UPPER MANTLE AND ITS INFLUENCE AT THE THERMAL REGIME OF THE EARTH CRUST OF PECHORA PLATE.

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On the basis of gravity field interpretation the first density mantle models of Pechora plate were constructed and the mantle blocks having higher and lower meanings of rocks density were revealed. As the high density upper mantle rocks are impenetrable for deep hot mantle flows, hence, it is possible to consider them a rather cold, and as the lower density upper mantle rocks are penetrable for the deep mantle flows it is possible to consider them a rather hot. So it is possible to use the materials of gravity field interpretation when the mantle temperature regime is determined. The summary schematic maps of temperature regime of the consolidated crust and sedimentary cover of Pechora plate reflect the presence of cold and hot regions. A comparison of the thermal regime of earth crust and mantle shows their unequivocal conformity to each other. Thus the cold sites of sedimentary cover and consolidated part of the earth crust of Pechora plate are situated above the cold mantle blocks, and the hot sites of the earth crust are situated above the rather warmer mantle blocks. The conformity degree of mantle thermal regime and the stable temperature fields of the earth crust is reached to 90%. Hence, the thermal regime of the earth crust is unequivocally determined by the thermal regime of upper mantle, and the abnormal mantle heterogeneous have the law connections with the peculiarities of the earth crust and superficial structures. The rather stable cold and hot territories of the earth crust are located above the mantle with the appropriate thermal regime.