

Poster 8

Geology and mineralogy of the Late Jurassic–Quaternary sedimentary cover in the oceans and on the continents

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The Atlas consists of 6 maps covering the whole globe (each of 4 sheets, 1:2500000) and one map covering the Pacific segment of the Earth (9 sheets, 1:1000000). Monograph (the Explanatory Note) — approximately 350 p. References more than 500 books and articles. The primary goal of the work is to compare the regularities in distribution of the mineral resources of the territories of the former USSR and the other regions of the Earth and between the continents and the oceans. It had been achieved with the help of: (1) recent data on the geology and the petroleum

and ore potential of the former USSR territory; (2) the Russia marine geological-geophysical studies of the Arctic shelf and the World ocean with special emphasis on more detailed studies of the Far East seas; (3) the deep-sea drilling data (Leg 1-130); (4) the publications in the World geological literature. The Monograph successively deals with the methods of general analysis, the geology and regularities of the distribution of the mineral resources in four large complexes of the sedimentary cover (the Quaternary, the Oligocene–Neogene, the Upper

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Cretaceous–Eocene, the Upper Jurassic–Lower Cretaceous), the distribution of the hydrocarbon fields and the polymetallic ore and manganese deposits in different regions of the Earth.

The complexes are characterized by: (1) the distribution of the thickness and formation composition; (2) the quantitative parameters of sedimentation; (3) the peculiarities of hydrocarbon localization on the continents and in the oceans; (4) the types of the polymetallic ore and manganese deposits on the continents; (5) the conditions of the enrichment of the sedimentary cover in the deep-sea basins with polymetallic ores and manganese (17 horizons); (6) the regularities in distribution of the different type fields of the ferromanganese nodules and the polymetallic ores of massive sulfides in the oceans (the Quaternary complex). The oil and gas potential of these complexes in the deep-sea basins of the oceans and the marginal seas (including those framing the

Antarctic), and in the areas of the pericratonic downwarps and underthrust zones of the continents is estimated.

On the basis of the analysis of the change of the geodynamic setting of sedimentation during the last 150 Ma, the new model of division of oceans and continents by their oil, gas and ore potential (including the forecast of areas of high noble metals concentration) is validated in principle. The Atlas and Monograph can be helpful for geologists, geophysicists and geographers who study the problems of the evolution of the upper Earth's spheres and the genesis of hydrocarbons and metals. It can facilitate the determination of new directions in the search for mineral resources in the oceans and on the continents and geological-economic evaluation of the separate regions of the Earth. This work may also be used by universities and colleges in professional training.
