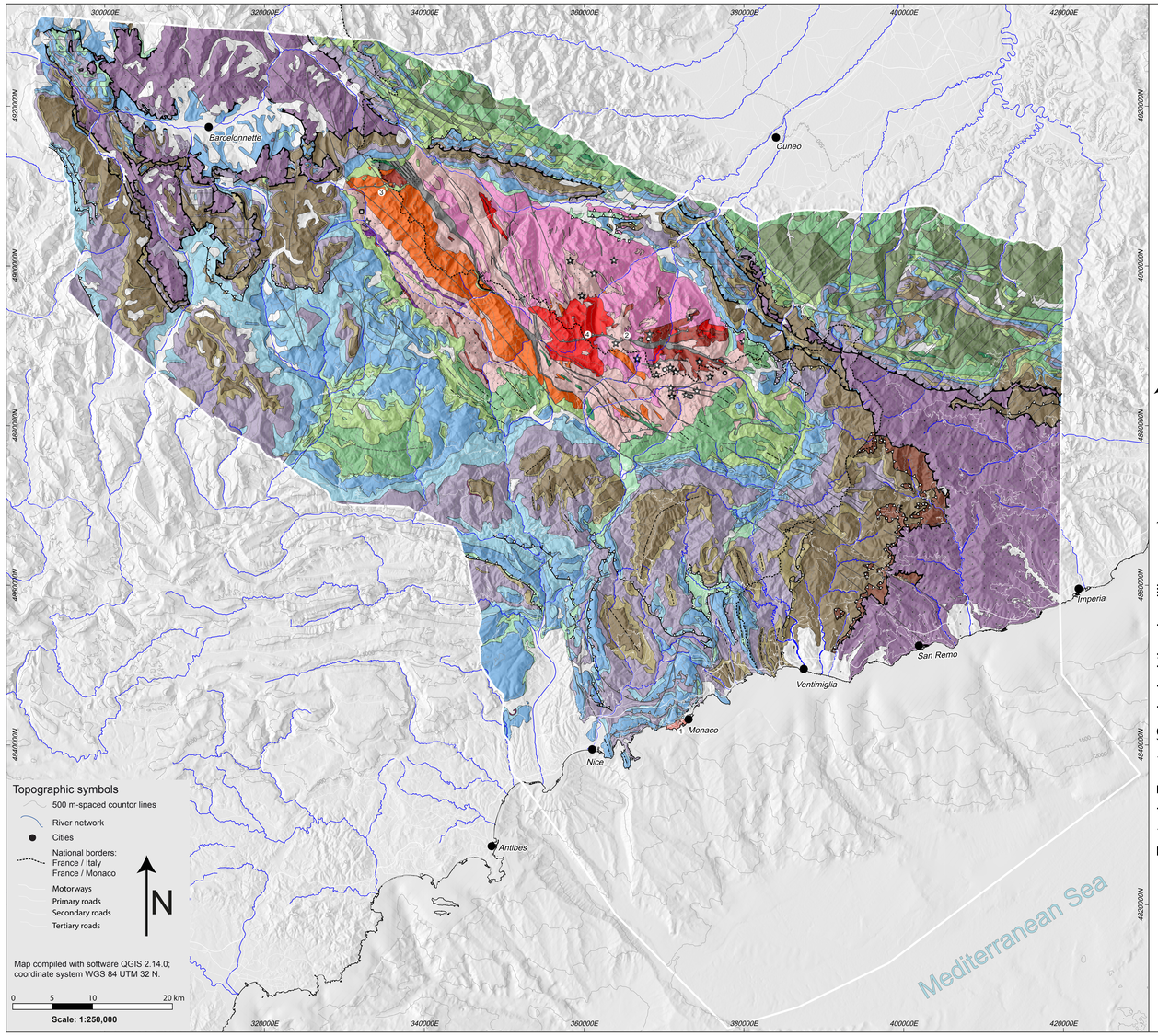
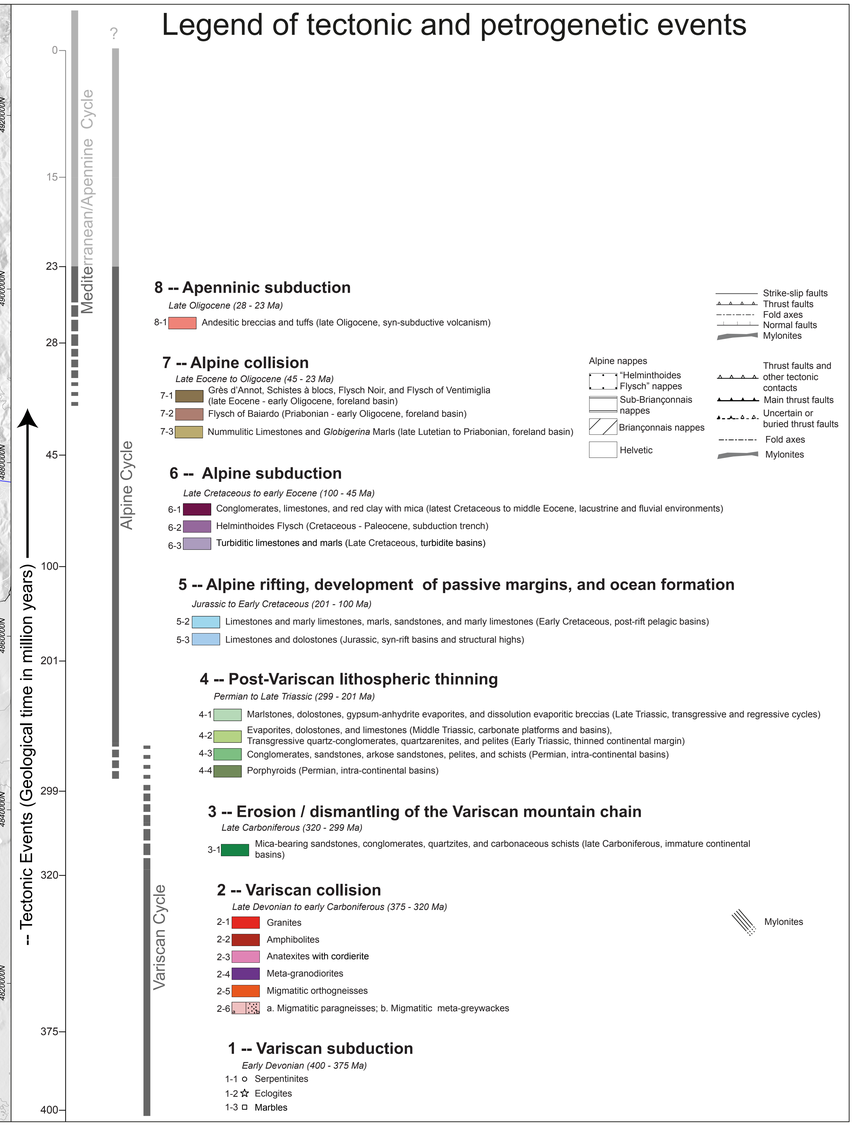
Event 8 -- Apenninic subduction (28 - 23 Ma)





