



Area of Impact: Environment
Specialty: Oceanography

The Center for the Study of Multiple Drivers Over Socio-Ecological Marine Systems (MUSELS) corresponds to a Millennium Nucleus of interdisciplinary research focused on understanding the impact various agents of environmental, ecological, economic and social stress have on bivalve aquaculture in Chile. The integration of different disciplines, which derive from both natural and social sciences, allows aquaculture of these species to be analyzed as a complex socio-ecological system subject to the influence of agents of environmental change that characterize the Anthropocene and the different socio-economic contingencies operating at global, regional and local levels. MUSELS involves the active interaction of a multidisciplinary team of Chilean and foreign researchers with extensive experience in Oceanography, Biogeochemistry, Ecology, Experimental Biology, Genomics, Socio-ecology, Environmental Economics and support in decision-making processes.

Thus, the overall objective of MUSELS is to assess the resilience of the Socio-Ecological Systems of Aquaculture of Molluscs in Chile, strengthening the interdisciplinary motivations of research. These results will provide the scientific basis to issue projections on the magnitude of these changes for ecosystem services and food security associated with bivalve aquaculture in Chile.



MAIN ACHIEVEMENTS

- Implementation of three environmental observing systems (inland sea of Chiloé and Tongoy) generating essential information for decision-making in the public-private sector.
- Development of experimental platforms to study biological responses of marine organisms in harvest, considering future global change scenarios (e.g. ocean acidification, global warming, pollution, and others).
- Generation of the capacity of adaptation of shellfish aquaculture against scenarios of environmental, social and economic changes.
- National and international participation of its scientists in important executive committees, working groups of government, international panels and formal networks, among others.
- Publications in scientific journals of international prestige, reaching a very high rate of productivity thanks to the team of researchers and students.
- Cooperation links with public and private scientific institutes, such as the Technological Institute for Mussel Culture (INTEMIT), Foundation Chiquihue, and Fisheries Development Institute (IFOP) and also with research centers outside the country (e.g. CEFAS, UK).
- Close cooperation with the associated aquaculture industry in Chile.

CONTACT INFORMATION

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RESEARCH TOPICS


- Environmental variability.
- Human dimension and socio-ecological systems.
- Experimental and biological responses.

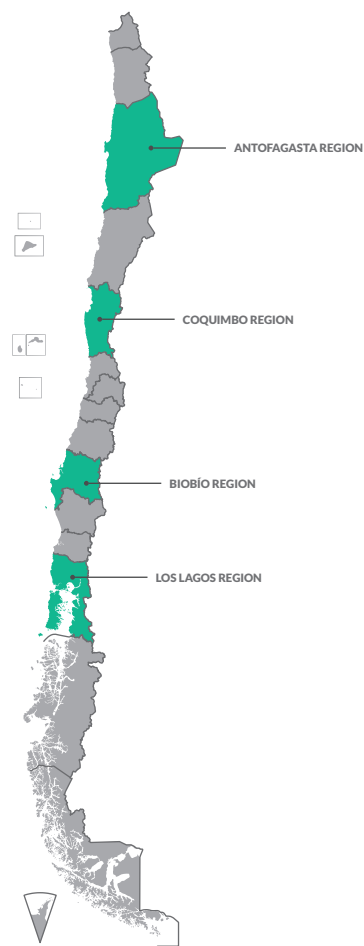
NOTED OUTREACH ACTIVITIES

- Seminar: "Global Change Impact on the Mussel Farming Socio-Ecological System".
- Interactive Stand: "Ocean Acidification and Adaptation".
- School Guide: "From the Mountain to the Sea".
- Book: "Recipes with History".
- Scientific Radio Spots: "BreveeeMUSELS".

 **PRODUCTIVITY PUBLICATIONS
(2012)**
ISI: 35

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From 2013 to 2016**
The Millennium Nucleus Centers can be renewed after 3 years, reaching a maximum of 6 years.

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