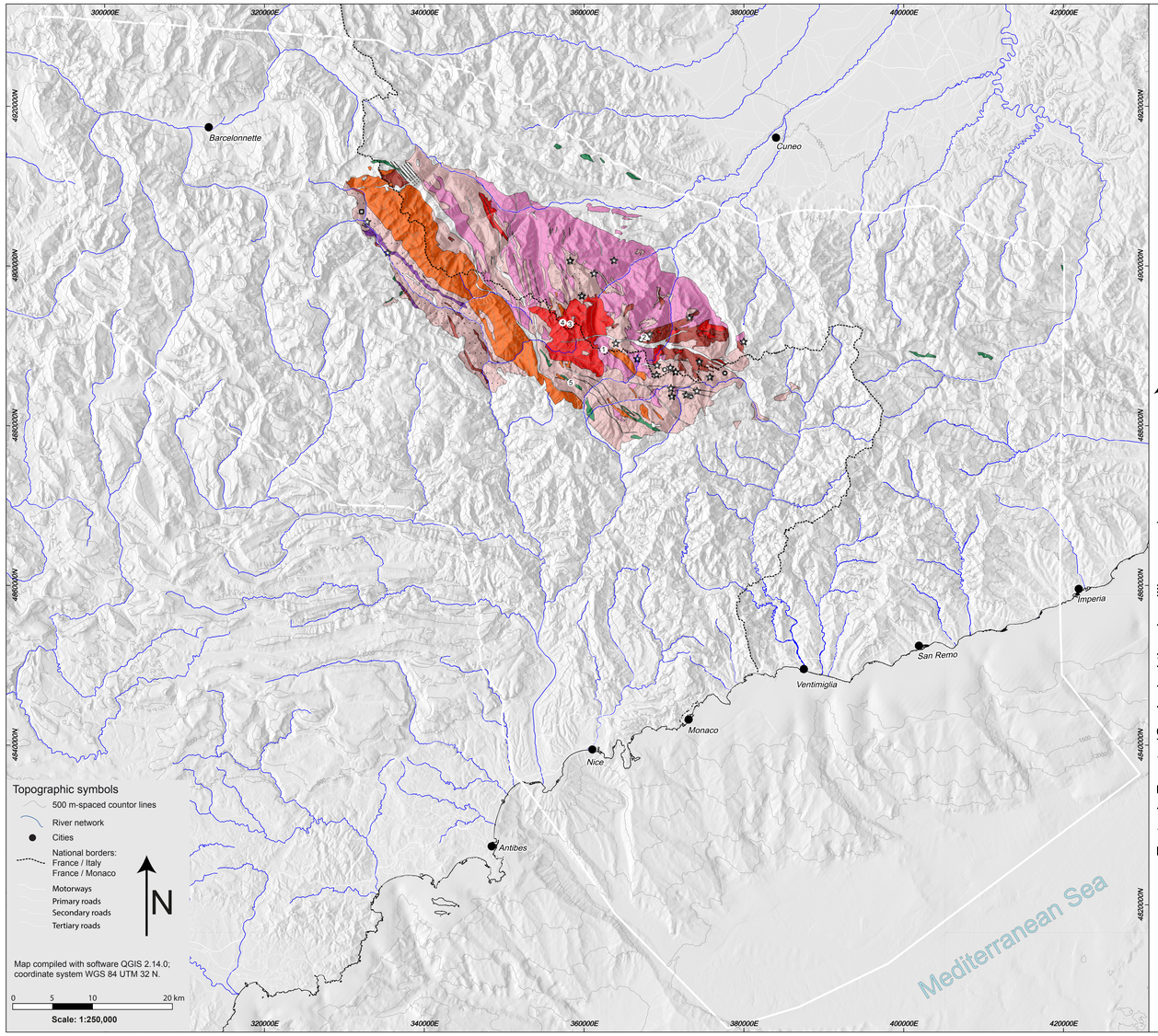
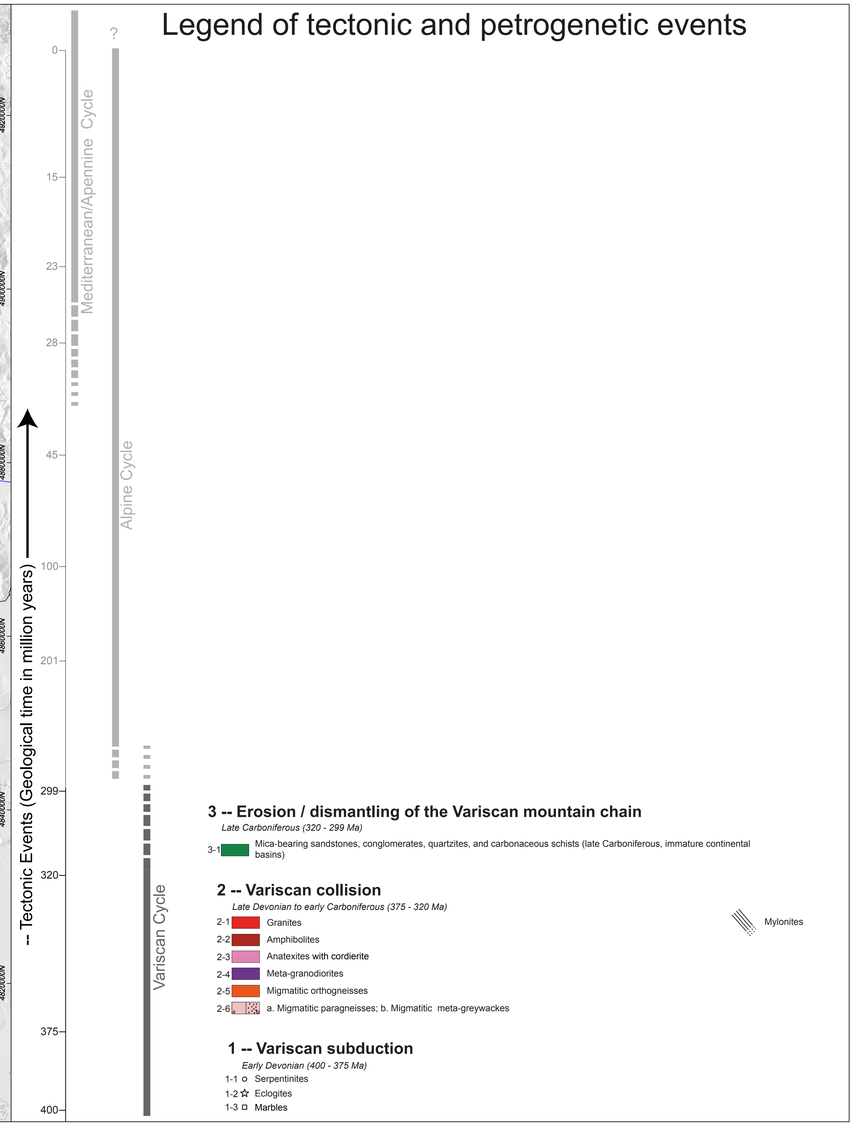
Events 1, 2, and 3 -- Continental crust formation during the Variscan orogenic cycle (400 - 299 Ma)





