

# EDYTEM

## Mountains Environment Dynamic and Territories

UMR 5204 - CNRS / USMB / Ministère de la Culture et de la Communication

**Faculty:** UFR Sciences and Mountains

**PhD school :** Sciences, Ingénierie, Environnement (SIE)  
Cultures, Sociétés, Territoires (CST)

Edytem studies interactions between societies and their environment, both spatially and temporally. Environmental sciences draw on a wide range of disciplines, including human and social sciences, life and earth sciences as well as the sciences of matter. All fields that can be used to describe these interactions and their evolution are studied, with a few privileged fields that are particularly sensitive to these interactions, whether local or global. These include mountain environments, lakes, underground environments... but also nowadays the mountains of Latin America, the plains of Africa and Australia, and the islands of the Indian Ocean. Each of these socio-ecosystems is used as a laboratory enabling us to better characterize the multi-scale interactions between societies and nature.



## Four research teams

### › Materials Team

The team's research focuses on materials of economic and/or cultural interest, namely those voluntarily used by man, whether natural or synthetic. From the fundamental to the applied, the team is interested in the transformations of these materials from different resources and through the study and elucidation of mechanisms and processes.

### › Morphodynamics team

The team's work focuses on the evolution of landforms on different time scales, such as the formation and short- and long-term evolution of mountain ranges. It also looks at responses to past and present climate change, and their impacts on societies, including hazards, practices and management. In addition, the team is dedicated to the characterization and mapping of geomorphodiversity, as well as geomorphological modelling linked to anthropic actions and cultural gestures, whether in archaeological sites or in underground and outdoor reliefs.

### › Societies team

The Societies team approaches societies through their relationships with space, transitions and values, as well as their relationships with nature and the environment, using different temporalities and interdisciplinarity to shed original light on current issues. The aim is to observe, analyze and understand spaces and societies from past to present.

### › Critical Zone Team

The team is composed of members from a variety of environmental science fields, with a strong analytical focus on a continuum ranging from sampling to multi-scale analysis. The team's aim is to propose indicators (sedimentary, chemical, geochemical or molecular tracers) of the stocks and flows of matter (organic, mineral, pollutants, nutrients, etc.) between the various compartments of the CZ, in particular through observation systems based on instrumental sensors and/or retro-observation based on natural archives (lake sediments, speleothems, soils).

## KEY DATA\*

**38** professors-researchers, **13** researchers

**21** administrative and technical staff

**44** PhD students

\* academic year 2022-2023



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## Skills and expertise

- › Geology
- › Hydrogeology
- › Hydro-thermo-mineral resources
- › Dynamic geomorphology at high altitude
- › Karstic geomorphology, caves with high heritage value
- › Paleo environment
- › Sedimentology
- › Geochemistry (elementary, organic and isotopic)
- › Natural archives (lake sediments, stalagmites, soils, etc.)
- › 3D and 4D imagery, GIS, spatial analysis, spatial modeling
- › Territorial surveys, analyses and diagnosis
- › Analysis of acting, mobilities and spatial practices

## Specific equipment and expertise

- › Operator of an XRF core scanner shared nationwide
- › R&D with the geometric expert firm Perazi
- › Documentary resource centre on karst (Choppy funds)
- › 3D and 4D imaging section

## Academic cooperations

- › Labex (i.e. laboratory of excellence) Innovations et Transitions Territoriales en Montagne (ITTEM)
- › Labex (i.e. laboratory of excellence) Observatoire des Sciences de l'Univers de Grenoble (OSUG)
- › Equipex+ (i.e. equipment of excellence) Imagine2
- › eLTER Research Infrastructure
- › CNRS Alps Workshop (INEE)
- › Ecology and environment partnership (INEE-UJF-USMB)
- › Critical zone observatories (OZCAR)
- › Trade network «Underground environments»
- › French network of continental core drilling

## Institutional Partners

- › Regular hosting of top foreign researchers: Monash, Melbourne, Dundee, Nottingham, etc.
- › IRN: Southern Africa and West Georgia
- › Regular bilateral collaborations and exchanges: Switzerland, Italy, Morocco, Slovenia, Germany, Lebanon, Australia



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