many experiences developed by the open-seneca team at the University of Cambridge in Argentina, Kenya, Cambodia, Portugal and Sweden, among other locations.

Knowledge areas/disciplines (OECD)

ENGINEERING AND TECHNOLOGY / Electrical engineering, Electronic engineering, Information engineering
ENGINEERING AND TECHNOLOGY / Environmental engineering
SOCIAL SCIENCES / Educational sciences

Project leaders.

- María Eugenia Di Paola, UNDP Accelerator Lab in Argentina.
- Lorena Gordillo Dagallier, UNDP Accelerator Lab in Argentina.

Contact information.

Email: info@open-seneca.org ; maria.eugenia.di.paola@undp.org
Web: open-seneca.org





Alerta Buen Aire UNGS [Fresh Air Alert, National University of General Sarmiento (UNGS)]

Participatory Science for Landfill Odor Monitoring and Warning in the Great Buenos Aires Area - Birds - Short-eared Owl (*Asio flammeus*)



Objectives

Overall goal:

Monitor odors from landfills and other polluting sources.

Specific goals:

- Develop a mobile application for reporting odor nuisance.
- Geolocate reports from citizens.
- Build up a long-term database.
- Study and analyze the reporting database cross-referenced with meteorological databases.

Description of citizen participation

Citizen participation consists of data collection. At this stage, upon identifying a disturbing odor, users can log in to the mobile application and report it by filling out a standardized form, where the probable source of the odor, basic descriptors and perceived intensity are recorded. The application will capture this data and record the mobile device's location.

The data will be stored in an open database that can then be cross-referenced with meteorological databases. This helps to correlate citizen detection and warning of nuisance odors linked to wind, temperature, humidity, and pressure conditions, for subsequent analysis (source identification, frequency of disturbance occurrence among the population, etc.).

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

- Researchers from the Institute of Sciences, National University of General Sarmiento (ICI-UNGS).
- Developers and technical staff from ICI-UNGS and the Information Systems and Technologies Program of the National University of General Sarmiento (PSyTI-UNGS).
- Environmental activists.

Status. Under design.

Time frame. -

Design start date. November 2021

Probable application launch date. November 2022

Frequency. Uninterruptedly.

Participation period. Sustained over time.

Scope of the initiative. Local (city, province).

Geographic scope. Northwest of the Great Buenos Aires area (municipalities of Malvinas Argentinas, San Miguel, Moreno, Morón, Tres de Febrero, Hurlingham, José C. Paz, Ituzaingó, Merlo and San Martín).

Project development members. It has been developed with the collaboration of both scientists and participants without formal training

Number of participants. From 1 to 50.

Action/s involving citizen participation.

- Problem definition.
- Data collection.
- Phenomenon monitoring.

Technological device/tool required

- Mobile phone with Internet connection for the downloadable application, data upload and device geolocation.

Recruitment methods. Through social media, instant messaging, and mailing lists (e-mail distribution lists and instant messaging lists).

Replicability. Don't know/No answer.

Scalability. -

Open access to data. Using Google maps and database.

Feedback. Application messaging and redirection to Google maps.

Linkage with state agency/government. -

Institutional funds. National University of General Sarmiento (UNGS).

Awards/distinctions -



Comments. Initiative under design from the Institute of Sciences (ICI-UNGS) in collaboration with the General Department of Information Systems and Technology (DGSYTI-UNGS).

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences

Project leaders.

Guillermo Jorge, Institute of Science / National University of General Sarmiento (UNGS).

Contact information.

Email: gjorge@campus.ungs.edu.ar

Facebook: facebook.com/Alerta-Buen-Aire-UNGS-104899632055411





Fortines, arqueología y patrimonio [Fortlets, archeology, and heritage]

Community building and sustainability of threatened archaeological heritage



Objectives

Overall goal

- Jointly build knowledge about the archaeological heritage linked to the process of expansion and configuration of national borders in relation to the indigenous societies in the Pampa and Patagonia regions during the 19th century in the district of Tres Arroyos (Buenos Aires).

Specific goals

- Build a map of local stakeholders focusing on interests, needs, perceptions, and issues related to the pillboxes.
- Collaboratively expand the information on the location, characterization, and state of conservation of the pillboxes.
- Contribute to the awareness-raising within local communities in relation to the importance and safeguarding of archaeological heritage sites as part of a sustainable environment to mitigate the damage and destruction of the pillboxes.
- Develop joint strategies for the conservation of the pillboxes, their monitoring, and promotion.

Description of citizen participation

Staff from museums, municipal institutions, neighbors, and detectorists from the Tres Arroyos district together with professional scientists participate jointly and actively in the different stages of research. During the diagnostic and presentation stage, discussion meetings and interviews are held to record interests, knowledge, and issues related to the pillboxes, and training workshops on archaeology and its activities are carried out. Then, participants take part in the hypothesis statement and the search for cartographic, historical, and bibliographical sources related to the local pillboxes in the 19th century from the Mulazzi and Aníbal Paz museums. In turn, they work on finding and managing access to private fields where the sites and lodgings are located; conducting archaeological and geophysical surveys in pillboxes through the use of detectors and collecting materials through excavations; classifying and analyzing archaeological materials recovered through the fieldwork and from public and private archaeological collections; and assessing the hypotheses proposed collaboratively, participatory result analysis and interpretations in various task groups according to the institutions and places they belong to. Finally, meetings and workshops on archeology and heritage are held to promote the identification, awareness, and enhancement of historical sites and to contribute to the care of local heritage.

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process.

Participating parties.

- National Scientific and Technical Research Council (CONICET, by its Spanish acronym)
- Advanced anthropology undergraduate students/School of Philosophy and Language/University of Buenos Aires
- Municipality of Tres Arroyos
- "José A. Mulazzi" Archaeology Museum
- "Aníbal Paz" Regional Museum (Claromecó, Buenos Aires)
- "Comarca del Quequén Salado" neighbors association
- Owners of rural establishments where the fortlets are located
- Detectorists from the district of Tres Arroyos
- "Félix de Azara" Natural History Foundation

Status. In progress.

Time frame. 02/01/2018 - N/A.

Frequency of project execution. Uninterruptedly.

Participation period. Throughout the development of the project.

Scope of the initiative. Local (city, province).

Geographic scope. Cities of Tres Arroyos and Claromecó, among others, in the district of Tres Arroyos, province of Buenos Aires, Argentina.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 51 to 100.

Action/s involving citizen participation

- Problem definition
 - Data collection
 - Data analysis
 - Phenomenon monitoring
 - Solution planning
 - Solution deployment
- Citizens participate in all stages of the process.

Technological device/tool required.

- Mobile phones
- Camera
- Computers
- Audio recorder
- GPS
- Optical level
- Lightbox
- Stereo microscope
- Projector
- Mobile application

Recruitment methods. -

Replicability.

Scalability. This initiative was extended, due to local demand, to towns near the Quequén Salado River.

Open access to data. -

Feedback. Through informal meetings and workshops in museums, local press, social media, and scientific publications.

Linkage with state agency/government. Municipality of Tres Arroyos.

Institutional funds.

- National Scientific and Technical Research Council (CONICET)
- National Agency for the Promotion of Scientific Research, Technological Development and Innovation (Agencia I+D+i, in Spanish)
- "Félix de Azara" Natural History Foundation
- Municipality of Tres Arroyos
- Local cooperation

Awards/distinctions. -

Comments. -

Knowledge areas/disciplines (OECD)
HUMANITIES / History and Archeology

Leaders.

- Dr. Vanesa Natalia Bagaloni, Associate Researcher (CONICET) and Project Director, Centro de Ciencias Naturales, Ambientales y Antropológicas [Center for Natural, Environmental, and Anthropological Sciences]; Universidad Maimónides [Maimónides University] and Azara Foundation
- Noemí Rivas, Director of Culture and Education - Tres Arroyos
- Mariano Martín Reguero, President of the Commission of the "Aníbal Paz" Regional Museum in Claromecó
- Marcos Martínez, Manager of the "José A. Mulazzi" Archeology Museum
- Nicanor Keller, "Comarca del Quequén Salado" neighbors association

Contact information.

Emails: bagaloni.vanesa@maimonides.edu; museo.claromeco@gmail.com; museomulazzi@tresarroyos.gov.ar; cultura@tresarroyos.gov.ar





FjordPhyto

Phytoplankton (microalgae) monitoring in the Antarctic Peninsula



Objectives

Overall goal:

- Study how melting glaciers affect phytoplankton communities in the west of the Antarctic Peninsula.

Specific goals:

- Analyze phytoplankton biodiversity and dynamics in coastal areas, which are not so broadly studied in the west of the Antarctic Peninsula.
- Raise awareness among visitors as regards the importance of microalgae communities in Antarctic ecosystems.

Description of citizen participation

Participants with no formal training arrive at the points of interest by tourist ships and disembark in Zodiac-type boats together with a polar guide, who was previously trained by the researchers of the project. They take different water samples (tap, bottle, and meltwater samples), make environmental measurements (conductivity, temperature, and depth measures [CTD], and the Secchi disk) with tools provided by the project team, and duly record data in spreadsheets. At the end of the season, data and samples are collected and sent to the researchers in order to be analyzed.

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

- Scripps Institution of Oceanography.
- University of California San Diego.
- Department of Phycology of the Natural Science School and Museum at the National University of La Plata (UNLP in Spanish)
- The Polar Citizen Science Collective.
- International Association of Antarctica Tour Operators (IAATO).

Status. In progress.

Time frame. 11/16/2016 - N/A.

Frequency of project execution. Seasonal (in summer).

Participation period. From days to weeks.

Scope of the initiative. International (two or more countries).

Geographic scope. Antarctic Peninsula

Project development members. It has been developed with the collaboration of scientists and participants, both with formal training and without it.

Number of participants. From 1001 onwards.

Action/s involving citizen participation.

- Data collection.

Technological device/tool required.

- CTD*, plankton net, water filtration kit, microscope, bottle, fixatives, scissors, filters, tubes. All these elements are included in a kit provided by the project team.

*A CTD (conductivity, temperature, and depth) is a tool to measure the temperature, the conductivity, and the depth of water by means of sensors placed in an opening inside the tool where the water flows through.

Recruitment methods. Through the project's social media and website, promotion by the International Association of Antarctica Tour Operators (IAATO) and The Polar Citizen Science Collective.

Replicability. -

Scalability. The project grows year after year thanks to the addition of new stakeholders who want to collaborate.

Open access to data. Data can be downloaded from the website in a semi-open format. There is also an online map to localize the sampling sites. Data will be available from the repository of the University of California San Diego.

Feedback. Participants can still follow the project development through social media and the website (<https://fjordphyto.ucsd.edu/publications/>). At the same time, annual reports are emailed to our collaborators.

Linkage with state agency/government. -

Institutional funds. National Aeronautics and Space Administration (NASA), United States. National Science Foundation (NSF), United States. Hurtigruten Foundation. Anonymous donations.

Awards/distinctions. -

Comments. The methodology proposed worldwide by conservation charity JUST ONE OCEAN is used to make the results internationally comparable.

The information is compiled in <https://microplasticsurvey.org/results>.

Knowledge areas/disciplines (OECD)
NATURAL AND EXACT SCIENCES / Biology

Leaders.

- Maria Vernet, Scripps Institution of Oceanography/Universidad de California en San Diego (UCSD)
- Allison Cusick, Scripps Institution of Oceanography/UCSD
- Martina Mascioni, Department of Phycology, Natural Science School and Museum (UNLP)/National University of La Plata (UNLP)
- Rick Reynolds, Scripps Institution of Oceanography/UCSD
- Gastón O. Almandoz, Department of Phycology/FCNYM/UNLP

Contact information.

Email: fjordphyto@gmail.com

Website: www.fjordphyto.org

Facebook: facebook.com/fjordphyto

Instagram: instagram.com/fjordphyto

Twitter: mobile.twitter.com/FjordPhyto

YouTube: youtube.com/fjordphyto





Gaviota Cangrejera [Olrog's Gull]

Monitoring of the marine-coastal ecosystem from the crab gull



Crédit: Hugo Gribman.

Objectives

Overall goals: Contribute to the conservation and management of Olrog's Gulls (*Larus atlanticus*) considering their habitats and their behavioral flexibility in the event of any potential changes in the conditions of the area they inhabit. The ultimate goal of this project is to contribute to the implementation of ecosystem policies in the management of the marine and coastal environment.

Specific goals:

- Determine the migration movements of Olrog's Gull specimens using citizens' reports on ringed birds.
- Study habitat selection by this species during the non-breeding season in areas exposed to different anthropic impacts and link such information with the data collected on their individual condition and behavioral patterns.

Description of citizen participation

During field research, Olrog's Gull specimens are caught for ringing. As part of the monitoring process, individuals are ringed and samples of blood are taken. Additionally, behavioral tests are conducted to determine their personality traits and flexibility. The information gathered may be compared with the reports on ringed birds found in different coastal areas in the south of the continent. Citizens record ringed birds and report the number on their ring by sending a photo and the location of the bird (georeferencing).

Type of citizen science project

Contributory project: Citizens participate in data collection and analysis.

Participating parties.

- Researchers and doctoral fellows of the Vertebrate Group of the Institute of Marine and Coastal Research (Faculty of Exact and Natural Sciences [FCEyN, in Spanish]).
- University of Mar del Plata [UNMDP, in Spanish].
- The National Scientific and Technical Research Council [CONICET] centered in the city of Mar del Plata.

Status. In progress.

Time frame. 02/04/2016 - N/A

Frequency of project execution. Field research and the request for reports on sightings of ringed birds take place mainly between April and August, as this species is present in the northern Argentine and Uruguayan coasts only in these months. However, during the whole year, sightings of ringed birds are reported throughout their geographical area of distribution.

Participation period. On a sustained basis. There are birdwatchers who have been reporting banded birds for more than 5 years.

Scope of the initiative. International (two or more countries).

Geographic scope. The initiative conducts field research in Reserva de Biosfera Parque Atlántico Mar Chiquito (Parque Atlántico Mar Chiquito Biosphere Reserve), on the coast of Mar del Plata and its surroundings. Also, the residents of coastal areas in Argentina and Uruguay are requested to report sightings of ringed birds.

Project development members. It has been entirely developed by people with formal scientific training.

Number of participants. From 1 to 50.

Action/s involving citizen participation.

- Data collection.
- Data analysis.

Technological device/tool required.

The data to be recorded may be seen with the naked eye. However, as a general rule, the following instruments are used:

- Binoculars
- Photographic cameras

Recruitment methods. Through social media (Instagram, Twitter and Facebook groups). Also, a flyer is sent every year in April by WhatsApp, with the aim to create a snowball effect.

Replicability. -

Scalability. Between 2019 and 2022, the number of records per year increased. During these years, almost 50 people were registered, who reported hundreds of tagged individuals visiting the areas of Bahía San Blas, Bahía Blanca, Mar del Plata, Necochea, Santa Clara del Mar, La Caleta, Mar de Cobo, Mar Chiquita, Laguna José Ignacio, Rocha Uruguay, etc.

Open access to data. The data collected will be presented at scientific meetings and will be reported in a document available to the relevant communities.

Feedback. Immediately after reporting a ringed bird, the citizen receives details on such bird in particular. The details shared include sex, ringing date, age (if known) and any other interesting data.

Linkage with state agency/ government. Annual reports are submitted to the Provincial Agency for Sustainable Development (OPDS, in Spanish) and the Directorate of Flora and Fauna of the province of Buenos Aires.

Institutional funds. National Agency for the Promotion of Research, Technological Development and Innovation (Agencia I+D+i, in Spanish). National Scientific and Technical Research Council (CONICET, in Spanish). National University of Mar del Plata (UNMDP, in Spanish).

Awards/distinctions. Do not know/do not answer

Classification of knowledge areas (OECD).

NATURAL SCIENCES / Earth and related Environmental sciences

NATURAL SCIENCES / Biological sciences

SOCIAL SCIENCES / Sociology

Project leaders.

Germán García, Institute of Marine and Coastal Research (IIMYC, in Spanish) / National Scientific and Technical Research Council (CONICET, in Spanish)-National University of Mar del Plata (UNMDP, in Spanish).

Contact information.

Email: garciaerman@conicet.gov.ar

Instagram: [instagram.com/avesmarinas.iimyc](https://www.instagram.com/avesmarinas.iimyc)

Twitter: twitter.com/MdqSeabirds

Facebook: [facebook.com/mdq.seabird](https://www.facebook.com/mdq.seabird)





Geckos Forasteros en tu Casa, ¿Estás Seguro? [Non-native Geckos at Home, Are you Sure?]

Monitoring exotic species of geckos existing in Argentina



Objectives

- Assess the current knowledge of the exotic gecko invasion occurring in Argentine soil.
- Establish the geographic distribution of each species within Argentina.
- Raise awareness on the study of invasive species and the importance of citizen involvement for their conservation and research.

Description of citizen participation

Citizens provide data on some species of exotic geckos present in their own homes. To this end, they must fill out an online form or contact project members directly through social media or via e-mail.

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

- Research team of the National Scientific and Technical Research Council (CONICET, in Spanish) of Argentina
- Foreign researchers
- Postgraduate students pursuing a doctorate from the National University of Córdoba (UNC, in Spanish)
- Undergraduates about to receive a university degree (in Biology) from UNC
- Biology professors
- Science communicators

Status. In progress.

Time frame. -

Frequency of project execution. Only once.

Participation period. 1 year.

Scope of the initiative. Argentina (two or more provinces).

Geographic scope. Argentina.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 101 to 500.

Action/s involving citizen participation

- Data collection.
- Phenomenon monitoring.

Technological device/tool required. Cell phone to record the observation (on a photograph or on video) and internet access to send the information through an online form

Recruitment methods. Through social media, the press, websites and face-to-face to direct contacts.

Replicability. -

Scalability. -

Open access to data. Preliminary findings are shared through social media and on the project website. Final findings will be published on scientific journals and science magazines.

Feedback. All participants receive feedback on the species identification, its biological traits, the significance of the record within the context of biological invasions, and the measures to be adopted (and avoided) in each case. It is sent in the form of personal text messages through social media.

Linkage with state agency/government. -

Institutional funds. Project's own funding sources.



Awards/distinctions. -

Classification of knowledge areas (OECD).
NATURAL SCIENCES / Biological Sciences

Project leaders.

Nicolás Pelegrin, Institute of Animal Diversity and Ecology (IDEA)/ National Scientific and Technical Research Council (CONICET)-National University of Córdoba (UNC).

Contact information.

Email: pelegrin.nicolas@gmail.com

Web: pelegrinlab.wixsite.com/lecoherp/geckos-forasteros

Facebook: facebook.com/proyecto.geckos.forasteros

Instagram: instagram.com/geckosforasteros





GeoVin

Study of vector-borne diseases (disease-transmitting animals)



Objectives

- Provide interactive, educational, playful, and free tools to non-specialized people, to contribute to the data collection related to kissing bugs throughout the country.
- Promote awareness about the problem of Chagas, involving citizens in monitoring the vector.

Description of citizen participation

Through the digital, educational, and free application, or the project's social media, citizens are encouraged to participate in the monitoring of all the species of kissing bugs in the country linked to Chagas disease.

By means of the application, citizen scientists can inform the presence of possible kissing bugs by sending photographs and reporting the location obtained through the mobile device. A review panel of specialists helps people determine if it is the potential vector of Chagas and identify the species. Then, this is communicated to the people who made the report and, in case of a possible vector-borne insect, information is provided on the nearest health centers where they can go to have the insect analyzed. Then, the leader of the province in question is reached out.

With the photographs provided by the citizen scientists, the project seeks to develop a neural network to automatically identify the kissing bugs from photos captured with mobile devices.

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

- Centre for Parasitological and Vector Studies (CEPAVE, in Spanish).
- National Scientific and Technical Research Council (CONICET, in Spanish).
- National University of La Plata (UNLP, in Spanish).

Status. In progress.

Time frame. 05/01/2018 – N/A

Frequency of project execution. Uninterruptedly.

Participation period. Sustained over time.

Scope of the initiative. National (two or more provinces).

Geographic scope. Argentina.

Project development members. Entirely developed by participants with formal scientific training.

Number of participants. Over 1001.

Action/s involving citizen participation Data collection.

Technological device/tool required.

- Mobile phone, tablet, or computer with Internet access
- Digital application

Recruitment methods. -

Replicability. -

Scalability. -

Open access to data. All information collected is freely made available to the general public on the project's website.

Feedback. Participants were contacted through the application, email, or social media to give them feedback.

Linkage with state agency/government.

- Centro Nacional de Diagnóstico e Investigación en Endemoepidemias (CeNDIE, by its Spanish acronym) [National Center for Diagnosis and Research in Endemic Epidemics]-Malbrán Institute- Argentine Ministry of Health

Institutional funds.

- National Agency for the Promotion of Research, Technological Development and Innovation (Agencia I+D+i in Spanish)
- Fundación Williams (foundation), Argentina
- Fundación Probitas (foundation), Spain
- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions: -

Comments. The GeoVin database, in addition to being made up of citizen contributions, contains a historical bibliography of the country published in:

- Ceccarelli S. et al. 2018 DataTri: a database of American triatomine species occurrence. Scientific Data 5:180071. <https://www.nature.com/articles/sdata201871>
- Ceccarelli, S. et al. 2020. Analysis of Chagas disease vectors occurrence data: the Argentinean triatomine species database. Biodiversity Data Journal 8:e58076. <https://doi.org/10.3897/BDJ.8.e58076>
- Ceccarelli S. et al. 2022. American triatomine species occurrence: updates and novelties in the DataTri database. GigaByte:1-8. <https://doi.org/10.46471/gigabyte.62>.

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Biology
HEALTH AND MEDICAL SCIENCES / Basic Medicine

Project leaders.

- Gerardo Aníbal Marti. Center for Parasitological and Vector Studies (CEPAVE)/CONICET- UNLP
- Soledad Ceccarelli. Center for Parasitological and Vector Studies (CEPAVE)/CONICET-UNLP
- Agustín Balsalobre. CEPAVE/CONICET-UNLP
- Joaquín Cocheró. Institute of Limnology "Dr. Raul A. Ringuelet" (IL-PLA, by its Spanish acronym)/School of Natural Sciences and Museum/National University of La Plata
- Bárbara Dibene. CEPAVE/CONICET-UNLP
- María Eugenia Vicente. CEPAVE/CONICET-UNLP
- Emiliano Bruno. CEPAVE/CONICET-UNLP

Contact information.

Email: geovinapp@gmail.com
Website: <https://geovin.com.ar/>
Facebook: <https://www.facebook.com/GeoVinApp>
Instagram: <https://www.instagram.com/geovinapp/>
Twitter: @GeoVinArg
Telegram: @GeoVin_Arg





Gestión menstrual juvenil en Santa Fe [Youth menstrual management in Santa Fe]

Menstrual health and youth



Objectives

Overall goal

- Describe and analyze the meanings and practices of menstrual health management of young menstruating women aged 10 to 19 years in the province of Santa Fe. Collaboratively design possible territorial intervention strategies to be applied across institutions within the province.

Specific goals

- Describe and analyze the material, cultural, and infrastructural aspects of the meanings and practices of menstrual health management of young menstruating women in Santa Fe.
- Identify and describe the main myths and taboos they have about menstruation.
- Systematize the main obstacles that young menstruating people identify to improve their menstrual management possibilities and devise initiatives for each of the identified areas.

Description of citizen participation

Citizens (young menstruating people, social institutions, feminist and sexual dissident organizations) participate in data collection (surveyed through a form), analysis, and the design and implementation of solutions. During the first stage, work on co-management is carried out together with teachers, health professionals, and young people during workshops in the institutions where they work. Thus, the topic is introduced and interest in the issue is sought to be awakened so that young people become promoters of the survey. Afterward, meetings are held with the youth who participated in the survey (and the general public) to analyze the main results. These meetings will include an analysis phase and a phase aimed at the development of ideas for solutions.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- Fundación La Usina Social (foundation) (Rosario, Santa Fe)
- Fundación DEMOS Comunidad Cultural Emergente (foundation) (Santa Fe)
- Asociación Civil Género en Ciencia y Tecnología (GENCyT, by its Spanish acronym) [Gender in Science and Technology Nonprofit Organization] (province of Santa Fe)

Status. In progress.

Time frame. 02/10/2023 - N/A.

Frequency of project execution. Uninterruptedly.

Participation period. Sustained over time, throughout the year.

Scope of the initiative. Local (city, province).

Geographic scope. Province of Santa Fe, especially in the cities and metropolitan areas of Rosario and Santa Fe.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 1 to 50.

Action/s involving citizen participation

- Data collection
- Data analysis
- Solution planning

Technological device/tool required.

- Mobile phone or PC with Internet access to complete the online survey

Recruitment methods. Promotion through social and mass media. Meetings and workshops/talks.

Replicability. -

Scalability. -

Open access to data. -

Feedback. Discussion and analysis of results.

Linkage with state agency/government. -

Institutional funds.

• -

Awards/distinctions. -

Comments. -

Knowledge areas/disciplines (OECD)

HEALTH AND MEDICAL SCIENCES / Health Sciences
SOCIAL SCIENCES / Other Social Sciences

Leaders.

- Luisina Logiodice, DEMOS and GENCYT
- Analía Chumpitaz, Usina Social
- Alejandro Cappadoro, DEMOS
- Érica Hynes, DEMOS and Usina (ericahynes@gmail.com)

Contact information.

Emails: luisinalogiodice@gmail.com; chumpitazanalía@gmail.com; alecappadoro@gmail.com; ericahynes@gmail.com





Gigante de las Pampas [The Giant of the Pampas]

Monitoring of the Argentine horned frog (*Ceratophrys ornata*)



Credit: Matias Scincha.

Objectives

Overall goal

Learn about the current and historical geographic distribution of the Argentine horned frog (*Ceratophrys ornata*) in Argentina, Uruguay, and Brazil, and encourage the participation of local communities in its conservation.

Specific goals

- Monitor the species collaboratively to detect it in real time and use this information to guide actions for conservation and handling.
- Disseminate the conservation issues of the Argentine horned frog in particular and amphibians in general.
- Promote the Argentine Horned Frog Relocation and Rescue Plan by encouraging the participation of citizens in the identification and notification of frogs at risk.

Description of citizen participation

Citizens participate by sharing records on the Argentine horned frog. There are four ways of participation:

- 1) By filling in a Google form available on the project's social media. There, participants can upload a photo and add a GPS coordinate, date, time, and weather, and environmental data associated with the record.
- 2) By downloading the Escuerzo: Gigante de las Pampas App available for Android on the Google Play Store. Through the app, the user can sign up and, by just taking a photo, the record is sent with the associated information.
- 3) Through in-person surveys at locations where Internet connectivity is low or is not available. For this purpose, the Gigante de las Pampas team visits towns and conducts surveys in person. Records can be current or from several years back, but in all cases, they should include a photo or go through a validation process.
- 4) If participants spot a frog in a risky situation, for example, on busy roads, trapped inside buildings, or in highly urbanized areas, it is important to reach out immediately through the contact channels and report it to the project's members. This way frogs will be relocated and released in predetermined areas by the project.

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

- Conservación de Anfibios en Argentina (COANA) [Amphibian Conservation in Argentina] Initiative
- Institute of Ecology, Genetics, and Evolution of Buenos Aires (IEGEBa in Spanish)/ University of Buenos Aires (UBA)-National Scientific and Technical Research Council (CONICET in Spanish)
- Gabriela Agostini, Researcher, CONICET
- Camila Deutsch, PhD Scholarship Recipient, CONICET
- David Bilenca, Researcher, CONICET and Faculty of Exact and Natural Sciences (FCEN in Spanish)/UBA

Status. In progress.

Time frame. 09/15/2015 - N/A.

Frequency of project execution. Uninterruptedly.

Participation period. Sustained over time.

Scope of the initiative. International (two or more countries).

Geographic scope. Argentina (Provinces of Buenos Aires, La Pampa, Córdoba, and Santa Fe), Uruguay, and Brazil.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. Over 1001.

Action/s involving citizen participation.

- Data collection.
- Ex situ management plan

Technological device/tool required.

- Device for taking photos (mobile phone or camera).
- Internet connection (not essential).
- Mobile phone and/or phone (not essential).

Recruitment methods. Flyers are posted on the initiative's social media to invite people to participate, especially in spring and summer. Through educational activities at schools, regional parties, science fairs, and conferences.

Replicability. In Brazil and Uruguay from 2018 until the present.

Scalability. The development of the mobile app was an advance, allowing the addition of more participants to the initiative. Moreover, the project adopted a communication strategy, used on social media, developed currently by specialists in science communication. This strategy considerably improved the exchange with the citizen science program participants and increased to a great extent the number of received records.

Open access to data. All publications and products obtained from the initiative are available to the public on the web.

Feedback. Each participant is contacted personally. Moreover, audiovisual material and multimedia content is produced for social media.

Linkage with state agency/government. The project is implemented at the municipal level, organizing environmental education activities and collaborating with educational institutions.



Institutional funds.

- They have been obtained from the project's own funding sources.
- National Scientific and Technical Research Council (CONICET)
- Scientific and Technological Research Projects (PICT, by its Spanish acronym)
- Neotropical Grassland Conservancy
- The Rufford Foundation
- National Geographic Society
- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation
- Amphibian Survival Alliance
- Amphibian Ark
- Idea Wild
- Conservation Nation

Awards/distinctions. Rufford Small Grant, National Geographic Grant, Amphibian Survival Alliance's 2023 Future Leaders of Amphibian Conservation Award, Conservation Nation Award (awards that provide funding).

Comments. Gigante de las Pampas is within the framework of the COANA (Amphibian Conservation in Argentina) initiative gathering amphibian conservation projects in different regions of Argentina. This initiative's launch promoted the creation of other citizen science projects, such as Geckos Forasteros en tu Casa [Non-native Geckos at Home] which is also part of the mapping.

Knowledge areas/disciplines (OECD)
NATURAL AND EXACT SCIENCES / Biology

Leaders.

- Gabriela Agostini, Institute of Ecology, Genetics, and Evolution of Buenos Aires (IEGEBa)/ University of Buenos Aires (UBA)-National Scientific and Technical Research Council (CONICET) and the Amphibian Conservation in Argentina (COANA) Initiative
- Camila Deutsch, IEGEBa/UBA-CONICET and COANA Initiative

Contact information.

