

From the local "Pierre du Midi" resource to Liguro-Provençal geodynamics through the exploitation of the pedagogic Lithothèque-PACA database

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The Provence region provides a lot of limestones and biocalcarenes outcrops, Oligocene and Miocene in age. These outcrops allow us to study a key period in the Mediterranean geological history: the Corsica–Sardinia rotation and Liguro–Provençal Basin spreading.

These sedimentary rocks can be studied at several grades:

At middle school, past biodiversity and a paleogeographic reconstruction can be approached through the very rich fossils contents of limestones and a Miocene fossils database developed by the Lithothèque-PACA group,

At high school, a comparison between several zones (from the Côte Bleue to the North, outcrops in the Vaucluse area) can be done in order to study the Miocene transgression that followed the opening of the Liguro-Provençal basin. These rocks have been highly exploited to provide construction rocks used in a lot of monuments in the Provence region. The nature of the crust between Provence and Corsica can be determined by using edusismo tools (determination of the P-waves velocity through oceanic and continental crust).

At the university, the complexity of a transgression can be understood: the correlation of stratigraphic data in different places in the same zone shows the complex geometry of the topographic transgression surface, the dynamic of Liguro-Provençal opening which stopped many millions years before the end of the Miocene transgression. This can be used to introduce the model of thermic subsidence, vertical facies variation and can be used to demonstrate the non-constant speed of transgression tendency and even that different cycles transgression/regression with different periods are entangled.

The aim of our project is to present the link between the fieldwork, the exploitation of a pedagogical database (the Lithothèque-PACA website: <http://www.lithotheque.ac-aix-marseille.fr/>) and the studies led into classroom. In fact, we have guided several fieldtrips for teachers to allow them to understand the abundance of possible pedagogic material based on regional geological resources in Provence. The formation has been completed by some conferences, pedagogic practical works and web documents.

We hope those suggestions have allowed teachers to work from scientific data (instead of generic pedagogic materials) in link with their student's direct environment.

The Lithothèque-PACA website presents regional geological data of interest sites for science teachers at middle and high school. The goals of the site is to simplify the work for the teachers to prepare the field trips with students providing especially:

- Scientific geological data on pedagogic sites,
- Access and outcropping conditions that permit to assure student security,
- Pedagogic indication according to the official programs in order to show some ways to use the geological objects.
- Documents useful for teachers: photographs of landscapes, outcrops, rocks and details (fossils, minerals, tectonics,...), schematic cross-sections, geological maps...
- A database on Miocene fossils preserved in the regional museums of Natural History.