



A model of deep structures and geodynamics of the consolidated earth crust formation in the European North-East

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The consolidated earth crust within the European North-East is composed of Precambrian structural-material complexes. In the Urals and Timan, the complexes come onto the day surface. The lower Precambrian is made up of strongly dislocated poly-metamorphic formations. Two geodynamic cycles are recognized in the Precambrian evolutionary history of the region's earth crust. The first, reduced cycle is manifested as granulite facies metamorphism, which is thought to be associated with successive continental rifting and collision dated at 2.6 Ga. The second, complete geodynamic cycle is recorded by the granulite- and amphibolite-grade metamorphism and associated phenomena, which fall within the age interval 2.3-1.7 Ga. It includes the stages of continental rifting, oceanic spreading, subduction, and collision. In the Riphean-Vendian, the earth crust was not subjected to substantial destructive alterations within the territory under consideration. Only for the northernmost part of the Urals and adjacent regions of the Timan-Pechora plate there are data pointing to more complicated tectonic evolutionary history of the territory in the Precambrian. There andesite and andesite-basalts are widespread in the upper Precambrian part of the Engane-Pe ridge's section. In the same region, the upper Riphean ophiolitic complex is described; late Riphean eclogites are revealed on the Marun-Keu ridge located east of the Engane-Pe. The available geochronological data indicate the manifestation of a late Precambrian geodynamic cycle limited by the interval 1100(?) - 550 Ma.