

>> SYNTHESIZE MOUNTAINS OF KNOWLEDGE <<

## Submitted Abstract

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## Abstract

A Natural Laboratory (NL) is defined as a territory with unique natural characteristics that provide comparative advantages to develop high-level science and technology of planetary relevance. Natural Laboratories seeks to design strategies that effectively link interdisciplinary scientific work with local actors and communities, triggering new governance models and promoting innovation processes that generate benefits and contributions to local territorial development.

We present the experience of the recently founded project “Natural Laboratory of the Southern Andes of Chile” (NODOSLN0007) corresponding to the Andes Mountain range between the regions of La Araucanía and Los Lagos (38° -44° S). It comprises six national parks, four private conservation initiatives, three LTSER sites, two Biosphere Reserves BR Araucarias and BR Temperate Rain Forests of the Andes, the Kütralkura Geopark, and the Nationally Important Agricultural Heritage Systems NIAHS Cordillera Pehuenche declared by UNESCO and FAO respectively, which recognize and value diverse aspects of this territory.

This Natural Laboratory is located in a mountain area with interesting biophysical characteristics, such as numerous active volcanoes and historical eruptions, as well as intense tectonic and thermal activity, which allow us to understand the geological evolution of this territory. It is also characterized by abundant water reserves such as glaciers, lakes, and underground water resources, essential for human supply. Also, we can find Andean forests (Nothofagus and Araucaria araucana forests) that have a great capacity for recovery and resilience after large-scale disturbances. Additionally, the sociocultural value of this territory stands out for its intercultural imprint, mainly due to the presence of the Mapuche people, which develops various ancestral practices associated with the indigenous worldview (cosmovisión). Additionally, this area is an emerging tourist destination, highly valued in the country. These attributes make it a privileged place to study global environmental change and its effects. Likewise, this Natural Laboratory seeks to become an opportunity to develop adaptation strategies to climate change and activities that contribute to the sustainable development of the local communities. Finally, we explore new governance schemes that involve scientific knowledge with other sectors and actors of civil society more effectively.