Bulletin Nº 337

MOSAR Jon

Folds and Thrusts in the Préalpes Médianes Plastiques Romandes

The western domain of the Swiss Préalpes Médianes Plastiques forms the frontal portion of the Préalpes Médianes nappe. This nappe is the most important of several structural urlits forming the Préalpes klippen at the NW front of the Alps. Detached over a basal décollement, the Préalpes Médianes were separated from the Briançonnais homeland during the Alpine orogeny. They underwent thin-skinned tectonics and now show the typical characteristics of a foreland fold-and-thrust-belt. A foreland propagating thrust sequence developed above a basal décollement and resulted in a series of large fault- related folds. The fold style can be compared to fault-bend and fault-propagation fold models, but other geometries such as detachment folds (box folds) also exist. Backthrusts developed at the ramp-flat transitions as well as by inversion of former normal, listric synsedimentary faults. Periclinal closures, en echelon relay structures, tear faults, lateral ramps and fold interference structures are commonly observed features.

Strong changes in fold axial dips and fold directions and important changes in the depth to the basal thrust, as well as W-directed thrust movements, most likely, indicate post-emplacement tectonics (post Oligocene) linked to thrusting in the external cristalline massifs and the development of new basement nappes.

Also published in Bull. Soc. vaud. Sc. nat. 84.4: 347-384, 1997