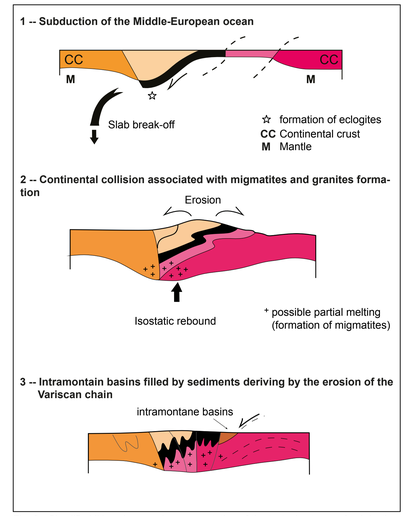


Fig. 6 - Simplified lithosphere scale representation of the tectonic stages of subduction, continental collision and erosion of the Variscan chain. These stages are valid for the southernmost region of Europe, and in the rocks and structures of the Argentera-Mercantour Massif (modified from Corsini et al., 2013).

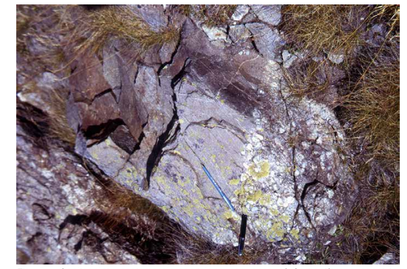


Fig. 5 - Continental conglomerate-sandstone sequence of Carboniferous age lying unconformably upon the migmatites; Vallon de Marges, Molliéres, Saint Martin Vésubie. Event 3.

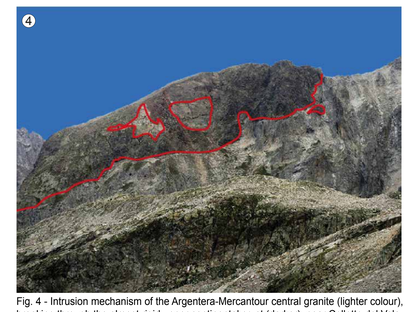
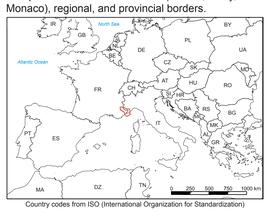
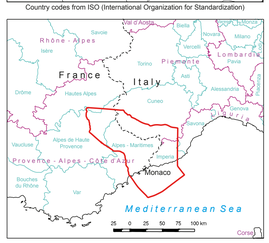


Fig. 4 - Intrusion mechanism of the Argentera-Mercantour central granite (lighter colour), breaking through the almost rigid upper continental crust (darker), near Colletto del Valasco. Event 2.

Localisation of the area of interest (red polygon) within Europe and across national (France, Italy, and Monaco), regional, and provincial borders.





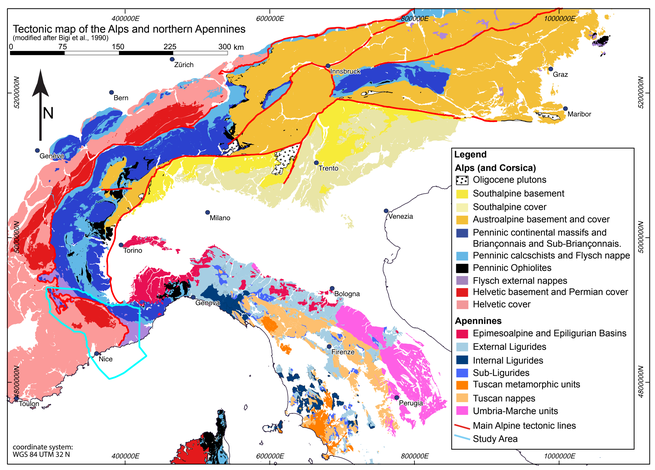


Fig. 1 - Banded mafic eclogite embedded within the layered lithostratigraphy of the Variscan continental crust; west ridge of Cima Ghiglié. Event 1.

Fig. 2 - Partial melting of some layers generates granitic liquids that flow through and disrupt into fragments the migmatite lithostratigraphy of the Variscan thickened lower crust; Col di Fenestrelle. Event 2.

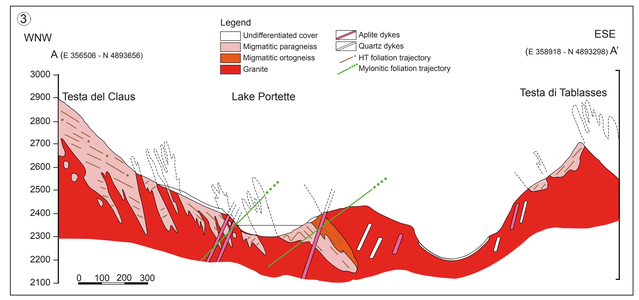


Fig. 3 - Central granitic pluton of the Argentera-Mercantour Massif which displays the mechanics of the last episode of magma intrusion, known as magmatic stoping. The dark upper continental crust rocks of Testa del Claus (A) are fragmented and slowly submerged into the granite magma; Col du Préfouns - Tablasses (A'). Event 2.