

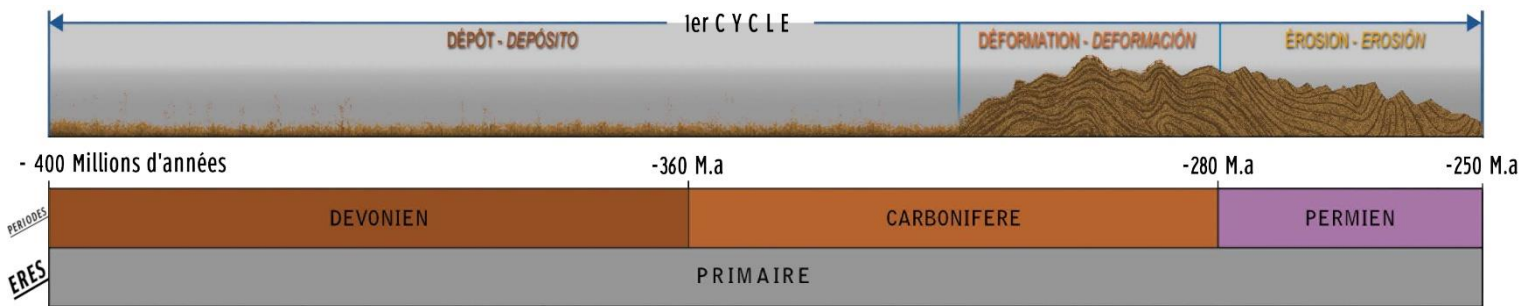
LES PYRÉNÉES

LA GRANDE AVENTURE GÉOLOGIQUE



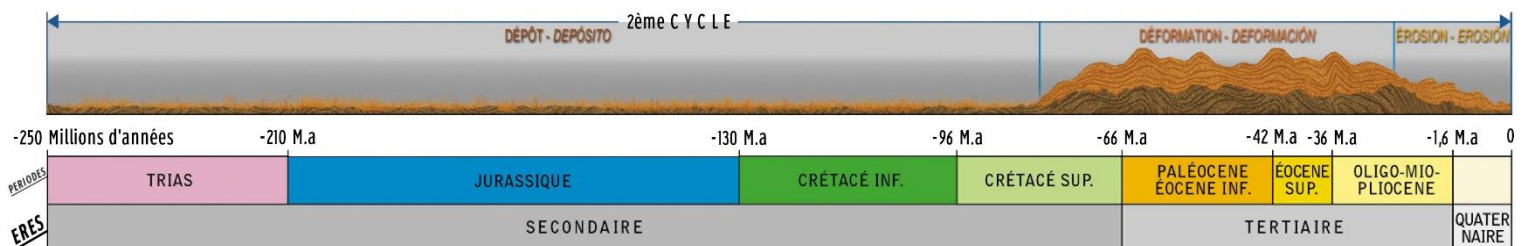
How did these peaks, these valleys, these canyons, these circuses, these green plateaus that charm our hikes have formed?

It took millions of years to shape these exceptional landscapes. An unfinished work, begun in the primary era, 500 million years ago.



In the secondary era, more or less deep seas settled on the completely eroded remains of a very old, much larger mountain range, the Hercynian range. For tens of millions of years, they deposited sediment.

At the beginning of the tertiary era, the Pyrenees were formed by the collision between the Iberian plate and the European plate. All the accumulated materials are then reworked, moved or transformed by the heat and very strong compressions. This has given a great level of complexity to the whole.

