



KRASA - Kavkaz Regional Acquisition of Seismic Data project - a key to understanding the geodynamics of Black Sea-Caucasus-Caspian corridor (Arabian plate - East-European Craton geodynamic interaction)

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The Greater Caucasus is a linear collisional mountain belt that stretches about 1300 km west-east from the Black Sea to the Caspian Sea, being the northernmost element of a complex deformed area that separates Europe and Arabia. Wedged between the Scythian plate to the north and the Arabian-Turkish-Iran plate to the south, the Caucasus deformed area comprises accreted and thrust-faulted oceanic, island arc and microcontinental terranes, folded and inverted back-arc successions, rift complexes and post-collisional magmatic rocks. The Lesser Caucasus (just to the north of the Turkish plate/Caucasus boundary), intramontane basins, and the Great Caucasus (and associated collision-related Tersk-Caspian and Indol-Kuban basins) developed on the southern margin of the Scythian plate and are the major tectonic units of the Caucasus region.

The goal of the proposed KRASA project is a comprehensive investigation into the structure and geodynamics of the Caucasus Orogen in the regional frame of Arabian-Turkish-Iran/Eurasian plate interactions. Several key activities within the multidisciplinary project include: (1) the study of the architecture and velocity heterogeneities of the Caucasus Belt crust based on new CDP-DSS profiling; (2) potential field studies and integrated modelling; (3) stratigraphy and sequence analysis of the Palaeozoic to Cenozoic basins within and adjacent to the collisional belt; (4) structural and basin analysis; (5) study of the relationships between deep and superficial structures in the Caucasus; (6) measurement of deformation and stress; and (7) the study of ophiolites

and associated sedimentary successions.

From 1999 to 2004, the GEON Centre (Russia, Moscow) acquired combined DSS-CDP observations along the Morozovsk-Manich-Elbrus regional profile in southern Russia, which was aimed at studying the structure and architecture of the Earth's crust of the southern slope of East-European Craton, the central portion of the Karpinsky Swell, the Scythian plate, the pre-Caucasus foredeeps, and the northern Great Caucasus. This activity contributed key inferences for understanding the evolution of the study area. Within the territory of the Caucasus, there exist only old DSS and converted wave data that were acquired from the early 1960s until the 1980s. The regional DSS profile Krasnodar-Emba River was acquired by the GEON Centre in 1990. These data are to be reprocessed using modern techniques. No deep near-vertical seismic reflection data exist in the area of Caucasus.