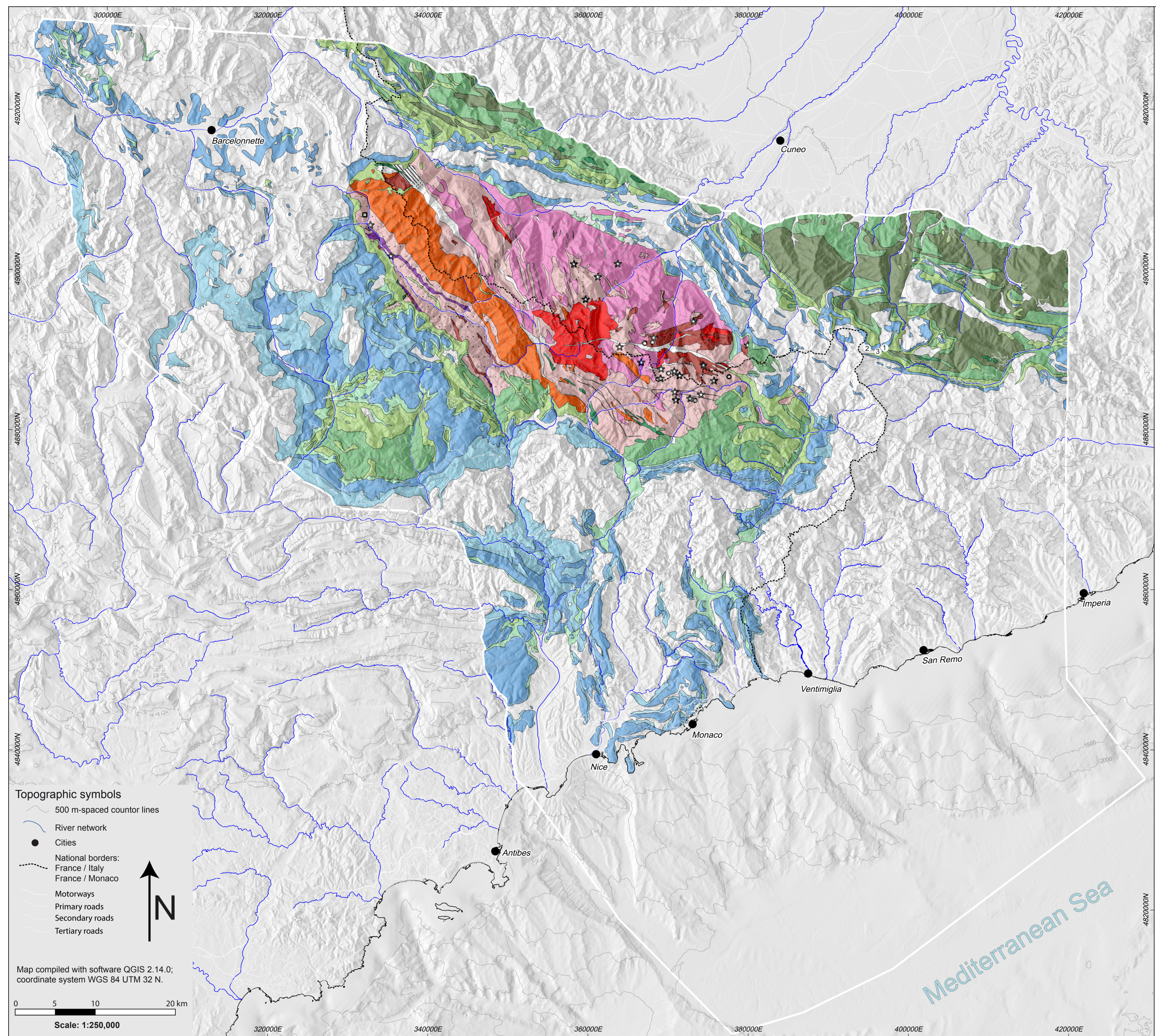


5 -- Alpine rifting, development of passive margins, and ocean formation



Legend of tectonic and petrogenetic events

5 -- Alpine rifting, development of passive margins, and ocean formation

- Jurassic to Early Cretaceous (201 - 100 Ma)*
- 5-2 Limestones and marly limestones, marls, sandstones, and marly limestones (Early Cretaceous, post-rift pelagic basins)
 - 5-3 Limestones and dolostones (Jurassic, syn-rift basins and structural highs)

4 -- Post-Variscan lithospheric thinning

- Permian to Late Triassic (299 - 201 Ma)*
- 4-1 Marlstones, dolostones, gypsum-anhydrite evaporites, and dissolution evaporitic breccias (Late Triassic, transgressive and regressive cycles)
 - 4-2 Evaporites, dolostones, and limestones (Middle Triassic, carbonate platforms and basins)
 - 4-3 Conglomerates, sandstones, arkose sandstones, pelites, and schists (Permian, thinned continental margin)
 - 4-4 Porphyroids (Permian, intra-continental basins)