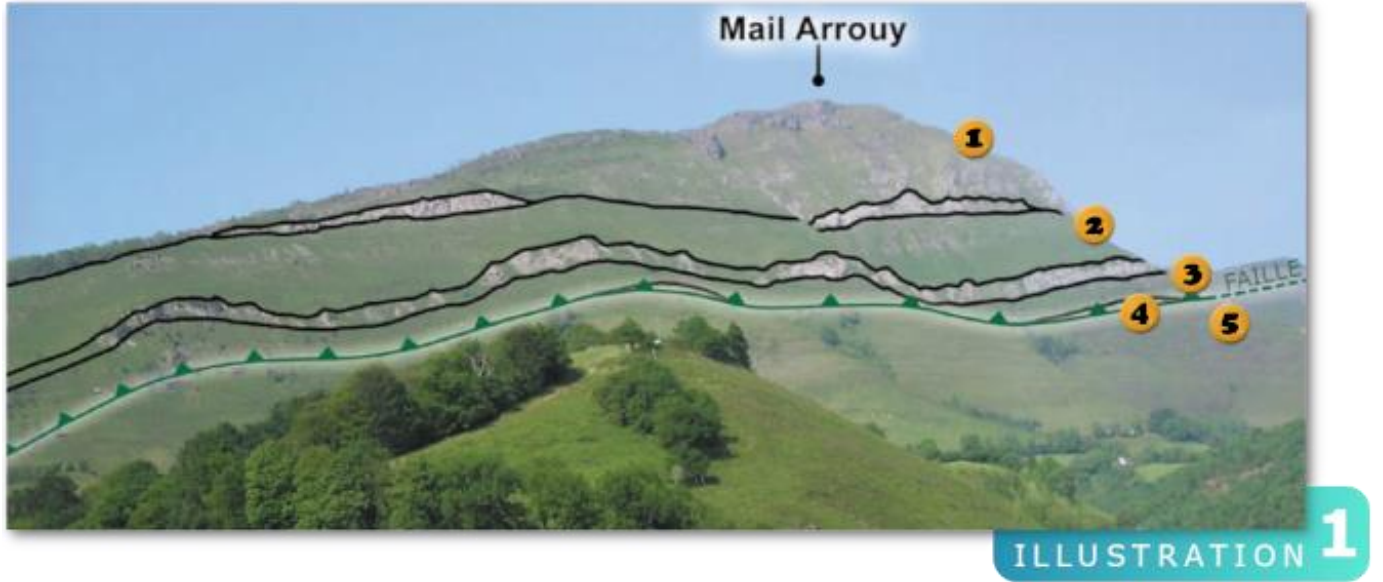


At the heart of the chain, for example, are mostly plutonic (granite) and metamorphic (gneiss) rocks. On the northern and southern edges, sedimentary rocks (limestone and sand) are the most numerous. The folding also resulted in the formation of a volcano, the peak of the noon of Ossau.

Glacial erosion, relatively recent in view of the history of the chain, has shaped the current reliefs and created the great north/south oriented valleys that characterize the French Pyrenees. Going up the valleys, we find the rocks that bear witness to the great stages of the formation of the Pyrenees.

Mail Arrouy

You are at the entrance to the Aspe Valley where the first foothills of the Western Pyrenees are located. The Mail Arrouy, Mont Rouge in Béarnais, dominates the Oloron plain from the top of its 1251 meters.



The slopes you see show a succession of cliffs and grassy areas that correspond to the rocks of the Jurassic (secondary era). Represented by alternating limestone, dolomies and marls, these rocks deposited at the bottom of the sea and were brought back to the surface during the formation of the Pyrenees.

The sedimentary deposits of the Jurassic are controlled by successive variations in the level of a shallow sea. In front of you are revealed 4 steps of these variations.

STEPS	AGES	VARIATIONS	SCHEMAS
1	-220 M.a	Salt, clays and sandpicks are deposited in triassis in lagoons installed on primary grounds.	
2	-190 M.a	Then the sea settles and, under a small slice of water, beige limestones and marls are set up.	
3	-175 M.a	The sea deepens and fine and black seaweed limestones settle in a low-lying environment.	
4	-165 M.a	A drop in sea level then allows the formation of grey limestone and dolomies in a reef environment.	



Using the description of this page and the information panel in the coordinates, related to your field observations, please answer the following questions:

Question 1

At the top of the peak of the Mail Arrouy, what period did its rocks date?

Question 2

On illustration 1 of this page, match the numbers shown with the ages corresponding to the formation of the strata you see (example: 1 - -390 Ma to the Devonian).

Question 3 (optional)

In your opinion, at what time can the number 5 of illustration 1 correspond, knowing that it is below the fault line?

To validate your visit, send me your answers by the message center or by e-mail (*see top of page*).



Earthcache

A cache by HUBair



Message this owner

**You can log in "Found it",
and I will contact you if there is a problem.**

Sources :

<http://www.pyrenees-parcnational.fr/fr/des-connaissances/le-patrimoine-paysager/les-pyrenees-une-grande-aventure-climatique-et-geologique>

<https://www.geolval.fr/>