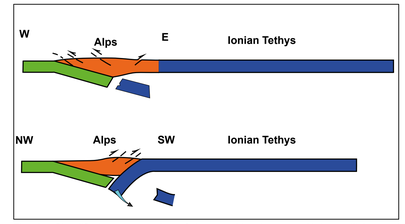


Fig. 6 - Simplified representation of the transition between Alpine collision and Apennine subduction (modified after Carminati & Doglioni, 2005). Note the difference in orientation of the two lithosphere-scale cross-sections; the dipping inversion of the subducting oceanic slab of the Ionian Tethys marks initiation of the Apennine tectonic cycle. Event 8.

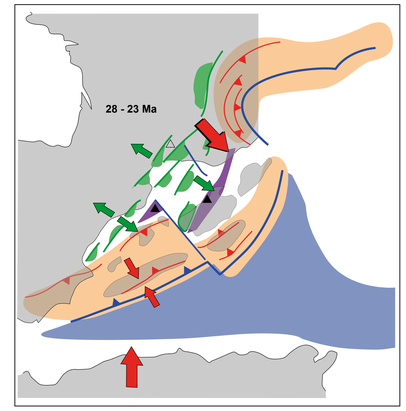
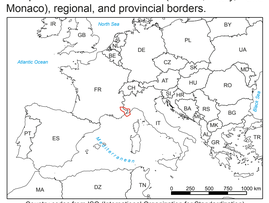


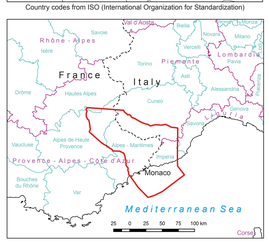
Fig. 5 - Geodynamic sketch of the Alps-Mediterranean system during the Late Oligocene (modified after Séranne, 1999). Red arrows indicate the main direction of shortening; pinkish areas represent zones under compressive regimes; volcanic areas associated with Apenninic subduction are indicated in violet, Event 8.