3 -- Erosion / dismantling of the Variscan mountain chain

- Late Carboniferous (320 - 299 Ma)*
- 3-1 Mica-bearing sandstones, conglomerates, quartzites, and carbonaceous schists (late Carboniferous, immature continental basins)

2 -- Variscan collision

- Late Devonian to early Carboniferous (375 - 320 Ma)*
- 2-1 Granites
 - 2-2 Amphibolites
 - 2-3 Anatexites with cordierite
 - 2-4 Meta-granodiorites
 - 2-5 Migmatitic orthogneisses
 - 2-6 a. Migmatitic paragneisses; b. Migmatitic meta-greywackes

1 -- Variscan subduction

- Early Devonian (400 - 375 Ma)*
- 1-1 Serpentinites
 - 1-2 Eclogites
 - 1-3 Marbles

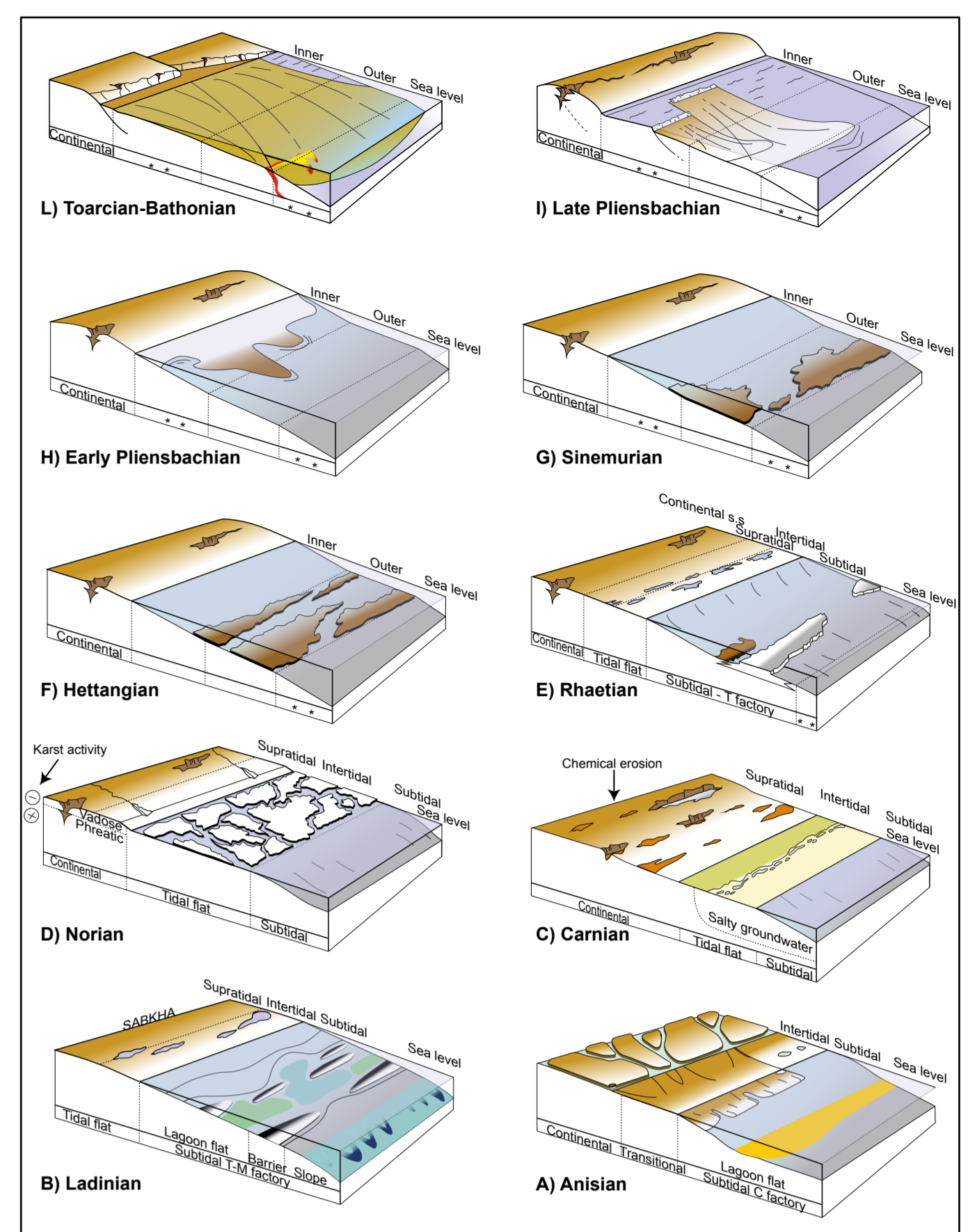


Fig. 4 - Reconstruction of depositional changes in time and space between 250 to 170 Ma. (from A to L), in an ancient coastal region showing the transition from continental to marine environments that involved the oscillation of the coastline and of different platforms. Numerous rock types in the Middle Triassic to Middle Jurassic rock assemblage of the Ligurian Alps were generated during a tectonic regime involving lithosphere extension. Evolutionary model of Decarlis et al. (2013) of the Ligurian Alps.



Fig. 3 - Well preserved fossil of an Ammonite shell in weakly deformed Jurassic to Early Cretaceous carbonate sedimentary rocks; Castel Chevola saddle, Marguareis. Event 5.