Email: gabrielaagostini18@gmail.com ; deucamila@gmail.com
Web: www.coana.com.ar
Facebook: [facebook.com/coanaarg](https://www.facebook.com/coanaarg)
Instagram: [instagram.com/coana_arg](https://www.instagram.com/coana_arg)
Twitter: twitter.com/coana
Youtube channel: https://www.youtube.com/@COANA_Argentina





Grupo CoSensores – Sensores Comunitarios [CoSensores Group - Community Sensors]

Development and application of accessible tools for social and environmental assessments to be made by the community



Objectives

Develop technologies that allow organized community groups to perform social and environmental assessments in a simple and affordable way, and therefore contribute to the implementation of restoration procedures or actions leading to material improvements in their quality of life.

Description of citizen participation

CoSensores is an interdisciplinary group which works horizontally with community groups organized around social and environmental issues, by jointly posing and answering questions that will contribute to their resolution. Collaboration results from the specific knowledge and possibilities of academia and territory, by making consensual decisions and undertaking tasks and responsibilities collectively. The intervention strategy chosen is based on the concept of Participatory Action Research for knowledge co-production. The work methodology used consists in holding two workshops. In the first workshop, the issue is collectively identified, and the relevant trials are conducted. In the second one, the results, advantages and limitations of the methods used are shared, as well as any potential strategies for solving the specific issues detected.

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process.

Participating parties.

- Grupo CoSensores.
- Community-based organizations (comprising students, teaching staff, researchers and holders of fellowships at national universities).

Status. In progress.

Time frame. 01/02/2013 – N/A

Frequency of project execution. Based on demand or community outreach.

Participation period. It may take days or months, depending on the project.

Scope of the initiative. Argentina (two or more provinces).

Geographic scope. Argentina.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants.

Over 1001.

Action/s involving citizen participation

- Problem identification.
 - Data collection.
 - Data analysis.
 - Phenomenon monitoring.
 - Solution design.
 - Solution implementation.
- Citizens are involved in the entire process.

Technological device/tool required.

Different tools are required for each project:

- Cell phones
- Lab and mapping techniques
- Measurement devices using Arduino sensors, among others

Recruitment methods. Through social media and at gatherings organized with the communities involved.

Replicability. It has been replicated with different organizations and in different locations and settings, e.g., in Santiago del Estero, from 2013 to 2016, and in Delta del Tigre (Buenos Aires) from 2016 to date.

Scalability. It has been upscaled in a diverse and non-centralized way.

Open access to data. The means to access information was decided collectively with the community involved in collecting data. In some cases, such data was made available to the public through social networks, community media and/or academic presentations.

Feedback. Each activity includes a stage where information is shared.

Linkage with state agency/government. Actions are coordinated with public educational institutions at different levels.

Institutional funds.

- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation
- Funding for university research, development and extension.

Awards/distinctions. –

Classification of knowledge areas (OECD).

NATURAL SCIENCES / Computer and information sciences
NATURAL SCIENCES / Earth and related Environmental sciences
SOCIAL SCIENCES / Educational sciences

Project leaders.

No project leaders, horizontal research group.

Contact information.

Email: cosensores.pvd@gmail.com

Web: tap.bio/@cosensores

Facebook: facebook.com/CoSensores

Instagram: instagram.com/cosensores





Habitar con Salud [Living with Health]

Vector-borne diseases (disease-transmitting animals)



Objectives

Overall goal:

- Examine the distribution of mosquitoes involved in vector transmission of pathogens.
- Promote healthy practices producing a positive change in urban habitats and human habits by eliminating locations where disease-transmitting arthropod vectors (mosquitoes) complete their life cycles.
- Provide tools that contribute to constructing new subjectivities of the project's participants and, through their involvement, of the community.

Specific goals:

- Collectively design and implement a method for quantitative monitoring of mosquito populations involved in vector transmission of pathogens by placing biological sensors.
- Follow up the monitoring of biological sensors and data records to establish a diagnosis of the neighborhoods' environmental health.
- Encourage eco-friendly habits that contribute to the community's well-being to avoid the proliferation of breeding sites and thus prevent vector-borne diseases.

Description of citizen participation

Citizens make very simple devices, called biological sensors (BS), made of glass jars, tongue spatulas, and metal clips (to hold the wooden sticks on the rim of the jar) that are placed at homes according to the behavior of the *Aedes aegypti*, that is, places with shadows and, if possible, vegetation around (yards, parks, gardens, balconies, flowerbeds, etc.). The information of every BS is recorded on forms including different informative columns to carry out an in-depth analysis in situ. All the wooden sticks are stored in sample bags and duly labeled for future revision through a magnifier or microscope. In in-person tool demonstration and training workshops, work groups are formed to exchange information using WhatsApp groups throughout the experience. Participants share photos, videos, and form notes weekly. At the end of the experience, a workshop is organized to look at all the wooden sticks collected from the biological sensors under a stereo microscope and discuss the observation. If there is a large quantity of data, a session is held to quantitatively assess the collected information.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- National University of Quilmes (UNQ, by its Spanish acronym)
- National Scientific and Technical Research Council (CONICET, by its Spanish acronym)
- Institute of Virology Dr. José María Vanella (InViV, by its Spanish acronym)/National University of Córdoba (UNC, by its Spanish acronym)
- School of Exact and Natural Sciences (FCEN, by its Spanish acronym)/University of Buenos Aires (UBA)
- National University of Avellaneda (UNDAV, by its Spanish acronym)
- Escuela Secundaria de Educación Técnica [High School of Technical Education] (ESET, by its Spanish acronym)/UNQ
- Municipality of Quilmes
- Members of the Women's Committee of Quilmes, Berazategui, and Varela (Buenos Aires).

Status. In progress.

Time frame. 1/3/2020 - N/A.

Frequency of project execution. Seasonal (time of year).

Participation period. During the months of highest mosquito activity (from September to April).

Scope of the initiative. Local (city, province).

Geographic scope. Quilmes, Berazategui, and Florencio Varela.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 51 to 100.

Action/s involving citizen participation.

- Data collection
- Data analysis
- Phenomenon monitoring

Technological device/tool required.

- Stereo or binocular microscope
- Mobile phone
- Biological sensors
- Forms to upload data

Recruitment methods. Social media and scheduled activities as part of the program and other outreach projects.

Replicability. The project has been replicated in The Autonomous City of Buenos Aires and the municipality of La Costa.

Scalability. -

Open access to data. -

Feedback. When the follow-up period ends, a closing session is held to share a mapping of results and, along with the participants, discuss the characteristics of the territories where the *Aedes aegypti*'s eggs were detected.

Linkage with state agency/government. From October to December 2022, the activity was carried out at the Municipal School of Gardening of the municipality of Quilmes.

Institutional funds. Subsidies from the Outreach Office/UNQ.

Awards/distinctions. -

Comments. -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences
NATURAL AND EXACT SCIENCES / Biology
HEALTH AND MEDICAL SCIENCES / Health Sciences

Leaders.

- Sandra Elizabeth Goñi, National University of Quilmes (UNQ)
- Members of the Women's Committee of Quilmes, Berazategui, and Varela (Buenos Aires).

Contact information.

Email: sandra.goni@unq.edu.ar, valeria.cappa@unq.edu.ar
Instagram: [instagram.com/habitarconsalud](https://www.instagram.com/habitarconsalud)
Web: dcyt.unq.edu.ar/?page_id=887





Hábitat Claypole [Claypole Habitat]

Ecological restoration of urban streams and green spaces



Objectives

Overall goal:

- Collaboratively design, implement and assess tools for the ecological restoration of urban streams and green spaces close to the bed of the Arroyo San Francisco (Claypole, Almirante Brown, province of Buenos Aires).

Specific goals:

- Evaluate techniques for the reintroduction of native aquatic and riparian plants and their survival in the environment.
- Evaluate the effect of the reintroduction of aquatic and riparian plants on ecosystem biodiversity and water quality.
- Develop water treatment devices or ecological management strategies to mitigate pollutants in the stream that enter through the domestic stormwater system.

Description of citizen participation

In regular meetings, through participatory techniques, participants jointly establish a diagnosis of local issues and share updates about them. They also discuss the design and implementation of solutions and plan the activities included in the project and each actor/participant's responsibilities. Citizen engagement in the design and implementation is reflected in the construction and installation of devices for the treatment of effluents entering the stream, the procurement of the necessary materials, and the cultivation and reproduction of aquatic and riparian plants for the interventions on the stream bed. Citizens also participate in the monitoring of these plants, which includes data collection (taking photographs to assess plant survival and other treatment devices and using field forms to analyze the state of the stream and vegetation), the water sample collection to assess the effects of actions taken related to the stream, and the use of technologies to analyze certain water parameters (pH, temperature, conductivity, nitrates, phosphates, etc.). The participatory analysis of data is carried out in workshops where participants discuss sampling results, treatment device efficiency, the right choices and errors of the actions developed and the next steps to be taken.

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process.

Participating parties.

- Limnology Laboratory/School of Exact and Natural Sciences/University of Buenos Aires (UBA, by its Spanish acronym)
- Instituto de Ecología, Genética y Evolución de Buenos Aires (IEGEB, by its Spanish acronym) [Institute of Ecology, Genetics and Evolution of Buenos Aires]/National Scientific and Technical Research Council (CONICET, by its Spanish acronym)
- Centro de Tecnologías del Uso del Agua [Center for Water Use Technologies]/National Water Institute (INA, by its Spanish acronym)
- Assemblies of the Centro Cultural Hermanas Mirabal (museum), Department of Habitat and Environment, Galpón Cultural de Claypole (community center), and Club Social y Deportivo Hermanas Mirabal (sports club), part of Frente de Organizaciones en Lucha (FOL, by its Spanish acronym) [Social Movement Organizations Coalition]

Status. In progress.

Time frame. 10/20/2018 - N/A.

Frequency of project execution. Uninterruptedly.

Participation period. Sustained over time.

Scope of the initiative. Local (city, province).

Geographic scope. Claypole, municipality of Almirante Brown, province of Buenos Aires.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 51 to 100.

Action/s involving citizen participation.

- Problem definition
- Data collection
- Data analysis
- Phenomenon monitoring
- Solution planning
- Solution deployment

Technological device/tool required.

- Field sensors to determine water parameters (pH meter, conductivity meter, oximeter, etc.)
- Field colorimeters for chemical analyses
- Mobiles and computers
- Point shovels, wide shovels, wheelbarrows, and hoes to work along the stream. All these tools are used in the territory. At the same time, each laboratory has specific scientific instruments to perform different chemical analyses (biosafety cabinet, culture incubators, UV/visible spectrophotometers, gas chromatograph, TOC analyzer, etc.)

Recruitment methods. Through flyers, brochures handed out in person, and social media (Instagram, Facebook).

Replicability. -

Scalability. The number of participants, as well as the local geographic scope, has been steadily increasing.

Open access to data. -

Feedback. Meetings to analyze results and discussions about improvements and new designs.

Linkage with state agency/government.

- Municipality of Almirante Brown
- Maintenance Office and Water Monitoring Office of the Subsecretariat of Water Resources of the Ministry of Infrastructure and Public Services of the province of Buenos Aires

Institutional funds.

- Programa Nacional de Tecnología e Innovación Social [National Program of Technology and Social Innovation]/Argentine Ministry of Science, Technology, and Innovation (MINCYT, by its Spanish acronym)
- Secretariat of University Policies/Argentine Ministry of Education
- National Agency for the Promotion of Research, Technological Development and Innovation (Agencia I+D+i in Spanish)
- University of Buenos Aires
- Programa Nacional de Inclusión Socioproductiva y Desarrollo Local "Potenciar Trabajo" [National Program for Social and Productive Inclusion and Local Development]/Argentine Ministry of Social Development
- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions. -

Comments. -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences
NATURAL AND EXACT SCIENCES / Biology
ENGINEERING AND TECHNOLOGY / Environmental Biotechnology

Leaders.

- Martín Graziano, School of Exact and Natural Sciences/University of Buenos Aires (UBA) and National Scientific and Technical Research Council (CONICET)

Contact information.

Email: martiny martin@gmail.com

Instagram: [instagram.com/ProyectoHabitatClaypole](https://www.instagram.com/ProyectoHabitatClaypole)

Facebook: [facebook.com/ProyectoHabitatClaypole](https://www.facebook.com/ProyectoHabitatClaypole)





Hornero [Ovenbird]



Objectives

Overall goal

Collect and analyze observations of ovenbird nests (*Furnarius rufus*) from southern South America with a mobile application to learn more about this typical bird.

Specific goals

- Explain the asymmetries in the nests of southern South American ovenbirds.
- Explain nest building behaviors and nest structures among southern South American ovenbirds.

Description of citizen participation

Using a mobile application, citizens are asked to report the observed nests, their location and some of their characteristics; in addition, they are asked to share photos. Data collection is simple and dynamic. Data can be uploaded in urban, rural, or natural areas.

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

- Max Planck Institute for Ornithology.
- Instituto de Investigación de Zonas Áridas (IADIZA)/Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET)-Universidad Nacional de Cuyo (UNCu)

Status. Finished.

Time frame. 10/24/2019 - 10/24/2020

Frequency of project execution. Uninterruptedly.

Participation period. 3 minutes per record.

Scope of the initiative. International (two or more countries).

Geographic scope. Argentina, Uruguay, Brasil, Bolivia y Paraguay.

Project development members. It has been developed with the collaboration of both scientist and participants without formal training.

Number of participants. From 1001 onwards.

Action/s involving citizen participation.

- Data collection.

Technological device/tool required.

- Mobile phone.

Recruitment methods. Through social media.

Replicability. It has not been replicated yet.

Scalability. More and more people became involved in the project. More than 13,000 people contributed data.

Open access to data.

- The data are in open databases uploaded to Mendeley Data with a 1-year embargo (<https://data.mendeley.com/datasets/9745v8tj9h/1>)
- Publications.

Feedback. Participants are informed about the progress and results through social media feeds and emails to the accounts with which they registered in the mobile application.

Linkage with state agency/government. -

Institutional funds.

- Project's own funding sources. International sources (Max Planck Institute).
- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions. -

Comments. -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Biology
AGRICULTURAL SCIENCES / Agricultural biotechnology
SOCIAL SCIENCES / Communication and media

Leaders.

- Lucia Mentasana, Max Planck Institute for Ornithology-Conicet
- Nicolas Adreani, University of Vienna & Max Planck Institute for Ornithology-IDIAZA/CONICET-UNCu.

Contact information.

E-mail: nidohorneros@gmail.com; luciamentesana@gmail.com;
mn.adreani@gmail.com
Facebook: facebook.com/nidohorneros
Twitter: twitter.com/nidohorneros
Instagram: instagram.com/nidohorneros





Huellas Digitales de la Memoria [Memory Digital Footprints]

Geolocation of victim stories. State terrorism



www.huellasdelamemoria.com.ar

Sitio web que **reconstruye las historias de todas las víctimas** del genocidio de La Plata, Berisso y Ensenada.

A través de un mapa interactivo se pueden conocer las historias de las **758 personas** desaparecidas y asesinadas en la región, construyendo colectivamente la memoria, la verdad y la justicia.

Objectives

Overall goal:

Jointly reconstruct, make visible, and geolocate in the digital space the life stories of victims (people were disappeared and/or murdered) by State terrorism (1966-1983) in La Plata, Berisso, and Ensenada (Buenos Aires).

Specific goals:

- Jointly assemble a digital archive based on a database of victims of State terrorism and a repository of documents and images about the issue.
- Reconstruct the stories of missing persons through materials that incorporate aspects of their lives (work, studies, profession, cause they supported, repressive detention, legal situation, etc.).

Description of citizen participation

The work team is made up of people from different fields of work and with different roles and levels of participation and activism in human rights causes (historians, lawyers, anthropologists, archive workers, and students). For the reconstruction of the stories, the biographies are sent to the victims' relatives so that they can verify the information; then, they are invited to add any other data, photographs, or text about their life stories. In addition, citizens can contact each other by e-mail, which gives them the opportunity to learn new stories and even get in contact with family members living abroad. While editing the stories, meetings are held with local human rights organizations and other bodies for validation.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- Hijos por la Identidad y la Justicia contra el Olvido y el Silencio [Sons and Daughters for Identity and Justice against Oblivion and Silence] (H.I.J.O.S., by its Spanish acronym), regional office La Plata
- Familiares de Detenidos Desaparecidos Presos por Razones Políticas [Relatives of Disappeared Detained Persons Imprisoned for Political Reasons], La Plata (Buenos Aires)
- Abuelas de Plaza de Mayo (human rights association)
- Dirección de Políticas de Memoria y Reparación [Office of Memory and Redress Policies] and School of Humanities and Educational Sciences (FAHCE, by its Spanish acronym) - National University of La Plata (UNLP, by its Spanish acronym)
- Diario Digital 0221 (digital newspaper)
- Espacio para la Memoria ex Comisaría 5ta (site of memory in a former clandestine detention center)
- Subsecretariat of Human Rights/Ministry of Justice and Human Rights
- Subsecretariat of Human Rights and Mesa de Familiares de Víctimas del Terrorismo de Estado [Roundtable of Relatives of Victims of State Terrorism]/Municipality of Ensenada (Buenos Aires)

Status. 1st stage completed (758 stories). 2nd stage in progress (180 stories).

Time frame. 02/01/2019 - N/A.

Frequency of project execution. Uninterruptedly.

Participation period. The iteration and reconstruction process for each of the stories takes an average of 8 hours of revision, but there are life stories that may require more time to search and gather information.

Scope of the initiative. Local (city, province).

Geographic scope. La Plata, Berisso, and Ensenada (Buenos Aires).

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 101 to 500.

Action/s involving citizen participation.

- Data collection
- Data analysis
- Other(s): Contributions of materials by the victims' families, who also revise their relatives' stories. Promotion of the proposal. Meetings in schools and conferences.

Technological device/tool required.

- Mobile phone
- Computers (laptop or desktop computer)

Recruitment methods. Meetings with human rights organizations, participation in academic conferences, talks in schools, and promotion through social media with explanatory videos of the site.

Replicability. -

Scalability. The number of participating institutions and community members, as well as visits to the site and the pool of stories to be reconstructed and geolocated have all progressively increased.

Open access to data. The initiative has a website with a map with access to microsites on each of the reconstructed life stories, but does not have open-source data in reusable formats.

Feedback. By means of personal and public contacts through the media, as well as through meetings and promotion instances.

Linkage with state agency/government.

- Subsecretariat of Human Rights/Government of the province of Buenos Aires
- Unified Registry of Victims of State Terrorism [Unified Registry of Victims of State Terrorism]
- Subsecretariat of Human Rights/Municipality of Ensenada (Buenos Aires)

Institutional funds. Institutions' own funds from the work of their members.

Awards/distinctions. The initiative was declared of provincial and municipal interest.

Comments. Data collection is based on a series of collectively agreed-upon materials that are relevant and reliable. Firstly, the work is based on the information requested from the Registro Unificado de Víctimas del Terrorismo de Estado [Unified Registry of Victims of State Terrorism] (RUVTE, by its Spanish acronym). Then, participants can work with a shared digital library consisting mainly of legal documents, and student and teacher files amended by the UNLP and through academic bibliography.

Knowledge areas/disciplines (OECD)

HUMANITIES / History and Archeology
HUMANITIES / Other Humanities

Leaders.

- María Alejandra Esponda, Arturo Jauretche National University (UNAJ, by its Spanish acronym), Latin American Faculty of Social Sciences (FLACSO Argentina, by its Spanish acronym), and H.I.J.O.S.
- Guadalupe Godoy, National University of La Plata (UNLP).

Contact information.

E-mail: aleesponda@gmail.com ; guadalupegodoylp@gmail.com; huellas-digitalesdelamemoria@gmail.com
Web: huellasdelamemoria.com.ar





Inundaciones: ¿qué podemos hacer? [Floods: What Can We Do?] Collaborative Technologies in Risk Management

Flood and waterlogging risk management



Objectives

Overall goal

Enhance social stakeholders' knowledge in southwestern Buenos Aires, Argentina, with respect to the risk of heavy rains, overflows, and floods, and encourage their participation in flood risk management processes.

Specific goals

- Determine the population's perception and knowledge of flood and waterlogging hazards.
- Jointly produce data, information, and actions for flood risk management together with citizens and with the collaboration of different stakeholders.
- Raise flood hazard awareness by stressing the importance of knowledge and information regarding risks and their management.

Description of citizen participation

Citizens participate mainly in:

- 1) Defining scenarios and building knowledge related to flood and waterlogging risks in the area, through two types of interactive participatory workshops: institutional (including specific activities aimed at some of the stakeholders in relation to their risk management role) and inter-institutional (aimed at members of all participating organizations with different risk management roles, which favors experience sharing). Activities are planned in two phases, in agreement with disaster risk management. The first stage involves knowledge and awareness of flood issues. The second stage consists of implementing techniques with a Participatory Action Research approach.
- 2) Producing data and phenomenon monitoring using mobile phones and tablets. Thus, citizens can record hydrometeorological events and affected elements in their immediate surroundings (for collaborative mapping purposes), through text and photographs.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

Education and scientific institutions:

- Escuela de Educación Secundaria N.º 6 (Secondary School No. 6), Paraje El Relincho (Coronel Suárez, Buenos Aires, Argentina).
- Escuela de Educación Secundaria Agraria N.º 1 (Agricultural Secondary School No. 6) (Coronel Suárez, Buenos Aires, Argentina)
- Instituto Superior de Formación Docente N.º 160 (Teacher Training Institute No. 160), (Coronel Suárez, Buenos Aires, Argentina).
- Agencia de Extensión Rural (AER) (Rural Outreach Agency) Coronel Suárez, Buenos Aires, Argentina, of the Bordenave Agricultural Experiment Station of the National Institute of Agricultural Technology (INTA, by its initials in Spanish).

Emergency institution:

- Coronel Suárez Volunteer Fire Department.

Agricultural institutions:

- Cooperativa Agropecuaria General San Martín, Coronel Suárez Ltda. (Agricultural Cooperative of Coronel Suárez).
- Sociedad Rural de Coronel Suárez. (Rural Society of Coronel Suárez).

Status. In progress.

Time frame. 5/26/2017 - N/A.

Frequency of project execution. Uninterruptedly.

Participation period. Sustained over time, with two frequencies. 1) On a quarterly or so basis (conducting participatory workshops) and 2) Random (associated with records in the event of rainfall, overflows, and floods).

Scope of the initiative. Local (city, province).

Geographic scope. Southwest of the province of Buenos Aires.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 101 to 500.

Action/s involving citizen participation.

- Problem definition.
- Data collection.
- Phenomenon monitoring.

Technological device/tool required.

- Mobile phones and tablets to: 1) record and monitor rainfall, overflows and floods and 2) develop collaborative maps for data collection and community alerts.

Recruitment methods. Through social media (project's own and institutional - National University of the South (UNS) and the National Scientific and Technical Research Council (CONICET)-) and media (TV, print and digital press, radio), specific brochures, e-mail.

Replicability. -

Scalability. Increase in the number of institutions, people involved, and quantity and diversity of activities.

Open access to data. All the information collected is made available to



members of participating institutions and colleagues.

Feedback. Participants receive their feedback through workshops, social media, press and scientific publications.

Linkage with state agency/government. AER INTA Coronel Suárez participated in the workshops and promoted the application.

Institutional funds. Through a University Outreach Project (PEU) funded by the National University of the South (UNS).

Awards/distinctions. -

Comments. 2020: Conference at the International Seminar "Advances in Early Warning Systems: Lessons learned, and challenges". Colombia. 2019: Conference as part of the panel "Innovation in climate change adaptation systems: preparedness, early warning and community participation", organized by the Inter-American Development Bank (IDB) Costa Rica. 2019: Mention in "Balance CONICET 2018: achievements of the CONICET community in the last year". (<https://www.conicet.gov.ar/balance-2018-logros-de-la-comunidad-conicet-en-el-ultimo-ano>)

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences

Leaders.

- Jorge Osvaldo Gentili, National University of the South (UNS) and the National Scientific and Technical Research Council (CONICET).
- María Eugenia Fernández, UNS and CONICET.
- Belén Moretto, UNS and CONICET.
- María de los Ángeles Ortuño Cano (UNS-CONICET)

Contact information.

Email: jogentili@uns.edu.ar; eugenia.fernandez@uns.edu.ar; belen.moretto@uns.edu.ar
Twitter: twitter.com/InundApp





Jorobadas del Beagle [Humpbacks of the Beagle Channel]

Photographic identification of humpback whales (*Megaptera novaeangliae*)



Objectives

Overall goal:

- Collaboratively identify and analyze ecological aspects of humpback whales that enter the Beagle Channel in Tierra del Fuego, Argentina.

Specific goals:

- Determine the number, size, life cycle characteristics, and population trends of humpback whales entering the Beagle Channel.
- Analyze the habitat use, migratory patterns, site fidelity, and length of stay of animals in the area.
- Identify if the Beagle humpback whales come from the Pacific Ocean or the Atlantic Ocean or if they enter from both populations.

Description of citizen participation

This initiative combines systematic surveys during regular boat outings organized by the team with records obtained by the crews and passengers of local tourist boats. Citizens send, by email and social media, the photographic and film records collected with the date on which they were obtained. Through these records, different specimens can be differentiated, mainly based on the color pattern of the ventral side of their caudal fin.

Type of citizen science project

Contributory project: It is designed by members of the scientific community, and citizens participate in data collection.

Participating parties.

- National Scientific and Technical Research Council (CONICET, by its Spanish acronym)
- National University of Tierra del Fuego, Antarctica and South Atlantic Islands (UNTDF, by its Spanish acronym)
- Comité de Seguimiento del Compromiso Onashaga [Onashaga Commitment Monitoring Committee]
- Wildlife Conservation Society Argentina (WCS)
- Proyecto IMMA [IMMA project] (research group on southern marine mammals)

Status. In progress.

Time frame. 12/4/2013 - N/A.

Frequency of project execution. Seasonal (time of year).

Participation period. Sustained over time.

Scope of the initiative. Local (city, province).

Geographic scope. Ushuaia, Tierra del Fuego.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 101 to 500.

Action/s involving citizen participation.

- Data collection

Technological device/tool required.-

Recruitment methods. By the initiative's email, promotion through social media, training sessions, and delivery of photo-identification catalogs.

Replicability. -

Scalability. Since 2018, we have seen an increase in citizen engagement which has maintained a growing trend since then.

Open access to data. -

Feedback. As part of Compromiso Onashaga, every year, before the summer season, refresher sessions are organized for both tour operators and the general public. In addition, the catalog is sent to each participant every time it is updated.

Linkage with state agency/government. -

Institutional funds.

- WCS for systematic surveys and catalog printing
- Ushuaia Bureau for catalog printing

- Support from tour operators organizing outings in the Beagle Channel that allow those who participate in the project to travel for free on their boats and take records

Awards/distinctions. -

Comments. The initiative began in 2013 as a pilot project because it was increasingly common to see humpback whales in the Beagle Channel, and the animals stayed in the area for a time. However, it was not until 2018 that there were a good number of animals identified to make a catalog. As of the beginning of 2023, there have been 130 whales identified, and more than 65% of those animals were identified thanks to the contribution of the community. The initiative seeks to create a mobile application through which updated information or news would be shared.

Knowledge areas/disciplines (OECD)
NATURAL AND EXACT SCIENCES / Biology

Leaders.

- Mónica A. Torres, Southern Center for Scientific Research (CADIC, by its Spanish acronym)/National Scientific and Technical Research Council (CONICET)
- Agustina Dellabianca, National University of Tierra del Fuego, Antarctica and South Atlantic Islands (UNTDF)
- Natalia Dellabianca, CADIC/CONICET

Contact information.

Email: jorobadasdelbeagle@gmail.com

Instagram: <https://www.instagram.com/proyecto.imma/>

Facebook: https://www.facebook.com/Mamiferosmarinosdelfindelmundo?locale=es_LA

Web: <http://www.onashaga.com.ar/>

Instagram: <https://www.instagram.com/compromisoonashaga/>

Facebook: https://www.facebook.com/CompromisoOnashaga?locale=zh_CN





Laboratorio Abierto de Espacios Públicos Verdes [Open Laboratory of Public Green Spaces]

Collaborative and urban environmental monitoring of public green spaces



Objectives

Overall goal:

- Characterize, from an open laboratory, citizen engagement and the condition of public green spaces (PGS) in the city of Rosario and Gran Rosario, and the quantifiable relationship between these spaces and the environmental and social needs of the community, and determine minimal conditions and optimal indicators.

Specific goals:

- Compile a georeferenced inventory of characteristics and features of selected spaces including size, access, coverage, maintenance level, artificial elements, tree quality, and different cultural, sports, and landscaping elements, and create maps to this end.
- Classify PGS according to their deficiencies and potentialities.
- Analyze the types of community use, behavioral aspects, environmental profile, and perception of PGS.
- Encourage the participation of citizens, civil society organizations, and government bodies in the exploration and consideration of PGS and the development of a useful survey and monitoring methodology.
- Co-design a set of verifiable protocols for the assessment of PGS based on the parameters of territorial sciences and public opinion.
- Raise awareness of the environmental importance, care, and ownership of PGS.

Description of citizen participation

Meetings and training are held to address PGS issues and combine collective and individual methods of recording data. Individual mapping notebooks are used to collect data on the relationship between proximity to green spaces and personal satisfaction, and the condition of public green spaces. Group records are also carried out to survey information, such as plant species, the different uses of the public green spaces, etc. Both types of records include aspects, such as gender perspective, accessibility, and inclusion. In addition, the collected data is evaluated, analyzing the following categories: furniture, trees, amenities, design, issues, maintenance, and accessibility.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- Gregaria (civil society organization for urbanism and citizenship innovation)
- Centro Universitario Rosario de Investigaciones Urbanas y Regionales (CURDIUR, by its Spanish acronym) [Rosario University Center for Urban and Regional Research]/National Scientific and Technological Research Council (CONICET, by its Spanish acronym)-National University of Rosario (UNR, by its Spanish acronym)
- UNR
- Fundación Bunge y Born
- World Urban Parks
- Secretariat of Environment and Public Space, Municipality of Rosario
- OpenStreetMap Argentina community
- Placemaking Latinoamérica network
- Urbanism organizations

Status. In progress.

