THE STRUCTURE OF CRUST IN NORTH EURASIAN SHELF SEAS ON THE BASIS OF NEW DIGITAL POTENTIAL FIELD MAPS AND GEOTRANSECTS

MASCHENKOV, S., ASTAFUROVA, E., GLEBOVSKY, V., ZAYONCHEK, A., VNIIOkeangeologia, St.-Petersburg, Russia.

To create a more accurate digital potential field data bases a team at VNIIOkeangeologia (St. Petersburg, Russia) has been assembling and digitizing original aeromagnetic profiles and free-air gravity observations in the areas of North Eurasian Shelf Seas. The digital and digitized information has been totally reprocessed, merged and readjusted using interactive visualization, crossover analysis, navigational shifting, directional filtering etc., and then gridded at interval 5 x 5 km. The maps of potential fields and their derivatives provide with significant information for regional portrayal of primary tectonic units. Depth to basement map was compiled on the basis of comprehensive interpretation of the published seismic reflection profiles, the results of the modeling along three key geotransects, and the depth to magnetic source estimations. The position of the Moho estimated from the gravity modeling along the geotransects was controlled by deep seismic refraction data. The integrated geophysical models allow to establish the large-scale structure of the North Eurasian Shelf Seas and develop a better understanding of their tectonic history.