



Geology of the Northern Apennine-Western Alps junction area: a regional review and open problems

Giancarlo Molli (1), Laura Crispini (2), Laura Federico (3), Marco Malusà (4), Pietro Mosca (5), Giuseppe Ottria (6), and Fabrizio Piana (7)

(1) Università di Pisa, Dip. Sc. Terra, Pisa, Italy (gmolli@dst.unipi.it), (2) Università di Genova, Dip.Ter.Ris, Genova, Italy (crispini@dipteris.unige.it), (3) Università di Genova, Dip.Ter.Ris, Genova, Italy (federico@dipteris.unige.it), (4) Università di Milano Bicocca, Dip. Sc. Geol. Geot. (marco.malusà@unimib.it), (5) CNR Istituto di Geoscienze e Georisorse (sez. Torino, p.mosca@csg.to.cnr.it), (6) CNR Istituto di Geoscienze e Georisorse (sez. Pisa, ottria@dst.unipi.it), (7) CNR Istituto di Geoscienze e Georisorse (sez. Torino, f.piana@csg.to.cnr.it)

The geology of the junction area between the Northern Apennine and the Western Alps is a classical and still debated subject of geological literature. Structural features of the domain are shaped as a result of complex interactions between two opposite dipping and interfering subduction systems active in the last 30 Myr, which reworked previously developed regional-scale alpine accretionary/early collisional structures.

In this contribution we will present a review of data on the main morphostructural, geophysical and tectonic domains of the system (Northern Apennine and Western Alps, Western Po Plain and Ligurian-Provençal/northern Tyrrhenian basins) and the result of recent researches focussed on structural and thermochronometric data of the main exhumed units in the mountain belts and on the sedimentation and deformation record in the surrounding basins. These data altogether with analyses of crustal-scale cross sections across the area and kinematics of the main exposed and buried boundary faults and their time activity will be used to constrain key events of the geological history of the system.

We will try to track back the evolution of the Western Alps/Northern Apennine junction area by analyzing and comparing the main elements of the growing and interfering segments of the Alps-Apennines orogens providing a critical discussion on available tectonic models with special emphasis on the more recently proposed kinematic interpretations.