Time frame. 7/10/2017 - 10/8/2027.

Frequency of project execution. On a quarterly basis.

Participation period. Sustained over time.

Scope of the initiative. Local (city, province).

Geographic scope. Rosario, Gran Rosario: Puerto General San Martín, San Lorenzo, Granadero Baigorria, Funes, Roldán, and Pérez.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 101 to 500.

Action/s involving citizen participation.

- Problem definition
- Data collection
- Data analysis
- Phenomenon monitoring
- Solution planning
- Solution deployment

Technological device/tool required.

- Data mining software
- GPS cameras
- Geographic information system

Recruitment methods. Sharing campaigns through email, social media, and the social media of the municipal government secretariats.

Replicability. -

Scalability. The project was carried out in the city of Rosario and, as of



March 2023, it has been developed in Gran Rosario, province of Santa Fe.

Open access to data. -

Feedback. Panel discussions and exhibitions. Emails to participants, a website, working groups, and publications.

Linkage with state agency/government. Secretariat of Environment and Public Space, Municipality of Rosario

Institutional funds.

- Fundación Bunge y Born
- Municipality of Rosario
- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions. -

Comments. -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Information and Computer Sciences

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences

SOCIAL SCIENCES / Economic and Social Geography

Leaders.

- Javier Fedele, Faculty of Architecture, Planning and Design/UNR and Centro Universitario Rosario de Investigaciones Urbanas y Regionales (CURDIUR)/UNR-CONICET
- Gisel Levit, Gregaria, civil society organization for urbanism and citizenship innovation, Argentina and Faculty of Architecture, Planning and Design/UNR

Contact information.

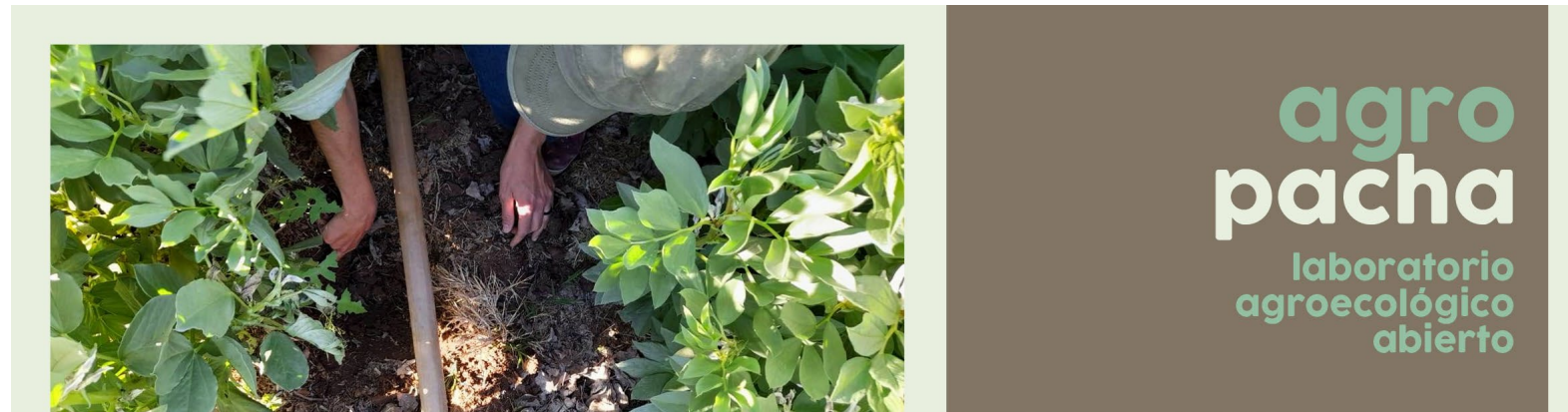
Email: curdiur@curdiur-conicet.gob.ar | gigilevit@gregaria.com.ar
Web: <https://curdiur.conicet.gov.ar/> | <https://gregaria.com.ar>





Laboratorio Agroecológico Abierto [Open Agroecological Laboratory]

Soil quality monitoring. Soil biodiversity. Environmental monitoring in agricultural environments



Objectives

Overall goal:

- Co-produce knowledge and systematize lessons learned from the agroecological transition of the Cuyo region, with special emphasis on soil management and changes in agricultural practices, based on discussions among different stakeholders.

Specific goals:

- Co-design an open technological infrastructure to systematize, share, and visualize relevant information for different agroecology stakeholders in the Cuyo region.
- Monitor soil health indicators with open laboratory tools and instruments.
- Gather information in a participatory manner about productive spaces and agricultural practices to assess their impact on soil health.
- Develop public communication strategies that make open data available, make information visible, and tell local stories about the agroecological transition.

Description of citizen participation

During in-person workshops, free and low-cost technologies are used to address different aspects related to soil health, as a way to channel discussions and promote a knowledge exchange among farmers. The goal is to “reanimate” soils through community, scientific, and artistic practices that trigger new ideas for the renewed soil. The tools developed are focused on visible dimensions of the soil, such as its inherent complexity, microbiological diversity and activity, and its relationship with organic matter. In each workshop, some aspect of soil health is addressed and a basic guide is produced for citizens to analyze their samples, share their soil stories, and share some insights and conclusions about their practices. Data collection and analysis uses baseline protocols that are then fed with local knowledge shared by producers. Moreover, freer research processes are developed where producers participate in all stages of the research, from design, production, analysis of the results, and elaboration of new work hypotheses.

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process.

Participating parties.

- Cooperativa de Trabajo Ayllu Ltda [Worker Cooperative Ayllu Ltda] (Maipú, Mendoza)
- Centro de Formación e Investigación Campesina [Rural Training and Research Center] (CEFIC, by its Spanish acronym) - Unión de Trabajadores Rurales Sin Tierra - Somos Tierra [Union of Landless Rural Workers - We Are Land] (UST, by its Spanish acronym) (Jocolí, Mendoza)
- Asociación de productores Crece desde el Pie (agricultural producers association) (San Carlos, Mendoza)
- reGOSH - Red de tecnologías libres para ciencia y educación (network of free and open source technologies for science and education)
- Cooperativa Ayllu
- Centro de Formación e Investigación Campesina (CEFIC)
- National Institute of Agricultural Technology (INTA)
- National Scientific and Technical Research Council (CONICET)
- School of Agricultural Sciences and School of Exact and Natural Sciences, National University of Cuyo (UNCuyo)

Status. In progress.

Time frame. 6/12/2019 - N/A.

Frequency of project execution. According to the demands or approaches to the community/communities.

Participation period. 1 week per season, per participant (farmers, citizens).

Scope of the initiative. Local (city, province).

Geographic scope. Administrative areas of Maipú, Lavalle, and San Carlos in the province of Mendoza.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 51 to 100.

Action/s involving citizen participation.

- Problem definition
- Data collection
- Data analysis
- Phenomenon monitoring
- Solution planning
- Solution deployment

Technological device/tool required.

- Microscopes for soil microbiology
- Laboratory equipment for circular chromatographies
- CO2 sensors for soil respiration
- Conductivity and pH sensors
- Colorimeters

Recruitment methods. -

Replicability. -

Scalability. The number of participants has increased over time. In 2019, the project started with small workshops and, during 2022, a meeting with more than 100 people was organized.

Open access to data. There is no defined protocol for data sharing. We will discuss their governance considering that they are common goods produced jointly, and that the community must discuss and decide how, with whom, and why to share them, recognizing their sensitivity in the context of a political and socio-environmental dispute around the food production system in which agroecology is developed in Mendoza and Argentina.

Feedback. The participants have been given feedback through in-person meetings where the results are discussed.

Linkage with state agency/government. Collaborations with INTA and the National University of Cuyo (UNCuyo).

Institutional funds.

- International cooperation (CYTED, Shuttleworth Foundation, Hackteria Network).
- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions. -

Comments. All the devices used and the documents of the meetings are freely accessible and available through the repository (<https://gitlab.fcen.uncu.edu.ar/regosh>).

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Biology
AGRICULTURAL SCIENCES / Agriculture, Silviculture and Fishing
AGRICULTURAL SCIENCES / Other Agricultural Sciences

Leaders.

- Fernando Castro, Cooperativa Ayllu and School of Agricultural Sciences, National University of Cuyo (UNCuyo)
- Laura Costella, National Institute of Agricultural Technology (INTA)
- Facundo Martín, Centro de Formación e Investigación Campesina (CEFIC) and National Scientific and Technical Research Council (CONICET).
- Julia Astegiano, Instituto Argentino de Investigaciones en Zonas Áridas (IADIZA), National Scientific and Technical Research Council (CONICET)
- Pablo Cremades, Exact Sciences School, National University of Cuyo (UNCuyo) (UN Cuyo)

Contact information.

Email: ferhcastro@gmail.com, marialauracostella@gmail.com, fdmartingarcia@gmail.com

Website: regosh.libres.cc/proyectos/lab-agroeco-abierto/





Los anfibios de la Ciudad Autónoma de Buenos Aires

[The Amphibians of the Autonomous City of Buenos Aires]

Amphibian monitoring and biological research



Objectives

Overall goal

Make a record and inventory of the amphibian species living in the Autonomous City of Buenos Aires through citizen participation, helping the community get close to nature and becoming a potential management tool for environments identified as important sites for amphibians.

Specific goals

- Promote citizen participation in research projects to enhance the value of the amphibian fauna in the Autonomous City of Buenos Aires and surrounding areas.
- Identify the important sites for amphibian conservation in the City of Buenos Aires.
- Promote and combine the inventory-making and monitoring of amphibians at the important sites previously identified.

Description of citizen participation

Anyone can upload records (photo or audio) which will be validated by the project's technical team and other users from the community, using a user profile in the iNaturalist (Argentinat) citizen science platform. The project leaders will upload these records when the citizens cannot do it on their own. Citizens should send them to the SAVE THE FROGS! Buenos Aires email. Through these records, contact is established with local citizens at places where a systematic field survey is needed, encouraging the rest of the citizens to monitor records and observe phenomena of interest (disappearance of water bodies or green spaces, etc.) as well as provide training in the territory to enhance and increase the number of records in the platform. Moreover, upon request of the relevant permissions, the photos or audio recordings sent to the project will be used to share educational content through the project's social media, thus creating feedback.

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

SAVE THE FROGS! Buenos Aires.

Status. In progress.

Time frame. 03/14/2017 - N/A.

Frequency. Uninterruptedly.

Participation period. Participation is occasional and involves taking a photo or recording audio of an amphibian and uploading it to the platform. It only takes a few minutes. However, citizens' participation tends to be steady over time.

Scope of the initiative. Local (city, province).

Geographic scope. The Autonomous City of Buenos Aires.

Project development members. It has been developed with the collaboration of both scientists and participants with formal training and without it.

Number of participants. From 101 to 500.

Action/s involving citizen participation.

- Data collection.
- Phenomenon monitoring.
- Other/s. Local contact for specific surveys.

Technological device/tool required.

- Mobile phones to upload observations (photo or audio) of amphibians (dead or alive) in different stages.
- Computer to upload observations (photo or audio) of amphibians (dead or alive) in different stages.
- Camera.

Recruitment methods. Project's social media. Internal communications through the citizen science platform. Training sessions, and invitations to go on outings and do volunteer work.

Replicability. The project has been replicated using the same platform and adapting the methodology to different audiences and contexts. A similar project is currently being carried out for the entire province of Buenos Aires.

Scalability. There has been an increase in the number of participants and records over the months and years.

Open access to data. Data is shared on the open-access platform and the project's social media posts.

Feedback. Using a database of the users who had uploaded records, feedback is given by email, newsletter, and the citizen science platform's newspaper. It is also posted on the project SAVE THE FROGS! Buenos Aires social media and shared through the telegram channel.

It informs participants about the project's progress or news (species or sites that still need to be recorded or relevant findings) and invites them to actively participate to upload more records and go on the scheduled outings, among other activities.

Linkage with state agency/government. -

Institutional funds. -

Awards/distinctions -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences.

NATURAL AND EXACT SCIENCES / Biology.

NATURAL AND EXACT SCIENCES / Other Natural and Exact Sciences .

Project leaders.

- Natalia Maruscak, SAVE THE FROGS! Buenos Aires.
- Rocío Rudak, SAVE THE FROGS! Buenos Aires.

Contact information

Email: buenaosaires@savethefrogs.com; savethefrogs.bsas@gmail.com

Web: linktr.ee/buenosairesstf; www.argentinat.org/projects/los-anfibios-de-la-ciudad-autonoma-de-buenos-aires

YouTube: youtube.com/channel/UCCgDA9ftTH1hZfHK8eNQumg

Instagram: instagram.com/buenosairesstf/

Facebook: facebook.com/buenosairesstf/

Twitter: twitter.com/buenosairesstf

Blog: stfbuenosaires.blogspot.com/

Telegram channel: t.me/buenosairesstf





Mapeando las tramas del agua [Mapping Water Weaves]

Environmental monitoring. Collaborative mapping of hydrosocial territories. Water justice



Objectives

Overall goal:

- Learn about and characterize routes, weaves, and memories of water in different hydrosocial territories of Córdoba.
- Build foundational knowledge to serve as a resource for participatory management of hydrosocial territories.

Specific goals:

- Identify and record the biophysical processes, associated technologies and infrastructure, and the socio-cultural dimension in relation to water.
- Establish connections among the water routes, production of scarcity, and water quality.
- Collectively design water sampling and analysis strategies in territories, promoting a potential interaction with scientific-academic, management, or community-based institutions or projects that address water quality studies.

Description of citizen participation

Citizens co-participate throughout the process. Firstly, they participate in the identification of hydrosocial territories affected by water scarcity and quality issues. The communities themselves and the spaces of socio-environmental struggle initially identify the local issues. Secondly, they co-create mapping workshops in the territory with scientists, scholars, and citizens. Thirdly, they collaborate in the collective mapping of the hydrosocial territory, developed in the area affected by the issue, with the active involvement of citizen scientists participating in the project and the community at large. Fourth, they participate in the design of a water sampling strategy and the generated data record. These strategies represent one of the main products of collective mapping. Finally, they are involved in the analysis and sharing of findings with the community at large, as well as in the development of collaborative strategies with state administration bodies and academic institutions. The analysis of mapping activity records and the integration between this analysis and academic knowledge are carried out jointly through work meetings or collective work on digital platforms. Throughout the process, academic knowledge and environmental knowledge/knowledge of inhabiting interact horizontally.

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process.

Participating parties.

- Research Center on Earth Sciences (CICTERRA, by its Spanish acronym)/National Scientific and Technical Research Council (CONICET, by its Spanish acronym)-National University of Córdoba (UNC, by its Spanish acronym)
- Faculty of Philosophy and Humanities (FFYH, by its Spanish acronym)/UNC
- Organización Socioambiental Almaverde (socio-environmental organization)

Status. In progress.

Time frame. 6/1/2022 - N/A.

Frequency of project execution. According to the demands or approaches to the community/communities.

Participation period. Sustained over time.

Scope of the initiative. Local (city, province).

Geographic scope. Province of Córdoba.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 1 to 50.

Action/s involving citizen participation.

- Problem definition
- Data collection
- Data analysis
- Phenomenon monitoring
- Solution planning
- Solution deployment

Technological device/tool required.

- Analog and digital tools for mappings and records

Recruitment methods. Recruitment is organized for participation in a collective mapping and sharing of findings. In the initiative at Almafuerte, recruitment was managed by the Outreach Office of the Faculty of Philosophy and Humanities/UNC.

Replicability. -

Scalability. -

Open access to data. The plan is to collectively develop strategies for the open access of the information produced along with the open digital repositories of the UNC.

Feedback. Citizens have access to the co-produced information and findings in real time. Moreover, generated (partial and final) reports



are disseminated and shared with members from the participating communities through findings presentation meetings in the territory or academic spaces.

Linkage with state agency/government. -

Institutional funds.

- They have been obtained from the project's own funding sources
- Institutional funds from the Outreach Office/Faculty of Philosophy and Humanities (FFYH)/National University of Córdoba (UNC)

Awards/distinctions. -

Comments. -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences
SOCIAL SCIENCES / Economic and Social Geography

Leaders.

- Gilda Collo, Research Center on Earth Sciences (CICTERRA)/National Scientific and Technical Research Council (CONICET)-National University of Córdoba (UNC) and the Faculty of Philosophy and Humanities (FFYH)/UNC
- Janet Juri, Organización Socioambiental Almaverde (UNAHUR, by its Spanish acronym)

Contact information.

tramasdelagua@ffyh.unc.edu.ar





Mapeo de biodiversidad urbana [Urban biodiversity mapping]

Santa Fe urban biodiversity



Objectives

Collaboratively map and monitor the urban biodiversity of the city of Santa Fe to develop policies and tools for the care and prevention of its deterioration.

Description of citizen participation

Citizens participate by providing data and information to the mapping of plant and animal species present in the green spaces of the city of Santa Fe through the ArgentiNat platform. This platform helps participants upload photographic and sound records of flora and fauna species observed in a specific location and cooperate by identifying species uploaded by other observers. As part of the project, observation tours for groups and seasonal safaris are organized in Reserva Natural Urbana del Oeste (a nature reserve) as well as outings in municipal parks and squares. In addition, upon institutions' requests, tours are carried out in green spaces near the requesting institution.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- Secretariat of Environment and Climate Change/Municipality of the city of Santa Fe.
- Observatorio Ambiental Urbano [Urban Environmental Observatory].
- School of Humanities and Sciences/National University of the Littoral (UNL, by its Spanish acronym).
- Custodios del Territorio [Custodians of the Territory] (environmental conservation organization).
- Club de Observadores de Aves (COA Celestino, Santo Tomé in Spanish) [Bird Watchers Club].
- Proyecto Anfibios de Santa Fe [Santa Fe Amphibian Project].

Status. In progress.

Time frame. 1/1/2020 - N/A.

Frequency. According to the demands or approaches to the community/communities.

Participation period. 50-minute tours and then data uploading time.

Scope of the initiative. Local (city, province).

Geographic scope. City of Santa Fe, province of Santa Fe.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 1 to 50.

Action/s involving citizen participation.

- Data collection
- Data analysis
- Phenomenon monitoring

Technological device/tool required.

- Mobile phone, camera, or tablet
- Internet connection
- Binoculars
- Magnifying glasses
- Local bird/species guides

Recruitment methods. Municipality's social media, dissemination through mass media (television and newspapers).

Replicability. We have shared the experience with the local governments of the city of Santo Tomé, the city of Esperanza, and the city of Sauce Viejo of the province of Santa Fe which have organized similar outings.

Scalability. In each call, participation and questions about outings have been increasing.

Open access to data. -



Feedback. -

Linkage with state agency/government. Municipality of Santa Fe.

Institutional funds. Municipality of Santa Fe.

Awards/distinctions. -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences.
NATURAL AND EXACT SCIENCES / Biology.

Project leaders.

- Luciana Manelli, Observatorio Ambiental Urbano/Secretariat of Environment and Climate Change/Municipality of Santa Fe

Contact information

Email: l.manelli@santafeciudad.gov.ar ; lucymanelli@gmail.com
Website: <https://santafeciudad.gov.ar/secretaria-de-ambiente-y-cambio-climatico/observatorio-ambiental-urbano/>
Mapping of the different species recorded in the city's green spaces: <https://www.argentinat.org/projects/espacios-verdes-de-la-ciudad-de-santa-fe>





Mapeo de juveniles de peces [Mapping of juvenile fish]

Survey of juvenile freshwater fish used for commercial/recreational fishing



Objectives

Overall goal

Map the presence, abundance, and distribution of juvenile fish used for commercial fishing in lotic and lentic environments of the Paraná River within Argentinian territories.

Specific goals

- Learn more about fish use patterns (fry and juveniles, mainly use patterns of fish species of commercial/recreational significance) in the great spatial heterogeneity of the Paraná river. This is done according to the hydro-geomorphological characteristics of the system, in lotic/lentic environments, and in relation to connectivity.
- Monitor the reproductive success of commercial fish species based on the recording of fry/juvenile specimens in the Paraná river (within Argentinian territory), during and after cases of extraordinary low tide.

Description of citizen participation

Citizens send photographic records of identified juvenile fish with data on species, size, location, and estimated quantity through different media (Instagram, email, WhatsApp), which helps to determine the updated distribution of juvenile specimens in the Paraná river.

Type of citizen science project

Contributory project: It is designed by members of the scientific community, and citizens participate in data

Participating parties.

- National Scientific and Technical Research Council (CONICET): Luis A. Espínola and Martín CM Blettler (Laboratory Directors), Ana Pia Rabuffetti (in charge of this project), Elie Abrial, and Nicolás Garello.
- Gabriel Ducasse, recreational fisher, Ríos Sanos Foundation.
- Asociación de Pescadores Deportivos del Litoral (APDL in Spanish) [Coastal Recreational Fishermen's Association], active promotion and participation of its members.
- Ríos Sanos Foundation, active promotion and participation of its members.

Status. In progress.

Time frame. 09/01/2022 - N/A.

Frequency. Seasonal (time of year).

Participation period. Each data log takes less than 10 minutes. Many people participate on a regular basis, others only occasionally.

Scope of the initiative. National (two or more provinces).

Geographic scope. Argentine Littoral, provinces near the Paraná and Río de la Plata rivers, but the records are varied and come from different areas.

Project development members. Collaboratively developed by members of the scientific community and participants without formal training.

Number of participants. From 51 to 100.

Action/s involving citizen participation.

- Data collection
- Phenomenon monitoring

Technological device/tool required.

- Mobile phone with a camera
- Ruler or measuring tape
- GPS

Recruitment methods. -

Replicability. -

Scalability. The promotion of the project (through local media, radio interviews, digital magazines, and Instagram live broadcasts) has increased citizen participation.

Open access to data. Submitted data logs are shared daily through the project's Instagram account.

Feedback. Direct communication is maintained with each person who submits their data logs. They are then tagged on the project's Instagram when sharing their information.



Linkage with state agency/government. -

Institutional funds. Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions. -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences.
NATURAL AND EXACT SCIENCES / Biology.

Project leaders.

- Pia Rabuffetti, National Scientific and Technical Research Council (CONICET).
- Gabriel Ducasse, Ríos Sanos Foundation.

Contact information

Email: pia.rabuffetti@conicet.gov.ar, gabifishing16@gmail.com

Instagram: [instagram.com/map.peces.parana](https://www.instagram.com/map.peces.parana)

Form for uploading information: <https://docs.google.com/forms/d/e/1FAIpQLSf6gbCcECRdQH55Ztsac7xr7XBhzfdCustUd1-NiP56brMjw/viewform>





MASARE - Sustainable Aggregates Management in Rivers and Reservoirs

Environmental monitoring and development of public policy tools



Universidad
Nacional
de Córdoba



Objective

Overall goal

Make progress in the spatial and temporal characterization of sediment transport dynamics in bodies of water in the province of Córdoba.

Specific goals:

- Determine quantity, quality and size of sediments transported in bodies of water.
- Characterize spatial and temporal variation in the size of bottom sediment transported in bodies of water.
- Estimate the rate of bottom sediment transport and suspension in the study area.
- Transfer the information obtained and the tools developed to sand mine representatives to improve their commercial activities and optimize aggregates extraction.
- Transfer the information obtained and the tools developed to management agencies to adopt measures to mitigate the impacts of erosion and/or sedimentation generated by inadequate sediment management.

Description of citizen participation

The project's participants are operators of mechanical sand mines installed on the Río Cuarto riverbed, operators of manual sand mines working in Río de Los Sauces, and secondary students and teachers of Cristo Rey School of Río Cuarto.

The work methodology is defined during a co-creative process, which includes all stakeholders (representatives of the community, management agencies, and academic and research institutions).

Furthermore, sand mine operators, with extensive experience in the system under study, make significant technical and scientific contributions related to the evolution over time of the different processes to be studied (hydrology, hydraulics, sediment transport, etc.). More specifically, every month, sand mine operators take bed and suspended sediment samples and repeat this procedure after major flood events.

Additionally, operators report rainfall using instrumentation located in each sand mine to correlate the evolution of sediment transport characteristics with existing hydrometeorological conditions.

Representatives of academic and research institutions process the samples. The results are then transferred to the community and management agencies for analysis, and to jointly define and evaluate public policies.

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process.

Participating parties.

It is promoted by the School of Exact, Physical and Natural Sciences (FCEfYN), National University of Córdoba (UNC), along with the participation of the following institutions:

- Provincial Administration of Water Resources, Province of Córdoba (APRHI)
- National University of Río Cuarto (UNRC)
- National Scientific and Technical Research Council (CONICET)
- Cristo Rey school of Río Cuarto

Status. In progress.

Time frame. 10/01/2021 - N/A

Frequency. Uninterruptedly.

Participation period. Sustained over time.

Scope of the initiative. Local (city, province).

Geographic scope. Province of Córdoba, Argentina.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 1 to 100.

Action/s involving citizen participation.

- Problem definition.
- Data collection.
- Data analysis.
- Phenomenon monitoring.
- Solution planning.
- Solution deployment.

Citizens participate in all stages of the process.

Technological device/tool required.

- Shovels for extraction of sediment samples from the river bottom.
- Containers for storing bottom and suspended sediment samples.
- Forms to report observations, experiences and comments.
- Rain gauges installed to correlate samples to a hydrometeorological situation.
- Stopwatch and measuring tape to estimate flow rates.

Recruitment methods. Through management agencies, in particular through APRHI.

Replicability. Work has already begun on Río San Antonio (San Antonio River), one of the main tributaries of the San Roque reservoir, and on Río Xanaes (Xanaes River) (Río Segundo).

Scalability. Non-mechanical sand mines will be added in the project, which are low-tech but have a large number of participants, with a significant social impact. The rest of the community will join in later. Therefore, the number of participants as well as the project's spatial coverage are expected to increase annually.

Open access to data. Knowledge and results are transferred to sand miners through reports. In addition, information is transmitted to the rest of society through social media as well as the reports prepared by the people who participate in this project.

Feedback. Sand mine operators receive detailed information on the quality of the sediment they obtain and its spatial and temporal variability. This information will enable them to improve their commercial and extractive activities.

Linkage with state agency/government. Institutional support is provided by:

- Ministry of Public Services of the Government of the Province of Córdoba.
- APRHI.

The data generated in this project are transferred directly to the management agencies in charge of monitoring water resources in the province of Córdoba.

Institutional funds.

- UNC Outreach Office
- Ministry of Public Services of the Government of the Province of Córdoba
- APRHI
- CONICET
- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions -.

Comments. In the upcoming stages, the project will include non-mechanical sand mines of Río Cuarto, which employ low technology but involve a large number of participants and have a significant social impact. Additionally, educational institutions of the Río de Los Sauces basin will be added. Therefore, the number of participants as well as the project's spatial coverage are expected to increase annually.

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences.
ENGINEERING AND TECHNOLOGY / Civil Engineering.

Project leaders.

- Carlos Marcelo García Rodríguez, School of Exact, Physical and Natural Sciences (FCEfYN), National University of Córdoba (UNC) and the National Scientific and Technical Research Council (CONICET) in Argentina.
- Rocío Bianchi, Institute of Advanced Studies in Engineering and Technology (IDIT), CONICET.

Contact information

Email: masareproyecto@gmail.com; carlos.marcelo.garcia@unc.edu.ar; rbianchi@mi.unc.edu.ar

Web: sites.google.com/view/proyectomasare/

Twitter: twitter.com/ProyectoMasare





MATTEO Monitoreo Automático del Tiempo en la Tropósfera en Escuelas y Organismos del país [Automatic Monitoring of Weather in Troposphere in Schools and Organizations of the country]

Educational linkage, interinstitutional integration, and environmental monitoring



Objectives

Overall goals

- Highlight the importance of community involvement in recording valuable information for optimal water resource management.
- Promote interinstitutional and intrainstitutional work, by encouraging the partaking of students at different educational levels.
- Promote citizen participation in scientific projects.
- Foster the involvement of public and private schools of any level and specialization.
- Plan the participation of residents in recording hydrometeorological data.

Specific goals

- Record and analyze weather data to characterize particular physical phenomena (for example, floods, droughts, fire risk, etc.) occurring in different regions. The community also contributes to the definition of methodological aspects and instrumentation creation.
- Establish ties at every educational level between public and private educational establishments.
- Jointly co-create knowledge with the community to mitigate the effects of environmental hazards (floods, droughts, wildfires, pollution, etc.).

Description of citizen participation

Children, young people, and their families carry out hydrological and hydrometeorological measurements and build their own low-cost instruments. These instruments are validated by comparison with official instruments (for example, the instruments are installed in the National Weather Service educational experimental fields). Additionally, the students are promoters of what they have learned, applying it to their daily environment. Private residents have been incorporated to collaborate with data recording, giving rise to MATTEO R., where the R in the last name (Ravagli) refers to Residents. Today, schools from the MATTEO project are currently participating in international scientific projects such as the PREVENIR project, funded by the Science Agency of Japan.

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process.

Participating parties.

- Faculty of Exact, Physical and Natural Sciences (FCEyN, in Spanish) of the National University of Córdoba (UNC, in Spanish).
- National Scientific and Technical Research Council (CONICET, in Spanish) of Argentina with the support of allied institutions.

Status. In progress.

Time frame. 01/03/2018 - N/A

Frequency of project execution. Uninterruptedly.

Participation period. On a sustained basis.

Scope of the initiative. National.

Geographic scope. Province of Córdoba, Autonomous City of Buenos Aires, and provinces of Buenos Aires, Chubut, Salta, San Luis, Santa Fe, Tucumán, Tierra del Fuego, Antarctica and South Atlantic Islands.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. Over 1001.

Action/s involving citizen participation Problem identification. Data collection. Data analysis. Phenomenon monitoring. Solution design. Solution implementation. Citizens are involved in the entire process.

Technological device/tool required.

