



Burial and exhumation of the western border of the Ukrainian shield

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The Podolia region is located on the western border of the Eastern European Craton and it has been part, between the Paleozoic and the Miocene, of an epicontinental basin system. Using indicators of paleotemperature and low temperature thermochronometry, the burial and exhumation history of the Paleozoic succession has been reconstructed, in order to investigate the effects, on this region, of the orogenic cycles occurring along the plate margin.

Maximum burial for Silurian and Devonian rocks occurred during the Devonian and Early Carboniferous at depths of 4-4.7 km, as constrained by vitrinite reflectance and mixed layers illite-smectite. Thermochronometric data indicate that exhumation through the 40-120°C temperature range occurred between the Late Triassic and the Early Jurassic, and that no significant burial occurred afterwards (temperatures remaining lower than ca. 60°C). These results point to a major exhumation event occurred at the same time of the Cimmerian orogenesis, taking place a few hundreds of Km away from this region. On the other hand no significant effect of the Alpine orogenesis was recorded, although the collisional front was located less than 100 Km from the Podolia region.