Geophysical Research Abstracts
Vol. 21, EGU2019-7598-2, 2019
EGU General Assembly 2019

Structure of frontal part (Dzegvi-Kavtiskhevi area) of the eastern Achara-Trialeti fold-and-thrust belt, Georgia

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We present a new structural model of frontal part of the eastern Achara-Trialeti fold-and-thrust belt (ATFTB) based on interpreted seismic profiles and structural cross sections across the northern Lesser Caucasus. In general, the frontal part of the Achara-Trialeti is introduced by the triangle zone (Alania et al., 2017a). Our interpretation has integrated seismic profiles, several oil-well, and the surface geology data to reveal structural characteristics of eastern ATFTB. Seismic reflection data reveals the presence of thrust sheet, south- and north-vergent fault-related folds, duplex and structural wedge. The rocks involved in the deformation range from Paleozoic basement rocks to Mesozoic-Tertiary rocks. In several interpreted seismic profiles syntectonic sediments deformation is well-observed. In particular, within the Kavtiskhevi field Cretaceous strata are unconformabely underlain by the upper Miocene (Sarmatian) sediments. On the basis of structural cross-sections, interpreted seismic profiles and growth strata age (e.g. 2017b) it was assumed that compressional deformation within the study area starts in the middle Miocene and reaches its maximum in the late Pliocene-Pleistocene.
Acknowledgement: This work was supported by Shota Rustaveli National Science Foundation (SRNSF) [grant # PHDF-18-1967. 2-3 D structural models of frontal part of Eastern Achara-Trialeti: implication for oil-gas exploration]

References

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