- Low-cost automated commercial weather stations (worth around USD 100)
- Low-cost temperature and humidity sensors
- Beaufort scale
- Commercial rain gauges and eco-rain gauges (built with recyclable material)
- Other low-cost weather instruments built by the students, faculty, and families in each educational community
- Fire danger signs
- In all cases, a data record folder is created.

Recruitment methods. Educational institutions joined the initiative as a result of the interests of both students and the teaching staff. Specific collaboration agreements have been signed with several educational institutions. Agreements have been also signed with the Ministry of Education of the Province of Córdoba (Directorate of Technical Schools) and with the Ministry of Education of the Autonomous City of Buenos Aires (Escuela Abierta - Actividades Científicas Infantiles y Juveniles program).

Replicability. The network is constantly growing and, currently, has more than 100 educational institutions in different parts of the country.

Scalability. Every year, the number of participants increases significantly.

Open access to data. The findings and knowledge are disseminated through social media and by means of the reports created by project members. The data collected by citizens is posted on <https://matteo.aprhi.gob.ar/>, which is a publicly accessible website. The data generated in this project are transferred directly to the management agencies in charge of monitoring water resources.

Feedback. Students, teaching staff and residents prepare a set of guidelines which are incorporated into the new stages of the project.

Linkage with state agency/government.

- Ministry of Public Services of the Province of Córdoba
- Provincial Administration of Water Resources (APRHI, by its Spanish acronym) of Córdoba
- Ministry of Education of the Province of Córdoba
- National Weather Service (SMN, by its Spanish acronym)
- Subregional Semi-arid Region Center of the National Water Institute (INA-CIRSA, by its Spanish acronym)
- Ministry of Education of the Autonomous City of Buenos Aires (Escuela Abierta - Actividades Científicas Infantiles y Juveniles program)

Institutional funds.

- They have been obtained from the extension secretariats of the universities leading this initiative. Besides, financial support and donations were provided by the following entities: the Ministry of Public Services of the Province of Córdoba; the Provincial Administration of Water Resources of Córdoba, the Department of Atmospheric Sciences of the University of Illinois at Urbana-Champaign; the Semi-arid Region Deputy Management of the National Water Institute, the Municipality of Villa Carlos Paz, and CONICET.
- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions. It has been declared a project of legislative interest at a local level in the city of Villa Carlos Paz (Declaration No. 025/2019-202) and by the Municipality of Sinsacate (Ordinance No. 1108/2021).

Classification of knowledge areas (OECD).

NATURAL SCIENCES / Earth and related Environmental sciences
ENGINEERING AND TECHNOLOGY/ Civil Engineering
AGRICULTURAL SCIENCES/Other agricultural sciences

Project leaders.

- Director: Carlos Marcelo García Rodríguez, FCEyN - UNC, CONICET
- Co-director: José Manuel Díaz Lozada, FCEyN - UNC, INA-CIRSA - CONICET
- Other project leaders: Rocío Bianchi (FCEyN-UNC, CONICET); Joaquín Segura Ellis (FCEyN-UNC, CONICET)

Contact information.

Emails: proyecto.matteo@gmail.com ; jmdiazlozada@unc.edu.ar ;

carlos.marcelo.garcia@unc.edu.ar

Web: sites.google.com/view/proyectormatteo/

Facebook: facebook.com/proyectosmatteoyadopto

Instagram: instagram.com/matteo_adopto

Twitter: twitter.com/matteo_adopto



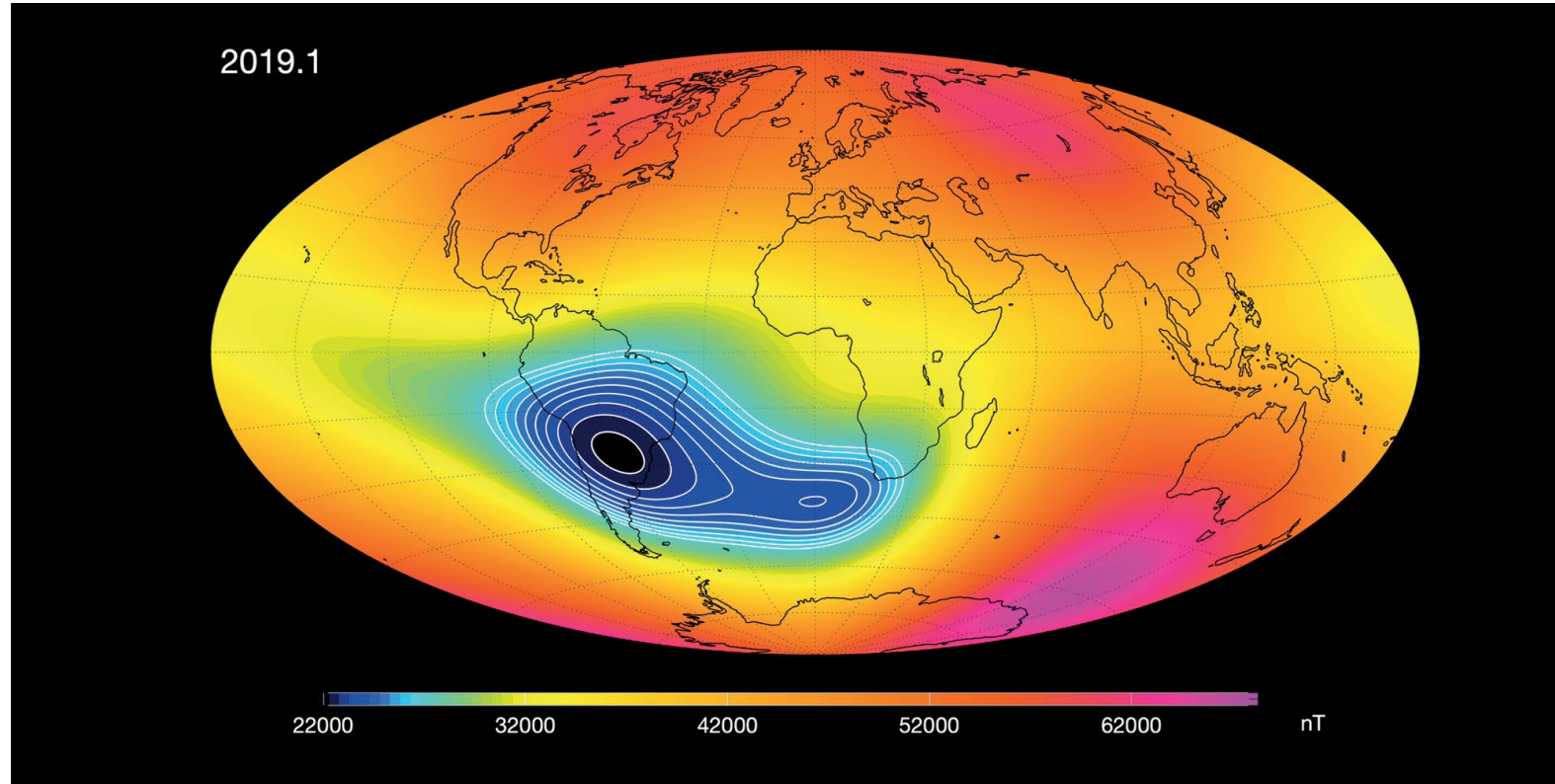


Medición del campo geomagnético en Argentina

[Measurement of the geomagnetic field in Argentina]

Measurement of the Earth's magnetism

Departamento de Física
UBAexactas



Objectives

Overall goal

- Jointly analyze the spatial and temporal variation of the Earth's magnetic field through measurements carried out in secondary schools in different parts of the country.

Specific goals

- Characterize the Earth's magnetism and the factors contributing to its spatial and temporal variability in Argentina.
- Promote the participation of students in the collection of experimental data that can be shared with those collected by students from different places in the country.

Description of citizen participation

Measurements are obtained in work groups with the guidance of a teacher and are performed in areas free from magnetic interference within the educational institution. The project organizes training sessions where details and instructions are provided to carry out the measurements. To participate, students use their mobile phones to perform measurements and learn the concept of "magnetic dipole." Finally, the students compare the measurements taken in the same place at two different times.

Type of citizen science project

Contributory project: It is designed by members of the scientific community, and citizens participate in data collection.

Participating parties.

- Department of Physics/School of Exact and Natural Sciences/University of Buenos Aires (UBA, by its Spanish acronym)
- Enlace Ciencias [Science Link] Program /General Office for Educational Planning (DGPLEDU, by its Spanish acronym)/Ministry of Education of the Autonomous City of Buenos Aires
- Secondary schools of public and private management of the Autonomous City of Buenos Aires
- United Nations Development Program (UNDP)
- Group of students from the Magnetics Society of the Institute of Electrical and Electronics Engineers (IEEE), the International Union of Pure and Applied Physics (IUPAP), the International Union of Geodesy and Geophysics (IUGG), and the Uruguayan Society of Physics

Status. In progress.

Time frame. 9/10/2022 - N/A.

Frequency of project execution. At least twice in a year during the school year.

Participation period. 1 year of training, measurement collection, and data analysis.

Scope of the initiative. International (two or more countries).

Geographic scope. Argentina.

Project development members. Entirely developed by participants with formal scientific training.

Number of participants. From 51 to 100.

Action/s involving citizen participation

- Data collection
- Phenomenon monitoring
- Training on measurement processes and understanding of associated uncertainties

Technological device/tool required.

- Mobile phones with a magnetometer or compass. The Phyphox (University of Delft, Netherlands) and CrowdMag (National Oceanic and Atmospheric Administration, United States) applications are required. Measurements can be carried out with or without an Internet connection.

Recruitment methods. Implementation is achieved in schools.

Replicability. -

Scalability. -

Open access to data. -

Feedback. -



Linkage with state agency/government. Ministry of Education of the Autonomous City of Buenos Aires.

Institutional funds. -

Awards/distinctions. -

Comments. The Earth's magnetic field is generated from the movement of liquid metals inside our planet. Roughly speaking, this field can be considered dipolar, that is, it can be similar to that of a bar magnet. Due to the range of latitudes in our country, the field is expected to vary significantly from one extreme to the other. This contributes to the discussion of students from different parts of our country regarding the factors behind the differences in their measurements and their understanding of the concept of magnetic dipole. On the other hand, the variation in measurements taken in the same place at different times helps participants discuss changes within the Earth, variations in the magnetosphere, or magnetosphere-ionosphere coupling. Understanding how the magnetic field works is essential to comprehend natural phenomena (bird migrations), aspects of daily life (global positioning systems), and technological aspects (deterioration of satellites, oil pipelines, etc.).

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Physics

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences

Leaders.

- Silvina Ponce Dawson, UBA-National Scientific and Technical Research Council (CONICET, by its Spanish acronym)
- César Bertucci, UBA-CONICET
- Silvia Blaustein, Government of the Autonomous City of Buenos Aires (GCBA, by its Spanish acronym)

Contact information.

E-mail: silvina@df.uba.ar; cbertucci@df.uba.ar; silvia.blaustein@gmail.com

Website: <https://wp.df.uba.ar/campogeomagnetico/>





Memoria y Archivos por los derechos humanos: la significación política, social y subjetiva del Archivo Biográfico Familiar de Abuelas de Plaza de Mayo [Memory and archives for human rights: the political, social, and subjective significance of the Family Biographical Archive of Abuelas de Plaza de Mayo]

Human Rights; Memory; Dictatorship; Archives



Objectives

Overall goal

• Research, in a participatory way, about the elaboration of identity, the knowledge of personal history, and the re-establishment of social, family, and affectional bonds among people (grandsons and granddaughters) who were kidnapped by State terrorism in their childhood and who were searched for and found by Abuelas de Plaza de Mayo (human rights association).

Specific goals

• Study the delivery of the “boxes” of the Family Biographical Archive (the only one of its kind) created by Abuelas de Plaza de Mayo to be given to the granddaughters and grandsons found in order to know and understand the uses and meanings they are given in the process of reconstructing their identities and reassembling their histories and their family and social bonds and political ties.

Description of citizen participation

Activists, workers, grandsons, and granddaughters participate in the elaboration of the project and will be part of each stage of the research.

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process.

Participating parties.

- National Scientific and Technical Research Council (CONICET, by its Spanish acronym)
- Interdisciplinary School of Higher Social Studies/National University of San Martín (UNSAM, by its Spanish acronym)
- Institute of Anthropological Sciences/School of Philosophy and Language/University of Buenos Aires (UBA)
- Abuelas de Plaza de Mayo (human rights association)

Status. In progress.

Time frame. 11/01/2023 - N/A.

Frequency of project execution. One-time only.

Participation period. Two years.

Scope of the initiative. National (two or more provinces).

Geographic scope. The Autonomous City of Buenos Aires, Santa Fe, Córdoba, and Tucumán.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 1 to 50.

Action/s involving citizen participation

- Across the project

Technological device/tool required.

- Video cameras

Recruitment methods. N/A.

Replicability. -

Scalability. -

Open access to data. -

Feedback. N/A.

Linkage with state agency/government. -

Institutional funds.

- Subsidio de Promoción a Proyectos de Ciencia Ciudadana [Grant to Promote Citizen Science Projects]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions. -

Comments. -

Knowledge areas/disciplines (OECD)

HUMANITIES / History and Archeology



Leaders.

- Isabella Cosse, CONICET and Interdisciplinary School of Higher Social Studies/National University of San Martín (UNSAM). isabella.cosse@gmail.com
- Carla Villalta, CONICET and Institute of Anthropological Sciences/School of Philosophy and Language/University of Buenos Aires (UBA). carlavillalta@gmail.com
- Iván Fina, Abuelas de Plaza de Mayo. ivanfina@hotmail.com

Contact information.

Email: isabella.cosse@gmail.com, carlavillalta@gmail.com, ivanfina@hotmail.com.





Memorias performativas de los juicios de lesa humanidad

[Performative memories of trials for crimes against humanity]

Human Rights and memories



Objectives

Overall goal

- Strengthen the construction of performative memories of trials for crimes against humanity using the field of study of performing arts, through the tracking, study, and design of performative devices promoting the participation of citizens to co-build awareness of human rights together with artists, activists, and community associations.

Specific goals

- Survey testimonial experiences in a court incorporating stage or performative, stage or theatrical elements using figures, motifs, or procedures inherent to those trials.
- Co-construct performative memories of the legal process with artists, activists, and community associations employing performing arts tools based on an intersectional perspective on human rights to revive archives, recover testimonies, and share these experiences in citizen spheres.
- Build an audiovisual archive linked to the project that will be part of a subcollection of performative memories of trials for crimes against humanity in Fondo Documental Teatro y Política en América Latina (TyPAL, by its Spanish acronym) [Documentary Collection of Theatre and Politics in Latin America], located in the Audiovisual Archive of the Gino Germani Research Institute (IIGG, by its Spanish acronym).

Description of citizen participation

The research group of the Gino Germani Institute and the Centre for Legal and Social Studies (CELS, by its Spanish acronym) develop initiatives such as a mapping of actions, experiences, productions, and plays; the collection, classification, and organization of materials to reconstruct these actions and their analysis; the design of semi-structured interviews with people who have given testimony, such as judicial officers, playwrights, cultural producers, actors, and artists; the construction of a device for artistic-citizen intervention together with other groups of civil society; and the design of the intervention through workshops with professionals of the performing arts with experience in the subject. The last initiatives will also include the organizations Memoria Palermo and Comisión de Familiares y Compañeros de Detenidos-Desaparecidos de Tres de Febrero [Commission of Relatives and Friends of Disappeared Detained Persons of Tres de Febrero].

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process.

Participating parties.

- Study Group on Contemporary Theatre, Politics, and Society in Latin America/Gino Germani Research Institute (IIGG)/School of Social Sciences (FSOC, by its Spanish acronym)/University of Buenos Aires (UBA)
- Centre for Legal and Social Studies (CELS)
- Asociación Civil Memoria Palermo (nonprofit organization)
- Comisión de Familiares y Compañeros de Detenidos-Desaparecidos de Tres de Febrero/Asociación Civil por los Derechos Humanos de Tres de Febrero [Nonprofit Organization for Human Rights of Tres de Febrero]

Status. In progress.

Time frame. 1/14/23 - present.

Frequency of project execution. For the first time.

Participation period. During the whole project, that is, two years.

Scope of the initiative. National (two or more provinces).

Geographic scope. The Autonomous City of Buenos Aires, Caseiros, Trelew, Rosario, Córdoba, and other towns and cities.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 1 to 50.

Action/s involving citizen participation

- Problem definition
- Data collection
- Data analysis
- Phenomenon monitoring
- Solution planning
- Solution deployment

Technological device/tool required.

- Equipment for visual and audiovisual recording and playback, such as a video and photographic camera, projectors, screens, and speakers.

Recruitment methods. -

Replicability. -

Scalability. -

Open access to data. -

Feedback. -

Linkage with state agency/government. -



Institutional funds.

- Subsidio de Promoción a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Promote Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions. -

Comments. Material is available at Fondo Documental Teatro y Política en América Latina (TyPAL) (IIGG/FSOC/UBA)

Knowledge areas/disciplines (OECD)

SOCIAL SCIENCES / Other Social Sciences

HUMANITIES / Art

HUMANITIES / Other Humanities

Leaders.

- Lorena Verzero (National Scientific and Technical Research Council-UBA), lorenaverzero@gmail.com
- Mariana Eva Perez (National Scientific and Technical Research Council-UBA), perezanda@gmail.com
- Marcela Perelman (CELS), mperelman@cels.org.ar

Contact information.

-





Meteo Impacto Comunitario [Weather Community Impact]

Weather phenomena and their effects



Objectives

Overall goal:

- Collaboratively characterize the temporal and spatial distribution of extreme weather phenomena and their social and economic effects in Argentina, Brazil, Uruguay, Chile, and Paraguay.

Specific goals:

- Create a database for the validation and calibration of operational diagnostic and forecasting systems aimed at the early detection of potential weather events with high social impact.
- Develop tools the community can use for the prevention of weather events with high social impact to increase their level of awareness about these events and improve their response capacity.

Description of citizen participation

Primary and secondary school students and the general public, weather enthusiasts, contribute by observing and reporting extreme weather phenomena through various platforms (social media, groups, forums, web interface, among others). The initiative plans to develop a chatbot to help communities submit continuous reports through their mobile phones.

Type of citizen science project

Contributory project: It is designed by members of the scientific community, and citizens participate in data collection.

Participating parties.

- Sea and Atmosphere Research Center (CIMA, by its Spanish acronym)/University of Buenos Aires (UBA)-National Scientific and Technical Research Council (CONICET, by its initials in Spanish)
- National Weather Service (SMN, by its Spanish acronym)
- Department of Atmospheric and Environmental Sciences/University at Albany
- Federal University of Santa Maria

Status. In progress.

Time frame. 8/1/2018 - N/A.

Frequency of project execution. According to the demands or approaches to the community/communities.

Participation period. Depending on the occurrence of weather phenomena.

Scope of the initiative. International (two or more countries).

Geographic scope. Argentina, Brazil, Uruguay, Chile, and Paraguay.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 1001 onwards.

Action/s involving citizen participation.

- Data collection
- Phenomenon monitoring

Technological device/tool required.

Computer or mobile phone with Internet access

Recruitment methods.

Replicability. It has not been replicated so far.

Scalability. It has not scaled up so far.

Open access to data. The data will be uploaded to a freely accessible database at a website that is being developed as of March 2023.

Feedback. Through social media and WhatsApp groups.

Linkage with state agency/government. National Weather Service.

Institutional funds.

- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions.

Comments. -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences
ENGINEERING AND TECHNOLOGY / Environmental engineering
SOCIAL SCIENCES / Economic and Social Geography

Leaders.

- Paola Salio, CIMA/UBA/CONICET/ the Department of Atmospheric and Oceanic Sciences of the School of Exact and Natural Sciences (FCEN, by its Spanish acronym)/UBA
- Hernán Bechi, CIMA/UBA/CONICET
- Vito Galligani, CIMA/UBA/CONICET
- Luciano Vidal, SMN
- Ramón de Elía, SMN
- Daniela D'Amen, SMN

Contact information.

Email: salio@cima.fcen.uba.ar; hernan.bechis@cima.fcen.uba.ar; vito.galligani@cima.fcen.uba.ar; lvidal@smn.gob.ar; rdelia@smn.gob.ar
Web: <https://samhi.cima.fcen.uba.ar>





Mi Hábitat: observando con lupa mi barrio

[My Habitat: observing my neighborhood through a magnifying glass]

Sanitation and waste management; vector-borne diseases (transmitted by animals)



Objectives

- Raise awareness among young people and families on the health risks posed to their communities by dumping sites, rodents and parasites.
- Together with the education community, encourage the most vulnerable neighborhoods (due to this type of pollution) to trigger actions that will improve their quality of life.

Description of citizen participation

Workshops were conducted to identify potential sanitation issues existing in participants' neighborhoods. Based on such issues, an app was adapted, and possible preventive measures were discussed. At said workshops, the following main issues were identified:

- Dumping sites
- Reuse of certain materials
- Compost made from organic waste

Within 15 days, young people grouped in work teams sent—using the app— images showing areas of their neighborhood, mostly photos of dumping sites and rodents, which pose potential health risks to their communities. Once neighborhood mapping was completed by the work teams, workshops were conducted to discuss findings and possible management actions.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

Research team of the National Scientific and Technical Research Council (CONICET, in Spanish).

Status. Completed.

Time frame. 03/01/2017 – 10/30/2017

Frequency of project execution. Based on demand or community outreach.

Participation period. -

Scope of the initiative. Local (city, province).

Geographic scope. Barrio El Carmen, La Plata, Buenos Aires.

Project development members. It was developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 51 to 100.

Action/s involving citizen participation

- Problem identification.
- Data collection.
- Data analysis.

Technological device/tool required.

- Cell phone.
- App.

Recruitment methods. Through visits to two educational facilities.

Replicability. -

Scalability. -

Open access to data. After the project was completed, the data collected by participants was removed due to lack of funding for the website.

Feedback. Students and teachers contributed towards the development of this project, and several workshops were conducted during its execution.

Linkage with state agency/government. -


Institutional funds. Project's own funding sources.

Awards/distinctions. -


Knowledge areas/disciplines (OECD)

NATURAL SCIENCES / Earth and related Environmental sciences
MEDICAL AND HEALTH SCIENCES / Basic medicine

★ Puntos: 17 📄 Correctos: 3 Nivel: 2



Ví una rata!



Encontré basura!

Project leaders.

- Rosario Robles, Centre for Parasitological and Vector Studies (CEPAVE)/National Scientific and Technical Research Council (CONICET)-National University of La Plata (UNLP)
- Bruno Fitte, CEPAVE/CONICET-UNLP
- Joaquín Cochero, CONICET y UNLP

Contact information.

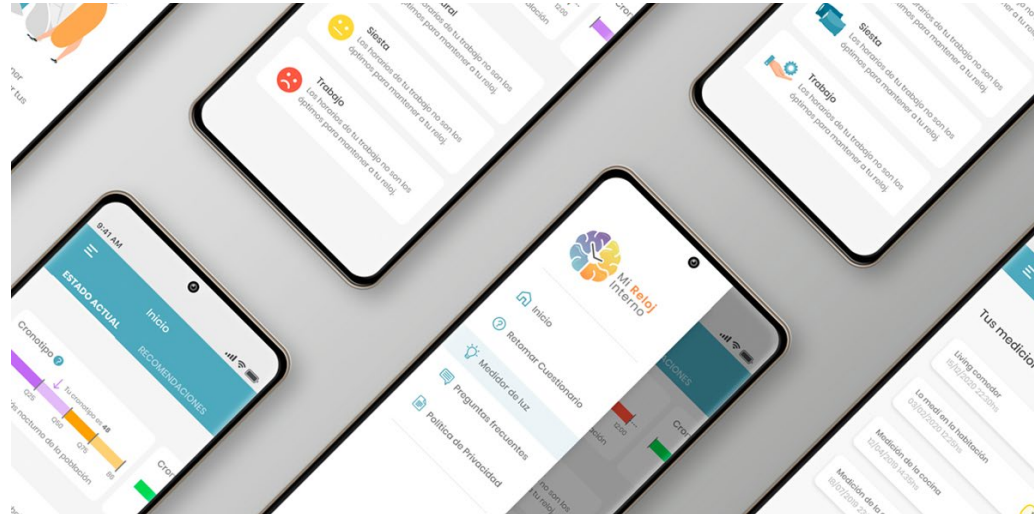
Email: rosario@cepave.edu.ar





Mi Reloj Interno [My Internal Clock]

Circadian rhythms. Rest



MiRelojInterno

Objectives

Overall goal:

- Analyze habits related to the running of the internal clock controlling daily (circadian) rhythms in the Argentine population through its interaction with an app called Mi Reloj Interno [My Internal Clock].
- Generate an algorithm to provide personalized recommendations to optimize rest.

Specific goals:

- Develop and implement the Mi Reloj Interno app for mobile devices as an educational and interactive tool on the status and evolution of the participating citizens' internal clocks.
- Analyze the effect of age, self-perceived gender, and geographic location of the app users on the improvements resulting from the follow-up of the recommendations given.

Description of citizen participation

The role of the citizens includes data collection and analysis, as well as the design of solutions, although these roles vary according to the stages of the project. Citizens were involved from the beginning of the project in the collection of data used to design the algorithm for the Mi Reloj Interno app, in which more than 4,000 people from all over the country participated. Once the app was developed, users kept contributing to data collection through the use of the tool. So far, more than 10,000 people from all over the country have participated in this stage. A group of citizens will be trained to take part in the analysis and interpretation of data from a set of people "of which they are in charge". In addition, citizens will collaborate directly with the design of future improvements of the app through suggestions (such as the wording of prompts, feedback format, inclusion of notifications, and aspects related to local or regional characteristics).

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- Civil association Expedición Ciencia (ExpC, by its Spanish acronym)
- National Scientific and Technical Research Council (CONICET, by its Spanish acronym)

Status. In progress..

Time frame. 5/21/2020 - N/A.

Frequency of project execution. 5/21/2020 - N/A.

Participation period. Argentina.

Scope of the initiative. Buenos Aires.

Geographic scope. Argentina.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 1001 onwards.

Action/s involving citizen participation.

- Data collection
- Data analysis
- Solution planning

Technological device/tool required.

• Mobile electronic device with a screen and Android or iOS operating system to download the Mi Reloj Interno mobile app.

Recruitment methods. Social media, meetings, conferences, workshops, and media articles.

Replicability. -

Scalability. The number of participants has increased.

Open access to data. -

Feedback. Each person who shares their information through the app receives a summary of the current status of their internal clock and personalized recommendations on what habits they can modify and how to do it to optimize their clock. The recommendations are different for each person because they depend on our algorithm's evaluation based on the combination of their habits, age, and gender.

Linkage with state agency/government. -

Institutional funds. National Agency for the Promotion of Research, Technological Development and Innovation (Agencia I+D+i in Spanish).

Awards/distinctions. 2022 INNOVAR National Innovation Competition, in the category of applied research.



Comments. -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Biology
HEALTH AND MEDICAL SCIENCES / Health Sciences
SOCIAL SCIENCES / Communication and media

Leaders.

- María Juliana Leone, National Scientific and Technical Research Council (CONICET) - National University of Quilmes (UNQ, by its Spanish acronym) - Torcuato Di Tella University (UTDT, by its Spanish acronym)
- María Fernanda Ceriani, foundation Fundación Instituto Leloir - CONICET
- Lia Frenkel, University of Buenos Aires (UBA)
- Andrea Goldin, Civil association Expedición Ciencia (ExpC) - CONICET - UTDT
- Alberto Carlos Fernández, ExpC - National University of Hurlingham (UNAHUR, by its Spanish acronym)

Contact information.

Email: juli.leone@gmail.com; fceriani@leloir.org.ar; liita.frenkel@gmail.com; apgoldin@gmail.com; fernandezalbertoc@gmail.com

Web: mirelojinterno.org

Twitter: twitter.com/mirelojinterno

Facebook: facebook.com/mirelojinterno

Instagram: instagram.com/mirelojinterno

YouTube: youtube.com/c/MiRelojInterno





Monitoreo de ardillas exóticas invasoras en Argentina

[Monitoring of invasive alien squirrels in Argentina]

Study on the distribution of an invasive alien mammal

argentinat.org/projects/monitoreo-ardillas-introducidas-unlu

ArgentiNat

Explorá Tus observaciones Comunidad Identificá Más

Cargar 0 0

Acerca de Miembros 22

Les invitamos a sumarse a un relevamiento participativo para monitorear la presencia de una especie exótica invasora (EEI) en Argentina, la ardilla de vientre rojo *Callosciurus erythraeus*. Si observan, observaron alguna vez o saben de alguien que haya visto ardillas pueden hacerse miembros/as y subir sus registros fotográficos

Conocer más > Tu membresía

Modifica proyecto Diario del proyecto

Monitoreo ardillas introducidas - UNLu

Fotos Marina Hertzlikan y Paula Pedreira

Objectives

Overall goal

Monitor the presence of an invasive alien species (IAS) in Argentina, the red-bellied squirrel (*Callosciurus erythraeus*).

Specific goals

- Update this species distribution and compare it with previous studies to evaluate its expansion.
- Understand the invasion process of an IAS.
- Identify priority areas to provide environmental education, and implement prevention measures, or other handling techniques for the species.
- Popularize the importance of citizen responsibility and engagement in the knowledge, information dissemination, and prevention of biological invasions, its relation to the ownership of exotic pets, and the illegal trade of introduced wild species.

Description of citizen participation

Citizens participate in reporting squirrel sightings, indicating their location as precisely as possible, and, optionally, sharing photos of squirrels or any evidence showing they are at a site (nests, eaten fruit, or bark stripping). Records must be uploaded to the digital platform ArgentiNat from a computer or to the app INaturalist using a mobile phone.

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

- Grupo de Ecología de Mamíferos Introducidos [Introduced Mammal Ecology Group] (EMI in Spanish)/Institute of Ecology and Sustainable Development (INEDES in Spanish)/National University of Luján (UNLu in Spanish)-National Scientific and Technical Research Council (CONICET In Spanish).
- Aves Argentinas (through Bird Watchers' Clubs [COA in Spanish]).
- ArgentiNat.

Status. In progress.

Time frame. 10/13/2021 - N/A.

