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Laboratory for Mountain Ecosystems and Societies (LESSEM)

Mission and objectives

The growing recognition of the pressing environmental issues and the intricate links between their ecological, economic, and social aspects is driving a transformation in the way knowledge is generated and shared.

In this context, the Laboratory for Mountain Ecosystems and Societies (LESSEM) conducts research on the dynamics of socio-ecosystems in mountain areas. Its ambition is to balance advancing knowledge in specific disciplines and fostering interdisciplinary collaboration, building on subject-specific insights and methodological diversity.

Direction

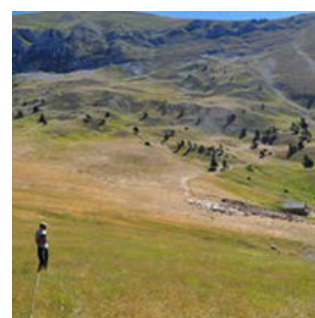
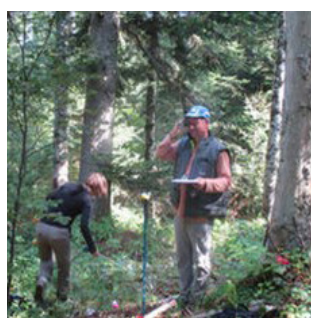
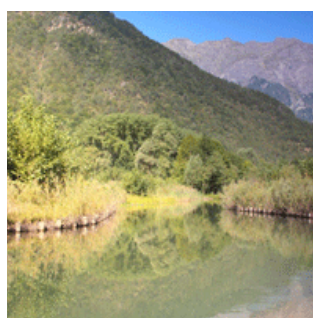
Marc Fuhr, Director
Frédéric Berger, Deputy Director
Yves Schaeffer, Deputy Director

Key figures

- 64 researchers and engineers
- 16 PhD students

Keywords

- Mountain socio-ecosystems
- Regional resources and stakeholders
- Decision support tools



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Research

LESSEM's research focuses in particular on mountain regions, from natural habitats with minimal human influence to peri-urban areas and large urban centres.

LESSEM:

- carries out research at the interfaces between societies and ecosystems;
- analyses the various components of socio-ecosystems using a range of complementary approaches from different disciplines;
- contributes to addressing a spectrum of environmental issues, including biodiversity erosion, adaptation to global change and sustainable regional development;
- covers the whole continuum from academic knowledge production to decision-making support, particularly in certain contexts (nature conservation and management organizations, human-influenced areas, e.g. peri-urban and/or tourist zones).



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LESSEM Teams

- **ASTRRE:**
Socio-ecological system approaches to regions
- **BIOSES:**
Biodiversity and socio-ecosystems. Nature conservation, restoration and policies
- **COMPET:**
Scientific, technical and technological skills support facility
- **DYNAMICS:**
Global changes, dynamics and sustainable management of mountain forests

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Collaboration and expertise

Its main academic partners at local level are LECA (ecology), PACTE (social sciences), EDYTEM (socio-ecosystems) and IGE (geosciences). With these same partners, LESSEM is part of the OSUG research federation as well as the ITTEM and OSUG LabEx.

At regional level, LESSEM co-chairs the Zone Atelier Alpes, which brings together interdisciplinary research on mountain socio-ecosystems based on field observatories.

Its national partnerships are

diverse and involve several INRAE centres, universities, operational and private partners. LESSEM is a driving force in several federating organizations, chairing and participating in scientific committees, particularly in National and Regional Parks.

At international level, LESSEM is strongly involved in the coordination of Interreg projects and contributes to several European research projects. There are ongoing strategic cooperation projects with researchers in Canada and the USA.

Scientific facilities

LESSEM carries out its research at experimental sites such as the Zone Atelier Alpes. It has an analytical laboratory, germinators/phytotrons and an experimental garden.

Observations are made using permanent vegetation quadrats, marteloscopes or drone/satellite imagery.

LESSEM manages SIDDT ("Système informatique dédié au développement de territoires"), an IT system for regional development linked to several other observatories (Alpages sentinelles, MapLoup, Stationoscope, etc.).

Teaching

LESSEM contributes to several courses in ecology, geography, economics and social sciences in universities and engineering schools and hosts many students.



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