



## **Neogene tectonics and modern geodynamics and seismicity of Pannonia north-eastern remote area (Ukrainian Transcarpathian yield)**

Petro Lozynak (1), Andriy Nazarevych (2), and Lesya Nazarevych (3)

(1) LB UkrGGRI, Lviv, Ukraine, (2) CB IGPH NASY, Lviv, Ukraine, nazarevych-a@cb-igph.lviv.ua, (3) DSCR IGPH NASY, Lviv, Ukraine, nazarevych.l@gmail.com

Pannonia north-eastern remote area (Ukrainian Transcarpathian yield) joins to East (Ukrainian) Carpathians and their geodynamic mode is interdependent from the alpine stage until now. Due to the detailed study in the last few years of structures of surface of basement and sedimentary layers of the Transcarpathian yield of postalpine ages (neogene – from early Miocene to Sarmatian and farther) (see Lozynak et al., 2002-2007) we have the possibility to trace the Neogene's tectonics of the region and its connection with modern geodynamics and seismicity of Ukrainian Transcarpathians and adjoining territories of Slovakia, Hungary and Romania.

These data indicate that active orogenic processes (dominance of compression caused by a plate-tectonic processes) in this region to beginning of early miocene made off and began the process of formation of the Transcarpathian yield in his modern view (due to an output on the first plan of the plum-tectonic processes caused by Pannonian asthenolite?) (see Nazarevych A. and Nazarevych L., 2000-2007). The process of formation (origin) of yield (and the proper accumulation of sedimentary layers) began in his east part (in the area of border with Romania (Siget – Solotvyno)) at the beginning of early Miocene (about 23 million years ago), continue in north-western direction (in the rear of modern Carpathians) to the border with Slovakia at first as a narrow (10-15 km) bar (roughly during 2-4 million years) and then broadened (during next 2-3 million years) in north-eastern – south-west direction on all modern territory of the Transcarpathian yield. In future (in Sarmatian epoch, approximately from 12-14 to 10-11 million years ago) east part of yield (so-called Solotvyno depression) transgress to the mode of compression and raising with ending of intensive sedimentation, and in western part (so-called Tchop-Mukatcheve depression) the process of sagging was farther displaced westward and at present he is concentrated (by geodesic and extensometric (strainmetric) data (Nazarevych A. and Nazarevych L., 1999-2008) ) in the Tchop – Mukatcheve – Svalava area.

The analysis shows that found out by seismological data one of bars of seismic activity in Transcarpathians territorially and genetically just related to the axial area of this yield.