

Earth's crust structure of the Siberian supercontinent in Early and Late Neogaea

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The Earth's crust structure in Siberia is shown in two colored maps at a scale of 1:2 500 000 reflecting peculiarities of structure-formation complexes in Early Neogaea (Precambrian and Paleozoic) and Late Neogaea (Mesozoic and Cenozoic). The maps of this type have been constructed from the integrated geological and geophysical data for the first time.

Methodologically the maps are based on the crust development in Siberia in the context of mobilism accounting for geodynamic models of "hot fields" and mantle-crust diapirism following principle of geohistorical method and inheritance.

Early Neogaea tectonic megacomplexes have been characterized as the largest structural stages of the modern crust in Siberia, corresponding to the following primary stages: Early Precambrian, Riphean, Vendian-Cambrian, Ordovician-Silurian, Devonian-Permian. The former reveal the structure-formation complexes of preorogenic destruction zones (extension and downwarping), early and late orogenic troughs and uplifts in compression and activation zones, as well as Paleozoic platform mantle structures.

Mesozoic and Cenozoic structure-formation complexes, particularly Early Triassic and Cenozoic rift systems and platform mantle structures have been defined for Late Neogaea.

The maps, coupled with small scale insets showing thicknesses of lithosphere, crust and density heterogeneity of the crust layers, and the explanatory note give three-dimensional - genetic insight into the Siberian lithosphere and promote more complete understanding of its evolution and mineralogenesis peculiarities.