Frequency of project execution. Uninterruptedly.

Participation period. Participants can cooperate on a daily, occasional, or scheduled basis.

Scope of the initiative. National (two or more provinces).

Geographic scope. The initiative is available throughout the country, but is most widely implemented in places with a greater presence of squirrels, such as the provinces of Buenos Aires, Santa Fe, Córdoba, Mendoza, and the Autonomous City of Buenos Aires.

Project development members. It has been developed with the collaboration of both scientists and participants with formal training and without it.

Number of participants. From 51 to 100.

Action/s involving citizen participation

- Data collection
- Phenomenon monitoring
- Other/s. A future planned action will be contacting participants to share their conclusions and propose future actions.

Technological device/tool required.

- Mobile phone, tablet, or computer with an Internet connection to view the project information online, interact with participants, and upload data (squirrel records).
- Platform ArgentiNat.

Recruitment methods. -

Replicability. -

Scalability. The platform ArgentiNat is increasingly used throughout the country, and the different ways of promoting this particular initiative encourage people to visit the website and participate in uploading their records.

Open access to data. The ArgentiNat project settings enable users to view all uploaded squirrel sightings.

Feedback. Every person who submitted a squirrel record is individually contacted.



Linkage with state agency/government. The project works collaboratively with municipal, provincial, and national organizations addressing environmental, conservation, and wildlife management issues, among which is the National Strategy on Invasive Alien Species (ENEI in Spanish) coordinated by the Ministry of the Environment and Sustainable Development of Argentina.

Institutional funds. National University of Luján (UNLu).

Awards/distinctions. -

Comments. This initiative can be promoted from different contexts (educational institutions, NGOs, protected areas, municipalities, etc.) and trigger new similar projects including the monitoring of other introduced species of interest.

Knowledge areas/disciplines (OECD)
NATURAL AND EXACT SCIENCES / Biology

Project leaders.

- Mariela Borgnia, Grupo de Ecología de Mamíferos Introducidos (EMI)/Institute of Ecology and Sustainable Development (INEDES)/National University of Luján (UNLu)-Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET).

Contact information.

Email: mariborgnia@gmail.com

Web: www.emi.unlu.edu.ar

Plataform ArgentiNat to upload records: argentinat.org/projects/monitoreo-ardillas-introducidas-unlu





Monitoreo de Colonias de abejas [Bee colony monitoring]

Environmental monitoring



Objectives

Overall goal

Monitor the loss of bee colonies in Argentina.

Specific goals

Measure the mortality rate of honey and stingless bee colonies in Argentina and understand the causes behind it to help to reverse the situation or alleviate this problem.

Description of citizen participation

A national survey only of beekeepers and meliponiculturists is conducted in person or online (website, email, social media, press media, and beekeeping magazines) to record bee colony losses. This survey is based on internationally standardized methods involving voluntary participation, a national network of beekeepers, a questionnaire, and diverse promotion strategies. Estimates and statistical analyses of colony losses depend on the participation of producers, without which it is not possible to study the mortality causes, nor to provide recommendations for reducing mortality that can inform decision-making for the sector.

- 1) Bee handling (number of beehives, type of honey harvesting, bee genetics, etc.)
- 2) Presence of bio-aggressors (disease symptoms and identification, etc.)
- 3) Colony loss rate (winter and summer colony losses).

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

- Sociedad Latinoamericana de Investigación en Abejas [Latin American Bee Research Association] (SOLATINA in Spanish)
- Sociedad Argentina de Apicultores [Argentine Society of Beekeepers] (SADA in Spanish)
- National University of Río Cuarto (UNRC in Spanish)
- National University of Comahue (UNCOMA in Spanish)

Status. In progress.

Time frame. 04/01/2016 - N/A.

Frequency of project execution. Seasonal (from October to December).

Participation period. 1 day per year.

Scope of the initiative. International (two or more countries).

Geographic scope. 17 Latin American countries (Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, Honduras, Mexico, Panama, Paraguay, Peru, Puerto Rico, Dominican Republic, Uruguay, and Venezuela).

Project development members. It has been developed with the collaboration of both scientists and participants with formal training and without it.

Number of participants. Over 1001.

Action/s involving citizen participation.

- Problem definition
- Data collection
- Phenomenon monitoring
- Solution deployment.

Technological device/tool required.

- Mobiles and computers with an Internet connection to respond to the surveys.

Recruitment methods. The survey of beekeepers and meliponiculturists is promoted annually using multiple strategies:

- Website
- Email
- Social media, press media, and beekeeping magazines (Campo y Abejas, La Gaceta del Colmenar, Espacio Apícola, Apicultura sin Fronteras)
- Face-to-face interviews with citizens who do not have an Internet connection.

Replicability. The initiative has been replicated in Latin America by the Bee Colony Loss Monitoring Group of Sociedad Latinoamericana de Investigación en Abejas (SOLATINA).

Scalability. In 2016, the survey began exclusively for Argentina and, today, it has reached 17 Latin American countries.

Open access to data. -

Feedback. Website, press release, and flyer with results.

Linkage with state agency/government. National Institute of Agricultural Technology (INTA in Spanish), Centro PYME [Center for Small and Medium-sized Enterprises]/Agencia de Desarrollo Económico del Neuquén [Agency for the Economic Development of Neuquén] (ADENEU in Spanish).

Institutional funds. -

Awards/distinctions. -

Comments. -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Biology
AGRICULTURAL SCIENCES / Dairy and animal production

Leaders.

- Fabrice Requier, Institut de Recherche pour le Développement (French National Research Institute for Sustainable Development).
- Florencia Riafrecha.

Contact information.

Email: requierf@gmail.com

Web: solatina.org/temas-de-estudio/monitoreo/

Facebook of Sociedad Latinoamericana de Investigación en Abejas (SOLATINA): facebook.com/SoLatInA2017





Monitoreo de contaminación por plásticos en costas de agua dulce

[Monitoring of Plastic Pollution in Freshwater Coasts]

Environmental monitoring. Plastic pollution. Awareness about pollution



Objectives

Overall goal:

Identify and analyze the presence of plastic pollutants in freshwater coasts (lakes and rivers) of different cities in Río Negro through collaborative environmental monitoring with high school students.

Specific goals:

- Collaboratively determine plastic pollution levels in freshwater coasts of the province's different areas.
- Quantify and classify pollutants found in field trips.
- Design proposals and materials to work with educational communities, institutions, and the public sector to reduce the use of plastics, look for accessible alternatives and maximize their recycling potential.

Description of citizen participation

The students who participate in the initiative sample and collect plastics on the freshwater coasts of their cities, record the number of plastics found, and classify them. The study works with two hypotheses: 1) the level of pollution is related to the population density of a city and 2) the types of pollutants found on freshwater beaches are not different from those found in marine coastal areas. In class, an analysis of field-collected data is carried out. Before a beach field trip, students participate in a short educational talk about waste with a focus on plastic pollution issues and discuss the correct way to collect data on the beach and analyze it in the classroom, taking into account that this data could be used for a scientific study. This exchange of opinions contributes to identifying the most common type of plastic waste found, sharing thoughts on alternatives to reduce the amount of waste on beaches and in other environments, suggesting new locations for cleanups, and promoting waste sorting at their school or home, etc. Lastly, all data collected by students is recorded on a database to characterize pollution at different sample locations. A spreadsheet with the data is sent to the teachers of every class participating in the project and it is going to be available for viewing and downloading on an open-access website using a link.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- National Scientific and Technical Research Council (CONICET, by its Spanish acronym)
- Colegio Integral Vuriloche (school)
- Colegio Qmark (school)

Status. In progress.

Time frame. 11/1/2021 - N/A.

Frequency of project execution. According to the demands or approaches to the community/communities.

Participation period. Sustained over time. Regularly, talks are held and samplings are conducted upon teachers' request.

Scope of the initiative. Local (city, province).

Geographic scope. Initially, the project is being conducted in the province of Río Negro, but it could potentially expand to other areas in the future.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants without formal training.

Number of participants. From 101 to 500.

Action/s involving citizen participation.

- Data collection
- Data analysis
- Phenomenon monitoring
- Solution planning

Technological device/tool required.

- Measuring tape
- Tape
- Shovel
- Buckets
- Camera or mobile phone

Recruitment methods. -

Replicability. -

Scalability. The number of participating schools has increased.

Open access to data. Data has not yet been published in open-access formats.

Feedback. A talk is held with the students, where the collected data is analyzed. In other words, a space for discussion and exchange of ideas or opinions is created.

Linkage with state agency/government. -

Institutional funds. They have been obtained from the project's own funding sources.

Awards/distinctions. The project was declared of interest by the Legislature of the province of Río Negro.

Comments. -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences
NATURAL AND EXACT SCIENCES / Biology

Leaders.

- Micaela Buteler, Biodiversity and Environment Research Institute (INIBIOMA, by its Spanish acronym)/National Scientific and Technical Research Council (CONICET, by its Spanish acronym)

Contact information.

Email: butelermica@gmail.com

Web: inibioma.conicet.gov.ar; inibioma.conicet.gov.ar/ecologia/ (Grupo de Investigación y Divulgación de los Efectos de la Contaminación por plástico [Dissemination and Research Group on the Effects of Plastic Pollution])

Social media: [instagram.com/inibiomaabierto](https://www.instagram.com/inibiomaabierto); [instagram.com/beelab-science](https://www.instagram.com/beelab-science)





Monitoreo de la calidad del aire en escuelas porteñas

[Air quality Monitoring in Buenos Aires schools]

Environmental monitoring



Objectives

Jointly monitor the air quality with students and teachers from Buenos Aires primary and secondary schools in the Autonomous City of Buenos Aires and analyze the differences between the communes of Buenos Aires.

Description of citizen participation

Students and teachers from Buenos Aires primary and secondary schools measure the concentration of nitrogen dioxide (NO₂) in the air using diffusion tubes installed in schools. The participants observe the same protocol, and the teachers were trained by the professionals of Instituto de Química, Física de los Materiales, Medio Ambiente y Energía (INQUIMAE, by its Spanish acronym) [Institute of Chemistry, Materials Physics, Environment, and Energy] to appropriately place and take samples. The analysis is carried out in specific meetings organized in the form of a workshop in which students, teachers, and professional researchers participate. As a result of these workshops, proposals for each commune will be co-designed.

Diffusion tubes are installed in schools selected from 50 sampling points, and at least four measurement campaigns are conducted per year, one per season. In each campaign, the tubes remain installed for 21 days, which provides an aggregate measurement of vehicular air pollution, in addition to the dose received by an individual during that time.

Type of citizen science project

Collaborative Project: Citizens participate in data collection and analysis.

Participating parties.

- Instituto de Química, Física de los Materiales, Medio Ambiente y Energía (INQUIMAE)/National Scientific and Technical Research Council (CONICET, by its Spanish acronym)-University of Buenos Aires (UBA)
- Enlace Ciencias [Science Link] Program /General Office for Educational Planning (DGPLEDU, by its Spanish acronym)/Ministry of Education of the Autonomous City of Buenos Aires
- Primary and secondary schools of public and private management of the Autonomous City of Buenos Aires.
- United Nations Development Program (UNDP)

Status. In progress.

Time frame. 3/3/2023 - N/A

Frequency of project execution. 1 campaign per season of the year.

Participation period. Sustained over time.

Scope of the initiative. Local (city, province).

Geographic scope. The Autonomous City of Buenos Aires (Buenos Aires).

Project development members. Entirely developed by participants with formal scientific training.

Number of participants. From 501 to 1000.

Action/s involving citizen participation.

- Problem definition
- Data collection
- Data analysis at schools and production of results reports on the concentration of nitrogen dioxide in the air for the community
- Interpretive discussion of the results with families, and escalation of the results to the reference communes for their consideration

Technological device/tool required.

- Pollutant absorption devices (diffusion tubes). These are containers with an airtight lid, which must be removed at the time of starting the measurement. They are placed with the opening facing downwards so that the test strip of the tube is in contact with the air, but is protected from rain. The test strip is embedded in a substance used to fix atmospheric NO₂.

Recruitment methods. -

Replicability. -

Scalability. -

Open access to data. -

Linkage with state agency/government. Ministry of Education and Secretariat of Environment/Ministry of Public Space and Urban Hygiene/Government of the Autonomous City of Buenos Aires (GCBA, by its Spanish acronym).

Institutional funds. United Nations Development Program (UNDP)

Awards/distinctions. -

Comments. -

Knowledge areas/disciplines (OECD)
Natural and Exact Sciences / Chemistry

Leaders.

- Horacio Bogo, INQUIMAE/CONICET-UBA
- Silvia Blaustein, GCBA

Contact information.

Email: bogo@qi.fcen.uba.ar, juann.romero18@gmail.com, silvia.blaustein@gmail.com





Monitoreo nacional de microplásticos costeros

[National monitoring of coastal microplastics]

Environmental monitoring of microplastics, reduction of plastic use



Objectives

Overall goal

Conduct a collaborative study across Argentina, on the coasts of the sea, rivers and lakes, to analyze the presence, amount and composition of microplastics through a systematic and massive survey.

Specific goals

- Study plastic items between 1 mm and 25 mm in size and disclose the results to society as a whole in order to provide crucial information that serves to measure the issue and find solutions.
- Compare data with the rest of the world using The Big Microplastic Survey project undertaken by conservation charity Just One Ocean. The purpose of this study is to gather global information on the most frequent microplastics found in the coastal sites of seas, lakes and rivers, to promote comprehensive conservation on the planet.

Description of citizen participation

Students or anyone interested can participate in the project, and after receiving information or with the coordination of a sampling supervisor, they are in charge of recording the data and analyzing the samples.

Following a simple and systematic scientific sampling protocol, they collect information from those plastic items ranging in size from 1 mm to 25 mm found in coastal sites of seas, lakes and rivers, and report the results. Citizens are responsible for classifying samples into primary and secondary microplastics, type and size of plastics, amount and presence of other components (e.g., cigarette butts) in the samples, if any.

Samples are collected along the shoreline, parallel to the water. The position (GPS coordinates) of part of the sample, which is recorded as the position, should be captured.

Type of citizen science project

Collaborative Project: Citizens participate in data collection and analysis.

Participating parties.

- Whale Conservation Institute in Argentina (ICB).
- Beach cleanup initiatives suggested as part of the activities in the Patagonia Eco Film Fest (PEFF).
- Science Club and summer camps in the city of Puerto Madryn.
- Researcher at the National Scientific and Technical Research Council (CONICET) in Argentina.
- Students of all educational levels from schools in Puerto Madryn, Comodoro Rivadavia y Río Grande.
- Global Penguin Society.

Status. In progress.

Time frame. 01/11/2019 - N/A

Frequency of project execution. According to the demands or approaches to the community/communities.

Participation period. On a sustained basis.

Scope of the initiative. National (two or more provinces).

Geographic scope. Samples taken—or intended to be taken—in the Argentinian provinces of Tierra del Fuego, Santa Cruz, Chubut, Río Negro, Córdoba, Buenos Aires and Misiones (with headquarters in Chubut).

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 51 to 100.

Action/s involving citizen participation.

- Data collection.
- Data analysis.
- Phenomenon monitoring.

Technological device/tool required.

- Two buckets.
- A 4 m rope, 4 stakes (or similar).
- A 1 mm mesh sieve or strainer (common kitchen sieve).
- A mobile phone with GPS to record the latitude and longitude of the sampling site, and to capture images of the results and of the sampling process (the latter is optional).

Participants must then classify their results according to the microplastic tables downloaded from the web and submit the results.

Recruitment methods. Through social media, teachers from local schools (Puerto Madryn) or from other regions (e.g., Río Grande) who get in touch to include the issue in the curricula or as a free proposal, and students who take their concerns to the classrooms.

Replicability. -

Scalability. The program is scalable in terms of increased activity and sites to be evaluated/sampled. It is expected that by the end of 2022

the program will be active throughout the country.

Open access to data. Online, accessible, but the Spanish website is still under construction (currently in English).

Feedback. Within “permanent” sites (from one to three monthly samplings for at least one year). A meeting is to be organized with the coordinators to brief them on the results.

The general documents and partial results of all the samples will be disseminated through social media and the Foundation’s website. In addition, they are openly online (in English) on the project’s global site.

Linkage with state agency/government. -

Institutional funds. ProyectoSub Foundation’s own funding sources. NGO Wildlife Conservation Society (WCS). Avène Eau Thermale.

Awards/distinctions. -

Comments. The methodology proposed worldwide by conservation charity JUST ONE OCEAN is used to make the results internationally comparable.

The information is compiled in <https://microplasticsurvey.org/results>.

Knowledge areas/disciplines (OECD)

Natural and Exact Sciences / Earth and Environmental Sciences
Natural and Exact Sciences / Biology

Leaders.

- Martín Brogger, Institute of Marine Organisms Biology (IBIOMAR)/ Patagonian National Research Center (CENPAT)/National Scientific and Technical Research Council (CONICET) in Argentina and ProyectoSub Foundation.
- María Florencia Ríos, Institute of Marine Systems Biology (IBIOMAR)/ Patagonian National Research Center (CENPAT)/National Scientific and Technical Research Council (CONICET) in Argentina and ProyectoSub Foundation.
- Melisa Gatti, ProyectoSub Foundation.

Contact information.

E-mail: info@proyectosub.org

Web: www.proyectosub.org.ar/microplasticos-costeros/





Monitoreo participativo de biodiversidad con comunidades campesinas del Salado Norte [Participatory biodiversity monitoring with rural communities from the Salado Norte region]

Participatory biodiversity monitoring with rural communities from the Salado Norte region



Objectives

Overall goal

• Monitor the biodiversity in a participatory manner within the territories of the communities of the Santiago del Estero province and the association of small-scale farmers “Unión de Pequeños Productores del Salado Norte”.

Specific goals

- Inquire about the value of wildlife biodiversity through participatory methodologies.
- Produce information that contributes to the management of the territories and the public’s awareness in relation to the conservation of forests.

Description of citizen participation

The participation of the small-scale farmers association “Unión de Pequeños Productores del Salado Norte” consisted in learning about and validating the proposal for monitoring through camera traps and selecting the sampling community. Delegates from the community of Campo Grande (Santiago del Estero) participated in the design and installation of the monitoring module, and they also received training related to the installation of camera traps and the discussion of results.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- School of Forest Science (FCF, by its Spanish acronym)/National University of Santiago del Estero (UNSE, by its Spanish acronym)
- Team of volunteers from Nuestra Tierra Nuestro Monte (university outreach project)
- Small-scale farmers association “Unión de Pequeños Productores del Salado Norte” (UPPSAN, by its Spanish acronym)
- Instituto Multidisciplinario de Investigaciones Biológicas de San Luis [San Luis Multidisciplinary Institute for Biological Research]/ National Scientific and Technical Research Council (CONICET, by its Spanish acronym) - National University of San Luis

Status. It is being replicated in other communities with different sample designs but with the same participatory tools.

Time frame. 08/01/2018 - 03/31/2019.

Frequency of project execution. Seasonal (time of year).

Participation period. 8 months

Scope of the initiative. Local (city, province).

Geographic scope. The community that carried out the monitoring was the one in Campo Grande, in the Alberdi department, within the Santiago del Estero province.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 51 to 100.

Action/s involving citizen participation

- Data collection
- Data analysis

Technological device/tool required.

- Map software (QGIS)
- Camera traps
- Sherman traps
- GPS
- Wooden stakes
- Tape
- Compasses

Recruitment methods. Invitations through the small-scale farmers association and calls for volunteers from universities.

Replicability. -

Scalability. The number of communities sampled was scaled up. Currently, the project has results from the community of Toro Pozo (Santiago del Estero).

Open access to data. -



Feedback. A meeting was held in which results were shared and the published article was made available for use.

Linkage with state agency/government. -

Institutional funds.

- National University of Santiago del Estero (UNSE)

Awards/distinctions. -

Comments. The “Participatory biodiversity monitoring with rural communities from the Salado Norte region” project had significant results, such as a new sighting of an endangered species (Nettie et al., 2021).

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences

Leaders.

- Carla V. Rueda, FCF-UNSE, carlavrueda@gmail.com

Contact information.

Facebook: <https://www.facebook.com/BiodiversidadUPPSAN/>





Mucho más que testigos del genocidio [Much more than witnesses of genocide]

Children and adolescents in the Atlético-Banco-Olimpo (ABO) repressive circuit



Objectives

Overall goal:

- Collaboratively reconstruct, analyze, and make visible the experiences of child victims of the genocidal process within the framework of the repressive practices deployed on children and adolescents (NNyA, by its Spanish acronym) in the Atlético-Banco-Olimpo (ABO) circuit between 1977 and 1979.

Specific goals:

- Reconstruct the repressive practices perpetrated on NNyA within the ABO repressive circuit.
- Build a public archive of interviews with survivors of repressive experiences in their childhood.
- Participate in legal proceedings by providing evidence about NNyA who were victims of repressive practices within the framework of the ABO circuit.

Description of citizen participation

The construction of scientific knowledge about the genocidal process and its consequences requires the active participation of different sectors of society that contribute, each from its own particularity, their knowledge and practices. Together, a heterogeneous group of child victims, workers from the memory sites of the ABO circuit, judicial officers, and research teams from the University of Buenos Aires and the National University of Tres de Febrero carry out the different stages of the research project, from the drafting and construction of the general and specific goals and the survey instruments to the fieldwork.

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process.

Participating parties.

- Researchers from the Center on Genocide Studies (CEG, by its Spanish acronym)/National University of Tres de Febrero (UNTREF, by its Spanish acronym)
- Researchers from the Observatory of State Crimes (OCE, by its Spanish acronym)/School of Social Sciences (FSOC, by its Spanish acronym)/University of Buenos Aires (UBA, by its Spanish acronym)
- Workers from Space for Memory and the Promotion of Human Rights. Former Clandestine Detention, Torture and Extermination Center "Olimpo"
- Workers from Space for Memory and the Promotion of Human Rights. Former Clandestine Detention, Torture and Extermination Center "Club Atlético"
- NNyA survivors of the ABO repressive circuit

Status. In progress.

Time frame. 3/10/2019 - N/A.

Scope of the initiative. Local (city, province).

Geographic scope. The Autonomous City of Buenos Aires (Buenos Aires).

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 1 to 50.

Action/s involving citizen participation.

- Problem definition
- Data collection
- Data analysis
- Phenomenon monitoring
- Solution planning
- Solution deployment

Technological device/tool required.

- Laptops
- Video camera and microphone
- External hard drives

Recruitment methods. Semi-open; through personal contacts. The recruitment is aimed at broadening the participation of survivors at the different stages of the research project.

Replicability. -

Open access to data. -

Feedback. The results of the research are directed at the general public, through exhibitions in the spaces for memory and the publication of papers. Likewise, the initiative helps the Public Prosecutor's Office

by providing databases and data matrices and cross-referencing to contribute to the prosecution process of crimes committed against these NNyA.

Linkage with state agency/government. Former Spaces for Memory "Olimpo" and "Atlético".

Institutional funds.

- UBA
- UNTREF
- National Agency for the Promotion of Scientific Research, Technological Development and Innovation (Agencia I+D+i, in Spanish)
- Former Spaces for Memory "Olimpo" and "Atlético"

Awards/distinctions. -

Knowledge areas/disciplines (OECD)

SOCIAL SCIENCES / Sociology
SOCIAL SCIENCES / Law

Leaders.

- Daniel Feierstein, Center on Genocide Studies (CEG)/National University of Tres de Febrero (UNTREF) and Observatory of State Crimes (OCE)/School of Social Sciences (FSOC)/University of Buenos Aires (UBA)
- Malena Silveyra, OCE/FSOC/UBA and CEG/UNTREF
- Florencia Urosevich, OCE/FSOC/UBA
- María Eugenia Mendizabal, Space for Memory and the Promotion of Human Rights. Former Clandestine Detention, Torture and Extermination Center "Olimpo"

Contact information.

Email: dfeiers@gmail.com; malenasilve@gmail.com; florurosevich@gmail.com; marumendi@gmail.com

Web: oce.sociales.uba.ar

Web: exccdolimpo.org.ar

Facebook: facebook.com/memoriaexatletico/?locale=es_LA





Nodos [Nodes]

Collaborative platform of Performing Arts



Objectives

Overall goal:

- Promote, create, and preserve a thorough collaborative knowledge base of performing acts, artists, cultural groups and spaces, plays, seasons, and festivals, among other events in the province of Buenos Aires.

Specific goals:

- Build thorough and dynamic knowledge of artists, cultural groups and spaces, plays, seasons, and festivals in the province of Buenos Aires, among other events. This knowledge is created by the input of the platform users.
- Contribute to the Intangible Cultural Heritage of the Province of Buenos Aires, allowing to obtain firsthand and fully updated information not available in other resources.

Description of citizen participation

Through their own productions, people involved in the Performing Arts scene write posts, upload information, and edit collaboratively articles on plays, performers, actors, dancers, groups of artists, and all kinds of information relating to the Performing Arts.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- Grupo de Estudio sobre Cuerpo/Centro Interdisciplinario Cuerpo, Educación y Sociedad [Study Group on Body/Interdisciplinary Center for Body, Education, and Society] (CICES in Spanish)/Instituto de Investigaciones en Humanidades y Ciencias Sociales [Institute for Research in Humanities and Social Sciences] (IdIHCS in Spanish)/National University of La Plata (UNLP in Spanish)-National Scientific and Technical Research Council (CONICET in Spanish).
- Cientópolis/Laboratorio de Investigación y Formación en Informática Avanzada [Advanced Information Technology Research and Training Laboratory] (LIFIA in Spanish)/National University of La Plata (UNLP)-Scientific Research Commission of the Province of Buenos Aires (CIC in Spanish).

Status. In progress.

Time frame. 02/2016 - N/A.

Frequency of project execution. Uninterruptedly.

Participation period. Uploading information requires only a few minutes of dedication.

Scope of the initiative. Local (city, province).

Geographic scope. Buenos Aires.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 501 to 1000.

Action/s involving citizen participation.

- Data collection.
- Phenomenon monitoring.

Technological device/tool required.

- Mobile phone and Internet connection to upload photos to the online platform.

Recruitment methods. Social media, meetings, workshops, uploading sessions.

Replicability. -

Scalability. There is a continuous increase in the number of participants.

Open access to data. All the information is uploaded to the online platform (Plataforma NODOS).

Feedback. Online platform, social media.

Linkage with state agency/government. -

Institutional funds.

- Project's own funding sources. Institutional funds:
- 2022: Subsidies from the Provincial Council of Independent Theater (CPTI in Spanish).
 - 2019: Subsidies from the Provincial Council of Independent Theater (CPTI).

Awards/distinctions. -

Comments. -

Knowledge areas/disciplines (OECD)

Humanities / Language and Literature
Humanities / Art

Leaders.

- Mariana del Mármol, Institute for Research in Humanities and Social Sciences (IdIHCS)/National University of La Plata (UNLP)-National Scientific and Technical Research Council (CONICET).
- Mariana Sáez, Escuela de Teatro de La Plata [La Plata School of Theater](ETLP in Spanish).
- Diego Torres, Advanced Information Technology Research and Training Laboratory (LIFIA)/National University of La Plata (UNLP).
- Florencia Riafrecha.

Contact information.

Email: registro.nodos@gmail.com; marianadelmarmol@gmail.com; marianasaezsaez@gmail.com; dtorres@lifa.info.unlp.edu.ar; flor.riafrecha@gmail.com

Web: Plataforma NODOS

Instagram: [instagram.com/plataformanodos](https://www.instagram.com/plataformanodos)

Facebook: [facebook.com/PlataformaNODOS](https://www.facebook.com/PlataformaNODOS)





ObserMar: observadores del mar [ObserMar: Seawatchers]

Environmental monitoring of marine-coastal environments



Objectives

Overall goal:

- Detect the presence of marine-coastal invasive species through participatory monitoring to analyze their expansion throughout the Argentinian coast.

Specific goals:

- Encourage different stakeholders from the Argentinian marine-coastal region to participate in the design and validation of a monitoring network of invasive species.
- Create a database using the invasive species records gathered through the monitoring network.
- Raise community awareness about how the issue of biological invasions is one of the main threats to biodiversity.

Description of citizen participation

Activities include amateur and professional divers, who have a close connection with marine-coastal environments, have valuable knowledge, and are capable of detecting changes over time. In specific workshops, participants discuss interests and motivations to collaborate with the early detection of invasive species, and co-design strategies and tools to report these species. The project has now a virtual platform for photo and video records including the respective observation date and the location of the invasive species. The platform also provides an instructional guide for observations. There is also a mobile app, currently in the co-design phase, which will make the interaction with citizens smoother.

Type of citizen science project

Contributory project: It is designed by members of the scientific community, and citizens participate in data collection.

Participating parties.

- National Scientific and Technical Research Council (CONICET, by its Spanish acronym)

Status. In progress.

Time frame. 7/1/2022 - N/A.

Frequency of project execution. Uninterruptedly.

Participation period. Sustained over time.

Scope of the initiative. Local (city, province).

Geographic scope. Puerto Madryn, Chubut, Argentina.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 1 to 50.

Action/s involving citizen participation.

- Data collection
- Phenomenon monitoring
- Solution planning

Technological device/tool required.

- Camera to record observations
- Online app to upload observations

Recruitment methods. -

Replicability. -

Scalability. -

Open access to data. All records are shared openly and publicly through ArgentiNat.

Feedback. A customized tab for each watcher is being designed to gather all their observations and to which results and news related to the project can be sent quarterly.

Linkage with state agency/government. -

Institutional funds.

- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions. -

Comments. While ObserMar has only one active project at present (focused on marine-coastal exotic species), the initiative is intended to be



a platform for the development of other future projects.

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Biology

Leaders.

- Nicolás Battini, Institute of Marine Organisms Biology (IBIOMAR, by its Spanish acronym)/National Scientific and Technical Research Council (CONICET)
- Clara B. Giachetti, Institute of Marine Organisms Biology/CONICET

Contact information.