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

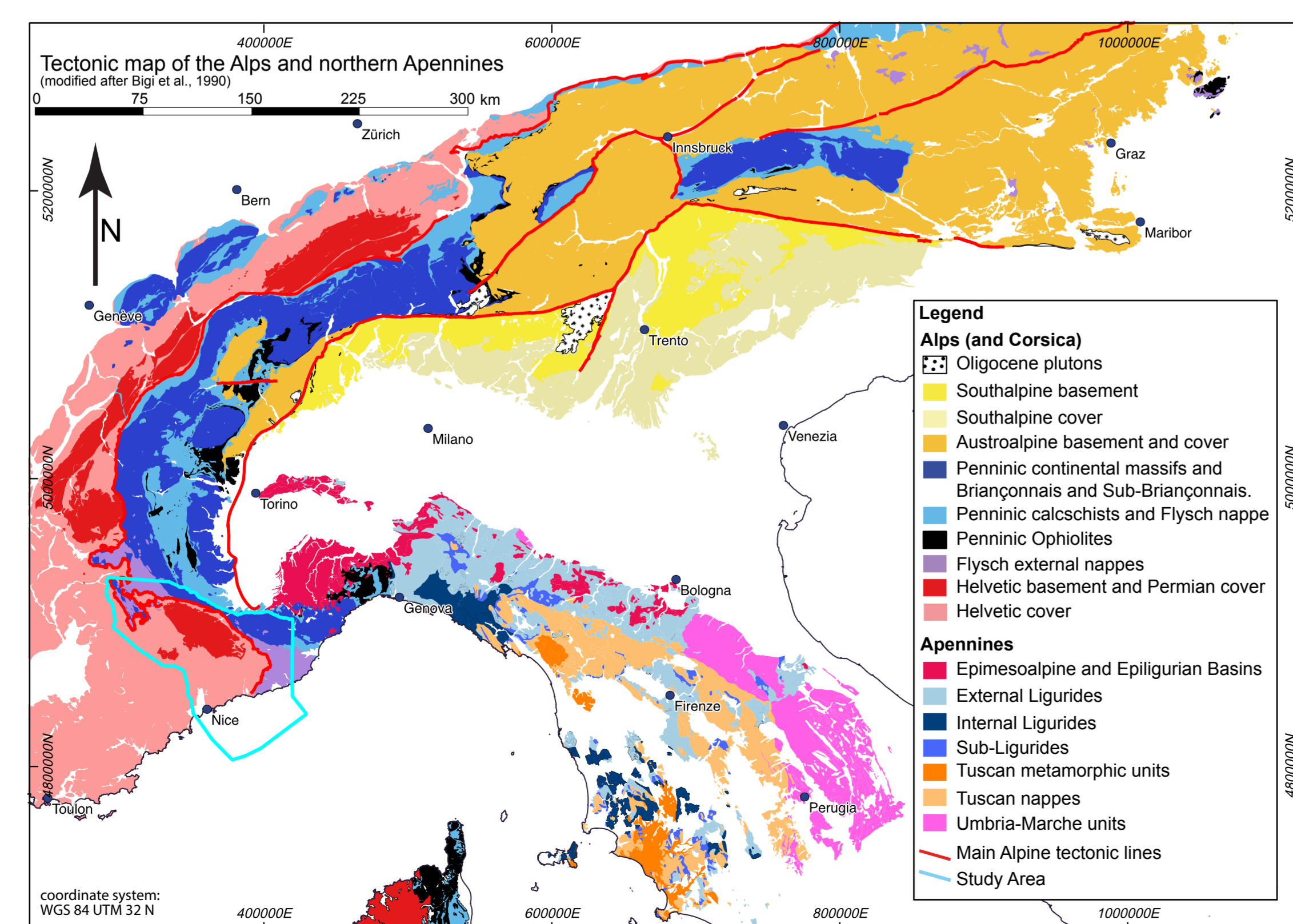
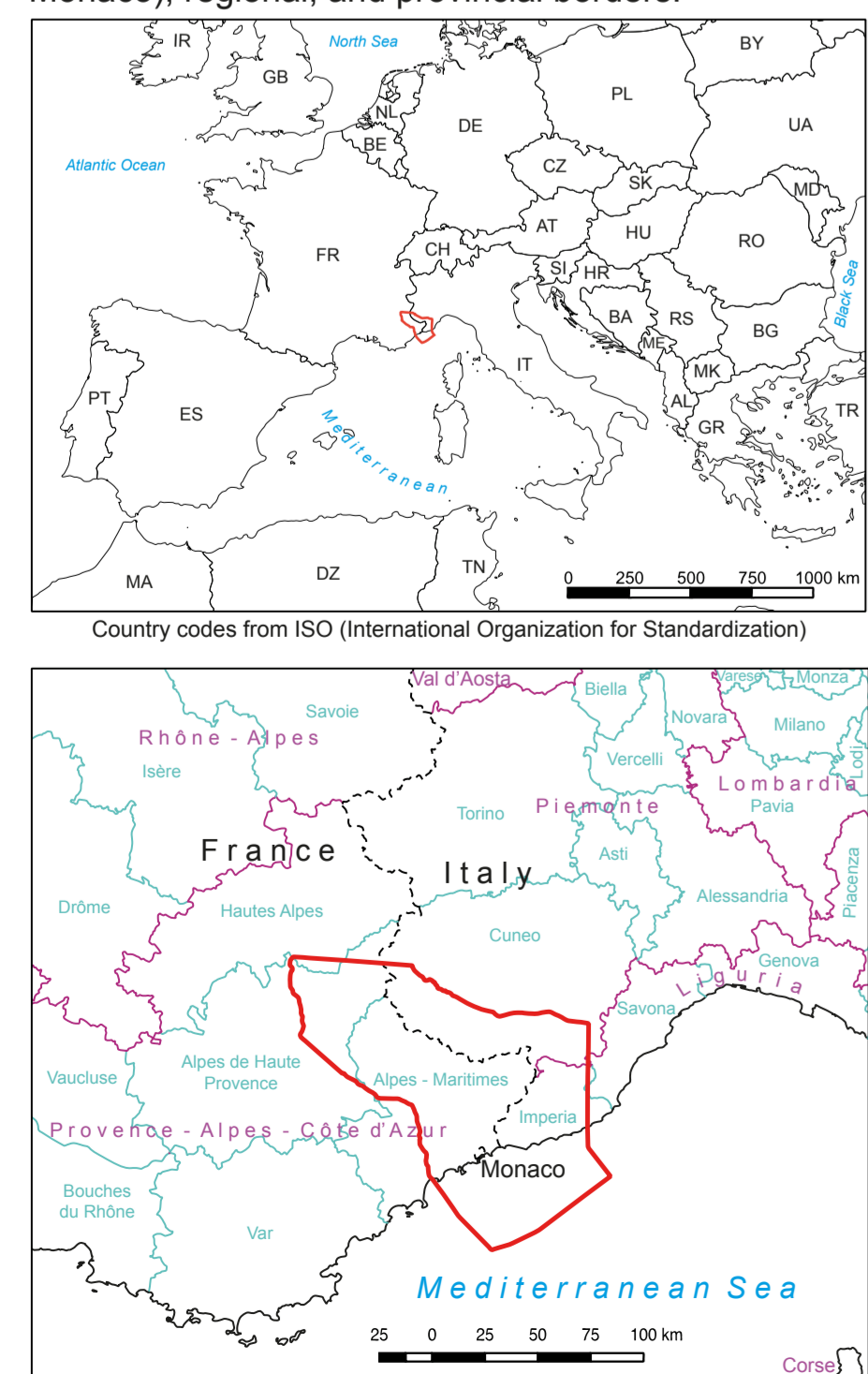


Fig. 1 - Cherty layers at the transition between the Middle-Upper Jurassic, which were deformed and steeply foliated during the formation of the earliest Alpine isoclinal fold system (Event 7); Piana delle Carsene (W of Mt Marguareis), Ligurian Briançonnais Zone. Event 5.



Fig. 2 - Sedimentary sequences of Middle Triassic and Jurassic to Upper Cretaceous ages on the north wall of Mt. Marguareis. The Triassic carbonates are mostly fractured and faulted; the upper sequences consist of isoclinally folded post-Triassic rocks. Event 5.