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Deep Structure Maps of Northern, Central and Eastern Asia

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Eurasian continent and its Far East area of the continent-ocean transition are sufficiently studied by deep seismics. Significant amounts of such studies were performed in mainland Russia, Kazakhstan and China; continent-ocean transition area has been studied by researchers in Japan, Russia, China and **Korea. The total length of DSS lines in northern, central and eastern Asia exceeds 210,000 km. Using** these published data as well as maps of gravity anomalies and anomalies of the magnetic field, we have compiled maps of the earth's crust, sedimentary cover thickness, zoning of the area based on the potential fields structure and a base map of crust types. The Earth's crust in the region is very diverse. There are blocks of thin (less than 5-6 km) mainly 2-layer oceanic crust and very thick (over 70 km) crust of Tibet and 4-layer consolidated crust of the Urals. Three main crust types have been identified: oceanic, continental and transitional, each of them being subdivided into several subtypes corresponding to major tectonic provinces. The constructions performed showed regular decrease in the total crustal thickness from the central part of Eurasia to its Far East margin and further to the Pacific Ocean. The decrease in the crust thickness is caused by the transition from predominantly three-layer crystalline crust in the center of the continent to the 2-layer consolidated crust in the continental margin and within shelf seas. We hope that the established patterns and identified crustal types and subtypes will allow more grounded global models of the Eurasia formation and its interaction with the Pacific Ocean.