Email: nicolasbattini@gmail.com; claragia88@gmail.com; obsermar@gmail.com

Web: obsermar.com.ar

Instagram: [instagram.com/obsermar](https://www.instagram.com/obsermar)





Observa-Residuos [Waste Watch]

Urban solid waste / household waste



Objectives

- Determine the amount and composition of household waste generated by CABA residents, engaging citizens in such process.
- Learn about current waste management habits of households and their willingness to change.
- Have useful and necessary evidence available to design proposals for waste management improvement in the city.
- Engage citizens so that, by having in-depth knowledge of the amount of waste generated by them, they may take better-informed decisions about consumption and waste management.

Description of citizen participation

CABA residents are invited to participate in sorting and weighing daily-generated household waste. Participants receive a scale to weigh the waste generated over one week, to be sorted into:

- Paper and cardboard (including Tetra Brik packages)
- Plastics
- Other recyclables (glass, metals and fabrics)
- Organic materials
- Others (e.g., diapers, cat litter, dirty packaging, boxes or other containers which may not be cleaned)

Waste in the first three categories must be clean, dry, and weighed at the end of the week, while waste in the remaining categories may be weighed once a week or more often before its disposal. The activity is completed once participants have entered the data and answered a brief survey through a web app on the platform of Lab Ciudadano. Arrangements are then made for scale pickup.

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

- Lab Ciudadano (Citizen Lab)
- School of Agriculture, University of Buenos Aires (UBA)

Status. In progress.

Time frame. 03/16/2019 – N/A

Frequency of project execution. Uninterruptedly.

Participation period. Weighing takes 7 days.

Scope of the initiative. Local (city, province).

Geographic scope. Autonomous City of Buenos Aires (CABA, in Spanish)

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. Over 1001.

Action/s involving citizen participation

- Data collection.

Technological device/tool required.

- Scale provided by the Lab Ciudadano team: to weigh waste
- Device with Internet connection: to sign up, enter data, make inquiries to the Lab Ciudadano team, and request scale pickup.

Recruitment methods. By making direct contact with citizens at their workplaces, networking at fairs, parks or community events, through social media, by word of mouth, projects at schools and other institutions.

Replicability. Replicated in the municipality of Quilmes, province of Buenos Aires.

Scalability. The project then scaled to another city, but the data are analyzed independently and are not part of the Citizen lab.

Open access to data. General conclusions are shared on the website for consultation by the public at large. The complete database is not yet publicly available, though it is currently being developed.

Feedback. Once participants have completed data entry, two graphs are displayed to them on the web app. One graph compares the amount of daily waste generated per capita by residents throughout the City until then with the waste generated by the volunteer household. The other graph shows such household's waste composition. The updated results obtained using participants' data (i.e., a map of daily waste generation per capita as per neighborhood, volunteer households and participants, total kilograms of weighed waste) are available on the website. For schools, feedback involves analyzing the data provided by the participating courses,

jointly with students at a virtual or face-to-face meeting. A scientific article titled Waste generation and pro-environmental behaviors at household level: A citizen science study in Buenos Aires (Argentina) was published on Resources, Conservation & Recycling sharing the findings and tools with the entire scientific community, at a local, regional and global level.

Linkage with state agency/government. This project was created under the linkage agreement signed by the School of Agriculture (UBA) and the Ministry of Public Space and Urban Hygiene of CABA. All data and analyses have been referred to the Institution to be used in different public policies.

Institutional funds. They have been obtained from the Urban Hygiene Observatory of the City under the agreement signed by the School of Agriculture (UBA) and the Ministry of Public Space and Urban Hygiene of CABA.

Awards/distinctions. –

Classification of knowledge areas (OECD).

NATURAL SCIENCES / Earth and related Environmental sciences
SOCIAL SCIENCES / Educational sciences

Project leaders.

- María Semmartin, School of Agriculture, UBA
- Verónica Pierini, School of Agriculture, UBA

Contact information.

Email: semmartin@agro.uba.ar; pierini@agro.uba.ar; observatorio.muestreo@gmail.com
Web: www.labciudadano.net





Participación para la promoción y defensa de derechos en discapacidad y salud mental en Chubut [Participation for the promotion and defense of disability and mental health rights in Chubut]



Social participation in mental health and disability matters



Objectives

Overall goal

- Collaboratively characterize the participation experiences of groups and organizations of people with disabilities, including the perspectives of institutionalized and noninstitutionalized users of mental health services and their families in Chubut, in instances of promotion and defense of rights from the Social Model of Disability and the Community Mental Health Model, with a gender perspective.

Specific goals

- Collaboratively survey, describe, and systematize the experiences of groups and organizations in both institutionalized and noninstitutionalized participatory instances of promotion and defense of rights throughout the province; identify the conditions for the emergence and sustainability of these rights, and consider the existing barriers and facilitators.
- Analyze, from a gender perspective, the characteristics adopted by groups and organizations together with their participation approaches.
- Study the representations of participation and identify their link with the conditions of participation in groups and organizations and the subjective participation experiences.

Description of citizen participation

Relatives of people with mental health issues and activists in the field of disability are part of the research team. This initiative carries out participatory workshops for the promotion of rights, from the perspective of community communication and the collective production of content.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- Escuela de Salud Social y Comunitaria [School of Social and Community Health] - Rawson, Puerto Madryn, and Esquel branch classrooms/University of Chubut
- Self-organized group of relatives of users of mental health services (Trelew).
- Rizomas: Red en Acción por una Salud Mental Inclusiva [Rhizomes: Network in Action for Inclusive Mental Health] (Esquel)

Status. In progress.

Time frame. 7/01/2023 - N/A.

Frequency of project execution. One-time only.

Participation period. Throughout the project.

Scope of the initiative. Local (city, province).

Geographic scope. Rawson, Trelew, Puerto Madryn, Esquel (Chubut).

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants without formal training.

Number of participants. From 1 to 50.

Action/s involving citizen participation

- Problem definition
- Data collection
- Data analysis

Technological device/tool required. -

Recruitment methods. Through community communication tools, social media, and pre-existing work networks.

Replicability. -

Scalability. -

Open access to data. -

Feedback. -

Linkage with state agency/government. -

Institutional funds.

- Subsidio de Promoción a Proyectos de Ciencia Ciudadana [Grant to Promote Citizen Science Projects]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions. -

Comments. -

Knowledge areas/disciplines (OECD)

HEALTH AND MEDICAL SCIENCES / Health Sciences
SOCIAL SCIENCES / Psychology
SOCIAL SCIENCES / Communication and media

Leaders.

- Amanda Gotti, Escuela de Salud Social y Comunitaria/University of Chubut, agotti@udc.edu.ar

Contact information.

-





Patrimonio cultural en riesgo [Cultural heritage at risk]

Workers victims of State terrorism. Trade union archives. Tucumán



Objectives

Overall goal:

Jointly reconstruct the stories of workers in Tucumán during the years of State terrorism, by safeguarding the documentary collection of the Federación Obrera Tucumana de la Industria Azucarera [the Tucumán Workers Federation of the Sugar Industry] (FOTIA, by its Spanish acronym).

Specific goals:

- Identify workers who were victims of State terrorism in Tucumán and contextualize their individual stories as part of the provincial sugar industry culture, the FOTIA, and trade union organizations.
- Recover, order, classify, describe, and safeguard the FOTIA's documenting material, as well as documents, photographs, and objects from private and union archives related to the victims.

Description of citizen participation

This project was initiated as a result of a demand from the citizens for the preservation of FOTIA's documentation and the reconstruction of the stories of workers of the sugar industry, presented by workers from the federation, to the National University of Tucumán (UNT, by its Spanish acronym) and the National Scientific and Technical Research Council (CONICET, by its Spanish acronym). Citizens participate in the elaboration of the list of missing workers linked to the sugar industry, while union leaders provide names of unregistered victims and qualitative information along with photographs. In addition, residents of different municipalities accompany the team in conducting fieldwork to learn more about the target population. The community finds old institutions and ways of circulation and living in each space visited, and provides information about the old settlers and the events that took place. Families and union leaders collaborate with the analysis of the data, participating in the reconstruction of the victims' life stories. Citizens are responsible for the maintenance of FOTIA's archive, which operates from the union's headquarters, while workers of the Archivo Nacional de la Memoria [National Memory Archive] are in charge of the technical maintenance of the collection.

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process.

Participating parties.

- FOTIA
- Instituto de Investigaciones Históricas Dr. Ramón Leoni Pinto [Dr. Ramón Leoni Pinto Historical Research Institute] (INIHLEP, by its Spanish acronym) and School of Psychology - National University of Tucumán (UNT)
- Instituto de Investigaciones Territoriales y Tecnológicas para la Producción del Hábitat [Territorial and Technological Research Institute for Habitat Development] (INTEPH, by its Spanish acronym)/National Scientific and Technical Research Council (CONICET)-National University of Tucumán (UNT)
- Latin American School of Social Sciences (FLACSO Argentina)
- Centro de Investigaciones de Estudios Agrarios [Center for Research in Agrarian Studies] (CIEA, by its Spanish acronym)/University of Buenos Aires (UBA)

Status. In progress.

Time frame. 8/22/2016 - N/A.

Frequency of project execution. Seasonal (time of year).

Participation period. Throughout the initiative.

Scope of the initiative. Local (city, province).

Geographic scope. All of the administrative areas of the province of Tucumán.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 1 to 50.

Action/s involving citizen participation.

- Problem definition
- Data collection
- Phenomenon monitoring
- Solution planning
- Solution deployment

Technological device/tool required.

- Scanner
- Computer
- Projector
- Camera
- Sound recorder
- Internet
- Conservation and cleaning instruments

Recruitment methods. Through the social media accounts of the Archive and of the institutes of which we are part. Sometimes we count on promotion through mass media. Internal communication through FOTIA's Board of Directors, which notifies its unions and delegate bodies.

Replicability. -

Scalability. The number of participants from the community has increased progressively over time.

Open access to data. The initiative contributes to the documentary collection of a public Archive, but does not have open-source data in reusable formats.

Feedback. Presentation of the work carried out in different instances.

Linkage with state agency/government.

- Espacio para la Memoria y la Promoción de Derechos Humanos [Space for Memory and for the Promotion of Human Rights]
- Escuelita de Famaillá (site of memory in a former clandestine detention center)/National Human Rights Secretariat - Ministry of Education/Government of the province of Tucumán
- Public Prosecutor's Office

Institutional funds. They have been obtained from the project's own funding sources.

Awards/distinctions. Ente Cultural de Tucumán [Tucumán Cultural Entity], Honorable Legislature of Tucumán, and Board of Directors of the School of Philosophy and Language/UNT.

Comments. The initiative has appeared in various media.

Knowledge areas/disciplines (OECD)

SOCIAL SCIENCES/ Economic and Social Geography
HUMANITIES / History and Archeology
HUMANITIES / Other Humanities

Leaders.

- Silvia Gabriela Nassif, INTEPH/CONICET-UNT, INIHLEP/UNT, FLACSO, and UBA.
- Daniela Wieder, INTEPH/CONICET-UNT, and INIHLEP/UNT.

Contact information.

E-mail: nassifsilvia@gmail.com; daniela.wieder@filo.unt.edu.ar; archivofotia@gmail.com

Instagram: [instagram.com/archivofotia](https://www.instagram.com/archivofotia)

Facebook: FOTIA Historical Archive "Hilda Guerrero de Molina" (<https://www.facebook.com/people/Archivo-Hist%C3%B3rico-de-FOTIA-Hilda-Guerrero-de-Molina/100063612818560/>)





Peces de la Puna Argentina [Fish of the Argentine Puna]

Invasive exotic fish and native aquatic fauna



Objectives

Overall goal

- Learn more about fish and water quality in the Puna, thanks to the knowledge and experiences of the Indigenous Peoples, nearby schools, and other participants.
- Develop and disseminate natural history biological approaches on each species present in the Puna and on aquatic ecosystems.

Specific goals

- Monitor the invasion of exotic fish in the Puna.
- Assess the social and economic importance of fish for local communities and Indigenous Peoples in the Puna.
- Morphologically characterize fish based on the local communities and Indigenous Peoples' anatomical knowledge and emphasize what needs to be observed as indicators of altered environments in specimens.
- Share knowledge about Puna fish through the perspective of Indigenous Communities in the city centers of Catamarca.
- Create a dictionary with ethnozoological terms used by the Diaguita Communities in the Puna Catamarqueña (kakán del sur language).

Description of citizen participation

Citizens are responsible for:

- 1- Surveying in the field various natural pools and geothermal springs with the toponyms provided by local citizens and translated into geo-referenced data.
- 2- Categorizing these sites according to water usage (agricultural-livestock, domestic, etc.) and the local communities' knowledge of surface water and groundwater cycle.
- 3- Identifying springs with and without fish using illustrated species guides, including other aquatic vertebrates associated with bodies of water.
- 4- Loading the information into a database using different fields, such as town, coordinates, fish species and density, date and time, environmental characteristics, and water usage. In this way, the local population will help to gain a real understanding of the distribution and natural history of the exotic fish in the Puna and other aquatic vertebrates. This knowledge will not only be a valuable scientific contribution from a different perspective but will also be a tool for the people of the Puna to argue in the future, based on hard data, about the impact caused by certain anthropogenic activities and, in particular, inadequately regulated extractive activities. In addition, it will eventually be possible to relate them to global climate change, especially in these fragile high-altitude wetland ecosystems whose aquifers depend on glacier water contributions during spring and summer.

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

- Andean Ichthyological Center (CIA, by its Spanish acronym)/School of Exact and Natural Sciences (FACEN, by its Spanish acronym)/National University of Catamarca (UNCA, by its Spanish acronym)
- National Scientific and Technical Research Council (CONICET, by its Spanish acronym)

Status. Ongoing.

Time frame. 07/08/2016 - N/A

Frequency of project execution. Uninterruptedly.

Participation period. Sustained over time.

Scope of the initiative. National (two or more provinces).

Geographic scope. Departments of Antofagasta Sierra, Belén, Tinogasta, Los Andes, Vinchina, Famatina, Susques, Rinconada, Santa Catalina.

Project development members. Entirely developed by participants with formal scientific training.

Number of participants. From 1 to 50.

Action/s involving citizen participation.

- Data collection.
- Phenomenon monitoring.
- Solution deployment.

Technological device/tool required. Mobile phone (optional to record the stream to be sampled and monitored).

Recruitment methods. Meetings at locations near monitoring sites.

Replicability. -

Scalability. -

Open access to data. The information obtained is shared on site with the local population. Schools and cooperatives of the Puna are meeting places where information can be exchanged, workshops can be scheduled and dissemination activities can be carried out using brochures and videos, as well as social media.

Feedback. By visits to the study sites and meetings with communities that provide information.

Linkage with state agency/government. -

Institutional funds. Project's own funding sources.

Awards/distinctions. -

Comments. -



Knowledge areas/disciplines (OECD)

- NATURAL AND EXACT SCIENCES /** Earth and Environmental Sciences
- NATURAL AND EXACT SCIENCES /** Biology
- NATURAL AND EXACT SCIENCES /** Other Natural and Exact Sciences

Leaders.

- Guadalupe Contreras, CIA UNCA.
- Dr. Julieta Andreoli, CIA-UNCA, professor of the Course on Vertebrates and CONICET postdoctoral fellowship recipient
- Dr. Luis Fernández, CONICET and CIA-UNCA

Contact information.

Email: quadytsx@gmail.com

<https://www.youtube.com/watch?v=4dXiMH9mqnc> (Spanish)

<https://www.youtube.com/watch?v=QcYwyZR5008> (English)



PISCIS: Platform for Interactive Search and Citizen Science

Classification of astronomical object characteristics



Objectives

Overall goal:

- Classify collaboratively visual information about astronomical objects and phenomena.

Specific goals:

- Conduct and validate surveys on the classification of astronomical objects and phenomena to promote citizen engagement in scientific research in the field of astronomy.
- Develop training strategies for the general public to participate in a collaborative classification of astronomical objects and phenomena.

Description of citizen participation

PISCIS helps engage the general public in ongoing scientific research projects in astronomy through a website. For each project, there is a survey in which participants have to visually classify an image. The interactions of participating citizens are stored in a database linked to a website, which allows for the collection of a large amount of data. To classify astronomical objects and phenomena, members of the project use different training approaches for citizens, such as including relevant scientific information and classification examples on the page of each research, holding guided discussions in computer labs installed in cultural venues, and organizing workshops with professional researchers.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- National Scientific and Technical Research Council (CONICET, by its Spanish acronym)
- Faculty of Mathematics, Astronomy, Physics, and Computer Science (FAMAF, by its Spanish acronym) and Astronomical Observatory of Córdoba (OAC, by its Spanish acronym)/National University of Córdoba (UNC, by its Spanish acronym)
- Institute for Theoretical and Experimental Astronomy (IATE, by its Spanish acronym)/UNC-CONICET

Status. In progress.

Time frame. 9/19/2019 - N/A.

Frequency of project execution. Uninterruptedly.

Participation period. The classification takes a few minutes and is done by viewing an image with options.

Scope of the initiative. National (two or more provinces).

Geographic scope. Global, with in-person activities in the provinces of Córdoba and Buenos Aires.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants without formal training.

Number of participants. From 101 to 500.

Action/s involving citizen participation.

- Data collection
- Data analysis

Technological device/tool required.

- Computers
- Mobile phones
- Tablet
- Internet
- Servers to access the interactive web platform compiling data.

Recruitment methods. -

Replicability. -

Scalability. Citizen engagement has been increasing by installing devices with Internet access at the Astronomical Observatory of Córdoba.

Open access to data. -

Feedback. The website shows the number of classifications so far, and results are shared in articles and discussions.

Linkage with state agency/government. -

Institutional funds.

- Institute for Theoretical and Experimental Astronomy (IATE)/National University of Córdoba (UNC)-National Scientific and Technical Research Council (CONICET)

Awards/distinctions. -

Comments. The images used for the research are available at <https://github.com/vanedaza/piscis>. Documentation to use PISCIS in your research is available at <https://piscis.readthedocs.io/en/latest/>

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Information and Computer Sciences

NATURAL AND EXACT SCIENCES / Physics

NATURAL AND EXACT SCIENCES / Other Natural and Exact Sciences

Leaders.

- Facundo Rodríguez, IATE/OAC/UNC-CONICET
- Vanessa Daza Perilla, IATE/OAC/UNC-CONICET
- Germán Alfaro, IATE/OAC/UNC-CONICET
- Eugenia Díaz Giménez, IATE/OAC/UNC-CONICET

Contact information.

Email: facundo.rodriguez@unc.edu.ar; vanessa.daza@unc.edu.ar;

german.alfaro@unc.edu.ar; eugenia.diaz@unc.edu.ar

Web: paresdegaxias.iate.conicet.unc.edu.ar

GitHub: github.com/vanedaza/piscis





Playas Sostenibles de Mar del Plata [Sustainable Beaches in Mar del Plata]

Beach monitoring



Objectives

Overall goals:

- Develop a set of reliable indicators for monitoring and evaluating environmental conditions in coastal areas.
- Create a manual that will enable reliable and systematic data collection to contribute to the formulation of a sustainable beach management plan for both public and private recreational beaches in Mar del Plata, with the aim to obtain an environmental certification.

Specific goals:

- Conduct an assessment of the characteristics of the coastal area on different scales for beach use classification.
- Develop an instrument suitable for the monitoring and evaluation of public and private recreational beaches.
- Train students, managers, and the personnel employed at beach facilities on how to implement procedures for recording the data to be collected at beach sites.
- Select, develop, and put into practice the most adequate indicators.
- Create an appropriate quality index.
- Monitor the environmental quality of beach sites over a year, for the purposes of field index calibration and technical data collection for decision-makers.
- Devise a management plan enabling the application of the most adequate environmental strategies for each type of beach site, based on its natural characteristics and use.
- Generate dissemination material and recreational strategies to communicate risk management measures in order to raise awareness among visitors on the natural characteristics and conservation of beach sites.
- Collaborate with the formulation of a management plan for the short, medium, and long term enabling the implementation of a consensual development strategy for the seashore of Mar del Plata.
- Create a procedural manual for devising a management plan and recording data to determine beach environmental quality indicators associated to risk maps.

Description of citizen participation

Citizens participate in the identification of the problem, data collection, and they might contribute to their dissemination.

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

Red Mar del Plata Entre Todos (Mar del Plata Collaborative Network) (MdPET, in Spanish) serves as a means to coordinate the participation of the members comprising the following institutions:

- The research team of the National University of Mar del Plata (UNMdP, in Spanish) and the Mar del Plata Regional School of the National Technological University (UTN, in Spanish).
- Cámara de Empresarios de Balnearios, Restaurantes y Afines (Association of Owners of Beach Facilities, Restaurants and Similar Businesses) (CEBRA, in Spanish).
- Red Iberoamericana Proplayas (Beach Management and Certification Network of Ibero-America)
- Citizens

Status. In progress.

Time frame. 01/09/2019 – 01/08/2021

Frequency of project execution. Once, to be continued.

Participation period. Data were collected from December 15, 2019 to March 15, 2020. Other forms of involvement have not been assessed yet.

Scope of the initiative. Local (city, province).

Geographic scope. Mar del Plata, Buenos Aires.

Project development members. It has been developed with the collaboration of both scientists and participants with “formal training.”

Number of participants. From 51 to 100.

Action/s involving citizen participation. Problem identification. Data collection. Solution design

Technological device/tool required. Cameras, thermometers, cell phones, photographs and measurements of environmental variables.

Recruitment methods. Through the participating universities.

Replicability. -

Scalability. -

Open access to data. Data will be available for consultation by the public at large through the participating institutions.

Feedback. Project findings are included in a publication that will be available for all citizens free of charge.

Linkage with state agency/government. -

Institutional funds.

- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation



• National University of Mar del Plata (UNMdP, in Spanish) and the Secretariat of University Policies (VT42-UMDP11687 - Playas de Mar del Plata [Mar del Plata Beach Sites]), Universidades Agregando Valor 2018 (2018 Universities Adding Value) program, CEBRA and MdPET.

Awards/distinctions. -

Classification of knowledge areas (OECD).

NATURAL SCIENCES / Earth and related Environmental sciences

Project leaders.

Eduardo Vallarino, Faculty of Exact and Natural Sciences (FCEyN, in Spanish) of the National University of Mar del Plata (UNMdP, in Spanish).

Contact information.

Email: vallarinoeduardo@gmail.com

The final document will be available in a digital format at MdPET's website and the digital repositories of participating universities. It will also be published by the publishing house of the National University of Mar del Plata (EUDEM, in Spanish).

Web: www.mardelplataentretodos.org





PreserVamos [WePreserve]

Environmental monitoring of inland aquatic ecosystems



Objectives

Overall goal

- Monitor habitat quality of inland aquatic ecosystems with citizen participation.

Specific goals

- Generate a mapping of the habitat state of inland aquatic ecosystems.
- Recognize the environmental factors that positively and negatively impact freshwater ecosystems.
- Generate new monitoring tools for these ecosystems.
- Calibrate existing tools to evaluate them.

Description of citizen participation

Citizen scientists analyze the state of the habitat in aquatic environments, through the digital app for Android devices or the project website. The data and information collected are sent and centralized in the PreserVamos online database and are then used to generate a real-time, open-access map of the state of the aquatic habitat.

In addition, citizen scientists can learn about the flora and fauna described near their location, thanks to the linking of the digital app with the ArgentiNat project database (iNaturalist), and learn about the environmental public policies of the municipality to which they belong.

In turn, the municipalities that wish to participate in the project can request open access for their environmental areas to manage and visualize the data sent by the citizens of their territory. They can also request the project team to add specific environmental indicators to the app that they believe are relevant for the citizens of their environments and download and use project advertising material for events in their territory.

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

- AppEAR citizen science project.
- United Nations Development Program (UNDP).
- Researchers at the National Scientific and Technical Research Council (CONICET, by its Spanish acronym) and the National University of La Plata (UNLP, by its Spanish acronym).
- Researchers at the National Scientific and Technical Research Council (CONICET) and the National University of Córdoba (UNC, by its Spanish acronym).

Status. Ongoing.

Time frame. 08/01/2021 - N/A.

Frequency of project execution. Uninterruptedly.

Participation period. 5 minutes.

Scope of the initiative. National (two or more provinces).

Geographic scope. San Antonio de Areco, Mercedes, and Balcarce (province of Buenos Aires); La Granja (province of Córdoba).

Project development members. It has been developed with the collaboration of both scientists and participants with formal training and without it.

Number of participants. From 51 to 100.

Action/s involving citizen participation.

- Data collection.
- Phenomenon monitoring.

Technological device/tool required.

- Mobile phone or tablet.
- Internet access.
- Android app.

Recruitment methods.

Replicability. The project began in the municipalities of San Antonio de Areco, Balcarce, and Mercedes and was co-designed together with their environmental representatives. As of February 2023, work is underway to add the municipality of La Granja, which also involves adding content to the digital app, including a specific habitat quality index for the hills in that province.

During 2023, there is a plan to incorporate environments from at least three more provinces (yungas in Tucumán, wetlands in Santa Fe, and water reservoirs in San Luis) by linking the project with Fundación Bunge y Born.

Scalability. The project started with 3 researchers from the coordinating team. As of February 2023, its core team in La Plata and Córdoba is made up of 15 researchers and scholarship holders.

During 2023, instruments will be incorporated to measure water physicochemical variables and thus contrast the results obtained through citizens using the digital app with environmental variables.

Open access to data. Open access on the website.

Feedback. An annual report was generated for the participating municipalities.

Linkage with state agency/government. Environmental areas of the municipalities of San Antonio de Areco, Mercedes, and Balcarce.

Institutional funds.

- United Nations Development Program (UNDP).
- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions.

Comments. PreserVamos is a project derived from the AppEAR initiative, with a greater emphasis on the participation of the environmental areas of the municipalities.

Knowledge areas/disciplines (OECD)

Natural and Exact Sciences / Earth and Environmental Sciences

Leaders.

- Alejo Bonifacio, CONICET.
- Joaquín Cochero, CONICET.
- Agustina Pecile, CONICET.

Contact information.

E-mail: alejo.bonifacio@unc.edu.ar; jcochero@ilpla.edu.ar; apecile@ilpla.edu.ar

Website: www.preservamos.ar





Programa ROA: Red de Observadores de Anfibios

[ROA Program: Amphibian Observer Network]

Amphibian monitoring. Biological Research



Objectives

Build open and participatory knowledge about amphibians and their environments in different sites in Argentina, based on a Network of Amphibian Observers (ROA, by its Spanish acronym), in order to promote their conservation.

Description of citizen participation

Citizens sign up to participate in the Network's activities and receive theoretical and practical training through educational material to go on a field trip and record the local amphibian fauna (alive/dead). People upload their observations (photographic/audio recordings) to the iNaturalist platform (ArgentiNat), under licenses that allow their free use. Then, they are invited to upload their records during other self-organized outings, either individually or collectively in local observation groups (subprojects). The aim is to help people receive training and strengthen connections between the local community and the entities that manage these spaces (nature reserves, parks, etc.).

Type of citizen science project

Contributory project: It is designed by members of the scientific community, and citizens participate in data collection.

Participating parties.

- SAVE THE FROGS! Buenos Aires
- Red de Observadores de Anfibios (ROA) [Amphibian Observer Network]

Status. In progress.

Time frame. 07/14/2021 - N/A.

Frequency of project execution. Seasonal (spring/summer) and according to the demands or approaches to the community/communities.

Participation period. 4 hours of training and field trip. Uploading the records to the platform takes no more than a few minutes.

Scope of the initiative. National (two or more provinces).

Geographic scope. The initiative started in sites closer to its place of origin and then expanded throughout the country. Each year, new sites are visited.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 101 to 500.

Action/s involving citizen participation

- Data collection
- Phenomenon monitoring

Technological device/tool required.

- Camera
- Mobile phones
- PC

Recruitment methods. Project's social media. Internal communications through the citizen science platform. Training sessions, and invitations to go on outings and do volunteer work.

Replicability. It has been replicated using the same platform and adapting the methodology to different audiences and contexts.

Scalability. -

Open access to data. The data are published on Wikimedia, GBIF, and iNaturalist.

Feedback. Feedback is provided through closing sessions, via email, and social media and networks.

Linkage with state agency/government. Reserva Natural del Pilar [Pilar Natural Reserve], Secretaría de Turismo y Cultura [Tourism and Culture Secretariat]/Government of the district of Mar Chiquita, Reserva Natural Lagunas de San Vicente ["Lagunas de San Vicente" Nature Reserve], Municipality of San Vicente,



Agencia Municipal del Ambiente SVM [San Vicente Municipal Office of Environment], Reserva Natural Urbana "El Corredor" ["El Corredor" Urban Nature Reserve], Municipality of San Miguel.

Institutional funds.

- Asociación Civil Wikimedia Argentina

Awards/distinctions. -

Comments. The data provided is used for the promotion of educational content through the initiative's social media and networks. The initiative also plans to make various contributions (freely accessible data) to Wikimedia projects such as Wikipedia, Wikimedia Commons, Wikispecies, and Wikidata.

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences
NATURAL AND EXACT SCIENCES / Biology
NATURAL AND EXACT SCIENCES / Other Natural and Exact Sciences

Leaders.

- Natalia Maruscak, SAVE THE FROGS! Buenos Aires
- Lucila Trussi, SAVE THE FROGS! Buenos Aires
- Rocío Rudak, SAVE THE FROGS! Buenos Aires

Contact information.

Email: buenaosaires@savethefrogs.com; savethefrogs.bsas@gmail.com
Website: linktr.ee/buenosairesstf; stfbuenosaires.blogspot.com/
Instagram: [instagram.com/buenosairesstf/](https://www.instagram.com/buenosairesstf/)
Facebook: [facebook.com/buenosairesstf](https://www.facebook.com/buenosairesstf)





Proyecto Asio [AsioProject]

Birds - Short-eared Owl (*Asio flammeus*)



Objectives

Overall goal:

Collect information to know the general biology of the species in Argentina and adopt measures for its conservation.

Specific goals:

- Learn about the current status of the species and its conservation problems.
- Understand the distribution, habitat and threats to the species by province.
- Prepare an annual report based on the information obtained from the observers' records.

Description of citizen participation

In some cases, citizens participate by raising conservation issues for certain populations. In addition, they are responsible for collecting data from species observations, posting the records in a Facebook group. Participants are requested to upload photographs and include geographic location, coordinates, description of the environment, possible disturbances and number of birds. In the case of a nesting record, the number of eggs or chicks and their description should be added.

