

Description of the Magnetic Anomaly Map of Russia

T.P. LITVINOVA , O.V. PETROV, VSEGEI, S.-Petersburg, Russia.

The Magnetic Anomaly Map of the Field (ΔT)_a of Russia, Contiguous States (within the former USSR) and Adjacent Water Areas on 1: 5, 000, 000 scale (edited by T.P.Litvinova) was compiled using maps on 1:2, 500, 000 scale of the continental part (edited by Z.A. Makarova, 1977) and the Arctic Shelf (edited by V.N. Shimaraev, 1978) as well as new information on the Caucasus, the Ukraine, West Kazakhstan, the Taimyr Peninsula, the Sea of Okhotsk and the Sea of Japan. The map comprises results of all medium scale aeromagnetic and hydromagnetic studies carried out in the USSR during 50 years (80% of the territory and water areas). When these materials were unavailable, data of large-scale or small-scale studies were employed.

Data on reference cartographic networks and the model of the model of a normal field of the epoch of 1965 (constructed in VSEGEI by Z.A. Makarova and M.S. Ryabkova, 1970), which served as a basis for developing a unique technology that has no analogs in the world practice, were used to bring the anomalous magnetic field to a single level and starting time of anomalies. The technology used provides such basic qualities of the map as metrical uniformity, precision, reliability, comprehensiveness and is aimed at the optimal solution of diversified geological tasks, that distinguishes considerably the Russian cartographic production from the foreign one. Materials concerning the land and adjacent water areas are first presented together to allow patterns of distribution of the anomalous magnetic field of both the continent and water area to be traced more reliably.

The map was constructed for the purpose of solving a fundamental problem of studying crustal and upper-mantle magnetic heterogeneities in order to investigate the deep structure of the territory of the former USSR and adjacent water areas.