

MILLENNIUM NUCLEUS IN ANDEAN PEATLANDS, ANDESPEAT

Impact Area: High plateau and Atacama desert
Speciality: Social geography, economics, social and environmental sciences

In the Altiplano of the hyperarid Atacama Desert, it is challenging to guarantee water conservation for the sustainability of wetlands and the communities that depend on them. Climate change, extractive industries, and deficient institutional frameworks threaten this area's future of high-altitude wetlands. Among them, a type of peat bog known as "bofedales" are especially vulnerable. These are high-altitude azonal ecological communities (between 3,500 and 5,000 masl) characterized by annual plant growth and continuous water saturation. For this reason, they are essential for the sustainability of mountain environments: they regulate the water cycle, and they are niches of biodiversity and essential carbon sinks. Since pre-Hispanic times, indigenous communities have used them for grazing camelids, such as llamas and alpacas.

The herders have developed ecological knowledge for the management of the bofedales, aimed at its improvement, conservation, expansion, and adaptation to adverse conditions. Its action blurs the limit between what is natural and what is not and invites us to consider these ecosystems as socio-hydrological systems. This starting point leads AndesPeat to question the approaches that reduce the degradation of wetlands to a mere climatic problem, ignoring the sociocultural factors of change. This questioning establishes the general objective of the Nucleus to provide a complete evaluation of the interaction of various natural and social factors in the transformations of bofedales and to outline a shared vision of their changes.

The project is innovative because it combines the social and natural sciences with traditional ecological knowledge to search for socio-ecological justice, thus filling a gap in Chile's approach to these issues.

Research Lines:

- Governance
- Climate and Ecology
- Observation of the Earth
- Ways of knowing

Millennium Nucleus



>> PUBLICATION PRODUCTIVITY:

ISI: 84
SciELO: 5
Books or chapter: 3/ 23
Scopus: 14

*Data updated by Millennium
Centers to June 2023





Millennium Nucleus



>> CONTACT INFORMATION:

Director:

Manuel Prieto

Deputy Director:

Verónica Delgado

Contact email:

mprieto@academicos.uta.cl
vdelgadosch@gmail.com

aforest.cl



>> RESEARCHERS:

Main researchers:

Dominique Hervé, Roberto Chávez,
Adriana Aránguiz, Mónica Meza,
Oliver Meseguer.

Associate Researchers:

Sergio Contreras, Joseline Tapia.

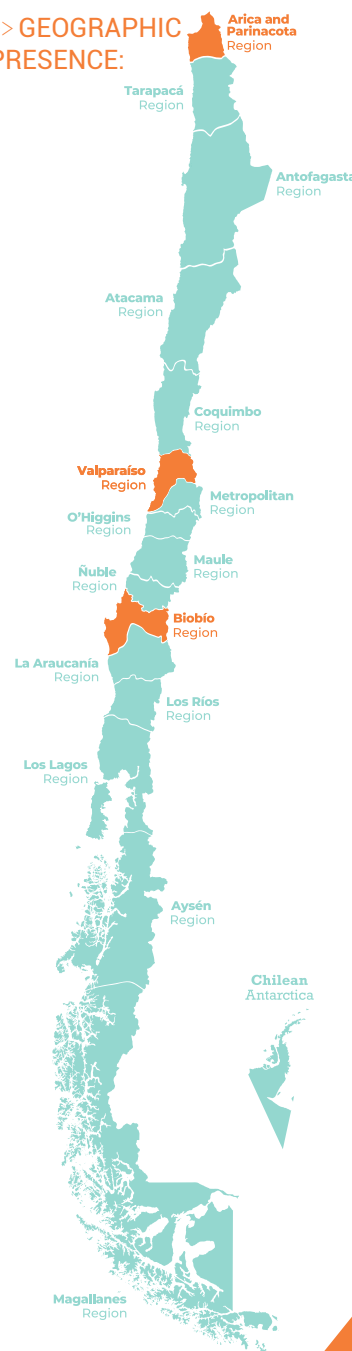
Assistant Researchers:

Ignacio Jara, Cristóbal Carmona,
Matías Calderón, Fernanda Rojas.

Senior Researchers:

Rebecca Lave, Tomas Perrault,
Antonio Madonado, Carl Bauer,
Sue Jackson.

>> GEOGRAPHIC PRESENCE:



>> MAIN ACHIEVEMENTS:

- Recently awarded Millennium Nucleus, no major achievements have been reported.



>> OUTREACH ACTIVITIES:

- AndesPeat aims to communicate bofedales research to audiences beyond academia as a means for socio-environmental change, increasing the accessibility of scientific information on bofedales to non-specialist audiences to promote their relevance to everyday life, public policy, and social justice. We will establish a scientific dissemination strategy through traditional actions, accompanied by three strategic programs:
 1. Bofedales en la Escuela (Bofedales in the school): We will instruct school groups about bofedales through traditional educational actions such as informative talks, accompanied by interactive field activities that they seek that children "be scientific" and reflect critically on environment-society relationships.
 2. More than maps: We will implement online dashboards with automatic continuous updating of satellite data (see <https://labgrs.shinyapps.io/SMF-1/> for see example) and story maps showing oral histories and audiovisual material.
 3. Science for environmental policy: From an early stage, we will seek to promote two-way interaction between scientists and decision-makers (for example, agencies under the ministries of environment, mining, public works, international relations, and social development).

Information updated to June 2023