If the recordings are conducted in areas that could become potential protected areas, citizens will coordinate future conservation efforts involving the project and the landowner.

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process.

Participating parties.

- "Bajo de Bordenave", Municipal Educational Natural Reserve (Puan, Province of Buenos Aires, Argentina).
- "Félix de Azara", Natural History Foundation.

Status. In progress.

Time frame. 05/04/2012 - N/A

Frequency. Uninterruptedly.

Participation period. Sustained over time.

Scope of the initiative. International (two or more countries).

Geographic scope. Argentina and Chile.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 1001 onwards.

Action/s involving citizen participation.

- Data collection.
- Phenomenon monitoring.
- Solution planning.
- Solution deployment.

Technological device/tool required

- Camera or mobile phone to capture the record.

Recruitment methods. Through Facebook.

Replicability. -

Scalability. In terms of the number of people who are aware of the project and, as a result, the number of records is increasing.

Open access to data. To all users of the Facebook group.

Feedback. -

Linkage with state agency/government. -

Institutional funds. Project's own funding sources.

Awards/distinctions -

Comments. -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences

NATURAL AND EXACT SCIENCES / Biology

SOCIAL SCIENCES / Education Sciences



Project leaders.

- Alejandro Morici, Fundación Azara

Contact information.

Web: proyectoasio.wordpress.com/

Facebook: facebook.com/groups/proyectoasio





Proyecto de vinculación y transferencia tecnológica para la producción solidaria de medidores de CO₂ [Bonding and technology transfer project for solidarity-based production of CO₂ meters]



Objectives

Overall:

- Provide a low-cost device for indoor ventilation monitoring by measuring carbon dioxide (CO₂).
- Reduce the probability of contracting airborne diseases, such as COVID-19, among others.
- Contribute to enhance performance of people sharing indoor spaces by monitoring ventilation.

Specific:

Research CO₂ meter designs, select those that use components available in Argentina, build a working prototype and make the circuit and microcontroller programming code freely and publicly available.

Description of citizen participation

Citizens are provided with a CO₂ meter, equivalent to a “thermometer”, and receive basic training. They learn that the optimal outdoor ventilation rate is about 400 parts per million (PPM), while the indoor ventilation rate can easily reach 2500 PPM. Therefore, if during monitoring, the value is less than 800 PPM, citizens will record that ventilation is adequate and they can remain indoors with a low risk, as long as they keep at least a one (1) meter distance and wear a mask (in the context of the COVID-19 pandemic). On the other hand, if the value rises, citizens know that they will have to increase ventilation or, otherwise, leave the room until the air is renewed.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- Teaching and research staff from the Universidad Nacional de Hurlingham (National University of Hurlingham, UNAHUR by its Spanish acronym)
- High school and technical school teaching staff
- High school and university students
- Parent auxiliaries

Status. In progress.

Time frame. 12/26/2020 - N/A

Frequency of project execution. Uninterruptedly.

Participation period. As long as citizens adopt the use of CO₂ meters, their usage will be maintained over time.

Scope of the initiative. Argentina (two or more provinces).

Geographic scope. Argentina.

Specific subject: Indoor ventilation monitoring by measuring carbon dioxide (CO₂).

Project development members. Entirely developed by participants with formal scientific training.

Number of participants. From 1001 onwards.

Action/s involving citizen participation.

- Data collection.
- Phenomenon monitoring.
- Solution implementation.

Technological device/tool required.

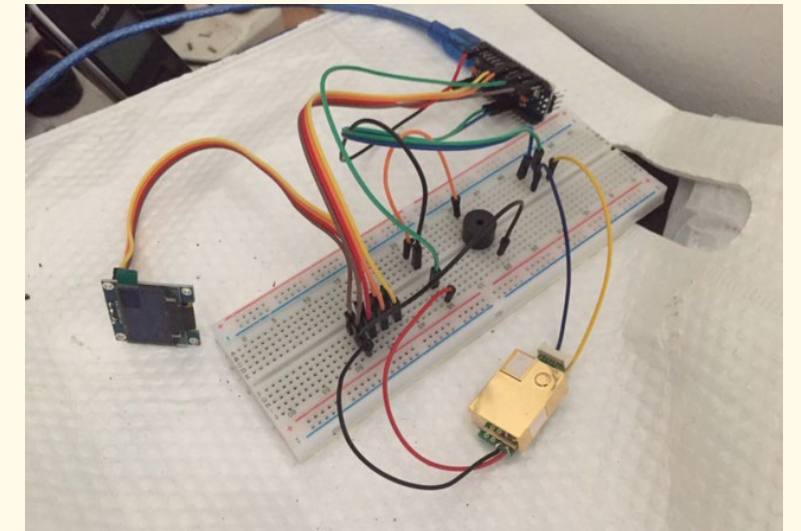
- CO₂ meter for ventilation monitoring. While versions of CO₂ meters that transfer data to mobile phones can be developed, it is not required.

Recruitment methods. -

Replicability. Both in Colombia and Bolivia, different entities used the meter assembly instructions to build their own equipment.

Scalability. In February 2020, UNAHUR signed agreements with the Municipal Governments of Hurlingham and Morón to supply 200 meters to each of them. These agreements were later replicated in other Municipal Governments and public entities, so it is estimated that 1,000 meters have already been manufactured with students from the University through internships. Furthermore, since the code is free, several Parent Auxiliaries throughout the country, from Salta to Tierra del Fuego, have started to build their own meters. Added to the numerous seminars and several interviews given in 2021, this allowed several groups of parents to join the initiative.

During the year 2022, a collaboration took place between the National Ministry of Education, the National Institute of Technology Education (INET) and the National University of Hurlingham (UNAHUR), in Argentina, and the course “Build your carbon dioxide meter” (Armá tu medidor de dióxido de carbono) was developed through the Educ.AR portal. The course is available to the entire community and encourages participants to learn about the potential application of carbon dioxide meters as a tool to aid in the ventilation of spaces to stop the aerosol transmission of COVID-19. Additionally, it will give students the opportunity to learn how to create, program, and use them in institutional settings as part of careful presence measures. The course was designed to be self-assisted (taught without a tutor) so that participants may access the materials whenever they wanted. More than 1,300 participants registered for the first three cohorts (<https://formacion.conectarigualdad.edu.ar/cursos/728>).



Open access to data. Free and open source code in jorgealiaga.com.ar/?page_id=2864

Feedback. Questions, doubts and queries are answered through social media and/or Whatsapp.

Linkage with state agency/government. The Province of Buenos Aires and several Municipal Governments across the country decided to supply these meters in schools.

Institutional funds.

- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/ Argentine Ministry of Science, Technology, and Innovation
- Project’s own funding sources (for the two initial prototypes, the components of which were purchased over the Internet at a cost of approximately ARS \$6500.00 each).

Awards/distinctions. -

Classification of knowledge areas (OECD).

NATURAL AND EXACT SCIENCES / Physics.
NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences.
HEALTH AND MEDICAL SCIENCES / Health Sciences.

Project leaders.

Jorge Aliaga, National University of Hurlingham (UNAHUR, in Spanish), University of Buenos Aires (UBA by its Spanish acronym) and National Scientific and Technical Research Council (CONICET, in Spanish).

Contact information.

Email: jorge.aliaga@unahur.edu.ar

Web: www.jorgealiaga.com.ar/?page_id=2864





Proyecto Vaquitas [Lady Beetles]

Monitoring the diversity and distribution of Lady Beetles (*Coleoptera, Coccinellidae*)



Objectives

Overall goal: Identify species of Lady Beetles existing in Argentina, determine their geographical distribution, and assess the potential impact of an invasive species, specifically the Asian Lady Beetle (*Harmoinia axyridis*) and eventually of any other exotic species on native ones.

Specific goals:

- Monitor the spread of the Asian Lady Beetle across Argentina.
- Assess the degree of spatial coexistence of said invasive species with other conspicuous native species (i.e., obvious to the eye) of the same family, in order to identify the most threatened species.

Description of citizen participation

Citizens send photos indicating the date and the geographic location where said insects have been observed. At the same time, they work in two specific roles: on the one hand, systematic monitoring and, on the other, the local promotion and dissemination of the project. Citizens engaged in systematic monitoring will carry out systematic sampling in their cities by using sweep nets and searching manually at locations they will select based on their local knowledge. They will be trained in species identification, and then report and discuss their findings with the entire team. Citizens who participate in local dissemination will be actively responsible for promoting the project in their provinces. Citizens who perform these two new roles will participate in regular meetings, where the progress and needs of the project will be discussed with the project's scientists. Therefore, the project includes three types of citizen participation: citizens who send "occasional" records, citizens who carry out systematic monitoring, and citizens who collaborate with the dissemination and promotion of the project. The same person may fulfill one or more of these roles simultaneously.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- Research teams, researchers, fellowship holders, and support staff of the National Scientific and Technical Research Council (CONICET, by its Spanish acronym)

Status. In progress.

Time frame. 7/12/2019 – N/A

Frequency of project execution. Uninterruptedly.

Participation period. Regularly.

Scope of the initiative. Argentina (two or more provinces).

Geographic scope. Argentina.

Project development members. It has been entirely developed by people with formal scientific training.

Number of participants. Over 1001.

Action/s involving citizen participation

- Data collection
- Species identification
- Local promotion and dissemination

Technological device/tool required.

- Mobile phone with Internet access
- Camera
- Sweep nets and material for entomological collection (only some citizens)

Recruitment methods. Through institutions, social media and the press.

Replicability. The project has been replicated on a small scale in various schools in the country, where the topic was addressed from different disciplines and at different educational levels.

Scalability. The project's number of participants is gradually increasing.

Open access to data. Part of the initiative is developed through ArgentiNat, where the data recorded are shared automatically. In addition, the records can be accessed through the project web page (<https://proyectovaquitas.com.ar/>).

Feedback. Species identification and detailed information are provided, and all queries made by citizens are answered. In addition, through the project's website and social media, diverse information is provided related to the biodiversity of Lady Beetles, their role in ecosystems, the importance of biodiversity conservation, and the issue of biological invasions. The progress of the project is also shared.

Linkage with state agency/government. The project has collaborated with state educational institutions, various National Parks



in the country, and the National Institute of Agricultural Technology (INTA, by its Spanish acronym) for the dissemination and implementation of the project.

Institutional funds. Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions. -

Comments. Starting from late 2023, the project will include non-scientific citizens, from different provinces of Argentina, to collaborate with the design of standardized sampling and as active participants in the local dissemination of the project.

Knowledge areas/disciplines (OECD)
NATURAL AND EXACT SCIENCES / Biology

Leaders.

- Victoria Werenkraut, CONICET Researcher

Contact information.

Email: werenkraut@comahue-conicet.gob.ar; vaquita@comahue-conicet.gob.ar
WhatsApp: +549 294 4239168
Website: <https://proyectovaquitas.com.ar/>
Instagram: <https://www.instagram.com/proyectovaquitas/>
Twitter: @pvaquitas





¿Qué Pasa Riachuelo? [What's up, Riachuelo?]

Environmental monitoring



Objectives

Overall goals:

- Promote informed citizen participation.
- Contribute towards the supervision and monitoring of the Riachuelo Sanitation Plan.
- Enhance the level of protection of natural areas with significant ecosystemic value.
- Modify economic activities with a high negative impact.
- Improve the quality of life of people living in the Matanza-Riachuelo basin, especially of vulnerable inhabitants.

Specific goals:

- Strengthen social monitoring capabilities and the resulting influence of citizens on the public policies implemented in the territory.
- Improve the speed and effectiveness of the complaint mechanisms available to people living in the basin to enable mainstreaming issues into the solutions required for each case.

Description of citizen participation

It involved a virtual space constituted by a network of civil society organizations. As an environmental platform, it promoted online monitoring by way of citizen supervision and reporting, classified into 4 thematic areas:

- Industries with legal and environmental risk rates
- Open dumping sites
- Slums and settlements
- Territorial alerts

A photojournalism contest for hobbyists was held in 2013. To participate, neighborhood groups and residents living in the basin had to send images showing its condition, considering the Sanitation Plan established by the Supreme Court of Justice.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- Environment and Natural Resources Foundation (FARN, in Spanish).
- Fundación Ciudad (Ciudad Foundation).
- Foro de Periodismo Argentino (Forum for Argentine Journalism) (FOPEA, in Spanish).

Status. Completed.

Time frame. 1/10/2011 – 2015

Frequency of project execution. Uninterruptedly.

Participation period. On a sustained basis.

Scope of the initiative. Local (city, province).

Geographic scope. Matanza-Riachuelo basin. Autonomous City of Buenos Aires (CABA, in Spanish)

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 101 to 500.

Action/s involving citizen participation

- Data collection.
- Phenomenon monitoring.

Technological device/tool required. Digital platform.

Recruitment methods. By visiting communities.

Replicability. The platform that is being co-designed within the sphere of CoAct, a project that is also part of this mapping, will be a relaunch of QPR.

Scalability. Monitoring functions were added to the second version launched in 2012. Tools were designed to boost the involvement of neighborhood groups through the granting of Response Funds to be directly applied to such activities, which were reported to the platform. Also, the documentary titled "La vuelta al Río" (Back to the River) was made, as part of the process for promoting citizen involvement.

Open access to data. Data were downloadable in CSV format.

Feedback. –

Linkage with state agency/government. Mainly with the Matanza – Riachuelo Basin Authority (ACUMAR, in Spanish).

Institutional funds. European Union.

Awards/distinctions. –



Classification of knowledge areas (OECD).

NATURAL SCIENCES / Earth and related Environmental sciences
SOCIAL SCIENCES / Sociology
SOCIAL SCIENCES / Law

Project leaders.

Andrés Nápoli, Environment and Natural Resources Foundation (FARN in Spanish).

Contact information.

Email: anapoli@farn.org.ar

Web: farn.org.ar/proyecto/riachuelo

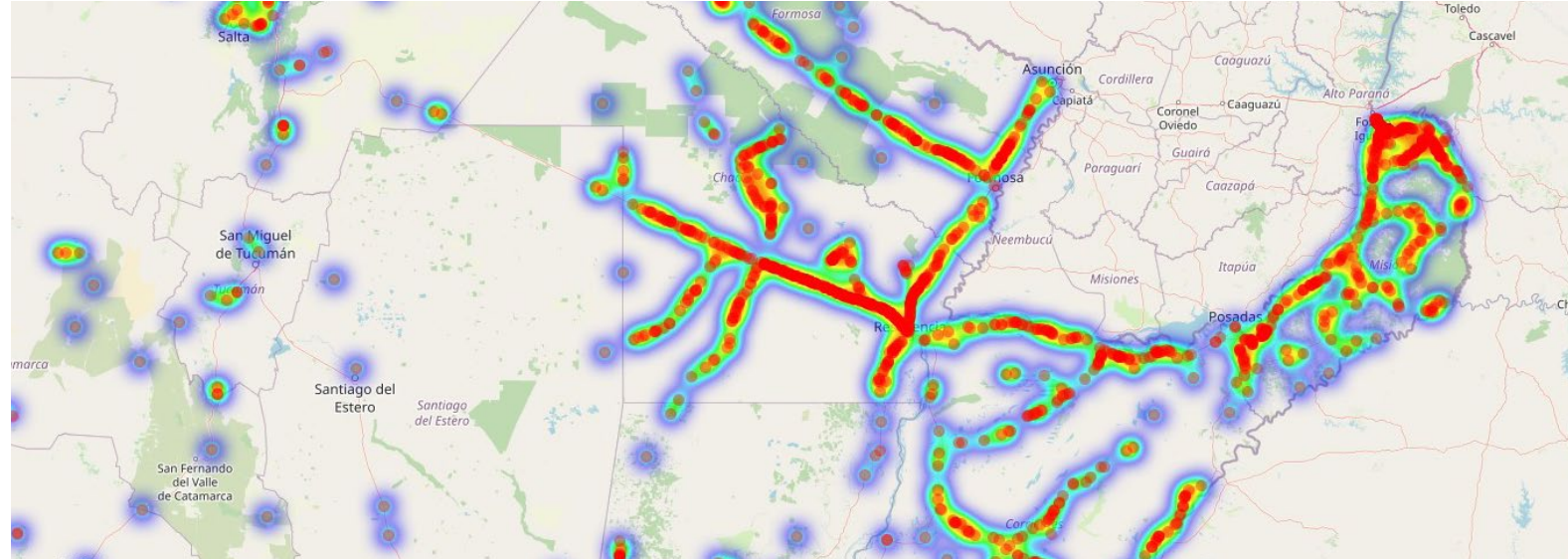




Red Argentina de Monitoreo de Fauna Atropellada

[Argentine Wildlife Roadkill Monitoring Network]

Wildlife mortality on roads



Objectives

Overall goal:

- Collaboratively map and analyze the impact of wildlife roadkill on Argentina's roads through an application for mobile devices, to put the issue on the agenda and promote both species conservation and road safety.

Specific goals:

- Identify, through collaborative mapping, vulnerable species and areas of the country with a concentration of roadkill (hotspots).
- Understand the impact of roads on wildlife and build knowledge aimed at improving road planning and promoting the implementation of effective mitigation measures (wildlife crossings, culvert improvement, speed bumps, and enforcement).

Description of citizen participation

Citizens participate in the collection of data on roadkill through an application for mobile devices that systematizes records using photographs and GPS location. The collected data is curated and published on a publicly accessible website. The initiative responds to specific requests, filters, exports, and sends data to decision-makers (both public and private) for the implementation of solutions or mitigation measures. The target audience of the initiative is public or private agents involved in the management of natural areas or wildlife (park rangers, wildlife rangers, officials of the National Parks Administration of Argentina and provincial wildlife offices) or the administration of roads and highways (provincial road technicians, National Highway Administration of Argentina, road concessionaires, etc.).

Type of citizen science project

Contributory project: It is designed by members of the scientific community, and citizens participate in data collection.

Participating parties.

- Centro de Investigaciones del Bosque Atlántico (CEIBA, by its Spanish acronym) (civil wildlife protection and scientific advancement association)
- Instituto de Biología Subtropical (IBS, by its Spanish acronym) [Institute of Subtropical Biology]; National Scientific and Technical Research Council (CONICET, by its Spanish acronym)-National University of Misiones (UNaM, by its Spanish acronym)
- Fundación Vida Silvestre Argentina (civil wildlife protection association)

Status. In progress.

Time frame. 7/05/2019 - N/A.

Frequency of project execution. Uninterruptedly.

Participation period. Sustained over time.

Scope of the initiative. National (two or more provinces).

Geographic scope. Argentina.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 101 to 500.

Action/s involving citizen participation.

- Data collection
- Solution deployment

Technological device/tool required.

- Mobile phone with offline application. Data is shared when Internet access is available
- Camera
- GPS

Recruitment methods. The initiative is communicated and participants are invited through social media, mass media, a website, scientific meetings, and specific workshops with key stakeholders.

Replicability. Similar initiatives have emerged in other Latin American countries. Currently, the team is part of the specialist group on biodiversity and transport of the International Union for Conservation of Nature in Latin America.

Scalability. Since its inception in 2019, the number of provinces, institutions, collectors, and data collected has grown.

Open access to data. The records, maps, and statistics are openly accessed by citizens and organizations. Information is shared on the website and records by province or route are sent upon request.

Feedback. Through the website, Facebook, and email.

Linkage with state agency/government. National Parks Administration of Argentina, National Highway Administration of Argentina, and Provincial Highway Office of Misiones and, upon request, different provincial agencies and researchers.

Institutional funds.

- CEIBA (web hosting)
- Fundación Vida Silvestre Argentina (materials and promotion)
- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions. -

Comments. -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Biology
ENGINEERING AND TECHNOLOGY / Civil Engineering

Leaders.

- Diego Varela, Asociación Civil Centro de Investigaciones del Bosque Atlántico (CEIBA) and Instituto de Biología Subtropical (IBS)/National Scientific and Technical Research Council (CONICET)-National University of Misiones (UNaM)
- Ignacio Minoli, IBS/CONICET-UNAM
- Sebastián Cirignoli, CEIBA and National Parks Administration of Argentina
- Bernardo Lartigau, Fundación Vida Silvestre Argentina

Contact information.

Email: red.arg.fauna.atropellada@gmail.com; vareladiieg@gmail.com; minolicnp@gmail.com

Web: www.fauna-atropellada.org.ar

Facebook: facebook.com/RedArgentinaMonitoreoFaunaAtropellada





Restaura [Restore]

Native forest ecological restoration



Objectives

Overall goal

- Create collaborative networks and connect different knowledge sources to promote the restoration of native forests.
- Study the phenology and standardization of Celtis tala employing collaborative tools within an open science framework.

Specific goals

- Learn about the different life cycles of the Tala (flowering, fructification, etc.) to plan when to collect seeds needed for the restoration projects.
- Determine the optimal planting date of Tala by conducting a collaborative experiment throughout its distribution in Argentina to locally adjust restoration strategies.
- Create collaborative tools for the restoration of native forests in different ecoregions through the replication of these activities with other species.
- Define the weak points of invasive exotic species in order to control them.

Description of citizen participation

In the first part of the project, to learn about the different stages of the Tala's life cycle, the participants follow the same tree through its different stages of development, and report their results through a web app. In the second part, in order to determine the optimal planting date for the Tala, citizens simultaneously carry out a collaborative germination experiment in their homes or nurseries. In this context, monthly meetings are held in which preliminary results are informed and discussed and, in turn, participants help with the creation of future protocols. In future editions, in which stages 1 and 2 will be repeated, the aim is to let participants decide which species they want to continue working with according to the country's ecoregion.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- Mariela Lacoretz, Biologist, Postdoctoral Fellowship Recipient of the National Scientific and Technical Research Council (CONICET), Professor at the Faculty of Exact and Natural Sciences (FCEN in Spanish)/University of Buenos Aires (UBA).
- Pedro Tognetti, Agronomist, CONICET Researcher, Professor at the School of Agriculture (FA in Spanish)/UBA.
- Mariano Fressoli, Sociologist, CONICET Researcher. Research Center for Transformation, (CENIT in Spanish)/National University of San Martín (UNSAM in Spanish).
- Natalia Rodriguez, Environmental Scientist, CONICET PhD Scholarship Recipient, Professor at FA/UBA.
- Débora Chamarro, Agronomist, Professor at National University of Rosario (UNR in Spanish).
- Cristian Malavert, Agronomist, CONICET Postdoctoral Fellowship Recipient, Professor at FA/UBA.
- Evelyn Schibber, Biologist and Programmer, Member of the Support Staff for Research and Development Career (CPA in Spanish)/Agricultural Physiology and Ecology Research Institute (IFEVA in Spanish)/UBA-CONICET.
- Cecilia Molina, Environmental Scientist, Professor at FA/UBA and the Provincial University of Ezeiza.
- Rocío Contestin, Biological Sciences student at UBA.

Status. In progress.

Time frame. 02/26/2021 - N/A.

Frequency of project execution. Uninterruptedly.

Participation period. From a few hours to several months, according to the participant.

Scope of the initiative. National (two or more provinces).

Geographic scope. Provinces of Buenos Aires, Entre Ríos, Santa Fe, Córdoba, San Luis, La Rioja, Tucumán, Salta.

Project development members. It has been developed with the collaboration of scientists and participants both with formal training and without it.

Number of participants. From 51 to 100.

Action/s involving citizen participation.

- Problem definition
- Data collection
- Data analysis
- Phenomenon monitoring
- Solution planning

Technological device/tool required.

- Mobile phone for georeferencing and taking photos.
- Internet connection to upload data on the web app.
- Pots and gardening tools for germination.

Recruitment methods. Through social media, mainly Facebook and Instagram, using specific flyers. Recruitment was made so far to conduct collaborative germination experiments, report photos of the Tala's different

phenological stages, and inform of meetings about results and protocols.

Replicability. -

Scalability. A larger number of participants is expected for future recruitment.

Open access to data. The analyzed results have been shared with the participants. Open access to information is expected in the future.

Feedback. Results were communicated by email and during meetings.

Linkage with state agency/government. -

Institutional funds.

- The CONICET postdoctoral fellowship of the initiative's General Coordinator, Mariela Veronica Lacoretz.
- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions. -

Comments.

- The project Tala was the first RESTAURA initiative. As RESTAURA grows, the aim is to include new projects with other key species for forest restoration.
- A specific web app was developed for this project. Through the app, participants can access with their usernames and passwords and upload data easily. The app also shows the preliminary results of all participants as data is uploaded. In September 2022, a new recruitment campaign will be launched to test its operation. The RESTAURA project seeks to foster links between different social stakeholders, connecting people, projects, and their natural environments, to promote the appreciation of our natural heritage and its contribution to our cultural identity.

Knowledge areas/disciplines (OECD)

Natural and Exact Sciences / Earth and Environmental Sciences

Natural and Exact Sciences / Biology

Leaders.

Mariela Lacoretz. Institute of Ecology, Genetics, and Evolution of Buenos Aires (IEGEBIA in Spanish)/National Scientific and Technical Research Council (CONICET), Faculty of Exact and Natural Sciences (FCEN)/University of Buenos Aires (UBA).

Contact information.

Email: mariela.lacoretz@gmail.com

Web: www.restaura.com.ar

Web app: www.restaura.com.ar/app/login.php

Instagram: [instagram.com/restaura.com.ar](https://www.instagram.com/restaura.com.ar)





Sensora.ar

Community air quality monitoring in Villa Inflamable



Objectives

Overall goal

- Build accessible knowledge about the air quality of Villa Inflamable along with the community for the promotion of policies and programs for sustainable environmental co-management of the territory with a focus on the reduction and mitigation of health risks.

Specific goals

- Co-design and scale up air quality monitoring devices.
- Identify the protective measures carried out by the community of Villa Inflamable regarding odors, gases, and smoke to which it is exposed.
- Create collaborative management tools for air quality facilitating the participation of the community, local government, and university.

Description of citizen participation

Air quality control devices were co-created with the community of Villa Inflamable to jointly carry out measurements. Citizens view the data on the device displays. Based on the data collected, workshops are held with the community where graphics and visualizations are shared to facilitate the process of interpreting measurement results, with the help of academic researchers and the acquisition of scientific-technical skills.

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process.

Participating parties.

- National University of Avellaneda (UNDAV, by its Spanish acronym)
- National Institute of Industrial Technology (INTI, by its Spanish acronym)
- Royal Holloway, University of London
- Sembrando Juntos (nonprofit organization)

Status. In progress.

Time frame. 10/10/2018 - 10/10/2024.

Frequency of project execution. Seasonal (time of year). Measurements are taken in every season of the year because the behavior of pollutants varies. Experimental measurements are also carried out when the community detects an environmental incident related to air quality.

Participation period. The design of the device was created from 2020 to 2021. Monitoring is carried out for one week in each season of the year.

Scope of the initiative. Local (city, province).

Geographic scope. Villa Inflamable, Dock Sud, Avellaneda, Buenos Aires. Lanús, Buenos Aires. Autonomous City of Buenos Aires.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 1 to 50.

Action/s involving citizen participation

- Problem definition
- Data collection
- Phenomenon monitoring
- Data analysis

Technological device/tool required.

- Sensora device used for georeferencing and measuring four gases, particulate matter, and climatic parameters

Recruitment methods. Through social media, WhatsApp groups, and workshops.

Replicability. -

Scalability. -

Open access to data. -

Feedback. In workshops.

Linkage with state agency/government.

- Autoridad de Cuenca Matanza Riachuelo (ACUMAR, by its Spanish acronym) [Authority of Matanza Riachuelo River Basin]

- Environmental Protection Agency (APRA, by its Spanish acronym)

Institutional funds.

- UK Research and Innovation and Aerocene Foundation

Awards/distinctions.

- Global Challenges Research Fund (GCRF) (2019), UK Research and Innovation
- INNOVAR Awards (2022), Innovation in the University category, and special mention from INTI

Comments. -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Earth and Environmental Sciences
ENGINEERING AND TECHNOLOGY / Electrical engineering, electronic engineering, and information engineering

Leaders.

- Débora Swistun, National University of Avellaneda (UNDAV)

Contact information.

E-mail: dswitun@undav.edu.ar

Instagram: [instagram.com/obsermar](https://www.instagram.com/obsermar)

Facebook: [facebook.com/sensoraar/?ref=pages_you_manage](https://www.facebook.com/sensoraar/?ref=pages_you_manage)





Servicio socio-habitacional: mejoras bioclimáticas en viviendas populares

[Social and housing service: bioclimatic improvements in low-income houses]

Participatory housing and urban improvement



Objectives

Overall goal

- Collaboratively identify the housing and urban conditions with which the communities of low-income settlements in Córdoba live to jointly build improvement solutions following sustainability parameters.

Specific goals

- Carry out precise and comprehensive urban housing analyses to learn about the housing, urban, and environmental conditions present in the low-income settlements of the city of Córdoba and the zone of influence.
- Collaboratively propose improvement solutions for these conditions and the implementation of bioclimatic design and energy efficiency strategies, based on the perceptions, knowledge, resources, and abilities of the community present in the territories.
- Develop awareness, training, and appropriate technical support strategies to promote community consolidation and the improvement of environmental quality and life in settlements.
- Identify guidelines that can be used in the design and management of housing integration policies.

Description of citizen participation

The communities of the low-income neighborhoods actively participate in the entire process along with students, teachers, and researchers involved. Participants work together in planning activities to be implemented per semester in the survey and analysis of the existing socio-urban, environmental, and housing conditions. They also work in the subsequent instances of reflection on the findings and possible solutions, the activities for the monitoring and assessment of the agreed work plans, and the processes of self-construction and social production of the habitat to carry out the improvements and presentation of results. At the same time, citizens have influence over different community activities, such as training workshops, technological training, and design/improvement. Finally, they provide their own (economic, material, organizational, human, etc.) resources to achieve the agreed tasks.

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process.

Participating parties.

