

the external Hellenic orogenic wedge over the Adriatic platform. Back-thrust structure geometry with NE -ward vergency is also recorded. Striation lineation on the thrust planes exhibits a ENE-WSW to NNE-SSW strike. Paleostress analysis shows a subhorizontal, E-W to NE-SW trending maximum main axis σ_1 and a subvertical minimum main σ_3 -axis.

A late D2 deformation style of Oligocene –Miocene age, overprints the former D1 structures, producing WNW-ESE to E-W trending compressional structures, such as asymmetrical steep folds and thrust faults.

Sense of movement is evaluated mainly towards SSW to S. Striation lineation along thrust planes exhibits progressively a NNE-SSW to N-S trend. NW-SE dextral and NE-SW sinistral trending strike slip faults, associated with the D2 compressional structures, induced a SE- or NW-ward orogen parallel motion. Furthermore, some of the D1 thrust faults were reactivated during the D2 as strike slip faults. Paleostress analysis shows a subhorizontal maximum main axis σ_1 in a N-S to NNE-SSW direction during D2 event.

Both in map and outcrop scale curvature of D1 structure trace, as well as the orientation geometry of the D1 and D2 structures, imply a continuous deformation regime during Tertiary time under oblique plate convergence and a transpression related strain field.

Seismotectonic model on geological data for 1892 Dulovo earthquake, lower Danube valley

Shanov S. and Radulov A.

Laboratory of Seismotectonics, Geological Institute, Bulgarian Academy of Sciences, 1113 Sofia, Bulgaria, s_shanov@geology.bas.bg, radulov@geology.bas.bg

The potentially active faults in the area of Lower Danube Valley between the arcs of Carpathian and Balkan mountain chains are not properly recognized. The epicentre of the only historically known “strange” earthquake on the territory of Bulgaria with a magnitude evaluated at $M_s = 7$, known as the “1892 Dulovo Earthquake” is situated in this area. The first step for creating a seismotectonic model for this earthquake is the identification of the nearby active fault. The analysis has shown that it is realistic to accept that the earthquake occurred in the frames of the Tutrakan Graben. A fault segment of the Dulovo Fault, the most probably activated during the 1892 Dulovo Earthquake, is recognised. Its length is 42 ± 5 km, and the width is 15 ± 2 km. The offset of the normal faulting from the last seismic events is evaluated at 2 m. Three approaches are used for determination of the maximum magnitude of the earthquake that can be generated. They give M_s in the range between 6.8 and 7.5. The most probable value is 7.0.

Migrations caused by catastrophic flooding of the Black Sea during the Holocene

Shopov Y.¹, Yalamov T.², Dimitrov P.³, Dimitrov D.³ and Shkodrov B.²

¹*Sofia University, University Center for Space Research and Technologies, James Bourchier 5, Sofia 1164, Bulgaria, YYShopov@Phys.Uni-Sofia.BG*

²*Institute of Ancient Civilizations, Dimitar Manov 74-b, Sofia 1408, Bulgaria, fedix@mail.orbitel.bg, bono_@gmx.net*

³*Section of Sea Geology and Archeology of the Institute of Oceanology of BAS, Purvi May street 40, P.O.Box 152, Varna 9000, Bulgaria, margo@io-bas.bg, dimpetdim@yahoo.com*

Geological data suggest an exceptionally large natural catastrophe in the Black Sea region 7500-7600 yrs. BP. Before it Black Sea was a fresh water lake with coasts 90–120 m below the recent sea level. This catastrophic rapid flooding of the Black Sea by the Mediterranean Sea waters was dated in numerous samples by ¹⁴C at $7\,560 \pm 50$ cal. yrs BP. It flooded 160000 km² and destroyed settlements of the early civilizations around the Black Sea coast. At that time here were settled Indo-Europeans.