Fig. 4 - Thick semi-ductile fault zone deforming the Argentera-Mercantour Central Granite (white colour); the darker cataclasite-mylonite zone is cut by hydrothermal quartz and carbonates (beige colour at lower margin); blocks of deformed hydrothermal rocks occur on the south bank of Lac Nègre. Kinematic indicators show a top-to-the-south fault displacement. A student stands as a scale. Event 8.

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



Country codes from ISO (International Organization for Standardization)



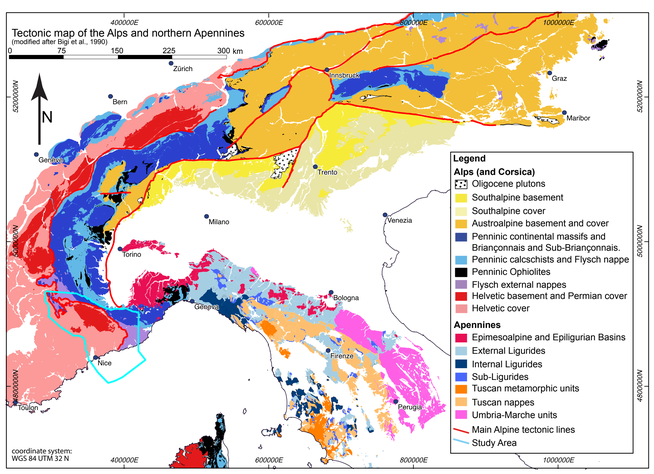


Fig. 1 - Volcanoclastic breccia of late Oligocene age with blocks of amphibole-bearing dacite, which is related to volcanic activity during the Apennine cycle; Sentier Pointe des Douaniers of Cap d'Ail at the France – Monaco border. Event 8.

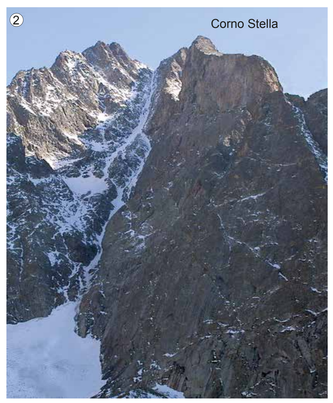


Fig. 2 - Semi-brittle tectonic structures within the mylonite zone hosting the huge dihedron of the Canalone di Lourusa couloir (Valle Gesso, Terme di Valdieri), an iconic site of the central Argentera-Mercantour Massif. The northern wall of Corno Stella (in full shade to the right) is a fault surface that was activated during the Apennine cycle. The dihedron edge is divided into thick mega-septa that shape the majestic 800 m high wall. The lozenge shaped rock sector emerging from the slope half way up the couloir displays a regular set of fractures, marked by snow stripes. Their regular obliquity with respect to the main fault surface reproduces at the 100 m-scale the set of secondary fractures generated in W. Riedel's laboratory, performing analogic experiments of development of brittle faulting on semi-wet clay test-specimens (Riedel, 1929) (ph. Anonimous). Event 8.

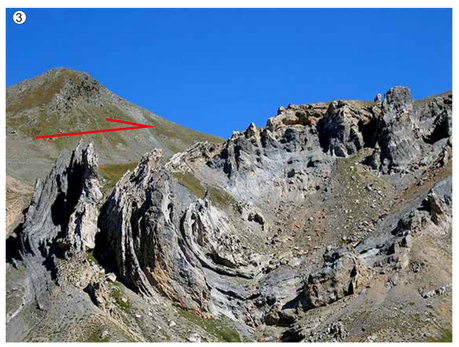


Fig. 3 - Late Oligocene tectonic structures developed in the upper continental crust under a convergent lithospheric regime associated with the Apenninic subduction event. Top to the south thrusting of the migmatite block (ridge above the arrow) over the folded Triassic sediments, Aiguilles de Tortisse, near Col del Ferro (ph. credit to L. Levrier). Event 8.