- Experimental Center for Economic Housing (CEVE, by its Spanish acronym)/National Scientific and Technical Research Council (CONICET, by its Spanish acronym)
- Asociación de Vivienda Económica (AVE, by its Spanish acronym) [Economic Housing Association]
- Surcos Asociación Civil (nonprofit organization)
- Techo Asociación Civil (nonprofit organization)
- Neighborhood organizations of the City of Córdoba
- Banco de Materiales Córdoba [Córdoba Bank of Materials] (non-governmental organization)
- Servicio Habitacional y de Acción Social (SEHAS, by its Spanish acronym) [Housing and Social Action Service]

Status. In progress.

Time frame. 2004 - present.

Frequency of project execution. Uninterrupted.

Participation period. 7 days of survey and participatory design activities per semester, plus coordination and monitoring meetings.

Scope of the initiative. Local (city, province).

Geographic scope. City of Córdoba, Argentina.

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 1001 onwards.

Action/s involving citizen participation

- Planning of the activities to be implemented per semester
- Analysis activities to survey existing socio-urban, environmental, and housing conditions
- Community activities that are scheduled (training workshops, technological training, and participatory activities of design and improvement)
- Reflection activities on findings and possible solutions
- Activities for the monitoring and assessment of the agreed work plans
- Processes of self-construction and the social production of the habitat to carry out the co-designed improvements
- Presentation of results

Technological device/tool required.

- Thermal imaging camera, tablet to view models, backup disks, data logger, and materials for improvements

Recruitment methods. The leaders of the neighborhood organizations invite families interested in joining, once the semiannual work schedule has been agreed upon. This usually happens in March and August.

Replicability. It has been replicated in some cities and towns in Gran Córdoba.

Scalability. It has created the initiative Banco de Materiales Córdoba.

Open access to data. -

Feedback. In each of the planning and monitoring workshops.

Linkage with state agency/government. Ministry of Social Development of the Province of Córdoba and Habitat Management of the Municipality of Córdoba.

Institutional funds.

- Catholic University of Córdoba (UCC, by its Spanish acronym), AVE, CEVE/CONICET and provincial, national, and international calls.
- Subsidio de Promoción de Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Promote Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation

Awards/distinctions. Premio Presidencial "Prácticas Educativas Solidarias en Educación Superior" (2004, 2008, and 2010); PricewaterhouseCoopers Education Award (2008); Premio Heroínas Cotidianas INADI (2011); Premio Concurso Jóvenes Innovadores (2021); Uniservitate Award (2022).

Comments. -

Knowledge areas/disciplines (OECD)

ENGINEERING AND TECHNOLOGY / Civil Engineering
ENGINEERING AND TECHNOLOGY / Materials Engineering
SOCIAL SCIENCES / Other Social Sciences

Leaders.

- Daniela Gargantini, AVE, CEVE/CONICET and Catholic University of Córdoba (UCC), dmgargantini@gmail.com
- Ludmila Garbellotto, UCC, nonprofit organizations Techo and Surcos, lgarbellotto5@gmail.com
- María Carrezuela, AVE, CEVE/CONICET and UCC, mariacerrezuela@gmail.com
- María Paz Sánchez Amono, AVE, CEVE/CONICET and foundation Fundación para el Desarrollo Sustentable, bioclimaticdesign.ceve@gmail.com
- Halimi Sulaiman, AVE, CEVE/CONICET and Fundación para el Desarrollo Sustentable, bioclimaticdesign.ceve@gmail.com
- José Obdulio Flores, Servicio Habitacional y de Acción Social Córdoba (SEHAS) in Villa Siburu, arq_joseflores@hotmail.com

Contact information.

Instagram: @aveyceve





Sueño ciudadano [The sleep of citizens]

Sleep parameters and quality of life

| | | L I T E R A | | |



Objectives

Map sleep and wake habits in Argentina by jointly collecting anonymous data on mobile phone use, analyzing individual and community variables affecting sleep (demographics, geographical location, etc.), and producing a set of recommendations, based on this evidence, about adequate circadian rhythm and sleep regimens.

Description of citizen participation

Citizens collect data through a report on the use of their mobile phones and behaviors in relation to sleep and wakefulness. They also participate in public dissemination campaigns of the initiative and the production of recommendations to formulate future public policies based on gathered evidence.

Type of citizen science project

Contributory project: It is designed by members of the scientific community, and citizens participate in data collection.

Participating parties.

- University of San Andrés (UdeSA, by its Spanish acronym)
- National University of Quilmes (UNQ, by its Spanish acronym)
- National Scientific and Technical Research Council (CONICET, by its Spanish acronym)

Status. In progress.

Time frame. 8/01/2022 - N/A.

Frequency of project execution. Uninterruptedly.

Participation period. At least one year.

Scope of the initiative. National (two or more provinces).

Geographic scope. Argentina.

Project development members. Entirely developed by participants with formal scientific training.

Number of participants. From 101 to 500.

Action/s involving citizen participation

- Data collection
- Other/s: Citizens receive information and feedback on the analyses carried out and are asked to participate in their dissemination actively.

Technological device/tool required.

- Mobile phone

Recruitment methods. Social media.

Replicability. -

Scalability. -

Open access to data. -

Feedback. Citizens receive feedback about the analyses carried out through email.

Linkage with state agency/government. -

Institutional funds.

- National Agency for the Promotion of Research, Technological Development and Innovation (Agencia I+D+i in Spanish)

Awards/distinctions. -

Comments. The initiative is based on the experience developed by the professional scientific team at <http://www.cronoargentina.com>. A new site is going to be developed for this project.

Knowledge areas/disciplines (OECD)

- NATURAL AND EXACT SCIENCES /** Biology
- HEALTH AND MEDICAL SCIENCES /** Health Sciences
- SOCIAL SCIENCES /** Psychology

Leaders.

- Diego Golombek, University of San Andrés and CONICET

Contact information.

Email: dgolombek@gmail.com





Tenencia responsable de mascotas para conservar la fauna nativa

[Responsible pet ownership to conserve native fauna]

Predation of native fauna by domestic dogs and cats



Objectives

Overall goal

- Collaboratively contribute to knowledge building related to responsible pet ownership to conserve wildlife and improve the health of the population.

Specific goals

- Calculate and characterize the predation of native fauna by domestic dogs and cats, with or without owners, in the province of Buenos Aires.
- Provide training to citizens on responsible ownership of dogs and cats.

Description of citizen participation

Workshops are held in schools for students and teachers to reconstruct their knowledge based on problematic situations and theoretical content provided by the teachers in charge. During this training, participants are invited to upload information to the platform ArgentiNat regarding the predation events of native fauna by dogs and cats to get involved in the study of the issue.

Type of citizen science project

Contributory project: It is designed by members of the scientific community, and citizens participate in data collection.

Participating parties.

- School of Exact and Natural Sciences (FCEN, by its Spanish acronym)/University of Buenos Aires (UBA)
- Escobar Zoonoses Center/Municipality of Escobar
- Educational institutions and Granja Educativa Don Benito (educational farm)
- Reserva Natural Educativa Ingeniero Maschwitz (nature reserve)
- Parque Nacional Cervo de los Pantanos (national park)
- Asociación para la Conservación y el Estudio de la Naturaleza (ACEN, by its Spanish acronym) [Association for the Conservation and Study of Nature]
- Centro Cultural "El Bondi" (cultural center)
- AYUDA Ingeniero Maschwitz (non-governmental organization)
- Fundación Vida Silvestre Argentina (FVSA, by its Spanish acronym) (civil wildlife protection association)
- Aves Argentinas (NGO)

Status. In progress.

Time frame. 3/11/2019 - N/A.

Frequency of project execution. Uninterruptedly.

Participation period. Participation involves sightings of predation events and data upload to the digital platform; it requires only a few minutes of dedication.

Scope of the initiative. Local (city, province).

Geographic scope. Escobar, Campana, and Pilar (province of Buenos Aires).

Project development members. The initiative was developed with the collaboration of both members of the scientific community and participants with and without formal training.

Number of participants. From 101 onwards.

Action/s involving citizen participation.

- Data collection.
- Phenomenon monitoring.

Technological device/tool required.

- Mobile phones for taking photos and georeferencing predation events.
- ArgentiNat platform and Internet connection to upload the information.

Recruitment methods. Workshops in schools near private, municipal, provincial, or national protected areas.

Replicability. -

Scalability. -

Open access to data. The data is freely accessible on the ArgentiNat platform.

Feedback. The preliminary results are shared on the project's social media.

Linkage with state agency/government. -

Institutional funds. FCEN/UBA.

Awards/distinctions. Second in the merit order of the "Exactas con la Sociedad 7" call, FCEN/UBA. The project was declared of municipal interest by the Municipality of Escobar.

Comments. -

Knowledge areas/disciplines (OECD)

NATURAL AND EXACT SCIENCES / Biology

NATURAL AND EXACT SCIENCES / Other Natural and Exact Sciences

Leaders.

- María Gabriela Corral, Department of Ecology, Genetics and Evolution (DEGE, by its Spanish acronym)/FCEN/UBA
- Leonardo Galli, Centro de Formación e Investigación en Enseñanza de las Ciencias (CEFIEC, by its Spanish acronym) [Research Institute Center for Training and Research in Science Teaching]/FCEN/UBA
- Andrés Gabriel Palmerio, DEGE/FCEN/UBA

Contact information.

Email: gabicorral@gmail.com; leomgalli@gmail.com; apalmerio@gmail.com; trm.conservar@gmail.com

Web: argentinat.org/projects/tenencia-responsable-mascotas

Facebook: facebook.com/trm.conservar

Instagram: instagram.com/trm.conservar/?hl=es





Territorios en acción [Territories in Action]

Collaborative mapping of social organizations in Argentina



Objectives

Overall goal

- Highlight the participation of civil society organizations in the social development of the different territories in Argentina by means of a collaborative process of building public and open knowledge.

Specific goals

- Create and maintain a web platform of the project, which collects and disseminates information about the actions carried out by the Argentine civil society organizations.
- Elaborate an interactive MAP and DATABASE at a national level to be permanently updated with the participation of the organizations in knowledge building as regards their actions throughout the country.
- Systematize and analyze the collected data and share the results publicly, openly and through user-friendly formats.
- Foster the development of discussions on the role of the Argentine civil society by generating environments of exchange between activists and experts.

Description of citizen participation

Citizens can participate in the project in two ways: a) voluntary contribution of the civil society organizations (CSO) as regards information about their actions in the territory by completing a form; b) participation of CSO members or experts on the topic in discussions, talks, reporting based on the analysis of the results, and other activities to disseminate their initiatives or by means of the different networks which are part of the mapping.

Type of citizen science project

Collaborative project: Citizens participate in data collection and analysis.

Participating parties.

- Great Buenos Aires area Observatory of the National University of General Sarmiento (UNGS, by its Spanish acronym)
- CSO Program/Latin American Faculty of Social Sciences (FLACSO, by its Spanish acronym)
- Urban and Regional Studies Center (CEUR, by its Spanish acronym)/National Scientific and Technical Research Council (CONICET, by its Spanish acronym)

Status. In progress.

Time frame. 02/05/2020 - N/A

Frequency of project execution. Uninterruptedly.

Participation period. The participation of the citizens is permanent as collaborative mapping, document production based on analyzed results and the scheduling of discussions are fundamental activities for the project, which last over time.

Scope of the initiative. Argentina (two or more provinces).

Geographic scope. All provinces in Argentina.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. Over 1001.

Action/s involving citizen participation.

- Data collection.
- Data analysis

Technological device/tool required.

- Geolocation and mapping software used by the Project Technical Team to upload data
- Web platform for data publication

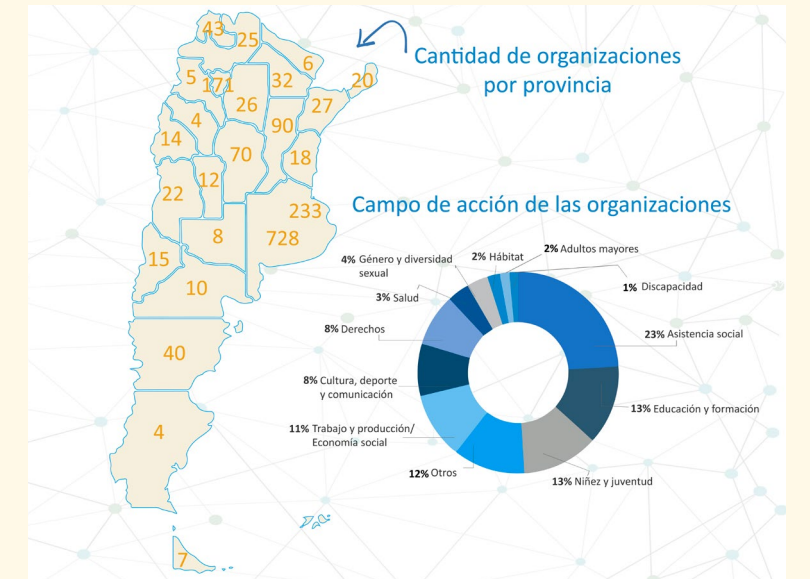
Recruitment methods. Through CSO participatory settings: organizations' social media, participatory state-run programs, etc, and through social media and graphic and audiovisual media (TV Pública, Radio 750, Página12, Tercer Sector magazine, Télam, Futurock, Agencia Paco Urondo, and more).

Replicability. -

Scalability. The project aims to significantly increase its coverage in order to include a greater number of Argentine CSOs. To this effect, different communication strategies will be used with the CSOs, social media and other institutions related to this field.

Open access to data. The collaborative and interactive mapping and the database are published on the web and are open-source.

Feedback. Regular newsletters including the results and progress of the research are sent.



Linkage with state agency/government. Office of Social Information of the Argentine Ministry of Social Development

Institutional funds. Initial subsidies from the UNDP Argentina Accelerator Lab. Subsidies of the Argentine Ministry of Social Development in 2021 - 2022. Institutional contributions from the FLACSO.

Awards/distinctions. -

Comments. -

Knowledge areas/disciplines (OECD)

- Social Sciences /** Sociology
- Social Sciences /** Political science
- Social Sciences /** Economic and Social Geography

Leaders.

- Agustina Gradin, FLACSO Argentina.
- Paula Rosa, Urban and Regional Studies Center (CEUR)/National Scientific and Technical Research Council (CONICET).
- Adriana Rofman, National University of General Sarmiento (UNGS).

Contact information.

Email: territoriosenaccion@gmail.com; agradin@flacso.org.ar; paula_rosa00@yahoo.com.ar; arofman@campus.ungs.edu.ar
 Web: xn--territoriosenaccion-61b.org/
 Twitter: twitter.com/terrenaccion
 Facebook: facebook.com/territoriosenaccion





Tucanes en mi Jujuy [Toucans in my Jujuy]

Monitoring presence, use of habitat and ecology of Toco Toucans (*Ramphastos toco*) in urban environments



Objectives

Overall: Use Toco Toucans as flagship species to raise public awareness about biodiversity conservation in SSJ and contribute to environmentally sustainable urban planning.

Specific:

- Understand habitat use and selection patterns, seasonal migration, diet composition and reproductive habits of Toco Toucans in the city of SSJ;
- Determine the link between toucan populations and different urban structural features;
- Engage society in reporting the presence of toucans in different parts of the city and monitoring nest boxes, as a way of raising awareness about the value and protection of this bird and biodiversity in general;
- Offer talks and workshops in academic institutions aimed at students and faculty to promote environmental education;
- Prepare a diagnosis of the current situation of Toco Toucans in SSJ, identifying actual and potential threats affecting them, as well as beneficial actions and urban features for these species.

Description of citizen participation

Anyone can participate by reporting toucan sightings in different parts of the city, through social media, website and/or mobile app. Although submitting photos and videos is not mandatory, these contributions are also encouraged.

In addition, citizens also participate in placing and monitoring nest boxes to assess whether toucans are breeding in the city.

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

- Andean Ecoregion Institute (INECOA).
- National University of Jujuy, School of Agricultural Sciences (UNJu).
- Department of Environmental Promotion at the Municipality of San Salvador de Jujuy.

Status. In progress.

Time frame. 05/03/2021 - N/A

Frequency of project execution. Uninterruptedly.

Participation period. Uninterruptedly throughout the year, reporting sightings that take no more than 3 minutes each.

Scope of the initiative. Local (city, province).

Geographic scope. San Salvador de Jujuy (SSJ), province of Jujuy

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 101 to 500.

Action/s involving citizen participation.

- Data collection.
- Phenomenon monitoring.
- Solution implementation.

Technological device/tool required.

- Mobile phone with Internet access to report date, time, location, number of individuals, whether they are adults or young, and the activity of the animals when sighted.
- Nest boxes made of PVC pipes placed at a height of no less than 7 m, using climbing equipment. They are then monitored using telescopic poles to which wireless cameras with viewfinders are attached.
- Binoculars to complement reports with standardized sampling.

Recruitment methods. No specific approach was implemented; anyone who is interested can participate.

Replicability. -

Scalability. As the project grows in popularity, more citizen contributions are being incorporated into the project. Additionally, more local media are interested in learning about the details.

Open access to data. All the knowledge acquired is disseminated through social media, local media, presentations for academic institutions, workshops and congresses.

Feedback. Project findings are included in a publication that will be available for all citizens free of charge.

Linkage with state agency/government. Agreement with the Municipality of SSJ, Department of Environmental Management. This department is responsible for issuing and applying fines to those who capture, damage, kill or trade Toucans. It also helps to disseminate the project on social media and to design material such as brochures and banners.

Comments: Toco Toucans have the potential to become “umbrella species”, since preserving certain features of the urban landscape necessary for them to be present, indirectly helps to protect several other species in their surroundings. For example, parrot species currently under conservation threat: Blue-fronted parrot (*Amazona aestiva*) and Alder Parrot (*Amazona tucumana*).

Institutional funds.

- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation
- Project's own funding sources. INECONA.

Awards/distinctions. -

Classification of knowledge areas (OECD).

NATURAL AND EXACT SCIENCES/ Earth and Environmental Sciences.
NATURAL AND EXACT SCIENCES/ Biology.

Project leaders.

- Román Ruggera, National Scientific and Technical Research Council (CONICET, in Spanish) and National University of Jujuy (UNJu, in Spanish)
- Alejandro Schaaf, CONICET
- Noelia Gonzalez, CONICET
- Agustina Yapura, UNJu
- Natalia Chocobar, UNJu

Contact information.

Emails: ruggera@fca.unju.edu.ar ; schaaf.alejandro@gmail.com ; novi.arg31@gmail.com ; agusyapura_09@live.com ; tucanesenmijujuy@gmail.com

Facebook: facebook.com/tucanesenmijujuy

Instagram: instagram.com/tucanesenmijujuy





Vi un abejorro [I saw a bumblebee]

Monitoring and conservation of native and exotic bumblebees



Objectives

Overall goal

- Contribute to knowledge through citizen monitoring of the population status of the 8 native species of bumblebees in Argentina.
- Study the advance of two invasive species in Argentina.

Specific goals

- Study the population status of the species *B. dahlbomii* (endangered) and record abundance, associated flowers, and occurrence of different bumblebee species in Argentina.
- Raise awareness among citizens about the issues linked to biological invasions.

Description of citizen participation

Participants take and send photos of the bumblebees they observed through the project's social media. They include the date and geographic coordinates of the sighting, amount of bumblebees observed when taking the photo, and, ideally, the name of the flower on which the bumblebee(s) was/were seen.

Type of citizen science project

Contributory project: It is designed by scientists, and citizens participate in data collection.

Participating parties.

Pollination Ecology Group from the Biodiversity and Environment Research Institute (INIBIOMA, by its Spanish acronym)/National Scientific and Technical Research Council (CONICET, by its Spanish acronym) - National University of Comahue (UNCo, by its Spanish acronym).

Status. In progress.

Time frame. 05/20/2021 - N/A

Frequency of project execution. Uninterruptedly.

Participation period. Timely participation (taking and sending the picture) does not take more than a few minutes. However, citizens' participation tends to be steady over time.

Scope of the initiative. Argentina (two or more provinces).

Geographic scope. All provinces in Argentina.

Project development members. Entirely developed by participants with formal scientific training.

Number of participants. Over 1001.

Action/s involving citizen participation.

- Data collection.
- Phenomenon monitoring.

Technological device/tool required.

- Cell phones or cameras.
- Computers for data analysis.

Recruitment methods. Informative talks, both virtual and in person, are held in different facilities of the National Parks Administration of Argentina and educational institutions.

Replicability. -

Scalability. The number of records obtained throughout the year has been steadily increasing, as have the mapped geographic areas.

Open access to data. Publication in social media of the images sent by the participants. Public interactive maps with the data are currently under development and are expected to be completed by the end of 2022.

Feedback. The progress of the project is repeatedly published on social media, using photos sent by citizens and details of species or places that were recorded for the first time. In addition, the exchange with the participants takes place in a personal way, answering all kinds of doubts/curiosities.

Linkage with state agency/government. National Parks Administration of Argentina.

Institutional funds.

- Subsidio de Fortalecimiento a Proyectos del Programa Nacional de Ciencia Ciudadana [Grant to Support Projects from the National Citizen Science Program]/Argentine Ministry of Science, Technology, and Innovation
- Project's own funding sources. International project SURPASS2. International grant awarded by Mohamed bin Zayed Species Conservation Fund.

Awards/distinctions. -

Comments. -

Knowledge areas/disciplines (OECD)

Natural and Exact Sciences / Earth and Environmental Sciences
Natural and Exact Sciences / Biology

Leaders.

- Victoria Campopiano Robinson (National University of Comahue)
- Eduardo Zattara (INIBIOMA-CONICET, National University of Comahue)
- Marina Arbetman (INIBIOMA-CONICET, National University of Comahue)
- Carolina Morales (INIBIOMA-CONICET, National University of Comahue)

Contact information.

Email: vickycampopiano@gmail.com; ezattara@comahue-conicet.gov.ar; marbetman@comahue-conicet.gov.ar; moralesc@comahue-conicet.gov.ar

Website: www.abejorros.ar

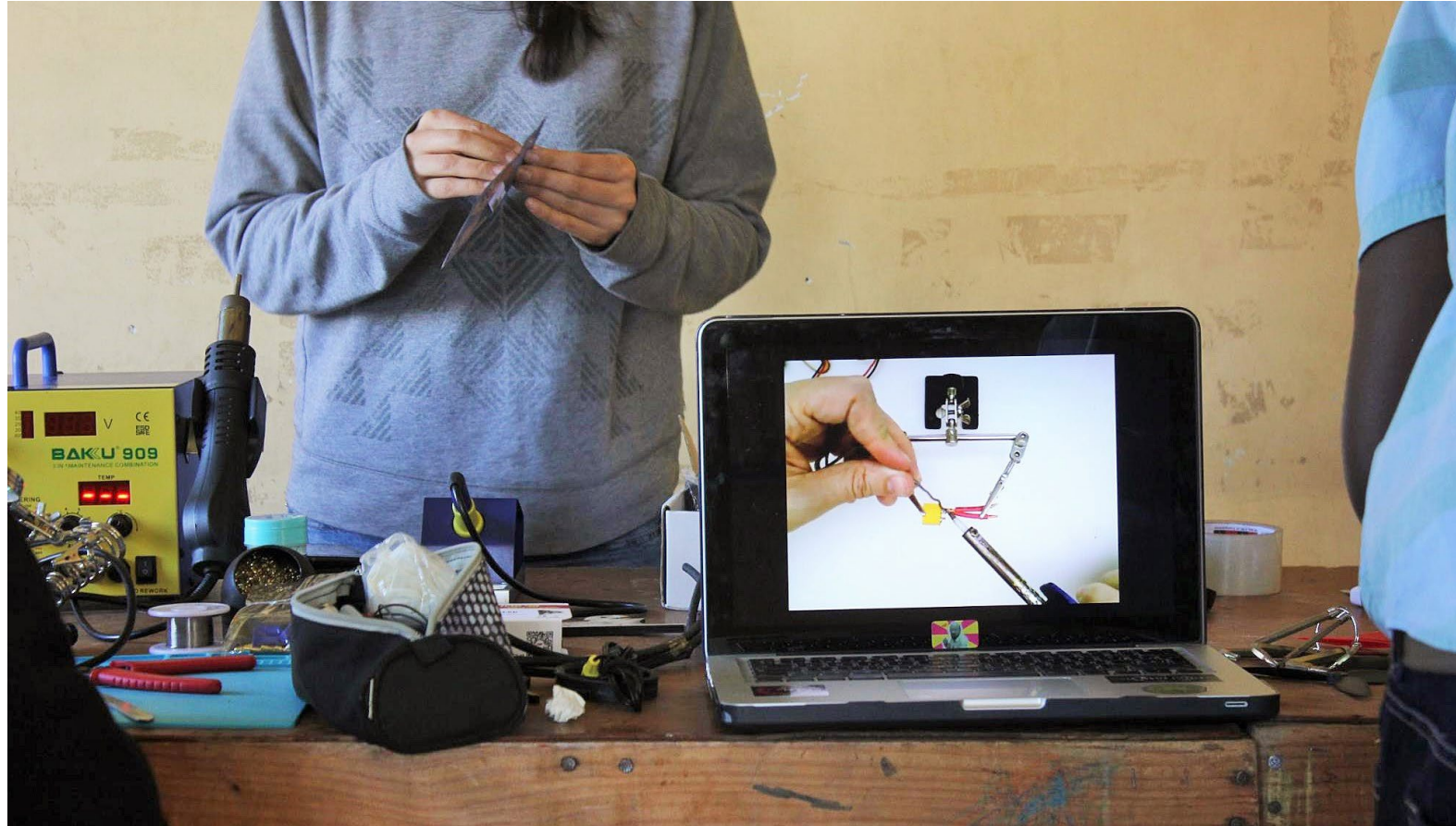
Instagram, Twitter, and Facebook: @ViUnAbejorro





Vuela [Fly]

Open science with drones



Objectives

Develop scientific tools that can be useful for groups or communities tackling local and locally-defined problems, and therefore promote their participation in science.

Description of citizen participation

A toolkit for open science with drones has been collaboratively prototyped to be equally accessible to marginal communities, activists or researchers. It is useful for studies or measurements for which this technology is already used but is dominated by closed-source tools.

Type of citizen science project

Co-created project: Citizens participate in all stages of the scientific process.

Participating parties.

- Hobbyists, civil society activists, researchers, neighbors, students and developers.
- Gathering for Open Science Hardware (GOSH).
- Knowledge/Culture/Ecologies Conference, 2017 edition (Santiago, Chile).
- Mozilla Foundation.
- Shuttleworth Foundation.
- Cooperative Programme for the Technological Development of Agriculture in the Southern Cone (PROCISUR, in Spanish).

Status. In progress.

Time frame. 2017 – N/A

Frequency of project execution. Based on demand or community outreach.

Participation period. On a sustained basis.

Scope of the initiative. Argentina (two or more provinces).

Geographic scope. Global; in-person activities carried out in Argentina, Brazil, Chile, Paraguay and Uruguay.

Project development members. It has been developed with the collaboration of both scientists and participants without formal training.

Number of participants. From 51 to 100.

Action/s involving citizen participation

- Problem identification.
 - Data collection.
 - Data analysis.
 - Phenomenon monitoring.
 - Solution design.
 - Solution implementation.
- Citizens are involved in the entire process.

Technological device/tool required.

The main tool is the OVLI drone, which was made, modified and adapted by participants. The following basic items and tools are required for drone assembly:

- Screwdriver
- Wood glue
- Tin welding machine
- Voltage meter

The following instruments are required for drone configuration and operation:

- Laptop
- Battery charger
- Drone camera, etc.

The full list of components and tools can be found in the OVLI Assembly Guide (Manual de Construcción/fabricación del OVLI) available at: www.vuela.cc

Recruitment methods. By contacting community-based organizations, community leaders, persons responsible for community organization, and placing posters in key locations of neighborhoods or institutions (for instance, at the National Institute of Agricultural Technology, INTA, in Spanish). Workshop attendees were informed of new workshops via WhatsApp.

Replicability. -

Scalability. -

Open access to data. All project information is available at vuela.cc, in English and Spanish only. The information is not available for visually impaired users.

Feedback. N/A

Linkage with state agency/government. In the final stage of the project, actions were coordinated with INTA from Argentina and with similar institutions from neighboring countries (through PROCISUR).

Institutional funds. Mozilla, PROCISUR, the Knowledge/Culture/Ecologies Conference (Santiago, 2017 edition) and Shuttleworth Foundation. No funding is available at present.

Awards/distinctions. N/A

Classification of knowledge areas (OECD).

ENGINEERING AND TECHNOLOGY / Other engineering and technologies
AGRICULTURAL SCIENCES / Agriculture, Forestry, and Fisheries
SOCIAL SCIENCES / Other social sciences: science and technology

Project leaders.

- Paz Bernaldo.
- Gustavo Pereyra Irujo, National Institute of Agricultural Technology (INTA in Spanish), National Scientific and Technical Research Council (CONICET, in Spanish)

Contact information.

Email: vuelaendron@gmail.com

Web: vuela.cc



Credits

NATIONAL MINISTRY OF SCIENCE, TECHNOLOGY AND INNOVATION

Daniel Filmus

Minister of Science, Technology and Innovation

Juan Pablo Paz

Secretary of Scientific and Technologic Articulation

Gabriela Dranovsky

Undersecretary of Institutional Evaluation

María Guillermina D'Onofrio

National Director of Programs and Projects

Micaela Desages

Collaborator, National Office

Margarita Caruso Stefanini

Collaborator, National Office

Manuel Estellés

Collaborator, National Office

Nicolás Lapido

Collaborator, National Office

Iara Rodríguez

Collaborator, National Office

Santiago Barandiarán

Collaborator, National Office

Ilán Spiner

Collaborator, National Office

Bárbara Sambeth Outón

Collaborator, National Office

PNUD ARGENTINA

Claudio Tomasi

Resident Representative at UNDP Argentina

Valentín González León

Assistant Representative at UNDP Argentina

EQUIPO CO_LAB

María Verónica Moreno

Head of Solutions Mapping

Lorena Moscovich

Head of Experimentation

Julieta Mulki

Colaborator

Martina Cuesta García

Colaborator

ABOUT THIS REPORT

GRAPHIC DESIGN

Maía Andresen, Brandcrew,
Mariana Gonzáles Cuetos

EDITING AND TRANSLATION

Exégesis

PROGRAM
Citizen/Science 



Co_
Lab



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